Indiana Municipal Power Agency (IMPA)

2015 Integrated Resource Plan

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IMPA
INDIANA MUNICIPAL POWER AGENCY

Public Version

Indiana Municipal Power Agency

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AC	Alternating Current
ACEEE	American Council for an Energy-Efficient Economy
AEO	Annual Energy Outlook
AEP	American Electric Power
AMI	Advanced Metering Infrastructure
AMR	Automatic Meter Reading
ARIMA	Auto Regressive Integrated Moving Average
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASR	Average System Rates
BAU	Business As Usual
BSER	Best System of Emissions Reduction
BTL	Biomass To Liquids
C&I	Commercial and Industrial
CAAA	Clean Air Act Amendments
CA AB32	California Assembly Bill 32
CAFE	Corporate Average Fuel Economy
CAGR	Compound Annual Growth Rate
CAIR	Clean Air Interstate Rule
CAMR	Clean Air Mercury Rule
CBO	Congressional Budget Office
CC	Combined Cycle
CCR	Coal Combustion Residuals
CCS	Carbon Capture and Sequestration
CDD	Cooling Degree Days
CEM	Capacity Expansion Module
CEP	Community Energy Program
CFD	Carbon Fee and Dividend
CFL	Compact Fluorescent Light
CFR	Code of Federal Regulations
CHP	Combined Heat & Power
CO2	Carbon Dioxide
CONE	Cost of New Entry
CPNODES	Commercial Pricing Nodes
CPP	Clean Power Plan
CSAPR	Cross-State Air Pollution Rule
CT	Combustion Turbine
DC	Direct Current
DEI	Duke Energy Indiana
DEOK	Duke Energy Ohio
DIR	Dispatchable Intermittent Resource
DOE	U.S. Department of Energy
DSC	Debt Service Coverage
DSM	Demand-Side Management
EE	Energy Efficiency
EERS	Energy Efficiency Resource Standard
EFOR	Effective Forced Outage Rate
EGU	Electric Generating Unit
EHVAC	Extra High-Voltage Alternating Current
EI	Energizing Indiana
EIA	Energy Information Administration
ELG	Effluent Limitations Guidelines
EM&V	Evaluation, Measurement, and Verification
EPA	Environmental Protection Agency

ERC	Emission Rate Credits
EWITS	Eastern Wind Integration and Transmission Study
FDG	Flue Gas Desulfurization
FERC	Federal Energy Regulatory Commission
FIP	Federal Implementation Plan
FO	Forced Outage
FOM	Fixed Operation and Maintenance
GADS	Generating Availability Data System
GB	Gigabyte
GDP	Gross Domestic Product
GE	General Electric
GHG	Greenhouse Gas
GHz	Gigahertz
GW	Gigawatt
GWh	Gigawatt Hour
HDD	Heating Degree Days
HDV	Heavy-Duty Vehicle
HVAC	Heating, Ventilation, and Air Conditioning
HVDC	High Voltage Direct Current
I&M	Indiana-Michigan Power Company
IBM	International Business Machines
IC	Internal Combustion
ICAP	Installed Capacity
IDEM	Indiana Department of Environmental Management
IECC	International Energy Conservation Code
IGCC	Integrated Gasification Combined Cycle
IMEA	Illinois Municipal Electric Agency
IMPA	Indiana Municipal Power Agency
IOU	Investor-Owned Utility
IPL	Indianapolis Power and Light
IRC	ISO/RTO Council
IRP	Integrated Resource Plan
ITC	Investment Tax Credit
IURC	Indiana Utility Regulatory Commission
JTS	Joint Transmission System
KW	Kilowatt
KWh	Kilowatt Hour
LDV	Light-Duty Vehicle
LFG	Landfill Gas
LG&E	Louisville Gas & Electric
LHS	Latin-Hypercube Sampling
LMP	Locational Marginal Price
LNG	Liquefied Natural Gas
LRZ	Local Resource Zone
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics
MIDAS	Multi-Integrated Decision Analysis System
MILP	Mixed Integer Linear Program
MISO	Midcontinent Independent System Operator
MO	Maintenance Outage
MVP	Multi Value Project
MW	Megawatt
MWh	Megawatt Hour
NAAQS	National Ambient Air Quality Standards
NAM	Nodal Algebraic Model
NEMS	National Energy Modeling System
NERC	North American Electric Reliability Corporation

NIPSCO	Northern Indiana Public Service Company
NITS	Network Transmission Service
NOAA	National Oceanic and Atmospheric Association
NOx	Nitrogen Oxide
NRC	U.S. Nuclear Regulatory Commission
NREL	National Renewable Energy Laboratory
NYMEX	New York Mercantile Exchange
O&M	Operation and Maintenance
OECD	Organization for Economic Cooperative Development
OPEC	Organization of the Petroleum Exporting Countries
OTC	Over-The-Counter
OUCC	Indiana Office of Utility Consumer Counselor
PADD	Petroleum Administration for Defense Districts
PC	Personal Computer
PJM	Pennsylvania-New Jersey-Maryland
PPA	Purchase Power Agreement
PPB	Parts Per Billion
PSEC	Prairie State Energy Campus
PSGC	Prairie State Generating Company
PTC	Production Tax Credit
PV	Photovoltaic
PVRR	Present Value of Revenue Requirements
RAM	Random Access Memory
RAR	Resource Adequacy Requirement
RCRA	Resource Conservation and Recovery Act
RES	Renewable Energy Standard
RGGI	Regional Greenhouse Gas Initiative
RICE	Reciprocating Internal Combustion Engines
RPS	Renewable Portfolio Standard
RTO	Regional Transmission Organization
SCED	Security-Constrained Economic Dispatch
SCR	Selective Catalytic Reduction
SIGECO	Southern Indiana Gas and Electric Company
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SO3	Sulfur Trioxide
SPSS	Statistical Package and Service Solutions
T&LF	Transmission and Local Facilities Agreement
TDU	Transmission Dependent Utility
TO	Transmission Owner
TPA	Third Party Administrator
TW	Terawatt
TWh	Terawatt Hour
UCAP	Unforced Capacity
VMT	Vehicle Miles Traveled
VOM	Variable Operation and Maintenance
VRR	Variable Resource Requirement
WVPA	Wabash Valley Power Association
WWVS	Whitewater Valley Station

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1 EXECUTIVE SUMMARY

The Indiana Municipal Power Agency (IMPA) is a wholesale electric utility serving the total electricity requirements of 60 communities under long term power sales contracts. Each of IMPA's 59 members is an Indiana city or town with a municipally owned electric distribution utility. IMPA also serves the Village of Blanchester, Ohio. IMPA regularly reviews its projected loads and resources in order to ensure it is planning to meet its member's long term load requirements in an economical, reliable and environmentally responsible manner. These planning activities are required under IMPA's risk management framework and are necessary to participate in the Regional Transmission Organization (RTO) markets. Pursuant to the requirements of 170 IAC 4-7, IMPA presents its 2015 Integrated Resource Plan (IRP). This report assesses IMPA's options to meet its members' capacity and energy requirements for wholesale service from 2016 through 2035.

Integrated resource planning involves the consideration of both supply-side and demand-side resources to meet the future resource needs of an electric utility and its customers. Both types of resources are compared based on their ability to meet the utility's objectives. IMPA's primary objective in developing its IRP is to minimize the price of electricity to its member utilities and their customers, while maintaining a reliable and environmentally responsible electricity supply. Additional objectives include minimizing risk through a diverse mix of resources and maintaining flexibility to respond to changing economic and regulatory conditions.

In 2015, IMPA's coincident peak demand for its 60 communities was 1,163 MW, and the annual energy requirements during 2014 were 6,225,553 MWh. IMPA projects that its peak and energy will grow at approximately 0.5% per year. These projections do not include the addition of any new members or customers beyond those currently under contract. Since the last IRP was filed, IMPA has not added any new members.

IMPA currently uses both supply and demand-side resources to meet its customer peak demand and energy requirements. Current resources include:

- Joint ownership interests in Gibson Station #5, Trimble County Station #1 & #2 and Prairie State Energy Campus #1 and #2;
- Operate and maintain Whitewater Valley Station #1 & #2;
- Five (5) gas fired combustion turbines owned and operated by IMPA;
- Two (2) gas fired turbines owned by IMPA and operated by Indianapolis Power and Light (IPL);
- Generating capacity owned by one (1) IMPA member;
- Nine (9) Solar Parks located in member communities
- Long term power purchases from:
    - Indiana-Michigan Power Company (I&M)
    - Duke Energy Indiana (DEI)
    - Crystal Lake Wind, LLC
- Short term contracts with market participants in MISO and/or PJM;
- Energy Efficiency Program

IMPA's existing resources are diverse in terms of size, fuel type and source, geographic location and vintage. IMPA owns or controls generation in MISO and PJM as well as in the Louisville Gas

& Electric/Kentucky Utilities (collectively LG&E) control area. In total, IMPA's generation and contractual resources reside in eight (8) different load zones in Indiana, Illinois, Iowa and Kentucky. This diversity reduces IMPA exposure to forced outages, locational marginal prices (LMPs), zonal capacity rates and regional fuel costs.

IMPA's energy efficiency program offers incentives in the form of rebates for residential and commercial and industrial (C&I) customers. Since 2009, IMPA's energy efficiency efforts have saved approximately 11.3 MW (coincident peak) and 104,175 MWh. In addition to its energy efficiency program, IMPA offers a demand response tariff, a net metering tariff, energy audits, education and training and many IMPA members utilize various rate structures aimed at assisting customers in lowering or controlling their energy consumption.

As discussed in the body of this report, IMPA has considered a variety of potential supply and demand-side resources. These are discussed more fully in Section 6. IMPA's analysis has identified a plan that allows it to economically meet its members future load growth while limiting future risks due to unforeseen legal or regulatory outcomes. The description of the modeling and planning process/selection is discussed in Sections 10-16.

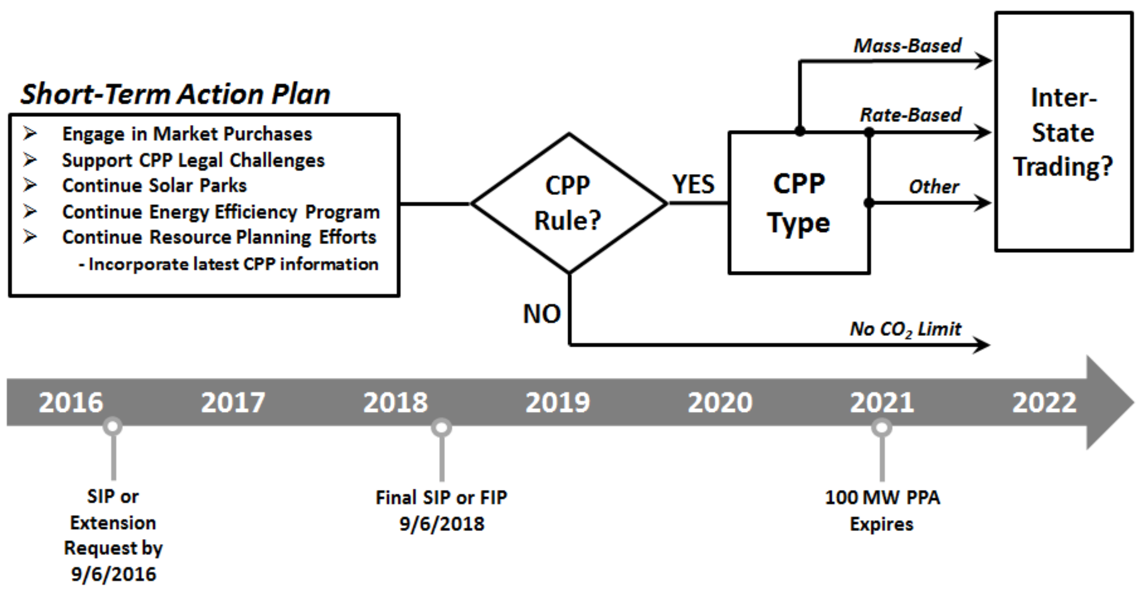
1.1 Action Plan

While IMPA has a need for capacity and energy over the next 5 years (2016-2020); those needs will be fulfilled through market purchases as the positions are relatively small. IMPA's next resource decision comes in 2021 when a 100 MW PPA expires. IMPA's Status Quo Plan (Plan01) calls for a 500 MW participation share in combined cycle unit(s) coupled with the retirement of Whitewater Valley Station (WWVS) units #1 and #2. In the development of Plan01, it was assumed the Environmental Protection Agency's (EPA) Clean Power Plan (CPP) is not implemented as it is neither known nor measureable at this point in time. The WWVS retirement was also assumed, not because it is imminent, but merely because it is the output of an optimization run under status quo conditions.

IMPA developed three additional plans (Plan03, Plan04, and Plan05) to address the impact of the carbon emission limits set forth in the CPP rule. IMPA's action plan is to delay, to the extent practical, its next resource decision to allow time for more clarity on the CPP rule. IMPA understands it ultimately may need to make its next resource decision with the best information it has at the time as the CPP legal challenges may take years to settle and will likely reach the U.S. Supreme Court. As a CPP hedge, IMPA's strategic plan is to continue its Solar Park installation program where 10 MW of solar is added to IMPA member distribution systems annually.

The following diagram illustrates the Plan Pursuit strategy:

Figure 1 Plan Pursuit Strategy (2016-2022)



As shown in the diagram above, even if the CPP rule is upheld, there are a number of questions to be answered which will affect IMPA's next resource decision. Is the CPP massed-based, rate-based or something else? IMPA has generation in Indiana, Illinois, and Kentucky. Will the states have similar plans which allow inter-state trading or will each state be unique? How do natural gas, energy efficiency and renewables fit into the mix?

At this time, IMPA is not proposing the acquisition of any specific resource. IMPA will continue to evaluate resource options matching this plan and bring any firm proposals requiring IURC approval before the Commission at the appropriate time.

In the absence of a CPP rule, IMPA's preferred resource expansion plan is shown below. The retirement of WWVS in 2022 is not imminent, but merely reflects the output of an optimization run under status quo conditions.

Table 1 2015 IRP Expansion Plan – Plan01

	Capacity Losses		Capacity Additions		
Year	MW Lost	Resource	MW Added	Resource	Net MW
2016	(5)	PPA Expires	10	Solar	5
2017	(69) (6)	PPA Expires Member Gen Retires	10 100	Solar PPA	35
2018	(50)	PPA Expires	10	Solar	(40)
2019			10	Solar	10
2020			10	Solar	10
2021	(100)	PPA Expires	200	Advanced CC	100
2022	(90)	WWVS Retires	100	Advanced CC	10
2023					
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					
2032					
2033					
2034	(190)	PPA Expires	200	Advanced CC	10
2035					
Total	(510)		650		140

2 IMPA OVERVIEW

2.1 INTRODUCTION

Pursuant to the provisions of Indiana Code § 8-1-2.2-1 *et seq*., IMPA was created in 1980 for the purpose of undertaking the planning, financing, ownership and operation of projects to supply electric power and energy for the present and future needs of the members. IMPA is the full requirements power provider to its wholesale customers. While IMPA's member/customers serve a population in excess of 325,000 people, IMPA has no retail customers itself. IMPA has entered into separate power sales contracts to supply 100% of its wholesale customer's electric power and energy requirements.

In addition to increasing its membership/customers from the initial 24 to 60 cities and towns, major milestones in IMPA's history include:

Table 2 Major IMPA Milestones

Date	Milestone
Fall 1982	Acquired an ownership share of Gibson Unit 5
Winter 1983	Began power supply operations to 24 members
Fall 1985	Acquired an ownership share of the Joint Transmission System (JTS)
Spring 1992	Placed Richmond Combustion Turbine Units 1 and 2 into commercial operation
Summer 1992	Placed Anderson Combustion Turbine Units 1 and 2 into commercial operation
Fall 1993	Acquired an ownership share of Trimble County Unit 1
Spring 2004	Placed Anderson Combustion Turbine Unit 3 into commercial operation
Fall 2004	Acquired Units 2 and 3 of the Georgetown Combustion Turbine Station
Fall 2008	Signed Crystal Lake wind energy purchased power agreement
Winter 2011	Placed Trimble County Unit 2 into commercial operation
Summer 2012	Placed Prairie State Unit 1 into commercial operation
Fall 2012	Placed Prairie State Unit 2 into commercial operation
Summer 2014	Placed Frankton, Rensselaer and Richmond solar parks into commercial operation
Summer/Fall 2015	Placed Tell City, Crawfordsville, Peru, Pendleton, Argos and Bainbridge solar parks into commercial operation

2.2 RECENT ACTIVITIES – KEY EVENTS SINCE LAST IRP

Since IMPA submitted its last Integrated Resource Plan to the IURC on November 1, 2013, the following events have taken place:

- On January 1, 2014, IMPA exited its voluntary involvement with Energizing Indiana, replacing it with the self-managed Energy Efficiency program.
- On June 23, 2014, the Frankton solar park was placed in commercial operation.
- On July 14, 2014, the Rensselaer solar park was placed in commercial operation.
- On September 18, 2014, the Richmond solar park was placed in commercial operation.
- On October 31, 2014, IMPA closed on the sale of its Power Supply System Refunding Revenue Bonds, 2014 Series A. The purpose of these bonds was to advance refund outstanding bonds at lower interest rates.
- On March 16, 2015, IMPA and Duke Energy Indiana entered into a 100 MW contract for capacity and energy with a term from June 1, 2017 – May 31, 2021.
- On July 7, 2015, the Tell City solar park was placed in commercial operation.
- On August 28, 2015, IMPA dedicated the new IMPA conference center at IMPA's Carmel, IN campus.
- On August 19, 2015, the Peru solar park was placed in commercial operation.
- On September 3, 2015, the Crawfordsville solar park was placed in commercial operation.
- In the fall of 2015, Pendleton, Argos and Bainbridge solar parks were placed in commercial operation.

3 IRP OBJECTIVES AND PROCESS

3.1 IRP RULES (170 IAC 4-7)

The IURC developed guidelines in 170 IAC 4-7-1 *et seq*. for electric utility IRPs in order to assist the IURC in its administration of the Utility Powerplant Construction Law, IC 8-1-8.5. IMPA and seven other utilities across the state of Indiana are subject to the IRP rules. Section 18 of this IRP summarizes the rules, along with an index of IMPA's responses to those rules.

3.2 IMPA IRP OBJECTIVES

Integrated resource planning involves the consideration of both supply-side and demand-side resources to meet the future resource needs of an electric utility and its customers. Both types of resources are compared based on their ability to meet the utility's objectives. IMPA's primary objective in developing its IRP is to minimize the price of electricity to its member utilities and their customers, while maintaining a reliable and environmentally responsible electricity supply. Additional objectives include minimizing risk through a diverse mix of resources and maintaining flexibility to respond to changing economic and regulatory conditions.

3.3 IMPA PLANNING CRITERIA

IMPA serves wholesale load in both MISO and PJM and must comply with the resource adequacy requirements of each RTO for its load in that RTO. In its planning process, IMPA utilizes the same UCAP and EFOR method of resource compliance as used in the RTOs. For this IRP, IMPA utilized the most recently available resource planning requirement figures for PJM and MISO. With IMPA's EFOR rates and the combined reliability requirements of PJM and MISO, IMPA's traditionally calculated reserve margin target equates to approximately 15%.

IMPA plans its resources to meet its projected load and does not allow the expansion models to add resources for non-member or speculative sales. IMPA does allow the model to purchase some market capacity in the future, but these are limited to small quantities (<100 MW) and meant to simulate the normal final balancing that takes place in today's RTO capacity markets. This buffer also allows flexibility in the future regarding load uncertainty, energy efficiency, demand response and renewables development.

3.4 IMPA PLANNING PROCESS

Formulating an IRP is a multistep project that utilizes many disciplines including engineering, environmental science, statistics and finance. The basic steps of the IRP process are summarized below, with references to where further information can be found in this document.

1. Evaluation of Existing System – Establishes the basis for future resource planning by identifying the expected future availability of existing supply-side and demand-side resources, including possible upgrades, expansions or retirements of those resources. (Section 4)

2. Long Range Forecast Development – Annually, IMPA develops a 20-year projection of peak demands and annual energy requirements. The load forecast is developed using a time-series, linear regression equation for each load zone. (Section 5)

3. Resource Options and Environmental Compliance – This step involves the selection and screening of various supply-side and demand-side alternatives. Additionally,

transmission service and compliance with future environmental issues are discussed. (Sections 6-8)

4. Software Overview / Data Sources – This section describes the software and data sources used to perform the analysis. (Section 9)

5. Scenario Development – IMPA creates scenarios as a structured way to think about the future as scenario planning is a proven tool to better anticipate and respond to future risks and opportunities. IMPA stakeholders develop stories about how the future might unfold by iteratively building plausible alternate views of the future given different economic, regulatory, and technological driving forces. (Section 10)

6. Evaluation of Resource Alternatives and Resource Optimization – Integrating the alternatives into a common tool used to optimally select and evaluate various scenarios is a key part of the IRP process. IMPA uses a multi-part modeling system consisting of a wholesale market model, a capacity expansion model and a system dispatch and finance model. (Sections 11-13)

7. Plan Evaluation – A crucial part of the IRP process is evaluating how a portfolio performs under various stochastic drivers and its sensitivity to movements of certain variables. (Section 14-15)

8. Plan Selection – Description of preferred plan and basis for selection. (Section 16)

9. Short Term Action Plan – Description of steps necessary to implement the preferred plan. (Section 17)

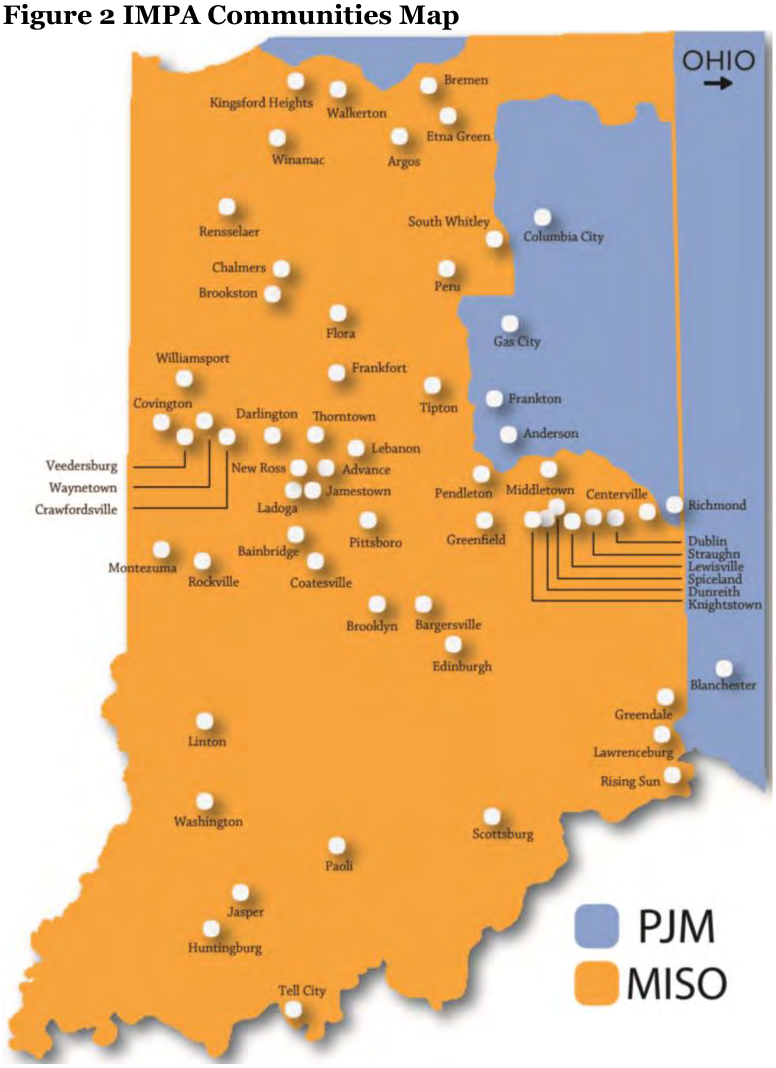
4 EXISTING SYSTEM

4.1 IMPA SYSTEM DESCRIPTION

IMPA is a wholesale electric utility serving the total electricity requirements of 60 communities. Each of IMPA's 59 members is an Indiana city or town with a municipally owned electric distribution utility. IMPA also serves the Village of Blanchester, Ohio on a full-requirements contractual basis very similar to its member contracts, except for specific provisions applicable to Indiana municipalities (the most significant being that Blanchester does not have a seat on IMPA's Board of Commissioners). IMPA has no retail customers and no direct communication or other interaction with the member's retail customers, except as specifically requested by the member.

IMPA operates in both the MISO and PJM RTOs. IMPA has load in five IOU load zones and generation resources connected to seven IOU zones within the RTO footprints, plus two resources outside of the RTOs. IMPA's load is divided approximately 2/3 MISO and 1/3 PJM.

Figure 2 IMPA Communities Map



4.2 LOADS AND LOAD GROWTH

IMPA's member and customer communities are located in five different load zones in MISO and PJM. When IMPA began operations in 1983, it served 24 communities. IMPA now serves 60 communities. The following table lists the 60 communities that IMPA serves along with the load zone, RTO in which they are located and the approximate percentage of IMPA's total load.

Table 3 IMPA Communities

RTO	Load Zone	% of Load	Community
MISO	Duke-IN	51%	Advance, Bainbridge, Bargersville, Brooklyn, Centerville, Coatesville, Covington, Crawfordsville, Darlington, Dublin, Dunreith, Edinburgh, Flora, Frankfort, Greendale, Greenfield, Jamestown, Knightstown, Ladoga, Lawrenceburg, Lebanon, Lewisville, Linton, Middletown, Montezuma, New Ross, Paoli, Pendleton, Peru, Pittsboro, Rising Sun, Rockville, Scottsburg, South Whitley, Spiceland, Straughn, Thorntown, Tipton, Veedersburg, Washington, Waynetown, Williamsport
	NIPSCO	7%	Argos, Bremen, Brookston, Chalmers, Etna Green, Kingsford Heights, Rensselaer, Walkerton, Winamac
	VECTREN	10%	Huntingburg, Jasper, Tell City
PJM	AEP-IM	31%	Anderson, Columbia City, Frankton, Gas City, Richmond
	Duke-OH	1%	Blanchester, Ohio

In 2015, IMPA's peak demand for its 60 communities was 1,163 MW, and the annual energy requirements during 2014 were 6,225,553 MWh.

Hourly loads are shown in Appendix A and typical annual, monthly, weekly, and daily load shapes for IMPA as a whole are shown in Appendix B. As a wholesale supplier, IMPA does not have the necessary retail load information to draw conclusions concerning disaggregation of load shapes by customer class or appliance.

4.3 EXISTING SUPPLY-SIDE RESOURCES

IMPA currently has a variety of supply-side resources, including: ownership interests in Gibson Unit 5, Trimble County Units 1 and 2, Prairie State Units 1 and 2; operation and maintenance responsibilities for Whitewater Valley Units 1 and 2; seven combustion turbines wholly owned by IMPA; solar parks located in several different member communities; generating capacity owned and operated by one of IMPA's members; long-term firm power purchases from I&M and DEI, as well as short term purchases from various utilities and power marketers in the MISO and PJM energy markets. In 2008, IMPA signed a purchased power agreement for up to 50 MW of wind energy from the Crystal Lake Wind Energy Center in Hancock County, Iowa. The expected renewable energy from this contract will meet approximately 2.5% of IMPA's energy needs. Some of these resources, such as firm power purchases, have contractual limitations that restrict their use to a particular local balancing area or delivery point. Tables summarizing the key characteristics of IMPA's generating units and long term purchased power agreements are shown in Appendices E1 and E2. The resources and contracts are described in more detail on the following pages.

Gibson 5

IMPA has a 24.95% undivided ownership interest in Gibson 5, which it jointly owns with DEI (50.05%) and Wabash Valley Power Association (WVPA) (25.00%). Gibson 5 is a 625-MW coal-fired generating facility located in southwestern Indiana. It is equipped with particulate, SO_2 and NO_x removal facilities (SCR system) and an SO_3 mitigation process. The boiler has also been retrofitted with low NO_x burners. Fuel supply for Gibson Station is acquired through a number of contracts with different coal suppliers. The coal consists of mostly high sulfur coal sourced from Indiana and Illinois mines. A small amount of low sulfur coal is also purchased. DEI has multiple coal contracts of varying lengths to supply the five units at Gibson Station. Procurement is such that the prompt year's supply is nearly completely hedged while future years are partially contracted two to three years in advance. Coal is delivered by both train and truck. The current targeted stockpile inventory is 45-60 days.

DEI operates Gibson 5 under the "Gibson Unit No. 5 Joint Ownership, Participation, Operation and Maintenance Agreement" (Gibson 5 Agreement) among DEI, IMPA and WVPA. The Gibson 5 Agreement obligates each owner to pay its respective share of the operating costs of Gibson 5 and entitles each owner to its respective share of the capacity and energy output of Gibson 5.

Trimble County 1

IMPA has a 12.88% undivided ownership interest in Trimble County 1, which is jointly owned with LG&E (75.00%) and the Illinois Municipal Electric Agency (IMEA) (12.12%). Trimble County 1 is a 514-MW coal-fired unit located in Kentucky on the Ohio River approximately 15 miles from Madison, Indiana. The unit is equipped with particulate, SO_2 and NO_x removal facilities and an SO_3 mitigation process. The boiler burners have been modified to meet the NO_x limits of Phase II of the Acid Rain Program. To date, IMPA's share of the SO_2 and NO_x emissions allowances allocated by EPA and the Kentucky Energy and Environment Cabinet have satisfied IMPA's requirements for such allowances. Trimble County 1 burns high sulfur coal. LG&E purchases coal on a system basis and delivers it on an economic basis to its various power plants. The majority of this coal is from mines in Indiana and Kentucky. All coal is delivered to Trimble County by barge. Due to barge delivery, stockpile inventory levels fluctuate within a targeted 28-49 day level.

LG&E operates Trimble County 1 under the "Participation Agreement By and Between LG&E, IMEA and IMPA" (Trimble County 1 Agreement). The Trimble County 1 Agreement obligates each owner to pay its respective share of the operating costs of Trimble County 1 and entitles each owner to its respective share of the capacity and energy output of Trimble County 1. Transmission service is provided from the plant to the LGEE-MISO interface.

Trimble County 2

IMPA constructed Trimble County 2 jointly with LG&E and IMEA. Commercial operation commenced in January 2011. Trimble County 2 is a 750 MW (net) unit with a supercritical, pulverized coal boiler and a steam-electric turbine generator. Unit 2 is equipped with low-NO_x burners, an SCR system, a dry electrostatic precipitator, pulse jet fabric filter, wet flue gas desulfurization, and a wet electrostatic precipitator. The coal is eastern bituminous coal (including, potentially, Indiana coal) blended with western sub-bituminous coal. All coal arrives at the site via barge on the Ohio River. LG&E uses the same procedures for selection and delivery of coal to Trimble County 2 as it uses for Trimble County 1. Trimble County 2 flue gas exhausts through two new flues in the existing site chimney.

The ownership arrangement for Trimble County 2 has the same undivided ownership percentages as for Trimble County 1: LG&E at 75%, IMPA at 12.88% and IMEA at 12.12%. LG&E is acting as operating agent for the owners under a Participation Agreement similar to that used to operate Trimble County #1. Transmission service is provided from the plant to the LGEE-MISO interface.

Prairie State Project

The Prairie State Energy Campus (PSEC) consists of the Prairie State Units #1 & #2, related electric interconnection facilities, the Lively Grove mine, the near-field coal combustion residuals (CCR) disposal facility, and the Jordan Grove CCR disposal facility. IMPA is part of a consortium of organizations that collectively direct the Prairie State Generating Company (PSGC) in operating the PSEC. IMPA has a 12.64% interest in the Prairie State Project. Both units began commercial operation in 2012.

Prairie State is in the southwest part of Washington County, Illinois, approximately 40 miles southeast of St. Louis, Missouri. The plant includes two steam-electric turbine generators totaling approximately 1,600 MW. The plant's two boilers are supercritical, pulverized coal steam generators with low-NO_x burners, SCR systems, dry electrostatic precipitators, wet flue gas desulfurization and wet electrostatic precipitators.

The project also includes contiguous coal reserves owned by the project participants to supply Illinois coal to the power plant. PSGC estimates the project-owned coal reserves will supply the coal required by the plant for approximately 30 years. PSGC owns or controls 100% of the surface property around the mine portal.

IMPA Combustion Turbines

IMPA has seven wholly-owned combustion turbines. Three units are located in Anderson, Indiana (Anderson Station), two units are located near Richmond, Indiana (Richmond Station), and two units are located at the Georgetown Combustion Turbine Station in Indianapolis, Indiana (Georgetown Station).

IMPA operates and maintains the Anderson and Richmond Stations with on-site IMPA personnel. The original four machines are GE-6Bs and Anderson Unit #3 is a GE-7EA. These units operate primarily on natural gas, with No. 2 fuel oil available as an alternate fuel. Natural gas is delivered under an interruptible contract with Vectren. This contract gives IMPA the option to obtain its own gas supplies from various sources with gas transportation supplied by Vectren. IMPA maintains an inventory of No. 2 fuel oil at each station.

IMPA is the sole owner of Units 2 and 3 at the Georgetown Station. Indianapolis Power & Light (IPL) operates these two units on behalf of IMPA. The units are both GE-7EA machines and are gas fired. Citizens Gas delivers the gas to the Station from the Panhandle Eastern pipeline system. IPL has the responsibility to ensure IMPA's units comply with applicable environmental requirements.

IMPA Solar Parks

In 2013, IMPA began a program to construct small PV solar parks in member communities. By the end of 2015 nine (9) facilities totaling 13 MW will be in service. These solar parks range in size from .3 to 3 MW and are connected to member distribution systems. An additional 10 MW of parks are in development for commercial operation in 2016.

Member-Owned Capacity

IMPA members Rensselaer and Richmond own generating facilities. The following paragraphs briefly describe those member facilities.

Rensselaer's generating plant consists of six internal combustion engines with a total tested capability of approximately 18 MW. Four of the six machines are designed to operate on natural gas and No. 2 diesel fuel oil. Unit 5 can operate on diesel only and Unit 15 on natural gas only. Units 6, 10 and 11 are currently operated on No. 2 fuel oil only. Unit 14 is dual fuel capable and burns natural gas as a primary fuel with fuel oil available as a backup.

The Rensselaer generating plant is exempt from the Title IV Acid Rain provisions of the CAAA, CAIR and CSAPR requirements since all the units are under 25 MW. Unit 5 has been reclassified as an "emergency unit" for compliance with the RICE Rule. This means Unit 5 can be operated for emergency use only and is not considered a capacity resource. For purposes of this IRP, the diesel units are retired at the end of 2016, though no definitive announcements have been made on the retirement of these units.

On June 1, 2014 IMPA entered into an amended and restated capacity purchase agreement with Richmond Power & Light, obtaining the rights to operate and maintain the Whitewater Valley Station (WWVS). WWVS consists of two coal-fired generating units with a current maximum tested capability of approximately 30 MW and 60 MW, respectively. IMPA purchases coal on a short-term and spot market basis to support operation of the plant which is generally used to fulfil peaking needs.

Firm Power Purchases

On January 1, 2006, IMPA began taking firm power and energy from I&M under a "Cost-Based Formula Rate Agreement for Base Load Electric Service." Initially, this agreement provided IMPA with base load power and energy for a twenty-year period. The initial contract quantity under this agreement was 150 MW. IMPA may increase its purchases by up to 10 MW each year to a maximum delivery of 250 MW. The current contract quantity is 190 MW. I&M's demand and energy charges are calculated each year according to a formula that reflects the previous year's costs with an annual "true-up" the following year. I&M is responsible for providing the capacity reserves under this contract. The contract was extended in 2010 and now has an expiration date of May 31, 2034.

On June 1, 2007, IMPA began taking firm power and energy from DEI under a "Power Sale Agreement for Firm Energy and Capacity." This agreement provides IMPA with 50 MW of base load power and energy. DEI recalculates its demand and energy charges each year according to a formula that reflects the previous year's costs with an annual reconciliation. DEI is responsible for providing the capacity reserves under this contract. This contract expires May 31, 2017.

Upon the expiration of the DEI contract discussed above, a new 100 MW contract with DEI begins. The new contract provides dispatchable energy with minimum annual loading requirements. The demand charge is a negotiated fixed rate while the fuel charge is a cost based formula. The contract expires on May 31, 2021.

Throughout 2012, IMPA entered into long-term power supply agreements with six former DEI wholesale customers; Veedersburg, Coatesville, Williamsport, South Whitley, Montezuma and New Ross. As part of the agreement with the customers, their preexisting full requirements contracts with DEI were assumed by IMPA. Initially these contracts had expiration dates between 2015 and 2021. As part of the negotiated new DEI contract discussed previously, the remaining contracts (four) terminate on May 31, 2017.

Other Power Purchases

On October 7, 2008, IMPA entered into a contract with Crystal Lake Wind, LLC for the purchase of up to 50 MW of wind energy from the Crystal Lake Wind Energy Center in Hancock County, Iowa. Deliveries under the contract commenced on November 15, 2008. The contract expires December 31, 2018.

IMPA has entered into various monthly purchased power contracts with multiple counterparties to supplement the power and energy available to it from other resources. IMPA engages in both physical and financial transactions for capacity and energy. IMPA currently has short term market capacity and/or energy deals extending out as far as six years.

Green Power

IMPA offers a Green Power rate to its members, for pass through to their retail customers. Under this rate, IMPA will obtain and provide green power for a small incremental cost over its base rate. As discussed above, IMPA currently owns 13 MW of solar facilities and has a contract for the purchase of 50 MW of wind energy.

IMPA members implement the Green Power rate if they desire. Currently, IMPA members have 28 retail customers on the Green Power rate.

Net Metering Tariff

On January 28, 2009 the Board approved IMPA's net metering tariff. This tariff allows for the net metering of small renewable energy systems at retail customer locations. As with the Green

Power rate, the net metering tariff is implemented at the member's discretion. At this time, IMPA knows of 15 net metering installations in its members' service territories.

IMPA has been approached by customers wishing to install larger renewable systems that exceed the maximum size allowed under the net metering tariff. IMPA's preferred method of handling these large systems is to sign a contract to purchase the power as is done with the industrial customers referenced below. At this time, there are no larger renewable installations taking advantage of this offer.

Retail Customer-Owned Generation

IMPA has a contract with one commercial/industrial customer of an IMPA member to purchase excess generation from its onsite generation facilities. Under the current contract, the customer has been selling small amounts of energy to IMPA under a negotiated rate.

IMPA does not currently have any customers on the system that operate a combined heat and power (CHP) system. While under the right circumstances CHP systems would be beneficial to both the customer and the Agency, the very site specific operating conditions and economics must be in place for both parties in order for a CHP project to go forward.

With the exception of emergency back-up generators at some hospitals, factories and water treatment plants, IMPA knows of no other non-renewable retail customer generation in its members' service territories.

4.4 EXISTING DEMAND-SIDE RESOURCES

Existing demand-side resources consist of programs coordinated by IMPA as well as those implemented by its members. A discussion of existing programs is provided below.

IMPA Streetlight Upgrades Program

IMPA, on behalf of its participating communities, was one of 20 grant applicants selected from around the country in June 2010 to receive a Department of Energy (DOE) Energy Efficiency and Conservation Block Grant through the American Recovery and Reinvestment Act. IMPA was awarded $5 million on behalf of its members to implement local streetlight retrofitting programs in the Agency's member communities.

The original plan called for the replacement or retrofit of approximately 6,800 streetlights with an estimated annual savings of approximately 3.4 million kilowatt hours (kWh) collectively for 19 participating communities. The plan also went one step further with all the communities involved agreeing to set aside 50 percent of the financial savings realized as a result of reduced power usage to fund future energy efficient improvements in the community.

The street light selection process was so successful that IMPA was able to extend the original plan from approximately 19 communities, 6,800 lights and 3.4 million kilowatt-hours of savings to 32 communities, approximately 11,000 lights and 6.1 million kilowatt-hours of savings. Over the course of 2011, the participating communities replaced and retrofitted their existing streetlights with the new energy efficient lights. IMPA, with its team of participating communities, was the first grant recipient to complete its project under this DOE grant program. In 2012, the program was extended to several more communities resulting in an additional 5.5 million kilowatt-hours of savings.

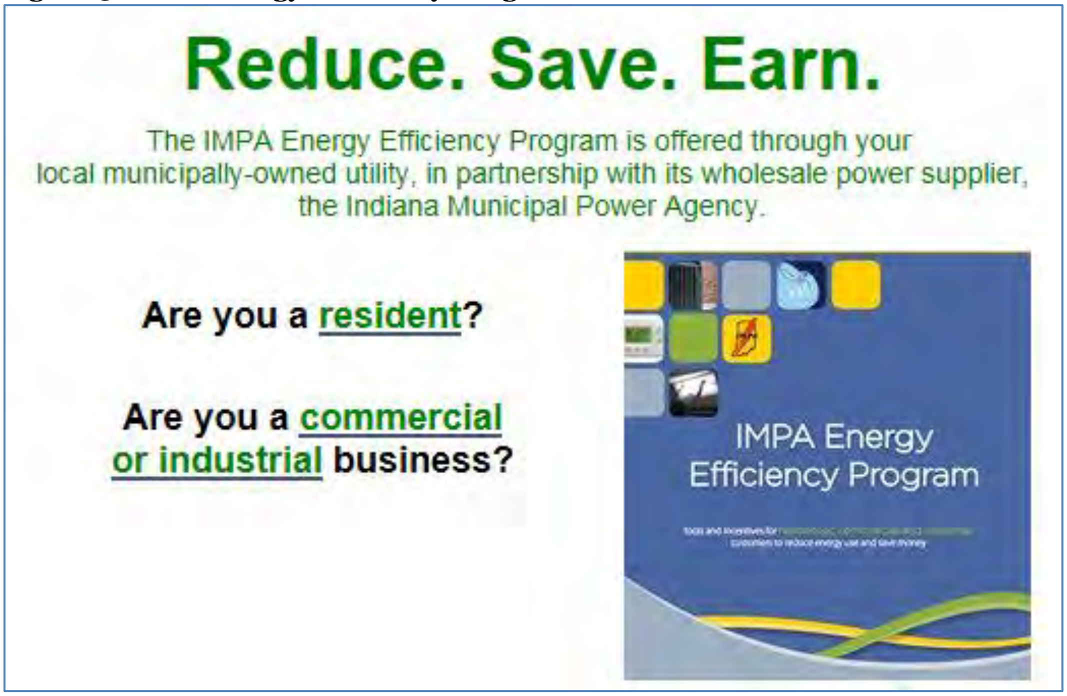
IMPA Energy Efficiency Program

In early 2011, IMPA launched the IMPA Energy Efficiency Program, designed to help commercial and industrial customers in the Agency's 59 member communities save money through incentives for implementing energy-saving measures in four different categories: energy efficient lighting; heating, ventilation and air conditioning; motors, fans & drives; and refrigeration, food service and controls. IMPA worked with member utilities to market the program, educate customers and build relationships with local vendors to implement the energy saving measures. During 2011, the Agency as a whole saw approximately 90 companies participate in the program, representing 25 member communities throughout the state of Indiana. The cumulative savings from these efficiency efforts is 7.6 million kWh annually. If an average home consumes 12,000 kWh per year, then the program has effectively reduced the amount of energy required to power over 633 homes.

In 2012 and 2013, IMPA voluntarily participated in the Indiana state-wide core program referred to as Energizing Indiana (EI) to gain experience and evaluate the cost-effectiveness of a variety of residential, commercial, and industrial programs. The savings from these efficiency efforts is 32 million kWh (2012) and 52.7 million kWh (2013), annually.

In 2014, IMPA returned to the more cost-effective, self-managed energy efficiency program, which it first launched in 2011, and exited the Energizing Indiana program. IMPA added residential rebates for HVAC in addition to its menu of C&I rebates. The link to the IMPA Energy Efficiency website is shown below.

Figure 3 IMPA Energy Efficiency Program



Source: http://www.impa.com/energyefficiency

Community Energy Program (CEP)

During 2011, IMPA also assisted member communities in applying for the opportunity to participate in a Community Energy Program (CEP) offered through the Indiana Office of Energy Development. Eight members were awarded with CEP-provided energy audits of the public facilities in their communities and personalized strategic energy plans with both short and long-term energy efficiency goals.

The program included an inventory of all energy usage at public facilities in the city, a full energy audit to identify potential energy saving measures, an established baseline for utility bills, a list of short and long-term energy goals for the community, suggestions to streamline energy decision-making and purchasing processes, ideas for funding energy efficiency projects, as well as a public meeting to inform the entire community about the new, comprehensive energy plan. The CEP was funded through the Energy Efficiency and Conservation Block Grant Program, the same program that provided funds for the street lighting effort.

Energy Efficiency and Conservation Education

IMPA has long promoted energy efficiency and conservation in its member communities. IMPA includes such information, developed both from public and internal sources, in the Municipal Power News, a publication which IMPA mails to members' customers' homes and businesses three times each year. The Agency also provides literature containing conservation and efficiency tips to member communities for distribution in their local utility offices or events.

Each issue of Municipal Power News includes a small energy efficiency quiz. Customers may enter their answers in a drawing at IMPA. Correct responders are mailed a small energy efficiency kit consisting of CFLs, weather stripping, outlet insulators and energy savings tips. IMPA has distributed approximately 700 of these kits through this and other delivery mechanisms.

IMPA's website at www.impa.com includes energy efficiency, conservation and safety information for consumers as well as providing the APOGEE online energy audit application, as discussed below. These new web pages include conservation tips, renewable and environmental information, and safety facts, as well as links to energy websites like Energy Star® and the U.S. Department of Energy.

IMPA staff also assists its members and their customers by providing walk-through energy audits and recommendations for power factor improvements to individual industrial customers.

Compact Fluorescent Light (CFL) Rebate Program

In the fall of 2008, IMPA began distributing CFL rebates in its communities. Working in conjunction with General Electric, IMPA distributed coupons worth $1 off any package of CFL bulbs. With the planned Statewide TPA implementation date of January 1, 2011, this program ended in 2010 with the last distribution of coupons occurring in the summer of 2010.

Demand Response

On December 10, 2010, IMPA's board approved Demand Response tariffs in order to utilize demand response programs offered under the MISO and PJM tariffs. At this time, no customers have signed up for the program.

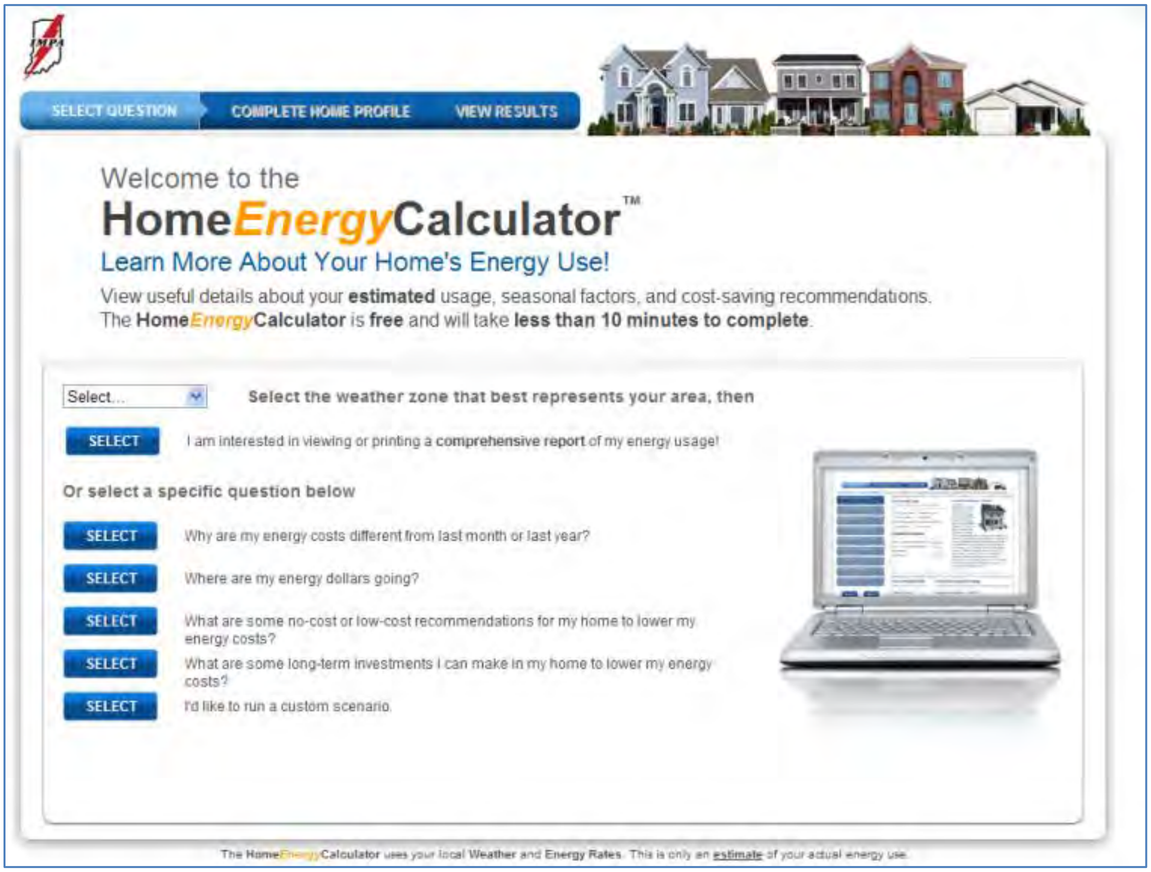
Member Programs

IMPA's members have implemented a variety of programs and projects tailored to their individual systems to reduce peak demand and encourage efficient energy utilization. Most of these programs are rate or customer service related. Examples include coincident peak rates, off-peak rates, power factor improvement assistance, load signals to customer-owned peak reduction or energy management systems, AMI/AMR and streetlight replacement with more efficient lamps.

Home Energy Suite™

In March of 2009 IMPA contracted with APOGEE Interactive for the online Home Energy Suite™. This is an online application that allows customers to input information regarding their home and appliances and determine approximate consumption and costs of electricity. The application features many useful pages that allow consumers to see which appliances are costing them the most money, where they can save money, potential savings from higher efficiency appliances, etc. The site is hosted on IMPA's website, with most member communities offering links from their websites (some smaller towns do not have utility websites and high speed internet access is not available in all IMPA communities). The site is also advertised in IMPA newsletters.

Figure 4 IMPA Home Energy Calculator



Source: http://www.impa.com/homeenergysuite

Since 2009, IMPA's energy efficiency programs have continued to grow with a cumulative savings of 104,175 MWh at the end of 2014 and a coincident peak reduction of 11.332 MW.

Table 4 Energy Efficiency Results (2009-2014)

MWh – Annual	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014
Residential Rebate (IMPA)	214					24
Street Lights (IMPA)		6,100	2,573	3,017		
C&I Prescriptive (IMPA)			7,619			2,988
C&I Prescriptive (EI)				19,504	37,155	
Res Lighting (EI)				5,907	8,585	
Low Income (EI)				391	398	
Home Audit (EI)				1,752	5,179	
Schools (EI)				1,410	1,360	
Annual Total (MWh)	214	6,100	10,191	31,980	52,677	3,012
Cumulative Total (MWh)	214	6,314	16,505	48,485	101,163	104,175

MW (Non-Coincident)	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014
Annual Total (MW)	0.068	1.539	1.807	7.194	11.468	0.797
Cumulative Total (MW)	0.068	1.607	3.414	10.608	22.076	22.873

MW (Coincident)	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014
Annual Total (MW)	0.039	0.000	0.654	3.907	6.279	0.453
Cumulative Total (MW)	0.039	0.039	0.693	4.600	10.879	11.332

4.5 IMPA TRANSMISSION

A large portion of IMPA's load is connected to the Joint Transmission System (JTS) that is jointly owned by DEI, IMPA and WVPA. Pursuant to the terms of the "Transmission and Local Facilities Ownership, Operation and Maintenance Agreement" (the T&LF Agreement) and the "License Agreement," IMPA dedicated and licensed the use of its portion of the JTS to itself, DEI and WVPA. DEI and WVPA similarly dedicated and licensed the use of their facilities to IMPA. The T&LF Agreement provides mechanisms for the owners to maintain proportionate ownership shares and to share proportionately in the operating costs and revenues from the JTS.

IMPA owns, but does not operate transmission facilities. DEI is responsible for the operation and maintenance of the JTS. In addition, DEI performs all load and power flow studies for the JTS and recommends improvements or expansions to the JTS Planning Committee for its approval. DEI files the FERC Form 715 on behalf of the entire JTS. See Appendix H for a statement on Form 715.

IMPA is a member of MISO as a Transmission Owner (TO). DEI and WVPA are also TO members of MISO. The higher voltage facilities of the JTS are under the operational and planning jurisdiction of MISO. The initial purpose of MISO was to monitor and control the electric transmission system for its transmission owner members in a manner that provides all customers with open access to transmission without discrimination and ensures safe, reliable, and efficient operation for the benefit of all consumers. Although MISO has since expanded its mission to include the operation of various markets, it also continues to fulfill this initial purpose.

Approximately 67% of IMPA's load is connected to delivery points on MISO-controlled transmission lines of the JTS, NIPSCO and Vectren. The remaining portion of the members' load is connected to delivery points on the AEP and Duke-OH transmission systems, located in the PJM footprint. IMPA is a transmission dependent utility (TDU) for all load not connected to the JTS system, approximately 50%. IMPA purchases Network Integration Transmission Service (NITS) under the appropriate transmission owner's NITS tariff.

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5 LOAD FORECAST

As a basis for this integrated resource plan, IMPA developed a 20-year monthly projection of peak demands and annual energy requirements. This section describes the forecast methodology, forecast results, model performance, and alternate forecast methodologies.

5.1 LOAD FORECAST METHODOLOGY

IMPA uses IBM's Statistical Package and Service Solutions (SPSS) statistics predictive analytics software for generating its load forecasts using time series analysis. Causal time series models such as regression and Auto Regressive Integrated Moving Average (ARIMA) will incorporate data on influential factors to help predict future values of that data series. In such models, a relationship is modeled between a dependent variable, time, and a set of independent variables (other associated factors). The first task is to find the cause-and-effect relationship.

An ARIMA model can have any component, or combination of components, at both the non-seasonal and seasonal levels. The name autoregressive implies that the series values from the past are used to predict the current series values. While the autoregressive component of an ARIMA model uses lagged values of the series values as predictors, the moving average component of the model uses lagged values of the model error as predictors. The integration component of the model provides a means of accounting for trends within a time series model.

The SPSS forecasting software was used to create monthly forecasts for each IMPA load zone's energy requirements. The ARIMA method allows for the development of a mathematical equation that accounts for both a seasonal influence and an overall trend based on the data available.

5.2 LOAD DATA SOURCES

To create a consistent historical database for developing the statistical models, additional demand and energy data for Argos, Coatesville, Huntingburg, Jasper, Montezuma, New Ross, South Whitley, Straughn, Veedersburg, and Williamsport (part of DEI, NIPSCO, and SIGECO load zones) was included for the period prior to their respective IMPA memberships. Also, due to the Great Recession from late 2007 through 2009, there was a noticeable drop in all loads in Indiana, especially in the years 2009 and 2010. Thus, the models excluded the 24 months in '09 and '10 in order to better analyze the base trends and growth. In addition, since the historical energy requirements data reflect energy efficiency program reductions from 2011 through 2014, IMPA added the energy from these programs back into the historical energy allowing the statistical models to analyze the natural load growth. As a result, IMPA used 108 observations of monthly historical energy requirements in developing the AEP, DEI, and SIGECO forecast models, while the NIPSCO and Blanchester models, had 84 and 72 observations, respectively.

Monthly historical heating and cooling degree-days (HDD and CDD) with a base temperature of 65 were obtained for the period 1994 through 2014 from the National Oceanic and Atmospheric Association—NOAA (www.noaa.gov). Weather data was selected from four weather stations in Indiana and Ohio for their proximity to IMPA's 60 member communities; the Indianapolis weather station for the AEP and DEI load zones, South Bend for NIPSCO, Evansville for Vectren, and Cincinnati for Blanchester.

Economic variables used in the models include Indiana real personal income and the U.S. unemployment rate, from the Bureau of Economic Analysis (www.bea.gov) and Bureau of Labor Statistics (www.bls.gov), respectively. In addition to these variables, IMPA implemented the number of peak days and off-peak days per month as variables in the models to quantify monthly usage variability.

5.3 LOAD FORECAST MODEL DEVELOPMENT

Since 2011, IMPA has generated forecasts for each of IMPA's five load zones on the same basis as power is dispatched and reported to MISO and PJM. The load zones where IMPA has members include AEP, Duke Energy Indiana (DEI), Duke Energy Ohio Kentucky (DEO), NIPSCO (NIP), and SIGECO (SIG). The dependent variable in the energy model was the sum of each load zone monthly energy requirements (kWh). The independent variables were CDD, HDD, on/off-peak days and economic variables. Multiple models were created in SPSS and the best fit models were chosen after careful attention was given to the statistics and growth rates, making sure all were within an acceptable range and reflect the historical data. Developing energy forecast models for five zones allowed greater attention to statistics and model detail than could be done by forecasting the member cities individually.

Forecasts were obtained for each independent variable. Weather variables cannot be forecasted for more than a week or so with any level of accuracy, therefore, averages of the historical monthly data were used. The weather data was normalized for each month using the period 1994 through 2014, and this normalized weather was repeated annually from 2015 through 2035. The Unemployment Rate was projected using forecasted rates from the United States Congress Congressional Budget Office's (CBO) Budget and Economic Outlook: Fiscal Years 2015 to 2025 report (www.cbo.gov). For years 2026 through the 2035 the growth trend assumption for 2025 was continued. Economic variable personal income was projected using a general annual inflation rate of 2.5%, consistent with the inflation assumption used throughout IMPA's IRP.

5.4 SPSS MODEL SELECTION

The SPSS software produced model fit parameters, residual errors and variable coefficients. The R-square, t-Statistics and coefficients were then evaluated to determine whether to keep or eliminate a model. The statistical validity of each forecast model was evaluated focusing on the R-square and error residuals of the models, the sign of each coefficient and the significance of each t-Statistic of the variables. For example, the degree day weather variables should have a positive sign on the coefficient indicating that as the temperatures increase or decrease from the base temperature (65), the load increases. The personal income economic variable should have a positive sign as well, indicating as the economy grows, electricity use will increase. An exception here is the unemployment rate; the sign of the coefficient would be negative, because as the joblessness rises, spending/consumption/usage should inversely decrease.

The t-Statistics of all independent variables were significant, minimum 2.0, showing that the variable contributes significantly to the model against the null hypothesis. The R-square statistic measures how successful the fit of the model is in explaining the variation of the historical data—a 1.0 R-square would explain 100% of the variation. In selecting models, higher R-squares with higher t-statistics were used to determine the best models for the forecast.

5.5 LOAD FORECAST DEVELOPMENT

Energy Forecasts

Having input the monthly projections of the independent variables for 2015 to 2035, the SPSS software was used to compute the energy forecasts from the selected energy models. For quick visual analysis of the load curves and growth rates, the SPSS software also generated a graph of the fitted historical and forecast data. The SPSS software completed monthly energy projections from 2015 to 2035 and developed the monthly residual from the models. The SPSS forecasted data were then exported and transferred into Microsoft Excel for further analysis.

Demand Forecasts

IMPA gathers historical coincident and non-coincident (maximum) monthly peaks and energy requirements for each member. Using this information, various monthly relationships are determined:

A. Ratios of individual member energy requirements to load zone energy requirements
B. Load Factors of member energy requirements and member non-coincident (maximum) demand
C. Coincidence Factors of member coincident demand (coincident with load zone demand) to member non-coincident demand

Monthly historical average contributions of each member to the load zone energy requirements (A) are used to allocate the load zone energy forecasts back to individual members. Based on the historical monthly median non-coincident load factors (B), the monthly maximum loads are then calculated for each member. Finally, using the historical median monthly coincident factors (C), IMPA calculates each member's contribution to the load zone monthly coincident and billed demand forecasts. These demands are summarized to finalize the load zone demand forecasts. All the individual load zone forecasts are aggregated to produce the IMPA forecast.

Adjustments to Forecasts

No adjustments were made for potential gain or loss of large customers in member communities. In addition, while a few of the retail customers of IMPA's members have evaluated combined heat and power (CHP) generation over the past two years, no customers have opted to generate their own power on a larger scale as a result of economic analyses. Therefore IMPA did not adjust the forecast for CHP.

5.6 Base Load Forecast Results

The forecast of IMPA's expected peak demands and annual energy requirements is shown in the table below. The resulting long-term average growth rate is 0.4% for peak demand and 0.5% for energy.

Table 5 IMPA Expected Peak Demands and Annual Energy

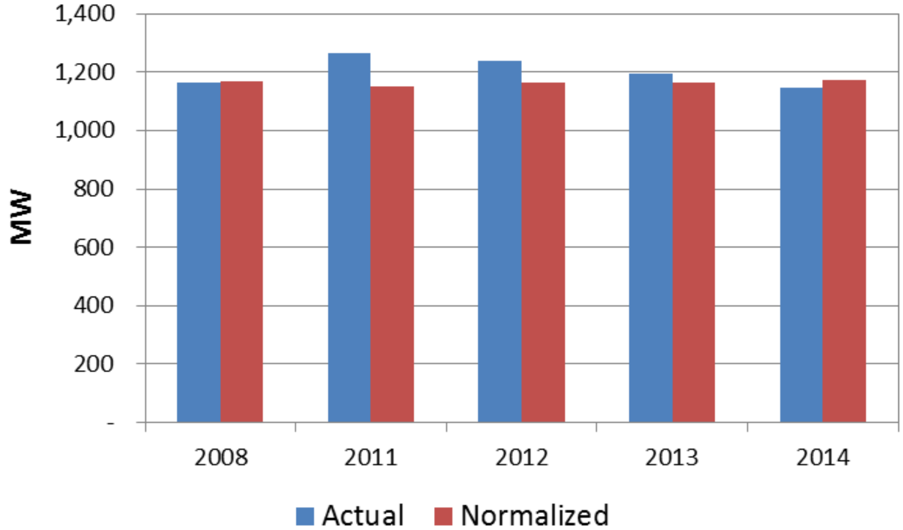
Year	Peak Demand (MW)	Energy Requirements (GWh)	Annual Load Factor (%)
2016	1,190	6,329	60.7%
2017	1,195	6,363	60.8%
2018	1,199	6,383	60.8%
2019	1,202	6,403	60.8%
2020	1,207	6,431	60.8%
2021	1,211	6,460	60.9%
2022	1,217	6,496	60.9%
2023	1,222	6,525	61.0%
2024	1,227	6,555	61.0%
2025	1,232	6,586	61.0%
2026	1,238	6,617	61.0%
2027	1,243	6,649	61.1%
2028	1,248	6,682	61.1%
2029	1,254	6,716	61.1%
2030	1,260	6,750	61.2%
2031	1,266	6,785	61.2%
2032	1,271	6,820	61.3%
2033	1,278	6,857	61.2%
2034	1,284	6,894	61.3%
2035	1,290	6,932	61.3%
CAGR %	0.41%	0.46%	

5.7 Weather Normalization

To evaluate load growth, it is important to quantify the percentage of the actual historical load which was a function of non-normal weather. This requirement is precisely why IMPA's forecasting models include weather variables. The models identify the portion of the actual load which has been influenced by weather.

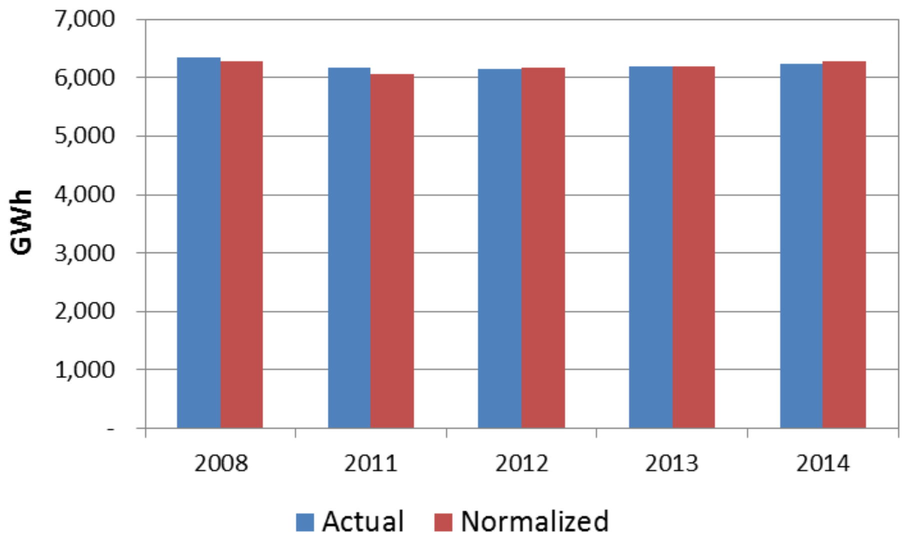
To weather normalize the historical data, IMPA first multiplies the coefficient(s) of the independent variables representing weather by the actual weather data. Then the same coefficients are multiplied by the normal weather data. The difference between the value derived using the actual weather and the normal value is used to adjust the actual loads to create the weather-normalized historical data.

Figure 5 Weather-Normalized Historic Peak Demand



Source: IMPA

Figure 6 Weather-Normalized Historic Energy



Source: IMPA

Public Version

5.8 LOAD FORECAST MODEL PERFORMANCE

The following table compares the IMPA peak demand forecast used in the last five IRPs with actual results.

Table 6 Load Forecast Performance – Peak Demand

Year	Actual	Normalized	2013 IRP	2011 IRP	2009 IRP	2007 IRP	2005 IRP	Normalized Deviation From Most Recent IRP	Increase in IMPA Members*
2006	1,082	1,076					1,090	-1.3%	8
2007	1,161	1,143					1,121	2.0%	2
2008	1,125	1,103				1,265	1,140	-12.8%	1
2009	1,102	1,091				1,294	1,159	-15.7%	1
2010	1,163	1,149			1,134	1,308	1,177	1.3%	1
2011	1,226	1,184			1,155	1,322	1,196	2.5%	0
2012	1,215	1,164		1,168	1,172	1,336	1,215	-0.3%	4
2013	1,194	1,165		1,182	1,189	1,350	1,234	-1.4%	2
2014	1,147	1,172	1,223	1,196	1,206	1,364	1,253	-4.2%	0
CAGR %	0.65%	0.95%	--	0.79%	1.24%	1.08%	1.56%		

*The forecast in this table was developed prior to the years shown and therefore does not reflect the addition of new members. However, new member load is included in the actual and normalized data.

The following table compares the IMPA energy requirements forecast used in the last five IRPs with actual results.

Table 7 Load Forecast Performance – Energy Requirements

Year	Actual	Normalized	2013 IRP	2011 IRP	2009 IRP	2007 IRP	2005 IRP	Normalized Deviation From Most Recent IRP	Increase in IMPA Members*
2006	5,426,236	5,522,140					5,558,827	-0.7%	8
2007	5,957,491	5,843,662					5,728,295	2.0%	2
2008	6,193,164	6,097,488				6,292,085	5,829,988	-3.1%	1
2009	5,810,167	5,918,489				6,482,521	5,931,687	-8.7%	1
2010	6,112,550	5,947,164			6,065,212	6,551,133	6,033,392	-1.9%	1
2011	6,051,425	5,984,393			6,191,982	6,619,200	6,135,103	-3.4%	0
2012	6,097,288	6,042,314		6,160,345	6,312,798	6,686,761	6,236,820	-1.9%	4
2013	6,201,100	6,191,797		6,222,363	6,402,096	6,753,852	6,338,543	-0.5%	2
2014	6,225,553	6,270,787	6,274,153	6,273,437	6,511,904	6,820,504	6,440,272	-0.1%	0
CAGR %	1.54%	1.42%	--	-0.61%	1.43%	1.16%	1.65%		

*The forecast in this table was developed prior to the years shown and therefore does not reflect the addition of new members. However, new member load is included in the actual and normalized data.

5.9 ALTERNATE LOAD FORECAST METHODOLOGIES

Rate Classification/Sector Methodology

IMPA has not generated forecasts by rate classification or sector. Since IMPA does not sell directly to retail customers, it does not have direct access to customer billing units. To generate a customer sector forecast, IMPA would need to collect several years of annual historical billing summary data from each of its 60 members. In addition, the criteria determining member rate classes can change over time and it would be nearly impossible to ensure consistent sector data back through the historical period. Finally, different members identify sectors (or classes) of customers differently. For example, two members may have a large power rate classification. Under this classification, one member's largest customer may be a 10 MW industry whereas the other may be a single 200 kW customer. For these reasons, sector forecasting would be very difficult for IMPA.

End-Use Methodology

Another forecast methodology is end-use. The data requirements for an end-use model are extensive. They include detailed information on appliance saturations and usage patterns in the residential sector, data on building and business types in the commercial sector and detailed equipment inventories, lighting types, and square footage area in the industrial sector. IMPA's member communities are not uniform, they contain various ages of homes and businesses. The age of the residents and vintage of the houses can have a significant impact on the saturation of various appliances. To collect the proper saturation data at the member level, IMPA would need to collect a valid sample of each member's customers. A valid sample is approximately 300 customers whether the community is large or small. Additionally, since the response rate to surveys is typically 30% to 35%, IMPA would need to survey at least 1,000 customers in each community. This requirement makes end-use sampling unreasonable, considering that IMPA would need to sample 25% to 30% of all the customers its members serve. Most investor-owned utilities, while serving thousands more customers, would only need to sample about 1,000 customers to ensure a valid sample. Therefore, IMPA cannot realistically utilize this type of a forecast model.

6 RESOURCE OPTIONS

6.1 SUPPLY-SIDE OPTIONS

Potential supply-side options include upgrades to existing generating capacity, construction or acquisition of additional generating capacity, and entering into additional contracts for purchased power. New IMPA-owned capacity could include generating units constructed and owned by IMPA or participation in the ownership of either existing or new generating units with third parties. Purchased power could include purchases from other utilities, independent power producers or power marketers. While IMPA is well situated to construct, own and operate smaller generating facilities such as peaking plants, solar plants, landfill gas plants, and possibly even wind turbine plants, as a practical matter, IMPA would expect to participate with others in the development of any new large generation resources. Joint development of resources would enable IMPA to enjoy the economies of scale of a larger facility and at the same time adhere to the principle of diversification.

Additional Upgrades or Retirements of Existing Capacity

IMPA's existing generating capacity consists of its undivided ownership interests in Gibson 5, Trimble County 1 and 2, Prairie State 1 and 2, seven wholly-owned combustion turbines and member generating capacity that is dedicated to IMPA for its use. IMPA is not aware of any potential upgrades to the jointly-owned coal units that could increase their output capability. IMPA's generating member has reviewed its generating capacity to examine the feasibility of plant upgrades and improvements. All feasible upgrades have been implemented, and IMPA is not aware of any other potential upgrades to this capacity.

All IMPA-owned units were given the opportunity to retire in the capacity expansion runs. This is performed by allowing the expansion model to opt to close an existing resource and replace it with other alternatives. If a unit is retired in this manner, all future capital expenditures, O&M and fuel costs are removed, however, all remaining bond obligations associated with the facility remain. When a unit is retired it is assumed the decommissioning expense is equal to the salvage value.

For purposes of this IRP, IMPA assumes the diesel units at Rensselaer retire at the end of 2016. Actual retirement dates will vary as none of the units are specifically slated for retirement at this time. As such, the plans shown in this report could change depending on actual retirement dates or plant conversions.

New Resources

The purpose of an IRP is to assist the company in determining its future generation requirements at a basic needs level, not to select the specific unit type and model. For example, IMPA does not screen various brands and models of CTs against each other to determine the generic CT for use in the IRP expansion. CT pricing is sufficiently compressed in that one CT brand over another will not cause the expansion model to select a CT when a CT is not needed or vice versa. The selection of the actual brand and model to construct would be determined in the bid and project development process.

The traditional generating resources considered in this study include:

- Nuclear (100 MW from a 1100 MW unit)
- Coal-fired steam generation (100 MW from a 1300 MW unit)
    - with or without carbon capture and sequestration (CCS) depending on the scenario
- Integrated Gasification Combined Cycle (IGCC) (100 MW from a 620 MW unit)
- Advanced combined cycle (CC) units (100 MW from a 450 MW unit)
- Advanced gas-fired combustion turbines (CT) (185 MW)
- Aero-derivative CT (100 MW)
- Gas-fired high efficiency internal combustion (IC) units (10 MW units in multi-unit sets of 50 MW)

Capital costs, operating costs and operating characteristics for these sources were taken from *Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants*, US Energy Information Administration, April, 2013 and *Annual Energy Outlook 2015*, US Energy Information Administration, April, 2015. See Appendix F for detailed expansion unit data.

During IMPA's consideration of supply-side resources, it assumes any new resource would comply with the applicable environmental requirements. Such requirements specify that the potential resource undergoes an environmental review prior to the beginning of construction and that the potential resource complies with any environmental constraints. If IMPA petitions the IURC for approval relating to new supply-side resource, IMPA would include information concerning these environmental matters, including the results of any due diligence investigations.

Power Purchases

Although IMPA has not identified any specific long-term firm purchased power options at this time, it will continue to consider such options as they may become available in the future.

Energy Markets

IMPA participates in both the MISO and PJM markets for balancing capacity and short-term purchases/sales. IMPA does not believe it is prudent to rely on these short term capacity and energy markets to meet its long-term capacity and energy requirements and allows the expansion model to add resources to meet its RTO resource obligations. However, in the expansion analysis, small amounts of annual market capacity purchases (100 MW MISO, 50 MW PJM) are allowable. This buffer also allows flexibility in the future regarding load uncertainty, energy efficiency, demand response and renewables development.

For purposes of this IRP, IMPA limits the installation of new resources to those needed to serve its own load. Although IMPA will sell short–term surplus capacity and energy through the organized markets, IMPA will not install generation for the purpose of speculative sales. The expansion model is set to limit the quantity of off system sales. This has the effect of limiting the selection of new resources to those required to meet IMPA's load since units won't be selected based on large off system revenues.

6.2 RENEWABLE OPTIONS

In addition to the traditional resources discussed above, the expansion model was allowed to select from a variety of renewable resources as well. The renewable alternatives included in the expansion analysis are shown below.

- Wind
- PV Solar
- Bio Mass (25 MW)
- Landfill Gas (LFG) (2.5 MW units in sets of 10 MW)

Pricing for all of the renewable alternatives was based on IMPA's experience in constructing facilities, indicative market quotes from renewable energy providers or industry documentation of installed and operating costs.

See Appendix F for detailed expansion unit data.

IMPA is in the process of developing solar park projects. The current plan assumes 50 MW of solar park development over the next five (5) years in addition to the 13 MW already developed. Additional renewable energy additions were left up to the expansion model to determine.

6.3 DEMAND-SIDE OPTIONS

IMPA's goal is to provide low cost, reliable, and environmentally-responsible electric power to its members. IMPA accomplishes this by maintaining a diverse set of energy resource options with equal treatment between supply-side and demand-side resources (DSM). This is the essence of integrated resource planning. The DSM alternatives included in the expansion analysis are shown below.

- Energy Efficiency
- Demand Response

Pricing for the DSM alternatives was based on IMPA's past experience with DSM programs as well as industry research from the American Council for an Energy-Efficient Economy (ACEEE).

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7 ENVIRONMENTAL

7.1 COMPLIANCE WITH CURRENT RULES

The majority of IMPA's current resources are not substantially impacted by the EPA's rules slated to go into effect in the next few years. The following sections describe compliance actions IMPA expects to be taken at its generating facilities in connection with environmental rules.

General

Cross State Air Pollution Rule

On December 23, 2008, the U.S. Court of Appeals for the D.C. Circuit (D.C. Circuit) remanded the Clean Air Interstate Rule (CAIR) to the EPA, but did not vacate the rule. This ruling left CAIR in place until the EPA issued a new rule consistent with the court's decision. The final replacement rule, the Cross-State Air Pollution Rule (CSAPR), was issued by EPA in July 2011. CSAPR was subsequently vacated by the D.C. Circuit in August 2012. The EPA then petitioned the D.C. Circuit for rehearing en banc, and this petition was denied in January 2013. The United States, through the Solicitor General, petitioned the U.S. Supreme Court in March 2013 to review the D.C. Circuit's decision on CSAPR. In June 2013 the U.S. Supreme Court agreed to hear the CSAPR case of the U.S. Government. On April 29, 2014, the United States Supreme Court issued an opinion upholding CSAPR, sending CSAPR back to the D.C. Circuit for review. On June 26, 2014, the EPA filed a motion requesting that the D.C. Circuit lift its stay on CSAPR and extend CSAPR's compliance deadlines. On October 23, 2014 the D.C. Circuit lifted its stay on CSAPR. On July 28, 2015, the D.C. Circuit decided certain outstanding legal issues related to CSAPR, including that the EPA must reconsider the 2014 SO_2 and ozone season NO_x emissions budgets for 13 upwind states, neither of which effect any IMPA generating unit. Despite this decision, CSAPR's compliance periods began on January 1, 2015. IMPA expects that the Agency will have to acquire a small percentage of its overall SO_2 and NO_x emission allowances needed for compliance, but that there will be no material impact from CSAPR on IMPA's generating facilities.

The Mercury and Air Toxics Standards

Following the vacating of the Clean Air Mercury Rule (CAMR), the EPA subsequently announced its decision to develop more encompassing hazardous air pollutant emissions standards for power plants under the Clean Air Act (Section 112, MACT standards) consistent with the D.C. Circuit's opinion vacating CAMR. EPA issued a proposed rule, Mercury and Air Toxics for Power Plants (MATS), in March 2011. The final rule became effective in April 2012 and was reconsidered and updated in April 2013 with revised emission limits for new or reconstructed units. Compliance is required for units greater than 25 MW by April 2015, or April 2016 if an extension is granted by the permitting authority for those units installing upgraded equipment for compliance. On June 29, 2015 the U.S. Supreme Court remanded the MATS rule to the D.C. Circuit Court because EPA did not properly consider costs as it wrote the rules. The D.C. Circuit must now decide whether to vacate the rule or remand it back to the EPA without vacatur.

Coal Combustion Residuals Rule

The utility industry is now likely faced with a more stringent regulatory scheme for managing CCRs due to the EPA's consideration of new regulations for CCRs. The EPA issued a proposed rule on June 21, 2010. Comments were taken through November, 19, 2010 on two alternative proposals. Environmental groups filed suit against the EPA in April 2012 to force the EPA to take action on the proposed rule. On October 19, 2015, the CCRs rule to regulate the disposal or coal ash as nonhazardous waste from coal-fired power plants under subtitle D of the Resource Conservation and Recovery Act (RCRA) came into effect. The rule establishes nationally applicable minimum criteria for the safe disposal of coal combustion residuals in CCR landfills, CCR surface impoundments and all lateral expansions of CCR units. It applies to new and existing facilities. The CCR rule was promulgated as a self-implementing rule (as provided under RCRA Subtitle D) meaning that it does not require regulated facilities to obtain permits, does not require states to adopt and implement new rules and cannot be enforced by EPA. Instead, the rule allows a state or citizen group to bring a RCRA suit against any facility alleged to be in non-compliance with the rule's requirements.

CO_2 Emissions from Existing Power Plants

On August 3, 2015, the EPA released its final rule for regulating CO_2 from existing EGUs under section 111(d) of the Clean Air Act. This rule, commonly known as the Clean Power Plan, seeks to reduce CO_2 emissions from EGUs by 32 percent below 2005 levels by 2030. In order to comply with the rule, states must submit a state implementation plan (SIP) or seek a two-year extension by September 6, 2016. If a state chooses not to implement a state plan by September 8, 2018, then the EPA will implement a federal implementation plan (FIP) on the state. A state has the option to either pursue a rate-based plan, which would require the power fleet to adhere to an average amount of carbon per unit of power produced or a mass-based plan, which would cap the total tons of carbon the power sector could emit each year. If a FIP is placed on a state, it is not yet known whether the plan would take a rate-based or mass-based approach. The rule requires states' existing EGUs to meet a CO_2 emissions rate by 2030, and an interim average emission rate between 2022 and 2029. These rates were calculated using each state's 2012 adjusted baseline emissions rate. For Indiana, the required rate reduction is 38.5%. In the rule, EPA set forth a best system of emissions reduction ("BSER") for which the states can achieve these goals. The BSER includes three "building blocks" of which states can choose to use some or all in order to reach the state emission reduction goal. The "building blocks" include (1) heat rate improvements at the EGU; (2) dispatching natural gas combined cycle units with higher capacity levels than coal generating capacity and (3) increased use of renewable and non-emitting generation. Governmental, environmental and utility stakeholders, including IMPA, are working together to digest the rule, its implications and the best paths forward.

Effluent Limitation Guidelines

On June 7, 2013, EPA proposed a rule to amend Effluent Limitation Guidelines (ELGs) (40 CFR Part 423), which would affect steam generating units that discharge to surface waters. On September 30, 2015, the EPA finalized its ELG as required by its consent decree with the Defenders of Wildlife and the Sierra Club, entered into on March 18, 2012. The ELG rule will have minimal to no effect on Gibson 5 and Prairie State as they have no discharges. While Trimble County does not directly discharge process water, it is planning and budgeting for an appropriate system to put into place to achieve compliance in the rule's compliance period of 2018-2023.

Final Ozone National Ambient Air Quality Standards

Under the Clean Air Act, the EPA is required to review and, if appropriate, revise the air quality criteria for primary (health-based) and secondary (welfare-based) national ambient air quality standards (NAAQS) every five years. On March 23, 2008, EPA published a final rule to revise the primary and secondary NAAQS for ozone. EPA revised the level of the eight-hour ozone standard to 75 parts per billion (ppb). With regard to the secondary ozone standard, the EPA made it identical in all respects to the primary ozone standard, as revised. The D.C. Circuit upheld the primary standard, but remanded the secondary standard to the EPA.

EPA initiated the current review in October 2008 and proposed a draft rule in December 2014, lowering the standard to between 65 and 70 ppb. On October 1, 2015, EPA revised its NAAQS for ground-level ozone to 70 ppb. Under this rule, states will be required to develop and put in place pollution control plans for counties found to be in "non-attainment" with the limit. If the rule causes counties in which IMPA's generating units are located to be designated as non-attainment, then the state will have to develop a compliance plan.

Waters of the United States (WOTUS)

The Army Corps of Engineers and EPA's issued the final WOTUS rule on May 27, 2015, defining which streams, wetlands and other bodies of water are protected by the Clean Water Act (CWA). The rule went into effect on August 28, 2015, but on October 9, 2015 the U.S. Court of Appeals for the Sixth Circuit issued an ordering staying the rule nationwide.

The rule requires that discharges into WOTUS require CWA permits, WOTUS must meet water quality standards and citizens may sue to enforce the CWA. Included in the definition of WOTUS are now tributaries, adjacent waters, enumerated regional features with a significant nexus and waters in the 100-year floodplain or within 4,000 feet of a WOTUS with a significant nexus. Since all of IMPA's units are equipped with cooling towers and lakes, the units do not directly discharge into jurisdictional waters. Therefore, IMPA is not aware of any effects this rule has on its units, but will continue monitoring the rule for future effects. The State of Indiana has joined a lawsuit, filed on June 30, 2015, alongside eight other states against the EPA to challenge the rule as unconstitutional.

Gibson #5

Gibson #5 currently complies with the SO_2, NO_x, particulate matter and opacity requirements of the Clean Air Act and Phase II of the Acid Rain Program. Gibson 5 also complies with Cross State Air Pollution Rule NO_x and SO_2 regulations. IMPA's share of the SO_2 and NO_x emissions allowances allocated by the EPA and the Indiana Department of Environmental Management (IDEM) will satisfy most of IMPA's requirements for such allowances.

Gibson 5 complies with the annual and seasonal requirements of the NO_x rule by operating its SCR system on an annual basis. Compliance with the CSAPR SO_2 rule at Gibson 5 was aided by a significant investment to upgrade the unit's flue gas desulfurization system (FGD). This upgrade was done during an extended maintenance outage in the spring of 2008 with final modifications completed in the fall of 2009. Gibson 5 will likely need to purchase a small number of allowances for SO_2 and NO_x allowances in future compliance periods.

Gibson filed for, and received, a MATS extension from the IDEM. Final plans for MATS compliance include upgrading the electrostatic precipitator and adding calcium bromide injection. These upgrades will be in place prior to April 2016.

Non-hazardous solid waste from this bituminous coal fired unit consists of the following Coal Combustion Residuals (CCR): fly ash, bottom ash, and fixated sludge from the SO_2 scrubber. The solid waste is disposed of in a mono-purpose solid waste disposal facility on the site or beneficially reused in the close out of the surface impoundments at the site. DEI also actively pursues other alternative reuse of CCRs.

Small quantities of hazardous wastes may be generated from time to time from normal plant activities and may include spent solvents from parts cleaning and paint-related wastes, etc. Gibson Station normally operates as a Small Quantity Generator (<1000 kg per month). All hazardous wastes generated at Gibson Station are properly characterized prior to disposal at appropriately permitted disposal facilities. The specific disposal facility chosen for a given waste depends on the nature of that particular waste.

Trimble County 1

Trimble County 1 currently complies with the SO_2, NO_x, particulate matter, and opacity requirements of the Clean Air Act.

Trimble County 1 complies with the CSAPR NO_x rules by operating the SCRs on an annual basis. IMPA expects its share of allowances to satisfy the most of the NO_x emissions at Trimble County.

Compliance with the CSAPR SO_2 rule is accomplished through the increased efficiency achieved through the significant investment made to upgrade the Trimble County 1 FGD system in the fall of 2005. IMPA expects its share of allowances to satisfy the CSAPR SO_2 emissions of Trimble County 1.

Solid waste from the bituminous coal consumed in the unit consists of the following CCRs: fly ash, bottom ash, and gypsum from the SO_2 scrubber. The solid waste is disposed of in a surface impoundment on the site or beneficially reused by marketing the CCRs to third parties. LGE is currently developing a solid waste disposal facility for dry disposal of future CCR adjacent to the station. Additionally, LG&E actively pursues alternative reuse of CCRs.

Trimble County 1 is affected by the MATS rule, and has received a one year extension from the Kentucky Department of Air Quality. A pulse jet fabric filter and new induced draft fans are being installed to comply with the MATS Rule. The new equipment will be put online in late 2015.

Any hazardous waste generated at Trimble County is analyzed to confirm the hazardous nature and then profiled with LG&E's hazardous waste contractor for disposal by either incineration or placement in a certified Class C landfill. The facility maintains manifest and disposal records for all hazardous waste shipped off site.

Trimble County 2

As with Trimble County 1, compliance with CSAPR is required. Trimble County 2 will comply in the same fashion as Trimble County 1. Its allocation of NO_x and SO_2 allowances are adequate to cover its emissions.

Trimble County 2 is subject to the MATS rule and is fully equipped for compliance.

Solid waste from the bituminous and sub-bituminous coal consumed in the unit consists of the following CCRs: fly ash, bottom ash, and gypsum from the SO_2 scrubber. The solid waste is disposed of in a surface impoundment on the site or beneficially reused by marketing the CCRs to third parties. LG&E is currently developing a solid waste disposal facility for dry disposal of future CCR adjacent to the station. Additionally, LG&E actively pursues alternative reuse of CCRs.

Any hazardous waste generated at Trimble County is analyzed to confirm the hazardous nature and then profiled with LG&E's hazardous waste contractor for disposal by either incineration or placement in a certified Class C landfill. The facility maintains manifest and disposal records for all hazardous waste shipped off site.

Prairie State Project

Prairie State Units 1 and 2 are subject to CSAPR. The Prairie State units receive CSAPR NO_x and SO_2 allowances from Illinois' new unit set aside which meet most of its emission requirements. Any remaining allowances that are needed for compliance will be purchased along with all the required SO_2 allowances required for compliance with the Title IV Acid Rain program.

The Prairie State units are subject to the MATS rule and are fully equipped for compliance.

Solid waste from these mine-mouth bituminous coal fired units consists of the following CCRs: fly ash, bottom ash, and gypsum from the SO_2 scrubber. The solid, dry waste is disposed at the near-field landfill. The breaker waste from the mine is disposed at the near-filed or the Jordan Grove facility via truck transport. Jordan Grove is a 1,100 acre site located near Marissa, IL. Jordan Grove was previously operated as a surface coal mine. The material is disposed under an Illinois Department of Natural Resources mining permit and an NPDES permit. PSGC actively pursues alternative reuses of CCRs.

Hazardous waste generation at Prairie State is similar to Gibson Unit 5 and Trimble County. All hazardous wastes generated by Prairie State are properly characterized prior to disposal at appropriately permitted disposal facilities. The specific disposal facility chosen for a given waste depends on the nature of that particular waste.

White Water Valley Station (WWVS)

WWVS currently complies with the SO_2, NO_x, particulate matter, and opacity requirements of the Clean Air Act. WWVS complies with the CSAPR NO_x rules using low NOx burners and overfire air. IMPA expects its share of allowances to satisfy the NO_x and SO_2 emissions at WWVS. Solid waste from the bituminous coal consumed in the unit consists of the following CCRs: fly ash and bottom ash. The solid waste is disposed of in a private offsite facility, the mine from one of the fuel suppliers, and in certain instances, a surface impoundment on the site. IMPA is currently developing plans to discontinue use of the surface impoundment in its compliance plan for the CCR Rule.

WWVS is affected by the MATS rule, and has received a one year extension from the IDEM. A pulse jet fabric filter was installed in the 2010 time period and new sorbent and powder activated carbon injection systems are being installed to comply with the MATS Rule. The new equipment will be put online in late 2015.

Small quantities of hazardous wastes may be generated from time to time from normal plant activities and may include spent solvents from parts cleaning and paint-related wastes, etc.

WWVS normally operates as a Small Quantity Generator (<1000 kg per month). All hazardous wastes generated at WWVS are properly characterized prior to disposal at appropriately permitted disposal facilities. The specific disposal facility chosen for a given waste depends on the nature of that particular waste.

IMPA Combustion Turbines

All of IMPA's Combustion Turbine stations comply with the existing requirements of the Clean Air Act. This compliance is achieved through Title V Operating Permit restrictions on fuel consumption and the use of lean pre-mix fuel/air injectors or water injection for NO_x control. The stations meet CAIR NO_x emission allowance requirements with allocated and purchased allowances. The stations comply with their respective Acid Rain Permits using the Excepted Methodologies in 40 CFR 75. SO_2 allowances are either purchased or transferred from other IMPA-owned source allocations.

The units also must comply with CSAPR. CSAPR allowances required in excess of the allocation amount will be purchased.

The Anderson and Richmond turbines can operate on pipeline natural gas or No. 2 low sulfur fuel oil. There is no significant environmental effect from solid waste disposal or hazardous waste disposal. Each plant has chemical storage for use in its demineralized water treatment plant. At times hazardous waste may need to be disposed of when the chemical tanks are cleaned. A licensed contractor is hired to do this cleaning, remove the waste, and properly dispose of the waste. Infrequently, oily waste may be removed from collecting tanks located at the site. This waste is also disposed of using properly licensed vendors. Other waste disposal is similar to household waste and is removed by a licensed refuse removal company.

The Georgetown units are single fuel units that operate solely on pipeline natural gas. There is no chemical storage on site and the plant's parts washer contains non-hazardous solvent. There is no significant environmental effect from solid waste disposal or hazardous waste disposal. Most waste disposal consists of waste similar to household waste and is removed by a licensed refuse removal company. There may be, at infrequent times, oily waste removed from onsite collecting tanks. This waste is also disposed of using properly licensed vendors.

7.2 COMPLIANCE WITH FUTURE RULES

IMPA makes no assumptions as to future environmental rules or laws. For purposes of this analysis, it is assumed that all future resource options comply with the existing environmental rules in place at the time of installation.

7.3 RENEWABLE ENERGY AND NET METERING

IMPA current renewable energy sources consist of a 50 MW wind contract and 10 MW of solar facilities.

Since 2009, the Crystal Lake wind contract has supplied approximately 2.5% of IMPA's annual energy requirements.

IMPA solar parks are currently operating in the following communities:

- Frankton (1 MW)
- Rensselaer (1 MW)
- Richmond (1 MW)
- Tell City (1 MW)
- Peru (3 MW)
- Crawfordsville (3 MW)

In addition to the solar facilities listed above, IMPA is currently developing solar parks in the communities of Pendleton (2 MW), Argos (.7 MW) and Bainbridge (.3 MW) that will be operational before the end of 2015.

As stated previously, IMPA's net metering program is implemented at the member level at the member's discretion. At this time, IMPA members have approximately 15 participants in their net metering programs.

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8 TRANSMISSION AND DISTRIBUTION

8.1 FUTURE TRANSMISSION ASSUMPTIONS

As noted previously, IMPA is a member of MISO as a TO within the DEI area and is a TDU within the NIPSCO and Vectren areas of MISO. IMPA is also a TDU receiving transmission service from PJM for its loads in that footprint.

MISO performs all of the transmission system planning for the facilities under its operational control, which includes most of the JTS. In the DEI load zone, DEI performs any additional transmission system planning functions on behalf of the three owners of the JTS (see Appendix H for statement regarding Form 715). IMPA participates in the joint owners' Planning Committee, which reviews major system expansions planned by DEI. IMPA assists its members where needed in determining when new or upgraded delivery points are required and coordinates any studies, analyses or upgrades with other utilities.

Rates for MISO and PJM area-specific NITS and ancillary services were escalated to reflect increased cost for transmission service over the study period. Additionally, charges for the MISO's Network Upgrade Charge (Schedule 26) and Multi Value Project Charge (MVP) adder (Schedule 26a) were increased based on projections provided by MISO. This reflects the increases in these charges due to the construction of the transmission and MVP projects over the next decade.

Each year, IMPA pays a significant amount of money for RTO congestion and losses. IMPA has investigated with consultants and the RTOs methods by which IMPA could invest in transmission improvements as another way to help mitigate congestion risk at some of its resource Commercial Pricing Nodes (CPNODES). At this time, no economic upgrades have been found, but IMPA continues to research viable projects.

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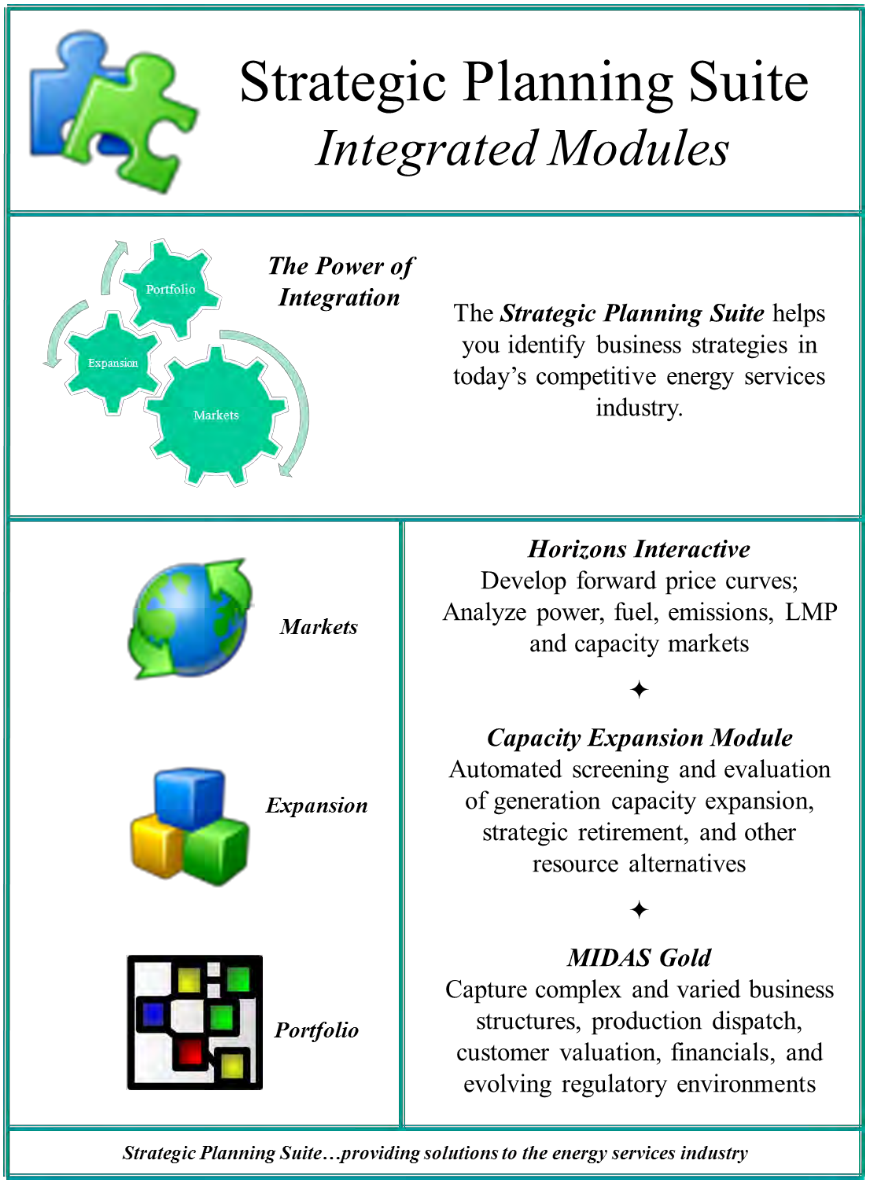
9 SOFTWARE OVERVIEW / DATA SOURCES

IMPA utilizes the Ventyx Strategic Planning Suite ("Strategic Planning") and Risk Analyst tools to perform its resource planning studies.

9.1 STRATEGIC PLANNING SUITE

Strategic Planning consists of three integrated modules that pass inputs and results between the modules. Each module is designed to address specific business problems associated with the power industry.

Figure 7 Strategic Planning Suite Cut Sheet



Source: Ventyx

Horizons Interactive

The Horizons Interactive market module develops forward price curves and analyzes power, fuel, emissions, energy and capacity markets. The model is also able to calculate a shadow price of CO_2. The simulated forward market trajectories are used by the next set of modules in the Suite.

Capacity Expansion Module

The Capacity Expansion module is an optimization screening tool that completely enumerates the possible combinations of new resource additions, DSM programs, and strategic retirements. The screened resource plans are then evaluated in greater detail in the MIDAS Gold module.

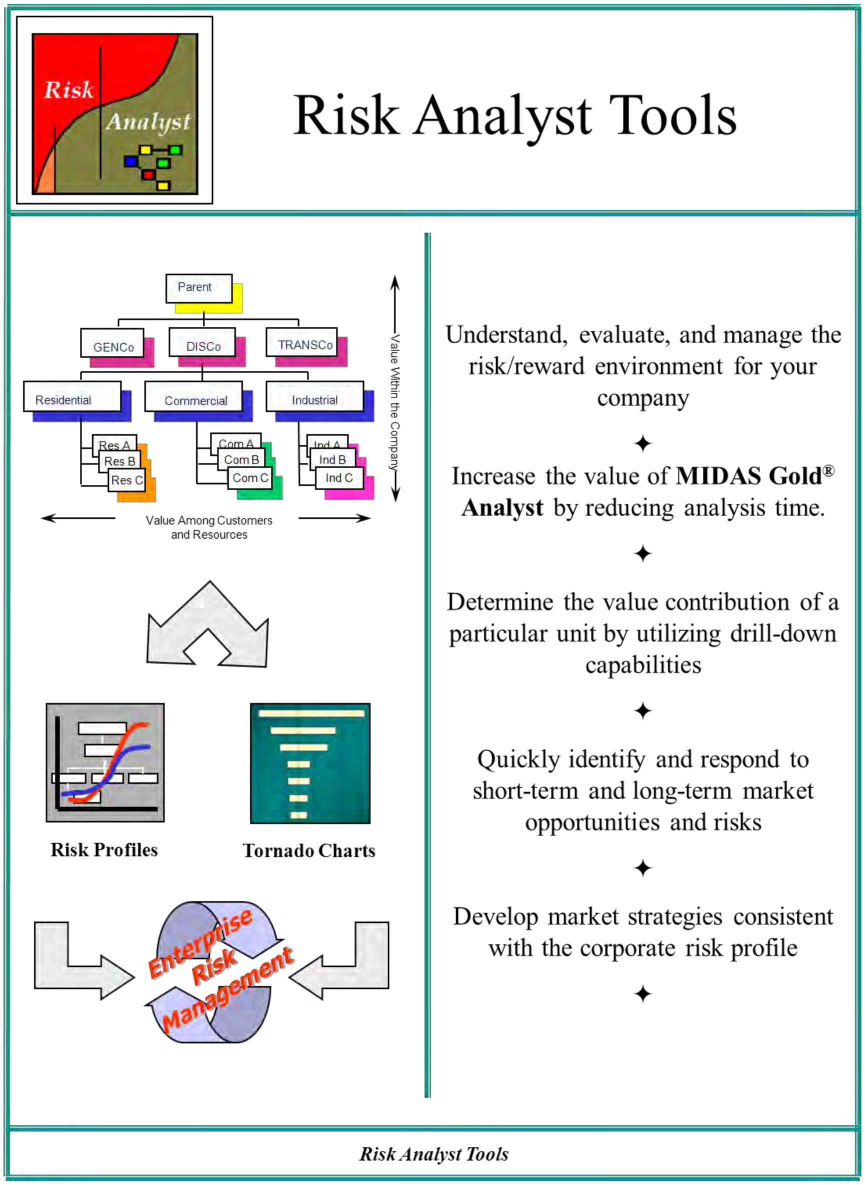
MIDAS Gold

Once the forward curves and optimized resource plans are developed, the MIDAS Gold module is used to create IMPA specific business structures complete with pro forma financials and rate making. The module mimics utility operation by combining unit commitment and dispatch with market purchases and sales and IMPA member revenue requirements/rate making; providing a complete analysis of each resource plan and scenario.

9.2 Risk Analyst Tools

To assess the risk of the various plans, IMPA utilizes a variety of analytical tools and techniques. Among these are decision trees, risk profiles, tornado charts, and trade-off diagrams. When selecting a preferred plan, strong consideration is given for the robustness of the plan in addition to the relative cost and rate impact of the plan.

Figure 8 Risk Analyst Tools Cut Sheet



Source: Ventyx

9.3 External Data Sources

IMPA's database uses a mix of publicly available forecasted information and IMPA proprietary information from a variety of sources.

Table 8 External Data Sources

Source Title	Publishing Address
Annual Energy Outlook 2014 & 2015	U.S. Energy Information Administration Office of Communications, EI-40 Forrestal Building, Room 1E-210 1000 Independence Avenue, S.W. Washington, DC 20585
Velocity Suite Database	Ventyx 1495 Canyon Blvd, Suite 100 Boulder, CO 80302
SNL Database	SNL Financial LC PO Box 2124 Charlottesville, Virginia 22902
Planning Year 2015-2016 LOLE Study *Multi Value Project Portfolio*	Midcontinent ISO (MISO) 701 City Center Drive Carmel, IN 46032
The Evolution of Demand Response in the PJM Wholesale Market	PJM 2750 Monroe Boulevard Audubon, PA 19403
PJM's Reliability Pricing Model	The Brattle Group 1850 M Street NW, Suite 1200 Washington, DC 20036
2014 Long-Term Reliability Assessment	North America Electric Reliability Corporation (NERC) 3353 Peachtree Road NE, Suite 600 North Tower Atlanta, GA 30326
JD Energy's Forecasting Services	JD Energy PO Box 1935 120 Fairview Avenue Frederick, MD 21702-0935
Eastern Wind Integration and Transmission Study – February 2011 *PV Watts Calculator*	National Renewable Energy Laboratory 15013 Denver West Parkway Golden, CO 80401
Wind Vision: A New Era for Wind Power in the United States	U.S. Department of Energy 1000 Independence Ave., SW Washington, DC 20585
U.S. EPA Clean Power Plan for Existing Power Plants	U.S. Environmental Protection Agency 1200 Pennsylvania Avenue, N.W. Washington, DC 20460
GenHub Database	PennWell Corporation 1455 West Loop, Suite 400 Houston, TX 77027

10 SCENARIO DEVELOPMENT

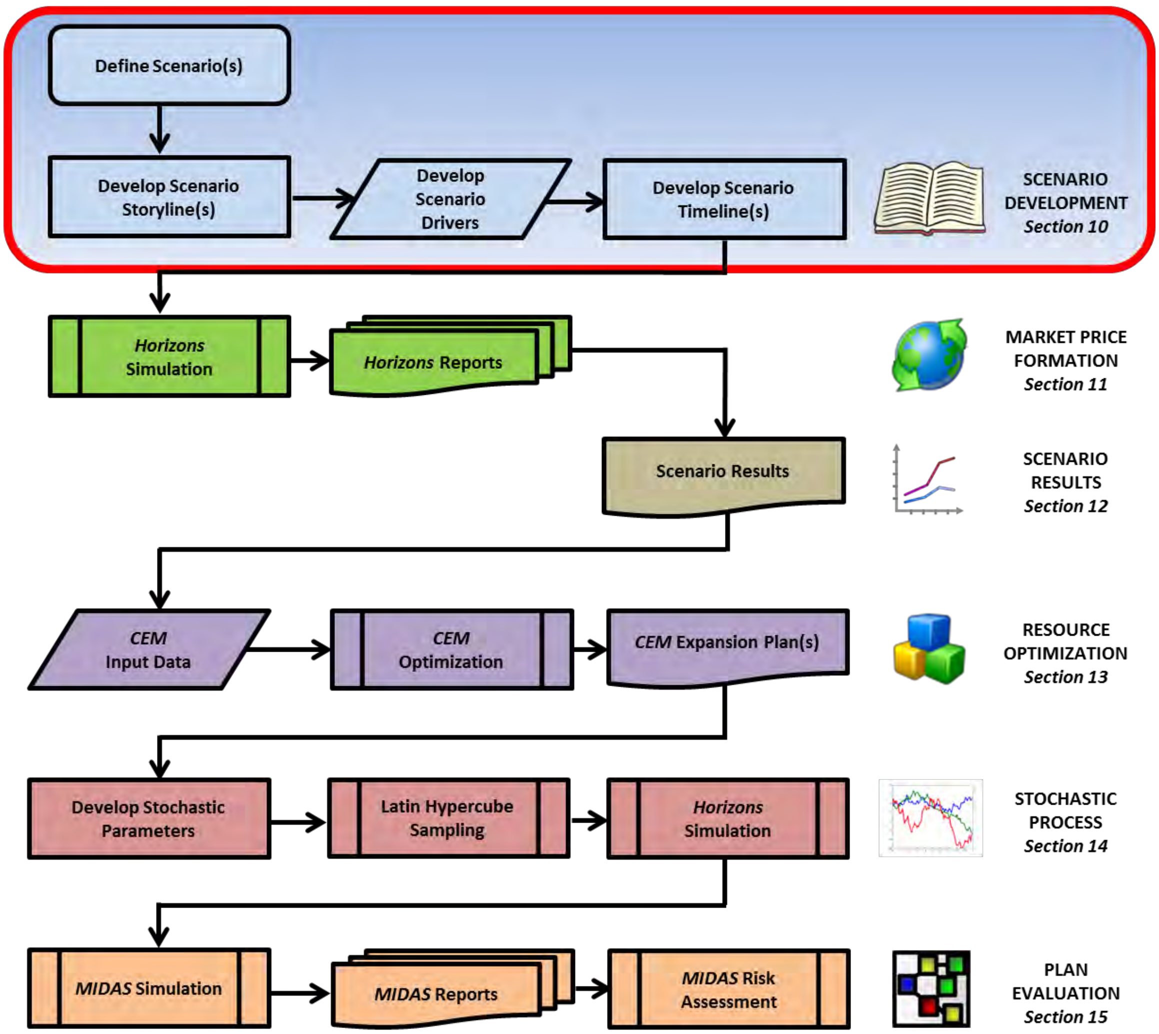
IMPA creates scenarios as a structured way to think about the future as scenario planning is a proven tool to better anticipate and respond to future risks and opportunities. IMPA stakeholders develop stories about how the future might unfold by iteratively building plausible alternate views of the future given different economic, regulatory, and technological driving forces.

10.1 IRP Scenario Process

The process acknowledges that both today and tomorrow's business environments are increasingly complex and unpredictable. A key aspect of scenario planning for an electric utility is to transform the scenario narrative into electricity market characteristics that can be incorporated into the IRP process. This is not an easy task as it involves detailed modeling of electricity markets under the scenario's conditions—*essentially a NERC-Wide IRP for each scenario*.

Shown below is a flowchart which embodies the IRP process. The goal of defining and developing scenarios is the creation of alternate futures that result in different resource mixes. Ideally the scenarios serve as "book-ends" that examine a variety of high consequence outcomes.

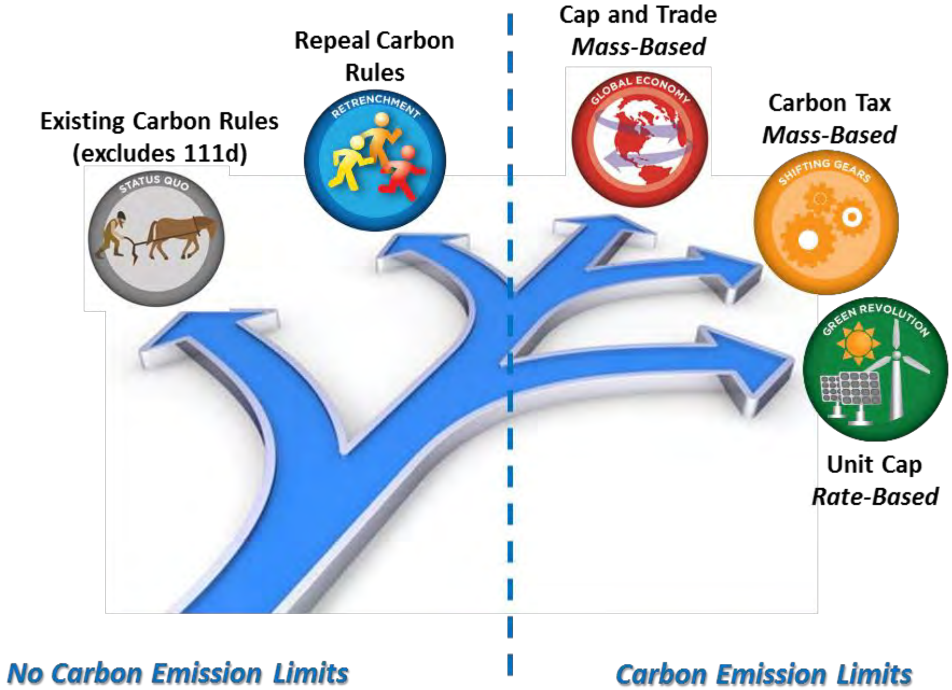
Figure 9 IRP Flowchart – Scenario Development



10.2 SCENARIO THEMES

For the 2015 IRP, IMPA stakeholders identified five distinct themes which are expected to have the greatest impact on the future energy business environment over the next 20 years. IMPA looks for signposts that signal the scenario may occur, providing an early warning system of possible events to follow. The more credible signposts identified for any given scenario, the greater the likelihood that the scenario and its associated strategic implications will be relevant. While possible carbon regulations are a major factor of each theme - demand, fuel prices, technology, resources, reserve margins, etc. all play a role in the development of the scenario.

Figure 10 Scenario Roadmap



STATUS QUO

- Base Case
- Existing policies and technologies
- EPA 111(b) only

RETRENCHMENT

- Reliability/competitive concerns
- Traditional generating resources
- Repeal of EPA carbon rules

GLOBAL ECONOMY

- Increased free trade
- World economy booms
- Carbon cap and trade

SHIFTING GEARS

- Carbon compromise
- Investment in Coal CCS
- Carbon tax

GREEN REVOLUTION

- Strict environmental policies
- Load destruction
- Carbon rate cap by unit

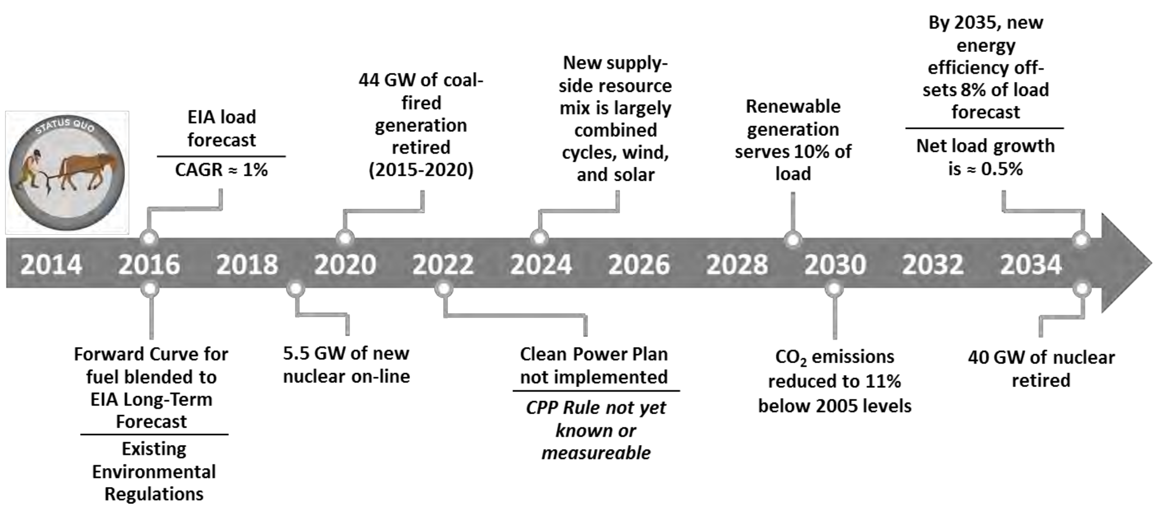
10.2.1 Status Quo Storyline/Timeline

The Status Quo scenario or Base Case includes only known events and expected trends (e.g., forecasts of fuel prices, economic forecasts, estimated future capital costs, expected load forecast, etc.). This scenario provides a 20 year projection without any unduly speculative and significant changes to resources or laws / policies affecting resources that aren't known and measureable.

During the preparation of this IRP, the Obama administration released the final version of the CPP (August 3, 2015). At this point in time, Indiana's compliance with the plan is neither known nor measureable. On June 24th, 2015 Indiana Governor Mike Pence sent a letter to President Obama informing him that unless the *proposed* federal EPA's CPP is demonstrably and significantly improved before being finalized, Indiana will not comply. Given the *final* rule puts Indiana in a far worse position than the proposed rule,[1] it is uncertain Indiana will voluntarily comply with the rule as written. As the opposition to the CPP is far reaching and will likely end-up in the U.S. Supreme Court, the implementation of the CPP is considered speculative so it is excluded from the Status Quo scenario. However, three additional scenarios (Global Economy, Shifting Gears, and Green Revolution) were developed to address the impact of the carbon emission limits set forth in the CPP rule.

To forecast unit retirements, Status Quo considers announced retirements as known and measureable. The impact of CSPAR and MATS compliance is significant as 44 GW of coal-fired generation have been publically announced for retirement between 2015 and 2020. By the end of the study, 64 GW of coal and 40 GW of nuclear generation are retired. It is assumed that renewable energy does not receive production tax credits (PTCs) or investment tax credits (ITCs) as there is no current legislation supporting these credits past their current expiration date. Energy efficiency is added economically in the states with an energy efficiency resource standard (EERS).

Figure 11 Status Quo Timeline

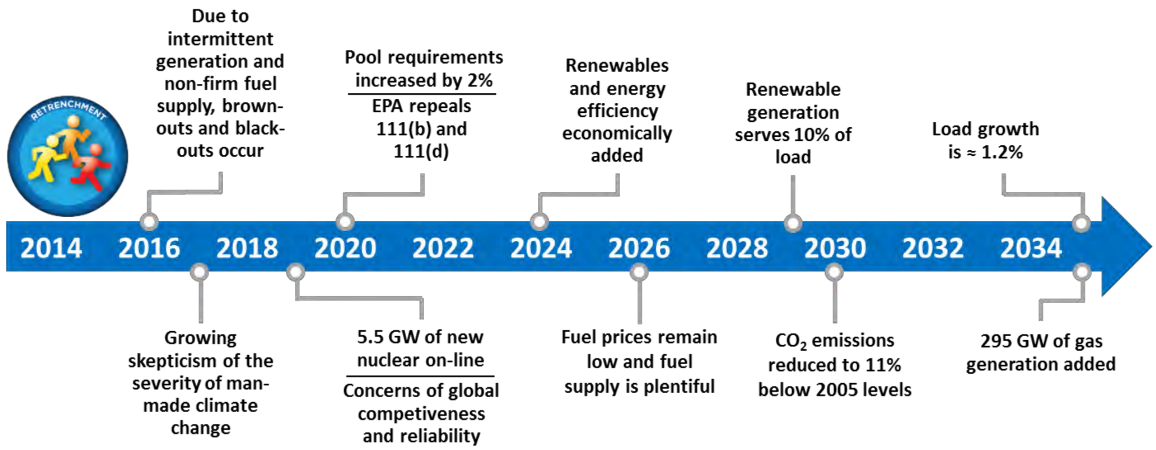


[1] From the proposed rule (June 2014) to the final rule (August 2015), the U.S. EPA completely overhauled its calculation of state emission goals, increasing the required reductions in the states where IMPA owns coal-fired generation (Indiana, Illinois and Kentucky) by 18%, 11%, and 22%, respectively.

10.2.2 Retrenchment Storyline/Timeline

The Retrenchment scenario is driven by system reliability and global competiveness concerns. In response to brown-outs and black-outs, the reliability councils add capacity performance measures to ensure a robust electric grid. Intermittent generation (wind and solar) and energy efficiency are not eligible for capacity credit. EPA's sections 111(b) and 111(d) are repealed, permitting unencumbered construction and dispatch of fossil fuel units ensuring a reliable electricity supply. Reliability councils increase pool requirements by 2% to provide additional reserves. Natural gas supply is higher due to increased pipeline capacity.

Figure 12 Retrenchment Timeline



<u>Retrenchment Signposts</u>

IMPA stakeholders identified a number of signals that indicate the Retrenchment scenario is a plausible future. The polar vortex of 2014 illustrated the importance of coal generation as a reliable resource[2] in times of system emergency. Electricity is the lifeblood of modern society and any disruption has severe consequences to the U.S. economy and the health of its citizens. In the five year period from 2012 through 2016, 60 GW of coal either has been or will be retired placing the grid in a precarious situation when the next extreme weather event occurs. Thus, there is a reliability concern that the EPA's CPP, which intensifies coal retirements, will add to the grid's vulnerability. In times when the nation is very concerned about cyber-attacks, a tight reserve margin combined with an electricity grid fed by more and more intermittent resources adds to the brown-out and black-out susceptibility.

Further, there is fierce legal opposition[3] to the EPA's CPP and studies[4] have cited the economic pain stemming from the EPA's regulation would spread throughout the country. Especially hard hit would be low-income and fixed-income families as low-income families spend a far greater percentage of every dollar on energy costs. America's manufacturing base would be hit particularly hard by higher energy prices resulting in higher unemployment as U.S. businesses lose market share to global competition.

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[2] *NERC Polar Vortex Review*, September 2014

[3] *15 states launch legal battle against EPA's Clean Power Plan*, Utility Dive, Davide Savenije, August 17, 2015

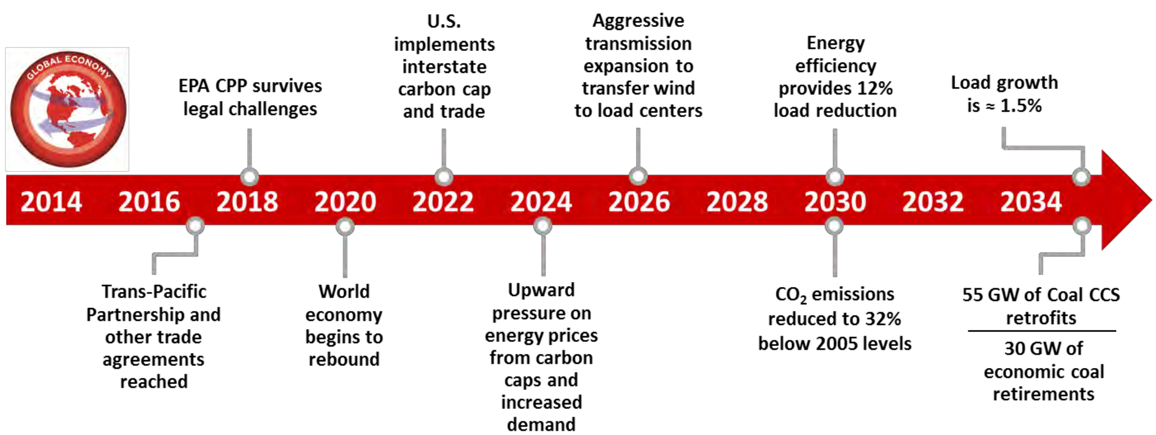
[4] *All Economic Pain, No Environmental Gain*, The Heritage Foundation, Nicolas Loris, June 5, 2014

10.2.3 Global Economy Storyline/Timeline

In Global Economy, the world powers increasingly participate in a free trade economy. A world economy requires the participants to operate under similar environmental rules and work conditions. In general, it is assumed this will benefit the U.S. as global competitors such as China, Mexico, and India will see increased costs to participate on a more level playing field. As manufacturing returns to the U.S. and the economy expands, higher energy needs place upward pressure on commodity prices.

To meet the EPA's CPP requirement of a 32% reduction in carbon emissions from the 2005 level by 2030, the U.S. implements an interstate CO_2 cap-and-trade program for existing and new resources. Beginning in 2022, each existing steam-coal, steam-oil, and combined cycle unit is allocated allowances based on a proportionate share of its state's annual cap using the unit's 3-year average CO_2 emissions (2010-2012). Under the assumptions in this scenario, the aforementioned existing generating units plus new units would participate in the trading program.

Figure 13 Global Economy Timeline



Global Economy Signposts

IMPA stakeholders identified a number of signals that indicate the Global Economy scenario is a plausible future. In his second term, President Obama has placed an emphasis on negotiating free and fair trade agreements[5] that level the global playing field. On this issue, the administration has found common ground with the Republican-controlled Congress. As technology has advanced in transportation and communication, there has been a correlated rise in world trade and foreign investment. This signals that perhaps the world is ready for more free trade, eliminating tariffs and other trade barriers.

The Obama administration continues to place an emphasis on implementing carbon rules[6] to address global warming. The EPA described a number of pathways to compliance in its final rule on section 111(d); one of which is a mass-based cap and trade approach which was implemented in the Global Economy scenario.

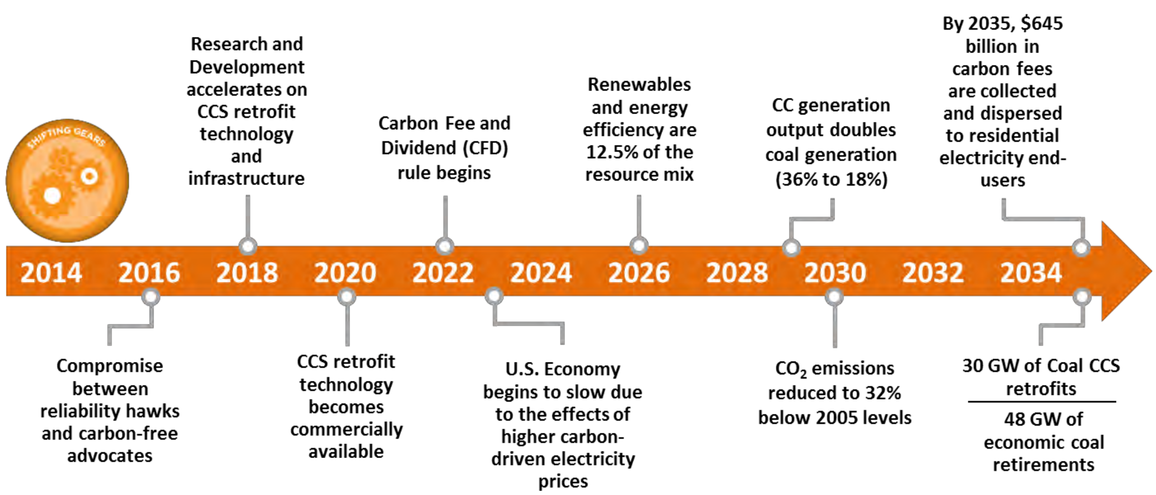
[5] *The Trans-Pacific Partnership*, President Obama, July 2015
[6] *EPA Clean Power Plan Final Rule*, EPA Administrator, Gina McCarthy, August 3, 2015

10.2.4 Shifting Gears Storyline/Timeline

Shifting Gears represents a compromise scenario between reliability hawks, Congress, environmentalists, consumer advocates, and the EPA. The requirement of a 32% reduction in CO_2 emissions from the 2005 level by 2030 is met through a carbon tax on all power sector carbon emissions. This action, referred to in the scenario as the *Carbon Fee and Dividend* (CFD) Rule places the collected fees in a Carbon Fee Trust Fund to be rebated to retail electricity consumers.

As part of the compromise, environmentalists agree to suspend their opposition to natural gas generation and fracking, paving the way for more combined cycle units. Reliability hawks, who fear a carbon compliance strategy which relies too heavily on renewables and energy efficiency will jeopardize grid stability, encourage existing coal unit retrofits with carbon capture and sequestration (CCS) when economically feasible to maintain fuel diversity. While the tax rebate assists the residential electric consumer, the carbon tax fueled higher electricity prices, which deal a blow to the commercial and industrial end users. Consequently, the U.S. experiences pedestrian economic growth in this scenario.

Figure 14 Shifting Gears Timeline



<u>Shifting Gears Signposts</u>

IMPA stakeholders identified a number of signals that indicate the Shifting Gears scenario is a plausible future. The ISO/RTO Council (IRC)[7] has been actively working with the EPA to ensure electric system reliability is taken into consideration as part of any carbon rule making. While the IRC does not ordinarily weigh in on EPA policy issues, the significance of the paradigm shift imposed by capping carbon warranted participation by the IRC on this very important issue.

For carbon c0mpliance, implementing a carbon tax[8] has been floated about for many years, primarily due to its simplicity and transparency. A basic carbon tax, like most consumption taxes which harm lower-income consumers, is addressed by providing residential rebates.

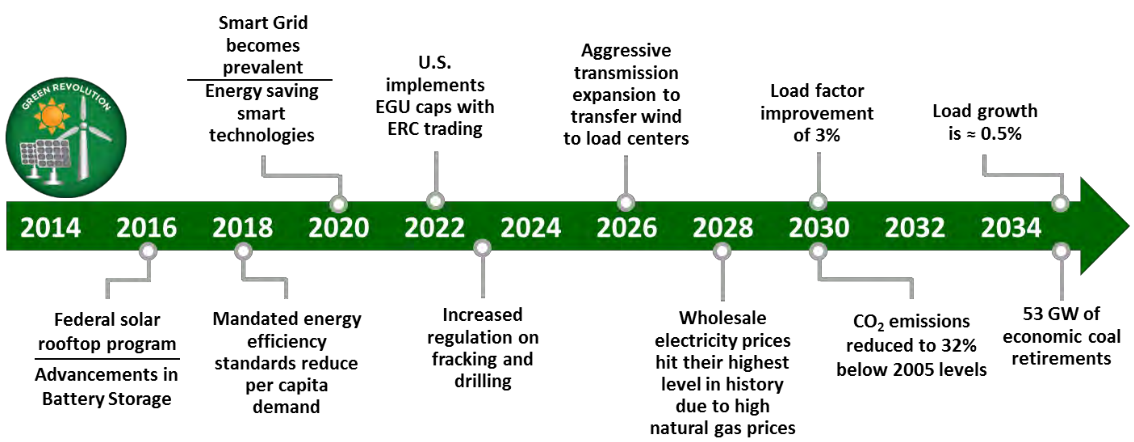
[7] *EPA CO_2 Rule – ISO/RTO Council Reliability Safety Value and Regional Compliance Measurement and Proposals*, ISO/RTO Council
[8] *Bottom Line on Carbon Taxes*, World Resources Institute, Eliot Metzger, July, 2008

10.2.5 Green Revolution Storyline/Timeline

In the Green Revolution scenario, the electricity industry undergoes dramatic changes driven by new innovations, technology, and consumer preference. Utilities experience significant load destruction, primarily due to residential rooftop solar with battery storage, micro grids, and stringent energy efficiency standards for lighting, appliances, HVAC, motors, and building codes. Utilities experience some load growth as electric vehicle sales increase to meet future transportation sector CO_2 emission and miles per gallon targets. A shift in time-of-day power usage improves the overall system load factor by 3% by 2030. In this scenario, utilities see significant cost shifting from electricity production to transmission and distribution to accommodate the smart grid infrastructure.

To meet the EPA's CPP requirement of a 32% reduction in carbon emissions from the 2005 level by 2030 a CO_2 rate cap is implemented beginning in 2022 on affected electric generating units (EGUs). The rate-based approach is one path to compliance offered by the EPA. The affected units would be able to lower their CO_2 emission rate by adding zero-emitting wind and solar emission rate credits (ERCs) to the denominator resulting in a lower CO_2 rate.

Figure 15 Green Revolution Timeline



Green Revolution Signposts

IMPA stakeholders identified a number of signals that indicate the Green Revolution scenario is a plausible future. Technology advancements and consumer excitement for rooftop solar and battery storage, coupled with generous incentives[9] may well lead to significant utility load destruction and load pattern changes. Further, technological advancements in smart grid technology, together with federal incentives[10] have led to increasing investments in advanced metering infrastructure (AMI).

[9] *President Obama Announces New Actions to Bring Renewable Energy and Energy Efficiency to Households across the Country*, The White House, August 24, 2015
[10] *Advanced Metering Infrastructure and Customer Systems*, smartgrid.gov, U.S. Department of Energy

Table 9 Scenario Drivers

	Status Quo	Retrenchment	Global Economy	Shifting Gears	Green Revolution
Description	Base case driven by existing policies and technologies	Shift back to traditional low cost, non-intermittent resources to address global competiveness and reliability concerns	World economy drives higher energy needs placing upward pressure on commodity prices	Steady movement towards sustainable energy as a compromise between pro-coal and non-carbon advocates	Load shifting and destruction through technology advances with strict regulatory policies
Economic Growth	EIA Reference	Medium-High due to lower energy prices and abundance of NG	High as U.S. & World economy booms	Medium-Low due to higher energy prices	Low due to higher energy prices
Capital Construction Cost	EIA Reference	Low due to cheaper resources driven by under-utilized manufacturing capacity	Medium-Low due to cheaper world market for resources	Medium-High due to scarce resources	High due to increased regulations and scarce resources
Electricity Demand - before EE	Reference ~1%	Medium-High	High	Medium-Low	Low
Load Factor	Existing	1.5% higher due to resurgence of high load factor industrial base	1.5% lower due on peak more service oriented businesses	3% lower by 2030 due to loss of high load factor industrial base	3% higher by 2030 due to impact of residential rooftop solar and batteries
Energy Efficiency	Current State Guidelines, RTO Capacity Credit	No capacity credit, repeal state guidelines, economic EE	State guidelines, economic EE	State guidelines, No capacity credit, economic EE	High - Federal EE standards and programs (embedded in load forecast)
Natural Gas Supply	EIA Reference	Higher	Higher	Lower due to higher gas usage	Low - fracking legislation decreases supply
Natural Gas Price	Forward Curve blended to EIA Reference Case	Low	Medium-Low	Medium-High	High
Coal Price	EIA Reference	Low	Medium-High	Medium-Low	High
Oil Price	EIA Reference	Medium-Low	Low	Medium-High	High due to increased regulations on fracking and drilling
CO_2 Strategy/Regulation	No National Regulation - Regional plans stay in place	None, regional plans abandoned	CO_2, interstate cap and trade program (massed-based)	National CO_2 Tax	Unit CO_2 Rate Cap (rate-based)
Environmental Regulation	MATS, CSAPR, Coal Ash, 111(b). CPP not implemented – announced plant retirements	MATS, CSAPR, Coal Ash in place. 111(b) & 111(d) revoked. No major new regulations on generation or drilling/mining	MATS, CSAPR, Coal Ash, 111(b), 111(d)	MATS, CSAPR, Coal Ash, 111(b), 111(d)	All current, plus additional regulations.

	Status Quo	Retrenchment	Global Economy	Shifting Gears	Green Revolution
Emission Caps	Existing CSAPR/MATs - no CO_2	Existing CSAPR/MATs - no CO_2	Existing CSAPR/MATs - 32% CO_2 by 2030 - Cap and Trade (mass-based)	Existing CSAPR/MATs - 32% CO_2 by 2030 - CO_2 Tax	Existing CSAPR/MATs - 32% CO_2 by 2030 – Unit Rate Cap (rate-based)
Nuclear Generation	Retire existing at 60 years, under construction 5.5 GW, economic new builds	Retire existing at 60 years, under construction 5.5 GW, economic new builds	Retire existing at 60 years, under construction 5.5 GW, economic new builds	Retire existing at 60 years, under construction 5.5 GW, economic new builds	Retire existing at 60 years, under construction 5.5 GW, economic new builds
Renewable Generation	Current Statewide RPS plus economic renewable	No capacity credit, repeal state RPS, economic renewable	Current state RPS remain, no new state or national RPS - economic renewable	Current state RPS remain, economic renewable but limited for reliability	Current state RPS remain, no new state or national RPS - economic renewable
Technology Improvements	Current	Current	Battery, smart grid, EE, EV, Mass Trans	Battery, smart grid, EE, EV, Mass Trans	Intense battery, smart grid with federal incentives, DR, EE - federal standards
Coal Generation	Units retire at 75 yrs. 111(b) prohibits new non-CCS coal	Units retire at 75 yrs. repeal of 111(b), economic conventional coal	Units retire at 75 yrs., economic retirements and CCS retrofits	Units retire at 75 yrs., economic retirements and CCS retrofits	Units retire at 75 yrs., economic retirements
Reserve Margin	Pool Requirements + 1%	Pool Requirements + 2%	Pool Requirements	Pool Requirements + 2%	Pool Requirements + 3%
Transmission	More due to aging transmission infrastructure	More due to aging transmission infrastructure	Much more due to aging transmission infrastructure and increased renewable/intermittent generation	Much more due to aging transmission infrastructure and increased renewable/intermittent generation	Much more due to aging transmission infrastructure and increased renewable/intermittent generation
Wholesale Electricity Price	Medium-Low	Low due to low fuel prices	Medium due to cap and trade carbon market prices	Medium-High due to carbon tax	High due to unit carbon cap and high fuel prices
Wholesale Capacity Price	Medium-High	Medium-Low due to higher pool requirements and low capital costs	High due to lower pool requirements than the other scenarios	Medium due to higher pool requirements and medium-high capital cost	Low due to highest pool requirements and highest capital costs

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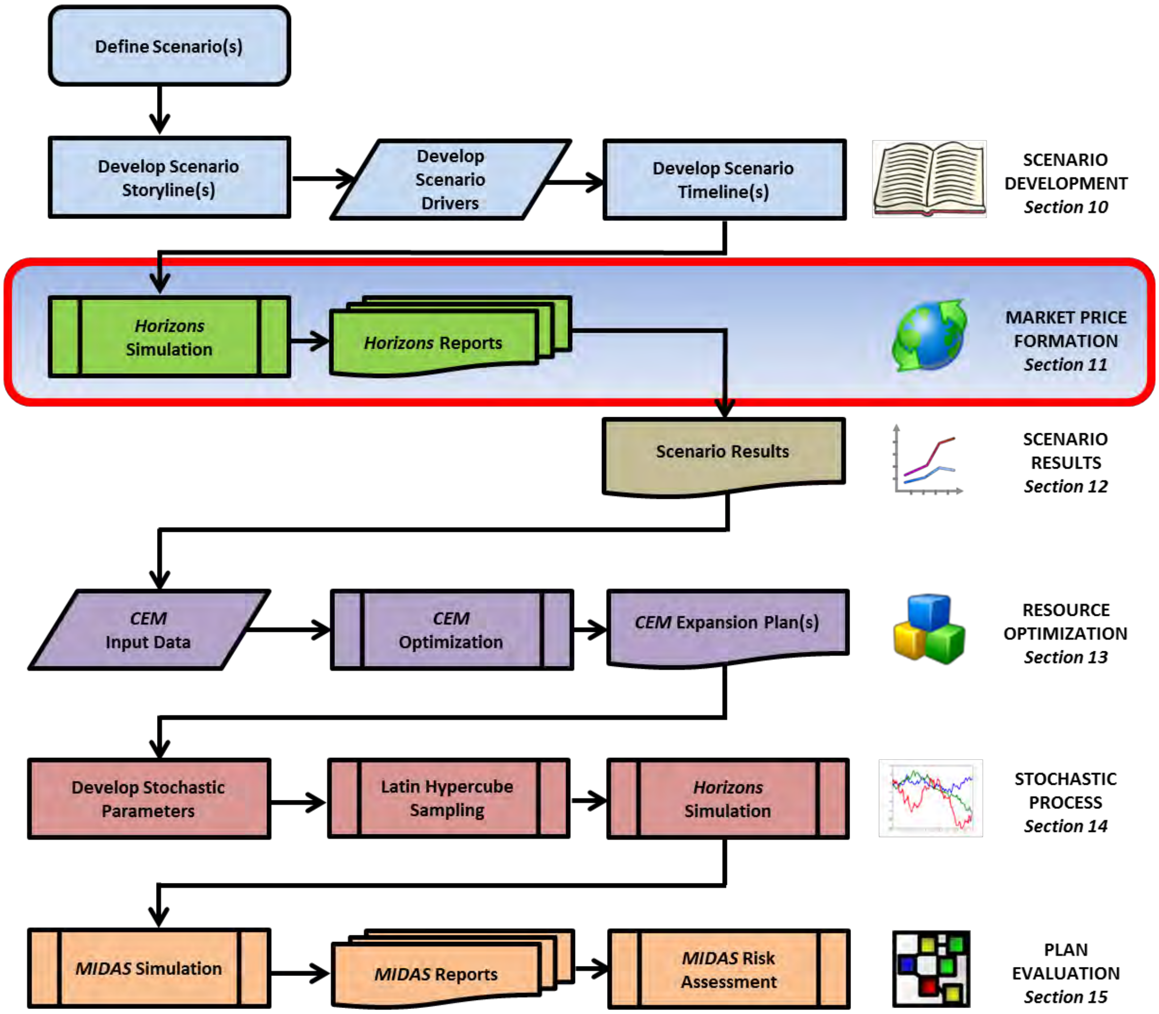
11 MARKET PRICE FORMATION

Once the scenario storylines, timelines, and drivers have been developed, the next step is to make the scenarios actionable by modeling their unique characteristics in the Horizons Interactive Market Module. For each scenario, the drivers and regulations are simulated with the hourly chronological market model to determine the corresponding wholesale price for electricity, capacity, and the shadow price for CO_2.

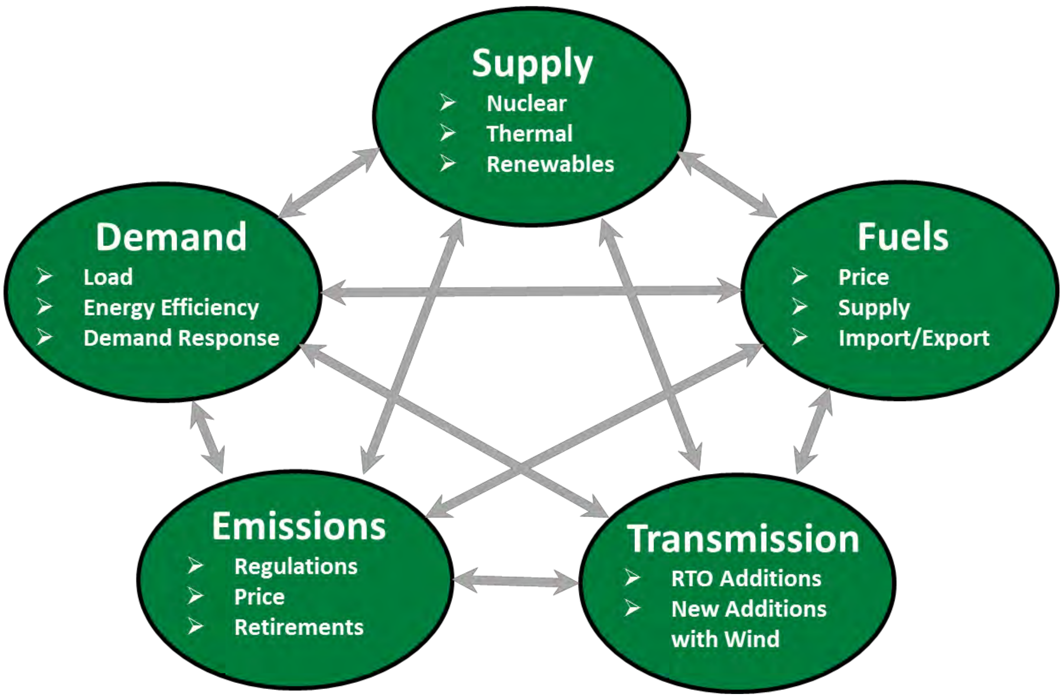
Figure 16 IRP Flowchart – Market Price Formation



With the implementation of the RTO energy and capacity markets, the future cost of market power and energy is one of the most critical aspects of utility planning. No longer can utilities simply plan as islanded entities, building for their own load in a vacuum. Planning must incorporate a reasonable and realistic forward view of the market.

IMPA utilizes market price projections for all planning activities, from short term hedging decisions to long term planning. The integrated modeling approach creates a fundamental forecast that is internally consistent across supply, demand, fuels, emissions, and transmission. This section of the report discusses IMPA's methodology for creating the market price forecasts used in various aspects of its planning processes.

Figure 17 Integrated Market Modeling Process



Source: IMPA

11.1 Horizons Interactive Module

The Horizons Interactive Market Module performs an hourly, chronological, calendar-correct simulation which iteratively considers the market dynamics of power, fuels, transmission, emissions, and renewables.

The model database includes all North American generating assets, hourly loads, transmission interties, fuel supply, etc. The created market prices for energy and capacity are easily transferable to the Capacity Expansion and MIDAS Gold modules.

Figure 18 Horizons Interactive Cut Sheet

Horizons Interactive

The ***Horizons Interactive*** market module allows you to produce fast and comprehensive market fundamental analysis. Populated with the ***Velocity Suite*** market leading North American database of generating units, transmission, and load, it can be used to identify key market trends and drivers.

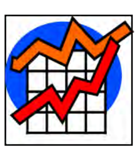
Integrated Markets

Integrated Markets is an hourly, chronological, calendar-correct market model which iteratively considers the market dynamics of power, fuels, transmission, emissions, and renewables. The model database includes all North American generating assets, hourly loads, transmission interties, fuel supply, pipelines, etc. The market prices for energy and capacity are easily transferable to the ***Capacity Expansion Module*** and ***MIDAS Gold®***.

Market Sampler

Market Sampler is a flexible, statistically reliable Latin-Hypercube (LHS) sampling program that generates future scenarios by taking a series of equal-probability, random draws from among possible future values of uncertainty.

Market Match



Market Match is a fast, robust, post-processing tool that combines statistical and fundamental analysis within a consistent planning framework. ***Market Match*** adjusts a set of multi-scenario ***Horizons Interactive*** model- derived market prices to conform to OTC forwards and options providing a market to model capability. ***Market Match*** provides an ability to sculpt hourly ***Horizons Interactive*** zonal prices to nodal prices using user defined basis, volatility, and correlation.

Horizons Interactive Market Module

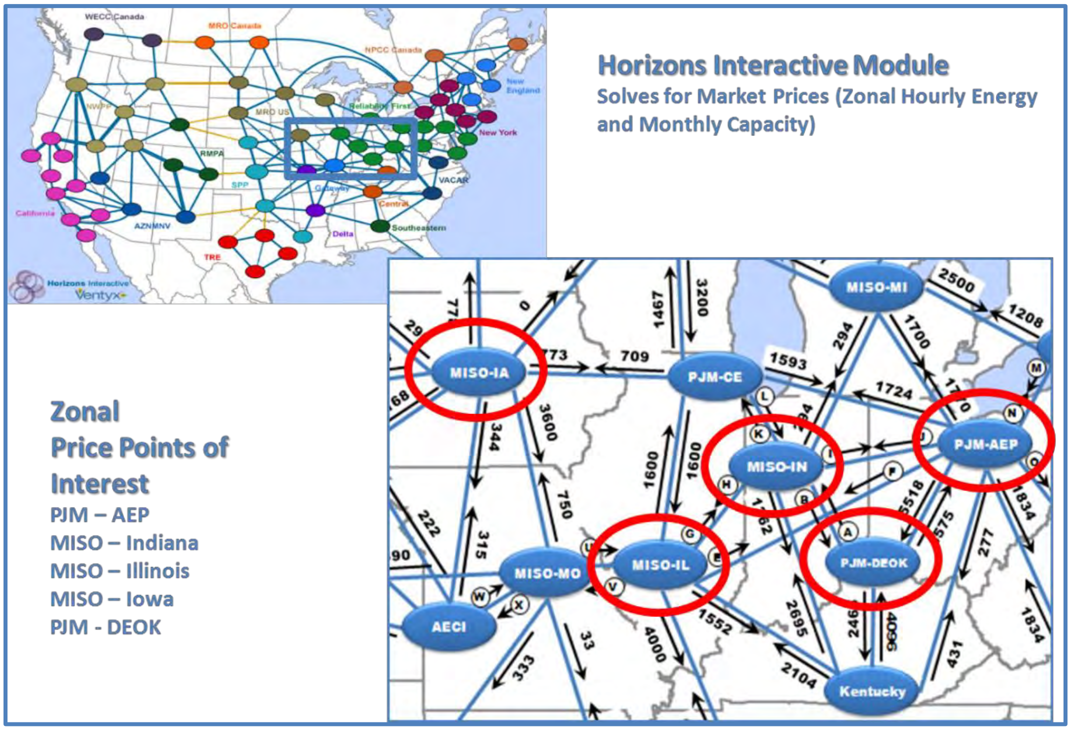
Source: Ventyx

<u>Zonal Markets</u>

As a market participant with generation and load in both the MISO and PJM, IMPA is interested in forward energy and capacity price curves for five market zones (3 in MISO and 2 in PJM) where IMPA has resources and load.

- PJM – AEP (AEP-DAYTON HUB)
- MISO – Indiana (INDIANA HUB)
- MISO – Illinois (ILLINOIS HUB)
- MISO – Iowa (IOWA ZONE)
- PJM - DEOK (DEOK ZONE)

Figure 19 Zonal Price Points of Interest



Source: Horizons Interactive Database

Bid Behavior

Power prices are formed each hour, based on the bids submitted by individual generators. In general, the marginal unit determines the market clearing price where a unit's bid includes variable costs such as fuel, emissions, and variable operation and maintenance (O&M). In practice, generators employ a wide variety of strategies that are consistent with the cost characteristics of their generating portfolio. Conversely, RTOs forecast demand and run a security-constrained, least-cost dispatch model to select which generators to run to meet the load subject to transmission and other system security constraints.

During high load hours, there may be barely sufficient generation to meet loads. During these times, the revenue collected by individual generators increases with the scarcity and congestion present in the market and can, over time, contribute significantly to the coverage of financing and other fixed costs. The collection of scarcity revenue is consistent with a functioning market, providing a price signal to the market that additional resources may be necessary.

Congestion/Scarcity Function

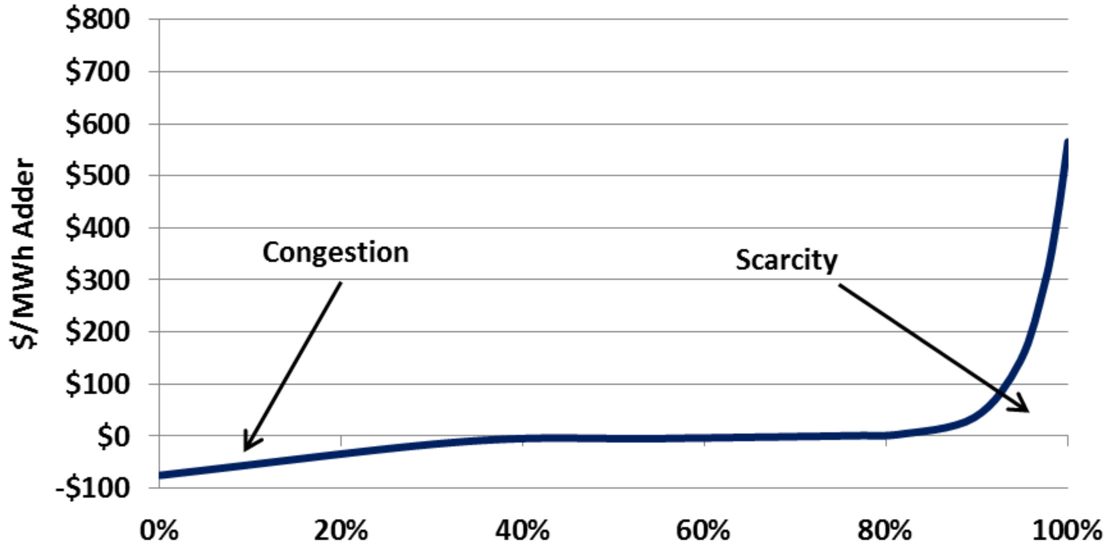
To capture the market bid behavior, a congestion/scarcity function is added to the system marginal cost curves. A "typical" congestion/scarcity function is shown on the next page. This function is for illustrative purposes only as the actual function(s) are calibrated to mimic the bid behavior of each zone in Horizons Interactive. The inflection points of the curve are adjusted to meet the bid behavior and specific resources in each zone.

For example, the scarcity inflection point for a zone with 95% coal generation would slide far to the right as this zone is price-taker, thus scarcity would likely not be added to their bid. Conversely, the scarcity inflection point for a zone with 50% combustion turbines would slide to the left as this zone would collect scarcity to recover a portion of their start-up and fixed costs else they would prefer not to run the combustion turbines.

The congestion inflection point reflects the impact of low or even negative LMPs. In zones with high congestion, which is often linked to wind generation, the price signal at times may be below marginal cost or even below zero to incent generation to either back down or shut down. The negative bid behavior is driven by the PTC, which incent wind units to run at a marginal loss because they still receive payment in the form of tax credits for each MWh generated. When the PTCs expire, it is expected there will be far less negative bid behavior.

In 2013, MISO implemented its Dispatchable Intermittent Resources (DIR) initiative, which allows renewable generation to be treated like any other generation resource in the market and, for the first time, participate in the region's real-time energy market. Now wind can automatically be dispatched within a designated range based on an offer price and wind conditions. This enables wind to submit offers and receive dispatch instructions rather than be manually curtailed when transmission constraints limit renewable energy generation to reach the broader market region.

Figure 20 Congestion/Scarcity Function



Source: IMPA

Horizons Interactive - Market Database

The Horizons Interactive database is populated with Ventyx Velocity Suite – Market Ops information.

- Operational information is provided for over 11,000 generating units
  - Heat Rates
  - Emissions
  - Forced Outage (FO)/Maintenance Outage (MO) Rates
- Load forecasts by balancing authority and historical hourly load profiles
- Transmission capabilities
- Coal price forecast by plant with delivery adders from basin
- Gas price forecast from Henry Hub with basis and delivery adders

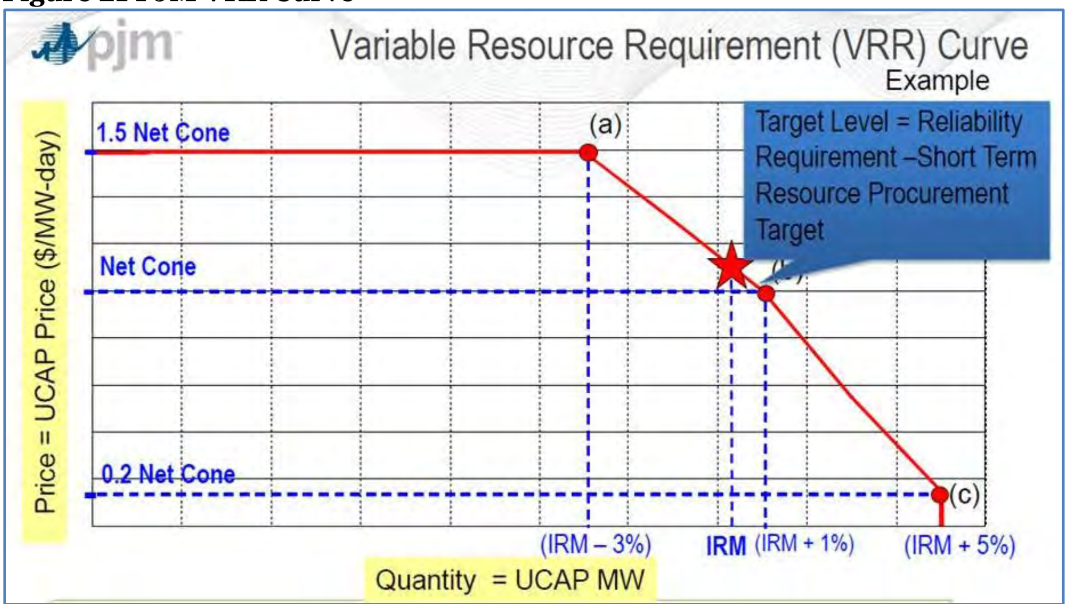
When running the simulation in Horizons Interactive, the main process of the simulation is to determine hourly market prices and monthly capacity prices. Unit outages are based on a unit derate and maintenance outages may be specified as a number of weeks per year or scheduled as is the case for nuclear unit refueling schedules.

Resource Expansion

The market-based resource expansion algorithm builds resources from a list of candidate resources based on unit profitability and minimum reserve margin requirements as defined by the capacity demand curve constructs. Non-profitable units are retired based on three consecutive years of failing to recover fixed operating costs.

The market-based resource expansion algorithm is an important aspect of Horizons Interactive as it dynamically adds resources consistent with the rules of the prevailing RTO. For example, PJM utilizes the cost of new entry (CONE) and a variable resource requirement (VRR) curve as shown in the figure below while MISO uses a resource adequacy requirements (RAR) curve.

Figure 21 PJM VRR Curve



Source: PJM

Zonal Simulation Process

The Horizons Interactive simulation process performs the following steps to determine price:

- Hourly loads are summed for all customers within each zone.
- For each zone in each hour, all available hydro and load modifying renewable power is used to meet firm power sales commitments.
- For each zone and day type, the model calculates production cost data for each dispatchable unit and develops a dispatch order.
- The model calculates a probabilistic supply curve for each zone considering forced and planned outages.
- Depending on the relative sum of marginal energy cost + transmission cost + scarcity cost between regions, the model determines the hourly transactions that would likely occur among zones.
- The model records and reports details about the generation, emissions, costs, revenues, etc., associated with these hourly transactions.

Public Version

Nodal Simulation Process

As discussed earlier in this section, IMPA uses Horizons Interactive to solve zonal energy prices for large geographic regions, at a minimum the entire Eastern Interconnection, and often all eight NERC regions. The reason for solving large regions is to capture the full impact of policies (EPA rules, legislation, renewable portfolio standards, etc.) as well as impacts of commodity price swings (natural gas, coal, SO_2, NO_x, CO_2, etc.).

IMPA operates in the MISO and PJM RTOs, which utilize nodal energy prices. Nodal prices are determined by matching offers from generators to bids from consumers at each node to develop a supply and demand equilibrium price on an hourly interval.

The price of electricity at each node on the network is a calculated "shadow price", in which it is assumed that one additional megawatt-hour is demanded at the node in question, and the incremental cost to the system that would result from the optimized redispatch of available units establishes the production cost of the megawatt-hour. This is known as nodal or locational marginal pricing (LMP).

There are two generally accepted nodal solutions.

- Security-constrained economic dispatch solution (SCED)
- Zonal flow gate constrained economic dispatch with Nodal Algebraic Model solution (NAM)

SCED: This is the more detailed and resource intensive solution. To create LMPs, MISO and PJM incorporate a security-constrained, least-cost dispatch calculation with supply based on the generators that submitted offers and demand based on bids from load-serving entities at the nodes in question in 5-minute intervals. Where constraints exist on a transmission network, there is a need for more expensive generation to be dispatched on the downstream side of the constraint. Prices on either side of the constraint separate, giving rise to congestion pricing. Both RTOs use proprietary software for the creation of LMPs and are generally interested in the formation of day-ahead and real-time LMPs, which creates the transparent energy market.

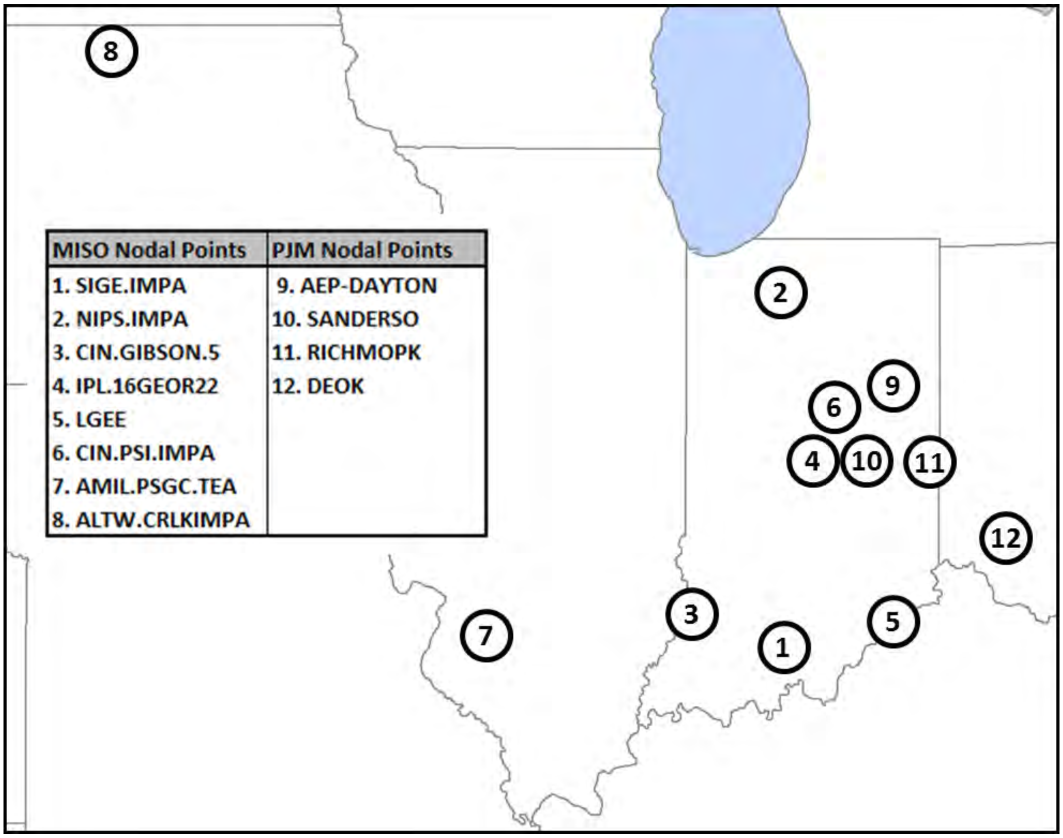
For long-term planning, security-constrained economic dispatch models require detailed knowledge and assumptions of the resources, load, and transmission system. The transmission system is modeled as either an AC or DC power flow simulation to forecast congestion. Unfortunately, SCED models are generally limited to a minimal number of scenarios and years due to the computational time requirements of the software and hardware making it difficult to perform stochastic analysis or even a few scenarios in a timely fashion.

NAM: The NAM technique uses the zonal topology described earlier in this section to solve for zonal hourly market clearing prices for multiple scenarios and years across the entire North American electricity footprint where zones are separated by flow gate transmission constraints. For the formation of nodal prices, an algebraic solution is applied using historical volatility, correlations, and basis spreads between the zonal and nodal points of interest. For long-term planning this technique has enormous benefits as it accommodates multiple scenarios and years.

IMPA's methodology is to solve for zonal prices and then apply algebraic hourly spreads to the zonal price to create nodal prices. While this method relies heavily on past historical basis spreads, correlation, and volatility, it is flexible enough to incorporate adjustments to reflect changes in the resource mix and transmission infrastructure. Since IMPA is interested in 50 stochastic simulations for 20 years, the NAM technique is the preferred solution.

IMPA is generally interested in the following nodal prices.

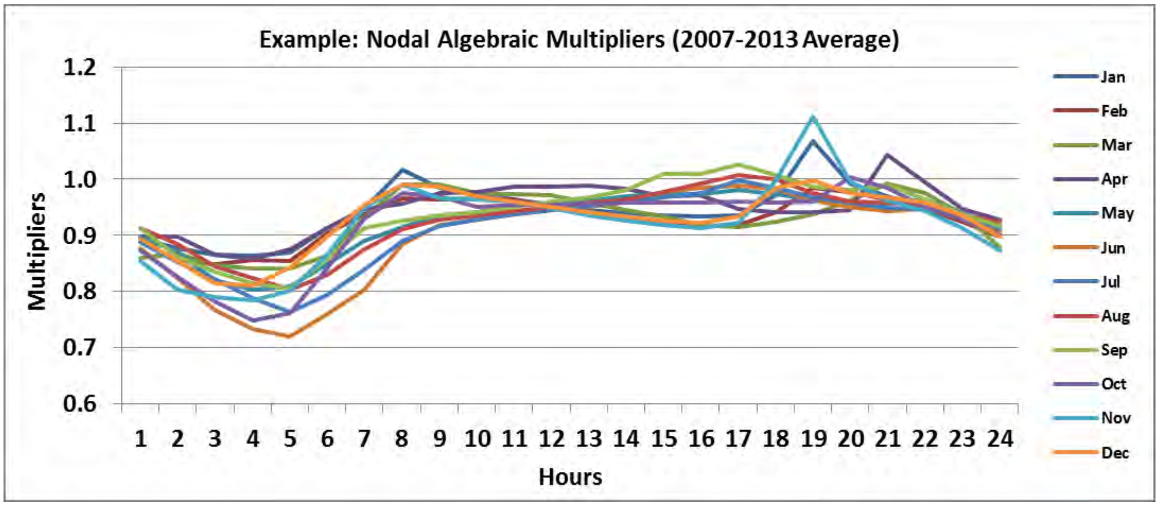
Figure 22 Nodal Price Points of Interest



Source: IMPA

Nodal Algebraic Multipliers: The following figure illustrates an example of the algebraic multipliers for a given node by time-of-day and month. These multipliers are applied to the zonal forecast in the zone in which they reside.

Figure 23 Nodal Algebraic Multipliers



Source: IMPA

11.2 Horizons Interactive Process

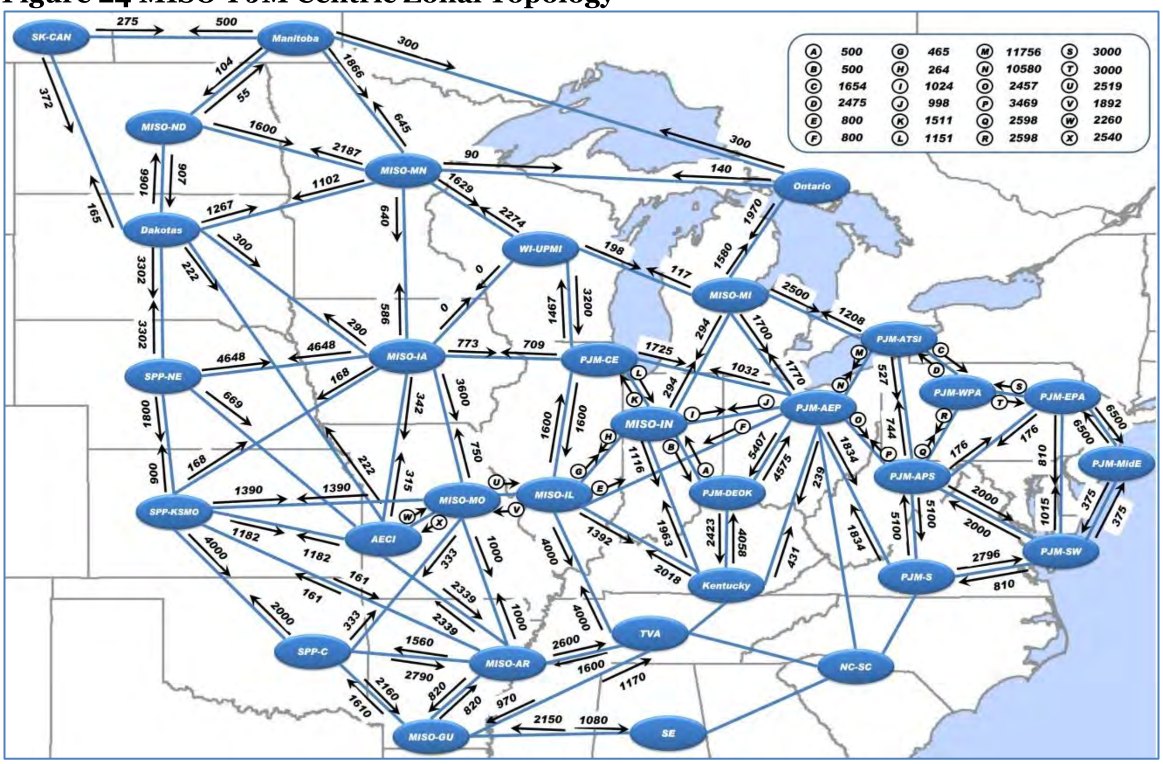
The formation of market energy and capacity prices begins with a reference case to reflect baseline assumptions for fuel, loads, transmission, congestion, environmental policy, retirements, etc. The reference case is also commonly referred to as the deterministic case. In this report, all forecasts are in current ("nominal") dollars. The study period is defined as 2016-2035.

Forward View Approach

IMPA created a forward view of the MISO and PJM electricity markets. The forward view is a proprietary perspective of the future based on public or commercial information and IMPA's experience in working in electricity markets. This fundamental approach relies on first identifying the basic components of electricity price: supply, transmission and demand, as well as using the best available sources, projecting the components over time and geography.

The following figure shows the electricity zones and their interconnections.

Figure 24 MISO-PJM Centric Zonal Topology



Source: Horizons Interactive Database

Natural Gas

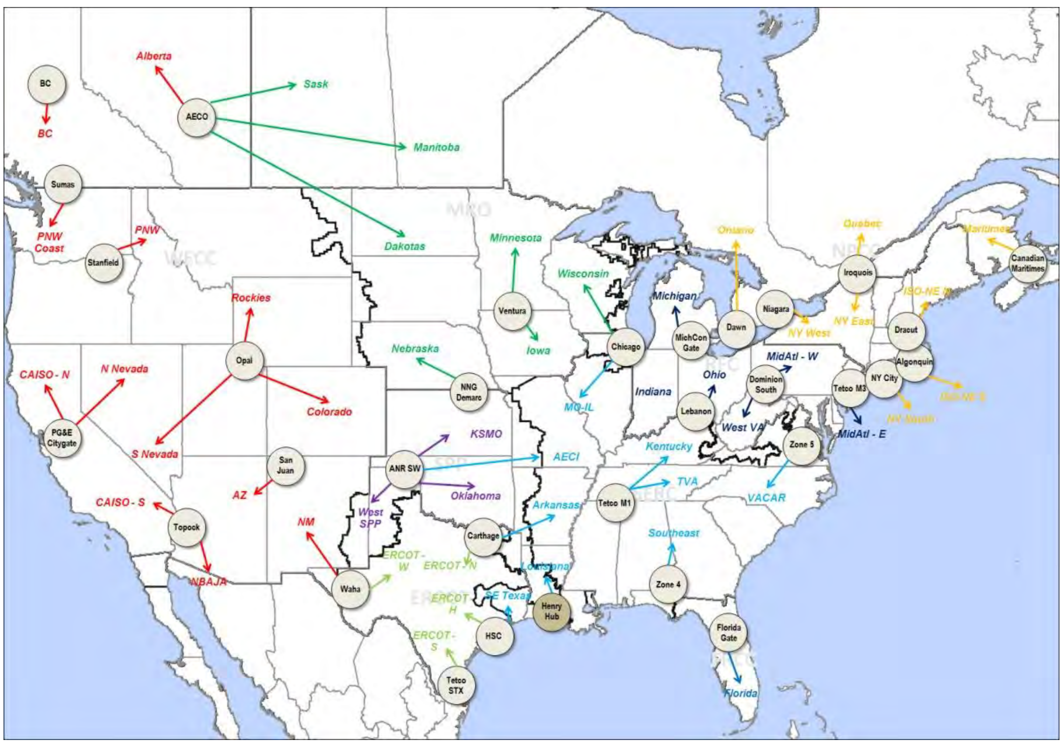
IMPA generated a natural gas price forecast that was representative of the then current NYMEX pricing (July 29, 2015) and blended to EIA's AEO2014 forward view.

Table 10 Natural Gas Outlook

Forecast Phase	Period Length	Data Source	Forecast Technique
Futures Driven	First 79 Months (Jan 2016 -July 2022)	NYMEX Henry Hub futures (July 29, 2015)	Calculated Henry Hub and liquid market center differentials
Long-term Trend	Remaining forecast period (to 2035)	EIA AEO2014	EIA fundamental supply and demand analysis using the NEMS forecasting model

To derive the burner-tip forecasts used, IMPA examined regional prices and basis swaps at a number of trading hubs. Using this data, IMPA developed a differential price between the appropriate market center nearest to the power plant and the Henry Hub.

Figure 25 Natural Gas Market Centers



Source: Horizons Interactive Database

The burner-tip gas price for each gas-fired generation plant in a region is developed by taking the hub price and adding a regional transportation adder. This amount depends on the plant's location relative to the basins or hubs, and the economics of transporting gas, including compressor fuel used and pipeline tariffs/discounts, to the plant's burner-tip. The commodity and transportation components of natural gas burner-tip prices are forecast separately and then assembled to derive the prices paid by generation plants appropriate to their geographic location.

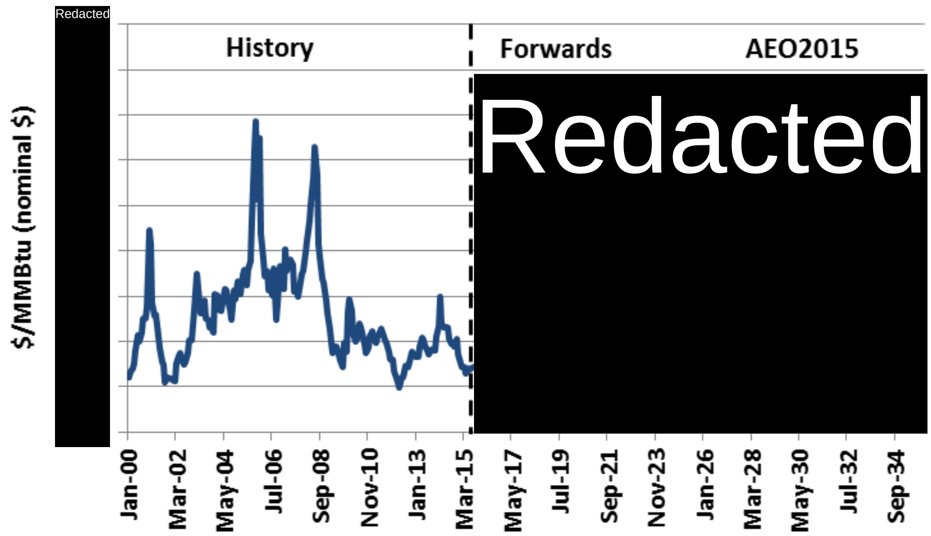
Table 11 Average Delivered Natural Gas Price ($/MMBtu)

	Henry Hub	MichCon Gate	Chicago	Lebanon	Ventura	Dominion South
2016	[redacted]					
2017						
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						

Source: IMPA

The blending of the current forward natural gas prices with the long-term EIA2014 reference case forecast projects a compound annual growth rate (CAGR) of [redacted] (see graph on next page). While the EIA fundamental forecast projects a [redacted] (2025-2035), the [redacted] in the 20 year forecast is driven by the transition from forward prices to market fundamental prices. The disparity in forwards and fundamentals is driven by a bearish market for natural gas combined with a bullish market for long-term natural gas fundamentals.

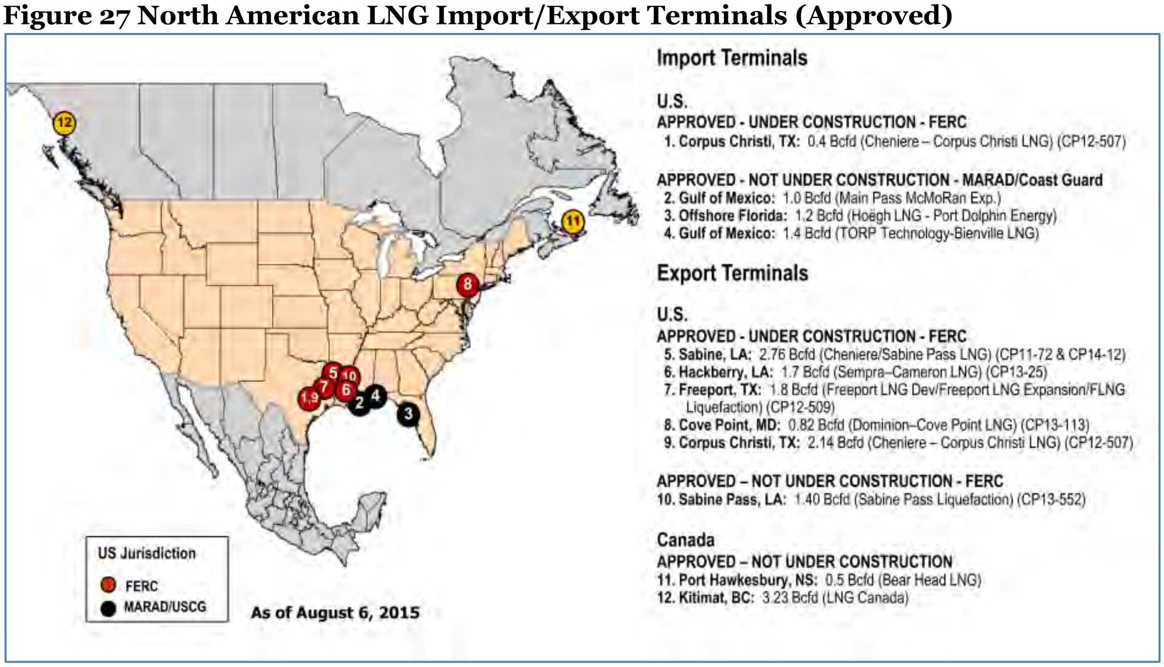
Figure 26 Natural Gas Henry Hub History/Forecast



Source: IMPA

As shown by the historical portion of the graph, the price of natural gas has proven to be a highly volatile. If U.S. natural gas exports increase due to new liquefied natural gas (LNG) facilities, there will likely be an upward pressure on natural gas price as the "world price" of natural gas is on the order of 4 times higher than the present U.S. price. LNG is a clear, colorless, non-toxic liquid that forms when natural gas is cooled to -162ºC (-260ºF). This shrinks the volume of the gas 600 times, making it easier to store and ship. In the graph shown below are the approved North America LNG terminals as of August 6, 2015.

Figure 27 North American LNG Import/Export Terminals (Approved)

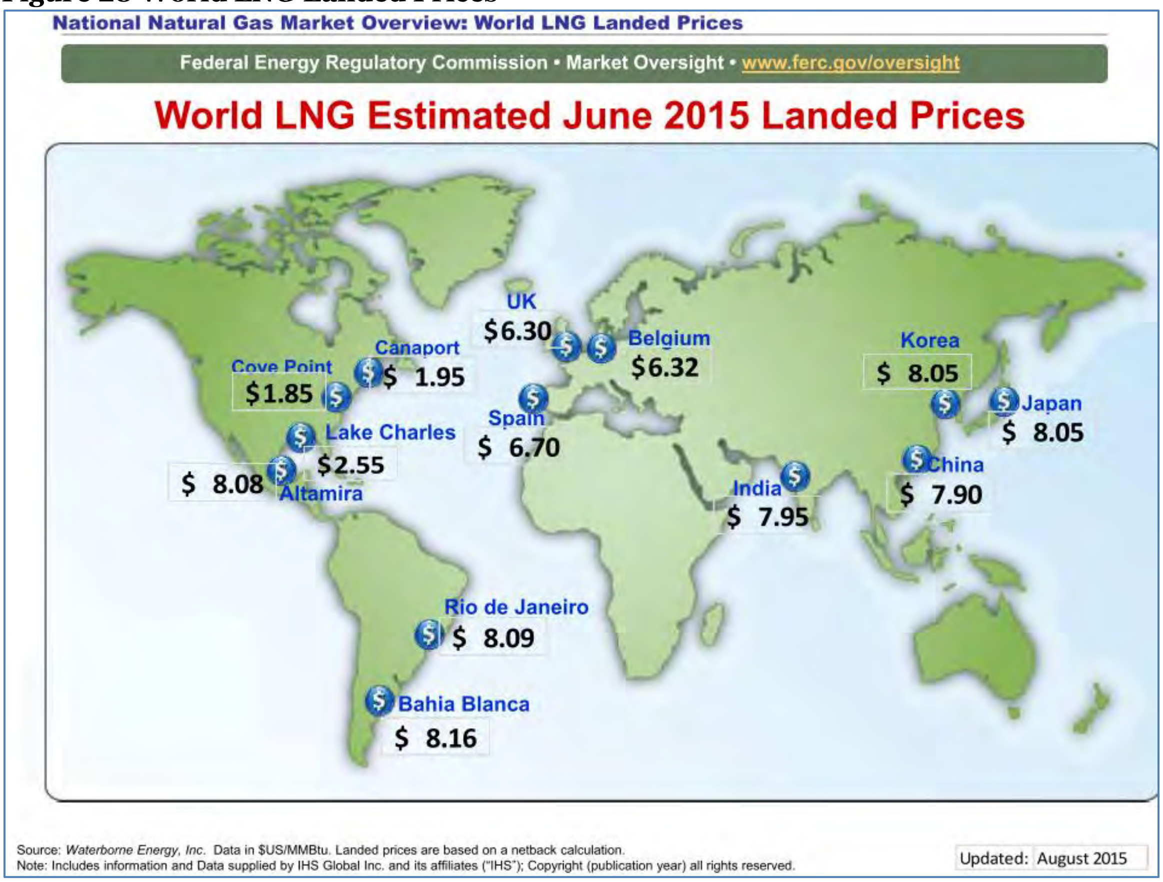


Source: FERC

Natural gas, when in a gaseous state, does not provide a comparable U.S. price to other countries as natural gas can only be transported through pipelines. However, when in LNG form (liquid state), the global price can be compared through a statistic referred to as the "landed price." The price for LNG imports are reported as "landed," received at the terminal, or "tailgate," after regasification at the terminal.

The graph below shows the World LNG landed prices for June 2015. The price of LNG varies considerably from region to region, with a fourfold difference between the U.S. and Japan, as can be seen in the figure below. The largest importers are Japan, South Korea, China, Spain and Taiwan. Regional LNG base prices are influenced mainly by the availability of resources for power generation and security of supply. Thus, the U.S. price is strongly influenced by the country's extraction of low-priced shale gas, while LNG imports to the U.S. are negligible. The low-end prices are found in the United States, the highest in Asia, with European prices in between.

Figure 28 World LNG Landed Prices



Source: FERC

Horizons Interactive Loads

Monthly peak load and energy forecasts are projected for each balancing authority based on historical values and assumed growth from a variety of public and private sources.

The graph below shows the forward view of U.S. electricity demand.

Figure 29 U.S. Electricity Demand (Energy)

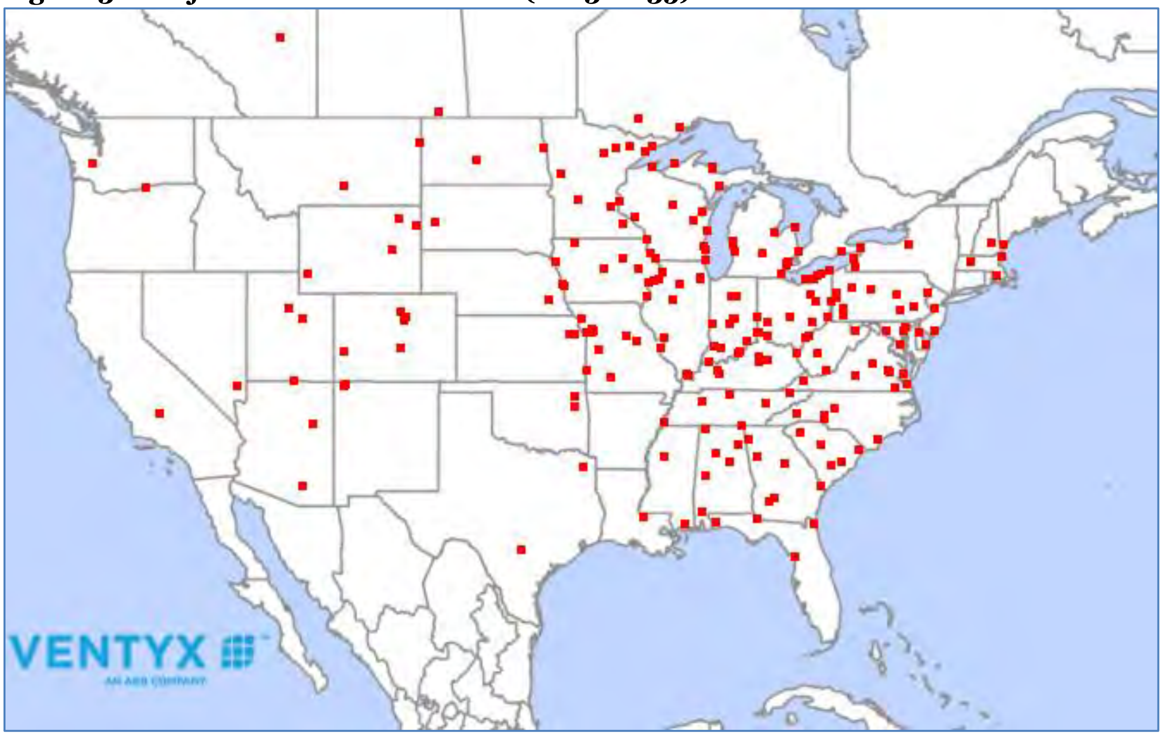
Source: Horizons Interactive Database

Coal Retirements

A significant amount of coal-fired generation either has already been retired or will be retired over the study period largely due to the capital investment required to comply with the EPA's MATS.

The map below identifies the location of the retired, announced to be retired, or assumed will be retired due to age coal units. From 2013 to 2035, it is assumed that 81 GW of coal capacity will be retired. This does not include any retirements, which will occur for the EPA's CPP compliance. A large share (47%) of the retirements is concentrated in MISO and PJM.

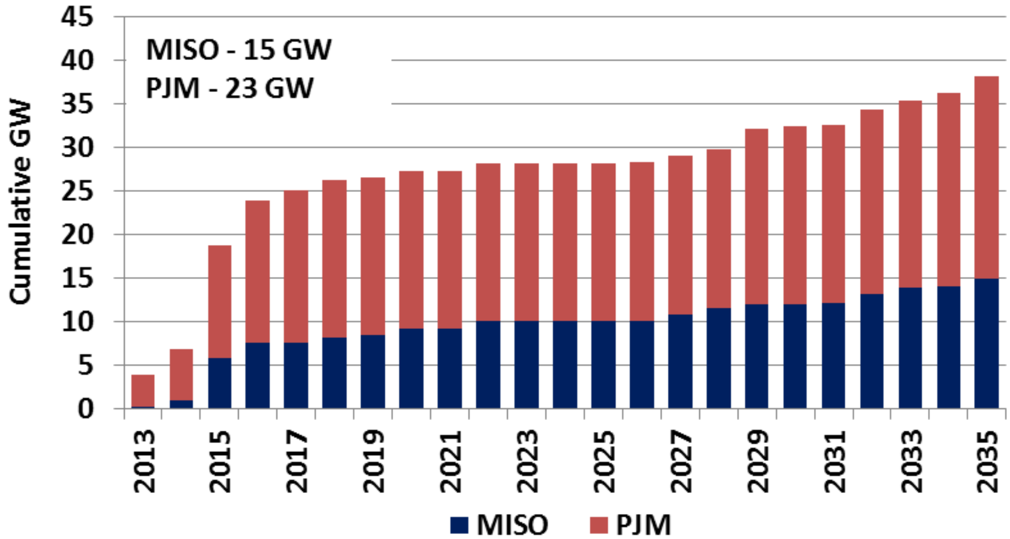
Figure 30 Projected Coal Retirements (2013-2035)



Source: Horizons Interactive Database

The following figure illustrates the actual and assumed coal-fired generation retirements (38 GW) in the MISO/PJM RTOs since 2013. This figure represents about one-quarter of the coal fleet (as of 2012).

Figure 31 MISO/PJM Coal Retirements

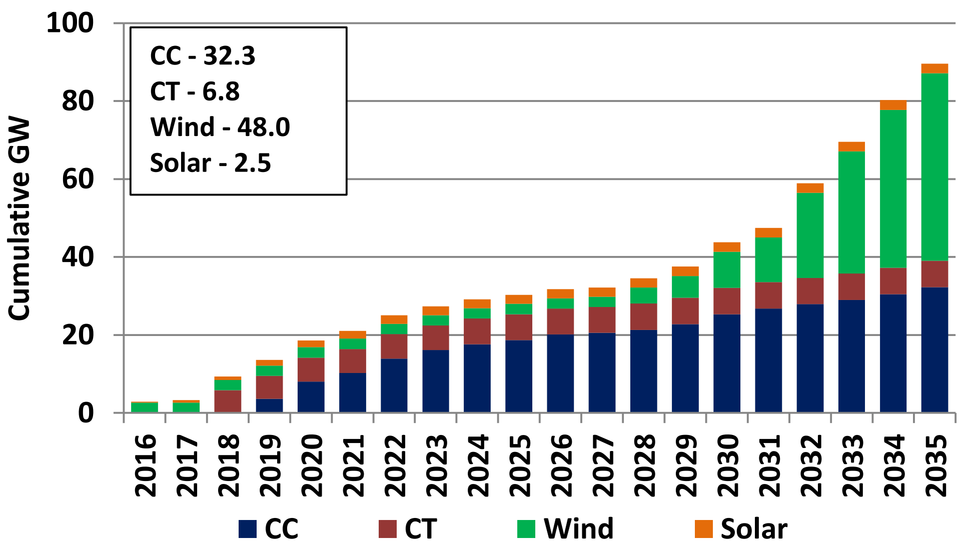


Source: IMPA

Resource Expansion

Announced new generating units plus generic units that were selected by the Horizons Interactive market-based resource expansion algorithm are shown in the graph below for the MISO/PJM RTOs. The units were added to replace retiring coal units and meet projected load growth. The renewable units (wind and solar) were added to meet state-level RPS standards and beginning in 2030, wind installations increase as they became more economical.

Figure 32 MISO/PJM Resource Expansion



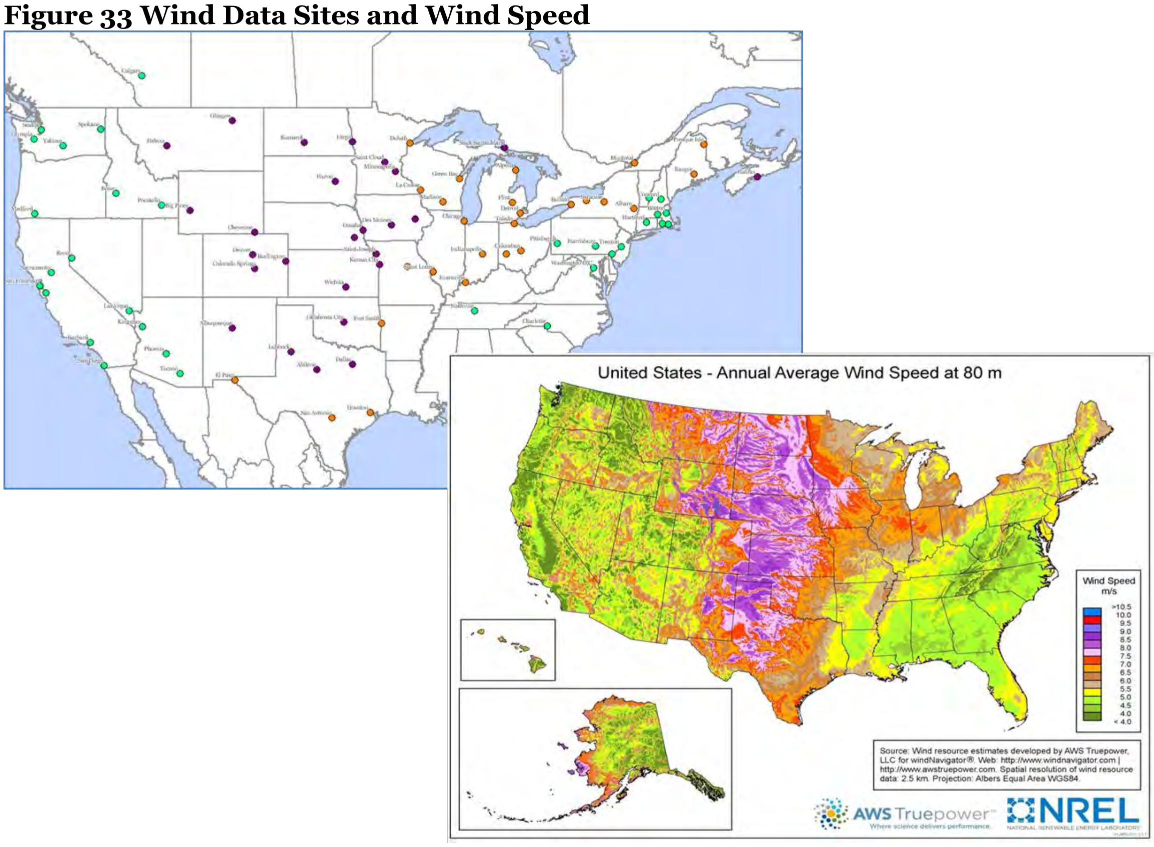
Source: IMPA

Wind

The total wind capacity in the MISO footprint has grown dramatically since 2006. Driven by the nation's desire for cleaner energy and state mandates for renewable energy portfolios, MISO now manages more than 11,000 MW of wind generation in service, with more than 7,000 MW of projects advancing through the interconnection process.

In the absence of publically available hourly wind data for the continental U.S., as a proxy, IMPA utilizes the hourly wind speed at 10 meters at 84 airport sites. The 10 meter hourly wind speed is converted to 80 meter wind speed using a proprietary algorithm, which is consistent with the National Renewable Energy Laboratory (NREL) wind class for that geographic location. The 80 meter wind speed is then converted to MWh using wind power curves.

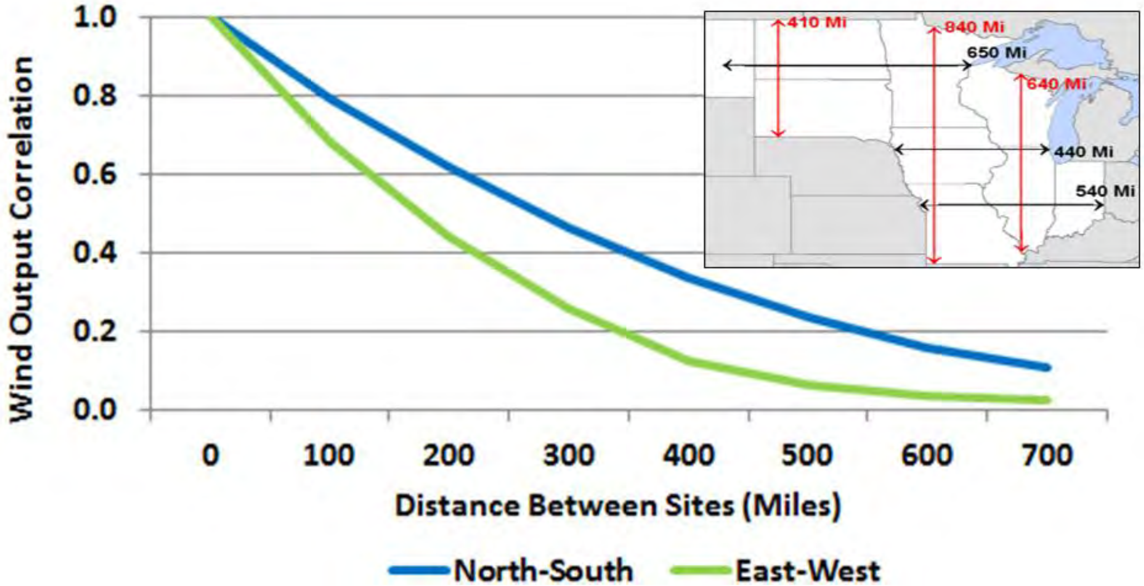
Figure 33 Wind Data Sites and Wind Speed



Source: IMPA/NREL

It is anticipated that wind generation will continue to grow so it is important the availability and geographical correlation of the intermittent wind resources are properly modeled. According to a MISO study, as the distance between wind generation increases, the correlation in the wind output decreases. This leads to a higher average hourly output from wind, but a lower hourly maximum across a wide region such as the MISO RTO footprint (see figure on the next page).

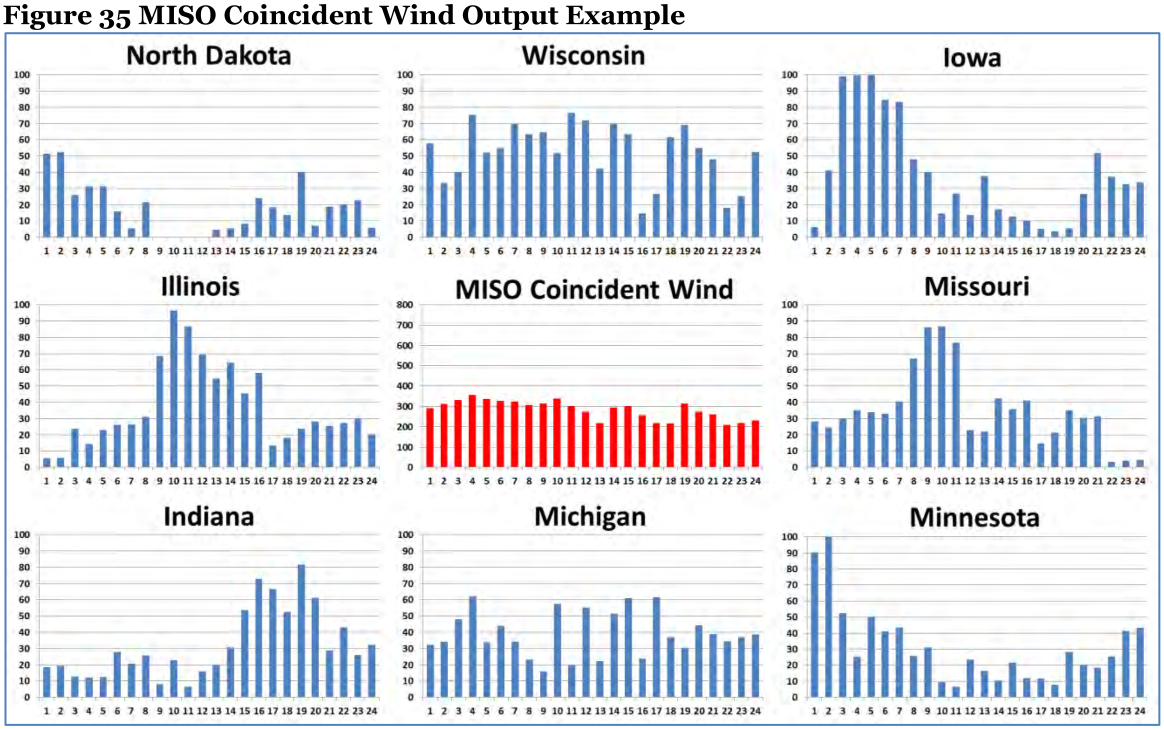
Figure 34 MISO Wind Output vs Distance



Source: MISO

As shown in the graphs below, the wind output for eight 100 MW wind farms spread across the eight northern MISO states can be dramatically different on any given day. In theory, the aggregate hourly output could be as high as 800 MW or as low as 0 MW. However, due to the low wind correlation across a wide geographic footprint described above, the coincident wind output tends to revert to the average. This is an important attribute to consider when modeling wind.

Figure 35 MISO Coincident Wind Output Example

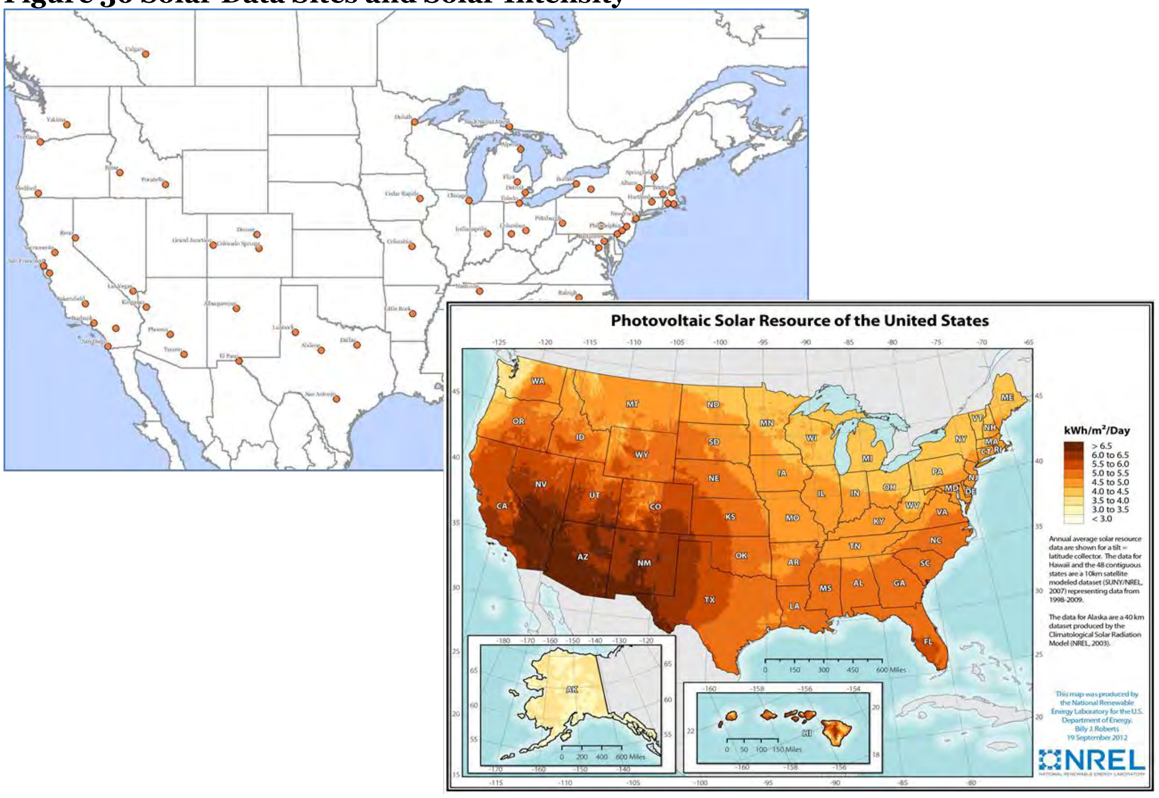


Source: IMPA

Solar

As PV solar installations have become more economical, there has been an increased appetite for utility scale and rooftop solar. To model the output of these installations, IMPA utilizes hourly solar patterns developed by NREL's PV Watts Calculator. It is not anticipated that utility and rooftop solar will grow as quickly as wind due to its low capacity factor.

Figure 36 Solar Data Sites and Solar Intensity



Source: IMPA/NREL

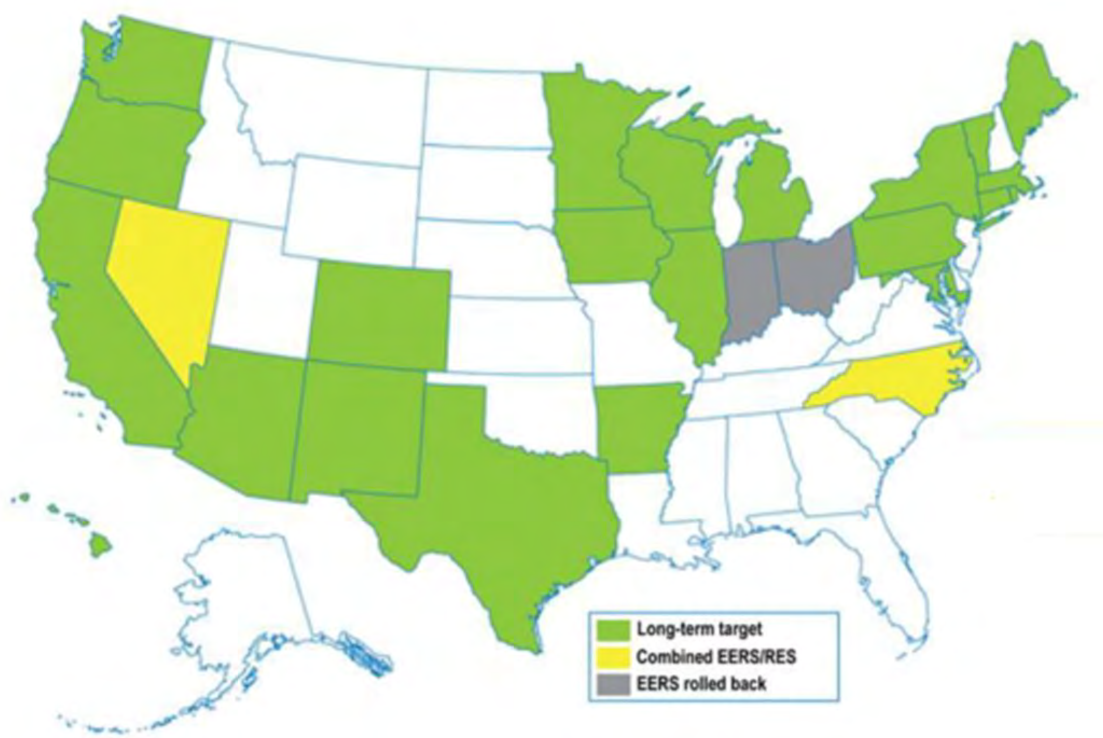
Energy Efficiency

To model energy efficiency and demand response, the Horizons Interactive model considered the sizing and timing of demand-side resources in the same fashion as the model considered supply-side resources.

State Energy Efficiency Resource Standards (EERS)

For states with an energy efficiency resource standard (EERS), the long-term targets of states with EERS polices were met. For states without an EERS policy, the model made an economic choice of when to add energy efficiency.

Figure 37 States with EERS Policies

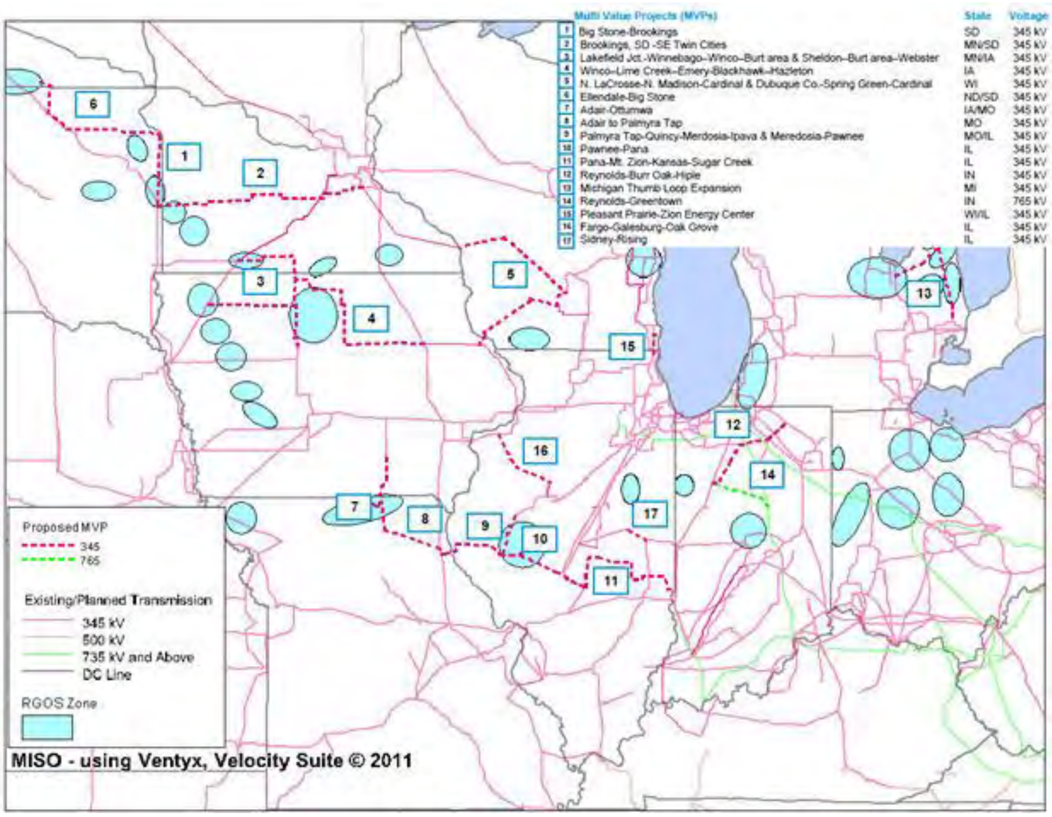


Source: ACEEE

Transmission

The transmission transfer capability between Zones is determined from the most recent AC load flow studies. Likely transmission additions such as the MISO MVP are added to the database to incorporate their impact on the transmission transfer capability and energy and capacity prices.

Figure 38 MISO MVP Portfolio

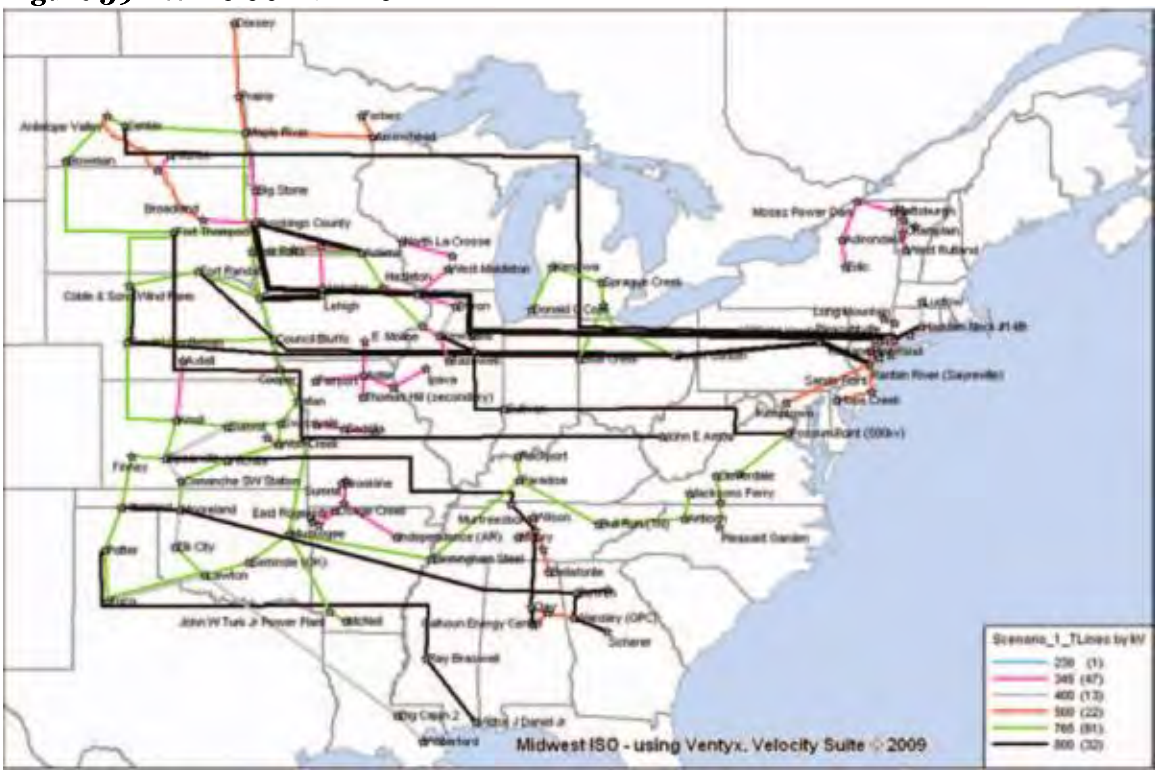


Source: MISO

Public Version

For the stochastic draws, which include a high level of wind penetration, IMPA utilized the *Eastern Wind Integration and Transmission Study* (EWITS) prepared for NREL by EnerNex Corporation. The study focused on what transmission would be needed to facilitate 20% and 30% wind penetration levels across the Eastern Interconnection. The architecture designed by EnerNex used a mix of multiple high-voltage direct current (HVDC) and extra high-voltage alternating current (EHVAC) lines to move wind power from the western wind areas to the eastern load centers. EWITS Scenario 1 planned for additional transmission to accommodate 225 GW of onshore wind capacity.

Figure 39 EWITS SCENARIO 1

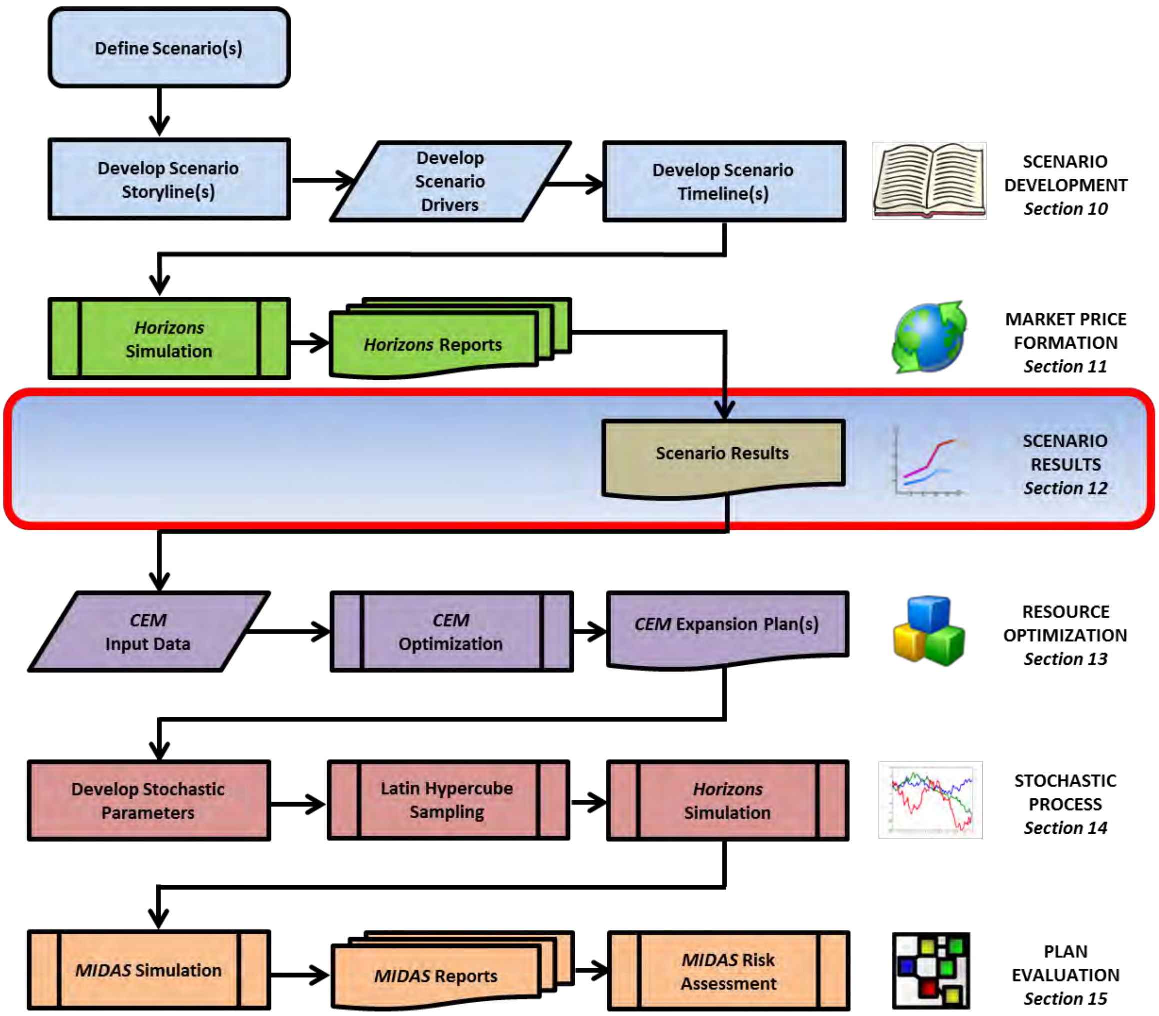


Source: NREL/EnerNex

12 SCENARIO RESULTS

The Horizons Interactive Market Model simulation is repeated for each scenario providing unique attributes associated with each probable future. The market model results are then analyzed to ensure they provide reasonable "book-ends" that examine low probability but high consequence outcomes.

Figure 40 IRP Flowchart – Scenario Results



Scenario CO_2 Emission Trajectories

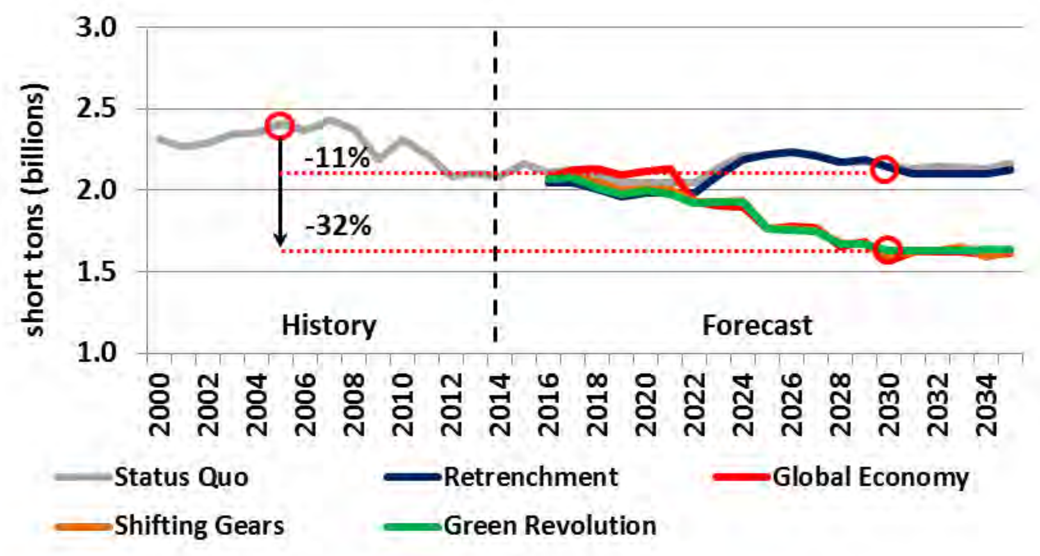
As illustrated in the graph below, in Status Quo and Retrenchment, U.S. CO_2 power sector emissions decrease 11% below 2005 levels by 2030. In Global Economy, Shifting Gears, and Green Revolution, U.S. CO_2 emissions decrease 32% below 2005 levels by 2030 in accordance with the final EPA CPP rule. The aforementioned scenarios achieve the 32% reduction target using different enforcement techniques.

- Global Economy implements a nation-wide *Cap and Trade* program, which conforms to the EPA's CPP mass-based approach. Existing steam-coal, steam-oil, and combined cycle units are allocated a proportionate share of their state's allowances. Under the assumptions in this scenario, the affected existing generating units plus new units would participate in the trading program.

- Shifting Gears employs a *Carbon Tax* on all power sector carbon emissions with the tax proceeds rebated to residential electricity consumers.

- Green Revolution implements an *Electric Generating Unit (EGU) Rate Cap* in which individual units must meet rate caps set by the EPA with affected power plants able to meet their emission standards via ERCs. New renewables are able to produce ERCs. This approach conforms to the EPA rate-based approach.

Figure 41 Scenario U.S. Power Sector CO_2 Emission Trajectories

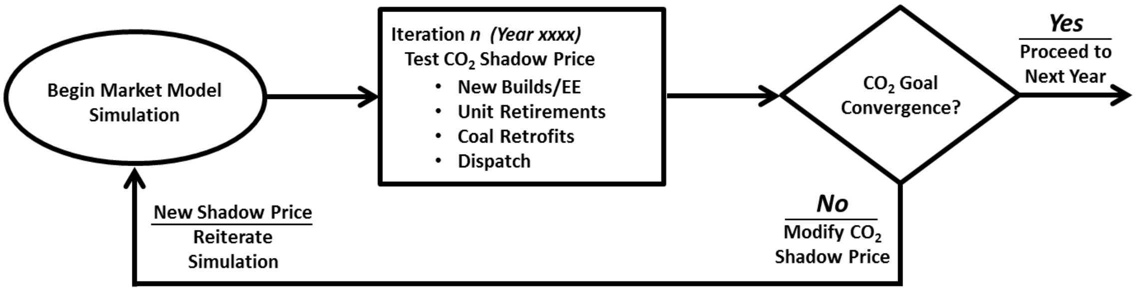


Source: IMPA

<u>Scenario CO_2 Shadow Price</u>

To determine the value of carbon in the absence of an actual carbon market, IMPA calculates a shadow price of carbon under the market and regulatory conditions of each scenario. Shadow pricing is method of investment or decision analysis that applies a hypothetical surcharge to a given commodity which in turn affects generation additions, energy efficiency, retirements, retrofits, and ultimately the market model dispatch. By entering an annual CO_2 emission goal, the model will iterate with modified shadow prices until the annual CO_2 goal is achieved. The convergent shadow price is the value of CO_2. This process is shown in the flowchart below.

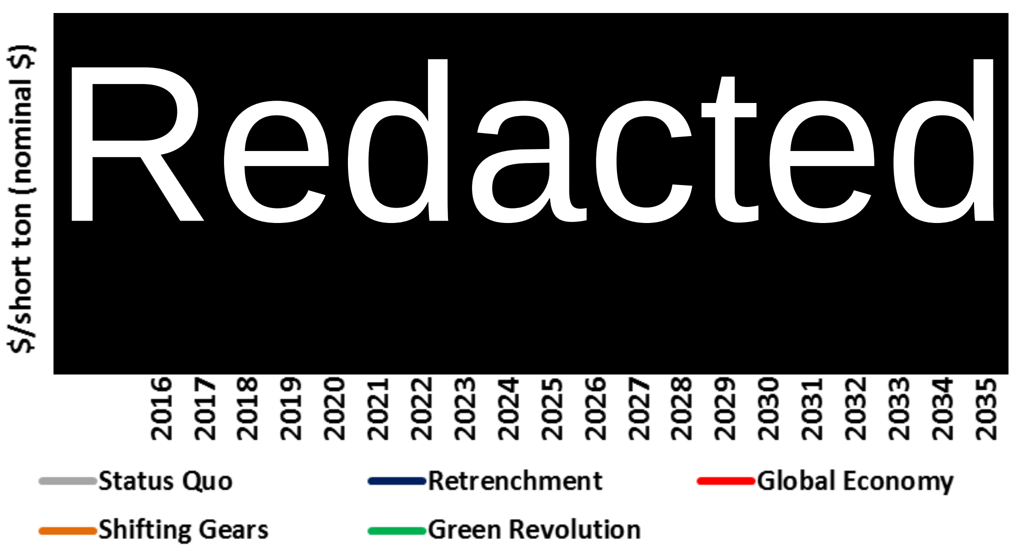
Figure 42 CO_2 Shadow Price Flowchart



In Status Quo, which does not have to meet the EPA's CPP requirements, the only U.S. carbon market is RGGI and CA AB32. In Retrenchment, which also does not have to meet the EPA's CPP requirements, there are no U.S. carbon markets as they are all repealed.

Global Economy, Shifting Gears, and Green Revolution all have some type of carbon value although the value is derived from three different valuation structures. Global Economy uses an interstate cap and trade valuation. Shifting Gears uses a carbon tax. And Green Revolution uses ERCs.

Figure 43 Scenario CO_2 Value

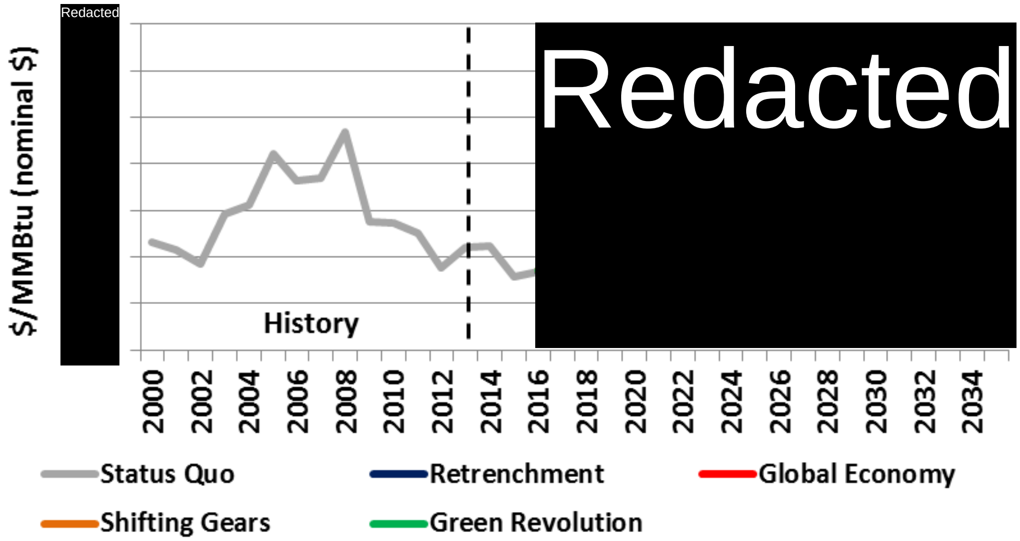


Source: IMPA

Scenario Natural Gas Prices

The Retrenchment scenario assumes high technically recoverable reserves, which allow for more wells per square mile, as well as a high estimated ultimate recovery rate. In contrast, the Green Revolution scenario assumes more stringent regulations are imposed on the natural gas industry, increasing the cost of production.

Figure 44 Scenario Natural Gas Prices

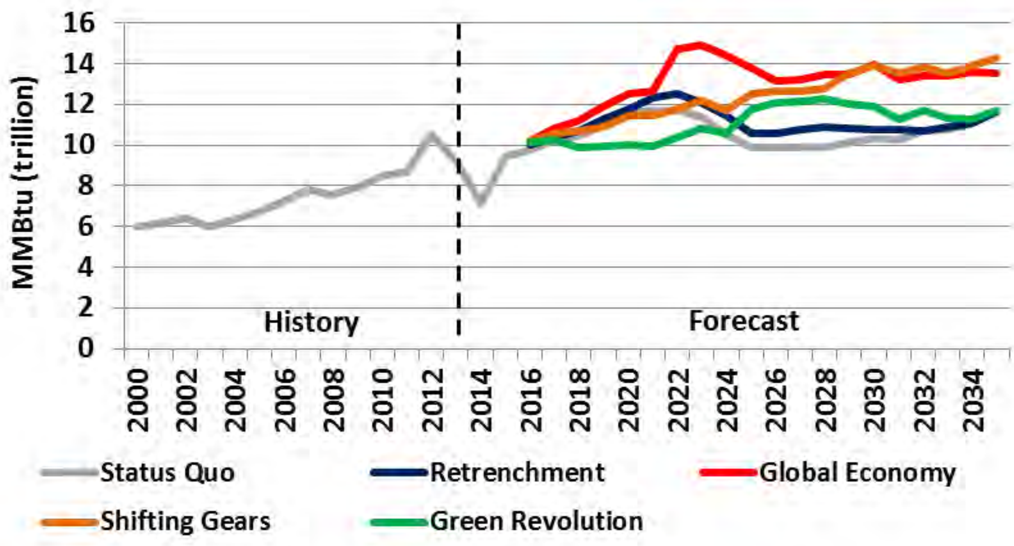


Source: IMPA

Scenario Natural Gas Burn

The Global Economy and Shifting Gears scenarios have the highest natural gas burn as more combined cycles are utilized.

Figure 45 Scenario Natural Gas Burn

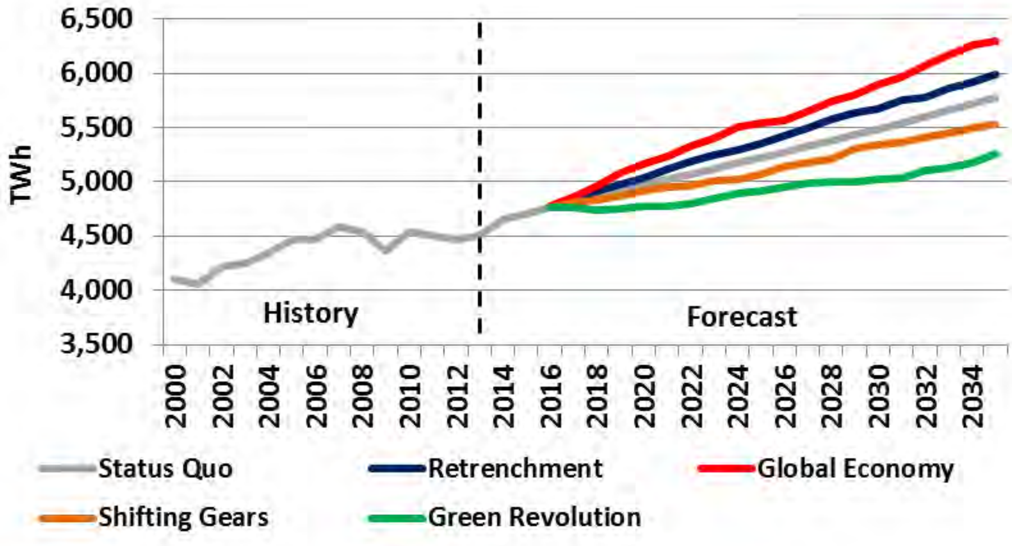


Source: IMPA

Scenario Load Forecast

The load growth is highest in Global Economy as the economy rebounds in this scenario. Green Revolution has the lowest load growth due to load destruction from distributed generation and increased federal energy efficiency standards.

Figure 46 Scenario Load Forecast (Energy)

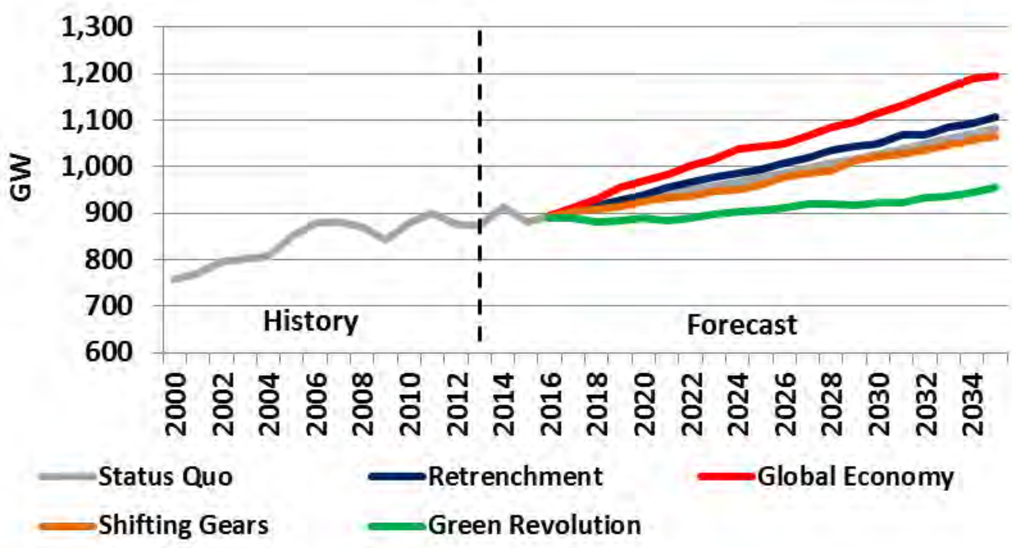


Source: IMPA

Scenario Peak Forecast

The demand growth is highest in Global Economy as the economy rebounds in this scenario. Green Revolution has the low demand growth due to distributed generation, increased federal energy efficiency standards, and peak demand shifting.

Figure 47 Scenario Load Forecast (Peak)

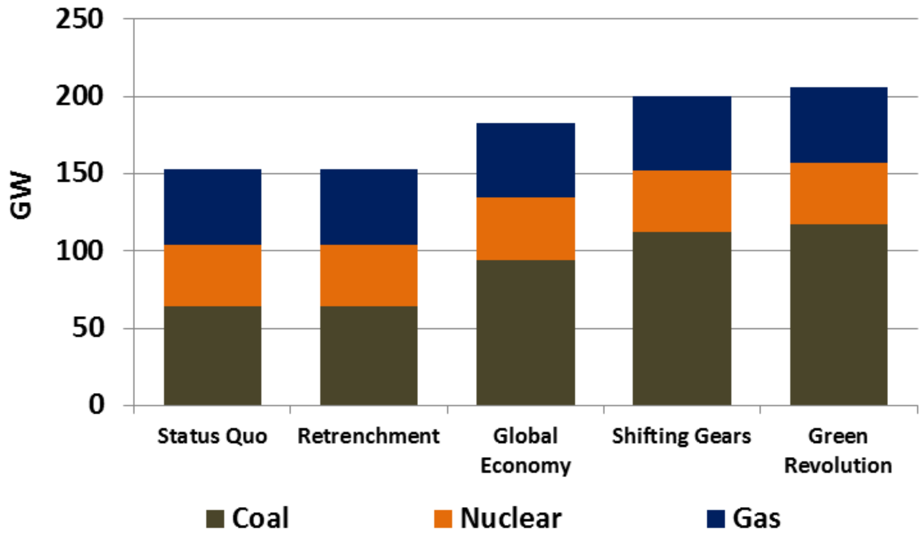


Source: IMPA

Scenario Capacity Retirements

Green Revolution, Shifting Gears, and Global Economy retire 117 GW, 112 GW, and 94 GW of the coal fleet by 2035, respectively. Status Quo and Retrenchment experience coal retirements due to age. 40 GW of nuclear is retired in all five scenarios.

Figure 48 Scenario Capacity Retirements

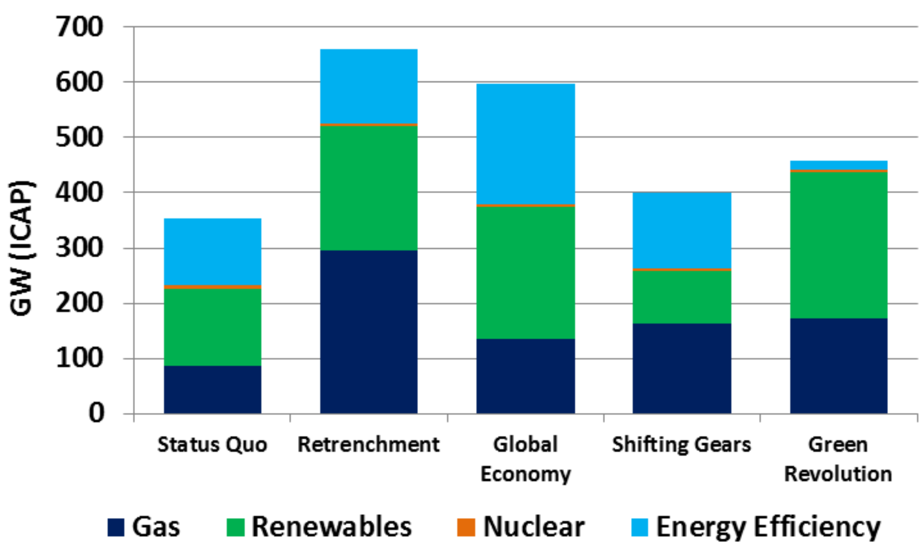


Source: IMPA

Scenario Capacity Additions

Global Economy adds the most wind and energy efficiency to meet the EPA's CPP while Shifting Gears complies with relatively even amounts of gas, renewables and EE. Green Revolution relies heavily on gas and renewables to comply with the rate based methodology. Utility sponsored EE is lower in Green Revolution as this case involves extensive government standards to reduce consumption. New nuclear was not found to be economic in any of the scenarios.

Figure 49 Scenario Capacity Additions

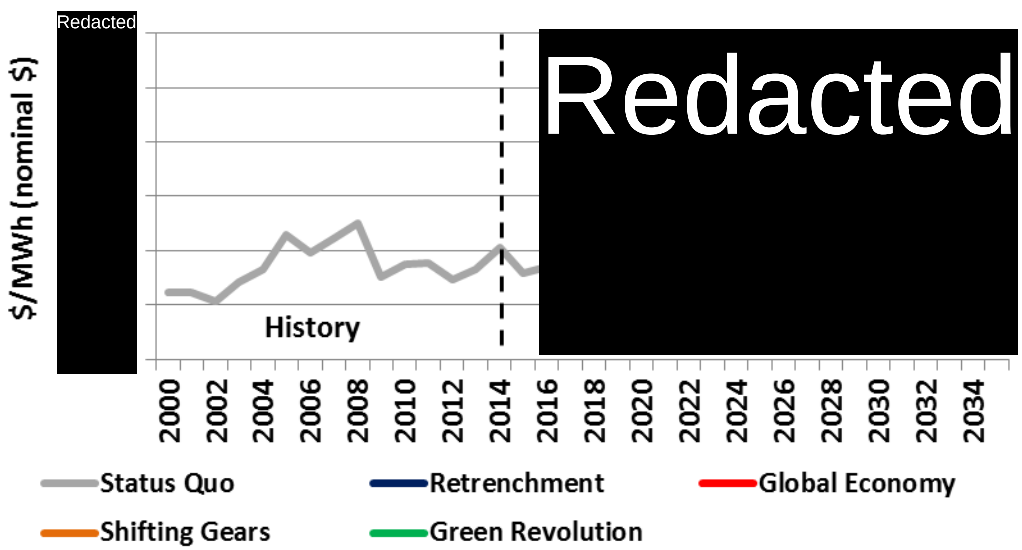


Source: IMPA

Scenario Electric Wholesale Prices

Annual wholesale prices are projected to be [redacted] in Shifting Gears and [redacted] in Green Revolution compared to the Retrenchment scenario. The effect of the carbon cap and trade on the Global Economy scenario is evident by the jump in wholesale prices beginning in 2022.

Figure 50 Scenario Market Prices

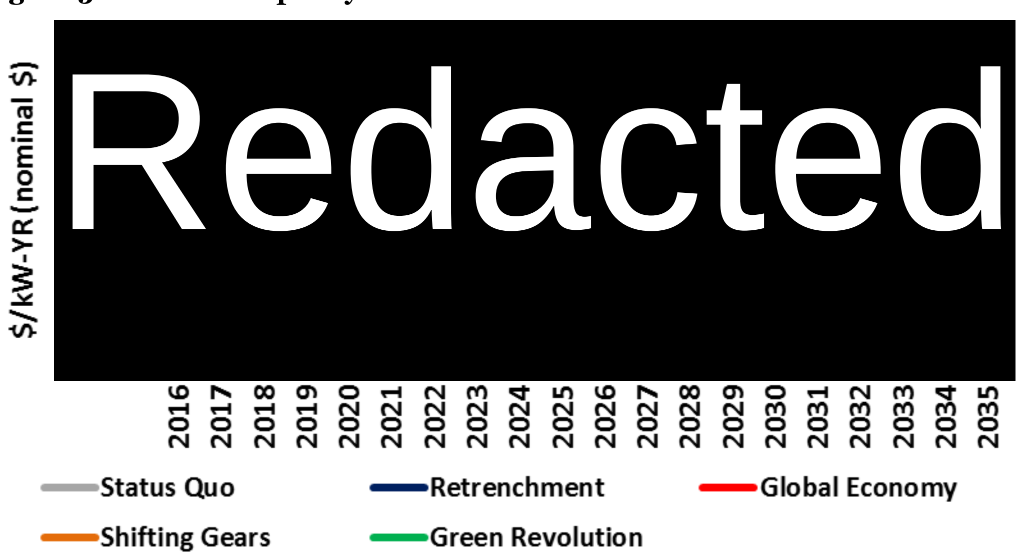


Source: IMPA

Scenario Capacity Prices

The weighted average capacity price for the MISO–IN (LRZ6) and PJM-RTO zones are shown in the graph below. The purpose of the IMPA capacity market forecast is to provide the direction and magnitude of capacity prices, but the outcome in specific years is subject to great uncertainty due to the timing of retirements, additions, participant bid behavior and regulatory uncertainty.

Figure 51 Scenario Capacity Prices



Source: IMPA

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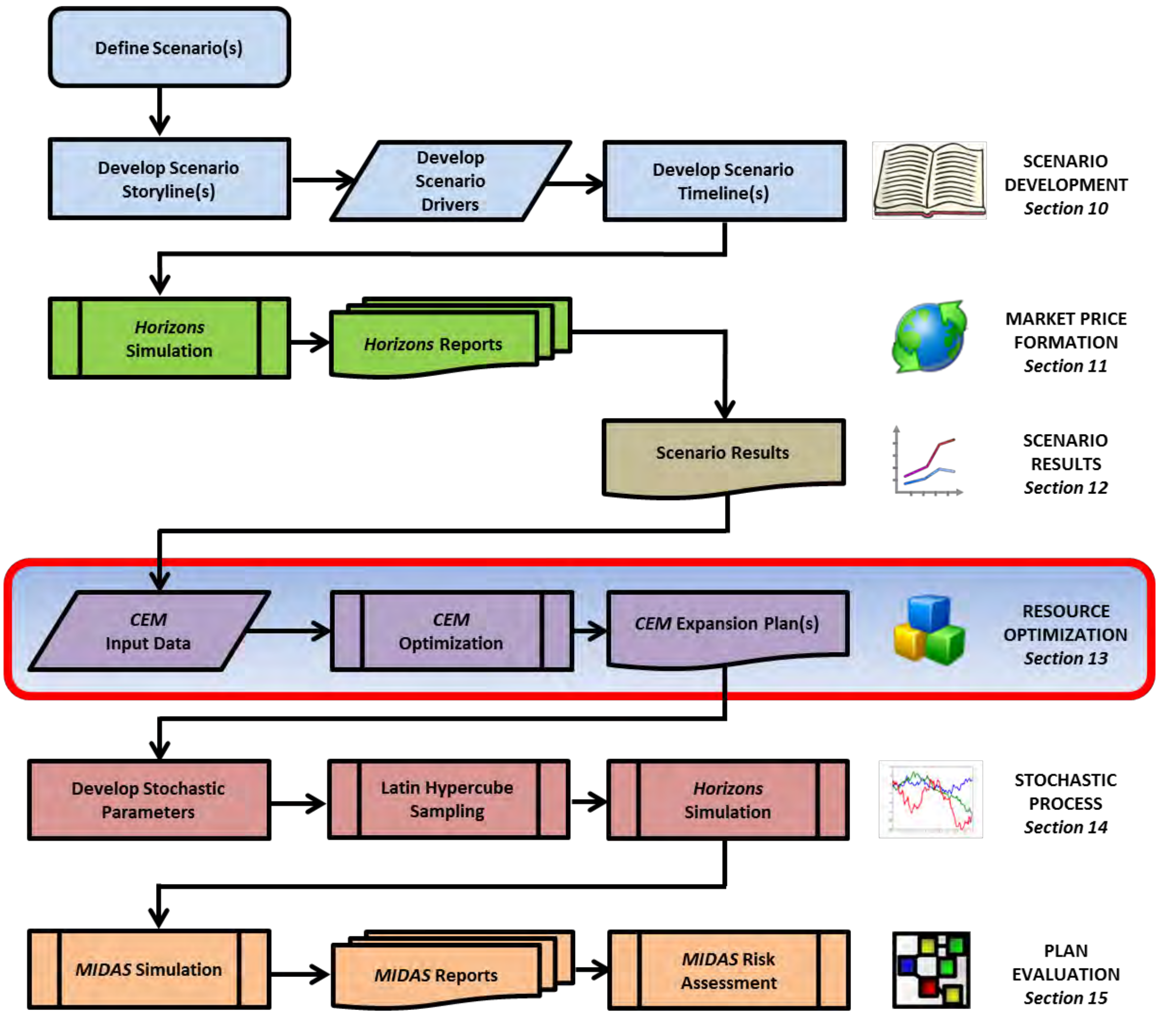
13 RESOURCE OPTIMIZATION

The defined scenarios and their market attributes are incorporated with IMPA's portfolio in the Capacity Expansion Module (CEM). This module performs an optimization of the sizing and timing of supply-side and demand-side resource alternatives for each scenario. The end result is an optimal plan developed for each scenario.

Figure 52 IRP Flowchart – Resource Optimization

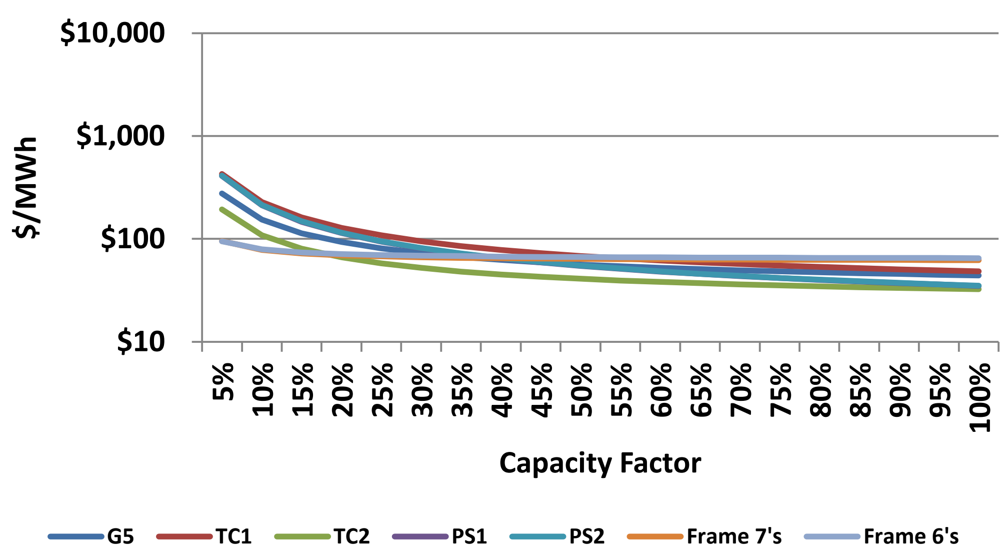


13.1 NEW SUPPLY-SIDE OPTIONS

Existing Supply-Side Resources

All IMPA-owned units were given the opportunity to retire in the capacity expansion runs. This is performed by allowing the expansion model to opt to retire an existing resource and replace it with other alternatives. When a unit is retired in this manner, all future capital expenditures, O&M and fuel costs are removed, however, all remaining bond obligations associated with the facility remain. A relative comparison of the incremental capital and operating costs of IMPA's existing resources at various load factors is shown below. See Appendix E for detailed existing unit data.

Figure 53 Retirement Screening Curve



Source: IMPA

New Supply-Side Resources

The purpose of an IRP is to assist the company in determining its future generation requirements at a basic needs level, not to select the specific unit type and model. For example, IMPA does not screen various brands and models of CTs against each other to determine the generic CT for use in the IRP expansion. CT pricing is sufficiently compressed that one CT brand over another will not cause the expansion model to select a CT when a CT is not needed or vice versa. The selection of the actual brand and model to construct would be determined in the bid and project development process.

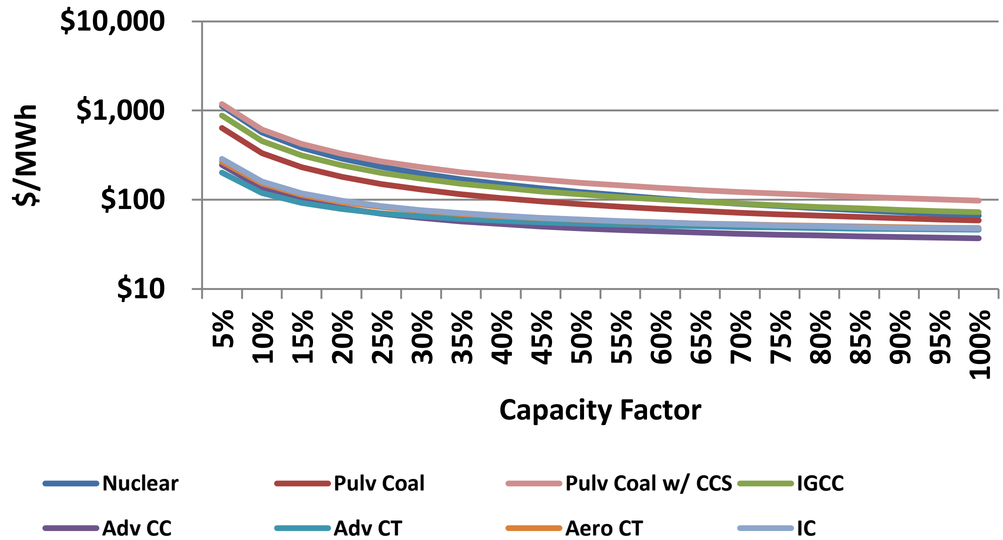
The traditional generating resources considered in this study include:

- Nuclear (100 MW from a 1100 MW unit)
- Coal-fired steam generation (100 MW from a 1300 MW unit)
    - with or without CCS depending on the scenario
- Integrated Gasification Combined Cycle (IGCC) (100 MW from a 620 MW unit)
- Advanced combined cycle (CC) units (100 MW from a 450 MW unit)
- Advanced gas-fired combustion turbines (CT) (185 MW)
- Aero-derivative combustion turbine (100 MW)
- Gas-fired high efficiency internal combustion (IC) units (10 MW units in multi-unit sets of 50 MW)

Capital costs, operating costs and operating characteristics for the thermal resources were taken from the U.S. Energy Information Administration (EIA) *Annual Energy Outlook 2014 & 2015*. See Appendix F for detailed expansion unit data.

A comparison of expansion alternatives at various load factors is shown below.

Figure 54 Thermal Screening Curve



Source: IMPA

New Renewable Resources

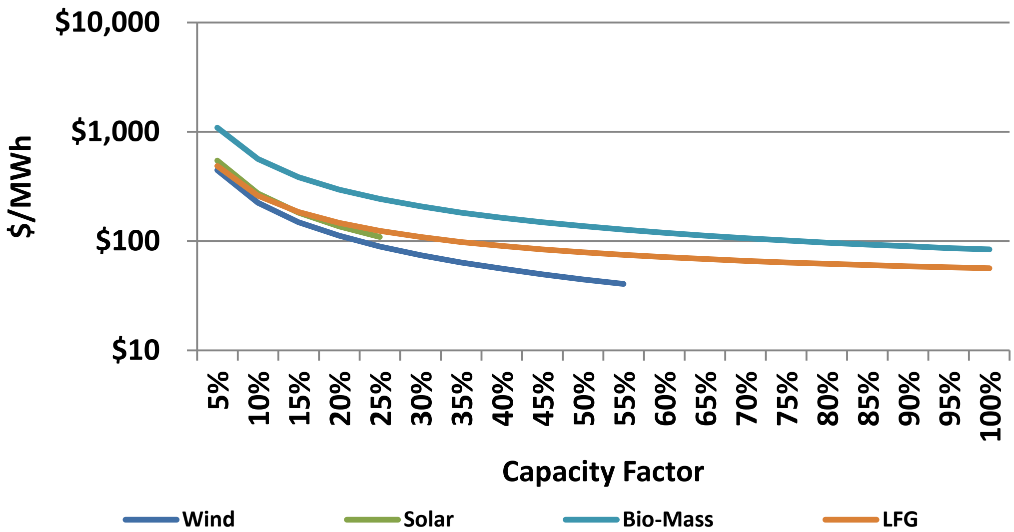
In addition to the traditional resources discussed above, the expansion model was allowed to pick from a variety of renewable resources as well. The renewable alternatives included in the expansion analysis are shown below.

- Wind
- PV Solar
- Bio Mass (25 MW)
- LFG (2.5 MW units in sets of 10 MW)

Capital costs, operating costs and operating characteristics for renewable resources were taken from the U.S. Energy Information Administration (EIA) *Annual Energy Outlook 2014* and from the U.S. Department of Energy (DOE) *Wind Vison: A New Era for Wind Power in the United States* report as well as IMPA experience in solar park construction and operation. See Appendix F for detailed expansion unit data.

A comparison of renewable alternatives at various load factors is shown below.

Figure 55 Renewable Screening Curve



Source: IMPA

Retail Customer-Owned Generation

As stated previously, other than emergency generators, IMPA has very little customer owned generation connected to its member systems. There are approximately 15 net metering installations, all less than 10 kW.

IMPA does not currently have any customers on the system that operate a CHP system. Since a CHP or customer owned generation system is a very site specific resource that is totally dependent on having a heating load customer, IMPA did not model an expansion unit to represent these systems. Going forward, IMPA will work with its members and their customers to investigate the addition of CHP or renewable systems at customer locations when proper conditions arise.

13.2 New Demand-Side Options

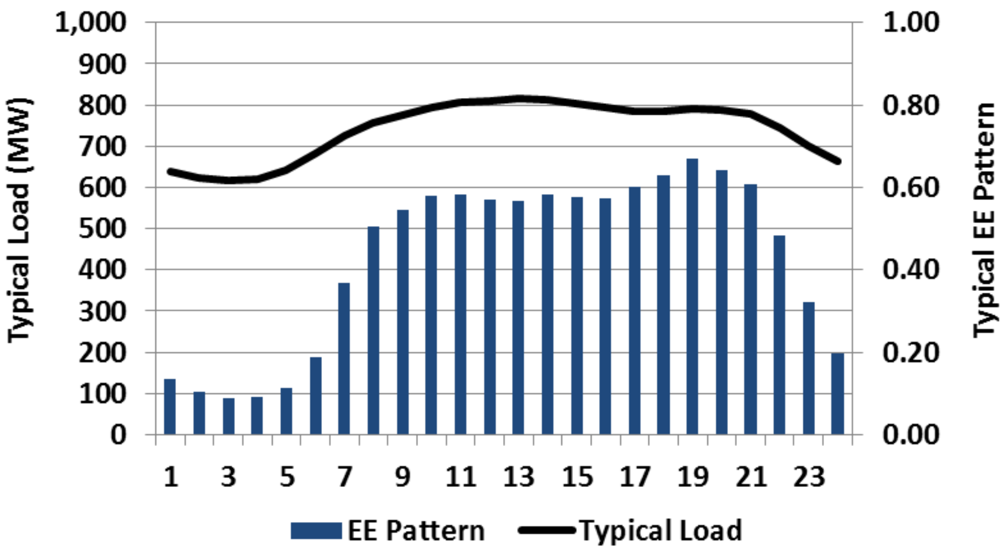
To model energy efficiency and demand response, the CEM model considered the sizing and timing of demand-side resources in the same fashion as the model considered supply-side resources. This involves modeling the characteristics of the demand-side resources to look like a generating unit so they are placed on equal footing. Utilizing IMPA's past experience with energy efficiency programs, the cost characteristics, hourly patterns, load factors, and coincidence factors were modeled.

13.2.1 Energy Efficiency Savings Characteristics

A critical step in modeling energy efficiency is to develop hourly energy efficiency patterns. The hourly patterns vary by type-of-measure, time-of-day, day-of-week, and month. For example, a measure that replaces inefficient lighting in a school gymnasium provides benefits during the school year when the gymnasium is in use, but provides little benefit during the summer when school is not in session. Measures such as residential HVAC provide a summer peak clipping benefit, but no benefit in the winter.

The hourly patterns of the various measures are aggregated into a single 8,760 hourly "per unit" pattern. Shown below is an annual "typical representation" of the aggregate per unit energy efficiency pattern superimposed on IMPA's average annual load.

Figure 56 Energy Efficiency Hourly Pattern



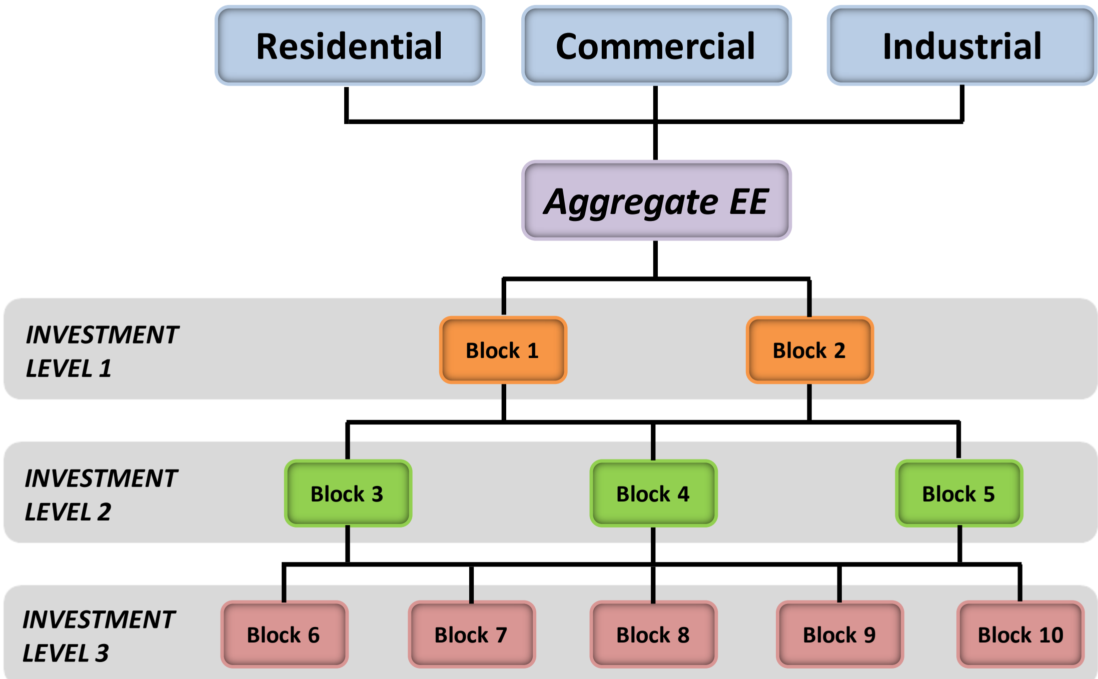
Source: IMPA

The annual load factor of the EE pattern is 43% which exhibits similar time-of-day characteristics as one would expect from a combined cycle unit. One distinction between a combined cycle and energy efficiency is the availability during the peak. As a dispatchable resource, a combined cycle unit is available upon request to serve the peak demand subject to forced outages (≈6%). However, as a non-dispatchable resource, energy efficiency's contribution to peak reduction is based on its coincidence factor during the peak hour. The aggregate coincidence factor of the IMPA EE pattern is 52.3% as measures such as residential lighting, street lighting, and even some C&I measures aren't coincident with the peak demand hour.

13.2.2 Energy Efficiency Investment Characteristics

It is well understood that some energy efficiency measures are more cost effective and easier to implement than others. It is also recognized that there is a finite amount of less expensive EE that can be obtained in any one year after which the next set of measures become more expensive. To address this issue, IMPA developed an *Energy Efficiency Investment Hierarchy*.

Figure 57 Energy Efficiency Investment Hierarchy

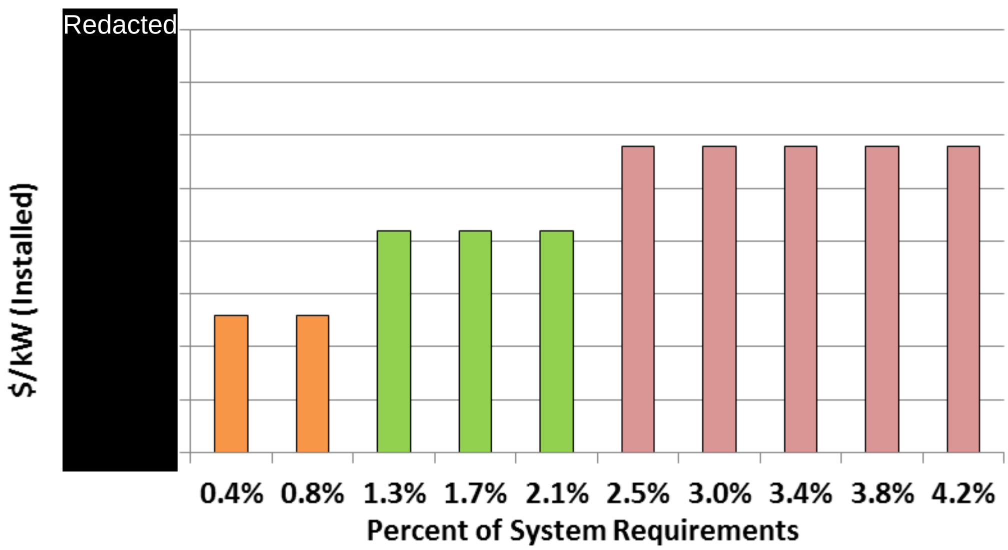


Source: IMPA

As described earlier, an Aggregate EE hourly pattern is created from a variety of residential, commercial, and industrial measures. The Aggregate EE represents the types of energy efficiency measures we know and serves as a proxy for new measures which will undoubtedly be developed in the future.

The Aggregate EE is broken into three (3) investment levels which are progressively more expensive. The three investment levels contain ten (10) blocks. Each block is equivalent to 0.42% of IMPA's load. If all ten blocks were chosen, that would add 4.2% of energy efficiency in that year. The first investment level contains two (2) blocks. The second investment level contains three (3) blocks. And the third investment level contains five (5) blocks. IMPA felt it was important to make available large amounts of energy efficiency, albeit at a higher price, to provide a DSM choice in carbon scenarios where avoided costs could be very high. A fixed component ($/kW-Yr) was added to each block to account for indirect expenses such as administration, marketing, and evaluation, measurement and verification (EM&V).

Figure 58 Energy Efficiency Investment Levels



Source: IMPA

13.3 CAPACITY EXPANSION MODULE

Utilities create an IRP to provide a framework for prudent future actions required to ensure continued reliable and least cost electric service to their customers. An important part of this exercise is to evaluate the future resource needs to meet growing demand, and present a balanced and responsible resource strategy to the stakeholders and the state regulatory bodies that meets system reliability requirements, is fiscally sound, promotes environmental stewardship, and balances risks and costs.

The Capacity Expansion Module (CEM) is a long-term portfolio optimization model for automated screening and evaluation of decisions for supply-side capacity expansion and retirement options, contract transactions, and demand-side management programs.

Figure 59 Capacity Expansion Module Cut Sheet

Capacity Expansion Module

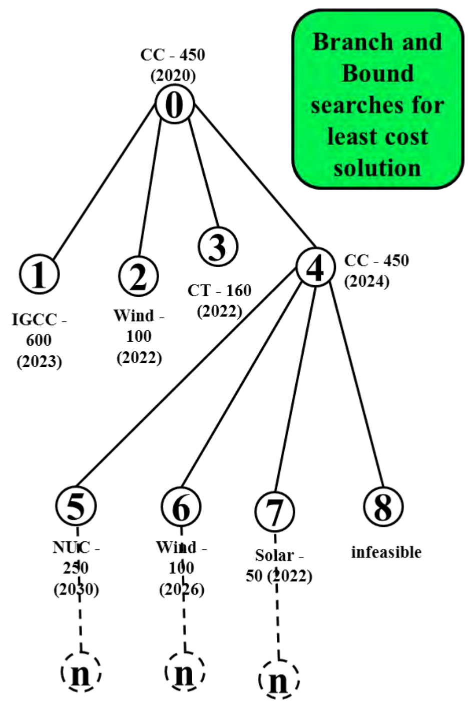
The ***Capacity Expansion Module*** uses a general algebraic modeling system (GAMS) to perform large scale least cost optimization of existing and candidate supply-side and demand-side resources using a branch and bound search routine.

Capacity Expansion

Develop long-term resource expansion plans with type, size, location, and timing of capital projects over a 30-year horizon

- When to build (or retire)?
- What to build (or retire)?
- Where to build?
- How much to build?

Fully range of options, incl. interactions with external markets



Capacity Expansion Module

Source: Ventyx

Capacity Expansion Module – Objective Function

The optimal resource expansion strategy is based on an objective function subject to a set of constraints. The goal of the CEM is to minimize the net present value cost of supply-side and demand-side projects, contract and spot market transactions, and generating station decommissioning costs subject to load balance, reliability, and investment constraints. Thus, the criterion for evaluation is minimization of the net present value of revenue requirements (PVRR).

The CEM answers the key investment decisions of:

- What to build (or retire)?
- When to build (or retire)?
- Where to build?
- How much to build?

The CEM is a mixed integer linear program (MILP) in which the objective is minimization of the sum of the discounted costs of supplying customer loads in each area with load obligations. The model includes all existing and proposed plants in a utility system. Binary integer variables are used in the MILP to represent discrete decisions regarding whether to build or retire generation or enter into a particular contract transaction. General integer variables are used to represent how many discrete units of generation to add.

The CEM solves for the "optimal" resource plan, considering the cost effectiveness of the specific resource options, including their scale and timing to meet a target reserve margin. Decisions on generation additions or retirements are made on an annual basis. Decisions on contract transactions and demand-side management programs are made once for each potential contract's delivery period.

Capacity Expansion Module – Simulation Time

Capacity expansion planning models have very long time horizons (typically 20+ years). To remain practical in computer memory requirements and execution speed, time is represented in buckets rather than individual hours. The CEM uses the "representative hours" approach, in which average generation and load values in each representative time of use period in a week are scaled up appropriately to span all hours of the week and days of the month. IMPA utilizes powerful desktop PC workstations with 12 GB of RAM, 64-bit operating system, and a 3.2 GHz clock speed to run the CEM simulations.

Despite the considerable advantages of using the CEM for resource capacity planning, it is only intended for use as a preliminary screening tool for quickly and objectively narrowing the choice set from an extremely large number of possible resource plans down to a few "good" alternatives for more detailed production, rate, and financial simulation analysis using the MIDAS Gold module.

13.4 Selected Resource Expansion Plans

IMPA ran the five scenarios discussed above in the CEM module to develop five different expansion plans. The resulting plans are shown in the table below. IMPA's next significant resource need is in 2021 when a 100 MW capacity and energy contract expires. Coincidently, the start date of the EPA's CPP is in 2022. So it is within the 2021-2022 timeframe where IMPA's next resource decision lies.

Table 12 Expansion Results – 5 Plans

Drivers	Plan01	Plan02	Plan03	Plan04	Plan05
Economic Growth	Reference	Med-High	High	Med-Low	Low
Capital Construction Cost	Reference	Low	Med-Low	Med-High	High
Load Forecast	Reference	Med-High	High	Med-Low	Low
Load Factor	Existing	1.5% Higher	1.5% Lower	3% Lower	3% Higher
Natural Gas Prices	Reference	Low	Med-Low	Med-High	High
Coal Price	Reference	Low	Med-High	Med-Low	High
CO_2 Policy	Existing	No Policy	Mass-Based	CO_2 Tax	Rate-Based
Reserve Margin	Pool + 1%	Pool + 2%	Pool Req	Pool + 2%	Pool + 3%
2016	10 S	10 S	10 S	10 S	10 S
2017	10 S	10 S	10 S	10 S	10 S
2018	10 S	10 S	10 S, 10 EE	10 S	10 S, 39 EE
2019	10 S	10 S	10 S, 20 EE	10 S	10 S, 39 EE
2020	10 S	10 S	10 S, 31 EE	10 S	10 S, 54 EE
2021	200 CC	200 CC	200 CC, 29 EE	100 CC, 12 W 4 EE	54 EE
2022	Retire WWVS 100 CC		Retire WWVS/G5/TC1 300 CC, 39 EE	41 W, 24 EE	Retire G5/WWVS 185 CT, 150 W
2023			44 EE	42 W, 24 EE	
2024			38 EE	41 W, 39 EE	
2025			38 EE	Retire G5, 185 CT 42 W, 35 EE	Retire TC1, 49 W
2026			23 EE	2 W, 23 EE	
2027			6 EE	23 EE	
2028				21 EE	125 W
2029			3 EE	3 W, 15 EE	
2030			8 EE	10 EE	40 W
2031			8 EE		
2032			8 EE	1 W	2 W
2033			8 EE		
2034	200 CC	200 CC	200 CC, 8 EE	185 CT, 1 W	200 CC, 2 W
2035			8 EE		4 W
Retirements – MW	(90)	0	(312)	(156)	(312)
Natural Gas Additions – MW	500	400	700	470	385
Renewables – MW	50	50	50	235	427
Energy Efficiency – MW	0	0	329	218	186

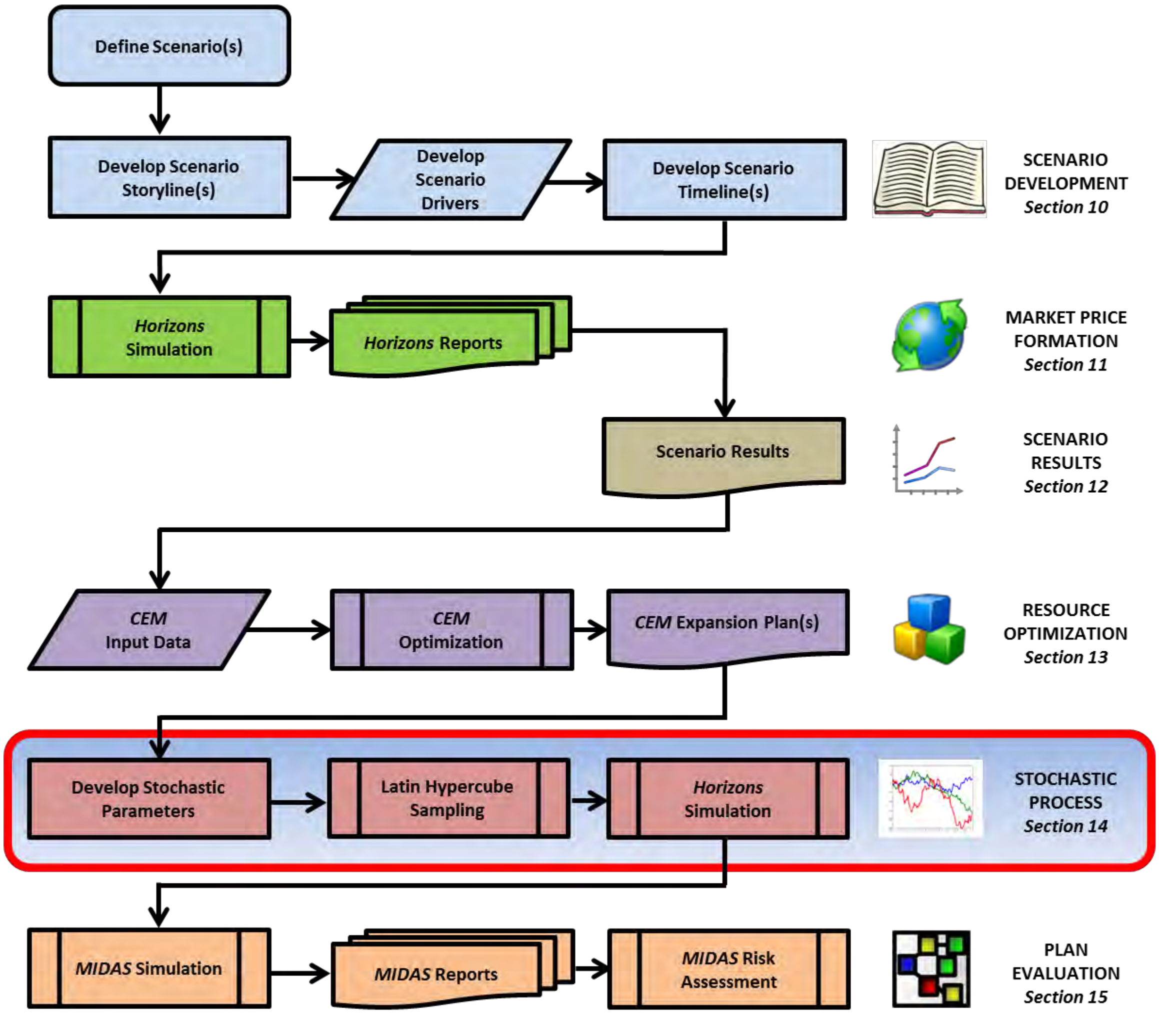
CC = Advanced Combined Cycle
CT = Advanced Combustion Turbine
W = Wind
S = Solar
E = Energy Efficiency

G5 = Gibson 5
TC1 = Trimble County 1
WWVS = Whitewater Valley Station

14 STOCHASTIC PROCESS

Prior to the detailed analysis of each plan, a set of sensitivities is developed which will allow IMPA to consider the impact of uncertainty for each plan. The Stochastic Process is a combination of Latin Hypercube sampling coupled with Horizons Interactive market model simulations.

Figure 60 IRP Flowchart – Stochastic Process



Horizons Interactive is an integrated market model, which uses a structural approach for forecasting prices that captures the uncertainties (sensitivities) in regional electric demand, resources and transmission, and provides a solid basis for decision-making. Using a stratified Monte Carlo sampling program, which is referred to as the Latin Hypercube, Horizons Interactive generates regional forward price curves across multiple stochastic futures (draws). The draws are driven by variations in a host of market price “drivers” (e.g. demand, fuel price, unit availability, hydro output, capital expansion cost, transmission availability, reserve margin, emission price, weather, etc.) and take into account statistical distributions, correlations, and volatilities.

Stratified sampling can be thought of as “smart” Monte Carlo sampling. Instead of drawing each sample from the entire distribution – as in Monte Carlo sampling – the sample space is divided into equal probability ranges and then a sample is taken from each range.

Prices are derived using a rigorous probabilistic approach that performs the following tasks:

- Quantifies the uncertainties that drive market price through a stratified Monte Carlo sampling model (Latin Hypercube);
- Puts the uncertainties into a decision tree;
- Evaluates multi-region, hourly market price for a set of consistently derived futures using Horizons Interactive; and
- Accumulates the information into expected forward price and volatility of the marketplace.

The uncertainty drivers were developed for the IMPA specific zones of interest (MISO-Indiana, MISO-Iowa, MISO-Illinois, PJM-AEP, and PJM-DEOK) as well as all of the other zones in the Horizons Interactive market model.

Uncertainty Variables

For the price trajectories, IMPA examined the impact of load, fuel price, emissions, and supply on regional spot market energy and capacity prices. Specifically, the following uncertainties were evaluated:

Demand

- Long-Term Electricity Demand Growth
- Mid-Term Peak Demand
- Mid-Term Energy
- Reference Load Shape Year

Fuel Prices

- Long-Term Gas Price
- Long-Term Coal Price
- Long-Term Oil Price
- Mid-Term Gas Price

Emissions

- Long-Term CO_2 Price *(Calculated Shadow Price)*

Supply

- Long-Term Capital Costs
- Mid-Term Coal Unit Availability

- Fuel Supply Disruption *(Polar Vortex)*

Congestion

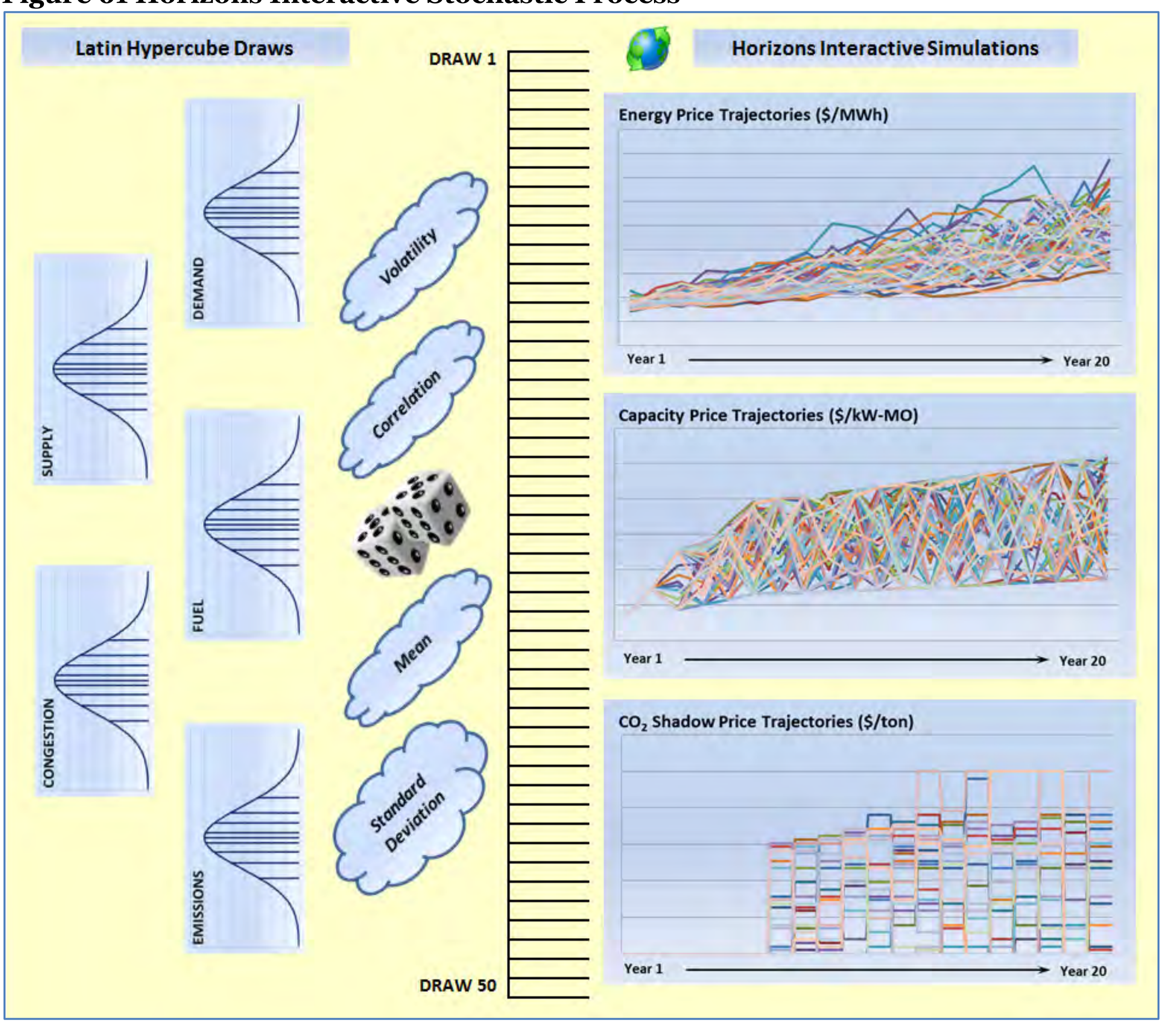
- Mid-Term Congestion

Horizons Interactive – Stochastic Simulation Time

For its stochastic process, IMPA creates 50 stochastic futures. Fifty trajectories strike a balance between the number of stochastic futures required for a comprehensive solution and a manageable number of simulations.

IMPA's technique for creating stochastic market prices is very resource intensive because the hourly zonal market price for each future is computer simulated, not mathematically estimated. While the Horizons Interactive market model is widely considered one of the fastest commercial software models for zonal market price simulation, the simulation time to create 50 stochastic futures including the CO_2 shadow prices as well as the nodal algebraic model (NAM) simulation for creating LMPs takes nearly 12 days using a desktop PC workstation with 12 GB of RAM, 64-bit operating system, and a 3.2 GHz clock speed.

Figure 61 Horizons Interactive Stochastic Process



Source: IMPA

14.1 LONG-TERM UNCERTAINTIES

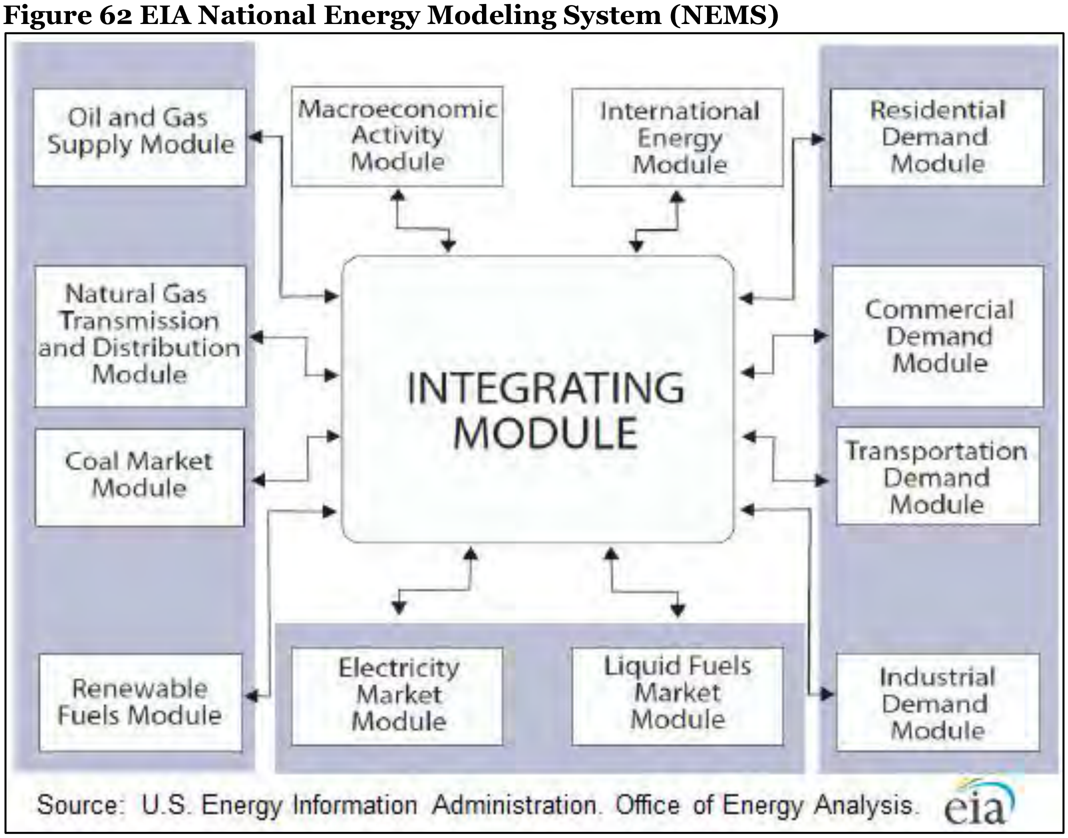
IMPA built its long-term stochastic draws based on the underlying projections of the *EIA Annual Energy Outlook 2014* (AEO2014). The U.S. Energy Information Administration (EIA) projections provide the key input drivers of electricity price such as fuel price and demand which supplement IMPA's proprietary assumptions and projections.

EIA Annual Energy Outlook 2014

The National Energy Modeling System Projections in the AEO2014 are generated using the National Energy Modeling System (NEMS), developed and maintained by the Office of Energy Analysis of the EIA. The projections in NEMS are developed with the use of a market-based approach, subject to regulations and standards. For each fuel and consuming sector, NEMS balances energy supply and demand, accounting for economic competition among the various energy fuels and sources. To represent regional differences in energy markets, the component modules of NEMS function at the regional level: the 9 Census divisions for the end-use demand modules; production regions specific to oil, natural gas, and coal supply and distribution; 22 regions and subregions of the North American Electric Reliability Corporation (NERC) for electricity; and 8 refining regions that are a subset of the 5 Petroleum Administration for Defense Districts (PADDs).

NEMS is organized and implemented as a modular system shown in the figure below.

Figure 62 EIA National Energy Modeling System (NEMS)



Source: EIA

The modules represent each of the fuel supply markets, conversion sectors, and end-use consumption sectors of the energy system. The modular design also permits the use of the methodology and level of detail most appropriate for each energy sector. NEMS executes each of the component modules to solve for prices of energy delivered to end users and the quantities consumed, by product, region, and sector. The delivered fuel prices encompass all the activities necessary to produce, import, and transport fuels to end users.

The information flows also include other data on such areas as economic activity, domestic production, and international petroleum supply. NEMS calls each supply, conversion, and end-use demand module in sequence until the delivered prices of energy and the quantities demanded have converged within tolerance, thus achieving an economic equilibrium of supply and demand in the consuming sectors for each year. Other variables, such as petroleum product imports, crude oil imports, and several macroeconomic indicators, also are evaluated for convergence. Each NEMS component represents the impacts and costs of legislation and environmental regulations that affect that sector. NEMS accounts for all combustion-related carbon dioxide (CO_2) emissions, as well as emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_x), and mercury from the electricity generation sector.

EIA2014 Cases

Projections by the EIA are not statements of what will happen but of what might happen, given the assumptions for any particular case. To that end, the EIA developed a reference case (business as usual estimate) and 29 additional cases for Annual Energy Outlook 2014.

The 30 EIA cases are briefly described below.

Table 13 EIA Annual Energy Outlook 2014 – 30 Cases

Reference	Low VMT	High Coal Cost
Low Economic Growth	Accelerated Nuclear Retirements	2013 Demand Tech
High Economic Growth	Accelerated Coal Retirements	Best Demand Tech
Low Oil Price	Accelerated Nuclear and Coal Retirements	High Demand Tech
High Oil Price	Low Nuclear	Energy Savings and Industrial Competitiveness Act
No Sunset	High Nuclear	Low Electricity Demand
Extended Policies	Low Renewable Technology Cost	No GHG Concern
High Rail LNG	Low Oil and Gas Resource	GHG10
Low Rail LNG	High Oil and Gas Resource	GHG25
High VMT	Low Coal Cost	GHG10 and Low Gas Prices

Source: EIA

1. Reference: Business as usual (BAU). Real GDP grows at an average annual rate of 2.4% from 2012 to 2040. Crude oil prices rise to about $141/barrel (2012 dollars) in 2040.
2. Low Economic Growth: Real GDP grows at an average annual rate of 1.9% from 2012 to 2040. Other energy market assumptions are the same as in the Reference case.
3. High Economic Growth: Real GDP grows at an average annual rate of 2.8% from 2012 to 2040. Other energy market assumptions are the same as in the Reference case.
4. Low Oil Price: Low prices result from a combination of low demand for petroleum and other liquids in the non-Organization for Economic Cooperative Development (non-OECD) nations and higher global supply. Lower demand is measured by lower economic growth relative to the Reference case. On the supply side, the Organization of the Petroleum Exporting Countries (OPEC) increases its market share to 51%, and the costs of other liquids production technologies are lower than in the Reference case. Light, sweet crude oil prices fall to $70/ barrel in 2017 and rise slowly to $75/barrel in 2040.
5. High Oil Price: High prices result from a combination of higher demand for liquid fuels in non-OECD nations and lower global supply. Higher demand is measured by higher economic growth relative to the Reference case. OPEC market share averages 37% throughout the projection. Non-OPEC petroleum production expands more slowly in the short to middle term relative to the Reference case. Crude oil prices rise to $204/barrel (2012 dollars) in 2040.
6. No Sunset: Begins with the Reference case and assumes extension of all existing tax credits and policies that contain sunset provisions, except those requiring additional funding (e.g., loan guarantee programs) and those that involve extensive regulatory analysis, such as Corporate Average Fuel Economy (CAFE) improvements and periodic updates of efficiency standards. Also includes extension of the $1.01/gallon ethanol subsidy and $1.00/gallon biodiesel subsidy to the end of the projection period.
7. Extended Policies: Begins with the No Sunset case but excludes extension of the ethanol and biofuel subsidies that were included in the No Sunset case. Assumes an increase in the capacity limitations on the ITC for CHP and extension of the program. The case includes additional rounds of efficiency standards for residential and commercial products, as well as new standards for products not yet covered; adds multiple rounds of national building codes by 2026; and increases light-duty vehicle (LDV) and heavy-duty vehicle (HDV) fuel economy standards in the transportation sector.
8. High Rail LNG: Assumes a higher LNG locomotive penetration rate into motive stock such that 100% of locomotives are LNG capable by 2037.
9. Low Rail LNG: Assumes a lower LNG locomotive penetration rate into motive stock, at a 1.0 average annual turnover rate for dual-fuel engines that can use up to 80% LNG.
10. High vehicle miles traveled (VMT): Assumes higher licensing rates and travel demand for specific age and gender cohorts. Vehicle miles traveled per licensed driver in 2012 is 3% higher than in the Reference case, increasing to 7% higher in 2027, and then declining to 3% above the Reference case in 2040.
11. Low VMT: Assumes lower licensing rates and travel demand for specific age and gender cohorts. VMT per licensed driver is 5% lower than in the Reference case for the full projection. Licensing rates stay constant at 2011 levels or decline from 2011 to 2040, specific to gender, age, and census division categories.
12. Accelerated Nuclear Retirements: Assumes that all nuclear plants are limited to a 60-year life, uprates are limited to the 0.7 GW that have been reported to EIA, and no new

additions beyond those planned in the Reference case. Nonfuel operating costs for existing nuclear plants are assumed to increase by 3% per year after 2013.

13. Accelerated Coal Retirements: Begins with the AEO2014 High Coal Cost case assumptions and also assumes that nonfuel operating costs for existing coal plants increase by 3% per year after 2013.
14. Accelerated Nuclear and Coal Retirements: Combines the assumptions in the Accelerated Nuclear Retirements and Accelerated Coal Retirements cases.
15. Low Nuclear: Begins with the Accelerated Nuclear Retirements case and combines with assumptions in the High Oil and Gas Resource and the No Sunset cases.
16. High Nuclear: Assumes that all nuclear plants are life-extended beyond 60 years (except for 4.8 GW of announced retirement), and a total of 6.0 GW of uprates. New plants include those under construction and plants that have a scheduled U.S. Nuclear Regulatory Commission (NRC) or Atomic Safety and Licensing Board hearing.
17. Renewable Fuels Low Renewable Technology Cost: Capital costs for new nonhydro renewable generating technologies are 20% lower than Reference case levels through 2040, and biomass feedstocks are 20% less expensive for a given resource quantity. Capital costs for new ethanol, biodiesel, pyrolysis, and other biomass to liquids (BTL) production technologies are 20% lower than Reference case levels through 2040, and the industrial sector assumes a higher rate of recovery for biomass byproducts from industrial processes.
18. Low Oil and Gas Resource: Estimated ultimate recovery per shale gas, tight gas, and tight oil well is 50% lower than in the Reference case. All other resource assumptions remain the same as in the Reference case.
19. High Oil and Gas Resource: Estimated ultimate recovery per shale gas, tight gas, and tight oil well is 50% higher and well spacing is 50% lower (or the number of wells left to be drilled is 100% higher) than in the Reference case. In addition, tight oil resources are added to reflect new plays or the expansion of known tight oil plays and the estimated ultimate recovery for tight and shale wells increases 1% per year to reflect additional technological improvement. Also includes kerogen development, tight oil resources in Alaska, and 50% higher undiscovered resources in the offshore lower 48 states, Alaska, and shale gas in Canada than in the Reference case.
20. Low Coal Cost: Regional productivity growth rates for coal mining are approximately 2.3 percentage points per year higher than in the Reference case, and coal miner wages, mine equipment costs, and coal transportation rates are lower than in the Reference case, falling to about 25% below the Reference case in 2040. The price change for non-U.S. export supplies is assumed to be roughly 10% less than the price change projected for U.S. coal exports.
21. High Coal Cost: Regional productivity growth rates for coal mining are approximately 2.3 percentage points per year lower than in the Reference case, and coal miner wages, mine equipment costs, and coal transportation rates are higher than in the Reference case, ranging between 24% and 31% above the Reference case in 2040. The price change for non-U.S. export supplies is assumed to be roughly 10% less than the price change projected for U.S. coal exports.
22. Integrated 2013 Demand Technology: Assumes that future equipment purchases in the residential and commercial sectors are based only on the range of equipment available in 2013. Commercial and existing residential building shell efficiency is held constant at

2013 levels. Energy efficiency of new industrial plant and equipment is held constant at the 2014 level over the projection period.

23. Integrated Best Available Demand Technology: Assumes that all future equipment purchases in the residential and commercial sectors are made from a menu of technologies that includes only the most efficient models available in a particular year, regardless of cost. All residential building shells for new construction are assumed to be code compliant and built to the most efficient specifications after 2013, and existing residential shells have twice the improvement of the Reference case. New and existing commercial building shell efficiencies improve 50% more than in the Reference case by 2040. Industrial and transportation sector assumptions are the same as in the Reference case.
24. Integrated High Demand Technology: Assumes earlier availability, lower costs, and higher efficiencies for more advanced residential and commercial equipment. For new residential construction, building code compliance is assumed to improve after 2013, and building shell efficiencies are assumed to meet ENERGY STAR requirements by 2023. Existing residential building shells exhibit 50% more improvement than in the Reference case after 2013. New and existing commercial building shells are assumed to improve 25% more than in the Reference case by 2040. Industrial sector assumes earlier availability, lower costs, and higher efficiency for more advanced equipment and a more rapid rate of improvement in the recovery of biomass byproducts from industrial processes. In the transportation sector, the characteristics of conventional and alternative-fuel LDVs reflect more optimistic assumptions about incremental improvements in fuel economy and costs, as well as battery electric vehicle costs. Freight trucks are assumed to see more rapid improvement in fuel efficiency. More optimistic assumptions for fuel efficiency improvements are also made for the air, rail, and shipping sectors.
25. Energy Savings and Industrial Competitiveness Act: Begins with the Reference case and assumes passage of the energy efficiency provisions in S. 1392, including appropriation of funds at the levels authorized in the bill. Key provisions modeled include improved national building codes for new homes and commercial buildings and a rebate program for advanced industrial motor systems, assuming the bill's passage in 2014. For new residential construction, building shell efficiencies are assumed to improve by 15% relative to IECC2009 by 2020, and building code compliance is assumed to improve. New commercial building shells are assumed to be 30% more efficient than ASHRAE 90.1-2004 by 2020.
26. Low Electricity Demand: This case was developed to explore the effects on the electric power sector if growth in sales to the grid remained relatively low. Begins with the Best Available Demand Technology case, which lowers demand in the building sectors, and also assumes greater improvement in industrial motor efficiency.
27. No greenhouse gas (GHG) Concern: No GHG emissions reduction policy is enacted, and market investment decisions are not altered in anticipation of such a policy.
28. GHG10: Applies a price for CO_2 emissions throughout the economy, starting at $10/metric ton in 2015 and rising by 5% per year through 2040.
29. GHG25: Applies a price for CO_2 emissions throughout the economy, starting at $25/metric ton in 2015 and rising by 5% per year through 2040.
30. GHG10 and Low Gas Price: Combines GHG10 and High Oil and Gas Resource cases.

IMPA 50 Long-Term Stochastic Draws

To capture long-term uncertainty for its IRP, IMPA extrapolated the trends from the 30 EIA Cases into 50 long-term stochastic draws, which were coupled with IMPA's medium-term and short-term proprietary stochastic draws.

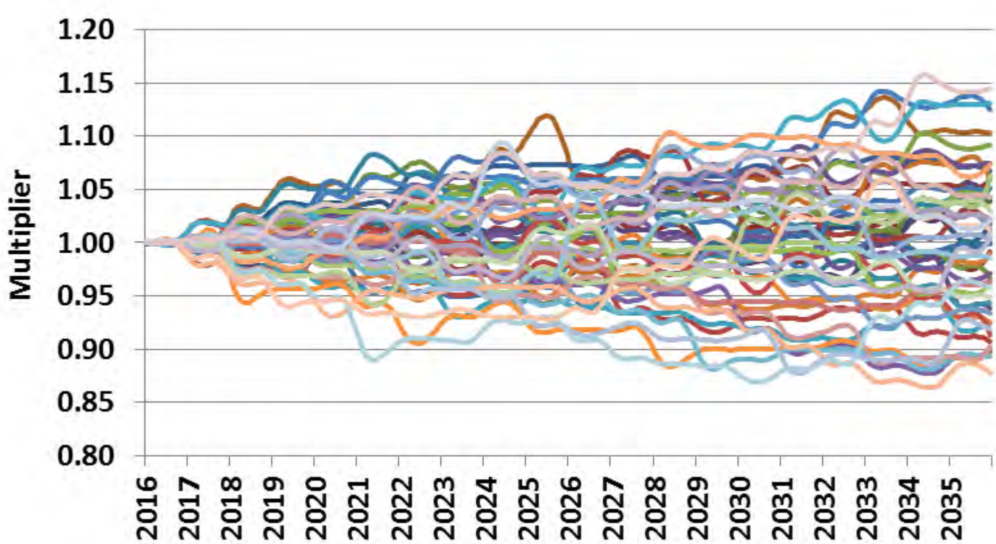
Long-Term Uncertainty – Electricity Demand Growth

The upper bound of the long-term electricity demand growth is tied to the *High Economic Growth* case in which real GDP grows at an average annual rate of 2.8 percent.

The lower bound is tied to the *Low Electricity Demand* case, which explores the effects on the power sector if growth in sales to the grid remained relatively low. This case begins with the *Best Available Demand Technology* case, which lowers demand in the building sectors, and also assumes greater improvement in industrial motor efficiency.

The distribution is an extrapolation of the standard deviation of the 30 EIA cases into 50 stochastic futures.

Figure 63 Long-Term Electricity Demand Growth – 50 Draws



Source: IMPA

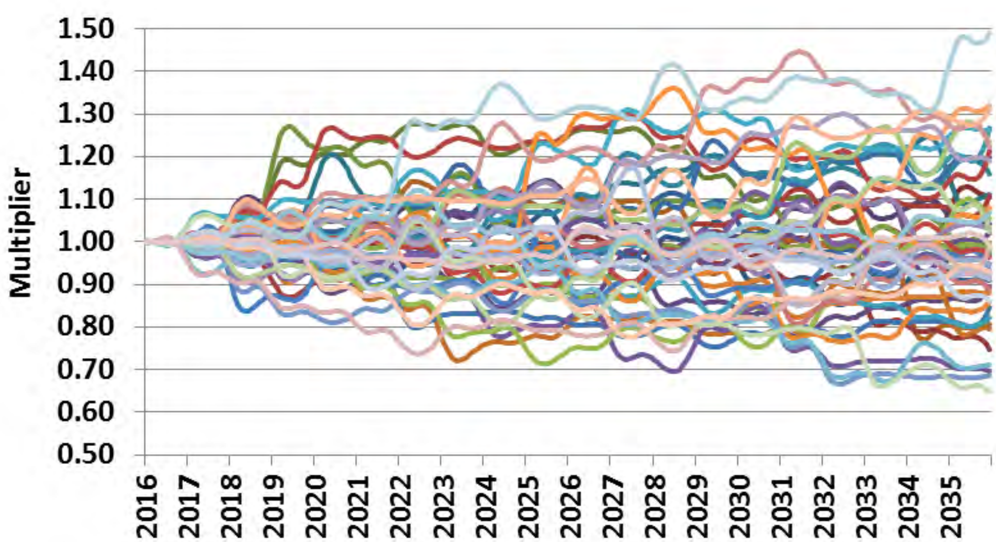
Long-Term Uncertainty – Natural Gas Price

The upper bound of the long-term natural gas price growth is tied to the *Low Oil and Gas Resource* case where the estimated ultimate recovery per shale gas, tight gas, and tight oil well is 50% lower than the EIA reference case.

The lower bound is tied to the *High Oil and Gas Resource* case where the estimated ultimate recovery per shale gas, tight gas, and tight oil well is 50% higher and well spacing is 50% lower (or the number of wells left to be drilled is 100% higher) than in the Reference case. In addition, tight oil resources are added to reflect new plays or the expansion of known tight oil plays and the estimated ultimate recovery for tight and shale wells increases 1% per year to reflect additional technological improvement. Other factors in this case include kerogen development, tight oil resources in Alaska, and 50% higher undiscovered resources in the offshore lower 48 states, Alaska, and shale gas in Canada than in the Reference case.

The distribution is an extrapolation of the standard deviation of the 30 EIA cases into 50 stochastic futures.

Figure 64 Long-Term Natural Gas Price – 50 Draws



Source: IMPA

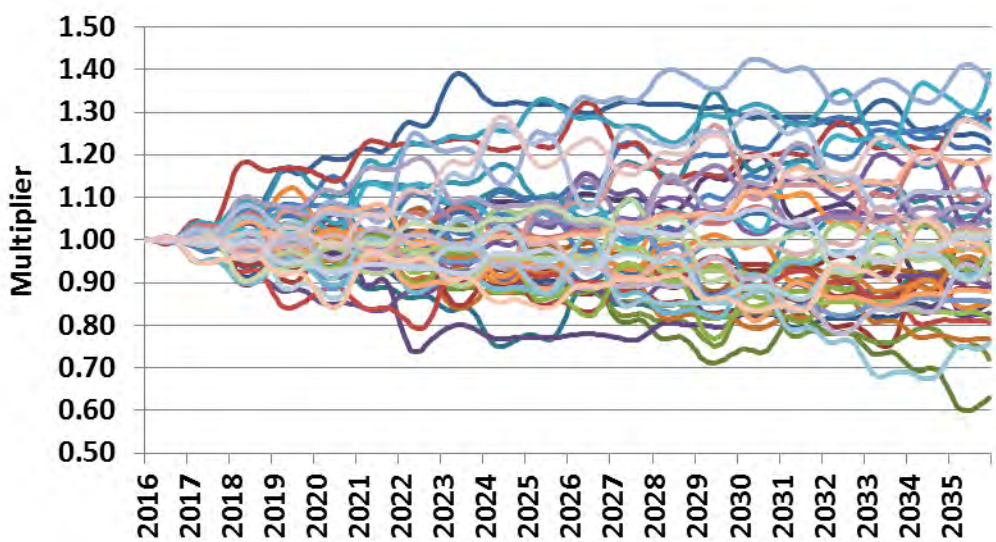
Long-Term Uncertainty – Coal Price

The upper bound of the long-term coal price growth is tied to the *High Coal Cost* case where the regional productivity growth rates for coal mining are approximately 2.3 percentage points per year lower than in the Reference case, and coal miner wages, mine equipment costs, and coal transportation rates are higher than in the Reference case, ranging between 24% and 31% above the Reference case in 2040. The price change for non-U.S. export supplies is assumed to be roughly 10% less than the price change projected for U.S. coal exports.

The lower bound is tied to the *Low Coal Cost* case where the regional productivity growth rates for coal mining are approximately 2.3 percentage points per year higher than in the Reference case, and coal miner wages, mine equipment costs, and coal transportation rates are lower than in the Reference case, falling to about 25% below the Reference case in 2040. The price change for non-U.S. export supplies is assumed to be roughly 10% less than the price change projected for U.S. coal exports.

The distribution is an extrapolation of the standard deviation of the 30 EIA cases into 50 stochastic futures.

Figure 65 Long-Term Coal Price – 50 Draws



Source: IMPA

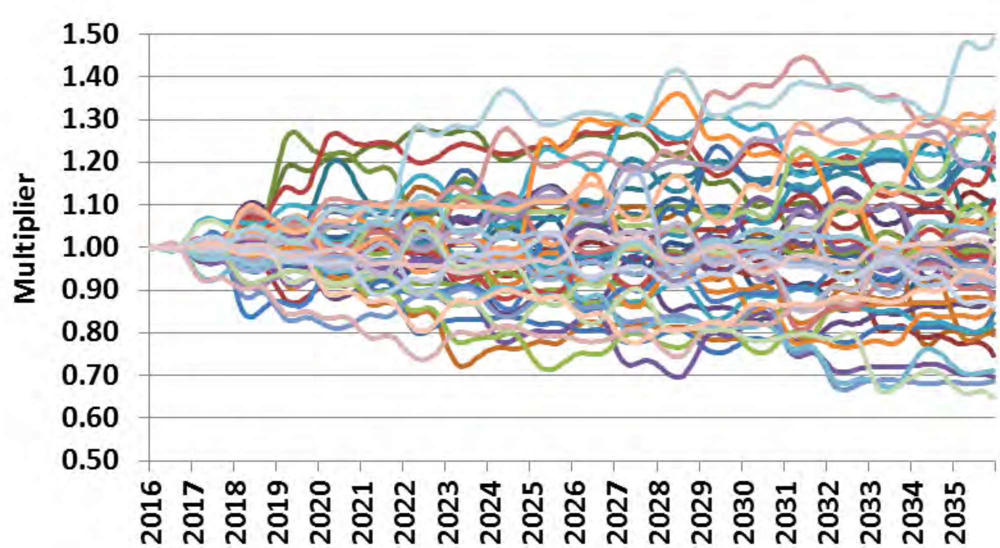
Long-Term Uncertainty – Oil Price

The upper bound of the long-term oil price growth is tied to the *High Oil Price* case where high prices result from a combination of higher demand for liquid fuels in non-OECD nations and lower global supply. Higher demand is measured by higher economic growth relative to the Reference case. OPEC market share averages 37% throughout the projection. Non-OPEC petroleum production expands more slowly in the short to middle term relative to the Reference case. Crude oil prices rise to $204/barrel (2012 dollars) in 2040.

The lower bound is tied to the *Low Oil Price* case where low prices result from a combination of low demand for petroleum and other liquids in the non-Organization for Economic Cooperative Development (non-OECD) nations and higher global supply. Lower demand is measured by lower economic growth relative to the Reference case. On the supply side, the Organization of the Petroleum Exporting Countries (OPEC) increases its market share to 51%, and the costs of other liquids production technologies are lower than in the Reference case. Light, sweet crude oil prices fall to $70/ barrel in 2017 and rise slowly to $75/barrel in 2040.

The distribution is an extrapolation of the standard deviation of the 30 EIA cases into 50 stochastic futures.

Figure 66 Long-Term Oil Price – 50 Draws



Source: IMPA

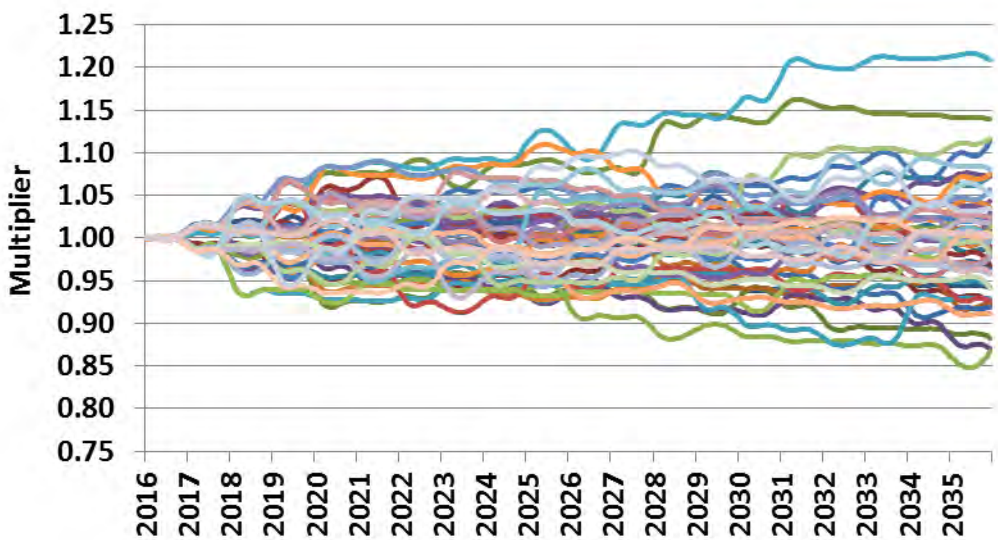
Long-Term Uncertainty – Capital Cost

The upper bound of the long-term capital cost uncertainty is tied to the macroeconomic indicators of the *High Economic Growth* case in which real GDP grows at an average annual rate of 2.8 percent.

The lower bound is tied to the macroeconomic indicators of the *Low Economic Growth* case where real GDP grows at an average annual rate of 1.9% from 2012 to 2040. Other energy market assumptions are the same as in the Reference case.

The distribution is an extrapolation of the standard deviation of the 30 EIA cases into 50 stochastic futures.

Figure 67 Long-Term Expansion CapX – 50 Draws



Source: IMPA

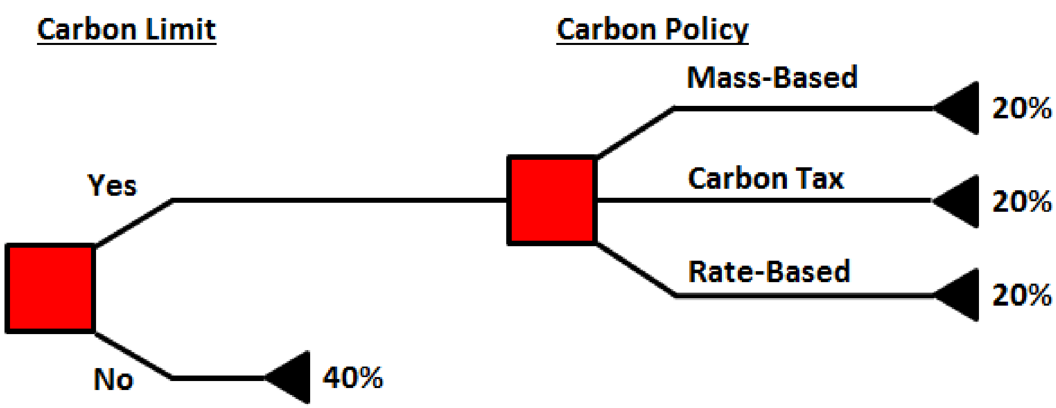
Long-Term Uncertainty – CO_2 Shadow Price

In probability theory, a stochastic process is a collection of random variables representing the evolution of some system of random values over time. The aforementioned long-term variables in this section of the report (demand growth, natural gas price, coal price, oil price, and capital cost) can reasonably be represented by a stochastic process as these variables can be characterized by a distribution (lognormal, normal, uniform, etc.) and a motion (random walking, mean reverting random walk, constant variance, etc.).

However, modeling regulations, rules, and policies stochastically, while possible, is not as straightforward.

As described earlier, for its stochastic process IMPA creates 50 stochastic futures. To incorporate the uncertainty of carbon limits, IMPA randomly assigned a carbon future to each stochastic future. IMPA stakeholders assigned a 60% probability that CO_2 annual limits would be enacted in 2022 and a 40% probability they would not. If the random draw was "Carbon Limit = Yes", then a second random draw was made for the type of carbon policy (massed-based, carbon tax, rate-based). Each of these carbon policies was assigned an equal probability of occurrence. IMPA did not correlate the carbon policy draws to any of the other stochastic input variable; however, through the simulation in Horizons Interactive market module the carbon policy has a pronounced impact on build decisions, market prices, capacity prices, and of course CO_2 prices. The decision tree illustrating this process is shown below.

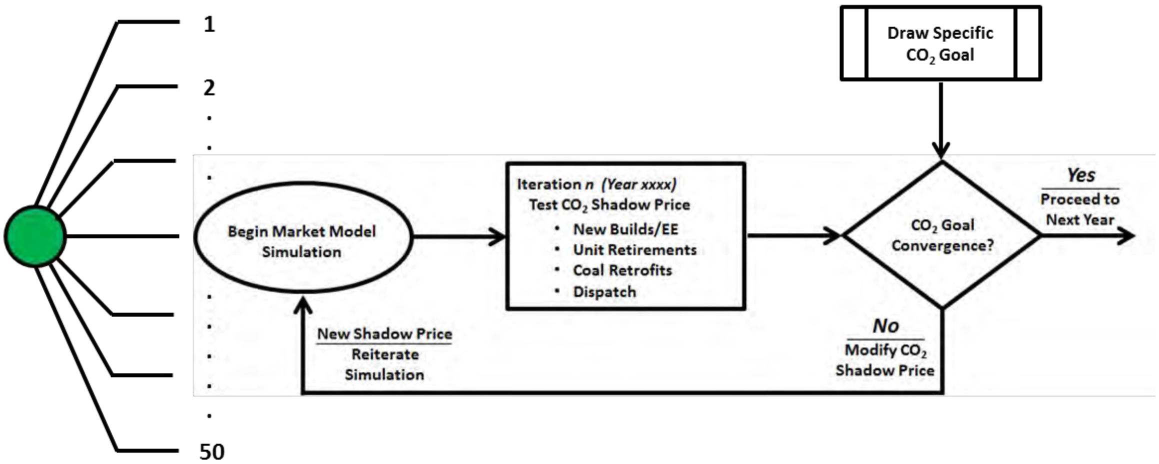
Figure 68 Carbon Future Decision Tree



MASS-BASED	CARBON TAX	RATE-BASED
- Interstate Cap and Trade - Units allocated proportionate share of state's CO_2 allowances based on 2010-2012 emissions - All carbon emitting units over 25 MW participate in trading program	- Tax on each ton of CO_2 emitted - 70% of collected tax rebated to residential rate payers - All carbon emitting units over 25 MW are taxed	- CO_2 emission rate limits - Units reduce emission rates by adding ERCs to the denominator - Only affected EGUs are subject to CO_2 emission rate limits

To determine the value of carbon in the absence of an actual carbon market, IMPA calculates a shadow price of carbon under the market and regulatory conditions of each stochastic draw. Shadow pricing is a method of investment or decision analysis that applies a hypothetical surcharge to a given commodity (in this case carbon emissions) which in turn affects generation additions, energy efficiency, retirements, retrofits, and ultimately the market model dispatch. By entering an annual CO_2 emission goal specific to each stochastic draw, the model will iterate with modified shadow prices until the annual CO_2 goal is achieved. The convergent shadow price is the value of CO_2.

Figure 69 CO_2 Stochastic Shadow Price Flowchart



Calculating stochastic shadow prices provides the most dynamic price of CO_2, taking into account the changing market and regulatory environment of each stochastic draw. Modeling CO_2 using this methodology produces a much more realistic variation in annual CO_2 prices than a simple stream of ever escalating prices per draw.

Figure 70 Long-Term CO_2 Shadow Price – 50 Draws (Horizons)

Source: IMPA

14.2 Mid-term Uncertainties

IMPA built its mid-term stochastic draws based on historical volatilities, standard deviations, and correlations.

Mid-Term Uncertainty – Peak and Energy

Monthly peak and monthly energy are constant variance variables (i.e. the variance remains constant over time) with normal probability distributions. For constant variance variables, monthly variability is expressed in terms of the normalized standard deviation (Std Dev/Mean) for the month. To derive the regional values for monthly peaks, IMPA calculated the average standard deviation of the regional, growth-adjusted historical peaks by month. A parallel methodology was used to derive the standard deviations for monthly energy. The correlation between the regional historical monthly peak and energy values are incorporated into the uncertainty analysis.

The table below shows typical monthly normalized standard deviations for monthly peak and energy uncertainty variables. The correlation coefficients are also included.

Table 14 Peak and Energy Standard Deviations

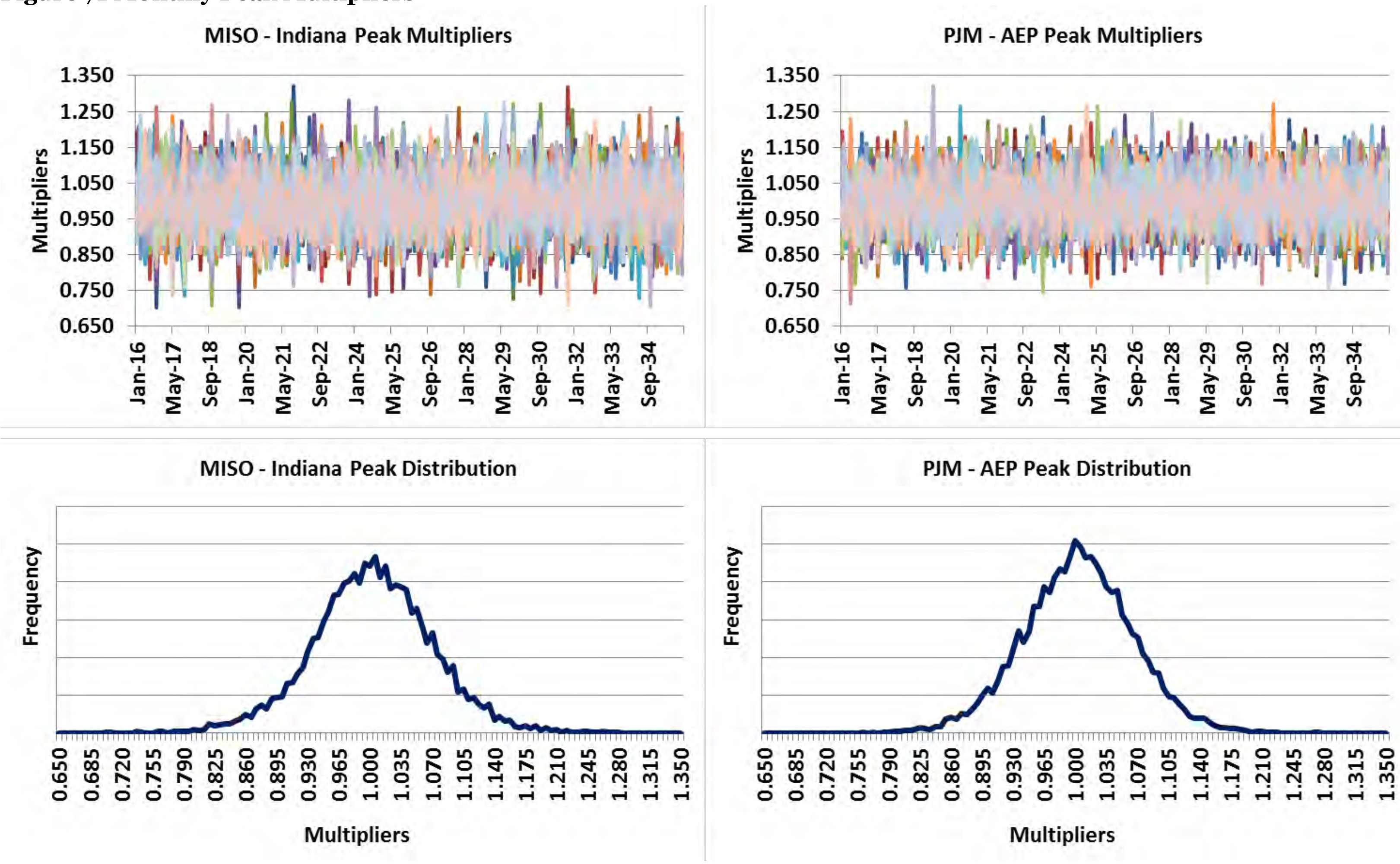
	Peak Standard Deviation	Energy Standard Deviation	Peak - Energy Correlation
Jan	0.0848	0.0740	0.9120
Feb	0.0798	0.0788	0.8596
Mar	0.0807	0.0721	0.8766
Apr	0.0799	0.0655	0.7653
May	0.0975	0.0676	0.6936
Jun	0.0842	0.0744	0.8293
Jul	0.0839	0.0825	0.9168
Aug	0.0739	0.0723	0.9105
Sep	0.0884	0.0712	0.7706
Oct	0.1026	0.0629	0.7393
Nov	0.0715	0.0647	0.8702
Dec	0.0867	0.0767	0.9037

Source: IMPA

These parameters are used by the stratified Monte Carlo sampling program to develop a statistically consistent set of uncertainty multipliers. The resulting monthly peak and energy multipliers are then used to modify the input market-area forecasts.

MISO - Indiana and PJM - AEP peak multipliers are shown following figures (50 x 12 x 20 = 12,000 data points).

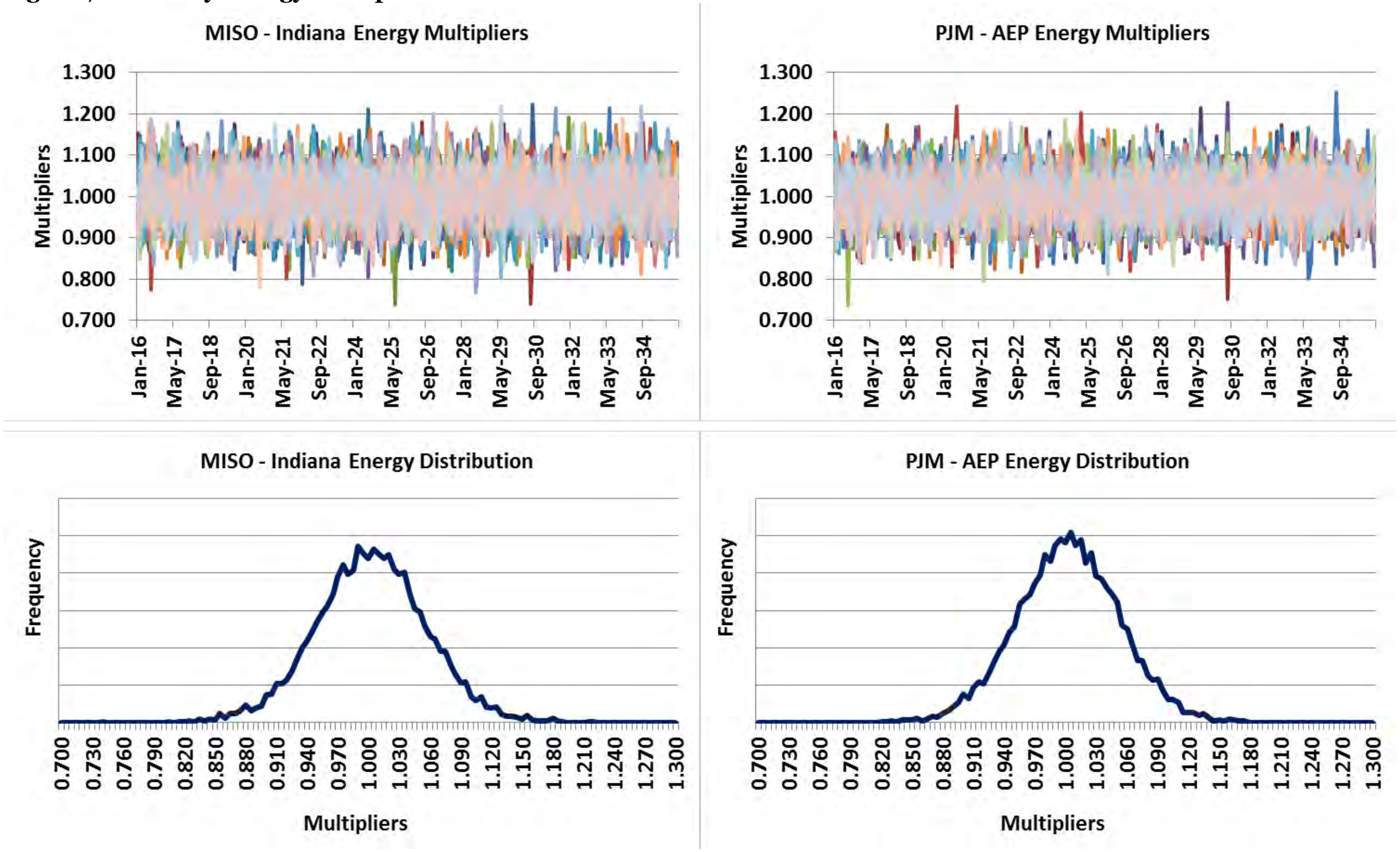
Figure 71 Monthly Peak Multipliers



Source: IMPA

MISO - Indiana and PJM - AEP energy multipliers are shown following figures (50 x 12 x 20 = 12,000 data points).

Figure 72 Monthly Energy Multipliers



Source: IMPA

Public Version

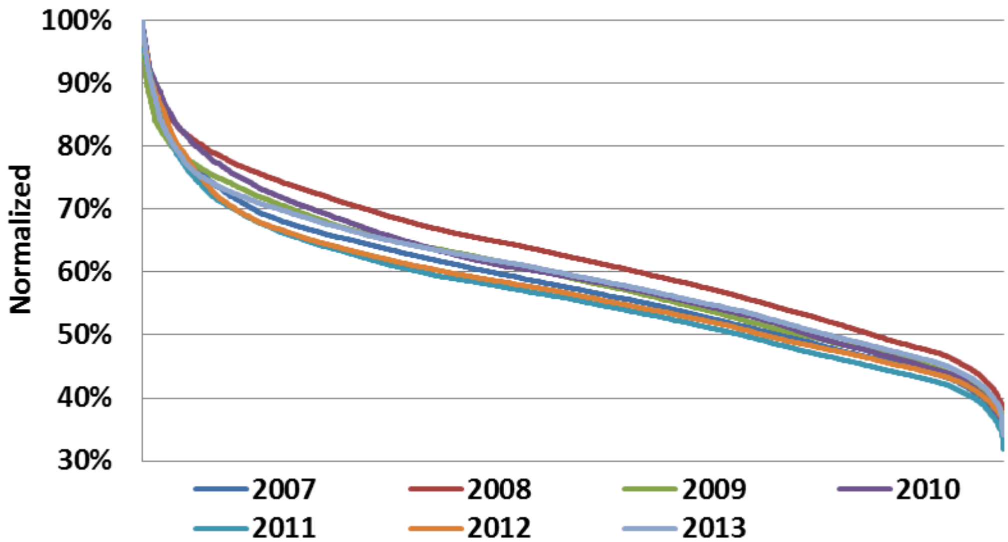
Mid-Term Uncertainty – Reference Hourly Shapes

The Horizons Interactive market model maintains a library of historical hourly shapes for load, wind patterns, solar patterns, and nodal basis spreads.

- Load Patterns: Hourly shapes are available for each of the 192 balancing authorities in North America.
- Wind Patterns: Hourly shapes are derived from 84 airport sites converted to 80 meter wind power curves.
- Solar Patterns: Hourly shapes are created for 64 locations using the PV Watts Calculator.
- Nodal Basis Spreads: Hourly multipliers are available for the 12 nodal points of interest described earlier in this section.

For each year of a given stochastic future (draw 1, draw 2, etc.), a correlated shape for each of the four variables is drawn from the years 2007-2013 using a uniform distribution. By randomizing the shape for each draw, consideration is given to the various weather patterns and temperatures that exist across the geographic regions of the market model. The graph below illustrates IMPA's weather normalized load shapes for the years 2007-2013 shown as a duration curve.

Figure 73 IMPA Historical Normalized Load Shapes

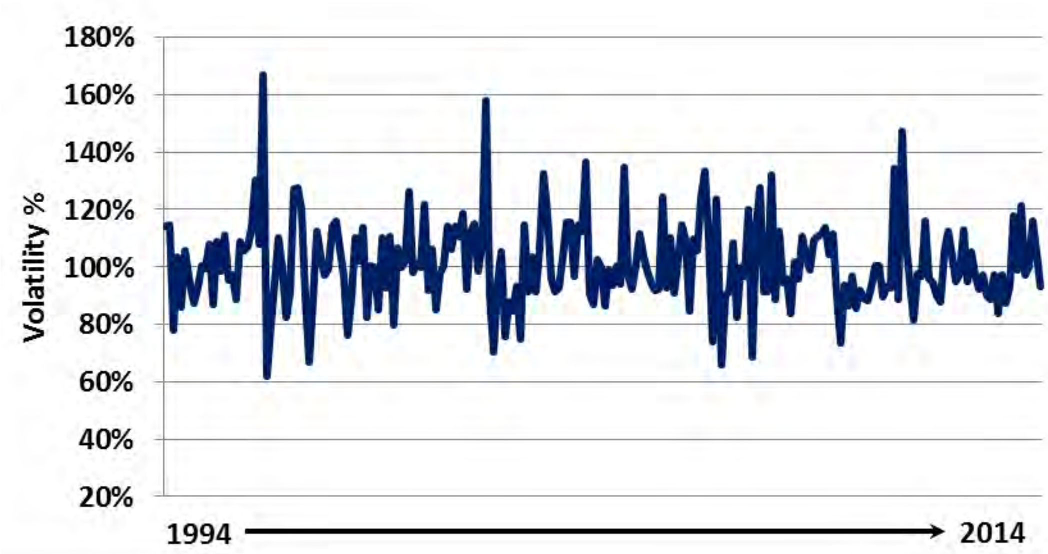


Source: IMPA

Mid-Term Uncertainty – Natural Gas Price

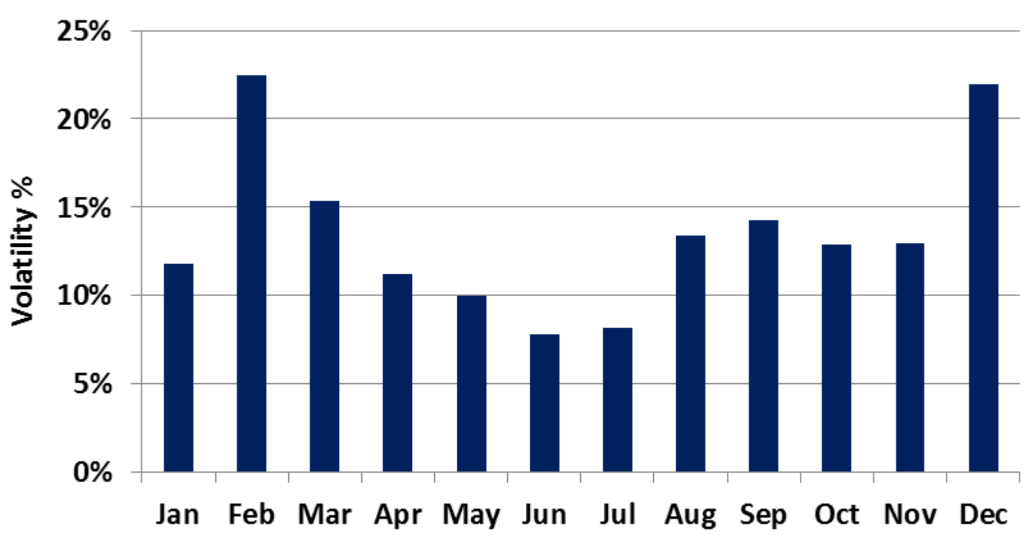
As shown in the graph below, mid-term natural gas price exhibits a mean reverting random walking behavior. That is, over some definable period of time, the price of the commodity tends to move back toward the mean value. To capture mid-term natural gas price uncertainty, IMPA combines monthly volatility with a mean reversion time. Natural gas volatility is month specific as the volatility is greater during the winter heating season and less during the summer season.

Figure 74 Mid-Term Natural Gas Volatility (1994-2014)



Source: IMPA

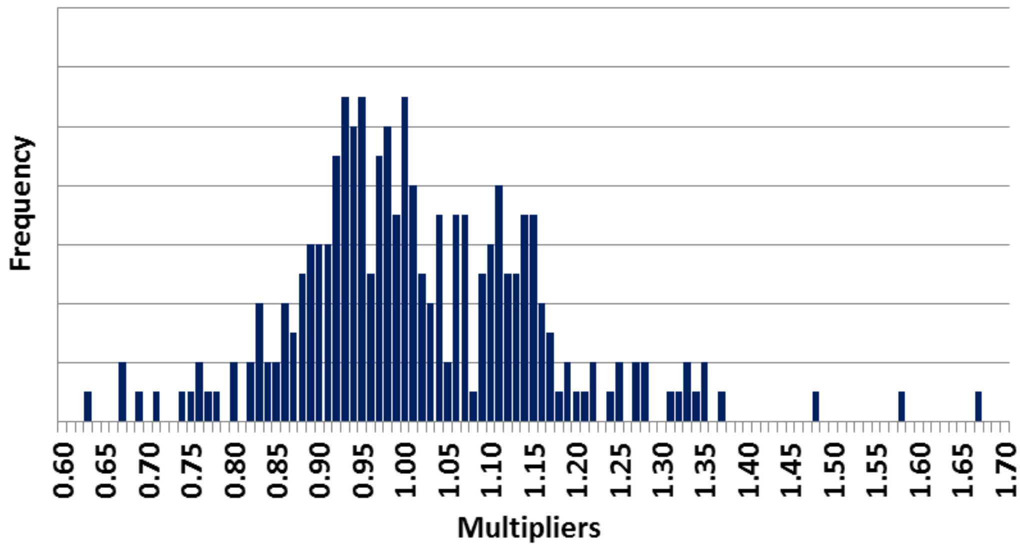
Figure 75 Mid-Term Natural Gas Volatility (Monthly)



Source: IMPA

As shown by the graph below, the distribution of mid-term natural gas price follows a lognormal distribution. The distribution is asymmetric, positively skewed, and as a lognormal distribution assumes that natural gas prices cannot be negative.

Figure 76 Mid-Term Natural Gas Lognormal Distribution



Source: IMPA

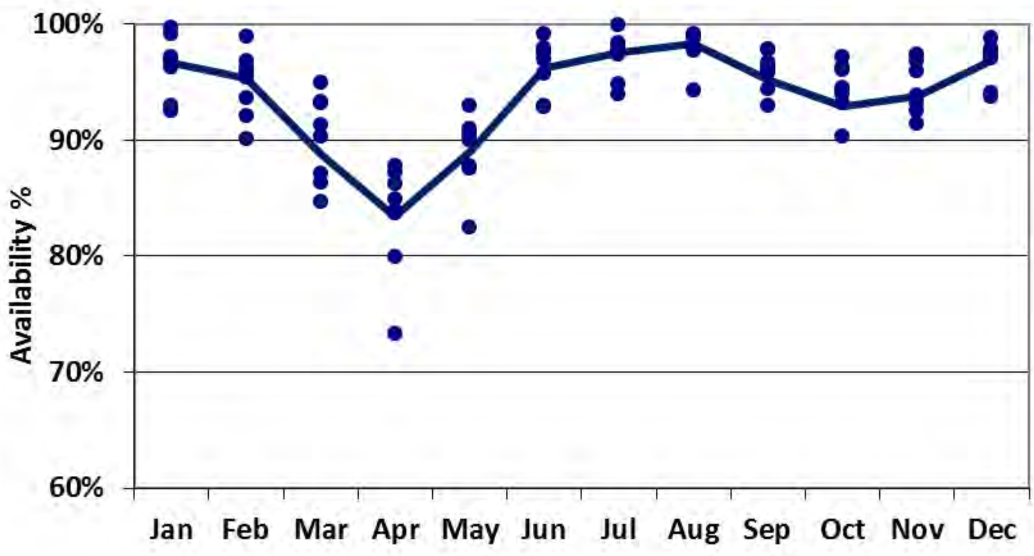
Mid-Term Uncertainty – Coal Unit Availability

Coal unit forced and planned outages are modeled as unit derates in the Horizons Interactive market model. The aggregated coal unit availability within any single zone is a function of the forced and planned outages of each individual unit and the number of units in the zone. So, if there is a single coal unit in a zone, then the coal unit availability would be very volatile. Conversely, if there are many coal units in the zone, then the availability would be less volatile as the risk is spread across many units.

IMPA calculates the historical coal availability exhibited by each zone. Since it is impossible to know the planned outage schedule of all coal units in the market model, the monthly volatility provides a reasonable assumption of when forced and planned outages may occur.

The graph below illustrates the monthly expected availability and range of uncertainty of coal units in the MISO – Indiana zone. This zone represents nearly 15,000 MW of coal generation.

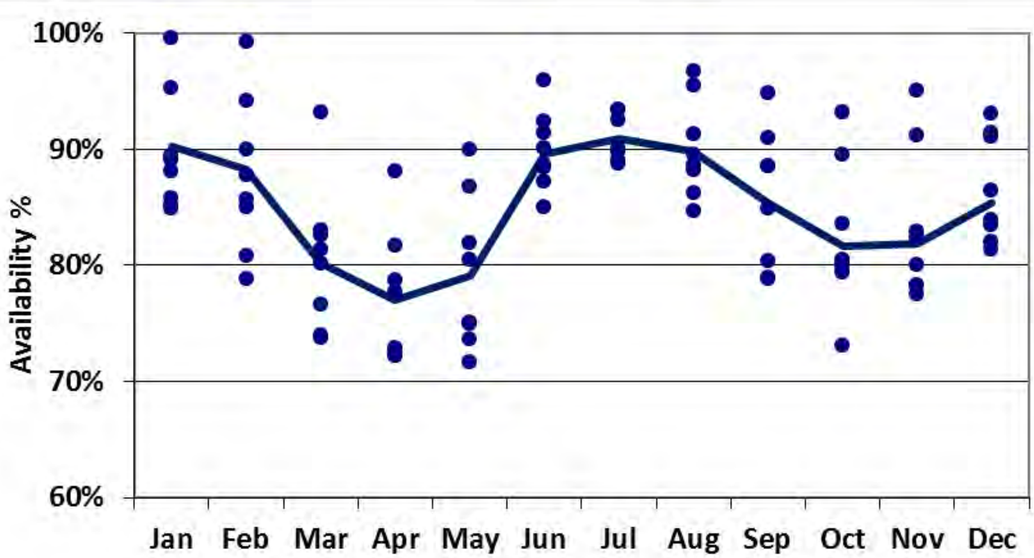
Figure 77 Mid-Term Coal Unit Availability (MISO - Indiana Zone)



Source: IMPA

The following graph illustrates the monthly expected availability and range of uncertainty of coal units in the PJM - AEP zone. This zone represents slightly over 28,000 MW of coal generation. The availability of the PJM – AEP coal units is not as great as is the MISO – Indiana coal units.

Figure 78 Mid-Term Coal Unit Availability (PJM - AEP Zone)

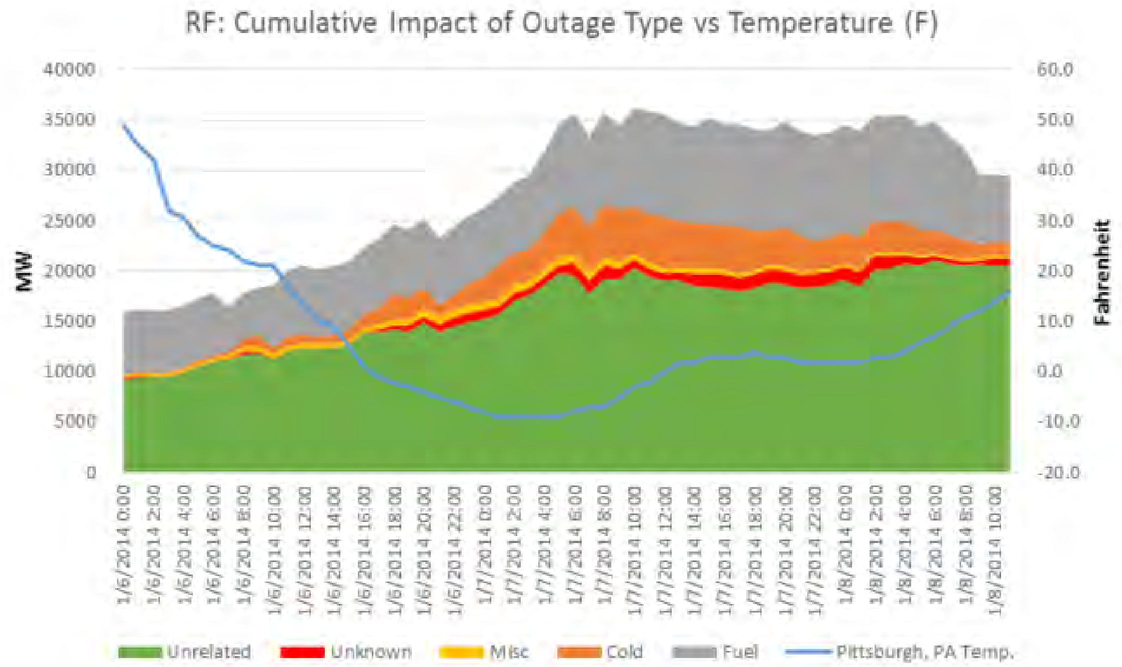


Source: IMPA

Polar Vortex

In early January of 2014, the Midwest, South Central, and East Coast regions of North America experienced a weather condition known as a polar vortex, where extreme cold weather conditions occurred in lower latitudes than normal, resulting in temperatures 20 to 30º F below average. The extreme cold increased demand for natural gas causing supply curtailments, stressed the generating units resulting in more forced outages, and set all-time peak demand records. As shown in the graph below, ReliabilityFirst experienced the greatest number of generator outages of all the Regions. The cold weather produced just over 5,300 MW of outages with an additional 10,700 MW of fuel-related outages.

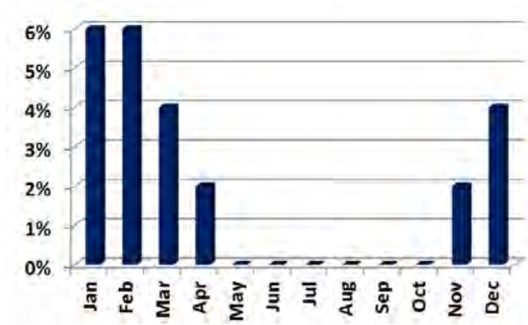
Figure 79 Polar Vortex Impact - ReliabilityFirst



Source: NERC | Polar Vortex Review | September 2014

IMPA stochastically modeled the impact of a polar vortex by assuming a probabilistic percentage of occurrences across the 50 stochastic draws, by month, by year (see graph to the right). The draws, which produce a natural gas supply curtailment in the northern regions for interruptible units, were correlated to the highest winter peak demand draws.

Figure 80 Polar Vortex Occurrence %



Source: IMPA

14.3 HORIZONS INTERACTIVE – STOCHASTIC RESULTS

Introduction

As described earlier, IMPA creates 50 stochastic futures and simulates each future in the Horizons Interactive market model. IMPA is interested in hourly zonal and nodal electricity prices, as well as monthly capacity prices and annual CO_2 shadow prices, which will be utilized in the MIDAS Gold portfolio model. From the market model, IMPA is also interested in the market fundamentals which drive price such as the fuel usage, emissions, transmission flows, new builds, etc., as they provide insight into future market conditions, opportunities, and risk.

The MISO – Indiana 7x24 zonal price [redacted]. As illustrated by the graph, the near-term market prices are low and less volatile due to low natural gas forwards and lack of CO_2 legislation. As the forward curve for natural gas morphs into the long-term fundamental forecast and the specter of CO_2 legislation looms, the prices increase and become more volatile.

Figure 81 MISO - Indiana Annual 7x24 Market Prices

Source: IMPA

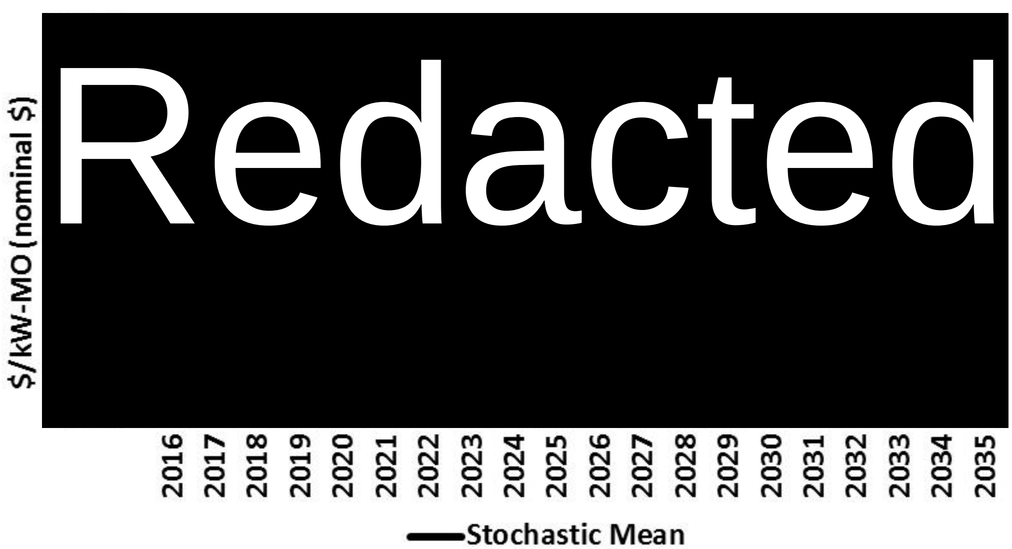
The PJM - AEP 7x24 zonal price [redacted]. The large spikes in market prices reflect the uncertainty in natural gas supply and price, which have a pronounced effect on wholesale electricity prices.

Figure 82 PJM - AEP Annual 7x24 Market Prices

Source: IMPA

Horizons Interactive simulates the MISO cost of new entry (CONE) and a resource adequacy requirements (RAR) curve. For the MISO RTO, IMPA is interested in MISO – Illinois (LRZ4) and MISO – Indiana (LRZ6) capacity prices.

Figure 83 MISO-IL (LRZ4) Capacity Market



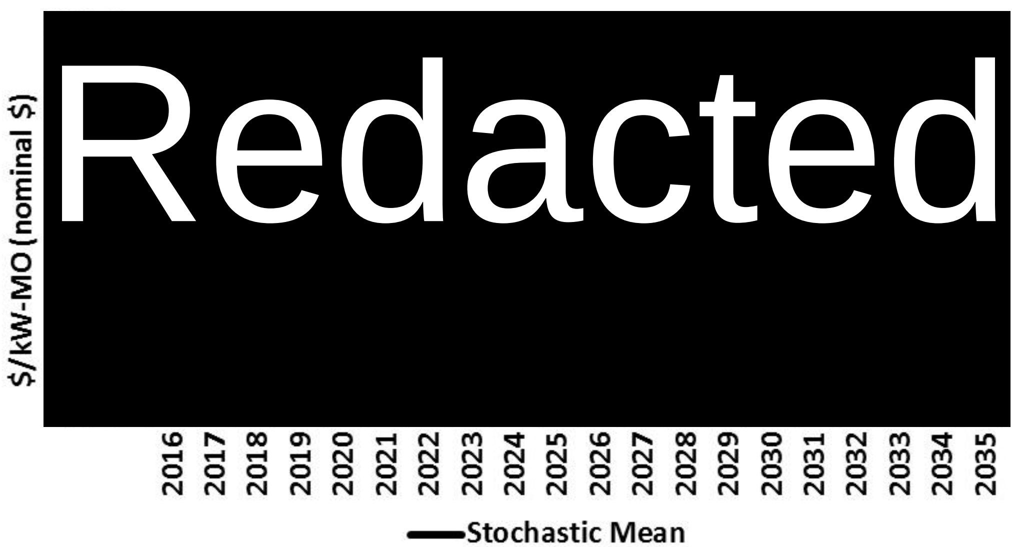
Source: IMPA

Figure 84 MISO-IN (LRZ6) Capacity Market

Source: IMPA

Horizons Interactive simulates the PJM CONE and a variable resource requirement (VRR) curve. For the PJM RTO, IMPA is interested in PJM-RTO capacity prices.

Figure 85 PJM-RTO Capacity Market

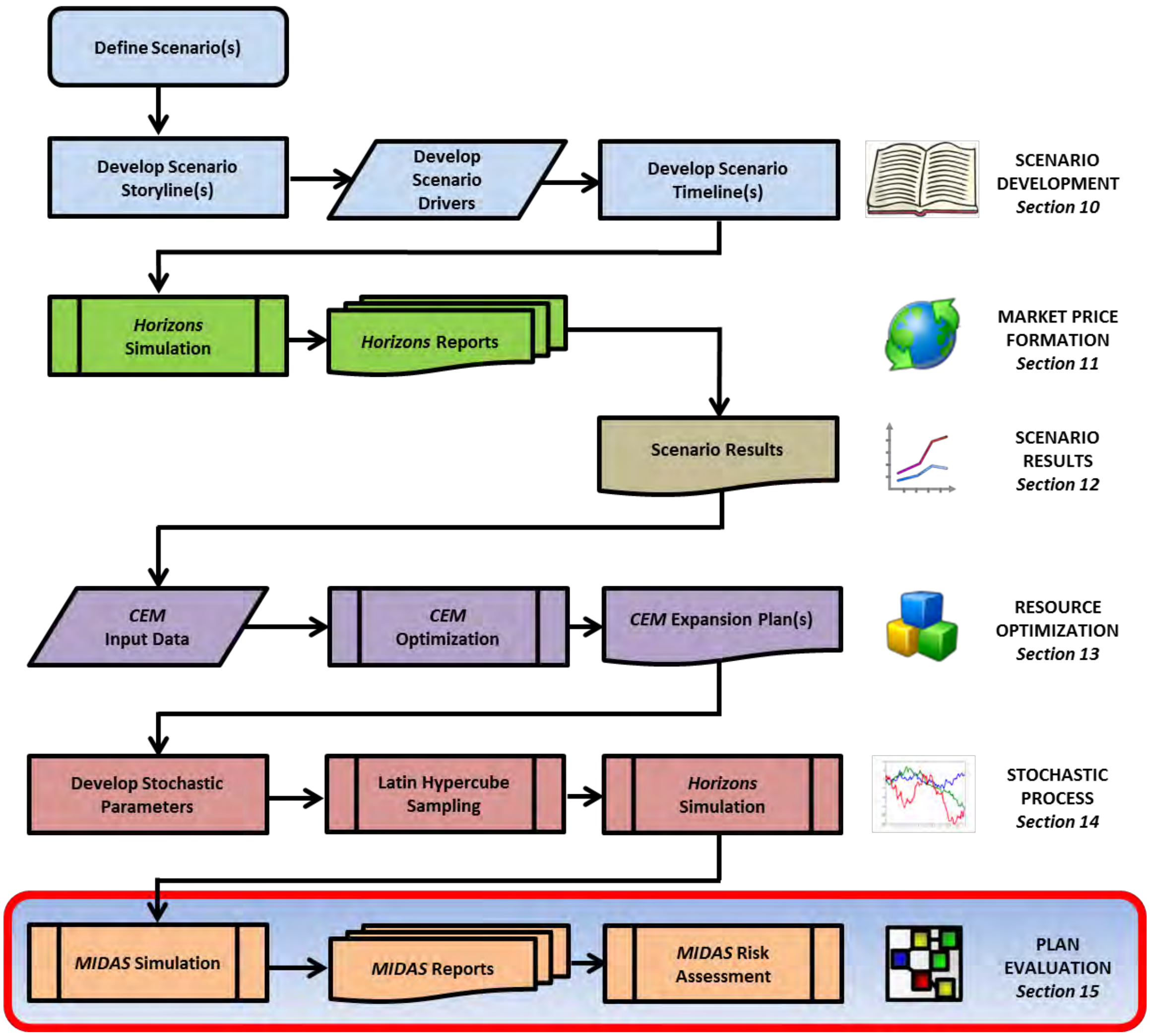


Source: IMPA

15 PLAN EVALUATION

The final step of the IRP Flowchart is detailed analysis of the plans (portfolios) to assess the average system rates, revenue requirements, environmental impacts, and risks associated with each plan. The results and their risk metrics provide IMPA with critical information regarding the cost and robustness of each plan.

Figure 86 IRP Flowchart – Plan Evaluation



15.1 MIDAS GOLD MODULE

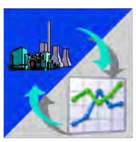
Once the optimal resource plans have been identified using the Capacity Expansion module and the price trajectories have been simulated using the Horizons Interactive module, the MIDAS Gold (MIDAS) module is used to perform IMPA-specific portfolio analysis.

Figure 87 MIDAS Gold Module Cut Sheet

MIDAS Gold®

The ***MIDAS Gold®*** portfolio module is designed specifically for energy service providers. **MIDAS Gold® 's** unique ability to combine speed, multiple scenarios, and risk analytics with the integrated capabilities to model the LMP and Capacity market dynamics, operations, customers, and financials, makes it an invaluable tool in the new competitive environment. No other model is as fast, accurate, or reliable. The ***MIDAS Gold®*** portfolio module is composed of three integrated components: ***Transact C, Customer Analyst,*** and ***Corporate Finance.***

Transact C



Transact C is a production component providing an hourly, chronological, calendar-correct portfolio dispatch analysis including unit commitment logic and Monte Carlo forced outage simulation. Each generating asset can be assigned to a specific LMP and Capacity market allowing for the proper collection of revenue. Revenues and expenses (fuel, O&M, emissions) are passed to the ***Corporate Finance*** component.

Customer File

Customer File is a customer component that calculates the LMP and Capacity market transactions to drive customer value based on each customer's energy usage, cost to serve, and revenue contribution. Knowing the value that each customer brings to your organization is critical for developing and implementing the targeted marketing, pricing and retention strategies that will enable your company to remain competitive.

Corporate Finance

Corporate Finance is a financial component that produces detailed financial results (e.g. income statements, balance sheets, and cash flow reports) for all levels of the organization - regulated or unregulated - from the parent to subsidiaries to power plants to individual customers. ***Corporate Finance*** is the ideal tool for identifying, measuring, and tracking market-based asset value within an organization. Applications include asset valuation, portfolio management, stranded investment analysis, financial forecasting, and transfer pricing.

MIDAS Gold Module

Source: Ventyx

MIDAS Gold – Operations

MIDAS allows for detailed operational characteristics of IMPA's portfolio. The generation fleet, contracts, and load are dispatched competitively against the LMP market prices created by Horizons Interactive.

The generation fleet dispatch and unit commitment logic allows for unit specific parameters for:

- Heat rates
- Fuel costs
- FO/MO rates
- Variable operation and maintenance (VOM) and fixed operation and maintenance (FOM)
- Emissions
- Ramp rates
- Minimum/maximum run times
- Startup costs

The decision to commit a unit is based on the economics including the cost of shutdown and restarting at a later time. Forced outages may be modeled as Monte-Carlo or frequency and duration with detailed maintenance scheduling.

MIDAS Gold – Rates and Financing

MIDAS creates pro forma financial statements (income statement, balance sheet, cash flow statement) using a middle-up income driver tied to IMPA's debt service coverage (DSC) ratio.

MIDAS Gold – Risk Analyst Tools

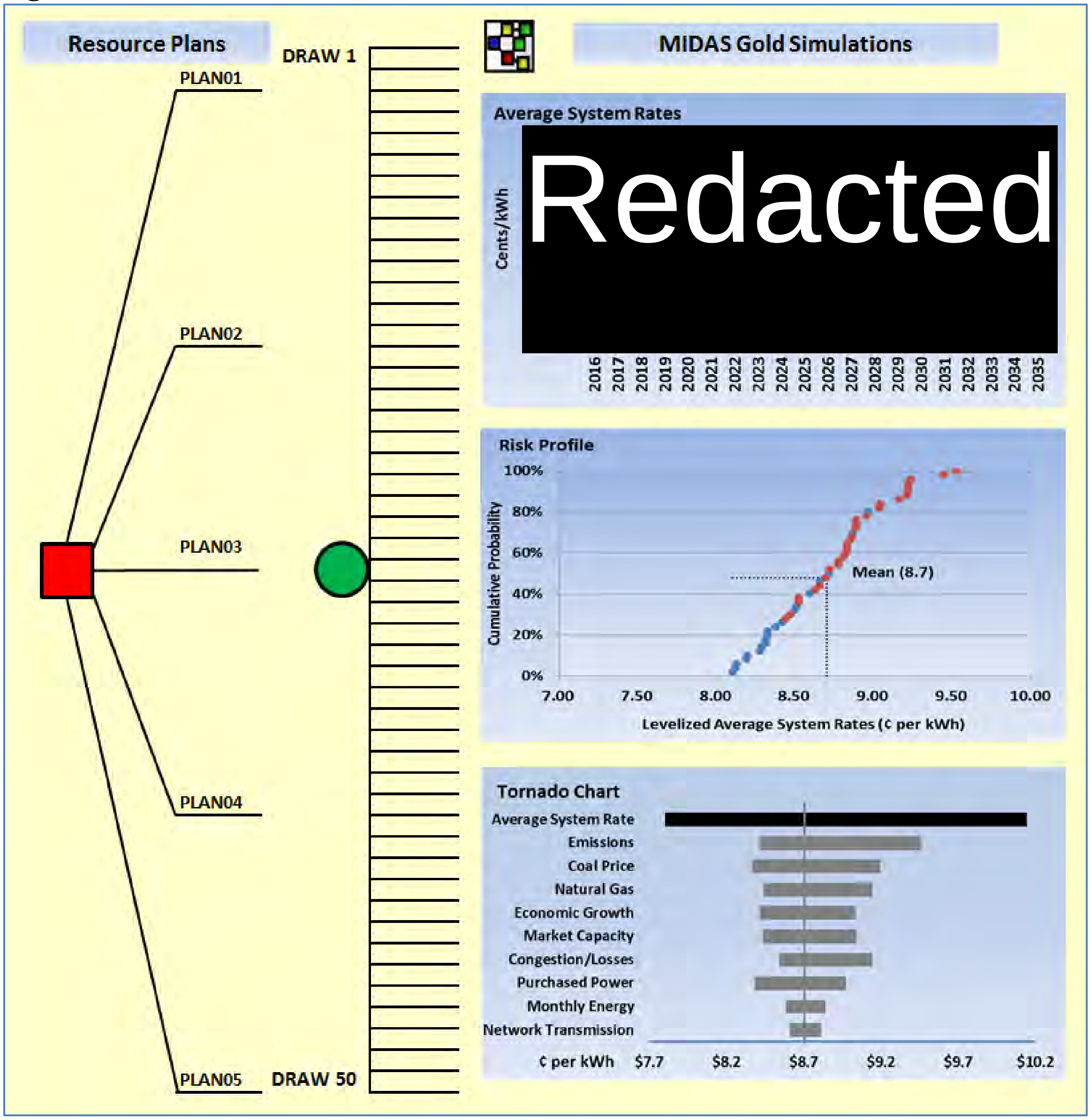
The Risk Analyst tools and techniques provide assessment of the contributors of risk.

- Risk Profiles
- Tornado Charts
- Bar Charts
- Trade-Off Diagrams
- Risk Confidence Band Charts
- Efficient Frontier

MIDAS Gold – Simulation Time

The simulation and processing time for running each of the five (5) plans through the stochastic draws is approximately a half-hour per plan using a desktop PC workstation with 12 GB of RAM, 64-bit operating system, and a 3.2 GHz clock speed. In total, 250 20-year portfolio simulations were performed.

Figure 88 MIDAS Gold Stochastic Process

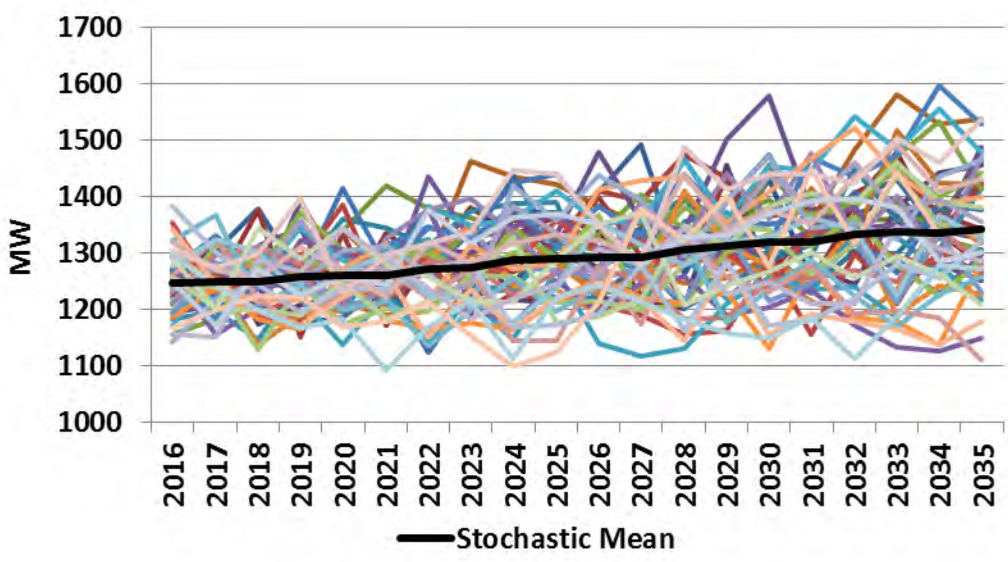


Source: IMPA

IMPA Stochastic Peak Demand

IMPA's peak demand uncertainty is driven by the long-term economic growth combined with the medium-term weather driven peak demand uncertainty.

Figure 89 IMPA Peak Demand – 50 Stochastic Futures

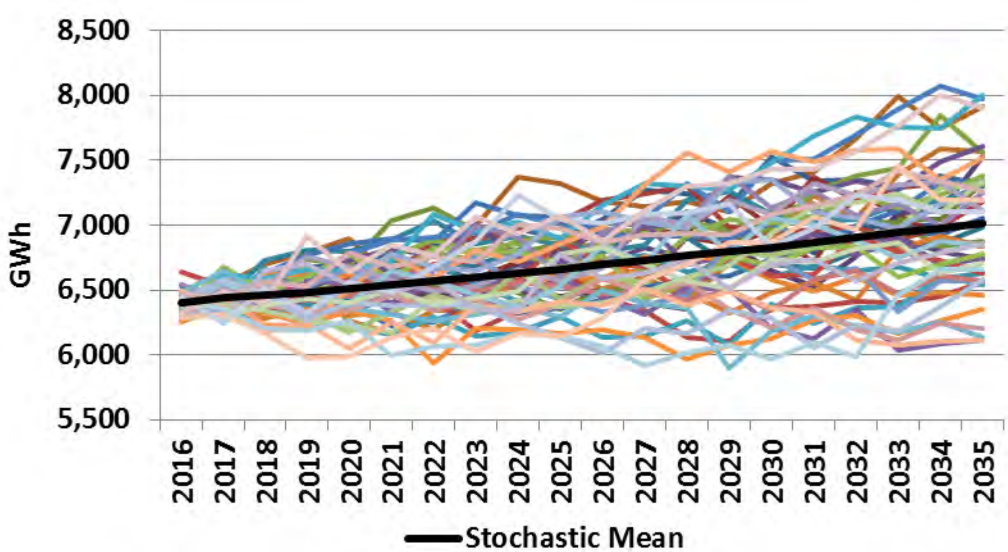


Source: IMPA

IMPA Stochastic Energy

IMPA's annual energy uncertainty is driven by the long-term economic growth and energy efficiency cases combined with the medium-term weather driven energy uncertainty.

Figure 90 IMPA Annual Energy – 50 Stochastic Futures

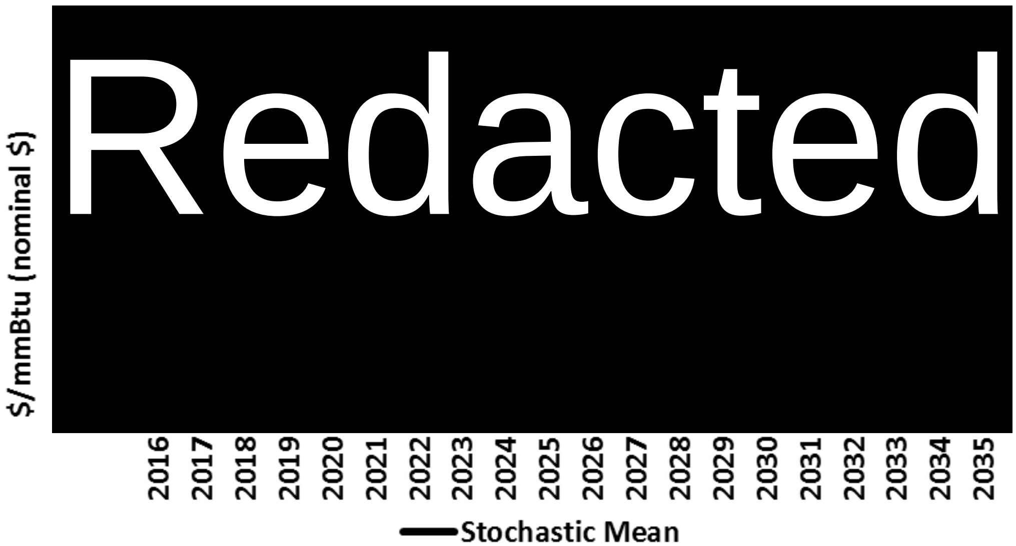


Source: IMPA

IMPA Stochastic Natural Gas Price

IMPA's natural gas forecast is driven by long-term gas exploration and recovery combined with medium-term volatility driven by usage, storage and weather.

Figure 91 IMPA Natural Gas Price – 50 Stochastic Futures

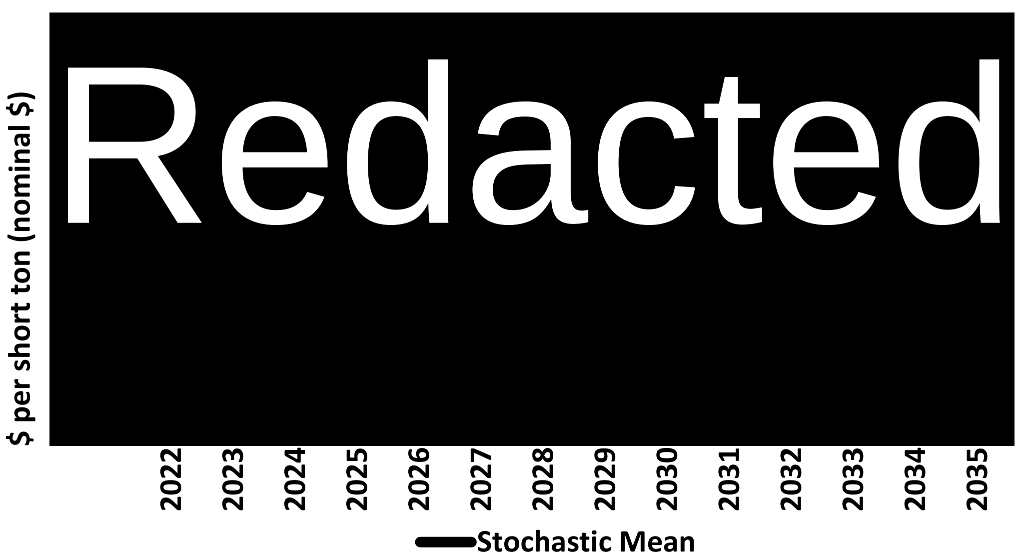


Source: IMPA

IMPA Stochastic CO_2 Expense

IMPA's CO_2 emission expense is driven by CO_2 shadow price exposure and the number of CO_2 allowances or ERCs required, dependent upon the stochastic draw. Or, in the instance of a carbon tax stochastic draw, the retail customer tax rebate.

Figure 92 IMPA CO_2 Shadow Price – 30 Draws

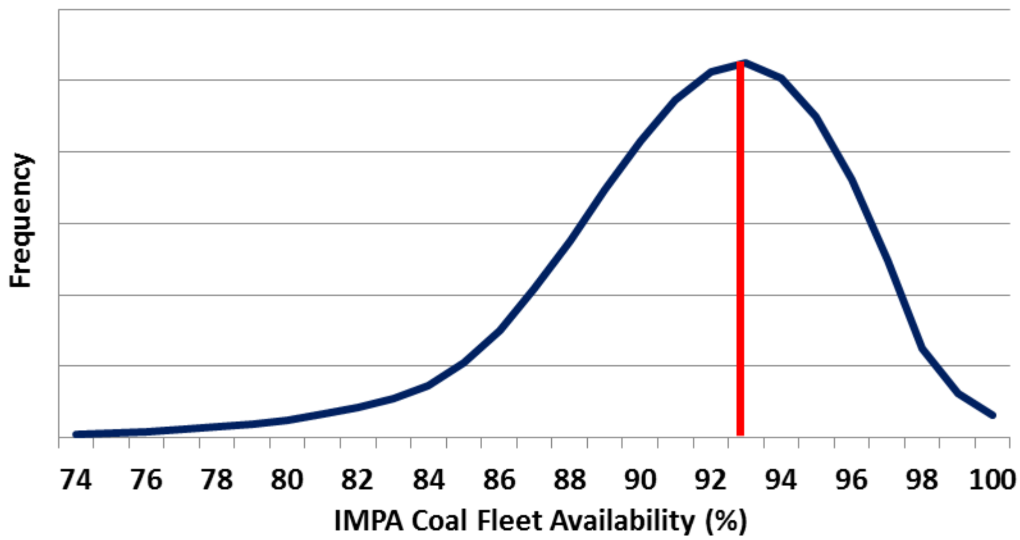


Source: IMPA

IMPA Coal Fleet Availability

IMPA's coal fleet consists of joint-ownership in five (5) large coal units and two (2) smaller coal units which are primarily used for peaking purposes. To capture the uncertainty of one or more of the large coal units experiencing a forced outage, IMPA created a frequency of availability curve shown below. The curve illustrates the frequency of availability for the entire IMPA coal fleet based on data from 100+ similar sized units from the NERC's Generating Availability Data System (GADS) database. The skewed-left lognormal distribution is applied to the Monte Carlo draws of the coal fleet depicting the probabilistic range of availability.

Figure 93 IMPA Coal Fleet Availability



Source: IMPA

15.2 Plan Evaluation Methodology

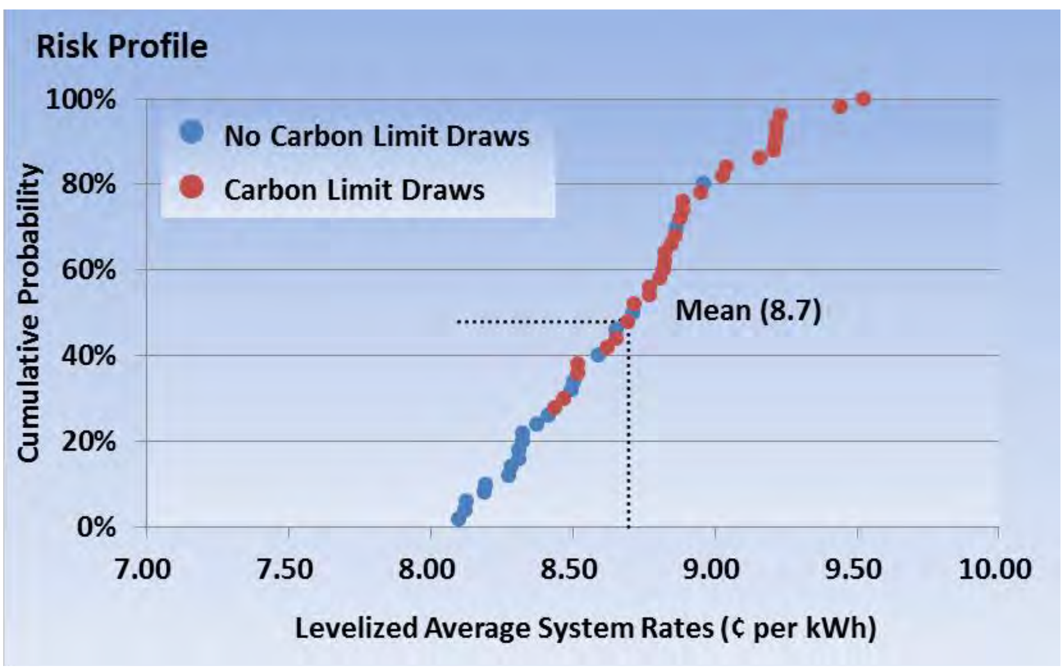
The five plans discussed previously were input into the MIDAS platform and run through the stochastic analysis. The result is 50 sets of output for each plan. This data is analyzed using several techniques, some of which are explained below.

Risk Profiles Explained

The risk profiles created for each plan provide valuable insight into the risk of a particular plan. The x-axis (levelized average system rate) shows the range of possible outcomes, in this case IMPA plots the outcome of fifty (50) stochastic draws. The y-axis is the cumulative probability of occurrence of each outcome between 0% and 100%. For example, if the far left point is 8.1¢/kWh and the far right point is 9.5¢/kWh, then there is 100% confidence that the rate will be between those two points. The more narrow the range, the less risk. As explained in the Stochastic Process (Section 14), it was assumed 60% of the stochastic draws would have a carbon goal and 40% would not. IMPA color-coded carbon draws on the risk profile to identify the carbon limits draws.

To manage risk, risk managers look for ways to minimize the "fat tails" of a risk profile often trading upside opportunity for downside risk. A risk averse profile would be a vertical line, but achieving a risk free vertical line likely moves the entire profile far to the right. Think of it as buying far more insurance than is necessary and laying off the risk on the insurance company. IMPA recognizes there is inherent risk in the electric utility business so a balance is drawn between risk and reward using tools such as a risk profile.

Figure 94 Risk Profile Example



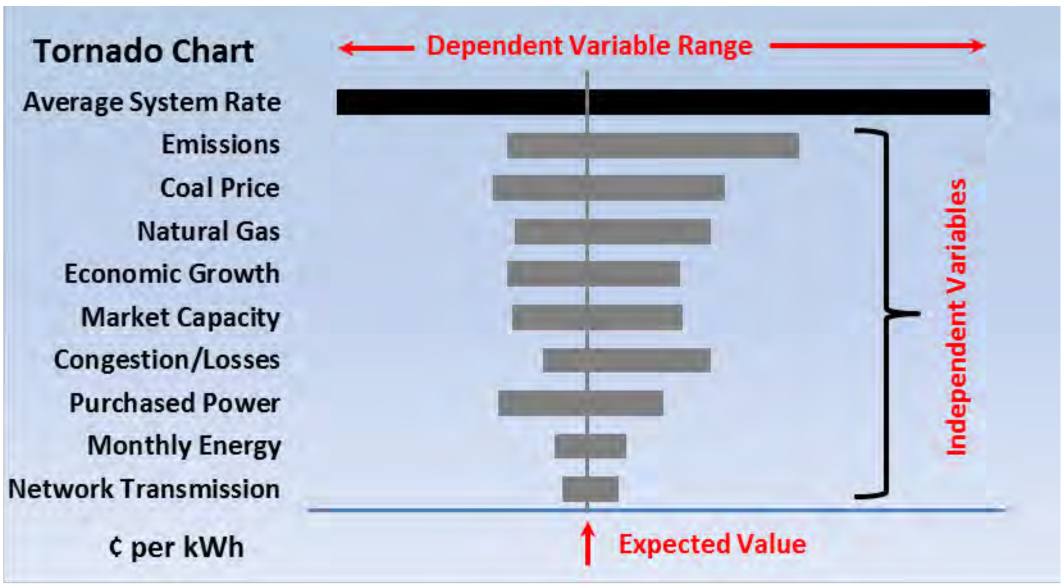
Source: IMPA

Tornado Charts Explained

To understand the risk of the drivers, IMPA creates tornado charts to determine the sensitivity of the various fundamental drivers on average system rates (ASR). As shown in the figure below, ASR (black bar) is the dependent variable and the remaining nine (9) drivers are independent variables (gray bars).

The length of the black bar is the uncertainty range of ASR for a selected time frame. The lengths of the gray bars illustrate each independent variable's impact on ASR; the longer the bar, the greater the impact. The expected value is signified by the vertical line. When a gray bar is off-set to the left that means that independent variable puts downward pressure on ASR (good outcome). Conversely, if the gray bar is off-set to the right, then the independent variable puts upward pressure on ASR (bad outcome).

Figure 95 Tornado Chart Example

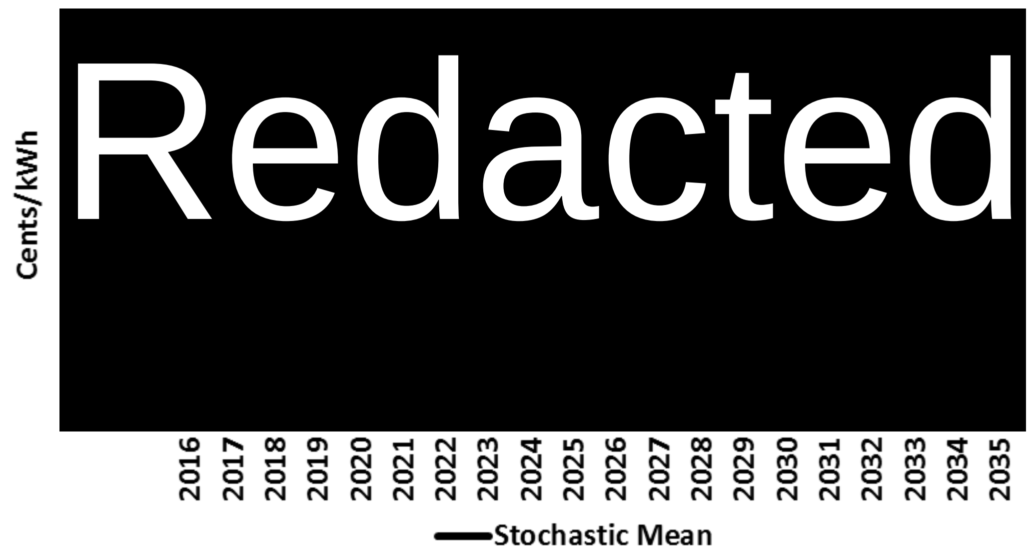


Source: IMPA

15.3 PLAN01 RESULTS

Plan Summary: Plan01 is based on the Status Quo scenario. In this optimization, Whitewater Valley Station (WWVS) is retired in 2022 (90 MW) and new combined cycle units are added in 2021 (200 MW), 2022 (100 MW), and 2034 (200 MW). There is no additional renewable generation other than those currently planned (50 MW of solar) and no energy efficiency.

	Plan 01
Economic Growth	Reference
Capital Construction Cost	Reference
Load Forecast	Reference
Load Factor	Existing
Natural Gas Prices	Reference
Coal Price	Reference
CO_2 Policy	Existing
Reserve Margin	Pool + 1%
Retirements – MW	(90)
Natural Gas Additions – MW	500
Renewables – MW	50
Energy Efficiency – MW	0

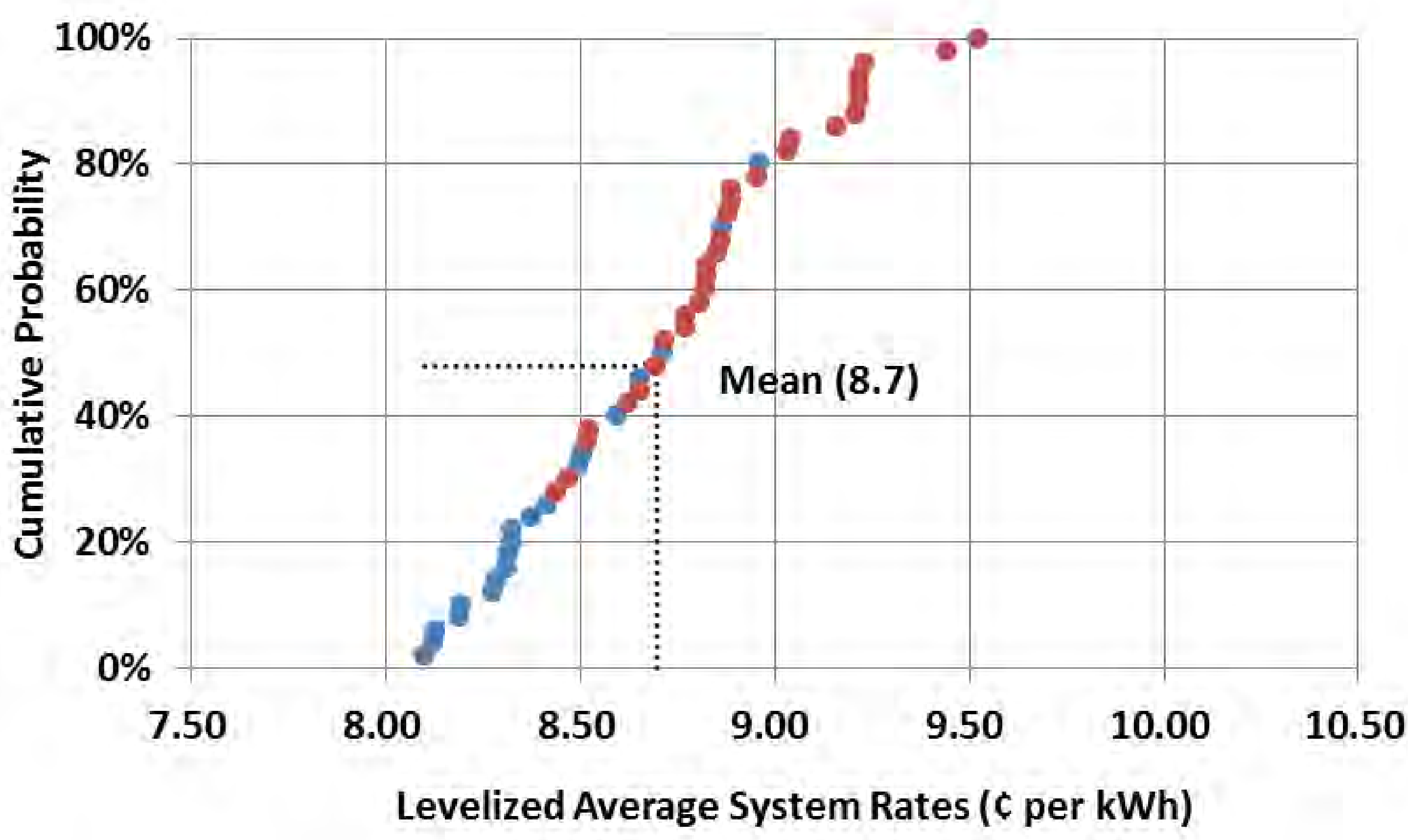


Source: IMPA

Plan Observations: The decision to build CCs in 2021 and 2034 was intuitive as IMPA has capacity needs in those two years. The decision to retire WWVS and replace it with a CC was an economic optimization decision made by CEM. Under the reference assumptions, it made economic sense to retire the coal-fired WWVS which generally operates as a peaking unit and replace it with a highly efficient natural gas CC which operates as a baseload unit.

Risk Profile Observations: Sorting the 20 year levelized costs from the stochastic results produces the cumulative probability graph shown below. The line markers are divided into carbon (red) and non-carbon (blue) stochastic endpoints. The mean levelized average system rate of this plan is 8.70 cents per kWh.

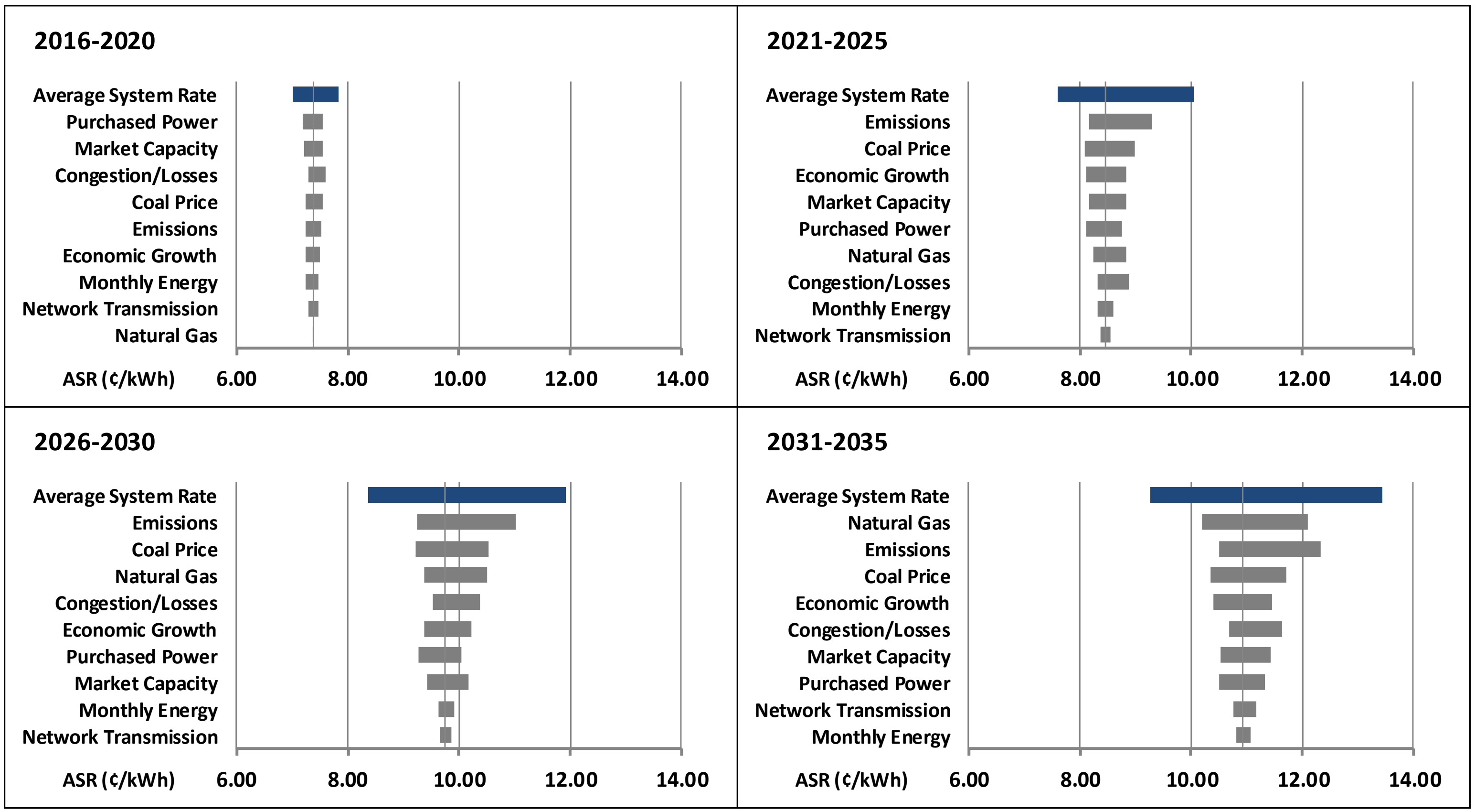
Figure 96 Plan01 Risk Profile



Source: IMPA

Tornado Chart Observations: The following tornado charts summarize the stochastic results in five year blocks. The next five years are fairly stable with low variability expected in the results. This is partly due to IMPA's hedging program which already includes market energy and capacity purchases as far out as 2021. Additionally, the stochastic endpoints containing CO_2 do not begin until 2022. In the next three charts, the exposure due to CO_2 uncertainty is clearly evident as the charts widen significantly. Going forward, CO_2, gas price and coal price are the primary risk factors for IMPA's portfolio.

Figure 97 Plan01 Tornado Charts



Source: IMPA

15.4 PLAN02 RESULTS

Plan Summary: Plan02 is based on the Retrenchment scenario. In this optimization, no units are retired and combined cycle units are added in 2021 (200 MW) and 2034 (200 MW). There is no additional renewable other than those currently planned (50 MW of solar) and no energy efficiency.

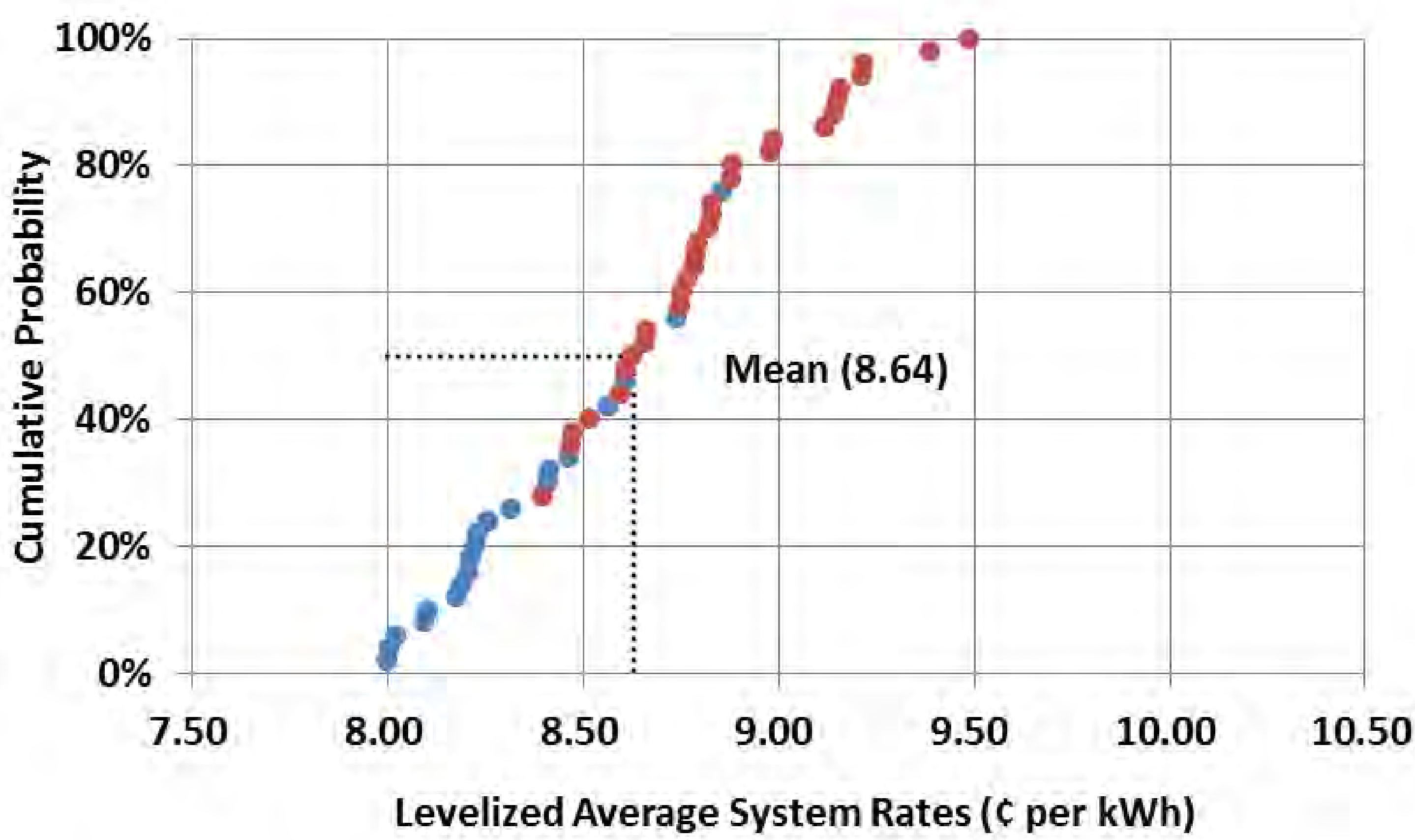
	Plan02
Economic Growth	Med-High
Capital Construction Cost	Low
Load Forecast	Med-High
Load Factor	1.5% Higher
Natural Gas Prices	Low
Coal Price	Low
CO_2 Policy	No Policy
Reserve Margin	Pool + 2%
Retirements – MW	0
Natural Gas Additions – MW	400
Renewables – MW	50
Energy Efficiency – MW	0

Source: IMPA

Plan Observations: The decision to build CCs in 2021 and 2034 is intuitive as IMPA has capacity needs in those two years.

Risk Profile Observations: Sorting the 20 year levelized costs from the stochastic results produces the cumulative probability graph shown below. The line markers are divided into carbon (red) and non-carbon (blue) stochastic endpoints. The mean levelized average system rate of this plan is 8.64 cents per kWh.

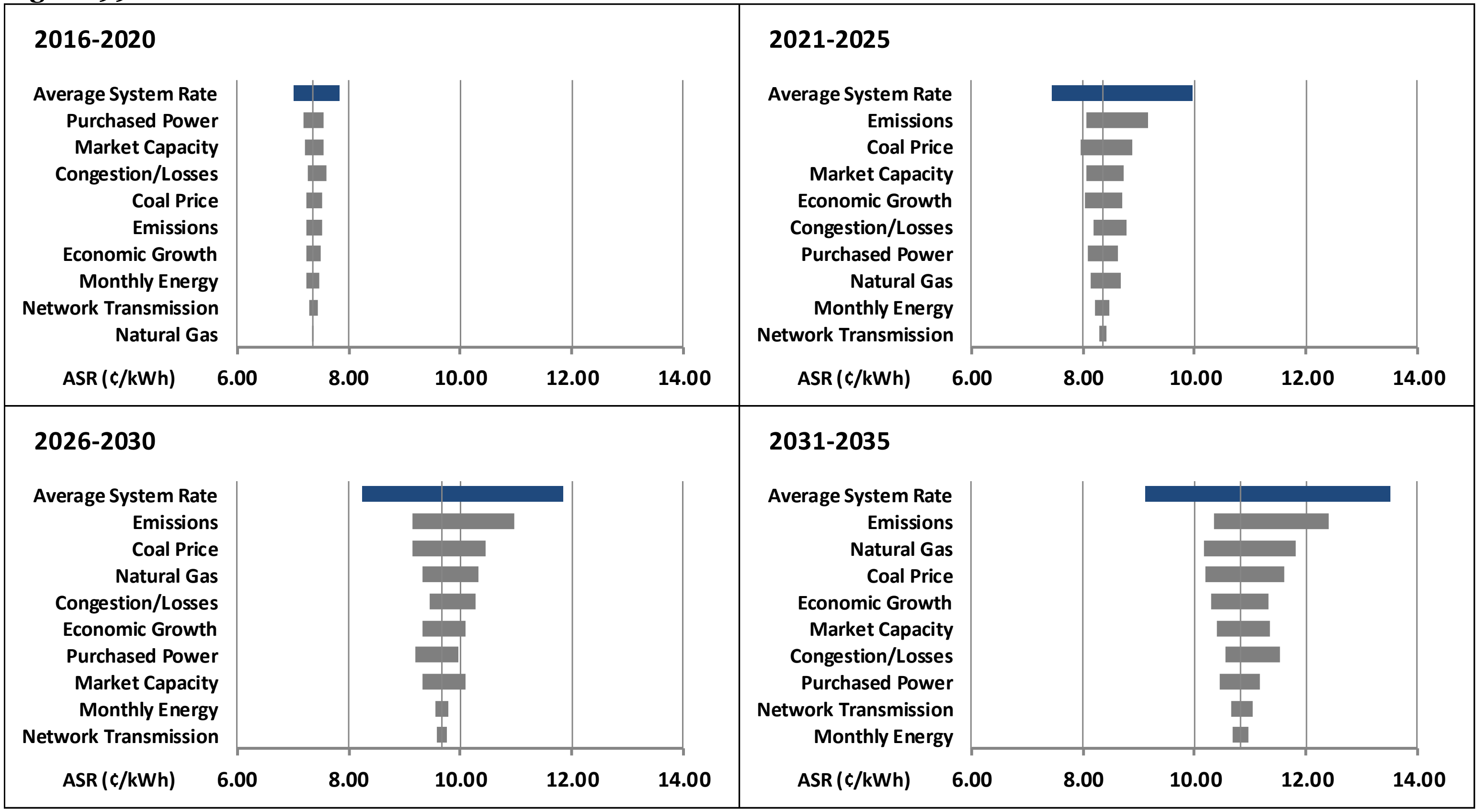
Figure 98 Plan02 Risk Profile



Source: IMPA

Tornado Chart Observations: The following tornado charts summarize the stochastic results in five year blocks. 2016-2020 remains fairly stable as in Plan01. In the next three charts, the exposure due to CO_2 uncertainty is clearly evident as the charts widen significantly. Going forward, CO_2, gas price and coal price are the primary risk factors for IMPA's portfolio in this plan.

Figure 99 Plan02 Tornado Charts



Source: IMPA

15.5 PLAN03 RESULTS

Plan Summary: Plan03 is based on the Global Economy scenario. In this optimization, Whitewater Valley Station (90 MW), Gibson #5 (156 MW) and Trimble County #1 (66 MW) are retired. Combined cycle units are added in 2021 (200 MW), 2022 (300 MW) and 2034 (200 MW). There is no additional renewable other than those currently planned (50 MW of solar). Significant energy efficiency (329 MW) is added in this plan.

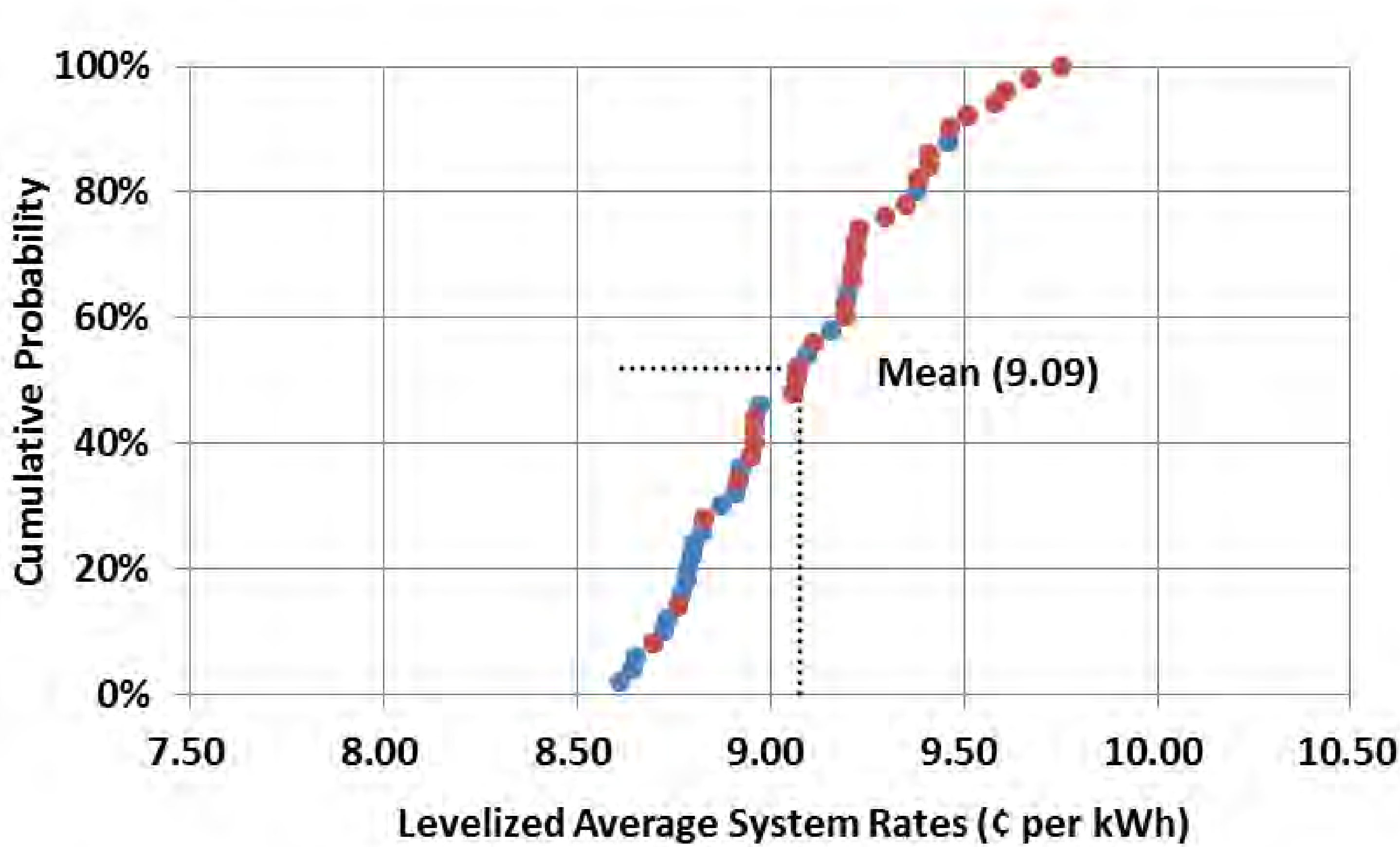
	Plan03
Economic Growth	High
Capital Construction Cost	Med-Low
Load Forecast	High
Load Factor	1.5% Lower
Natural Gas Prices	Med-Low
Coal Price	Med-High
CO_2 Policy	Mass-Based
Reserve Margin	Pool Req
Retirements – MW	(312)
Natural Gas Additions – MW	700
Renewables – MW	50
Energy Efficiency – MW	329

Source: IMPA

Plan Observations: Plan03 is designed to meet the EPA CPP rules through a mass-based approach (interstate cap and trade). This plan was built on a scenario with medium-low natural gas prices coupled with medium-high coal prices. This leads to significant coal retirements (312 MW) combined with a significant addition of CCs (700 MW). The stochastic mean line (black line) illustrates the sharp rate increase required to meet the CPP. This is largely attributable to the energy efficiency load destruction and the CO_2 cap and trade impacts.

Risk Profile Observations: Sorting the 20 year levelized costs from the stochastic results produces the cumulative probability graph shown below. The line markers are divided into carbon (red) and non-carbon (blue) stochastic endpoints. The mean levelized average system rate of this plan is 9.09 cents per kWh.

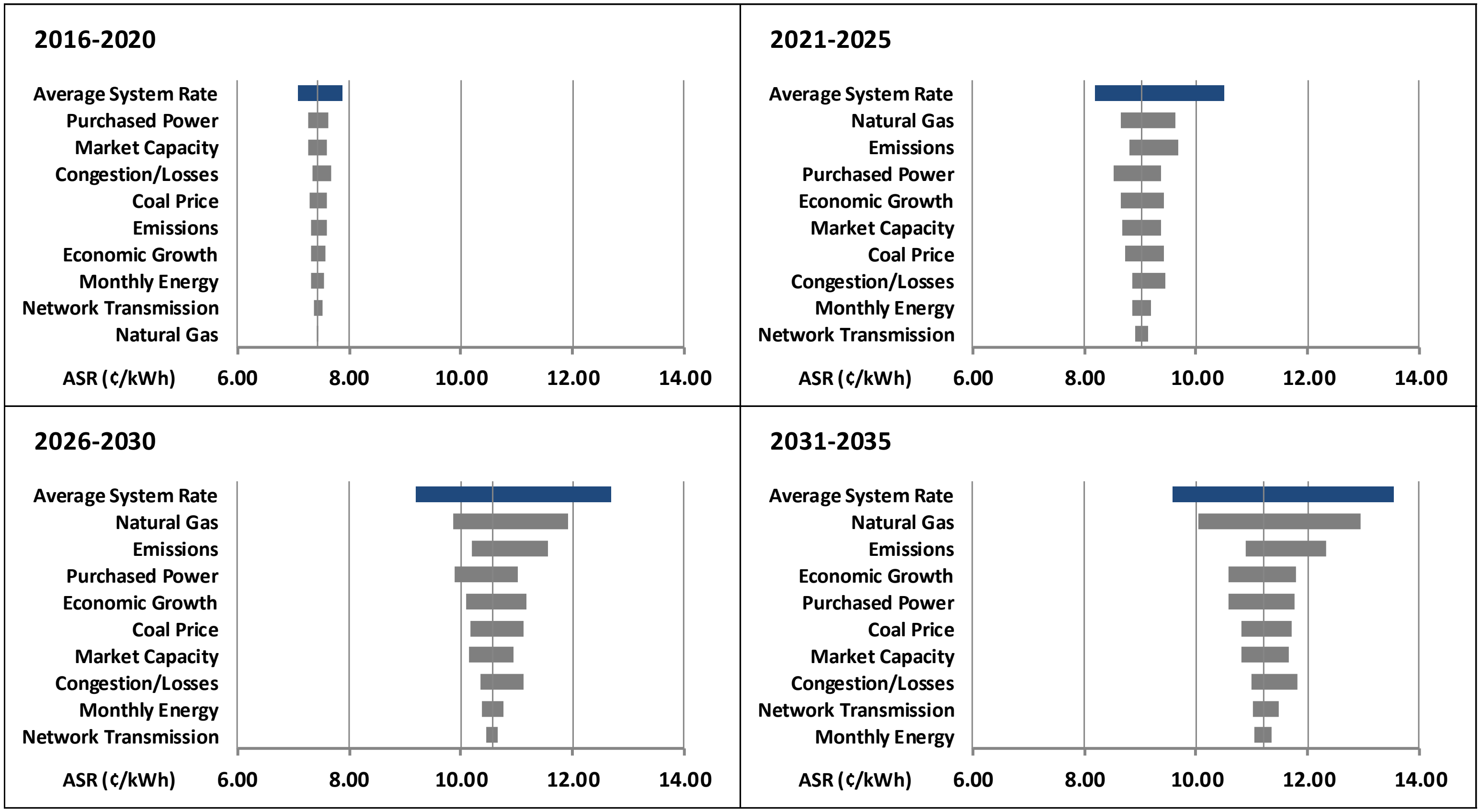
Figure 100 Plan03 Risk Profile



Source: IMPA

Tornado Chart Observations: The following tornado charts summarize the stochastic results in five year blocks. 2016-2020 remains fairly stable as in the other Plans. In the next three charts, the exposure due to CO_2 uncertainty is noticeable; however the band is not as wide as Plan01 and Plan02. This is due to the retirement of the coal units and lower emissions from the new gas units. Going forward, CO_2, gas price and purchased power costs are the primary risk factors for IMPA's portfolio in this plan.

Figure 101 Plan03 Tornado Charts



Source: IMPA

15.6 PLAN04 RESULTS

Plan Summary: Plan04 is based on the Shifting Gears scenario. In this optimization, Gibson #5 (156 MW) is retired, a combined cycle unit is added in 2021 (100 MW), combustion turbine units are added in 2025 (185 MW) and 2034 (185 MW), wind (185 MW) is added in addition to the currently planned 50 MW of solar and 218 MW of energy efficiency is added in this plan.

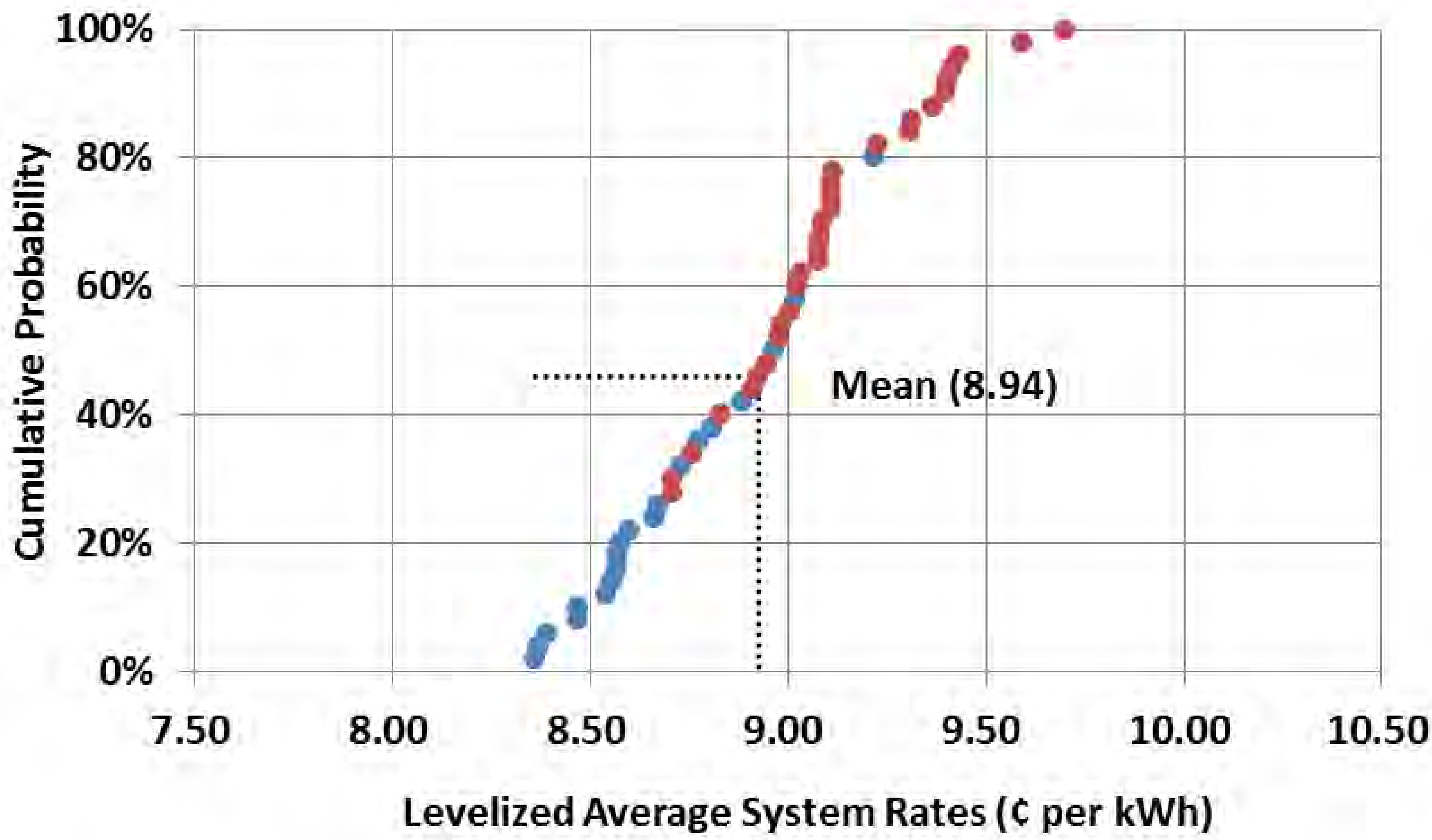
	Plan04
Economic Growth	Med-Low
Capital Construction Cost	Med-High
Load Forecast	Med-Low
Load Factor	3% Lower
Natural Gas Prices	Med-High
Coal Price	Med-Low
CO_2 Policy	CO_2 Tax
Reserve Margin	Pool + 2%
Retirements – MW	(156)
Natural Gas Additions – MW	470
Renewables – MW	235
Energy Efficiency – MW	218

Source: IMPA

Plan Observations: Plan04 is designed to meet the EPA CPP rules via a carbon tax with 70% of the collected tax rebated to the residential consumers. Since all CO_2 emissions are taxed, CEM added wind and energy efficiency to avoid the tax. A 100 MW CC is built and there is a single coal retirement (Gibson #5). CTs are added for capacity coverage. WWVS survived retirement as it is generally used for peaking purposes. One of the biggest assumptions of this plan is the rebate level of 70%. It is quite possible little if any of the collected tax would be rebated and would instead be added to the federal coffers.

Risk Profile Observations: Sorting the 20 year levelized costs from the stochastic results produces the cumulative probability graph shown below. The line markers are divided into carbon (red) and non-carbon (blue) stochastic endpoints. The mean levelized average system rate of this plan is 8.94 cents per kWh.

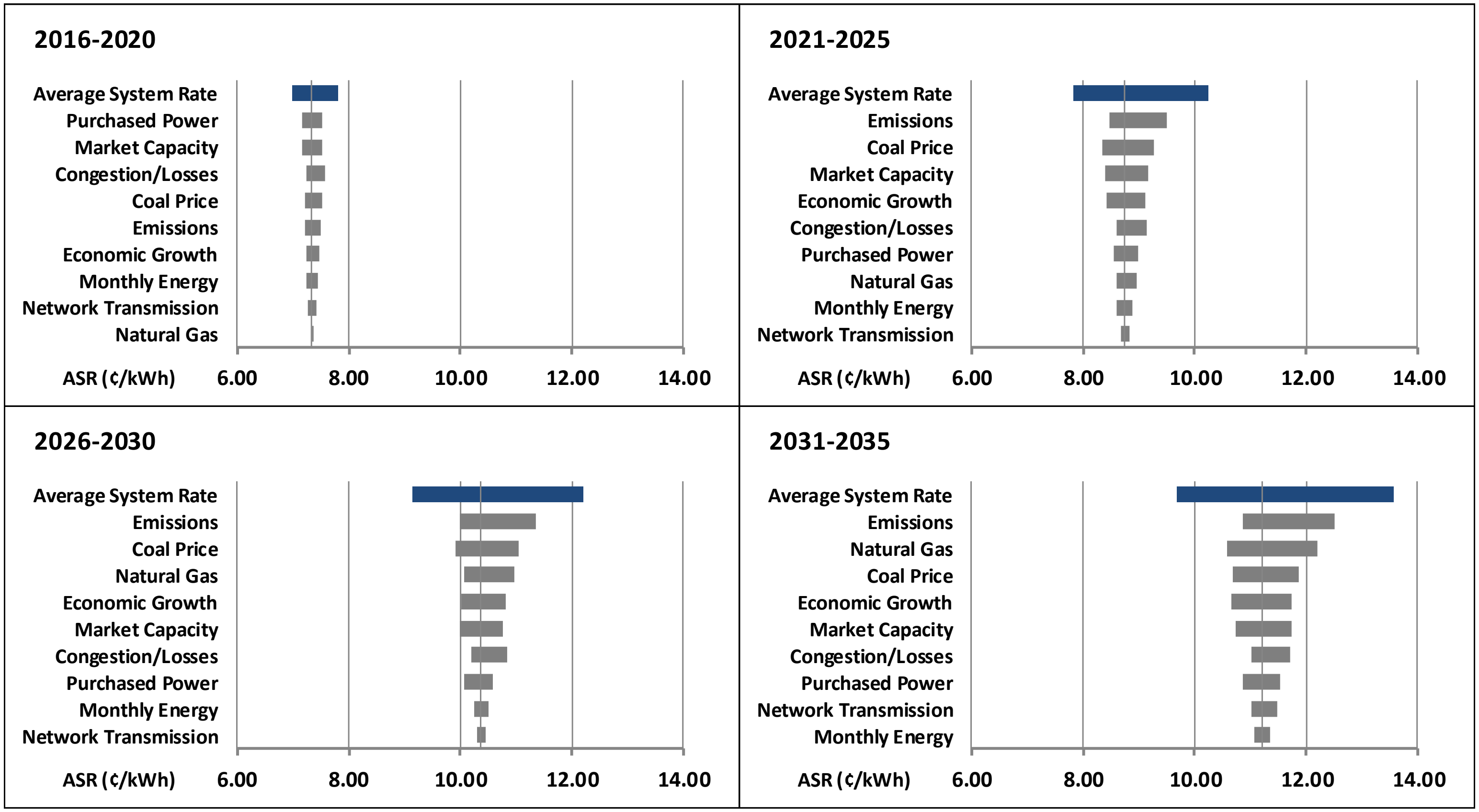
Figure 102 Plan04 Risk Profile



Source: IMPA

Tornado Chart Observations: The following tornado charts summarize the stochastic results in five year blocks. 2016-2020 remains fairly stable as in the other Plans. In the next three charts, the exposure due to CO_2 uncertainty is noticeable. The bands are not as wide as Plan01 and Plan 02, but wider than Plan03. This represents the retirement of a single coal unit in lieu of the three retired in Plan03. Going forward, CO_2, gas price and coal price are the primary risk factors for IMPA's portfolio in this plan.

Figure 103 Plan04 Tornado Charts

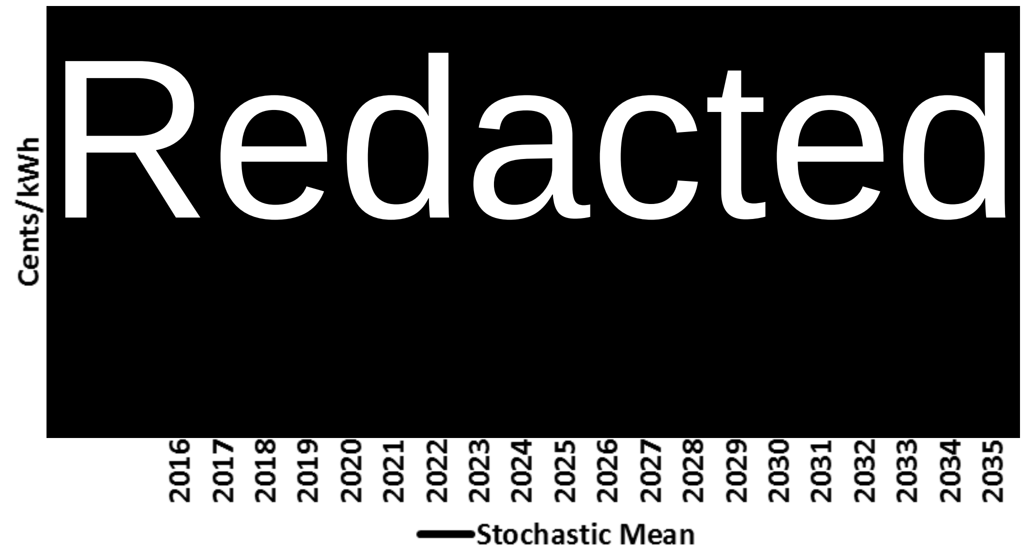


Source: IMPA

15.7 PLAN05 RESULTS

Plan Summary: Plan05 is based on the Green Revolution scenario. In this optimization, Whitewater Valley Station (90 MW), Gibson #5 (156 MW) and Trimble County #1 (66 MW) are retired. A combined cycle unit is added in 2034 (200 MW). A combustion turbine is added in 2021 (185 MW). 377 MW of wind is added in addition to the currently planned 50 MW of solar. 186 MW of energy efficiency is added in this plan.

	Plan05
Economic Growth	Low
Capital Construction Cost	High
Load Forecast	Low
Load Factor	3% Higher
Natural Gas Prices	High
Coal Price	High
CO_2 Policy	Rate-Based
Reserve Margin	Pool + 3%
Retirements – MW	(312)
Natural Gas Additions – MW	385
Renewables – MW	427
Energy Efficiency – MW	186

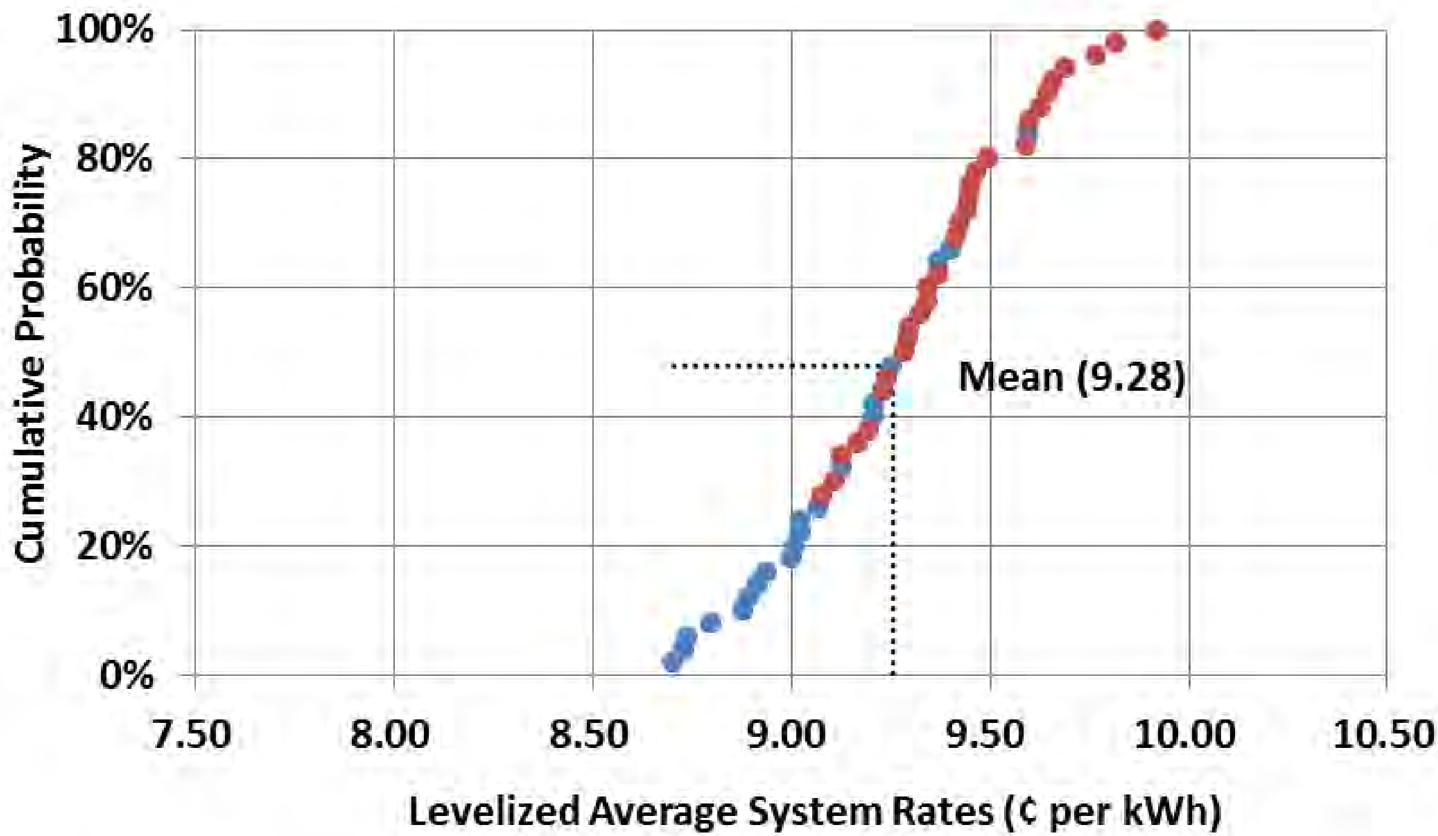


Source: IMPA

Plan Observations: Plan05 is designed to meet the EPA CPP rules through a rated-based approach. Given the design of the rate-based approach is to increase the denominator of the rate formula with ERCs, the optimization adds a significant amount of wind to the portfolio.

Risk Profile Observations: Sorting the 20 year levelized costs from the stochastic results produces the cumulative probability graph shown below. The line markers are divided into carbon (red) and non-carbon (blue) stochastic endpoints. The mean levelized average system rate of this plan is 9.28 cents per kWh.

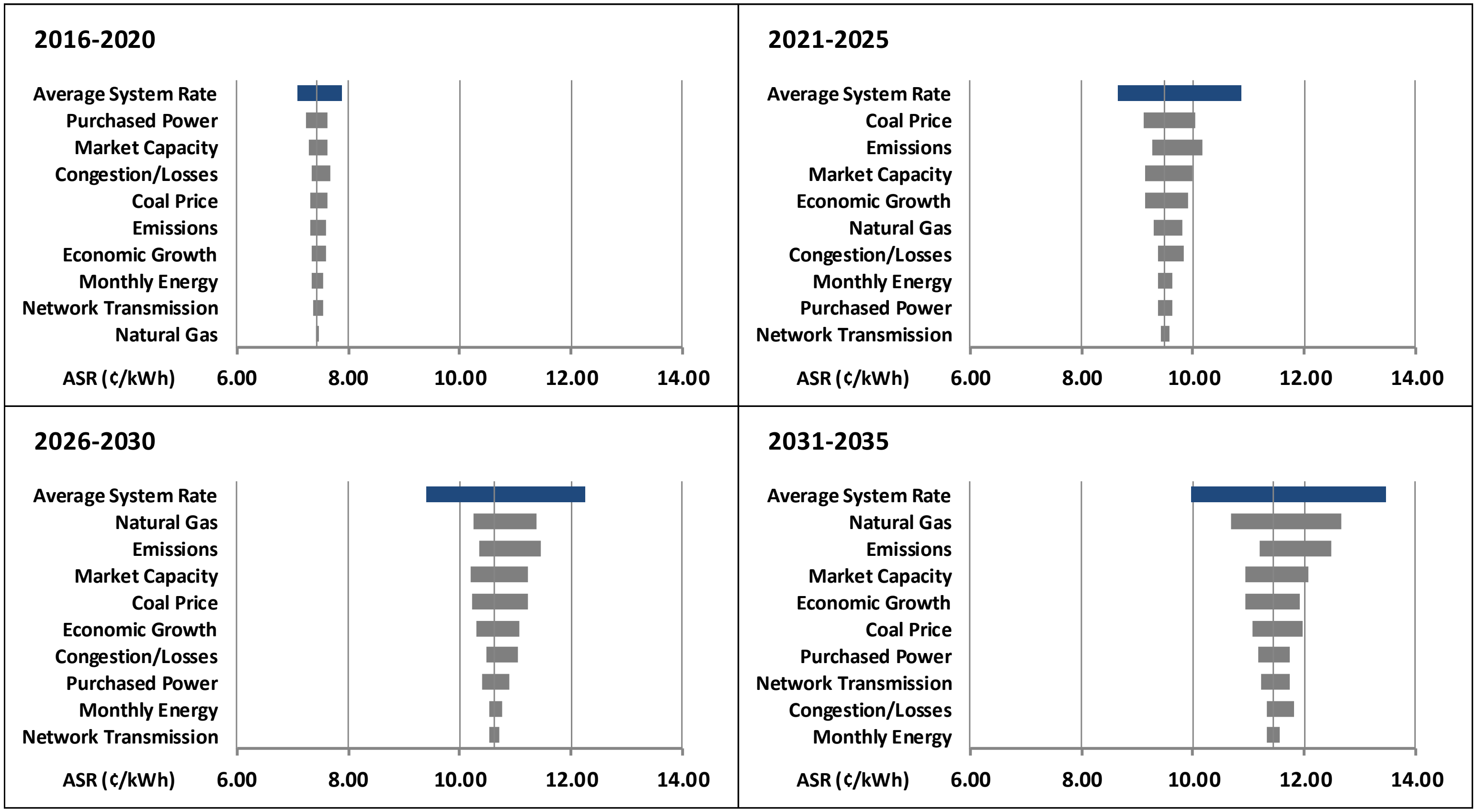
Figure 104 Plan05 Risk Profile



Source: IMPA

Tornado Chart Observations: The following tornado charts summarize the stochastic results in five year blocks. 2016-2020 remains fairly stable as in the other Plans. In the next three charts, the exposure due to CO_2 uncertainty is noticeable. The CO_2 exposure in this plan is the lowest of the all of the plans due to the coal retirements and installation of wind. Since it was optimized to a lower load, this plan leaves more exposure to market capacity price movements. In this plan, CO_2, gas price and market capacity costs are the primary risk factors for IMPA's portfolio.

Figure 105 Plan05 Tornado Charts



Source: IMPA

15.8 PLAN SUMMARY RESULTS

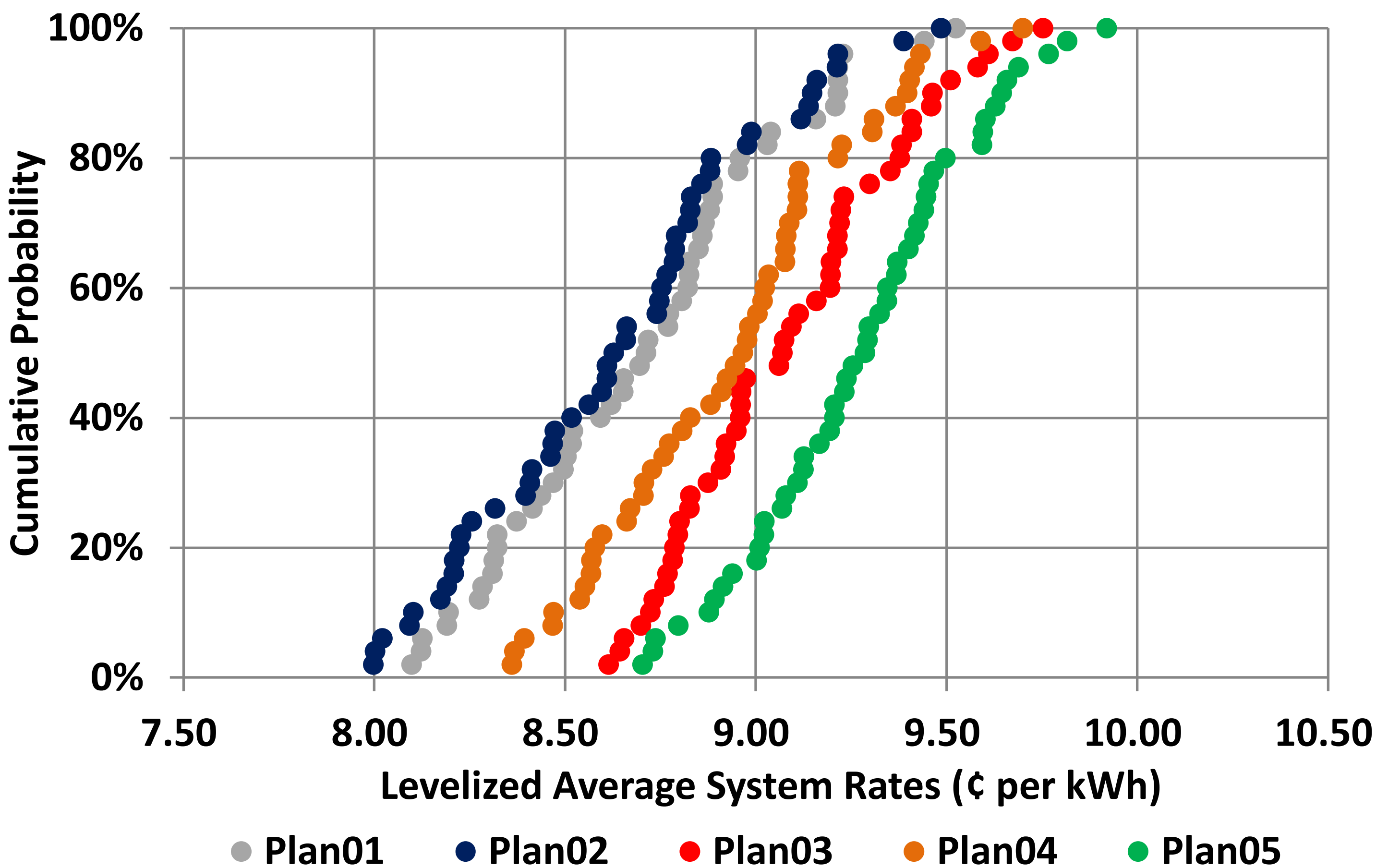
Stochastic Mean Comparison: The stochastic mean (average of 50 draws) for each plan is shown below. The plans (03, 04, and 05) which are optimized for a carbon limit future do not fare as well as the plans (01 and 02) which are optimized for a non-carbon limit future. The heavy investment in wind and energy efficiency translates into significant rate increases.

Figure 106 All Plans - Stochastic Mean Comparison

Source: IMPA

Risk Profile Comparison: The risk profile for each plan is shown below. As with the stochastic mean comparison, plans (03, 04, and 05) which are optimized for a carbon limit future do not fare as well as the plans (01 and 02) which are optimized for a non-carbon limit future.

Figure 107 All Plans - Risk Profile Comparison



Source: IMPA

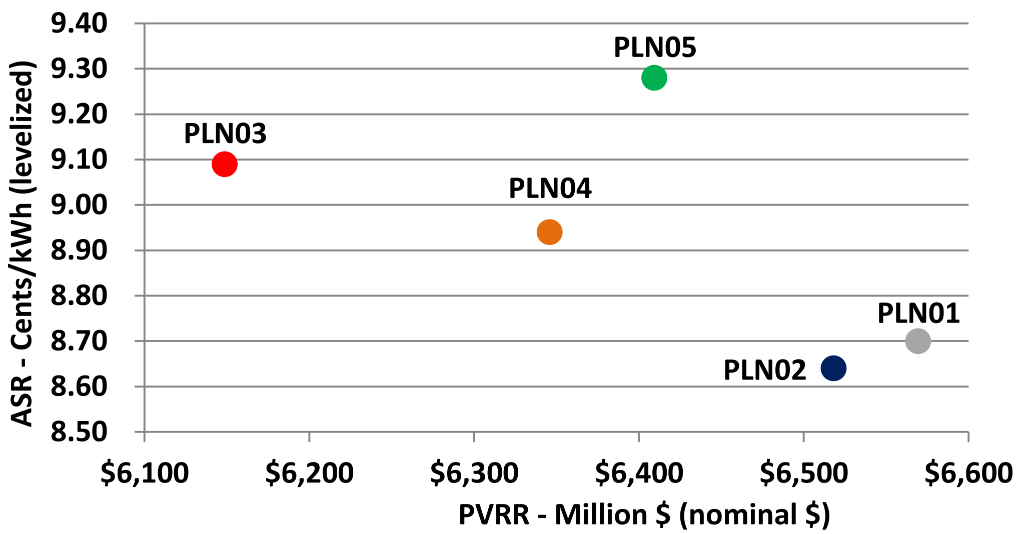
15.9 Other Evaluation Techniques

IMPA utilizes other techniques to compare the results of the five plans. These techniques are highlighted in the following sections.

15.9.1 Trade-Off Diagram

A trade-off diagram plots the PVRR on the x-axis and the ASR on the y-axis for each plan. Generally, the lower-left quadrant of this diagram would be the preferred area because that means PVRR and ASR are both minimized. The upper-right quadrant is the least desirable as neither PVRR nor ASR is minimized

Figure 108 Trade-Off Diagram

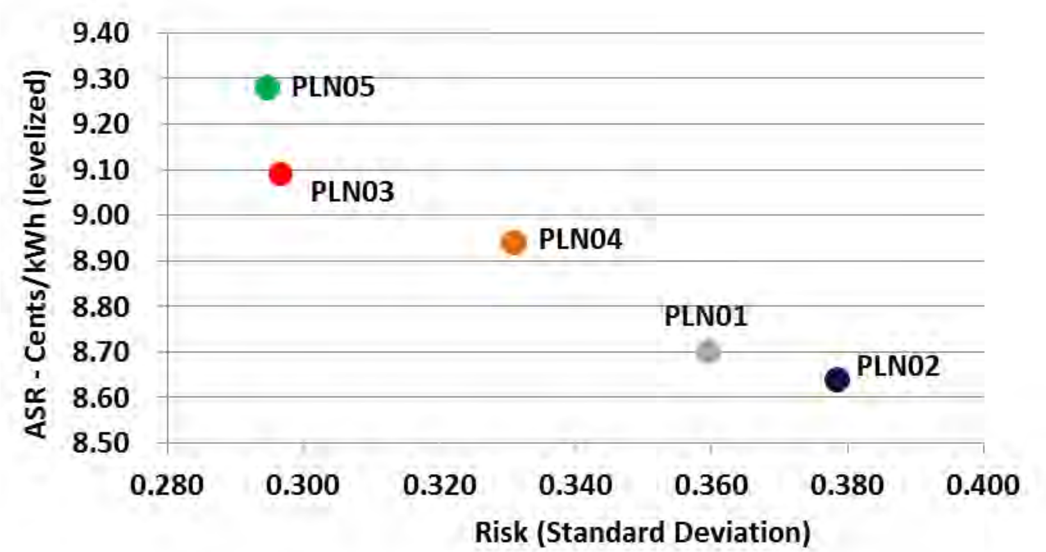


Source: IMPA

15.9.2 ASR Efficient Frontier

An efficient frontier diagram plots the standard deviation on the x-axis and the ASR on the y-axis for each plan. The standard deviation of ASR is a measure of risk of the plan. Generally, the lower-left quadrant of this diagram is the preferred area as that area has the lowest risk and the lowest ASR. The upper-right quadrant is the least desirable as it has the highest risk and highest ASR.

Figure 109 ASR Efficient Frontier



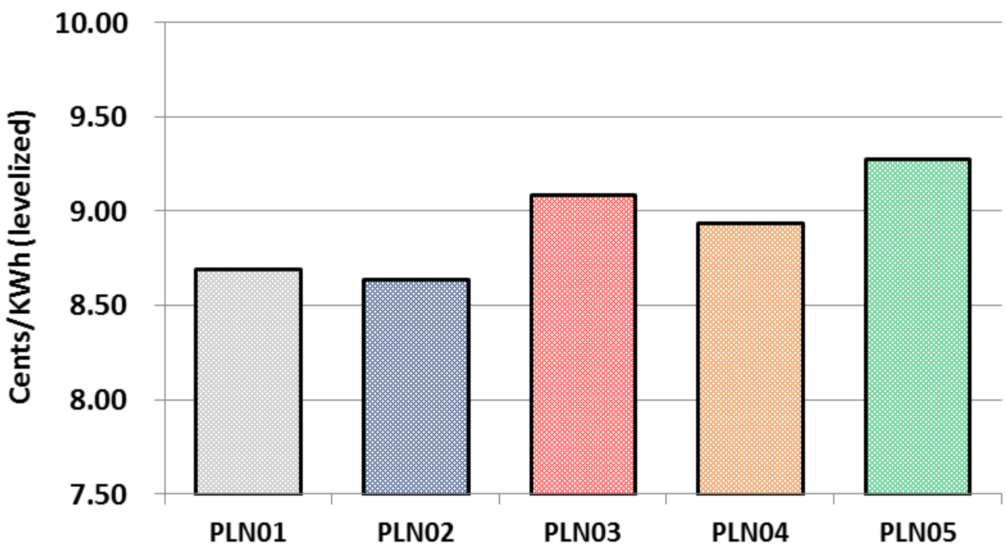
Source: IMPA

Public Version

15.9.3 Average System Rates

The following chart shows IMPA's levelized ASR for the five plans. The levelized rate is the mean value of the 50 stochastic draws. In this analysis, the plans which are optimized for a carbon limit future (Plans 03-05) fare worse than plans which are optimized for a non-carbon limit future (Plans 01-02). This is due to the fact that the optimization model (CEM) objective function is to minimize PVRR, not ASR.

Figure 110 Average System Rates Chart

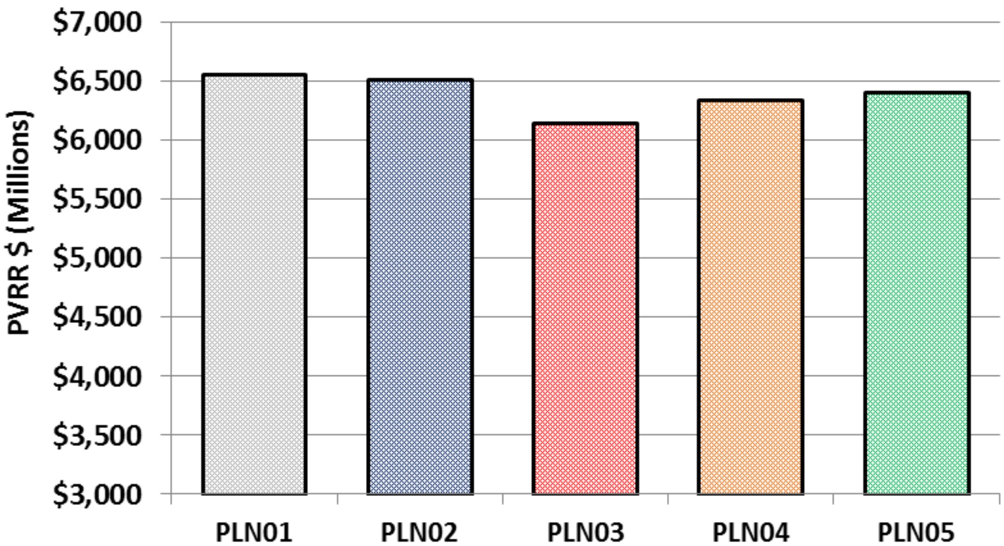


Source: IMPA

15.9.4 Present Value Revenue Requirements

The following chart shows IMPA's levelized PVRR for the five plans. The levelized value is the mean value of the 50 stochastic draws. In this analysis, the plans which are optimized for a carbon limit future (Plans 03-05) fare better than plans which are optimized for a non-carbon limit future (Plans 01-02). Plans 03-05 invest heavily in energy efficiency which leads to load destruction and lower revenue requirements.

Figure 111 Present Value Revenue Requirements Chart

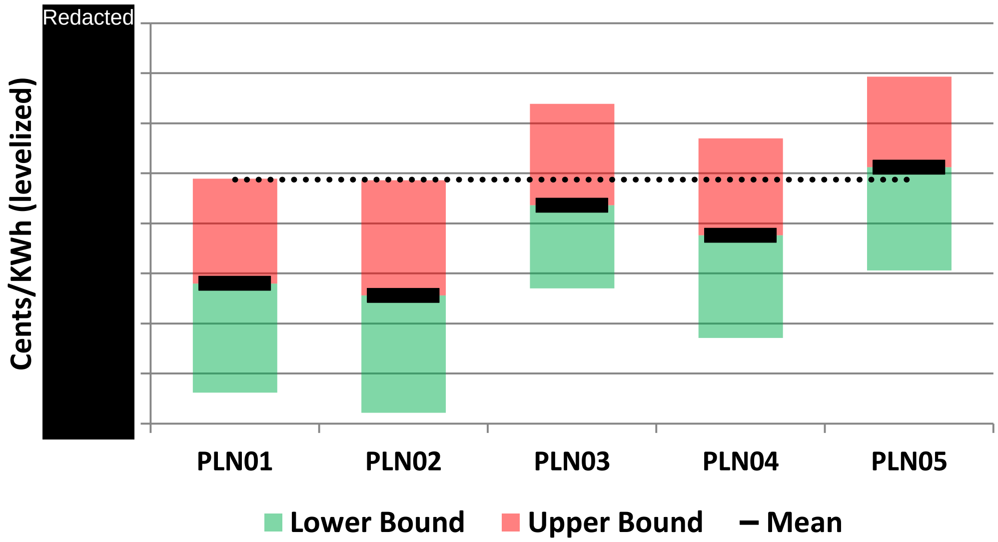


Source: IMPA

15.9.5 ASR Risk Confidence Bands

The following chart identifies the risk confidence band (5% - 95%) of each plan where the green bar represents good outcomes relative to the mean and the red bar represents bad outcomes relative to the mean. In this analysis, the plans which are optimized for a carbon limit future (Plans 03-05) have a higher mean value but a tighter confidence band than plans which are optimized for a non-carbon limit future (Plans 01-02).

Figure 112 ASR Risk Confidence Bands Chart



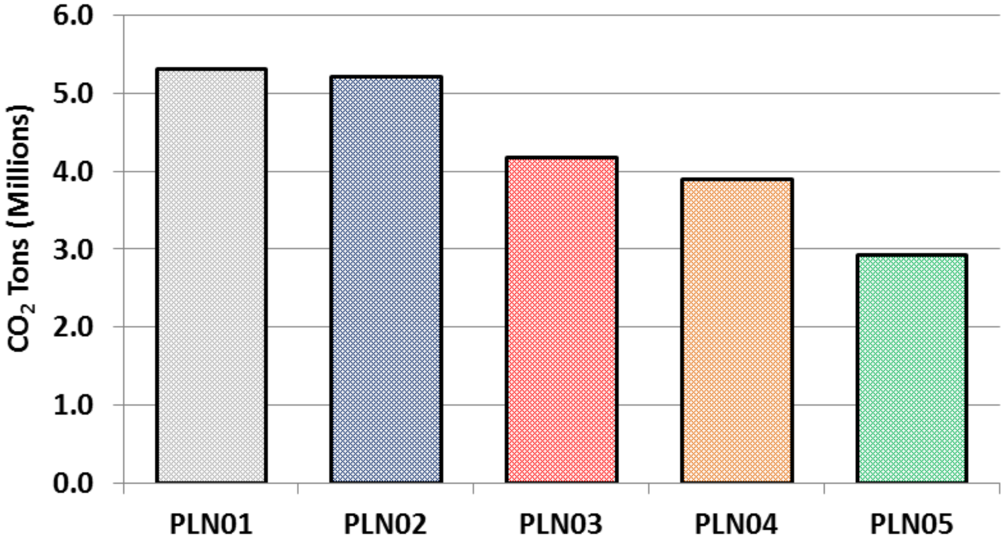
Source: IMPA

While Plans 01 and 02 have higher overall spreads between the 5th and 95th and thus more overall “risk”, the 95th percentile values of these two plans compare very favorably to the other three plans. The 95th percentile value of Plans 01 and 02 (~9.20 Cents/kWh) would be the 66th, 80th and 40th percentiles for Plans 03, 04 and 05, respectively.

15.9.6 CO_2 Emissions - 2030

The following chart shows the tons (millions) of CO_2 emissions (stochastic mean) of each plan in 2030. In this analysis, Plan05, which is optimized for a rate-based carbon limit future, has the lowest CO_2 emissions. Plan01 and Plan02 which are optimized for a non-carbon limit future have the highest CO_2 emissions.

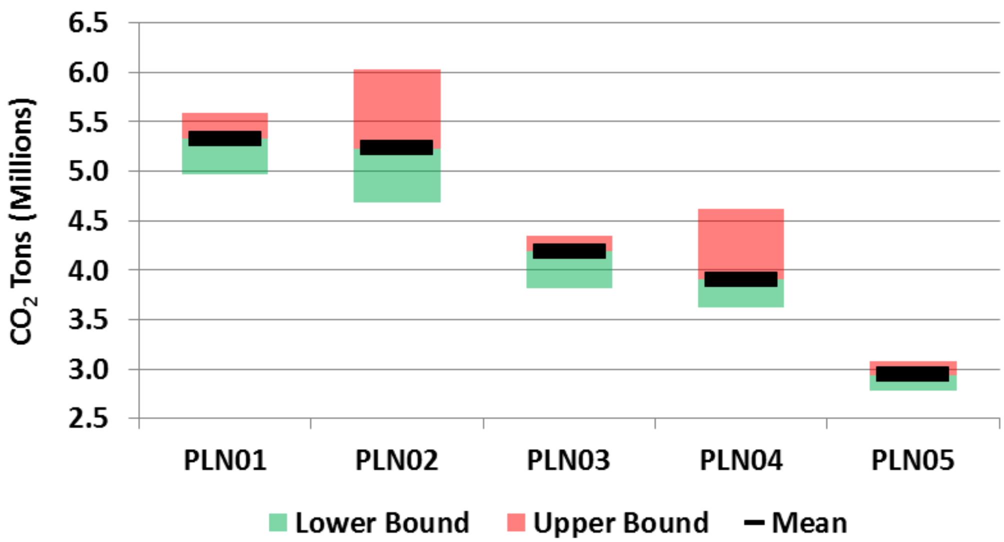
Figure 113 2030 Average CO_2 Emissions (Tons - millions)



Source: IMPA

The following chart plots the 2030 CO_2 emission range (5% - 95%) for each plan. In this analysis, Plan02 and Plan04 have the highest uncertainty bands. While they were all optimized for a carbon limited future, Plan04 has a higher uncertainty band than Plans 03 and 05 because Plan04 retires less coal generation.

Figure 114 2030 Range of CO_2 Emissions (Tons - millions)

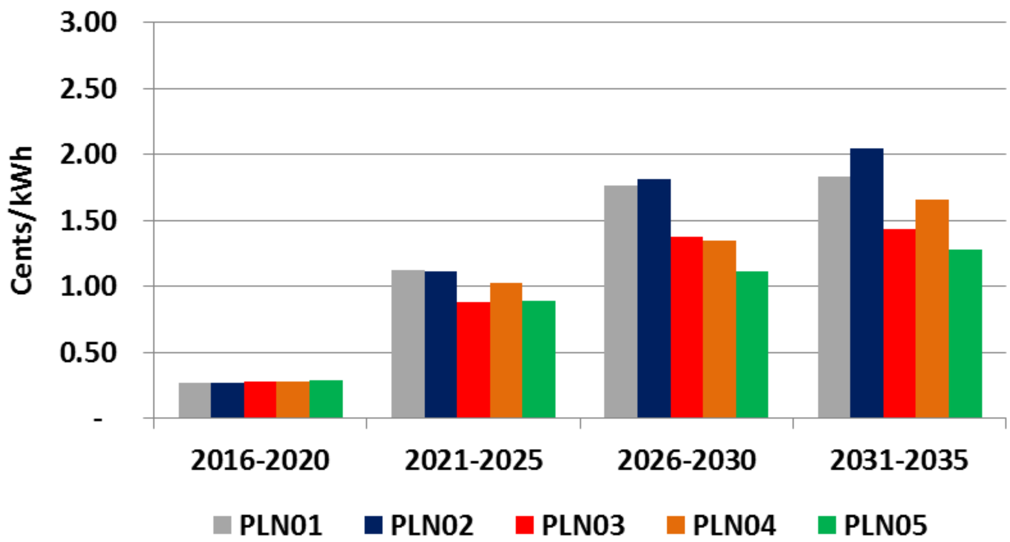


Source: IMPA

15.9.7 CO_2 Emissions Driver

From the Tornado Charts shown earlier in this section, IMPA isolated and compared the relative strength of the CO_2 emission price on the levelized average system rate. The chart is divided into the same "time buckets" as were shown in the tornado charts. Not surprisingly, Plans 01-02, which were optimized for a non-carbon limit future have the highest range of uncertainty due to the CO_2 emissions price driver.

Figure 115 Relative Strength of CO_2 Emissions Driver

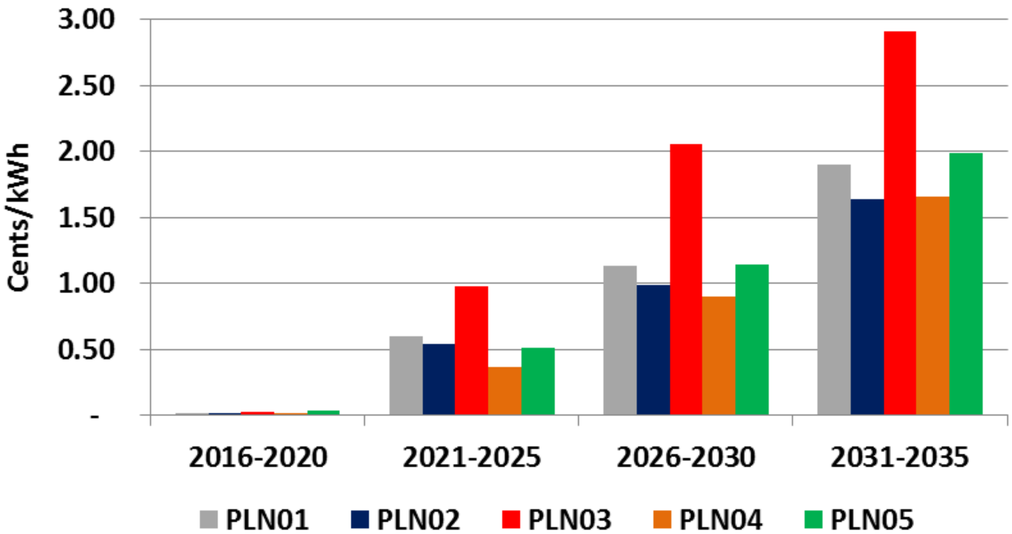


Source: IMPA

15.9.8 Natural Gas Driver

From the Tornado Charts shown earlier in this section, IMPA isolated and compared the relative strength of the natural gas price on the levelized average system rate. The chart is divided into the same "time buckets" as were shown in the tornado charts. Plan03, which adds the most natural gas combined cycle generation, has the highest range of uncertainty due to the natural gas price driver.

Figure 116 Relative Strength of Natural Gas Driver



Source: IMPA

16 PLAN SELECTION

16.1 PLAN SELECTION

As shown throughout this report, due to pending contract expirations, IMPA is losing approximately 200 MW of capacity in the next 5 years.

The following tables show IMPA's load and capacity balance assuming no new resources are added in the future, compared to Plano1 which adds resource to meet IMPA's reserve margin requirements.

Table 15 Capacity Balance – Before Additions

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Load Requirements																				
Peak Load w/ EE	1,172	1,177	1,181	1,184	1,189	1,193	1,199	1,204	1,209	1,214	1,220	1,225	1,230	1,236	1,242	1,248	1,254	1,260	1,266	1,272
Resources																				
Gibson #5	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
Trimble County #1	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Trimble County #2	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
Prairie State #1	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
Prairie State #2	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
Anderson #1	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Anderson #2	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Anderson #3	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
Georgetown #2	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
Georgetown #3	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
Richmond #1	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Richmond #2	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
AEP Cost Based	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	-	-
Whitewater Valley #1	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Whitewater Valley #2	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Duke Cost Based	50	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duke CB - New Members	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Member Capacity	19	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Market Capacity	100	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Renewable	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	8	8
Total Resources	1,364	1,369	1,279	1,279	1,279	1,179	1,179	1,179	1,179	1,178	1,178	1,178	1,178	1,178	1,178	1,178	1,178	1,178	988	988
Reserves	192	192	98	95	90	-14	-20	-25	-30	-36	-42	-47	-52	-58	-64	-70	-76	-82	-278	-284
Reserve Margin	16%	16%	8%	8%	8%	-1%	-2%	-2%	-2%	-3%	-3%	-4%	-4%	-5%	-5%	-6%	-6%	-7%	-22%	-22%

Source: IMPA

Table 16 Capacity Balance – After Additions (Plan01)

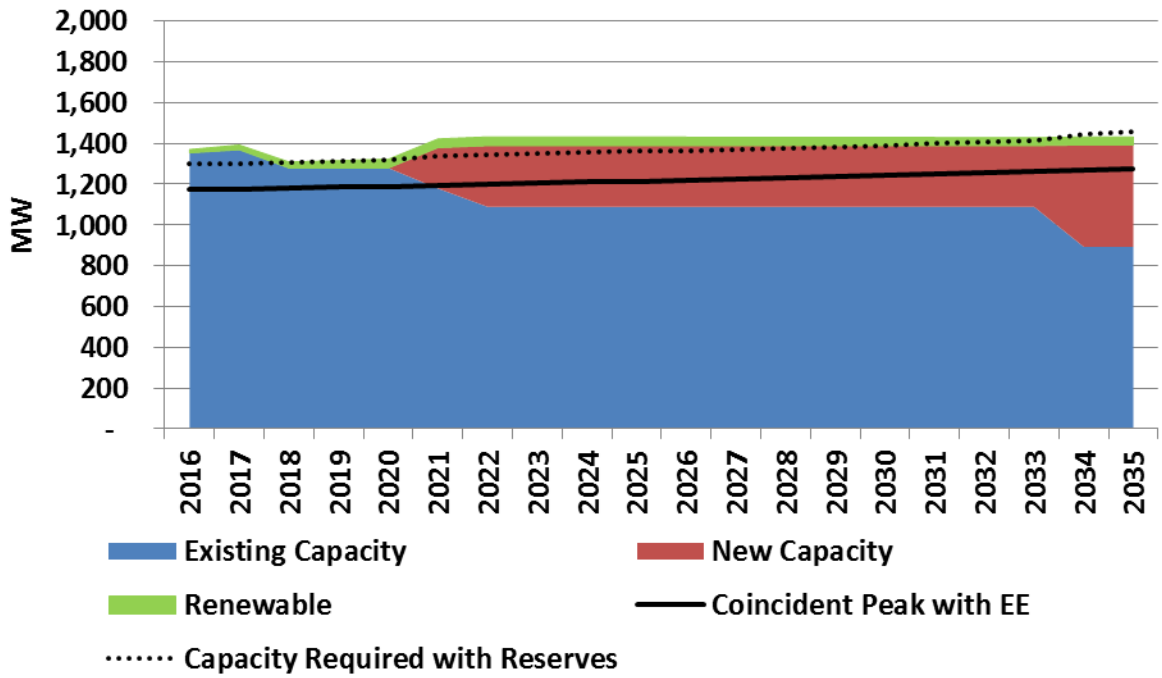
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Load Requirements																				
Peak Load w/ EE	1,172	1,177	1,181	1,184	1189	1,193	1,199	1,204	1,209	1,214	1,220	1,225	1,230	1,236	1,242	1,248	1,254	1,260	1,266	1,272
Resources																				
Gibson #5	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
Trimble County #1	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Trimble County #2	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
Prairie State #1	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
Prairie State #2	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103
Anderson #1	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Anderson #2	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Anderson #3	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
Georgetown #2	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
Georgetown #3	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
Richmond #1	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Richmond #2	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
AEP Cost Based	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	-	-
Whitewater Valley #1	30	30	30	30	30	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whitewater Valley #2	60	60	60	60	60	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duke Cost Based	50	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duke CB - New Members	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Member Capacity	19	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Market Capacity	100	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Gas	-	-	-	-	-	200	300	300	300	300	300	300	300	300	300	300	300	300	500	500
New Renewable	16	23	30	37	43	43	43	42	42	42	41	41	41	41	40	40	40	39	39	39
Total Resources	1,371	1,383	1,300	1,307	1,313	1,413	1,423	1,422	1,422	1,422	1,421	1,421	1,421	1,421	1,420	1,420	1,420	1,419	1,429	1,429
Reserves	199	206	119	123	124	220	224	218	213	208	201	196	191	185	178	172	166	159	163	157
Reserve Margin	17%	18%	10%	10%	10%	18	19%	18%	18%	17%	16%	16%	16%	15%	14%	14%	13%	13%	13%	12%

Source: IMPA

The following table shows IMPA's load and capacity balance assuming Plan01 new resources are added in the future.

IMPA's existing short position and future additions are graphically represented in the following figure.

Figure 117 Load/Capacity Balance Graph– Plan01



Source: IMPA

16.2 Risks and Uncertainties

As discussed elsewhere in this report, there are many uncertainties facing the electric power industry over the next decades. The following factors are just some of many that could greatly change the future of IMPA, Indiana and the nation:

- CO_2 legislation
- Generation retirements due to known EPA regulations
- New and unknown EPA regulations
- Shale gas/LNG export
- State or Federal renewable mandates
- Global and National economic conditions

IMPA's stochastic analysis, discussed in detail in section 14, attempted to incorporate many of these risks and uncertainties. The tornado charts for all plans clearly show that the single biggest risk driver for IMPA is CO_2 legislation, followed by various commodities. IMPA believes that by continuing its long held corporate concept of resource diversity, the plan herein is able to weather these potential uncertainties. The key is that there is flexibility in the plan. By embarking on the process discussed above, IMPA can select the best option among those listed and still leave itself the flexibility to react to changes in political and market conditions.

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17 SHORT TERM ACTION PLAN

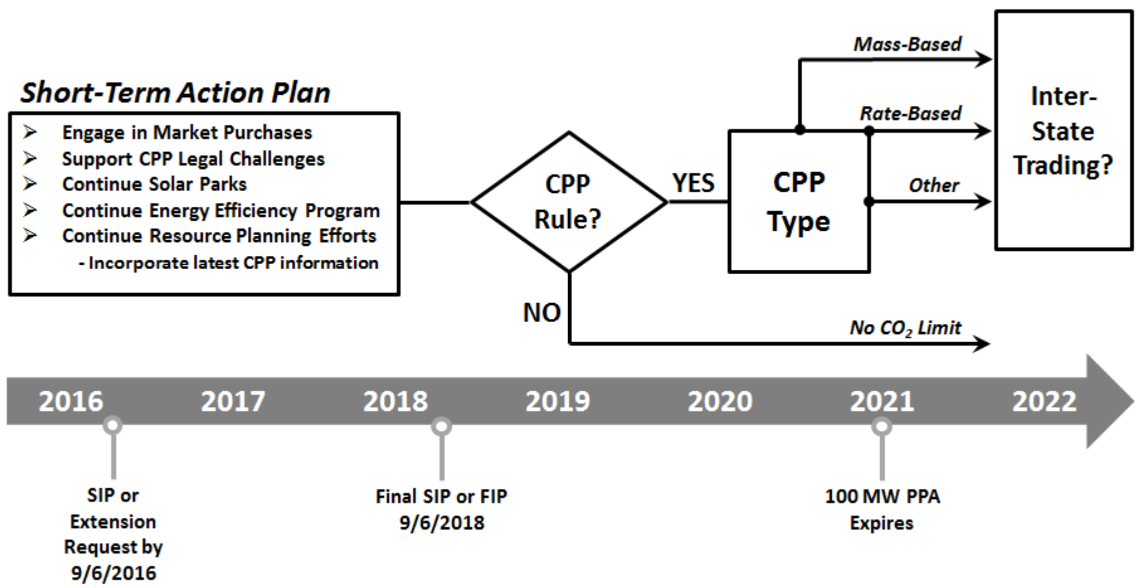
17.1 ACTION(S) REQUIRED TO IMPLEMENT THE PLAN

While IMPA has a need for capacity and energy over the next 5 years (2016-2020); those needs will be fulfilled through market purchases as the positions are relatively small. IMPA's next resource decision comes in 2021 when a 100 MW PPA expires. IMPA's Status Quo Plan (Plan01) calls for a 500 MW participation share in combined cycle unit(s) coupled with the retirement of WWVS #1 and #2. In the development of Plan01, it was assumed the EPA CPP is not implemented as it is neither known nor measureable at this point in time.

IMPA developed three additional plans (Plan03, Plan04, and Plan05) to address the impact of the carbon emission limits set forth in the CPP rule. IMPA's action plan is to delay, to the extent practical, its next resource decision to allow time for more clarity on the CPP rule. IMPA understands it ultimately may need to make its next resource decision with the best information it has at the time as the CPP legal challenge may take years to settle and will likely reach the U.S. Supreme Court. As a CPP hedge, IMPA's strategic plan is to continue its Solar Park installation program where 10 MW of solar is added to IMPA member distribution systems annually.

The following diagram illustrates the Plan Pursuit strategy:

Figure 118 Plan Pursuit Strategy (2016-2022)



As shown in the diagram above, even if the CPP rule is upheld, there are a number of questions to be answered, which will affect IMPA's next resource decision. Is the CPP massed-based, rate-based or something else? IMPA has generation in Indiana, Illinois, and Kentucky. Will the states have similar plans which allow inter-state trading or will each state be unique? How do natural gas, energy efficiency and renewables fit into the mix?

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18 IRP GUIDELINES (170 IAC 4-7)

18.1 INDEX OF RULES AND REPORT LOCATION REFERENCE

Current Rule

170 IAC 4-7 Reference	Description	Reference
4.1	External data sources	Section 9.3 Appendix E Appendix F
4.2-4.6	Load Forecasting Matters	Section 4.2 Section 5 Appendix D
4.7-4.9	Miscellaneous planning criteria and practices	Section 3.3 Section 4.3 Section 7.1
4.10-4.15	Transmission Matters	Section 4.5 Section 8.1 Appendix H
4.16	Explanation of avoided cost calculation	Appendix G
4.17	Hourly System Demand of the most recent historical year	Appendix A
4.18	Description of public participation procedure, if used.	IMPA solicits input from the IMPA Board of Commissioners when developing scenarios. IMPA's IRP is presented to the Board on two occasions with formal approval taking place after initial Board input and a second presentation.
5	Analysis of historical and forecasted levels of peak demand. Forecast scenarios.	Section 4.2 Section 5 Appendix B
6	Resource Assessment	Section 4 Section 6 Section 7 Appendix E Appendix F Appendix G
7	Selection of Future Resources	Section 6 Section 7 Section 13 Section 15

8	Resource Integration	Section 15 Section 16
9	Short-term Action Plan	Section 17

Proposed Rule (New Rule References)

4(a)	IRP Summary Document	Appendix J
4(b)10	Miscellaneous Transmission	N/A Section4.5 Appendix H
4(b)11	Contemporary Methods, Model Selection and Description	Sections 9-15
6(a)	Continued use of existing resource as a new resource alternative	Sections 6.1 & 13.1
8(a)	Candidate portfolios	Section 13.4
8(b)	Demonstrate how preferred resource portfolio balances cost-effective minimization with effective risk and uncertainty reduction.	Section 15 Section 16

19 APPENDIX

A. Hourly System Loads
B. Historic System Load Shapes
C. C1 - Hourly Market Prices – Indiana Hub
   C2 - Hourly Market Prices – AD Hub
D. IMPA Load Forecast
E. E1 - Existing Resource Data – Summary
   E2 - Existing Resource Data – Detailed
F. Expansion Resource Data
G. Avoided Costs
H. Statement on FERC Form 715
I. I1 - 2012 IMPA Annual Report
   I2 - 2012 IMPA Annual Report - Financials
J. IRP Summary Document

Appendix A – Hourly System Loads

Indiana Municipal Power Agency
Hourly Loads - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
1/1/2014	am	590	579	569	565	567	580	594	606	602	610	618	621
1/1/2014	pm	619	609	599	597	605	647	674	672	664	651	631	616
1/2/2014	am	603	595	593	608	620	664	726	792	816	836	860	866
1/2/2014	pm	868	875	866	855	850	873	906	895	882	858	823	797
1/3/2014	am	777	766	763	764	778	817	874	925	932	922	913	895
1/3/2014	pm	882	868	846	834	828	847	889	882	873	853	818	780
1/4/2014	am	754	735	724	721	725	737	755	775	776	780	779	765
1/4/2014	pm	747	727	705	692	694	722	752	739	730	710	682	651
1/5/2014	am	626	607	596	590	590	597	609	625	635	650	667	679
1/5/2014	pm	688	682	670	669	676	712	735	724	721	709	693	693
1/6/2014	am	693	693	701	713	732	760	799	839	846	863	876	885
1/6/2014	pm	886	888	889	887	895	931	964	955	938	907	888	863
1/7/2014	am	841	832	822	818	828	854	889	926	942	943	947	940
1/7/2014	pm	931	929	917	914	908	931	952	942	923	890	853	826
1/8/2014	am	809	798	794	792	801	833	876	919	923	923	925	918
1/8/2014	pm	907	901	885	867	860	870	903	891	878	848	811	783
1/9/2014	am	757	745	741	741	752	789	841	890	891	890	896	886
1/9/2014	pm	875	875	856	841	833	841	871	858	840	815	777	752
1/10/2014	am	728	709	699	695	705	734	783	833	837	835	841	836
1/10/2014	pm	829	821	802	784	775	785	802	783	767	745	711	673
1/11/2014	am	645	622	612	606	612	627	646	677	693	707	719	723
1/11/2014	pm	722	716	709	705	705	719	739	730	718	696	668	644
1/12/2014	am	622	606	601	594	596	604	617	642	654	667	670	669
1/12/2014	pm	664	650	637	631	636	663	717	718	712	689	658	639
1/13/2014	am	625	617	611	614	631	670	741	800	803	803	806	807
1/13/2014	pm	797	798	779	763	754	758	790	779	769	742	705	676
1/14/2014	am	660	652	651	653	673	715	788	845	845	834	832	821
1/14/2014	pm	808	802	787	779	784	797	825	820	814	795	757	730
1/15/2014	am	711	697	697	700	713	754	825	879	886	882	884	890
1/15/2014	pm	881	881	869	859	859	867	894	886	876	852	816	783
1/16/2014	am	762	746	743	746	762	796	864	920	911	916	927	919
1/16/2014	pm	907	903	885	866	857	859	891	881	862	830	784	751
1/17/2014	am	726	708	701	698	716	757	819	874	883	889	896	889
1/17/2014	pm	880	879	866	856	853	862	897	888	874	855	820	783
1/18/2014	am	756	739	730	723	730	745	768	797	806	816	814	804
1/18/2014	pm	791	782	776	771	770	787	813	798	778	751	721	691
1/19/2014	am	667	653	647	648	651	665	681	705	715	732	737	732
1/19/2014	pm	719	710	698	688	691	714	771	773	764	737	713	691
1/20/2014	am	670	659	653	655	673	711	772	828	832	834	827	817
1/20/2014	pm	806	800	787	773	769	779	819	814	805	781	745	714
1/21/2014	am	694	686	684	687	718	764	835	901	915	923	929	920
1/21/2014	pm	914	905	888	872	864	887	942	941	934	913	877	846
1/22/2014	am	827	815	815	819	839	879	941	1,001	1,006	1,003	1,002	984
1/22/2014	pm	983	973	953	934	928	927	964	956	941	917	881	843
1/23/2014	am	834	819	820	827	848	889	948	1,003	1,021	1,015	1,014	1,001
1/23/2014	pm	988	979	961	942	935	946	993	1,002	990	970	929	896
1/24/2014	am	877	866	865	864	879	914	966	1,022	1,031	1,021	1,011	999
1/24/2014	pm	979	969	953	934	926	928	953	937	922	895	853	812
1/25/2014	am	783	762	749	741	739	749	764	787	790	795	796	784
1/25/2014	pm	776	762	755	750	757	780	830	831	821	803	779	756
1/26/2014	am	739	724	717	711	713	719	736	755	764	776	775	767
1/26/2014	pm	751	734	720	705	700	709	750	750	734	713	694	684
1/27/2014	am	684	696	705	736	766	819	891	953	968	972	975	962
1/27/2014	pm	951	946	929	920	914	923	981	986	980	957	923	896
1/28/2014	am	883	871	869	872	889	923	976	1,020	1,030	1,026	1,020	1,004
1/28/2014	pm	983	968	946	924	913	919	972	985	977	959	922	892
1/29/2014	am	870	861	860	859	874	912	966	1,020	1,017	1,006	989	968
1/29/2014	pm	941	922	896	881	869	870	920	926	918	901	866	831
1/30/2014	am	815	804	801	799	816	855	918	966	961	953	957	939
1/30/2014	pm	927	918	900	881	864	864	899	891	873	845	800	764
1/31/2014	am	739	723	713	711	721	756	816	863	859	858	858	854
1/31/2014	pm	843	836	817	799	791	785	817	810	798	776	742	706

Indiana Municipal Power Agency
Hourly Loads - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
2/1/2014	am	676	660	651	647	650	664	680	702	714	727	736	732
2/1/2014	pm	724	712	699	689	689	700	721	713	704	687	662	638
2/2/2014	am	615	603	600	599	602	616	634	658	669	687	699	705
2/2/2014	pm	711	710	708	711	720	734	767	760	751	739	725	707
2/3/2014	am	688	682	684	692	714	761	837	900	894	889	879	869
2/3/2014	pm	852	840	828	805	793	801	858	872	871	851	815	787
2/4/2014	am	762	752	749	747	762	799	864	915	914	915	915	906
2/4/2014	pm	894	892	882	868	861	864	891	878	858	826	783	750
2/5/2014	am	726	707	697	694	702	728	772	813	818	837	852	852
2/5/2014	pm	851	852	839	832	826	831	872	876	860	835	796	768
2/6/2014	am	750	738	737	743	759	802	857	906	925	932	932	922
2/6/2014	pm	914	909	893	878	873	880	930	947	939	923	889	863
2/7/2014	am	844	835	834	836	851	890	944	989	1,001	988	976	962
2/7/2014	pm	941	925	900	874	856	856	892	913	902	881	849	813
2/8/2014	am	793	776	769	765	766	782	802	823	831	837	841	818
2/8/2014	pm	796	778	762	754	759	765	794	792	777	760	731	705
2/9/2014	am	681	665	658	656	658	668	681	700	711	727	727	724
2/9/2014	pm	724	716	711	711	726	752	802	819	812	791	763	750
2/10/2014	am	735	729	734	746	768	820	900	953	965	959	958	943
2/10/2014	pm	923	912	888	867	858	865	920	946	942	923	887	861
2/11/2014	am	845	837	835	837	857	899	958	1,005	1,006	991	973	950
2/11/2014	pm	926	911	890	868	856	858	909	933	929	909	873	847
2/12/2014	am	830	819	820	826	839	885	950	995	980	959	940	915
2/12/2014	pm	890	877	844	827	817	816	859	877	871	855	819	787
2/13/2014	am	766	755	753	761	780	822	887	941	925	913	894	868
2/13/2014	pm	846	835	815	802	793	784	822	841	835	813	777	742
2/14/2014	am	722	706	705	708	726	768	831	877	867	877	883	873
2/14/2014	pm	865	859	837	820	811	806	833	842	830	815	782	744
2/15/2014	am	722	708	700	696	703	723	744	761	775	778	773	760
2/15/2014	pm	739	715	700	697	705	720	750	763	756	734	710	686
2/16/2014	am	671	654	646	642	641	648	659	672	687	704	713	711
2/16/2014	pm	710	700	692	692	696	716	761	778	771	752	735	721
2/17/2014	am	704	701	704	710	729	772	839	887	901	905	909	896
2/17/2014	pm	886	878	870	859	851	841	866	868	850	820	777	748
2/18/2014	am	724	707	698	697	712	749	801	837	839	826	812	803
2/18/2014	pm	781	766	759	746	738	730	762	785	781	751	713	676
2/19/2014	am	656	640	633	631	645	690	758	804	808	805	795	782
2/19/2014	pm	767	765	744	727	715	711	749	774	780	752	716	690
2/20/2014	am	669	654	650	649	666	708	770	812	803	802	806	799
2/20/2014	pm	790	789	773	759	746	737	757	763	746	722	689	661
2/21/2014	am	647	634	636	641	657	700	768	817	825	829	835	821
2/21/2014	pm	805	800	774	747	726	715	743	761	753	734	702	664
2/22/2014	am	640	623	614	610	614	628	649	668	679	684	678	664
2/22/2014	pm	646	626	609	600	598	606	637	658	654	640	620	597
2/23/2014	am	579	567	563	562	567	579	599	620	639	653	660	664
2/23/2014	pm	666	660	658	655	655	663	704	749	746	728	708	697
2/24/2014	am	689	676	680	688	704	754	834	876	882	879	870	860
2/24/2014	pm	847	831	813	800	798	802	829	852	842	816	775	742
2/25/2014	am	725	713	708	708	725	765	830	872	875	873	871	865
2/25/2014	pm	853	849	839	834	829	829	853	868	865	842	808	779
2/26/2014	am	764	758	761	769	791	837	907	944	942	937	933	915
2/26/2014	pm	900	885	861	844	830	829	865	899	894	875	837	806
2/27/2014	am	790	777	772	769	784	826	893	927	925	928	927	916
2/27/2014	pm	903	892	874	849	832	827	862	897	899	881	844	815
2/28/2014	am	799	789	784	786	803	842	905	938	933	919	908	885
2/28/2014	pm	864	847	809	783	762	749	774	797	791	773	738	710
3/1/2014	am	686	671	658	653	653	668	682	690	698	712	709	699
3/1/2014	pm	677	655	643	635	641	652	678	693	692	679	659	641
3/2/2014	am	622	612	609	612	616	628	646	662	684	703	717	720
3/2/2014	pm	724	716	708	713	728	743	772	798	784	763	740	732
3/3/2014	am	721	714	715	722	747	790	854	895	921	927	927	906
3/3/2014	pm	895	895	860	843	828	828	865	910	905	887	853	821

Indiana Municipal Power Agency
Hourly Loads - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
3/4/2014	am	801	789	784	785	801	844	905	943	938	923	908	893
3/4/2014	pm	878	862	838	813	799	786	807	848	848	830	791	760
3/5/2014	am	744	736	731	733	753	795	863	897	891	881	872	860
3/5/2014	pm	846	838	821	809	803	805	833	859	857	835	794	766
3/6/2014	am	749	735	732	734	749	795	863	888	884	873	863	840
3/6/2014	pm	830	814	788	761	743	732	759	802	800	783	752	726
3/7/2014	am	706	693	689	693	710	755	819	843	835	820	799	780
3/7/2014	pm	762	747	722	697	677	663	676	705	701	685	652	619
3/8/2014	am	606	592	586	584	594	613	641	654	672	688	688	676
3/8/2014	pm	661	649	638	635	640	652	662	685	683	667	645	623
3/9/2014	am	607	600	595	597	607	625	648	658	660	654	647	643
3/9/2014	pm	631	617	606	602	602	613	637	686	676	656	640	622
3/10/2014	am	614	609	608	627	672	742	798	805	800	803	789	771
3/10/2014	pm	759	738	716	701	681	680	688	725	704	667	637	611
3/11/2014	am	593	587	586	598	637	703	761	758	753	755	743	730
3/11/2014	pm	724	705	691	675	656	658	669	701	684	643	616	593
3/12/2014	am	578	575	577	594	636	697	745	749	762	787	798	793
3/12/2014	pm	799	786	783	779	771	771	785	822	813	777	746	722
3/13/2014	am	712	711	711	726	772	839	896	892	882	877	846	833
3/13/2014	pm	817	795	778	769	752	759	763	796	782	741	704	685
3/14/2014	am	671	658	654	669	704	769	818	810	799	797	781	764
3/14/2014	pm	754	727	698	670	654	651	653	679	662	631	591	575
3/15/2014	am	561	555	553	562	584	610	637	640	647	645	632	611
3/15/2014	pm	591	572	555	549	545	541	552	596	591	572	551	538
3/16/2014	am	530	529	531	537	554	582	614	623	640	656	666	672
3/16/2014	pm	670	667	665	673	675	687	707	743	729	704	685	669
3/17/2014	am	659	663	668	688	736	812	868	871	870	873	859	838
3/17/2014	pm	826	797	770	745	725	719	726	770	756	718	690	668
3/18/2014	am	656	651	652	673	716	781	831	827	818	806	794	779
3/18/2014	pm	768	746	720	700	681	679	684	722	711	669	631	605
3/19/2014	am	593	588	586	599	638	705	760	760	760	772	765	760
3/19/2014	pm	760	746	738	734	728	733	739	756	742	700	670	652
3/20/2014	am	638	633	632	649	688	757	808	800	792	791	778	765
3/20/2014	pm	756	736	718	702	683	677	681	717	707	672	640	617
3/21/2014	am	605	598	593	611	656	718	766	762	756	754	738	723
3/21/2014	pm	720	698	669	649	630	617	618	648	635	604	560	535
3/22/2014	am	521	514	512	525	547	573	600	613	638	649	644	631
3/22/2014	pm	620	609	598	595	593	589	596	629	621	600	574	557
3/23/2014	am	545	541	542	545	554	573	598	612	627	631	636	623
3/23/2014	pm	617	606	600	598	599	604	624	670	667	650	638	627
3/24/2014	am	624	626	637	657	696	765	823	827	826	827	801	789
3/24/2014	pm	779	756	735	718	709	717	727	761	747	714	687	670
3/25/2014	am	654	648	649	664	703	762	811	813	820	829	824	819
3/25/2014	pm	820	802	785	774	761	762	771	802	795	755	724	706
3/26/2014	am	692	689	689	709	752	812	853	851	843	835	818	799
3/26/2014	pm	788	765	739	718	694	694	701	748	743	713	679	655
3/27/2014	am	642	639	640	653	687	745	792	796	804	813	809	802
3/27/2014	pm	796	779	757	734	717	708	709	731	709	668	632	612
3/28/2014	am	597	585	580	590	624	674	719	727	734	748	742	732
3/28/2014	pm	725	706	686	666	648	634	636	671	666	636	602	587
3/29/2014	am	567	562	558	563	578	599	626	644	665	682	682	677
3/29/2014	pm	671	663	656	656	652	649	648	667	657	632	601	581
3/30/2014	am	570	567	566	568	577	596	611	618	620	612	604	595
3/30/2014	pm	580	565	551	544	547	551	560	605	605	586	575	561
3/31/2014	am	563	550	554	575	622	697	747	749	743	740	730	720
3/31/2014	pm	710	695	682	662	646	651	659	691	675	634	601	573
4/1/2014	am	556	549	547	562	601	662	706	709	712	720	720	715
4/1/2014	pm	717	701	683	663	645	638	639	676	668	625	586	562
4/2/2014	am	550	544	541	560	599	667	719	725	740	745	739	733
4/2/2014	pm	727	711	699	689	677	678	670	691	685	648	613	586
4/3/2014	am	564	555	560	575	615	673	732	752	758	771	774	774
4/3/2014	pm	766	748	729	713	695	693	692	710	692	656	624	601

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4/4/2014	am	579	569	563	575	609	663	712	720	730	743	743	740
4/4/2014	pm	741	729	715	705	696	692	689	709	698	674	628	600
4/5/2014	am	585	574	571	574	591	610	627	640	654	655	641	623
4/5/2014	pm	603	586	568	558	553	544	545	580	592	572	550	533
4/6/2014	am	521	518	517	520	533	552	562	575	579	574	567	566
4/6/2014	pm	558	546	539	538	538	542	554	586	590	569	553	538
4/7/2014	am	528	526	535	553	602	674	731	742	752	764	763	760
4/7/2014	pm	760	750	734	723	717	721	725	737	720	681	652	625
4/8/2014	am	604	600	598	613	649	714	753	756	753	752	743	735
4/8/2014	pm	729	713	695	678	661	664	659	687	692	656	619	593
4/9/2014	am	577	578	580	599	640	706	749	751	745	743	734	727
4/9/2014	pm	727	709	693	674	651	650	649	678	679	641	608	583
4/10/2014	am	570	563	567	581	623	689	724	728	728	733	727	717
4/10/2014	pm	715	700	684	667	645	641	643	674	669	627	582	552
4/11/2014	am	534	525	524	538	574	638	675	685	693	704	704	703
4/11/2014	pm	698	686	661	640	618	607	593	615	621	585	542	512
4/12/2014	am	494	485	484	489	507	533	544	566	582	585	583	575
4/12/2014	pm	566	558	553	551	551	549	545	566	571	544	508	481
4/13/2014	am	459	450	443	442	447	462	467	491	515	531	543	552
4/13/2014	pm	551	550	548	551	556	564	569	600	597	570	548	525
4/14/2014	am	511	504	505	520	559	628	682	694	708	724	727	725
4/14/2014	pm	727	710	693	684	674	683	689	707	697	661	634	612
4/15/2014	am	599	597	601	616	660	729	772	784	789	795	791	789
4/15/2014	pm	786	767	751	737	720	719	717	741	750	714	679	654
4/16/2014	am	640	637	638	659	700	765	799	800	795	792	778	764
4/16/2014	pm	754	734	714	692	670	668	666	699	710	672	641	618
4/17/2014	am	605	599	601	615	657	723	753	750	747	744	733	720
4/17/2014	pm	718	697	672	652	627	622	613	639	642	594	546	518
4/18/2014	am	502	494	493	506	528	568	591	599	605	609	604	596
4/18/2014	pm	592	584	574	567	553	545	535	544	559	530	489	460
4/19/2014	am	443	437	432	438	455	475	487	515	535	540	537	529
4/19/2014	pm	520	512	506	506	505	503	501	520	533	508	474	448
4/20/2014	am	430	422	418	422	432	452	460	486	503	502	500	495
4/20/2014	pm	482	472	471	473	478	487	495	520	542	517	493	471
4/21/2014	am	459	458	466	483	529	606	651	675	694	711	718	719
4/21/2014	pm	720	713	698	680	657	663	664	680	671	626	587	555
4/22/2014	am	536	529	526	536	576	641	677	692	704	714	714	715
4/22/2014	pm	717	706	691	673	651	646	642	659	670	629	586	560
4/23/2014	am	547	540	543	560	604	672	708	721	724	730	722	716
4/23/2014	pm	713	697	684	668	645	638	635	661	671	629	592	563
4/24/2014	am	545	537	537	549	590	654	686	700	710	719	714	710
4/24/2014	pm	709	699	685	670	647	643	642	661	667	626	583	553
4/25/2014	am	535	527	524	537	574	635	672	690	704	714	715	708
4/25/2014	pm	706	688	667	648	626	619	605	614	626	593	551	519
4/26/2014	am	496	487	483	483	501	520	534	557	573	579	576	571
4/26/2014	pm	568	560	556	556	558	551	543	554	564	537	500	472
4/27/2014	am	455	446	441	442	451	464	470	497	518	527	533	538
4/27/2014	pm	537	535	534	539	543	549	553	572	582	559	537	512
4/28/2014	am	498	493	495	516	555	625	681	698	711	729	729	727
4/28/2014	pm	732	720	704	691	673	666	658	671	672	631	594	566
4/29/2014	am	544	534	533	544	578	636	669	690	706	717	722	721
4/29/2014	pm	728	714	700	685	663	655	647	648	656	616	577	549
4/30/2014	am	528	521	520	531	570	634	675	694	705	719	717	714
4/30/2014	pm	713	703	688	671	651	652	650	662	663	624	590	566
5/1/2014	am	549	541	538	552	592	652	685	697	707	717	717	710
5/1/2014	pm	711	705	690	675	662	660	660	676	675	631	591	567
5/2/2014	am	552	544	541	554	591	652	684	697	705	712	710	706
5/2/2014	pm	703	685	664	649	631	629	622	632	634	595	552	524
5/3/2014	am	506	497	493	497	515	533	541	561	574	575	566	554
5/3/2014	pm	544	535	528	527	525	519	517	527	547	523	493	471
5/4/2014	am	454	447	442	444	452	460	465	493	513	523	528	530
5/4/2014	pm	531	528	525	530	536	543	547	564	579	556	532	513

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
5/5/2014	am	501	495	498	519	562	634	671	697	711	723	727	723
5/5/2014	pm	729	719	709	692	671	665	659	670	678	634	593	562
5/6/2014	am	540	531	529	541	582	639	672	693	704	718	717	720
5/6/2014	pm	730	722	717	703	686	681	673	685	696	648	599	567
5/7/2014	am	539	528	525	532	572	631	663	688	711	735	746	756
5/7/2014	pm	774	779	776	771	757	749	733	735	745	697	640	597
5/8/2014	am	574	557	549	557	594	652	693	726	758	793	813	832
5/8/2014	pm	854	862	859	857	838	824	798	796	799	749	693	644
5/9/2014	am	612	590	579	582	612	673	708	730	749	764	769	773
5/9/2014	pm	774	772	763	750	725	705	684	673	676	638	582	537
5/10/2014	am	512	492	483	486	501	519	532	557	581	597	599	594
5/10/2014	pm	599	598	596	602	610	603	590	584	596	564	525	489
5/11/2014	am	468	455	449	447	452	458	468	498	528	546	565	578
5/11/2014	pm	594	611	630	644	650	653	648	655	653	622	595	560
5/12/2014	am	540	525	526	540	583	645	696	733	768	812	843	869
5/12/2014	pm	887	886	881	870	847	831	812	800	801	748	690	642
5/13/2014	am	613	597	587	595	634	690	729	773	808	844	869	879
5/13/2014	pm	885	874	850	834	809	790	765	747	735	682	628	589
5/14/2014	am	565	550	542	550	587	640	678	698	716	732	736	729
5/14/2014	pm	732	722	710	702	688	687	684	688	684	644	601	569
5/15/2014	am	553	546	540	554	592	650	684	706	720	734	731	729
5/15/2014	pm	729	715	699	683	665	658	651	658	674	640	604	577
5/16/2014	am	561	552	551	562	599	655	692	713	720	726	720	713
5/16/2014	pm	714	700	672	657	639	630	625	628	646	615	578	545
5/17/2014	am	528	520	516	521	539	555	563	584	597	600	592	581
5/17/2014	pm	573	561	555	549	542	540	539	543	568	548	521	499
5/18/2014	am	484	478	476	480	491	492	502	523	531	535	538	538
5/18/2014	pm	535	529	526	531	536	546	549	553	581	564	541	520
5/19/2014	am	507	503	510	528	573	631	675	700	713	727	732	730
5/19/2014	pm	733	726	708	694	678	673	662	666	680	642	600	567
5/20/2014	am	547	538	533	546	582	638	681	706	724	745	757	770
5/20/2014	pm	787	794	789	786	773	772	762	765	774	733	671	623
5/21/2014	am	595	576	567	580	617	668	713	745	778	809	832	849
5/21/2014	pm	875	887	887	870	841	821	793	774	775	730	682	634
5/22/2014	am	605	585	576	581	615	656	700	731	759	791	805	820
5/22/2014	pm	835	835	825	813	789	769	745	732	740	695	636	594
5/23/2014	am	566	550	541	548	580	618	660	692	713	734	744	744
5/23/2014	pm	752	751	742	736	718	703	683	668	668	627	568	530
5/24/2014	am	499	482	470	469	474	463	475	506	539	560	568	576
5/24/2014	pm	583	588	599	609	609	601	586	577	586	560	517	481
5/25/2014	am	455	440	430	426	428	423	434	466	496	520	539	555
5/25/2014	pm	564	572	587	601	607	608	602	582	586	558	514	475
5/26/2014	am	450	432	422	420	428	425	437	462	501	542	581	615
5/26/2014	pm	644	669	689	708	719	715	709	701	702	668	630	584
5/27/2014	am	553	542	537	547	593	655	707	760	807	850	884	914
5/27/2014	pm	941	949	950	941	924	911	883	861	856	795	734	682
5/28/2014	am	645	618	602	604	635	678	722	768	805	846	882	906
5/28/2014	pm	928	943	950	938	911	887	849	823	816	764	705	663
5/29/2014	am	628	606	593	602	639	682	729	753	785	821	847	873
5/29/2014	pm	903	920	927	918	900	884	860	840	834	799	725	671
5/30/2014	am	634	606	590	593	621	653	698	734	773	810	830	848
5/30/2014	pm	872	881	884	873	861	845	816	787	774	738	669	611
5/31/2014	am	574	547	530	524	538	534	558	601	648	683	711	732
5/31/2014	pm	745	760	772	790	798	794	778	745	731	687	628	573
6/1/2014	am	535	511	498	490	490	479	496	541	590	634	676	712
6/1/2014	pm	747	775	799	821	828	818	793	775	768	732	689	647
6/2/2014	am	623	607	601	621	658	706	754	801	829	861	883	894
6/2/2014	pm	907	900	899	874	843	831	808	790	787	754	707	663
6/3/2014	am	634	616	611	621	660	705	757	799	839	884	916	944
6/3/2014	pm	971	976	976	964	940	931	902	869	848	796	738	687
6/4/2014	am	646	625	612	618	649	689	729	752	774	799	811	824
6/4/2014	pm	845	853	854	845	812	788	756	737	738	699	649	610

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6/5/2014	am	585	567	558	566	597	627	675	708	736	764	783	796
6/5/2014	pm	814	821	822	821	801	787	768	747	744	711	655	613
6/6/2014	am	583	560	546	552	581	611	655	694	726	760	779	799
6/6/2014	pm	822	830	832	831	822	812	783	755	744	707	649	599
6/7/2014	am	562	537	522	519	536	531	555	594	631	663	685	700
6/7/2014	pm	713	724	739	747	739	727	706	684	692	662	614	571
6/8/2014	am	541	520	509	503	507	508	512	540	562	583	598	610
6/8/2014	pm	617	625	634	649	662	664	654	643	652	637	608	572
6/9/2014	am	550	539	535	548	585	627	676	710	736	773	789	802
6/9/2014	pm	822	827	826	821	806	798	778	764	766	730	674	632
6/10/2014	am	600	584	575	586	620	662	696	721	742	768	781	794
6/10/2014	pm	808	806	796	782	766	757	741	735	738	708	664	623
6/11/2014	am	597	583	576	589	624	668	713	747	767	798	805	818
6/11/2014	pm	828	834	832	823	806	795	777	758	763	731	682	643
6/12/2014	am	611	592	582	589	624	662	703	742	764	790	810	823
6/12/2014	pm	847	861	874	877	864	856	831	809	809	769	716	667
6/13/2014	am	629	603	590	592	620	657	689	714	734	761	771	783
6/13/2014	pm	797	799	790	782	763	747	718	690	680	648	593	548
6/14/2014	am	520	502	490	490	505	501	517	548	574	596	605	609
6/14/2014	pm	614	620	633	647	658	659	649	631	623	602	556	519
6/15/2014	am	491	476	467	463	467	458	476	510	543	573	602	632
6/15/2014	pm	655	684	713	740	754	760	754	747	750	745	707	665
6/16/2014	am	636	617	609	622	655	690	745	796	839	879	923	957
6/16/2014	pm	997	1,019	1,028	1,033	1,019	1,008	981	957	941	895	822	774
6/17/2014	am	729	699	682	681	708	743	792	841	897	960	1,000	1,037
6/17/2014	pm	1,070	1,087	1,090	1,092	1,074	1,059	1,030	998	981	929	857	798
6/18/2014	am	759	730	709	709	736	772	820	873	911	987	1,022	1,063
6/18/2014	pm	1,096	1,108	1,104	1,088	1,030	986	934	902	880	834	782	722
6/19/2014	am	681	660	645	647	682	723	776	822	866	921	956	999
6/19/2014	pm	1,040	1,062	1,038	1,000	955	904	891	865	853	814	758	716
6/20/2014	am	675	649	638	642	673	713	759	791	830	876	917	946
6/20/2014	pm	981	993	978	965	943	921	896	870	858	823	748	693
6/21/2014	am	650	620	599	590	601	606	627	667	713	752	782	807
6/21/2014	pm	831	852	869	886	887	880	851	822	807	765	706	655
6/22/2014	am	614	588	571	562	559	550	567	619	672	719	762	804
6/22/2014	pm	838	865	883	903	912	913	897	869	854	817	764	714
6/23/2014	am	677	649	636	640	677	712	757	823	889	960	1,006	1,047
6/23/2014	pm	1,078	1,083	1,089	1,053	1,004	956	906	875	865	822	773	724
6/24/2014	am	686	664	654	655	690	730	770	801	833	875	904	929
6/24/2014	pm	949	944	920	894	855	847	836	817	811	780	727	684
6/25/2014	am	652	636	627	633	664	704	751	791	831	882	925	956
6/25/2014	pm	988	996	1,000	1,001	979	963	940	899	876	837	775	717
6/26/2014	am	676	649	632	634	664	696	743	782	820	865	896	941
6/26/2014	pm	975	986	1,000	1,005	988	970	950	915	892	844	782	728
6/27/2014	am	680	652	635	634	659	691	738	786	839	898	944	983
6/27/2014	pm	1,017	1,026	1,028	1,025	1,003	976	939	902	880	844	774	713
6/28/2014	am	674	643	622	617	626	629	641	674	714	736	757	776
6/28/2014	pm	794	808	824	847	856	854	834	808	804	778	722	678
6/29/2014	am	638	614	595	586	584	574	592	637	679	719	756	790
6/29/2014	pm	813	833	846	857	861	862	852	824	812	787	743	690
6/30/2014	am	654	628	614	622	657	701	737	769	805	843	864	874
6/30/2014	pm	893	906	927	949	959	959	944	921	913	875	819	772
7/1/2014	am	706	663	631	625	651	688	717	762	820	886	929	955
7/1/2014	pm	981	1,007	1,025	1,029	1,007	986	944	905	872	829	760	726
7/2/2014	am	680	651	633	632	660	687	724	772	816	853	883	906
7/2/2014	pm	923	926	925	913	885	857	823	780	766	723	677	628
7/3/2014	am	593	572	557	557	587	619	650	678	697	720	731	741
7/3/2014	pm	754	753	747	740	727	715	694	666	654	625	572	525
7/4/2014	am	492	470	458	452	453	437	443	472	506	535	557	572
7/4/2014	pm	582	593	608	621	627	624	609	579	557	535	521	490
7/5/2014	am	461	442	430	428	436	433	448	483	523	563	592	615
7/5/2014	pm	631	650	666	686	694	688	667	640	634	610	572	534

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
7/6/2014	am	504	485	472	468	471	473	479	507	537	567	599	630
7/6/2014	pm	659	682	706	735	756	765	763	746	740	718	678	636
7/7/2014	am	605	587	585	598	640	679	723	771	812	860	882	909
7/7/2014	pm	938	942	944	933	923	919	896	859	842	807	760	708
7/8/2014	am	677	659	649	658	691	741	778	792	819	862	888	917
7/8/2014	pm	945	955	958	953	940	929	903	867	847	817	741	689
7/9/2014	am	652	624	611	612	640	672	717	762	807	849	882	905
7/9/2014	pm	929	937	936	934	921	909	884	847	831	788	727	674
7/10/2014	am	635	611	598	602	630	664	700	739	777	818	844	866
7/10/2014	pm	894	906	909	908	895	880	862	825	805	761	697	646
7/11/2014	am	610	588	575	581	606	635	672	716	754	798	829	855
7/11/2014	pm	890	900	912	917	908	896	868	834	814	770	703	650
7/12/2014	am	611	585	571	567	579	586	598	634	669	707	734	744
7/12/2014	pm	744	745	751	766	775	768	758	748	751	733	693	657
7/13/2014	am	628	613	597	593	596	596	601	639	685	710	750	789
7/13/2014	pm	816	835	854	868	882	886	872	842	824	801	755	704
7/14/2014	am	667	643	631	639	671	720	756	784	825	871	910	951
7/14/2014	pm	986	1,001	998	973	921	879	832	798	783	758	709	662
7/15/2014	am	627	608	592	596	624	653	685	717	747	772	781	788
7/15/2014	pm	798	793	785	769	748	734	711	701	702	681	629	590
7/16/2014	am	565	552	541	551	583	615	652	686	712	741	756	765
7/16/2014	pm	780	779	772	762	746	741	723	708	707	683	633	596
7/17/2014	am	569	552	543	548	579	614	654	692	722	753	765	781
7/17/2014	pm	799	804	802	798	784	773	756	738	734	700	645	605
7/18/2014	am	573	555	549	554	584	620	651	685	711	747	765	779
7/18/2014	pm	799	800	787	772	753	738	712	690	693	664	612	570
7/19/2014	am	544	524	513	513	527	536	546	573	600	623	633	642
7/19/2014	pm	649	659	666	674	677	675	664	650	653	627	584	545
7/20/2014	am	518	498	487	483	485	484	486	517	562	603	637	667
7/20/2014	pm	690	710	731	752	770	774	764	743	739	711	667	622
7/21/2014	am	592	571	563	573	612	646	687	738	789	839	885	923
7/21/2014	pm	960	979	996	994	983	980	955	920	900	842	774	716
7/22/2014	am	671	644	629	627	660	699	732	782	835	899	958	1,007
7/22/2014	pm	1,046	1,068	1,084	1,085	1,069	1,056	1,024	984	962	910	835	779
7/23/2014	am	739	708	690	695	717	762	797	828	846	868	869	871
7/23/2014	pm	889	899	902	899	875	857	827	802	801	760	697	653
7/24/2014	am	619	598	585	590	620	655	690	726	756	789	803	819
7/24/2014	pm	837	842	840	835	819	811	788	767	762	721	665	621
7/25/2014	am	591	567	560	566	593	626	663	702	730	764	781	800
7/25/2014	pm	817	818	808	787	758	743	727	714	721	693	638	601
7/26/2014	am	573	555	543	546	558	567	575	609	646	673	711	742
7/26/2014	pm	774	791	807	816	815	807	795	786	762	718	673	627
7/27/2014	am	593	569	554	544	549	552	561	596	631	661	695	729
7/27/2014	pm	746	771	794	812	818	814	792	754	741	711	669	625
7/28/2014	am	595	573	568	578	613	664	698	724	747	778	791	803
7/28/2014	pm	818	823	815	800	776	761	738	713	715	675	628	592
7/29/2014	am	566	553	544	553	586	626	655	684	712	740	757	773
7/29/2014	pm	795	802	798	787	763	757	739	726	729	692	638	602
7/30/2014	am	578	561	554	565	598	638	668	705	739	776	795	816
7/30/2014	pm	839	848	854	846	829	822	803	780	779	733	678	638
7/31/2014	am	610	589	579	584	614	657	689	726	763	802	829	856
7/31/2014	pm	881	896	908	906	886	875	847	821	816	763	707	663
8/1/2014	am	623	601	588	587	615	658	692	722	760	804	837	861
8/1/2014	pm	889	892	891	886	855	831	797	765	760	720	663	615
8/2/2014	am	581	559	544	540	551	562	561	587	617	647	677	702
8/2/2014	pm	727	749	762	778	782	772	748	719	714	673	621	577
8/3/2014	am	542	519	502	495	497	496	493	531	576	620	661	700
8/3/2014	pm	737	760	779	800	817	818	798	771	765	723	672	628
8/4/2014	am	597	579	571	578	615	669	699	747	794	852	895	930
8/4/2014	pm	959	971	981	989	974	961	926	892	875	811	737	698
8/5/2014	am	655	631	617	620	652	710	733	761	792	830	851	884
8/5/2014	pm	911	924	917	921	906	896	872	858	849	795	729	686

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8/6/2014	am	653	627	615	618	649	705	734	760	794	839	870	893
8/6/2014	pm	914	923	927	926	912	902	875	850	843	788	729	681
8/7/2014	am	645	622	609	609	640	695	724	745	772	808	828	849
8/7/2014	pm	874	881	890	885	853	839	813	802	800	751	696	654
8/8/2014	am	625	605	598	604	637	694	724	750	768	794	818	837
8/8/2014	pm	857	861	852	854	834	815	787	775	775	727	664	618
8/9/2014	am	586	567	554	549	558	572	579	611	647	681	711	728
8/9/2014	pm	742	757	770	787	796	790	773	753	751	710	659	613
8/10/2014	am	579	556	541	533	535	541	542	575	616	650	686	728
8/10/2014	pm	761	791	810	825	834	835	824	813	813	772	726	685
8/11/2014	am	653	634	626	636	676	748	786	816	846	880	904	925
8/11/2014	pm	951	953	947	938	919	908	890	870	855	804	740	690
8/12/2014	am	660	639	628	633	665	726	758	777	794	811	818	821
8/12/2014	pm	824	817	805	788	765	752	734	732	730	686	641	610
8/13/2014	am	585	573	566	574	607	664	691	722	751	782	800	816
8/13/2014	pm	836	846	856	858	847	844	823	809	806	744	684	641
8/14/2014	am	612	596	586	593	627	687	719	747	775	809	829	852
8/14/2014	pm	879	895	897	891	870	849	816	793	779	715	652	611
8/15/2014	am	579	559	548	553	585	639	661	686	714	742	756	772
8/15/2014	pm	784	792	792	791	773	755	722	707	709	663	605	564
8/16/2014	am	538	522	509	509	522	537	542	572	602	621	636	643
8/16/2014	pm	649	655	658	662	660	653	649	655	659	629	595	562
8/17/2014	am	538	521	507	502	505	515	520	549	579	603	623	645
8/17/2014	pm	664	685	701	718	732	735	732	733	737	699	659	621
8/18/2014	am	596	581	578	593	638	707	741	776	804	841	873	904
8/18/2014	pm	932	950	969	971	964	956	936	913	895	825	757	708
8/19/2014	am	668	642	627	634	666	729	764	791	835	892	943	987
8/19/2014	pm	1,021	1,037	1,038	1,026	993	976	949	920	890	828	760	711
8/20/2014	am	675	648	634	640	670	736	771	803	841	894	943	979
8/20/2014	pm	1,006	1,008	997	982	969	963	934	912	895	837	769	721
8/21/2014	am	689	668	657	664	690	761	801	825	846	861	884	901
8/21/2014	pm	931	959	982	998	998	995	977	963	931	851	789	740
8/22/2014	am	702	680	670	678	709	785	832	843	857	885	910	937
8/22/2014	pm	973	988	997	1,003	990	971	939	916	899	843	779	719
8/23/2014	am	682	651	632	625	633	647	653	700	762	820	869	905
8/23/2014	pm	931	949	954	950	932	901	861	842	814	760	707	662
8/24/2014	am	629	606	591	582	581	589	593	626	671	715	770	825
8/24/2014	pm	866	898	920	942	954	954	936	917	896	839	788	735
8/25/2014	am	701	680	665	673	709	780	810	846	905	966	1,021	1,065
8/25/2014	pm	1,099	1,132	1,138	1,125	1,101	1,077	1,027	998	959	880	811	762
8/26/2014	am	725	697	680	678	712	774	803	830	881	950	1,004	1,054
8/26/2014	pm	1,089	1,101	1,094	1,066	1,019	984	953	935	910	843	775	734
8/27/2014	am	701	677	661	663	700	770	808	834	874	927	978	1,019
8/27/2014	pm	1,061	1,082	1,091	1,086	1,066	1,045	1,001	975	935	852	784	728
8/28/2014	am	691	665	652	651	682	745	780	806	840	883	916	948
8/28/2014	pm	986	1,008	1,019	1,021	1,002	984	953	940	911	840	770	722
8/29/2014	am	681	654	640	644	676	735	769	791	816	848	875	903
8/29/2014	pm	942	964	985	991	973	950	912	896	872	818	741	687
8/30/2014	am	647	617	597	585	587	598	604	627	662	702	724	742
8/30/2014	pm	763	775	781	784	772	754	732	740	724	684	643	603
8/31/2014	am	573	550	536	531	533	540	552	573	605	633	652	674
8/31/2014	pm	703	731	755	774	786	783	761	748	728	681	637	595
9/1/2014	am	566	544	532	529	538	558	563	585	630	679	720	754
9/1/2014	pm	775	790	800	810	815	811	792	787	765	710	669	624
9/2/2014	am	601	591	586	599	636	707	756	773	801	829	850	868
9/2/2014	pm	890	896	905	906	892	887	861	853	829	769	720	671
9/3/2014	am	637	620	610	614	649	712	739	770	809	856	892	923
9/3/2014	pm	957	982	998	1,003	983	968	927	912	882	804	737	696
9/4/2014	am	658	637	622	630	664	732	773	789	835	891	937	981
9/4/2014	pm	1,025	1,045	1,058	1,064	1,046	1,027	992	980	948	869	805	754
9/5/2014	am	716	694	676	678	712	779	819	845	891	959	1,018	1,063
9/5/2014	pm	1,111	1,131	1,133	1,121	1,090	1,059	1,017	1,002	953	856	770	722

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9/6/2014	am	678	647	626	617	624	637	649	662	679	701	712	710
9/6/2014	pm	713	707	700	699	696	688	668	672	663	614	570	538
9/7/2014	am	513	494	484	481	484	491	490	513	545	575	596	618
9/7/2014	pm	633	647	664	683	696	698	683	685	664	624	593	566
9/8/2014	am	541	530	530	544	587	652	677	694	735	769	791	802
9/8/2014	pm	833	845	852	858	840	835	806	804	775	707	659	621
9/9/2014	am	591	575	567	573	606	667	701	711	740	775	788	805
9/9/2014	pm	826	842	852	860	847	829	810	825	796	733	679	644
9/10/2014	am	616	600	593	605	644	714	776	784	807	833	852	863
9/10/2014	pm	873	879	886	877	867	862	855	860	826	780	728	688
9/11/2014	am	654	628	612	614	645	708	750	748	754	766	765	769
9/11/2014	pm	771	764	746	725	699	693	693	712	689	645	610	582
9/12/2014	am	561	550	544	552	585	646	684	690	707	721	721	716
9/12/2014	pm	718	708	689	672	651	639	637	653	638	602	559	527
9/13/2014	am	507	493	485	486	501	523	540	553	570	580	579	575
9/13/2014	pm	570	567	563	561	558	557	551	576	565	536	504	479
9/14/2014	am	463	453	445	447	452	465	474	488	511	527	537	543
9/14/2014	pm	547	547	553	565	574	582	581	612	597	565	541	522
9/15/2014	am	509	502	500	516	556	623	669	683	703	725	733	739
9/15/2014	pm	743	733	719	701	685	682	688	699	674	637	595	573
9/16/2014	am	553	543	541	551	588	651	695	700	710	726	731	731
9/16/2014	pm	731	727	715	698	679	671	671	696	677	633	591	563
9/17/2014	am	546	536	533	547	579	648	687	695	710	724	726	731
9/17/2014	pm	735	730	727	711	690	682	680	705	682	636	594	568
9/18/2014	am	549	541	538	546	582	653	691	698	715	731	740	741
9/18/2014	pm	753	748	743	733	714	700	691	718	694	641	595	568
9/19/2014	am	546	536	529	540	576	635	677	688	704	723	730	732
9/19/2014	pm	740	734	725	717	701	681	663	677	653	611	565	531
9/20/2014	am	510	496	488	492	507	526	543	563	589	612	623	629
9/20/2014	pm	636	647	660	675	669	666	664	673	653	616	583	552
9/21/2014	am	528	513	507	504	507	520	531	544	574	594	605	615
9/21/2014	pm	617	614	609	609	608	606	604	626	601	565	540	519
9/22/2014	am	505	500	505	516	553	624	671	686	701	718	725	729
9/22/2014	pm	733	732	717	718	697	693	683	706	676	633	590	563
9/23/2014	am	546	537	532	544	580	648	687	695	706	727	737	740
9/23/2014	pm	747	747	742	732	714	708	706	722	688	640	596	567
9/24/2014	am	548	537	533	546	579	646	686	694	708	733	743	750
9/24/2014	pm	764	763	760	754	738	731	725	737	701	648	607	575
9/25/2014	am	556	543	537	547	586	649	691	695	716	740	756	767
9/25/2014	pm	786	789	790	788	769	757	745	757	720	665	617	583
9/26/2014	am	560	546	541	545	579	640	680	692	715	743	761	777
9/26/2014	pm	798	811	813	808	786	762	739	740	704	649	596	555
9/27/2014	am	528	512	501	500	512	532	547	560	588	608	622	633
9/27/2014	pm	640	656	667	681	682	670	654	658	628	586	543	512
9/28/2014	am	490	475	467	462	465	476	492	502	532	564	595	619
9/28/2014	pm	642	661	677	691	700	697	692	699	664	623	586	555
9/29/2014	am	536	525	520	535	570	638	683	695	722	762	788	804
9/29/2014	pm	831	837	842	837	813	800	784	782	738	679	636	599
9/30/2014	am	573	559	552	561	594	658	706	702	718	728	744	751
9/30/2014	pm	765	766	765	756	738	726	722	732	704	652	609	578
10/1/2014	am	559	550	546	554	588	650	697	696	708	727	737	747
10/1/2014	pm	764	770	773	767	749	737	738	749	713	661	615	586
10/2/2014	am	567	555	552	560	601	667	718	718	736	757	778	790
10/2/2014	pm	810	828	834	825	797	781	793	794	767	716	665	631
10/3/2014	am	606	590	584	591	625	688	742	743	749	758	752	745
10/3/2014	pm	739	721	699	681	657	643	649	647	626	591	547	519
10/4/2014	am	498	487	483	489	504	526	550	562	584	592	592	586
10/4/2014	pm	583	577	571	570	573	576	597	606	586	556	530	508
10/5/2014	am	490	480	475	478	484	500	520	532	547	554	555	557
10/5/2014	pm	553	548	545	548	557	565	595	604	585	561	549	532
10/6/2014	am	520	518	521	535	573	644	700	718	729	741	738	735
10/6/2014	pm	739	725	710	697	674	676	697	701	674	632	610	581

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10/7/2014	am	565	559	556	569	604	660	709	712	719	731	734	736
10/7/2014	pm	740	728	715	702	681	680	697	704	679	640	606	580
10/8/2014	am	563	556	551	565	599	664	705	699	717	728	733	731
10/8/2014	pm	734	726	717	700	678	669	691	702	675	634	599	576
10/9/2014	am	559	552	551	569	596	656	711	705	723	738	742	741
10/9/2014	pm	740	727	713	696	678	677	698	700	675	638	609	586
10/10/2014	am	566	557	552	561	595	660	716	711	716	724	722	720
10/10/2014	pm	721	707	691	677	659	654	669	663	643	613	574	546
10/11/2014	am	525	515	510	511	527	549	574	583	597	604	596	584
10/11/2014	pm	573	561	553	551	549	550	579	587	574	547	521	502
10/12/2014	am	488	483	480	481	490	505	525	537	552	557	557	559
10/12/2014	pm	554	551	549	553	559	574	605	605	582	559	542	525
10/13/2014	am	513	510	508	529	563	631	695	716	729	747	752	755
10/13/2014	pm	764	756	741	731	713	714	735	726	702	666	625	598
10/14/2014	am	576	565	562	571	601	656	715	724	732	750	751	751
10/14/2014	pm	752	738	721	707	684	682	704	700	676	641	602	576
10/15/2014	am	558	550	546	557	592	643	700	708	714	728	729	727
10/15/2014	pm	731	720	704	690	676	680	699	696	675	640	608	584
10/16/2014	am	564	557	555	569	589	650	706	712	720	727	731	724
10/16/2014	pm	724	713	700	689	670	672	695	693	681	641	606	584
10/17/2014	am	563	552	551	560	590	647	693	697	701	713	717	716
10/17/2014	pm	717	705	686	671	653	655	672	662	640	603	565	535
10/18/2014	am	514	506	502	502	514	533	558	570	588	599	597	591
10/18/2014	pm	586	580	574	574	575	579	605	603	589	565	537	513
10/19/2014	am	497	489	485	486	495	509	532	544	556	562	562	564
10/19/2014	pm	559	552	546	547	551	565	605	610	591	570	561	546
10/20/2014	am	529	522	525	542	582	649	713	728	732	747	744	740
10/20/2014	pm	742	729	713	698	678	682	710	705	678	635	600	574
10/21/2014	am	556	552	549	563	600	666	716	721	726	734	731	727
10/21/2014	pm	733	719	705	699	684	688	716	710	685	645	614	588
10/22/2014	am	573	569	568	581	620	684	745	747	746	749	742	737
10/22/2014	pm	737	721	703	689	669	673	707	704	684	651	618	600
10/23/2014	am	585	578	581	595	635	695	748	749	753	750	741	734
10/23/2014	pm	733	717	699	682	667	680	702	699	675	638	606	583
10/24/2014	am	567	561	559	573	605	663	710	715	718	725	719	706
10/24/2014	pm	703	688	669	653	631	627	652	643	622	590	552	534
10/25/2014	am	514	508	504	506	519	538	563	570	580	590	588	581
10/25/2014	pm	573	569	565	564	561	558	581	578	562	534	507	483
10/26/2014	am	464	453	449	450	458	475	502	515	530	539	546	550
10/26/2014	pm	548	546	543	548	552	560	596	600	579	550	537	523
10/27/2014	am	511	509	519	533	566	636	701	710	716	737	738	743
10/27/2014	pm	749	745	734	720	696	701	725	715	687	647	608	579
10/28/2014	am	561	550	544	554	591	656	714	729	729	741	735	732
10/28/2014	pm	732	718	701	686	670	677	707	695	672	632	593	566
10/29/2014	am	552	545	543	556	594	663	729	730	730	736	732	729
10/29/2014	pm	728	716	704	696	686	700	721	714	692	652	621	600
10/30/2014	am	581	576	573	586	629	696	754	756	754	751	741	735
10/30/2014	pm	729	718	703	687	671	684	714	707	685	646	614	594
10/31/2014	am	575	569	563	573	607	670	723	733	738	751	750	745
10/31/2014	pm	745	730	716	710	692	698	711	708	697	665	628	604
11/1/2014	am	586	579	574	580	596	615	641	655	665	669	664	651
11/1/2014	pm	635	617	604	597	596	610	646	644	635	614	592	573
11/2/2014	am	562	558	556	557	563	577	596	608	623	622	614	603
11/2/2014	pm	592	579	568	565	574	603	647	648	640	617	597	585
11/3/2014	am	573	569	568	571	588	632	701	742	756	758	761	751
11/3/2014	pm	739	737	722	705	690	694	733	725	706	681	645	615
11/4/2014	am	593	577	570	567	585	623	688	728	733	742	754	750
11/4/2014	pm	748	748	732	724	722	733	747	735	718	687	647	618
11/5/2014	am	598	582	578	577	593	632	702	739	746	747	750	743
11/5/2014	pm	730	728	716	702	691	697	732	726	711	691	654	617
11/6/2014	am	596	583	577	573	588	625	693	737	743	750	760	763
11/6/2014	pm	760	768	760	754	751	761	774	765	753	728	684	649

Indiana Municipal Power Agency
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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
11/7/2014	am	629	614	607	607	619	660	720	753	762	765	768	762
11/7/2014	pm	749	738	715	692	682	691	717	708	698	680	647	611
11/8/2014	am	590	577	571	567	572	592	613	629	643	651	651	642
11/8/2014	pm	631	623	619	615	622	643	655	645	635	618	591	567
11/9/2014	am	551	537	533	532	538	550	567	578	597	605	607	598
11/9/2014	pm	594	583	579	576	587	620	656	657	643	625	602	590
11/10/2014	am	577	571	569	571	591	635	712	754	761	760	759	753
11/10/2014	pm	746	744	727	709	698	704	743	734	721	696	659	626
11/11/2014	am	606	592	583	581	596	632	692	734	733	740	747	747
11/11/2014	pm	749	754	744	735	742	757	762	771	759	738	701	668
11/12/2014	am	644	632	628	626	635	676	742	794	801	807	820	810
11/12/2014	pm	808	805	799	786	787	801	821	815	798	773	735	704
11/13/2014	am	685	671	667	672	687	729	793	837	843	846	856	853
11/13/2014	pm	844	845	835	826	820	831	855	843	832	808	765	730
11/14/2014	am	707	696	693	698	710	751	820	859	852	843	836	821
11/14/2014	pm	806	799	782	760	752	770	797	791	785	770	736	702
11/15/2014	am	682	669	664	663	672	694	718	734	744	745	736	721
11/15/2014	pm	698	676	661	655	663	695	713	707	695	675	647	619
11/16/2014	am	598	582	575	571	575	584	600	620	634	649	657	659
11/16/2014	pm	662	660	658	659	672	706	723	717	704	682	660	645
11/17/2014	am	632	623	624	630	652	700	774	828	842	850	858	855
11/17/2014	pm	854	854	848	843	844	867	901	893	881	852	815	786
11/18/2014	am	771	759	755	758	774	812	877	920	920	921	919	910
11/18/2014	pm	902	902	892	880	876	894	919	909	891	864	822	785
11/19/2014	am	764	755	750	752	769	806	867	910	904	902	896	876
11/19/2014	pm	862	855	840	827	831	850	867	857	844	819	781	750
11/20/2014	am	731	720	713	716	732	775	837	878	878	874	874	863
11/20/2014	pm	853	847	830	820	816	837	866	862	852	831	796	762
11/21/2014	am	746	735	731	733	752	796	863	908	900	887	873	852
11/21/2014	pm	830	820	799	773	767	787	813	807	795	776	742	703
11/22/2014	am	682	666	651	643	646	660	681	694	701	715	719	705
11/22/2014	pm	686	668	649	640	641	665	675	662	647	627	602	572
11/23/2014	am	549	534	528	524	525	533	550	569	584	598	602	601
11/23/2014	pm	604	604	606	610	626	660	671	664	653	627	603	586
11/24/2014	am	569	555	550	554	573	613	678	730	741	754	769	770
11/24/2014	pm	779	787	791	788	790	805	812	803	792	766	717	684
11/25/2014	am	664	648	654	656	668	711	776	823	828	830	836	828
11/25/2014	pm	822	824	818	806	804	820	835	822	806	786	751	721
11/26/2014	am	695	680	675	677	691	725	770	816	828	832	839	829
11/26/2014	pm	812	803	782	759	748	765	780	769	752	728	692	644
11/27/2014	am	613	591	578	570	572	578	592	609	628	655	672	666
11/27/2014	pm	637	607	591	587	590	613	627	628	629	624	611	592
11/28/2014	am	578	569	568	571	580	598	624	649	659	673	684	686
11/28/2014	pm	669	653	643	639	643	674	692	686	675	658	632	605
11/29/2014	am	584	567	558	553	555	568	590	611	622	635	637	628
11/29/2014	pm	613	597	588	586	596	622	628	620	609	592	567	537
11/30/2014	am	513	494	483	476	476	483	499	515	526	538	549	558
11/30/2014	pm	564	564	562	560	570	610	629	623	612	593	576	565
12/1/2014	am	556	551	552	561	584	635	714	779	797	809	824	821
12/1/2014	pm	819	819	809	798	795	820	844	836	828	802	769	745
12/2/2014	am	722	705	699	694	710	744	809	852	852	853	865	859
12/2/2014	pm	854	851	840	826	821	840	846	836	824	809	770	733
12/3/2014	am	709	692	686	683	699	730	792	835	836	839	840	828
12/3/2014	pm	811	803	784	771	766	792	818	817	814	797	760	728
12/4/2014	am	706	688	682	681	694	733	796	850	848	848	854	850
12/4/2014	pm	844	840	826	816	809	830	837	825	817	795	752	713
12/5/2014	am	686	666	655	652	662	697	758	808	812	809	815	811
12/5/2014	pm	804	798	784	770	767	775	772	756	742	722	692	662
12/6/2014	am	634	614	605	599	602	626	650	680	697	715	721	717
12/6/2014	pm	706	698	686	679	687	715	727	719	709	696	673	646
12/7/2014	am	625	611	605	604	608	619	636	660	668	674	672	667
12/7/2014	pm	664	657	650	650	664	713	742	747	735	715	690	672

Indiana Municipal Power Agency
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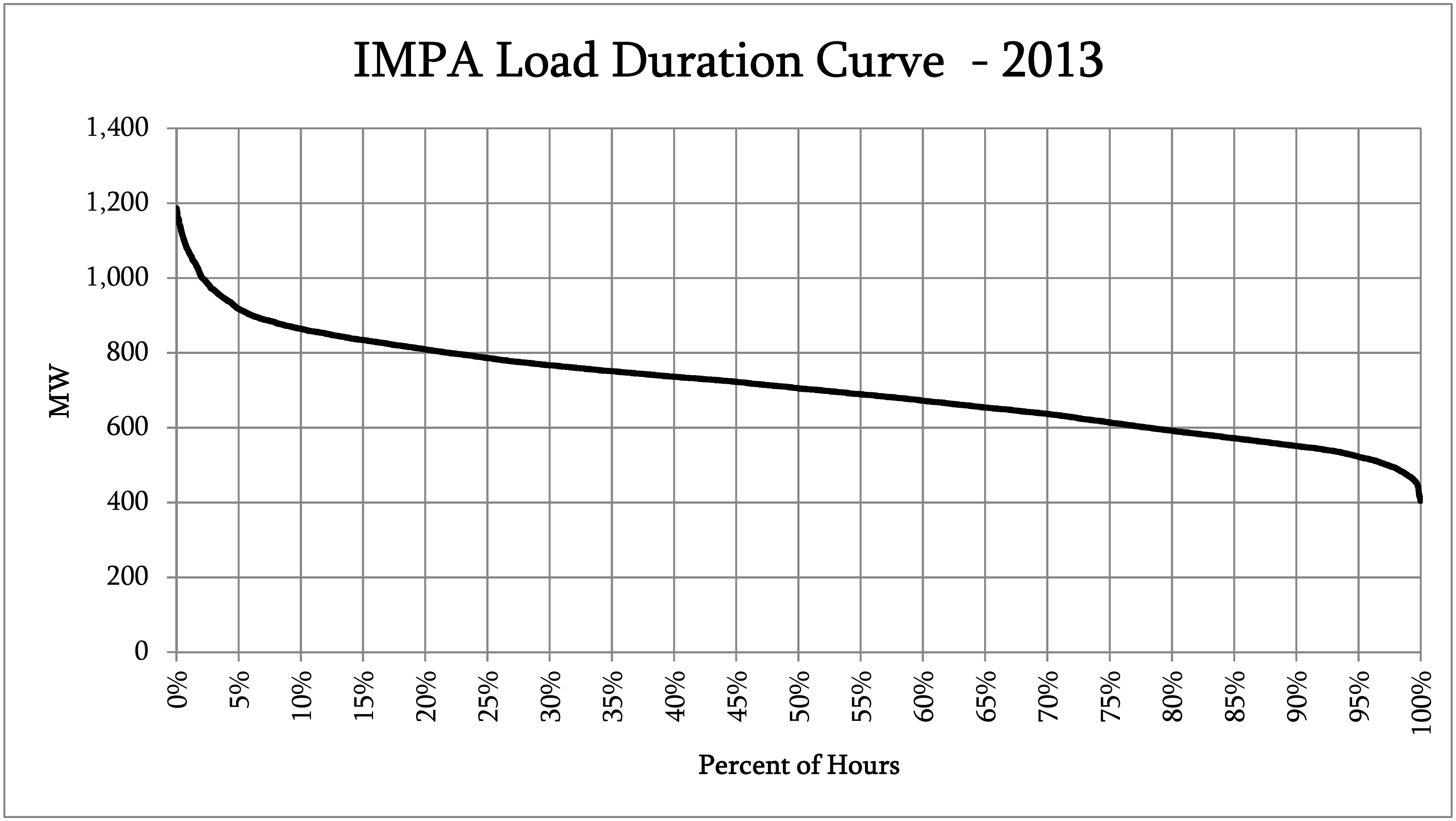
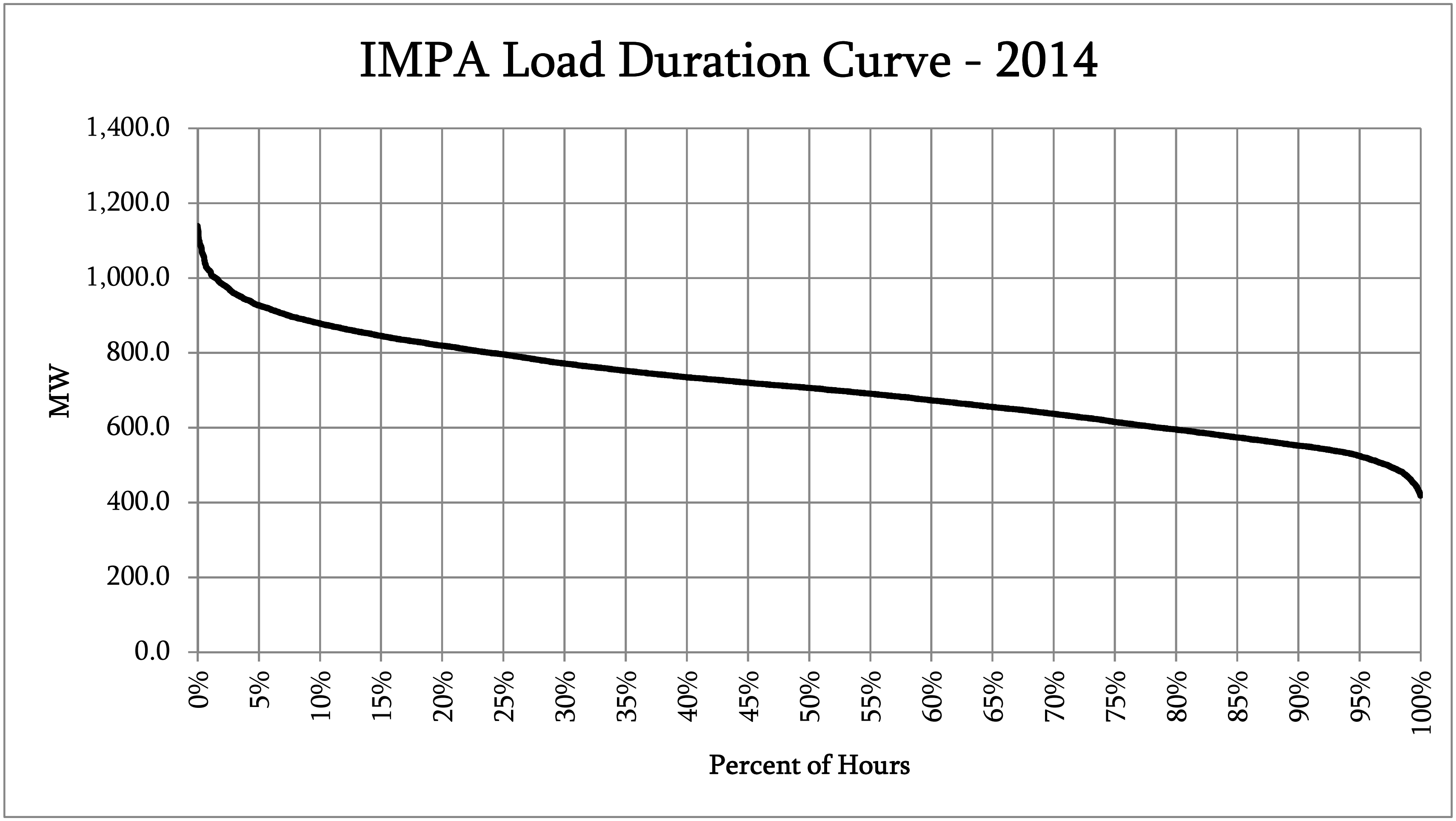
Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
12/8/2014	am	655	632	631	635	655	695	767	827	832	830	837	829
12/8/2014	pm	822	818	802	797	793	810	824	812	797	774	732	696
12/9/2014	am	670	652	645	644	656	699	770	822	827	828	839	830
12/9/2014	pm	827	827	819	810	808	822	832	819	810	788	746	707
12/10/2014	am	683	668	660	656	658	684	744	810	834	835	845	839
12/10/2014	pm	835	834	823	815	815	838	851	841	828	807	765	731
12/11/2014	am	708	693	686	686	697	735	799	848	842	845	842	832
12/11/2014	pm	820	817	796	780	776	804	835	829	830	811	772	739
12/12/2014	am	723	710	706	705	715	756	820	869	868	860	857	842
12/12/2014	pm	830	822	809	795	791	810	816	801	788	765	727	684
12/13/2014	am	656	633	623	614	617	633	655	683	697	711	711	706
12/13/2014	pm	689	672	658	647	651	681	693	684	674	657	631	602
12/14/2014	am	575	556	548	541	542	551	566	589	607	617	623	626
12/14/2014	pm	630	625	618	614	626	668	694	693	690	667	644	628
12/15/2014	am	605	591	589	588	607	651	728	788	796	796	803	802
12/15/2014	pm	796	793	779	769	768	787	802	790	778	751	710	673
12/16/2014	am	644	624	612	611	624	662	724	784	794	793	803	805
12/16/2014	pm	804	806	799	795	795	817	829	820	813	793	753	715
12/17/2014	am	689	675	669	668	687	728	797	852	861	864	872	870
12/17/2014	pm	863	862	855	848	847	868	881	874	862	837	788	753
12/18/2014	am	727	701	693	688	705	742	811	862	874	868	869	871
12/18/2014	pm	863	861	849	835	829	850	863	855	849	829	783	749
12/19/2014	am	722	704	699	697	715	752	817	867	871	864	869	853
12/19/2014	pm	839	831	823	803	800	819	825	810	797	779	746	704
12/20/2014	am	673	655	644	640	642	660	685	710	723	737	740	735
12/20/2014	pm	722	708	699	692	693	719	735	731	727	713	691	665
12/21/2014	am	653	637	632	627	629	640	658	685	696	698	690	681
12/21/2014	pm	672	658	644	638	649	692	730	736	734	719	698	681
12/22/2014	am	663	650	647	646	664	699	752	799	817	817	827	822
12/22/2014	pm	811	806	788	772	765	782	792	779	767	742	703	668
12/23/2014	am	641	619	606	602	607	639	685	722	738	739	749	742
12/23/2014	pm	729	725	710	696	689	710	719	708	694	670	629	584
12/24/2014	am	552	530	520	513	511	523	541	564	585	600	612	613
12/24/2014	pm	602	596	587	578	578	598	597	586	579	571	557	539
12/25/2014	am	513	500	492	487	488	500	514	539	549	562	571	574
12/25/2014	pm	562	543	524	513	510	534	565	571	573	568	554	535
12/26/2014	am	516	505	500	502	514	539	575	612	620	627	631	626
12/26/2014	pm	616	602	587	576	579	610	636	630	624	607	583	556
12/27/2014	am	531	515	506	502	505	518	537	563	581	596	614	620
12/27/2014	pm	618	610	599	596	603	631	638	630	624	612	592	571
12/28/2014	am	551	538	533	532	536	547	563	586	600	613	625	633
12/28/2014	pm	643	639	634	633	643	675	702	698	691	676	657	641
12/29/2014	am	624	616	609	605	622	658	712	761	770	770	771	764
12/29/2014	pm	750	744	731	721	714	732	759	753	742	722	690	671
12/30/2014	am	650	637	631	628	642	676	728	773	771	772	772	764
12/30/2014	pm	756	753	744	737	733	752	787	784	777	758	724	692
12/31/2014	am	671	659	650	650	659	685	723	758	764	769	769	751
12/31/2014	pm	732	716	694	670	664	693	717	703	688	672	651	634

Appendix B – Historic System Load Shapes

Annual Load Duration Curves

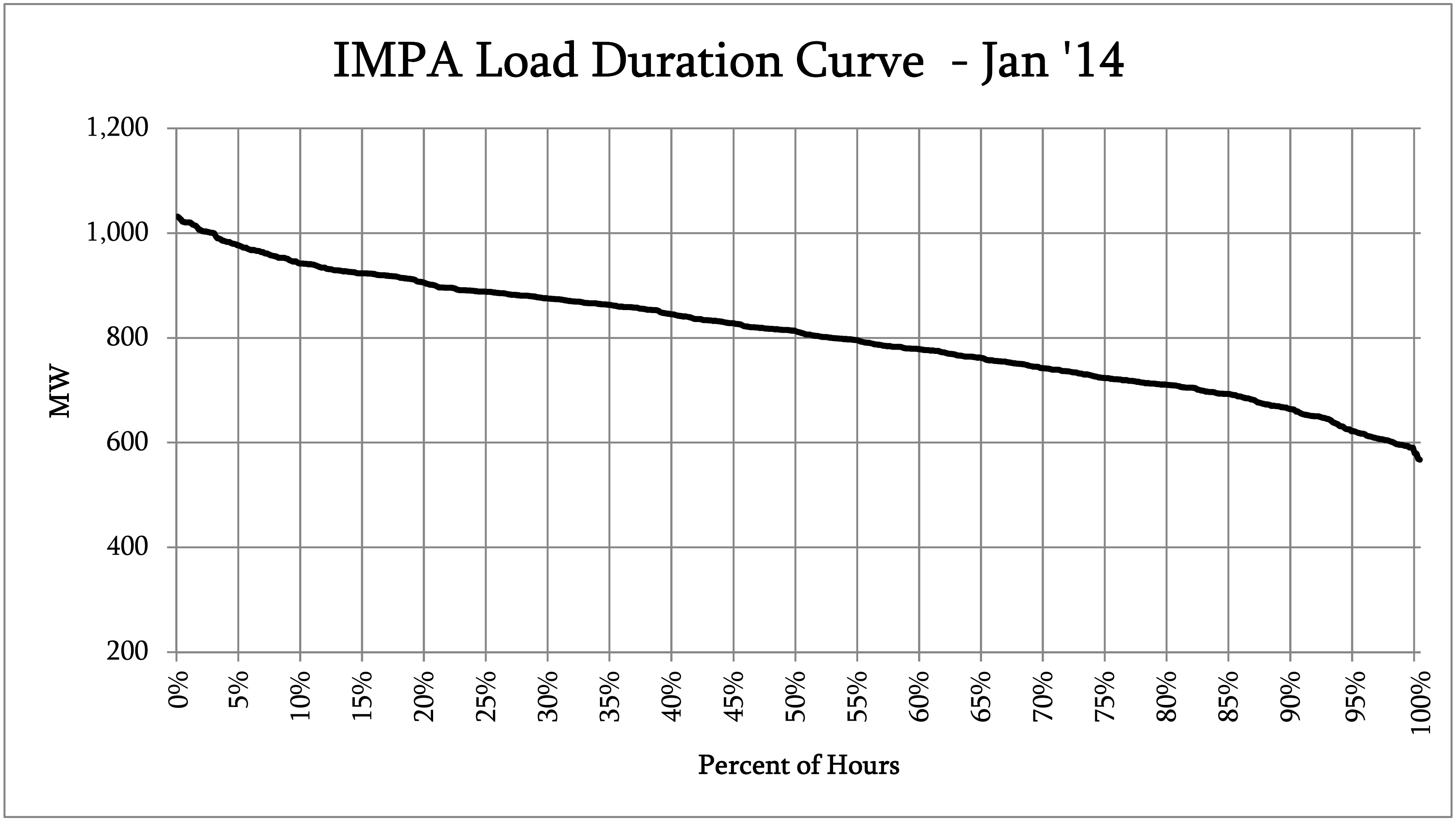


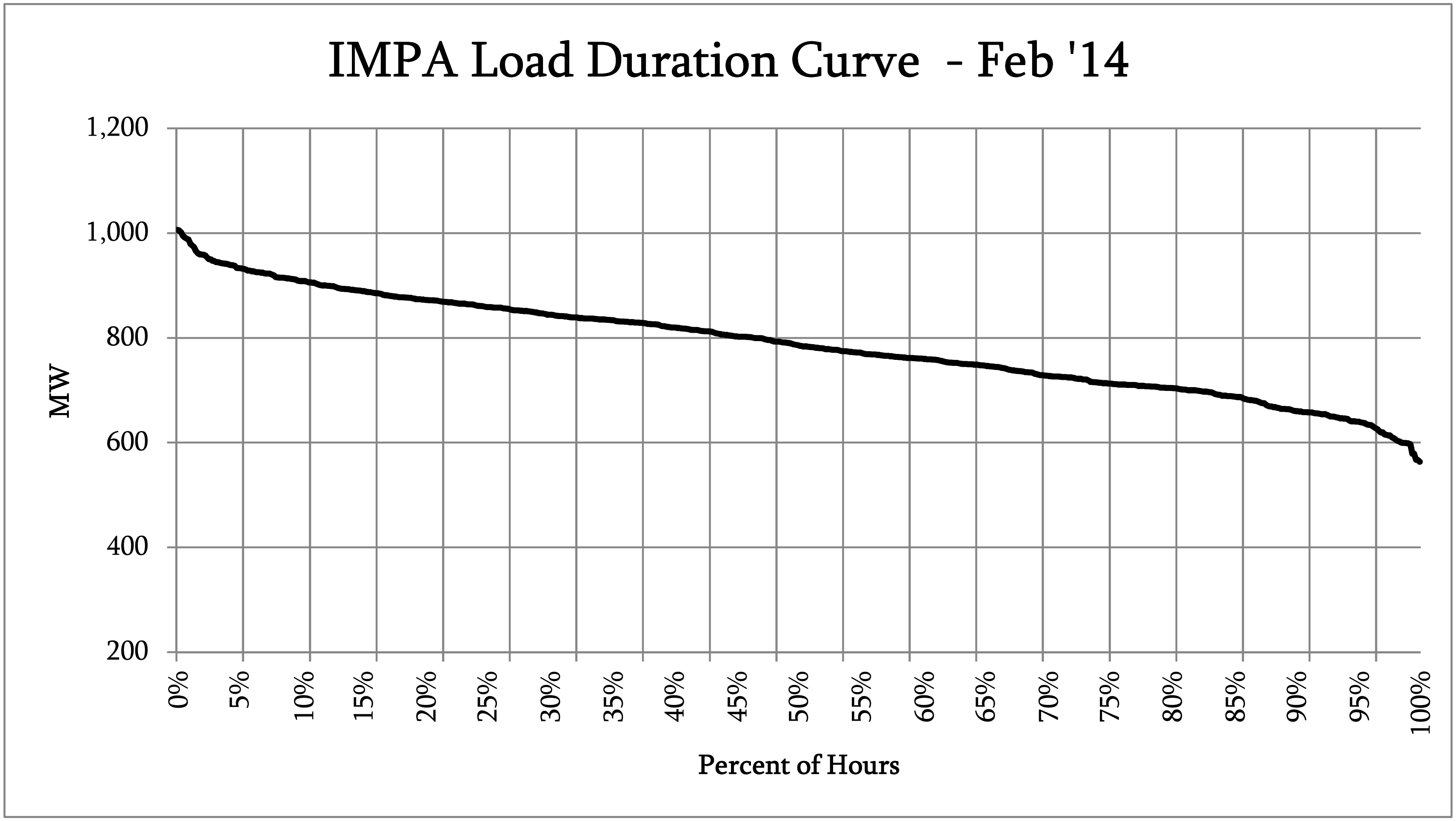
IMPA Load Duration Curve - 2013
MW
1,400
1,200
1,000
800
600
400
200
0
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

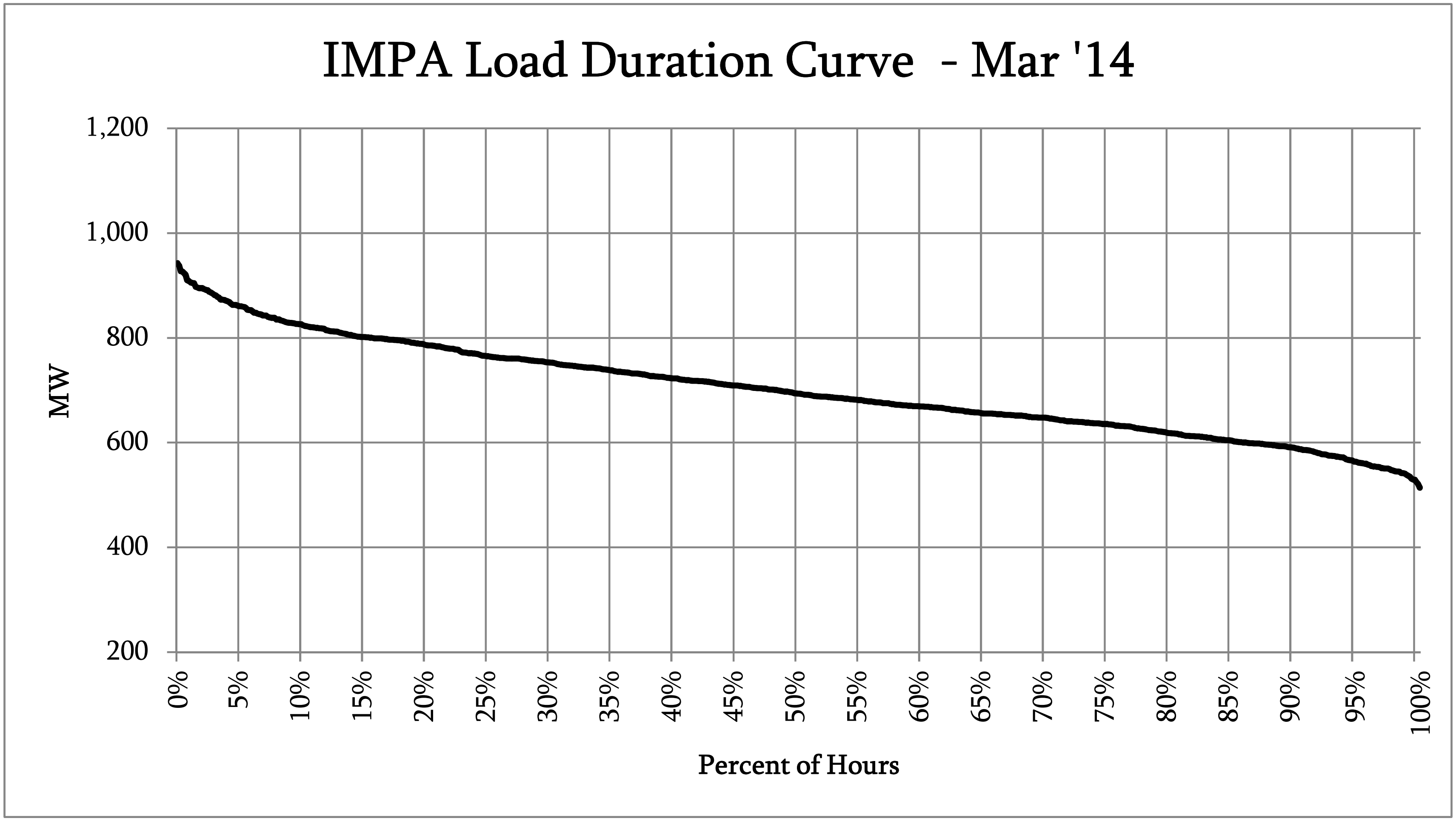


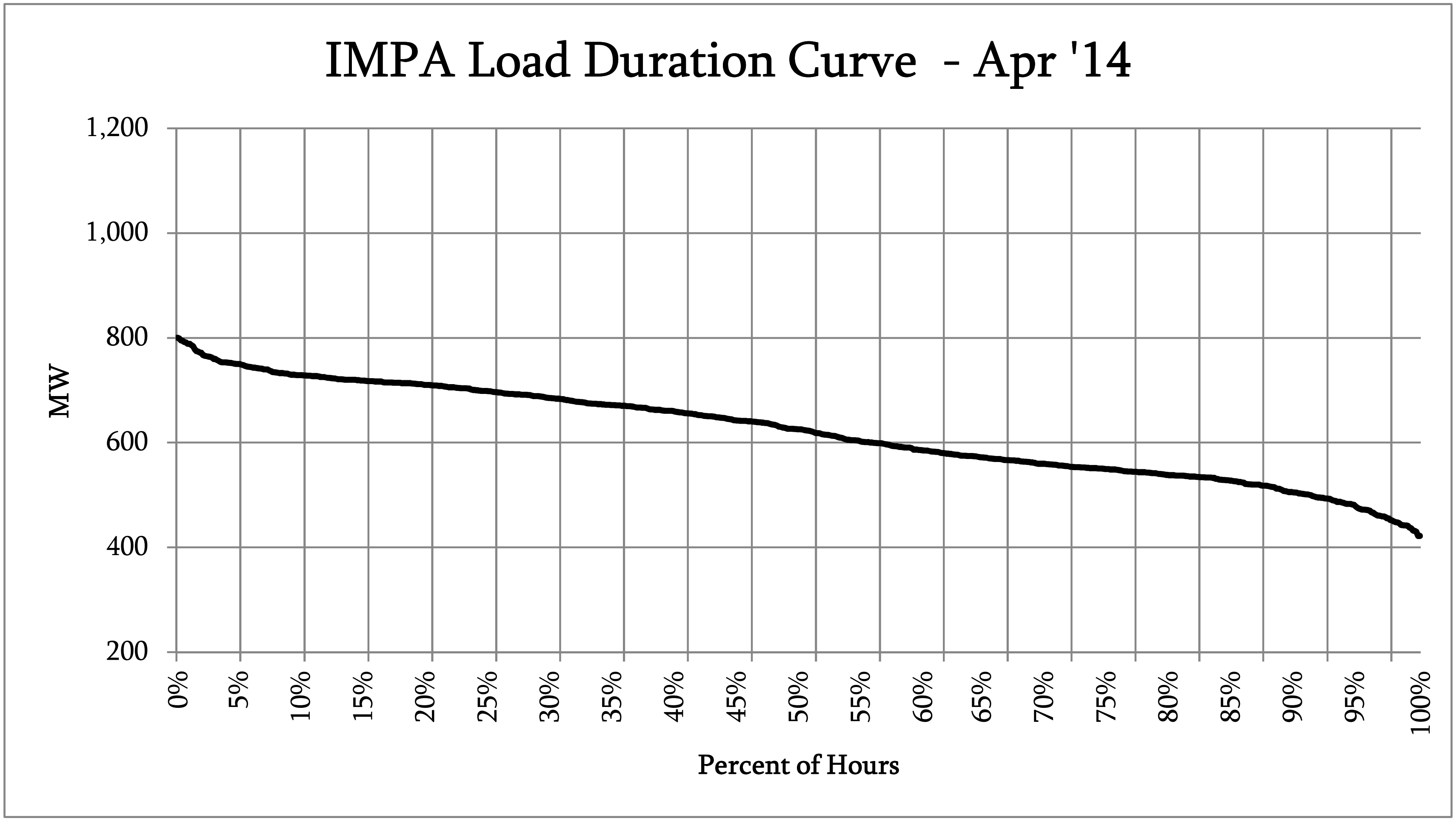
IMPA Load Duration Curve - 2014
1,400.0
1,200.0
1,000.0
800.0
600.0
400.0
200.0
0.0
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

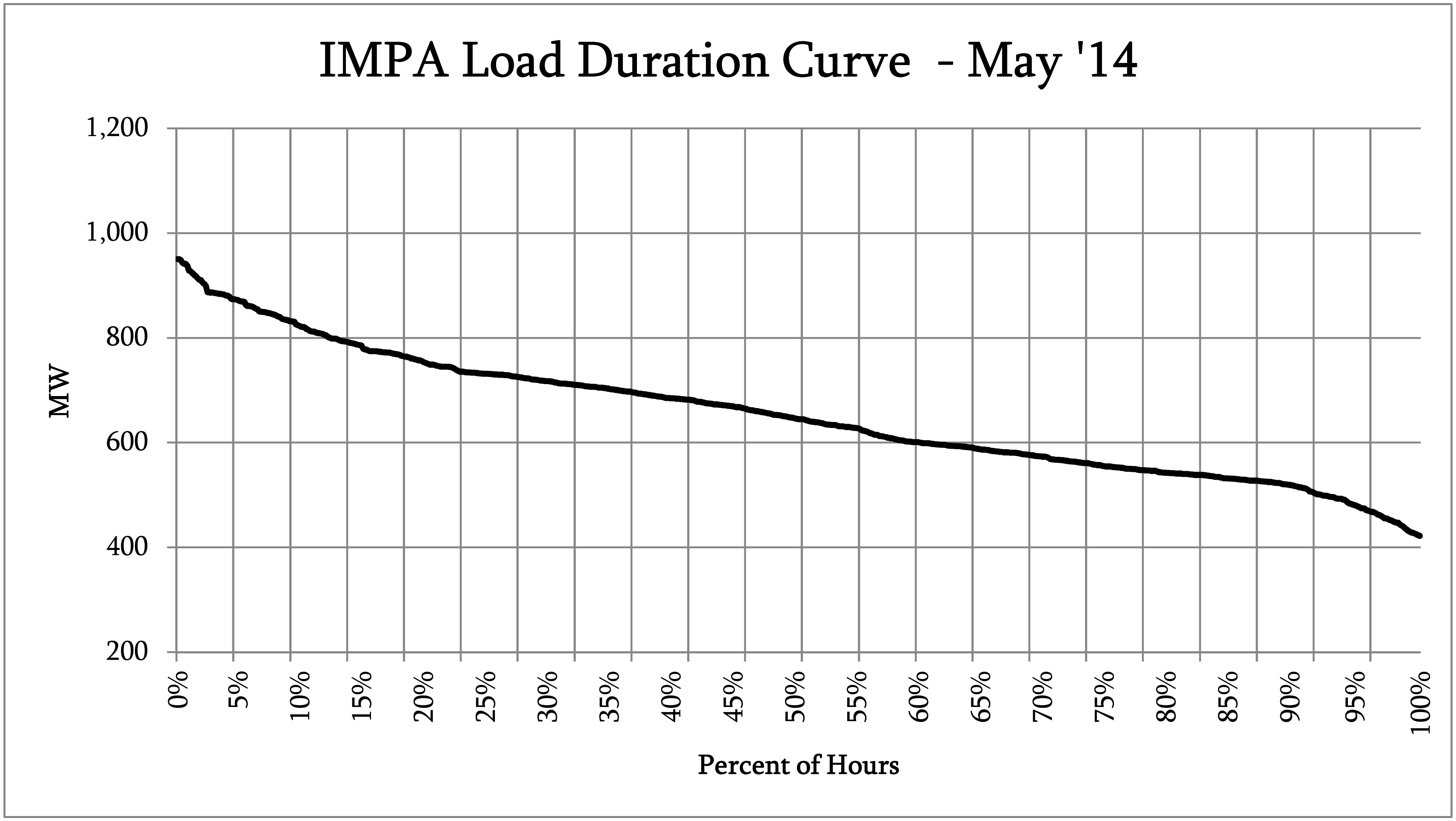
Monthly Load Duration Curves

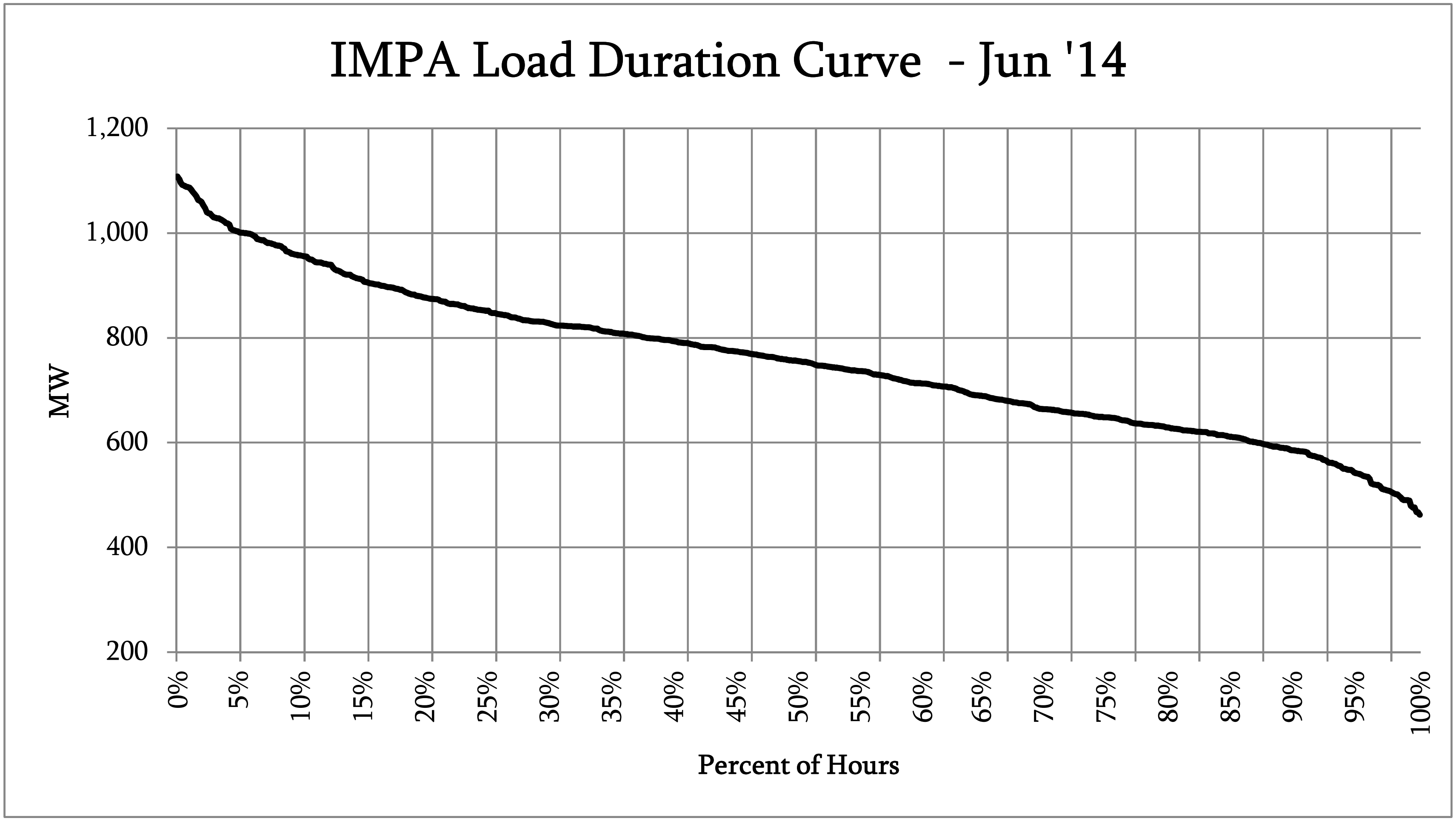

IMPA Load Duration Curve - Jan '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

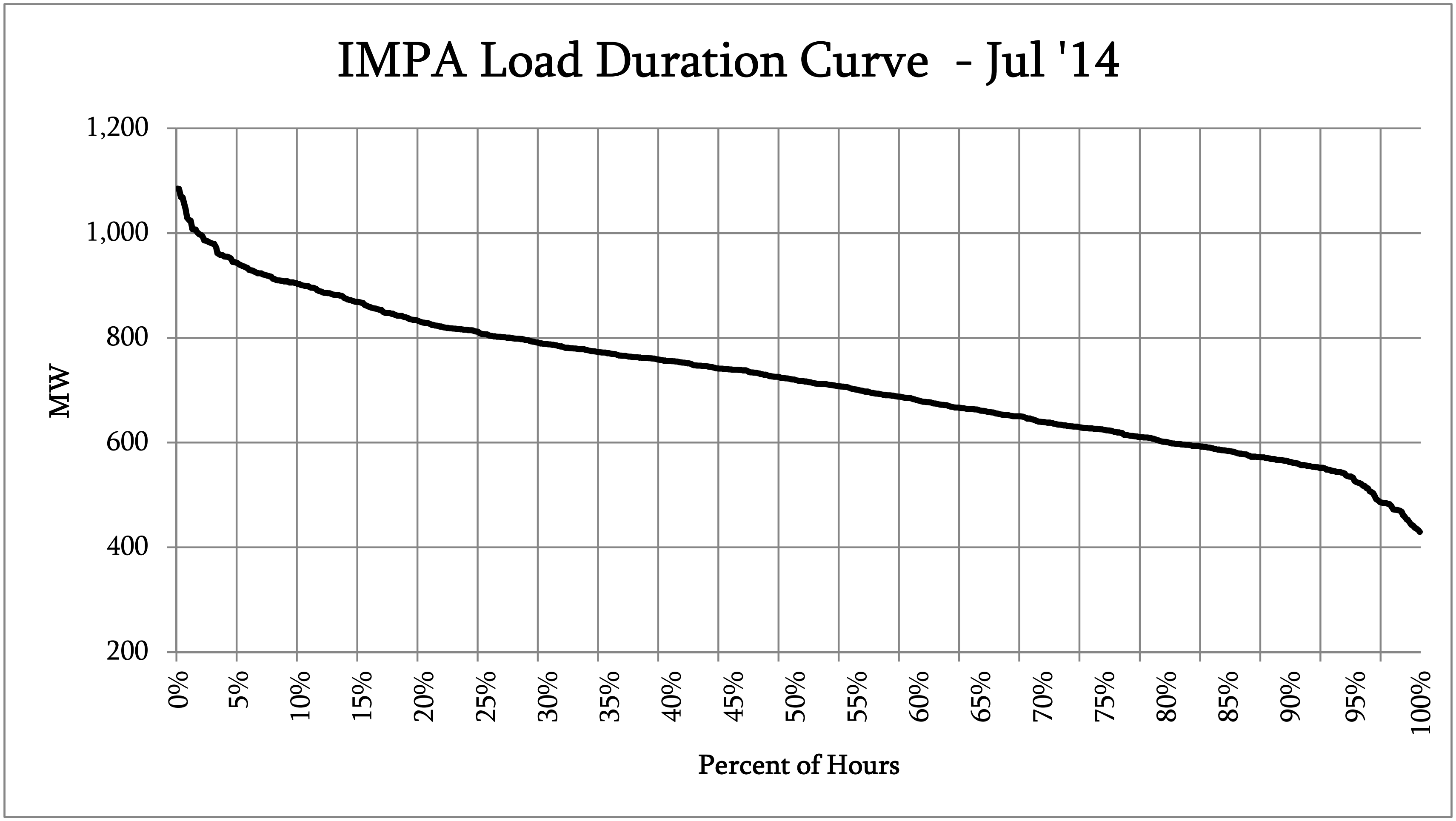

IMPA Load Duration Curve - Feb '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours


IMPA Load Duration Curve - Mar '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

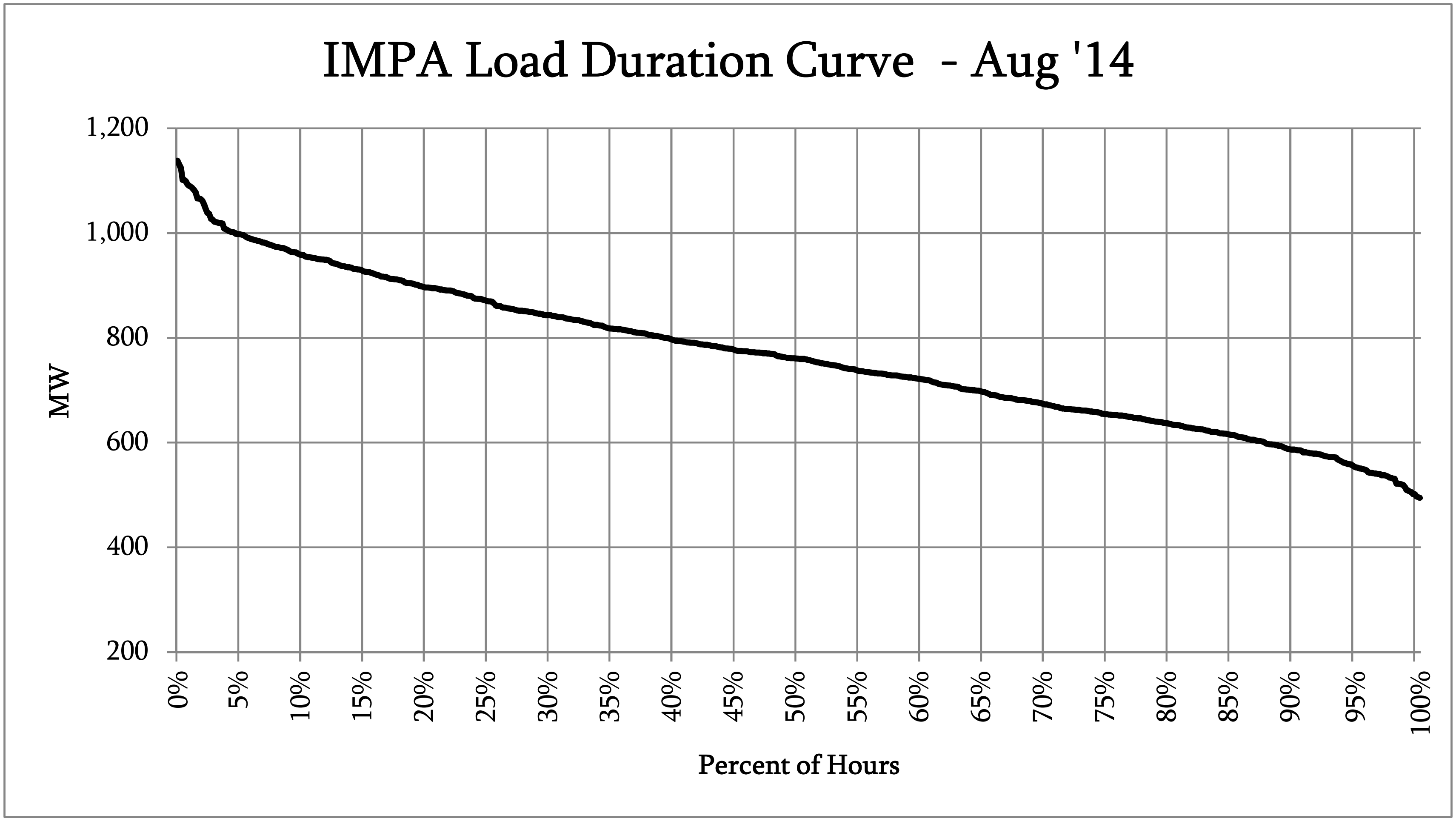

IMPA Load Duration Curve - Apr '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours


IMPA Load Duration Curve - May '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

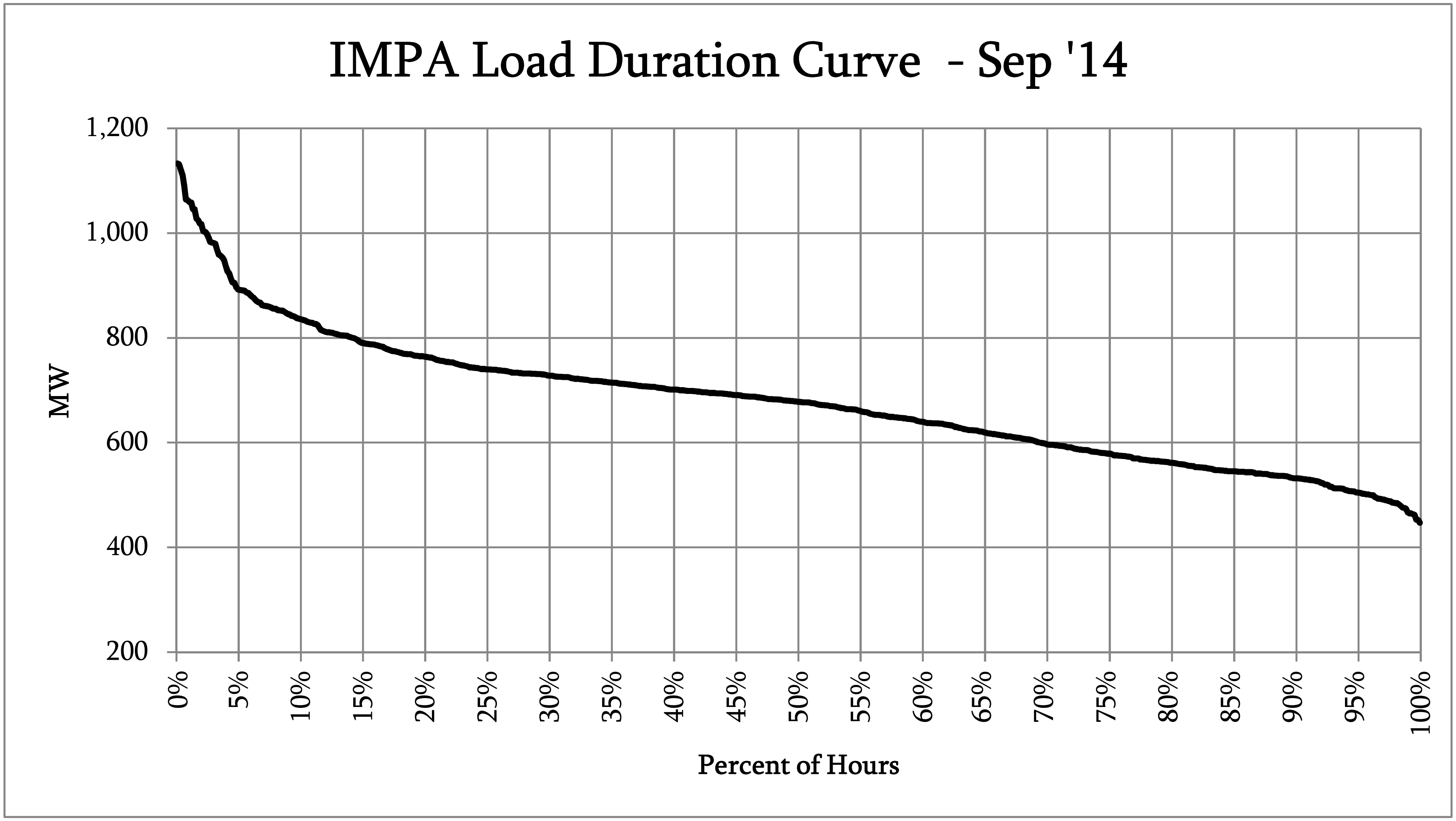

IMPA Load Duration Curve - Jun '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

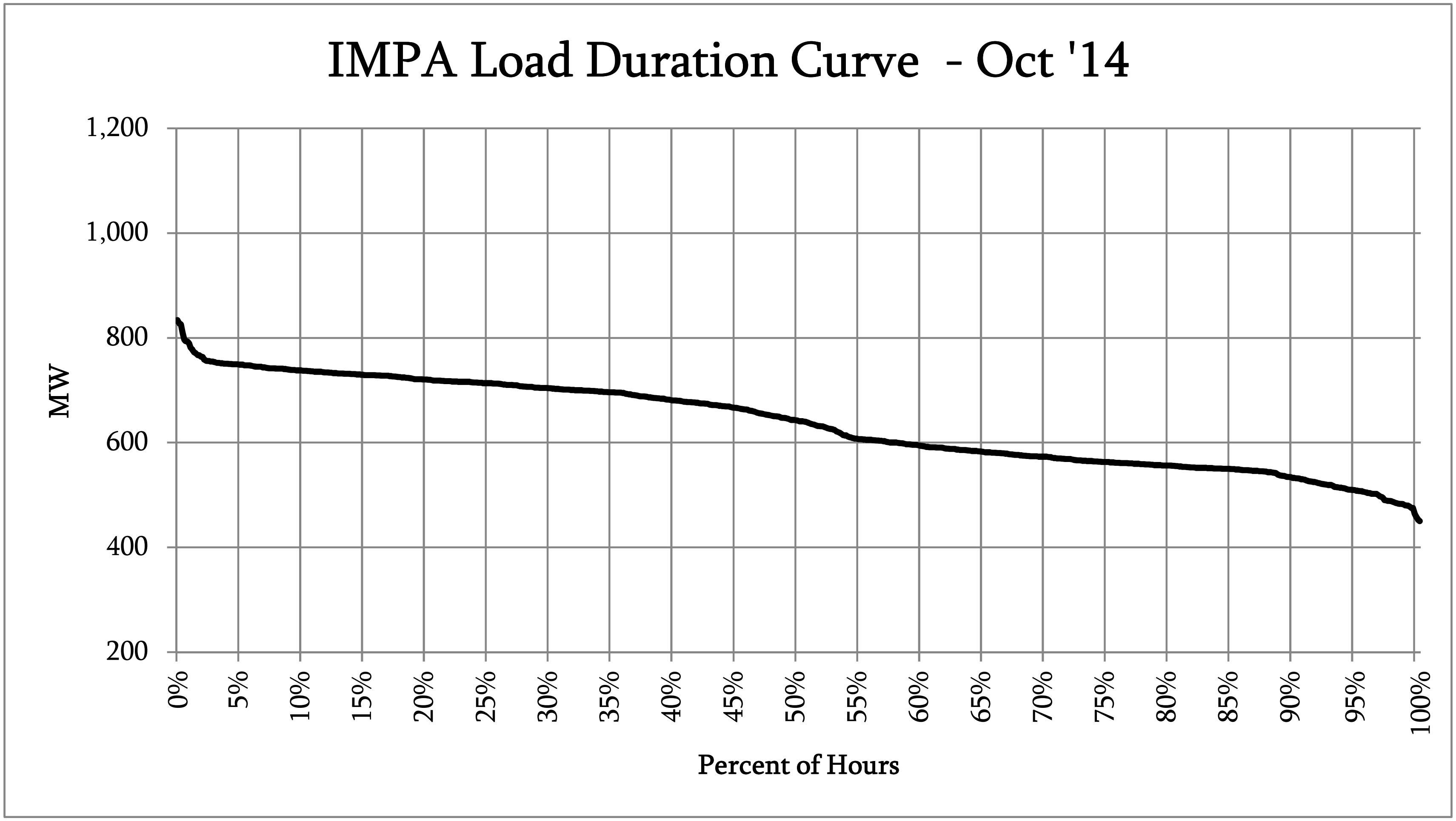


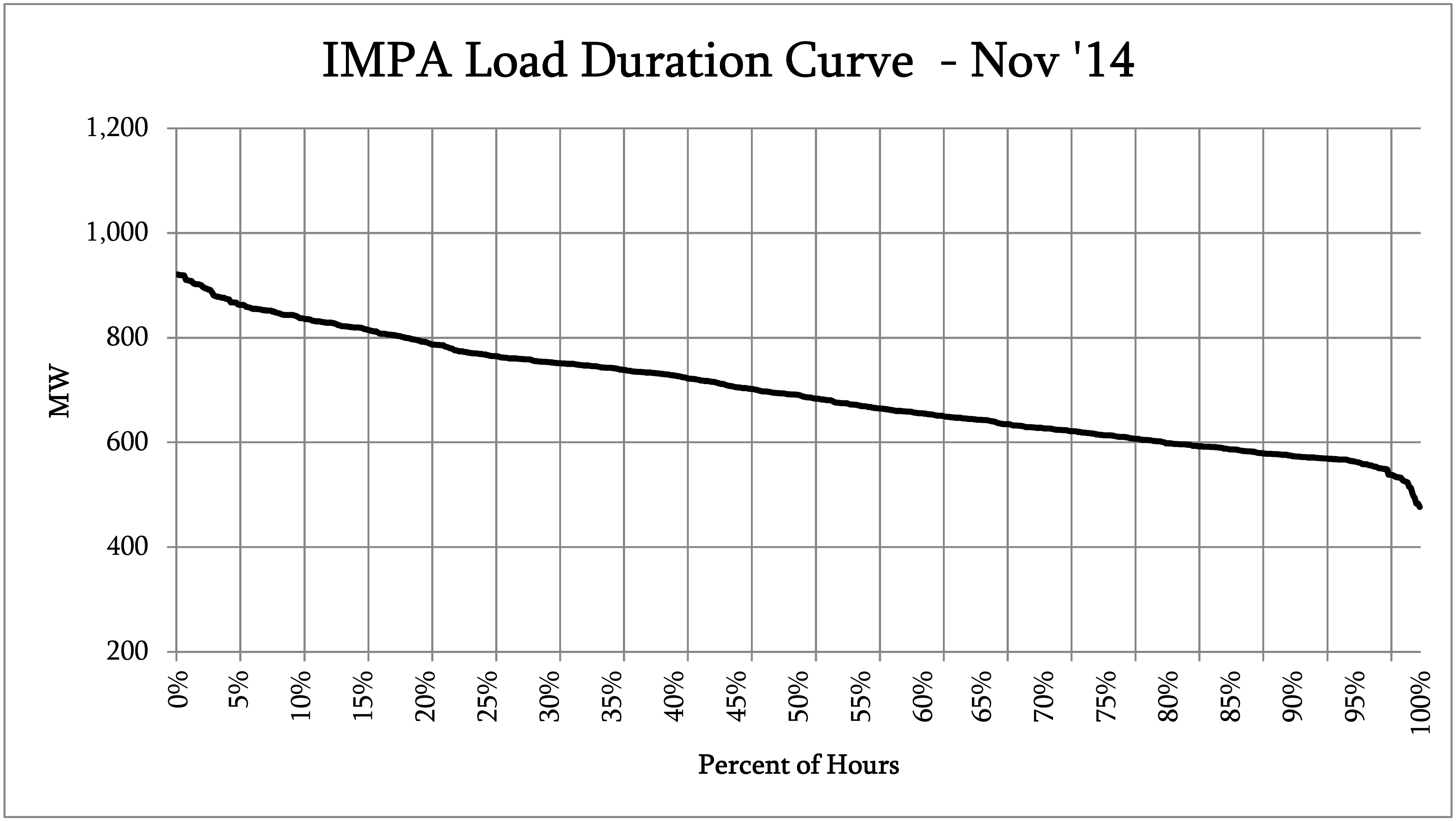
IMPA Load Duration Curve - Jul '14
MW
1,200
1,000
800
600
400
200
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours



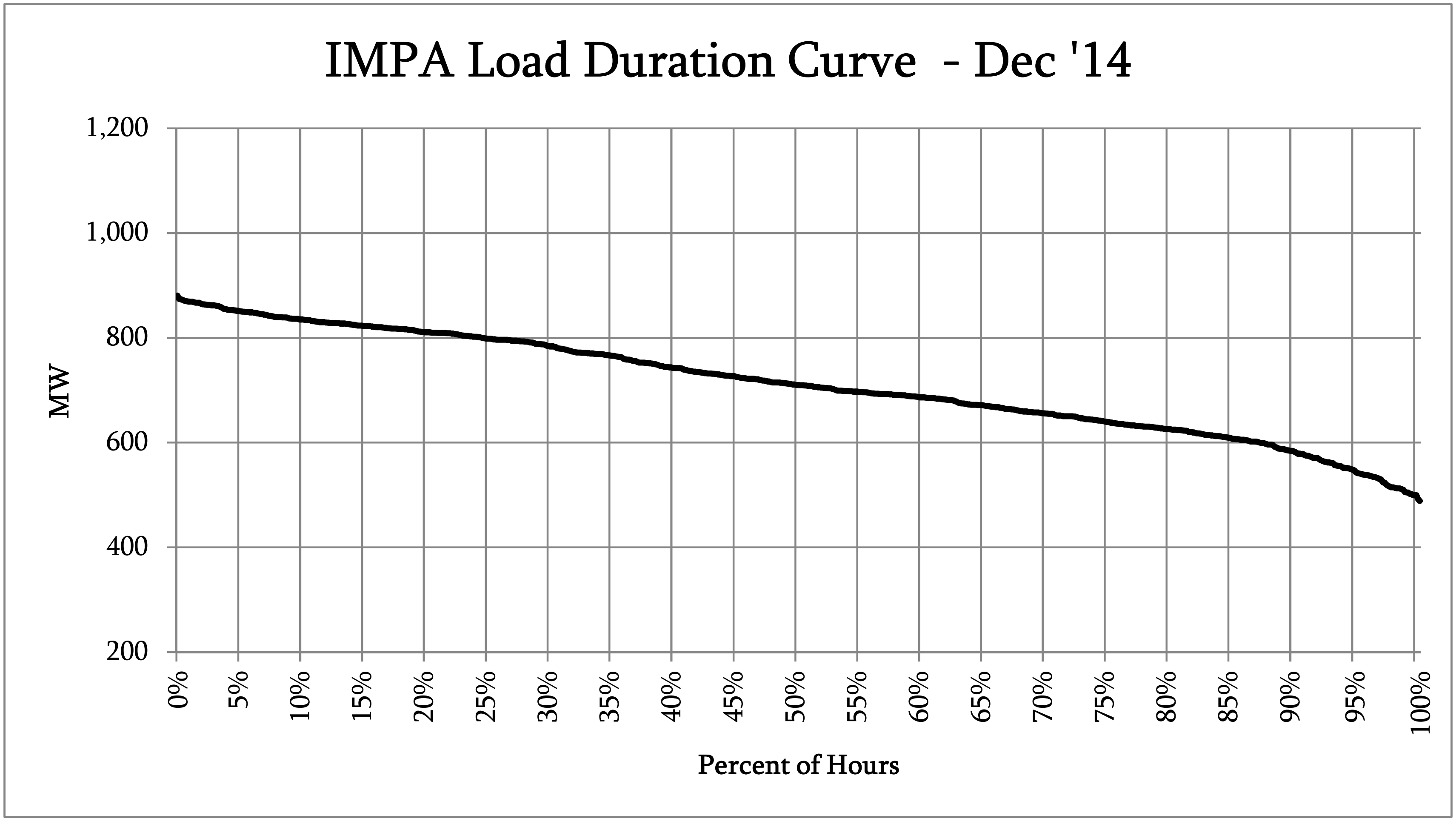
IMPA Load Duration Curve - Aug '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours


IMPA Load Duration Curve - Sep '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

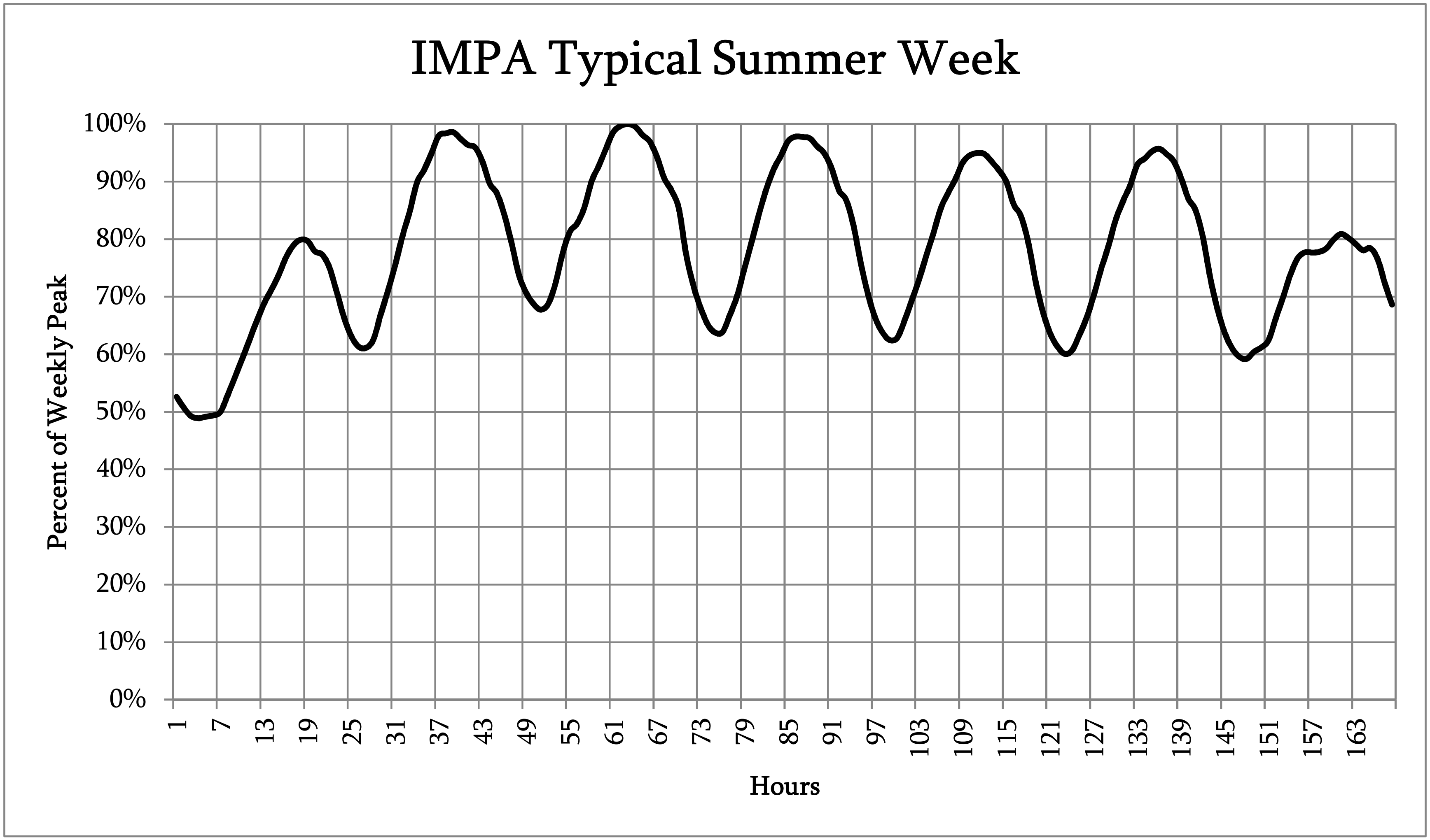

IMPA Load Duration Curve - Oct '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours



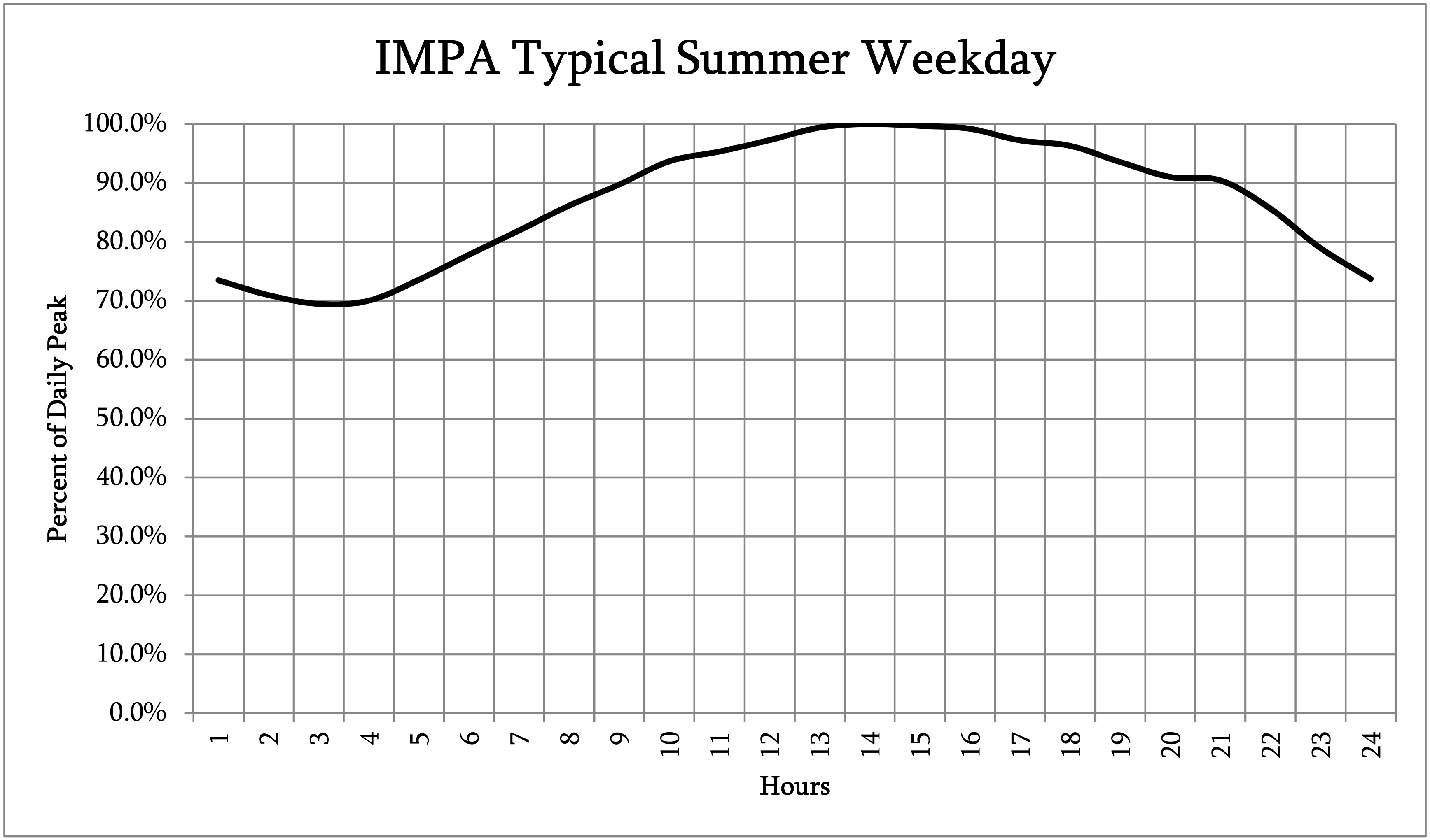
IMPA Load Duration Curve - Nov '14
MW
1,200
1,000
800
600
400
200
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

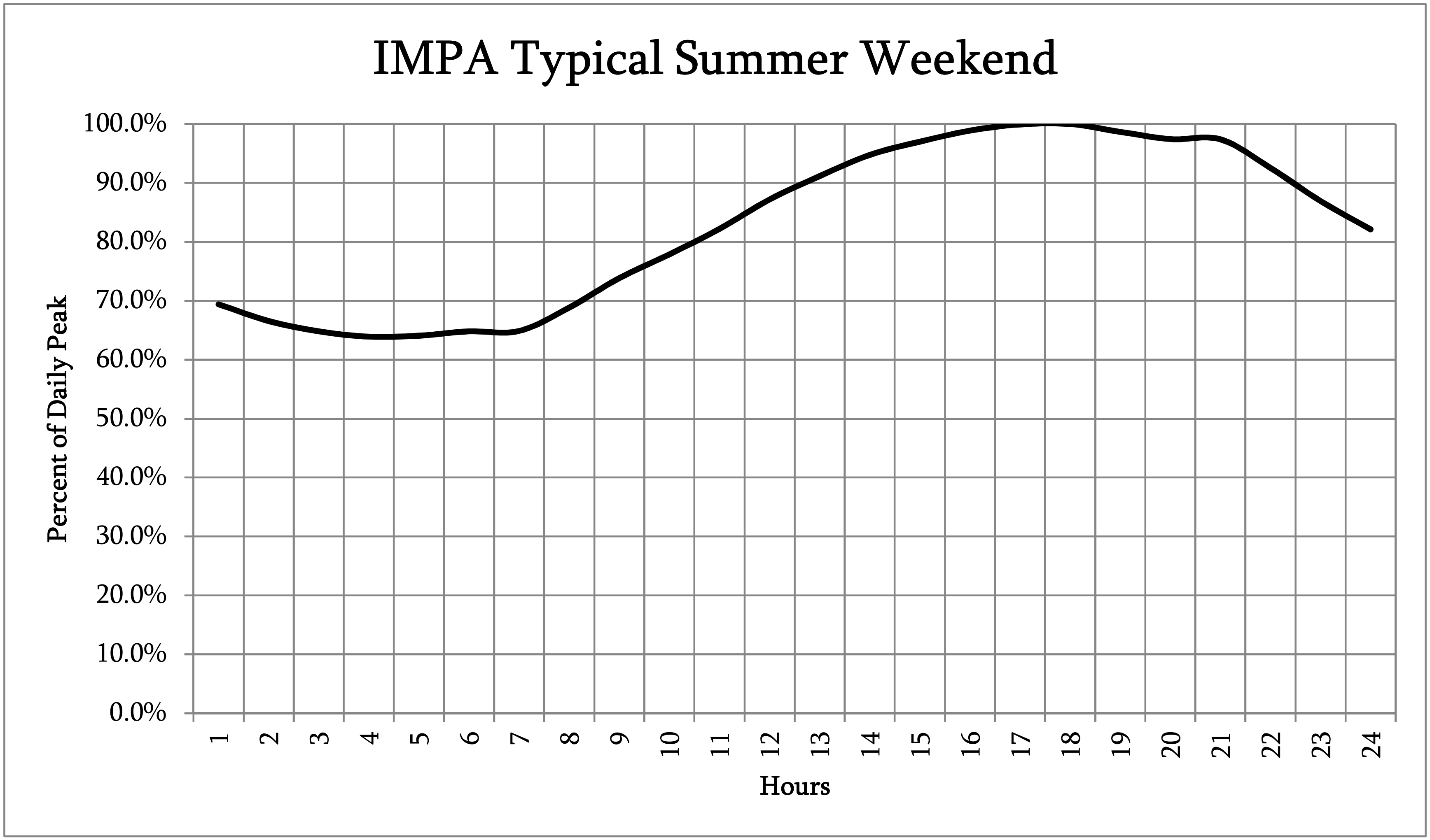

IMPA Load Duration Curve - Dec '14
1,200
1,000
800
600
400
200
MW
0%
5%
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
75%
80%
85%
90%
95%
100%
Percent of Hours

Summer Load Curves

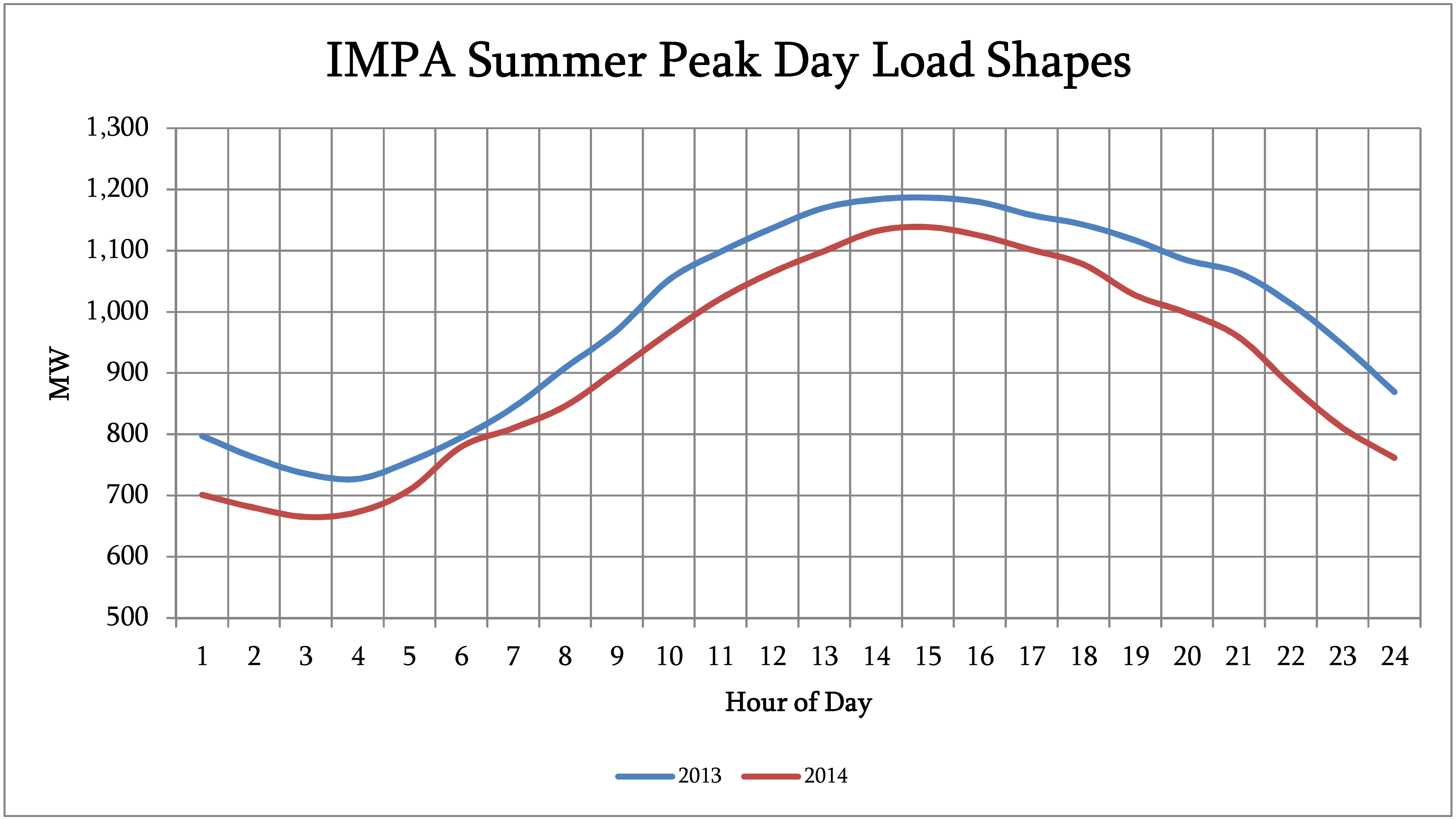


IMPA Typical Summer Week
Percent of Weekly Peak
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1
7
13
19
25
31
37
43
49
55
61
67
73
79
85
91
97
103
109
115
121
127
133
139
145
151
157
163
Hours


IMPA Typical Summer Weekday
Percent of Daily Peak
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hours

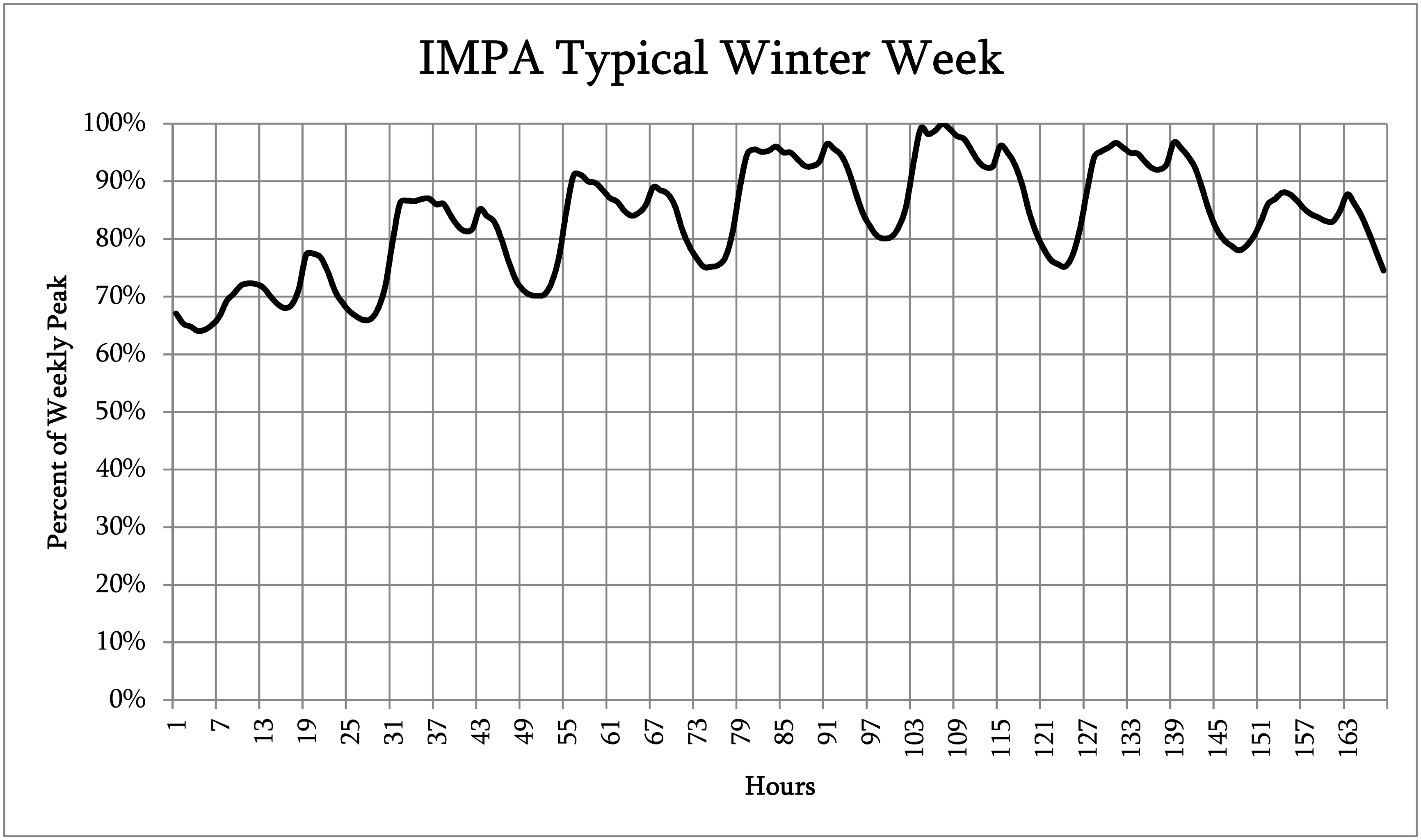


IMPA Typical Summer Weekend
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Percent of Daily Peak
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hours

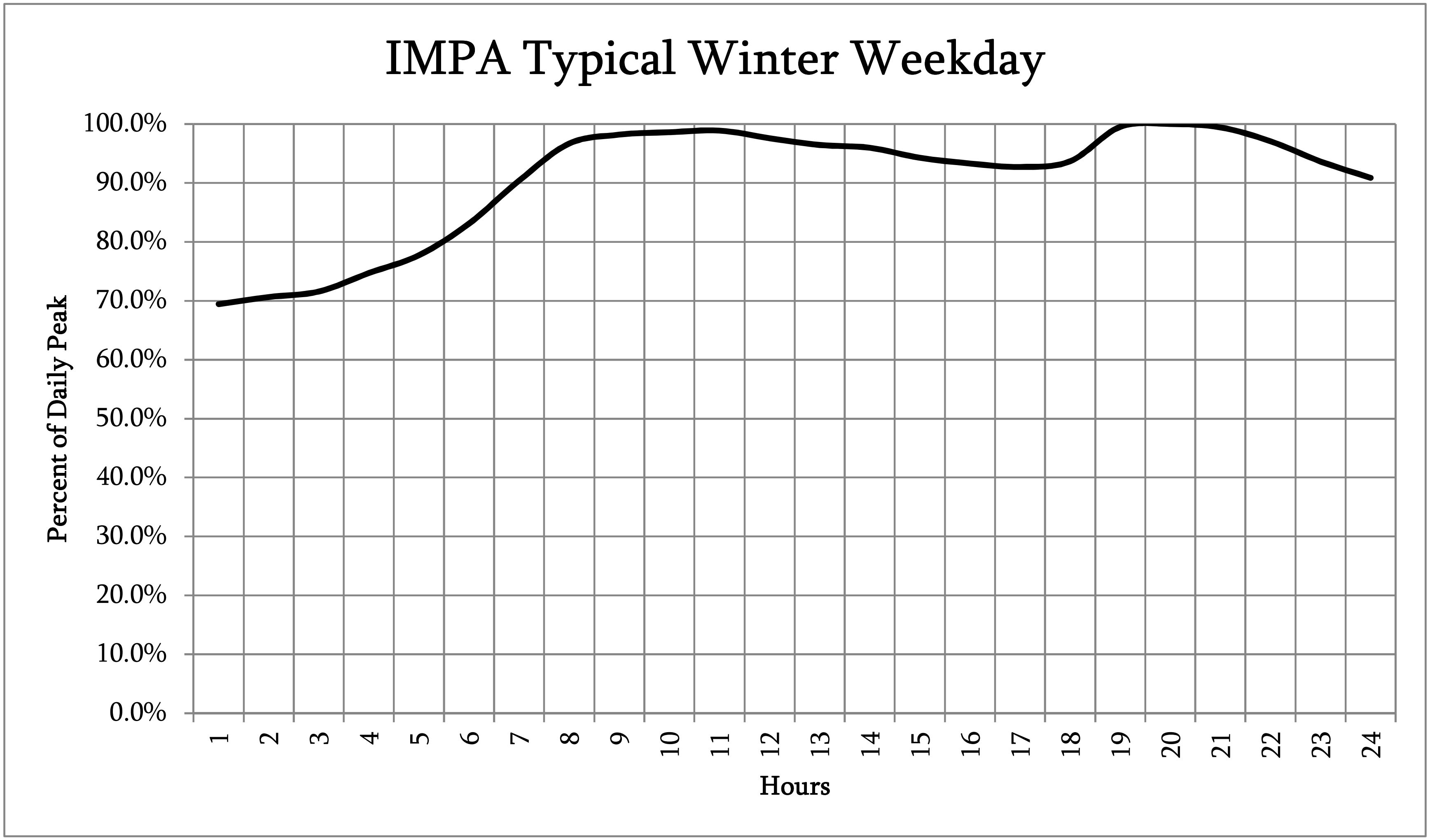


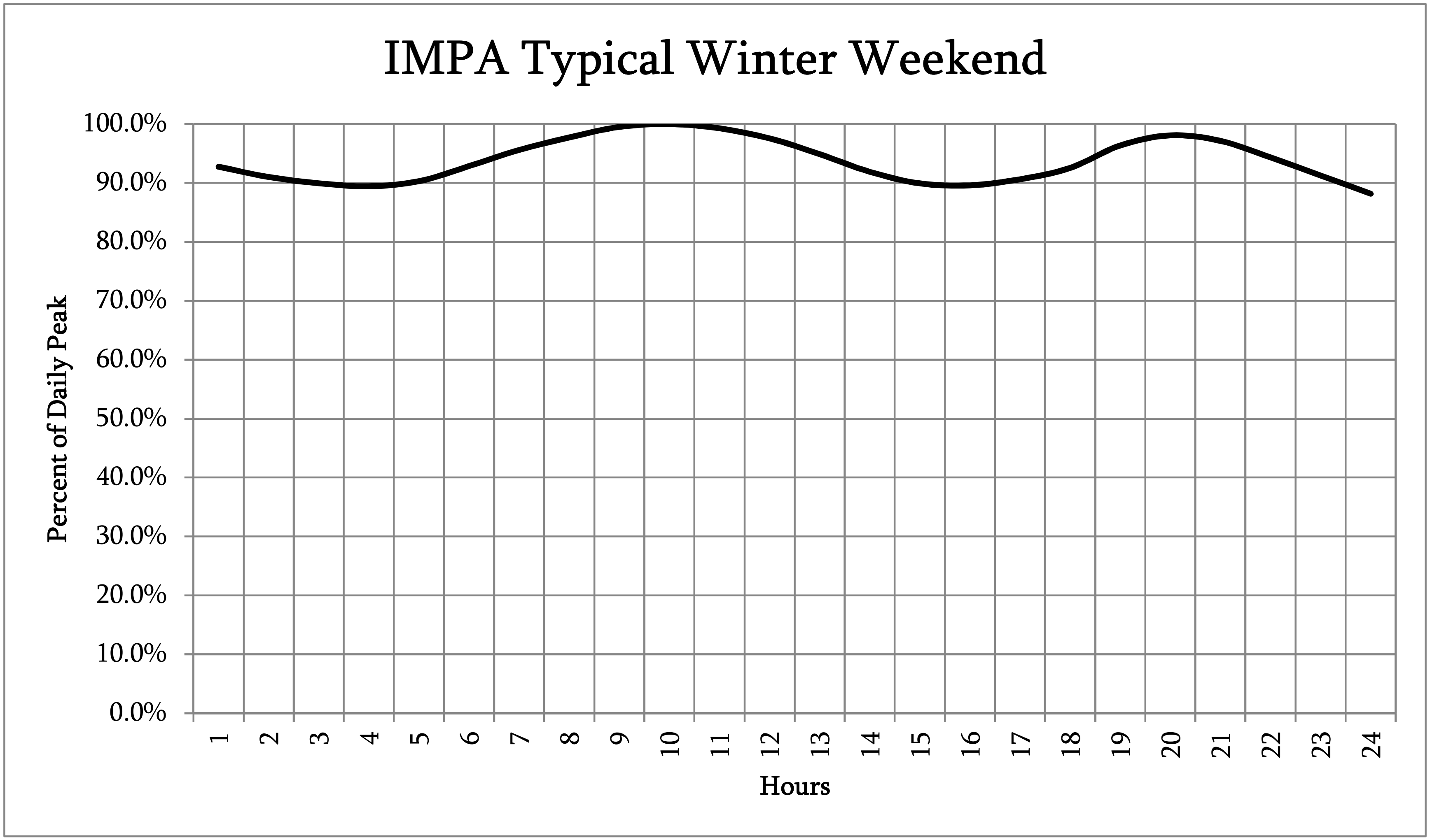
IMPA Summer Peak Day Load Shapes
1,300
1,200
1,100
1,000
900
800
700
600
500
MW
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour of Day
2013
2014

Winter Load Curves

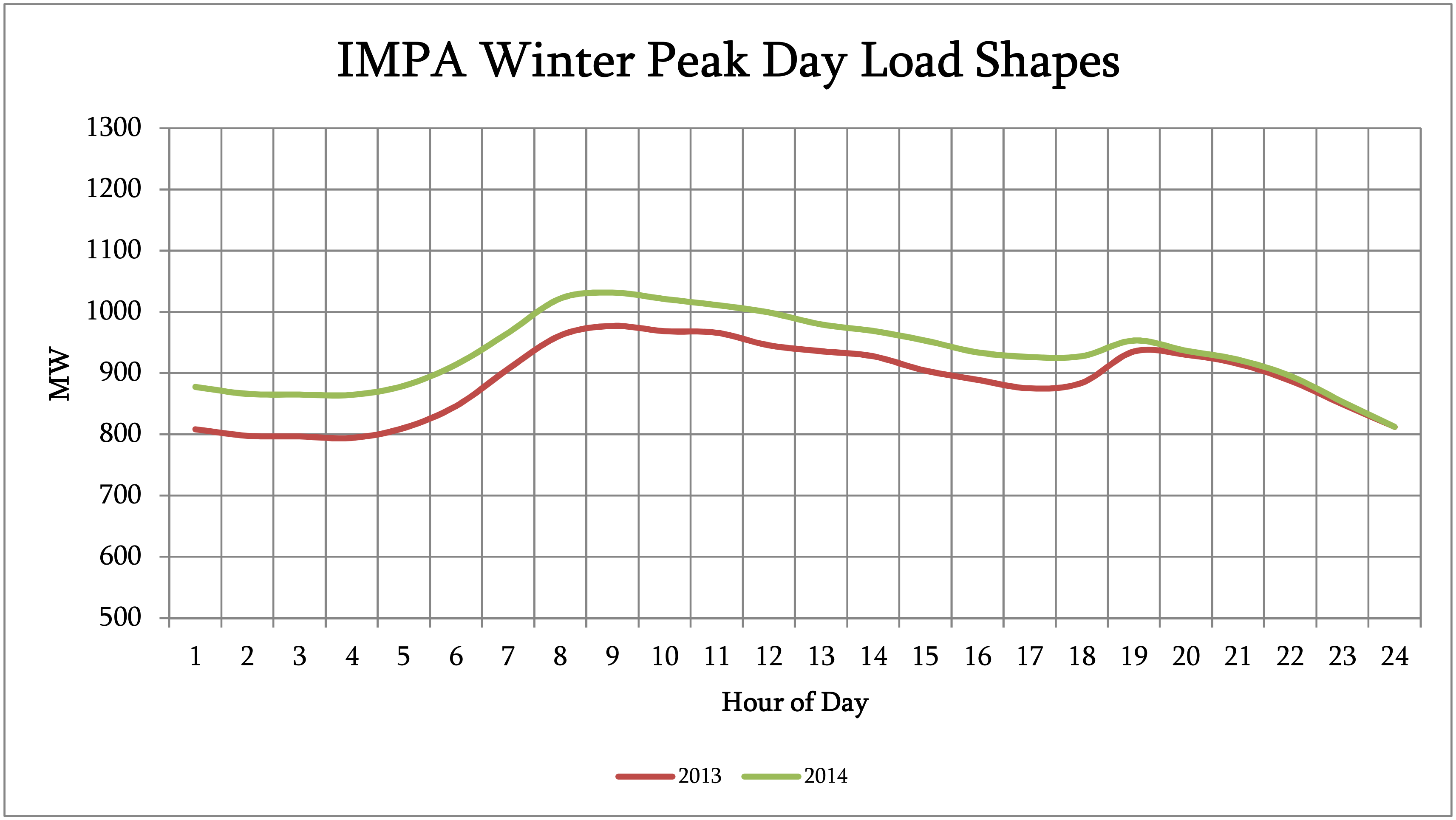


IMPA Typical Winter Week
Percent of Weekly Peak
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1
7
13
19
25
31
37
43
49
55
61
67
73
79
85
91
97
103
109
115
121
127
133
139
145
151
157
163
Hours


IMPA Typical Winter Weekday
Percent of Daily Peak
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hours



IMPA Typical Winter Weekend
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Percent of Daily Peak
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Hours


IMPA Winter Peak Day Load Shapes
1300
1200
1100
1000
900
800
700
600
500
MW
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour of Day
2013
2014

Appendix C1 – Hourly Market Prices – Indiana Hub

Indiana Municipal Power Agency

IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
1/1/2014	am	$ 27.78	$ 26.95	$ 26.47	$ 26.27	$ 25.73	$ 25.73	$ 27.32	$ 28.66	$ 29.14	$ 29.92	$ 30.45	$ 30.45
1/1/2014	pm	$ 29.84	$ 28.20	$ 28.14	$ 27.58	$ 28.97	$ 37.55	$ 43.52	$ 39.17	$ 40.41	$ 36.60	$ 29.59	$ 28.38
1/2/2014	am	$ 26.86	$ 26.36	$ 26.20	$ 26.24	$ 26.78	$ 27.43	$ 34.15	$ 39.51	$ 43.31	$ 43.25	$ 44.09	$ 44.18
1/2/2014	pm	$ 41.19	$ 39.49	$ 36.24	$ 35.58	$ 36.22	$ 46.63	$ 60.04	$ 55.47	$ 51.25	$ 46.86	$ 41.68	$ 37.39
1/3/2014	am	$ 32.44	$ 31.60	$ 30.68	$ 29.80	$ 30.67	$ 34.04	$ 41.92	$ 47.96	$ 50.06	$ 46.46	$ 41.96	$ 40.15
1/3/2014	pm	$ 38.66	$ 37.51	$ 33.69	$ 31.28	$ 31.70	$ 40.15	$ 42.52	$ 39.48	$ 39.76	$ 35.73	$ 31.69	$ 29.03
1/4/2014	am	$ 30.49	$ 31.53	$ 29.87	$ 29.09	$ 28.80	$ 29.60	$ 33.86	$ 40.01	$ 45.73	$ 42.26	$ 41.17	$ 38.44
1/4/2014	pm	$ 31.87	$ 29.81	$ 27.33	$ 27.53	$ 27.96	$ 33.23	$ 40.88	$ 38.69	$ 36.84	$ 33.28	$ 29.67	$ 28.75
1/5/2014	am	$ 27.91	$ 27.14	$ 26.83	$ 26.29	$ 25.92	$ 25.94	$ 26.06	$ 27.27	$ 27.89	$ 29.76	$ 30.15	$ 29.12
1/5/2014	pm	$ 28.73	$ 28.37	$ 27.85	$ 28.26	$ 30.00	$ 39.81	$ 48.98	$ 45.65	$ 43.91	$ 40.01	$ 32.71	$ 30.35
1/6/2014	am	$ 29.62	$ 29.54	$ 29.22	$ 29.55	$ 30.51	$ 37.97	$ 48.43	$ 66.09	$ 70.97	$ 67.53	$ 63.00	$ 57.21
1/6/2014	pm	$ 49.69	$ 44.35	$ 42.00	$ 41.59	$ 45.79	$ 62.04	$ 85.51	$ 82.00	$ 75.50	$ 63.87	$ 54.19	$ 44.28
1/7/2014	am	$ 79.36	$ 66.68	$ 69.20	$ 66.99	$ 75.10	$ 80.92	$ 83.21	$ 116.85	$ 124.16	$ 107.53	$ 100.02	$ 89.53
1/7/2014	pm	$ 84.26	$ 79.09	$ 74.33	$ 69.29	$ 76.35	$ 90.84	$ 113.33	$ 109.29	$ 105.97	$ 88.90	$ 80.03	$ 69.76
1/8/2014	am	$ 76.06	$ 57.97	$ 52.34	$ 50.53	$ 54.02	$ 59.22	$ 79.27	$ 115.11	$ 115.00	$ 100.82	$ 87.35	$ 82.70
1/8/2014	pm	$ 73.46	$ 69.57	$ 61.28	$ 55.22	$ 54.25	$ 74.28	$ 97.17	$ 94.10	$ 85.40	$ 72.24	$ 59.53	$ 42.06
1/9/2014	am	$ 42.38	$ 40.95	$ 38.69	$ 39.35	$ 41.45	$ 47.50	$ 61.00	$ 67.19	$ 64.93	$ 56.71	$ 50.58	$ 46.45
1/9/2014	pm	$ 45.40	$ 41.77	$ 38.33	$ 37.65	$ 39.61	$ 49.67	$ 56.15	$ 51.48	$ 47.09	$ 41.04	$ 35.96	$ 33.36
1/10/2014	am	$ 27.40	$ 26.66	$ 26.23	$ 26.00	$ 26.19	$ 26.27	$ 30.79	$ 36.51	$ 37.07	$ 37.70	$ 36.87	$ 36.31
1/10/2014	pm	$ 34.45	$ 31.54	$ 31.25	$ 29.18	$ 29.32	$ 36.56	$ 38.99	$ 38.32	$ 35.61	$ 31.75	$ 27.72	$ 26.93
1/11/2014	am	$ 26.68	$ 25.72	$ 25.32	$ 24.73	$ 24.45	$ 25.00	$ 26.01	$ 29.16	$ 31.72	$ 34.28	$ 34.76	$ 32.43
1/11/2014	pm	$ 31.07	$ 28.68	$ 27.51	$ 27.16	$ 28.63	$ 34.71	$ 38.80	$ 35.81	$ 35.52	$ 31.59	$ 27.87	$ 26.43
1/12/2014	am	$ 26.44	$ 26.27	$ 25.43	$ 25.09	$ 24.80	$ 24.90	$ 25.96	$ 27.68	$ 26.90	$ 27.64	$ 27.16	$ 26.94
1/12/2014	pm	$ 26.90	$ 26.16	$ 26.12	$ 25.95	$ 26.72	$ 35.07	$ 35.95	$ 36.66	$ 34.38	$ 28.42	$ 26.49	$ 26.15
1/13/2014	am	$ 25.25	$ 24.76	$ 24.37	$ 24.36	$ 24.84	$ 27.39	$ 34.98	$ 38.75	$ 36.57	$ 35.32	$ 36.33	$ 34.85
1/13/2014	pm	$ 32.85	$ 29.68	$ 29.28	$ 28.11	$ 29.76	$ 38.45	$ 38.79	$ 38.91	$ 36.82	$ 31.01	$ 28.15	$ 26.93
1/14/2014	am	$ 26.40	$ 25.07	$ 25.61	$ 24.73	$ 24.91	$ 26.89	$ 34.58	$ 37.05	$ 32.27	$ 31.38	$ 31.35	$ 29.81
1/14/2014	pm	$ 29.27	$ 29.66	$ 27.38	$ 27.32	$ 28.32	$ 32.37	$ 39.82	$ 36.46	$ 36.19	$ 30.45	$ 29.63	$ 28.45
1/15/2014	am	$ 27.06	$ 26.37	$ 26.04	$ 25.90	$ 27.13	$ 30.16	$ 40.55	$ 50.12	$ 46.04	$ 44.84	$ 43.20	$ 41.30
1/15/2014	pm	$ 40.07	$ 37.45	$ 34.64	$ 32.55	$ 34.37	$ 40.87	$ 46.26	$ 43.78	$ 41.56	$ 36.91	$ 32.15	$ 31.52
1/16/2014	am	$ 31.84	$ 30.08	$ 29.10	$ 29.14	$ 31.42	$ 40.04	$ 49.50	$ 61.25	$ 46.54	$ 45.19	$ 44.61	$ 42.60
1/16/2014	pm	$ 38.77	$ 35.00	$ 31.95	$ 30.69	$ 35.15	$ 44.18	$ 45.39	$ 44.09	$ 41.60	$ 37.86	$ 31.33	$ 29.40
1/17/2014	am	$ 30.37	$ 28.48	$ 28.17	$ 27.94	$ 29.10	$ 33.29	$ 46.67	$ 55.47	$ 47.00	$ 45.40	$ 44.29	$ 42.53
1/17/2014	pm	$ 39.79	$ 37.61	$ 35.01	$ 33.21	$ 32.85	$ 41.46	$ 53.07	$ 48.57	$ 43.92	$ 41.89	$ 36.02	$ 31.98
1/18/2014	am	$ 38.71	$ 35.25	$ 35.87	$ 32.82	$ 36.11	$ 36.12	$ 46.59	$ 48.29	$ 48.22	$ 50.24	$ 47.99	$ 45.50
1/18/2014	pm	$ 36.86	$ 36.78	$ 32.18	$ 31.56	$ 33.23	$ 40.63	$ 47.79	$ 46.14	$ 41.70	$ 35.48	$ 32.49	$ 30.68
1/19/2014	am	$ 30.02	$ 29.75	$ 29.31	$ 27.86	$ 27.91	$ 26.33	$ 28.03	$ 32.09	$ 33.22	$ 34.81	$ 32.65	$ 31.50
1/19/2014	pm	$ 30.31	$ 28.68	$ 27.49	$ 27.33	$ 28.02	$ 38.10	$ 47.35	$ 43.98	$ 41.74	$ 35.82	$ 32.20	$ 30.57
1/20/2014	am	$ 32.55	$ 30.62	$ 29.61	$ 29.52	$ 30.58	$ 30.73	$ 36.20	$ 42.90	$ 41.69	$ 42.87	$ 39.04	$ 36.58
1/20/2014	pm	$ 36.80	$ 33.17	$ 30.99	$ 29.89	$ 30.49	$ 43.68	$ 53.63	$ 50.23	$ 47.23	$ 37.56	$ 30.78	$ 29.08
1/21/2014	am	$ 35.26	$ 32.03	$ 31.96	$ 30.82	$ 32.61	$ 41.15	$ 52.35	$ 73.69	$ 70.02	$ 67.00	$ 65.94	$ 61.66
1/21/2014	pm	$ 55.25	$ 52.40	$ 48.03	$ 46.09	$ 49.54	$ 69.32	$ 90.19	$ 82.89	$ 74.89	$ 65.87	$ 59.17	$ 49.84
1/22/2014	am	$ 60.75	$ 60.81	$ 60.54	$ 60.51	$ 61.06	$ 66.41	$ 108.84	$ 147.12	$ 132.71	$ 119.03	$ 105.37	$ 108.97
1/22/2014	pm	$ 101.25	$ 96.88	$ 84.86	$ 81.17	$ 83.96	$ 105.00	$ 141.30	$ 132.21	$ 125.00	$ 107.27	$ 68.82	$ 55.01
1/23/2014	am	$ 72.78	$ 70.63	$ 72.36	$ 70.46	$ 74.37	$ 81.98	$ 104.30	$ 132.46	$ 120.65	$ 116.02	$ 109.30	$ 104.25
1/23/2014	pm	$ 97.04	$ 89.71	$ 86.32	$ 81.65	$ 84.84	$ 106.95	$ 180.66	$ 158.33	$ 122.92	$ 108.50	$ 93.47	$ 75.01
1/24/2014	am	$ 76.35	$ 75.62	$ 75.97	$ 70.33	$ 71.49	$ 92.25	$ 109.12	$ 136.42	$ 115.61	$ 106.20	$ 99.63	$ 94.92
1/24/2014	pm	$ 88.84	$ 76.66	$ 71.50	$ 67.98	$ 70.78	$ 91.14	$ 110.52	$ 101.71	$ 90.43	$ 78.38	$ 65.25	$ 49.78
1/25/2014	am	$ 52.35	$ 45.52	$ 44.69	$ 37.95	$ 33.44	$ 35.79	$ 41.32	$ 61.05	$ 66.09	$ 77.28	$ 74.43	$ 73.77
1/25/2014	pm	$ 65.24	$ 56.34	$ 53.29	$ 46.98	$ 51.58	$ 77.02	$ 107.08	$ 90.03	$ 84.38	$ 75.22	$ 65.61	$ 53.35

Indiana Municipal Power Agency

IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
1/26/2014	am	$ 123.33	$ 115.81	$ 94.54	$ 83.42	$ 75.00	$ 85.83	$ 86.02	$ 82.66	$ 87.40	$ 87.09	$ 79.66	$ 84.51
1/26/2014	pm	$ 73.41	$ 57.51	$ 52.67	$ 47.29	$ 50.97	$ 75.94	$ 102.46	$ 85.68	$ 78.02	$ 63.38	$ 50.00	$ 46.27
1/27/2014	am	$ 49.84	$ 47.01	$ 50.81	$ 48.74	$ 52.88	$ 71.06	$ 90.86	$ 144.79	$ 145.79	$ 147.01	$ 153.92	$ 150.00
1/27/2014	pm	$ 151.47	$ 143.28	$ 140.00	$ 125.00	$ 150.00	$ 180.00	$ 274.55	$ 300.33	$ 244.92	$ 208.36	$ 157.30	$ 110.99
1/28/2014	am	$ 299.81	$ 289.92	$ 214.98	$ 206.20	$ 225.00	$ 308.62	$ 316.03	$ 440.74	$ 395.47	$ 422.26	$ 450.00	$ 456.17
1/28/2014	pm	$ 448.78	$ 377.00	$ 379.82	$ 295.40	$ 346.00	$ 385.65	$ 449.91	$ 449.20	$ 370.59	$ 394.98	$ 344.21	$ 252.72
1/29/2014	am	$ 102.35	$ 97.31	$ 78.89	$ 79.05	$ 76.32	$ 103.44	$ 134.08	$ 221.58	$ 176.14	$ 129.29	$ 116.55	$ 116.58
1/29/2014	pm	$ 98.64	$ 81.31	$ 75.27	$ 65.04	$ 69.78	$ 96.02	$ 126.57	$ 108.20	$ 101.17	$ 89.53	$ 77.15	$ 69.58
1/30/2014	am	$ 41.03	$ 36.06	$ 35.23	$ 35.42	$ 39.35	$ 43.88	$ 65.07	$ 75.34	$ 72.95	$ 64.88	$ 58.06	$ 49.73
1/30/2014	pm	$ 49.91	$ 42.79	$ 39.33	$ 35.15	$ 37.05	$ 45.58	$ 65.41	$ 58.90	$ 60.71	$ 48.86	$ 43.10	$ 32.45
1/31/2014	am	$ 33.98	$ 32.39	$ 32.35	$ 32.02	$ 33.84	$ 36.06	$ 50.73	$ 67.81	$ 68.55	$ 64.21	$ 63.07	$ 59.57
1/31/2014	pm	$ 56.39	$ 52.15	$ 48.01	$ 41.31	$ 40.30	$ 54.37	$ 67.63	$ 62.98	$ 62.61	$ 55.00	$ 49.00	$ 39.62
2/1/2014	am	$ 39.64	$ 32.88	$ 30.64	$ 29.24	$ 28.90	$ 29.57	$ 34.76	$ 41.41	$ 47.27	$ 49.07	$ 45.25	$ 41.14
2/1/2014	pm	$ 36.93	$ 33.23	$ 30.92	$ 30.20	$ 30.72	$ 38.31	$ 52.58	$ 49.62	$ 45.44	$ 40.46	$ 36.94	$ 30.86
2/2/2014	am	$ 28.79	$ 29.22	$ 28.29	$ 27.48	$ 27.60	$ 27.43	$ 29.18	$ 30.75	$ 33.46	$ 39.68	$ 40.43	$ 36.55
2/2/2014	pm	$ 33.19	$ 32.70	$ 32.17	$ 30.87	$ 31.52	$ 36.07	$ 52.00	$ 48.87	$ 47.48	$ 42.62	$ 36.60	$ 33.21
2/3/2014	am	$ 38.44	$ 36.69	$ 34.79	$ 33.54	$ 34.49	$ 40.66	$ 59.27	$ 71.50	$ 74.42	$ 72.76	$ 69.00	$ 61.87
2/3/2014	pm	$ 55.31	$ 48.07	$ 45.63	$ 41.67	$ 37.81	$ 55.79	$ 84.85	$ 79.06	$ 70.56	$ 61.60	$ 52.19	$ 46.93
2/4/2014	am	$ 40.84	$ 36.87	$ 34.37	$ 35.20	$ 34.31	$ 42.46	$ 55.84	$ 83.90	$ 76.21	$ 72.78	$ 68.92	$ 59.90
2/4/2014	pm	$ 55.47	$ 49.84	$ 47.53	$ 44.36	$ 43.64	$ 54.19	$ 82.99	$ 75.01	$ 65.10	$ 54.72	$ 47.15	$ 42.50
2/5/2014	am	$ 33.23	$ 28.35	$ 28.39	$ 28.26	$ 28.24	$ 29.42	$ 37.44	$ 56.60	$ 57.76	$ 52.95	$ 50.70	$ 44.66
2/5/2014	pm	$ 39.81	$ 39.14	$ 36.61	$ 34.92	$ 34.57	$ 44.68	$ 74.20	$ 72.37	$ 66.86	$ 56.51	$ 45.68	$ 37.54
2/6/2014	am	$ 56.76	$ 52.03	$ 49.29	$ 50.24	$ 51.23	$ 58.66	$ 72.84	$ 127.05	$ 127.41	$ 106.67	$ 108.20	$ 85.33
2/6/2014	pm	$ 70.83	$ 68.25	$ 64.83	$ 56.70	$ 54.16	$ 63.82	$ 137.50	$ 134.61	$ 113.85	$ 86.66	$ 70.28	$ 58.52
2/7/2014	am	$ 63.88	$ 62.39	$ 58.94	$ 58.65	$ 58.25	$ 71.30	$ 98.86	$ 156.94	$ 140.55	$ 117.97	$ 113.98	$ 95.71
2/7/2014	pm	$ 77.20	$ 69.23	$ 61.46	$ 55.39	$ 54.51	$ 65.26	$ 118.68	$ 104.66	$ 86.54	$ 74.86	$ 65.47	$ 62.42
2/8/2014	am	$ 68.39	$ 57.99	$ 52.83	$ 51.58	$ 49.40	$ 46.93	$ 53.52	$ 67.83	$ 87.58	$ 97.02	$ 91.61	$ 69.25
2/8/2014	pm	$ 57.89	$ 52.32	$ 49.66	$ 46.45	$ 41.16	$ 52.68	$ 84.15	$ 80.82	$ 66.85	$ 55.43	$ 50.17	$ 45.45
2/9/2014	am	$ 55.31	$ 49.78	$ 47.00	$ 41.87	$ 36.34	$ 36.52	$ 37.88	$ 43.64	$ 52.77	$ 51.45	$ 53.96	$ 49.48
2/9/2014	pm	$ 40.65	$ 41.06	$ 40.87	$ 38.91	$ 38.52	$ 47.29	$ 80.14	$ 72.85	$ 61.68	$ 57.11	$ 51.81	$ 50.12
2/10/2014	am	$ 42.50	$ 40.65	$ 41.16	$ 41.01	$ 43.97	$ 55.71	$ 83.96	$ 138.10	$ 126.79	$ 121.18	$ 117.98	$ 103.17
2/10/2014	pm	$ 96.88	$ 90.28	$ 83.01	$ 74.44	$ 72.68	$ 93.37	$ 139.85	$ 159.15	$ 132.26	$ 112.51	$ 91.55	$ 76.36
2/11/2014	am	$ 112.48	$ 100.54	$ 94.34	$ 94.04	$ 85.33	$ 101.69	$ 152.37	$ 194.80	$ 160.19	$ 155.01	$ 139.89	$ 122.75
2/11/2014	pm	$ 100.29	$ 93.18	$ 82.61	$ 68.20	$ 64.48	$ 90.81	$ 191.90	$ 181.03	$ 146.39	$ 126.66	$ 104.76	$ 81.63
2/12/2014	am	$ 82.71	$ 78.26	$ 72.72	$ 69.91	$ 73.70	$ 88.98	$ 115.37	$ 141.70	$ 107.60	$ 99.46	$ 89.72	$ 83.47
2/12/2014	pm	$ 79.10	$ 76.21	$ 71.87	$ 60.06	$ 59.67	$ 75.00	$ 123.54	$ 117.17	$ 98.08	$ 83.50	$ 79.69	$ 62.96
2/13/2014	am	$ 48.25	$ 48.75	$ 48.92	$ 49.27	$ 54.14	$ 63.53	$ 81.89	$ 115.07	$ 98.13	$ 79.81	$ 72.65	$ 58.30
2/13/2014	pm	$ 56.01	$ 52.49	$ 46.94	$ 44.36	$ 43.38	$ 45.02	$ 77.95	$ 82.49	$ 67.79	$ 61.94	$ 56.11	$ 40.92
2/14/2014	am	$ 36.23	$ 34.30	$ 34.59	$ 33.94	$ 32.93	$ 39.00	$ 62.62	$ 75.39	$ 70.04	$ 66.05	$ 56.15	$ 54.68
2/14/2014	pm	$ 50.72	$ 48.20	$ 45.67	$ 42.98	$ 38.67	$ 44.89	$ 71.61	$ 75.77	$ 63.71	$ 57.39	$ 53.17	$ 50.35
2/15/2014	am	$ 44.51	$ 39.14	$ 36.23	$ 32.50	$ 32.34	$ 32.89	$ 45.33	$ 60.40	$ 76.54	$ 76.67	$ 63.54	$ 52.53
2/15/2014	pm	$ 43.50	$ 40.10	$ 38.89	$ 35.73	$ 34.96	$ 42.97	$ 63.49	$ 63.77	$ 55.10	$ 52.21	$ 42.50	$ 36.52
2/16/2014	am	$ 39.05	$ 36.41	$ 36.71	$ 33.24	$ 31.59	$ 32.31	$ 36.49	$ 39.63	$ 49.66	$ 61.20	$ 46.54	$ 43.89
2/16/2014	pm	$ 39.42	$ 37.20	$ 33.80	$ 33.38	$ 33.35	$ 40.82	$ 58.72	$ 66.73	$ 61.70	$ 58.54	$ 39.21	$ 34.30
2/17/2014	am	$ 44.13	$ 40.31	$ 41.26	$ 38.92	$ 42.75	$ 55.45	$ 75.36	$ 83.85	$ 73.78	$ 79.86	$ 76.24	$ 72.11
2/17/2014	pm	$ 62.90	$ 55.04	$ 51.93	$ 44.48	$ 44.75	$ 54.80	$ 79.79	$ 79.90	$ 74.06	$ 61.55	$ 53.22	$ 42.09
2/18/2014	am	$ 30.60	$ 28.18	$ 27.74	$ 27.64	$ 28.09	$ 29.95	$ 47.29	$ 75.19	$ 59.45	$ 60.71	$ 57.56	$ 55.15
2/18/2014	pm	$ 46.31	$ 40.16	$ 39.79	$ 34.64	$ 35.39	$ 40.81	$ 61.56	$ 64.71	$ 53.20	$ 45.08	$ 32.58	$ 29.36
2/19/2014	am	$ 31.20	$ 29.49	$ 28.87	$ 28.66	$ 29.05	$ 30.61	$ 48.62	$ 68.45	$ 55.95	$ 54.41	$ 51.53	$ 48.55
2/19/2014	pm	$ 45.06	$ 40.58	$ 39.22	$ 37.32	$ 37.41	$ 44.07	$ 66.28	$ 72.52	$ 65.07	$ 53.55	$ 46.78	$ 36.64

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
2/20/2014	am	$ 31.40	$ 28.01	$ 28.25	$ 27.92	$ 28.91	$ 30.96	$ 49.61	$ 66.78	$ 56.91	$ 53.07	$ 48.97	$ 45.05
2/20/2014	pm	$ 42.27	$ 39.74	$ 40.12	$ 38.07	$ 39.02	$ 42.10	$ 59.95	$ 63.96	$ 53.16	$ 42.70	$ 36.60	$ 30.20
2/21/2014	am	$ 27.40	$ 26.45	$ 26.21	$ 26.21	$ 27.00	$ 28.40	$ 47.89	$ 64.15	$ 56.80	$ 56.18	$ 53.10	$ 47.53
2/21/2014	pm	$ 43.01	$ 38.89	$ 35.57	$ 32.77	$ 34.64	$ 36.94	$ 54.17	$ 53.99	$ 48.01	$ 39.03	$ 32.82	$ 31.25
2/22/2014	am	$ 30.00	$ 28.48	$ 28.17	$ 28.01	$ 27.16	$ 28.41	$ 31.21	$ 36.03	$ 42.02	$ 49.11	$ 50.45	$ 40.53
2/22/2014	pm	$ 35.40	$ 32.93	$ 31.03	$ 30.04	$ 30.31	$ 33.16	$ 50.17	$ 52.12	$ 46.94	$ 39.82	$ 33.71	$ 31.09
2/23/2014	am	$ 29.77	$ 29.93	$ 29.58	$ 29.51	$ 29.35	$ 29.38	$ 31.97	$ 32.60	$ 34.96	$ 40.36	$ 39.01	$ 37.68
2/23/2014	pm	$ 34.01	$ 32.05	$ 31.39	$ 30.73	$ 31.59	$ 35.93	$ 56.91	$ 71.51	$ 52.91	$ 47.39	$ 44.43	$ 36.44
2/24/2014	am	$ 31.79	$ 30.71	$ 30.28	$ 30.71	$ 32.88	$ 37.92	$ 54.82	$ 125.06	$ 97.17	$ 100.00	$ 90.17	$ 74.56
2/24/2014	pm	$ 67.71	$ 57.81	$ 51.79	$ 47.92	$ 47.34	$ 58.20	$ 113.42	$ 137.15	$ 106.85	$ 73.33	$ 60.87	$ 48.43
2/25/2014	am	$ 36.15	$ 31.09	$ 31.08	$ 31.36	$ 32.82	$ 36.55	$ 58.64	$ 95.00	$ 65.88	$ 66.36	$ 61.85	$ 57.35
2/25/2014	pm	$ 54.68	$ 47.71	$ 43.50	$ 41.94	$ 44.37	$ 50.20	$ 79.52	$ 112.03	$ 85.71	$ 64.26	$ 63.89	$ 56.36
2/26/2014	am	$ 41.40	$ 39.61	$ 37.49	$ 37.79	$ 40.99	$ 51.45	$ 86.85	$ 136.56	$ 104.72	$ 102.31	$ 96.21	$ 81.55
2/26/2014	pm	$ 76.08	$ 63.89	$ 57.05	$ 55.25	$ 52.47	$ 58.61	$ 102.32	$ 127.10	$ 96.03	$ 79.72	$ 65.83	$ 58.30
2/27/2014	am	$ 34.12	$ 31.30	$ 31.39	$ 31.36	$ 31.27	$ 37.98	$ 65.37	$ 114.85	$ 93.11	$ 89.66	$ 87.70	$ 79.76
2/27/2014	pm	$ 71.69	$ 66.62	$ 58.84	$ 53.51	$ 55.00	$ 64.82	$ 113.75	$ 151.08	$ 115.08	$ 80.60	$ 62.53	$ 53.96
2/28/2014	am	$ 51.20	$ 47.70	$ 44.70	$ 40.96	$ 43.21	$ 52.27	$ 100.00	$ 148.23	$ 94.49	$ 84.04	$ 80.11	$ 65.41
2/28/2014	pm	$ 51.81	$ 46.72	$ 43.02	$ 41.26	$ 38.05	$ 42.42	$ 69.09	$ 94.35	$ 59.43	$ 49.15	$ 40.43	$ 36.17
3/1/2014	am	$ 37.27	$ 33.70	$ 32.71	$ 32.09	$ 31.88	$ 29.94	$ 31.82	$ 36.32	$ 43.09	$ 49.69	$ 47.42	$ 40.80
3/1/2014	pm	$ 38.06	$ 36.23	$ 34.81	$ 32.48	$ 33.54	$ 38.07	$ 45.07	$ 50.27	$ 44.00	$ 40.34	$ 35.71	$ 33.79
3/2/2014	am	$ 37.37	$ 34.82	$ 32.43	$ 31.47	$ 31.04	$ 30.67	$ 31.94	$ 34.53	$ 37.49	$ 42.21	$ 44.28	$ 44.49
3/2/2014	pm	$ 41.57	$ 40.62	$ 38.96	$ 37.96	$ 40.08	$ 44.24	$ 56.82	$ 82.70	$ 59.43	$ 51.48	$ 41.45	$ 38.34
3/3/2014	am	$ 41.70	$ 42.12	$ 42.39	$ 41.72	$ 42.81	$ 54.04	$ 103.69	$ 185.23	$ 157.87	$ 144.78	$ 137.14	$ 120.01
3/3/2014	pm	$ 105.65	$ 83.41	$ 68.21	$ 59.41	$ 59.44	$ 70.25	$ 130.79	$ 199.02	$ 150.94	$ 114.60	$ 85.25	$ 55.25
3/4/2014	am	$ 118.10	$ 113.85	$ 110.17	$ 108.79	$ 116.25	$ 146.38	$ 249.40	$ 333.11	$ 304.11	$ 274.34	$ 249.68	$ 208.65
3/4/2014	pm	$ 180.70	$ 160.29	$ 128.74	$ 117.50	$ 112.26	$ 125.00	$ 169.20	$ 278.88	$ 232.22	$ 202.78	$ 131.99	$ 96.22
3/5/2014	am	$ 61.94	$ 56.36	$ 55.22	$ 53.11	$ 50.68	$ 58.41	$ 81.08	$ 136.43	$ 116.43	$ 95.97	$ 92.11	$ 85.20
3/5/2014	pm	$ 74.13	$ 61.49	$ 57.42	$ 55.53	$ 52.21	$ 55.44	$ 76.52	$ 114.27	$ 85.60	$ 79.02	$ 56.97	$ 51.66
3/6/2014	am	$ 41.20	$ 35.50	$ 34.74	$ 34.16	$ 33.30	$ 37.35	$ 67.56	$ 88.65	$ 70.31	$ 62.03	$ 58.13	$ 56.00
3/6/2014	pm	$ 45.59	$ 42.44	$ 40.19	$ 38.59	$ 36.96	$ 42.02	$ 54.91	$ 72.22	$ 56.76	$ 49.93	$ 42.30	$ 31.92
3/7/2014	am	$ 31.76	$ 31.63	$ 30.83	$ 30.77	$ 30.56	$ 30.86	$ 49.66	$ 59.79	$ 49.13	$ 45.80	$ 44.19	$ 40.71
3/7/2014	pm	$ 37.77	$ 35.09	$ 32.38	$ 30.82	$ 30.48	$ 32.38	$ 39.60	$ 44.23	$ 42.90	$ 38.86	$ 34.56	$ 33.55
3/8/2014	am	$ 37.03	$ 31.55	$ 30.15	$ 29.87	$ 29.54	$ 30.91	$ 35.72	$ 40.09	$ 45.83	$ 46.44	$ 46.02	$ 43.43
3/8/2014	pm	$ 41.41	$ 39.42	$ 37.89	$ 35.15	$ 34.62	$ 37.56	$ 43.20	$ 51.38	$ 46.00	$ 42.00	$ 39.18	$ 35.35
3/9/2014	am	$ 32.72	$ 32.27	$ 29.72	$ 28.19	$ 28.69	$ 30.11	$ 35.30	$ 40.01	$ 43.16	$ 44.27	$ 43.27	$ 40.71
3/9/2014	pm	$ 38.25	$ 35.22	$ 32.35	$ 32.58	$ 32.85	$ 34.16	$ 40.73	$ 50.76	$ 44.70	$ 39.05	$ 31.83	$ 29.20
3/10/2014	am	$ 28.06	$ 26.98	$ 26.34	$ 26.10	$ 29.45	$ 37.47	$ 55.89	$ 60.86	$ 54.58	$ 54.26	$ 49.48	$ 45.43
3/10/2014	pm	$ 43.17	$ 41.16	$ 38.98	$ 38.67	$ 39.76	$ 41.28	$ 47.66	$ 60.04	$ 54.51	$ 42.31	$ 33.77	$ 30.14
3/11/2014	am	$ 28.47	$ 26.06	$ 25.64	$ 25.65	$ 27.74	$ 34.83	$ 56.03	$ 47.55	$ 42.53	$ 38.20	$ 38.24	$ 36.71
3/11/2014	pm	$ 35.32	$ 33.86	$ 31.09	$ 30.18	$ 31.14	$ 33.23	$ 36.29	$ 46.88	$ 37.51	$ 31.10	$ 27.44	$ 25.84
3/12/2014	am	$ 24.43	$ 20.90	$ 20.83	$ 20.74	$ 21.88	$ 30.04	$ 49.60	$ 44.96	$ 42.77	$ 42.56	$ 43.03	$ 42.43
3/12/2014	pm	$ 40.77	$ 40.19	$ 38.20	$ 37.85	$ 38.02	$ 40.48	$ 51.39	$ 78.56	$ 61.88	$ 50.78	$ 35.92	$ 36.32
3/13/2014	am	$ 33.73	$ 34.12	$ 34.50	$ 35.09	$ 38.90	$ 47.08	$ 89.51	$ 80.53	$ 71.48	$ 66.95	$ 54.99	$ 49.98
3/13/2014	pm	$ 43.85	$ 40.41	$ 38.45	$ 39.08	$ 38.66	$ 40.79	$ 53.82	$ 75.84	$ 61.93	$ 45.91	$ 36.02	$ 34.23
3/14/2014	am	$ 30.70	$ 27.84	$ 27.08	$ 27.48	$ 31.96	$ 41.21	$ 61.98	$ 52.78	$ 44.79	$ 43.12	$ 40.84	$ 38.68
3/14/2014	pm	$ 37.68	$ 35.97	$ 33.52	$ 32.70	$ 33.26	$ 34.41	$ 36.42	$ 44.54	$ 42.08	$ 37.83	$ 32.14	$ 32.25
3/15/2014	am	$ 28.93	$ 27.85	$ 27.58	$ 27.41	$ 27.45	$ 28.71	$ 35.02	$ 37.09	$ 38.54	$ 40.58	$ 38.81	$ 36.24
3/15/2014	pm	$ 32.38	$ 31.22	$ 29.41	$ 29.21	$ 29.84	$ 30.53	$ 31.28	$ 38.52	$ 36.16	$ 31.29	$ 30.99	$ 30.42
3/16/2014	am	$ 29.20	$ 28.19	$ 27.94	$ 28.01	$ 28.16	$ 30.58	$ 33.91	$ 36.78	$ 37.55	$ 39.30	$ 38.04	$ 37.38
3/16/2014	pm	$ 36.65	$ 35.13	$ 34.94	$ 34.35	$ 35.20	$ 36.22	$ 42.15	$ 62.06	$ 50.66	$ 42.47	$ 38.56	$ 37.76

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
3/17/2014	am	$ 37.03	$ 36.47	$ 36.29	$ 37.05	$ 41.03	$ 57.38	$ 90.45	$ 77.23	$ 65.28	$ 57.09	$ 51.45	$ 46.19
3/17/2014	pm	$ 42.10	$ 42.76	$ 40.42	$ 38.54	$ 38.13	$ 38.45	$ 44.32	$ 68.69	$ 50.33	$ 43.29	$ 39.62	$ 37.61
3/18/2014	am	$ 33.06	$ 31.03	$ 30.22	$ 30.38	$ 33.91	$ 45.43	$ 69.26	$ 64.74	$ 51.28	$ 45.89	$ 43.40	$ 40.86
3/18/2014	pm	$ 38.87	$ 37.80	$ 34.99	$ 32.80	$ 32.79	$ 33.35	$ 37.71	$ 52.70	$ 44.43	$ 37.36	$ 32.11	$ 30.93
3/19/2014	am	$ 25.31	$ 22.40	$ 22.72	$ 23.61	$ 26.60	$ 38.06	$ 48.55	$ 41.44	$ 39.68	$ 36.47	$ 36.36	$ 34.47
3/19/2014	pm	$ 32.00	$ 30.77	$ 28.38	$ 28.30	$ 28.48	$ 29.61	$ 33.65	$ 48.64	$ 43.99	$ 33.86	$ 29.47	$ 27.96
3/20/2014	am	$ 27.55	$ 26.20	$ 25.74	$ 26.20	$ 28.79	$ 41.57	$ 54.81	$ 46.10	$ 43.47	$ 40.70	$ 38.82	$ 35.88
3/20/2014	pm	$ 33.63	$ 32.42	$ 31.00	$ 29.91	$ 30.67	$ 32.22	$ 34.63	$ 47.16	$ 39.84	$ 34.82	$ 31.03	$ 29.25
3/21/2014	am	$ 31.49	$ 29.60	$ 29.16	$ 29.19	$ 31.81	$ 41.52	$ 66.81	$ 48.57	$ 45.32	$ 43.26	$ 40.25	$ 37.70
3/21/2014	pm	$ 36.02	$ 35.59	$ 35.03	$ 33.74	$ 33.00	$ 32.93	$ 34.61	$ 45.23	$ 37.85	$ 34.23	$ 30.09	$ 28.66
3/22/2014	am	$ 27.05	$ 25.63	$ 25.40	$ 25.41	$ 26.15	$ 27.73	$ 32.54	$ 35.01	$ 39.13	$ 42.52	$ 41.89	$ 37.43
3/22/2014	pm	$ 34.07	$ 33.14	$ 31.87	$ 31.01	$ 31.35	$ 32.39	$ 35.12	$ 49.37	$ 44.34	$ 37.58	$ 32.40	$ 31.65
3/23/2014	am	$ 31.00	$ 29.98	$ 31.30	$ 31.09	$ 31.10	$ 33.04	$ 37.73	$ 37.93	$ 41.50	$ 43.48	$ 43.49	$ 40.22
3/23/2014	pm	$ 38.14	$ 36.29	$ 33.70	$ 32.54	$ 33.79	$ 35.27	$ 40.00	$ 74.17	$ 53.57	$ 43.51	$ 35.13	$ 33.31
3/24/2014	am	$ 32.20	$ 31.05	$ 31.28	$ 31.72	$ 37.36	$ 50.51	$ 80.52	$ 76.67	$ 62.23	$ 54.35	$ 52.98	$ 50.35
3/24/2014	pm	$ 45.65	$ 43.87	$ 39.16	$ 34.46	$ 35.17	$ 35.98	$ 40.39	$ 60.19	$ 48.79	$ 42.13	$ 35.95	$ 32.71
3/25/2014	am	$ 34.38	$ 35.49	$ 36.17	$ 36.14	$ 41.48	$ 51.37	$ 76.95	$ 68.73	$ 59.76	$ 57.78	$ 54.04	$ 51.67
3/25/2014	pm	$ 47.43	$ 44.60	$ 42.50	$ 38.71	$ 38.80	$ 43.09	$ 50.22	$ 80.16	$ 69.87	$ 54.62	$ 46.96	$ 37.05
3/26/2014	am	$ 35.24	$ 34.33	$ 33.87	$ 35.61	$ 40.90	$ 54.75	$ 84.04	$ 75.87	$ 60.22	$ 58.85	$ 48.96	$ 47.16
3/26/2014	pm	$ 42.41	$ 39.98	$ 37.51	$ 36.10	$ 36.01	$ 37.24	$ 42.11	$ 65.22	$ 52.58	$ 41.72	$ 34.55	$ 34.46
3/27/2014	am	$ 34.82	$ 34.57	$ 33.50	$ 34.42	$ 37.49	$ 50.38	$ 59.71	$ 54.82	$ 50.25	$ 47.56	$ 45.27	$ 42.78
3/27/2014	pm	$ 39.28	$ 38.05	$ 36.29	$ 35.16	$ 35.45	$ 35.76	$ 39.26	$ 53.13	$ 45.42	$ 39.06	$ 35.16	$ 32.48
3/28/2014	am	$ 28.86	$ 27.50	$ 26.97	$ 27.17	$ 29.10	$ 37.88	$ 45.17	$ 42.32	$ 40.10	$ 41.74	$ 42.01	$ 40.88
3/28/2014	pm	$ 38.79	$ 37.84	$ 36.37	$ 35.14	$ 34.62	$ 34.20	$ 36.35	$ 45.03	$ 41.82	$ 36.59	$ 34.07	$ 32.17
3/29/2014	am	$ 29.55	$ 27.65	$ 27.27	$ 27.24	$ 27.85	$ 30.04	$ 33.62	$ 37.11	$ 41.84	$ 44.65	$ 43.32	$ 38.77
3/29/2014	pm	$ 35.71	$ 33.80	$ 33.43	$ 32.55	$ 32.55	$ 32.83	$ 35.85	$ 46.26	$ 40.37	$ 34.26	$ 31.93	$ 31.18
3/30/2014	am	$ 30.91	$ 30.29	$ 30.20	$ 30.39	$ 30.79	$ 31.64	$ 35.14	$ 40.34	$ 44.92	$ 45.19	$ 44.05	$ 38.12
3/30/2014	pm	$ 33.70	$ 32.23	$ 31.86	$ 31.44	$ 31.72	$ 32.77	$ 36.28	$ 47.52	$ 44.85	$ 34.87	$ 30.05	$ 29.92
3/31/2014	am	$ 29.27	$ 27.51	$ 27.85	$ 29.17	$ 33.76	$ 52.47	$ 59.00	$ 49.85	$ 50.21	$ 49.26	$ 47.94	$ 45.61
3/31/2014	pm	$ 40.34	$ 38.43	$ 35.88	$ 34.35	$ 33.52	$ 33.00	$ 36.30	$ 47.02	$ 40.79	$ 32.35	$ 28.40	$ 29.68
4/1/2014	am	$ 25.27	$ 21.03	$ 21.11	$ 23.09	$ 29.43	$ 46.32	$ 50.93	$ 42.86	$ 39.90	$ 38.29	$ 37.10	$ 35.38
4/1/2014	pm	$ 35.39	$ 35.18	$ 34.76	$ 33.73	$ 34.23	$ 35.87	$ 38.69	$ 52.51	$ 46.59	$ 37.91	$ 33.93	$ 31.64
4/2/2014	am	$ 28.33	$ 26.60	$ 26.97	$ 27.73	$ 30.12	$ 45.88	$ 52.30	$ 47.99	$ 46.58	$ 46.55	$ 45.79	$ 41.86
4/2/2014	pm	$ 39.77	$ 39.10	$ 38.60	$ 39.04	$ 37.28	$ 39.01	$ 45.52	$ 58.98	$ 46.45	$ 35.45	$ 33.40	$ 29.74
4/3/2014	am	$ 27.54	$ 26.30	$ 26.01	$ 26.27	$ 27.92	$ 43.21	$ 48.37	$ 46.18	$ 46.39	$ 46.75	$ 45.90	$ 45.40
4/3/2014	pm	$ 44.71	$ 44.11	$ 40.79	$ 41.31	$ 40.87	$ 38.91	$ 41.39	$ 53.69	$ 47.24	$ 34.79	$ 31.72	$ 28.89
4/4/2014	am	$ 27.49	$ 25.20	$ 24.90	$ 26.01	$ 29.11	$ 40.50	$ 50.03	$ 45.14	$ 45.78	$ 46.12	$ 46.69	$ 43.60
4/4/2014	pm	$ 41.54	$ 40.06	$ 38.19	$ 37.05	$ 36.38	$ 34.69	$ 38.53	$ 47.62	$ 44.94	$ 36.27	$ 34.71	$ 31.73
4/5/2014	am	$ 30.94	$ 30.25	$ 29.50	$ 29.70	$ 30.34	$ 32.40	$ 39.73	$ 44.22	$ 48.23	$ 49.52	$ 48.67	$ 40.01
4/5/2014	pm	$ 36.45	$ 33.87	$ 31.75	$ 31.41	$ 31.58	$ 32.07	$ 34.38	$ 49.69	$ 42.32	$ 34.98	$ 31.27	$ 30.31
4/6/2014	am	$ 29.09	$ 27.74	$ 27.44	$ 27.57	$ 27.66	$ 27.94	$ 30.91	$ 34.23	$ 37.51	$ 36.49	$ 35.14	$ 33.34
4/6/2014	pm	$ 31.86	$ 30.98	$ 30.71	$ 30.73	$ 31.58	$ 33.05	$ 36.64	$ 49.37	$ 46.20	$ 36.18	$ 29.33	$ 28.88
4/7/2014	am	$ 27.77	$ 27.46	$ 27.28	$ 28.03	$ 29.98	$ 43.81	$ 48.36	$ 47.55	$ 46.76	$ 46.74	$ 47.03	$ 46.07
4/7/2014	pm	$ 42.45	$ 41.17	$ 37.37	$ 36.70	$ 35.22	$ 35.04	$ 37.40	$ 49.40	$ 43.33	$ 32.54	$ 29.45	$ 29.56
4/8/2014	am	$ 28.43	$ 27.33	$ 27.33	$ 27.64	$ 29.93	$ 44.62	$ 50.08	$ 48.77	$ 48.45	$ 46.71	$ 45.33	$ 43.39
4/8/2014	pm	$ 43.66	$ 43.20	$ 40.54	$ 39.06	$ 37.41	$ 36.88	$ 40.13	$ 55.93	$ 50.28	$ 39.51	$ 33.84	$ 30.92
4/9/2014	am	$ 27.99	$ 26.84	$ 26.72	$ 27.35	$ 30.77	$ 50.76	$ 54.67	$ 50.00	$ 48.75	$ 46.41	$ 45.36	$ 41.52
4/9/2014	pm	$ 39.49	$ 37.36	$ 34.76	$ 34.67	$ 36.87	$ 35.22	$ 38.89	$ 51.60	$ 48.52	$ 33.54	$ 28.41	$ 28.55
4/10/2014	am	$ 26.00	$ 25.59	$ 25.74	$ 26.09	$ 30.08	$ 50.22	$ 48.85	$ 44.04	$ 43.72	$ 41.96	$ 41.44	$ 38.12
4/10/2014	pm	$ 36.35	$ 37.88	$ 35.09	$ 36.45	$ 36.82	$ 36.80	$ 40.32	$ 59.49	$ 52.23	$ 41.27	$ 35.02	$ 31.88

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
4/11/2014	am	$ 29.04	$ 28.00	$ 26.98	$ 28.63	$ 30.85	$ 48.61	$ 47.04	$ 45.80	$ 46.99	$ 46.79	$ 46.32	$ 44.97
4/11/2014	pm	$ 43.96	$ 44.49	$ 41.48	$ 39.71	$ 37.54	$ 36.68	$ 38.81	$ 46.46	$ 45.15	$ 39.54	$ 37.41	$ 34.40
4/12/2014	am	$ 29.32	$ 25.71	$ 26.33	$ 26.58	$ 27.21	$ 28.23	$ 28.64	$ 33.17	$ 37.32	$ 36.61	$ 36.77	$ 35.94
4/12/2014	pm	$ 33.09	$ 31.86	$ 29.58	$ 29.63	$ 30.14	$ 31.01	$ 31.08	$ 36.72	$ 35.28	$ 28.07	$ 25.16	$ 26.85
4/13/2014	am	$ 25.46	$ 25.00	$ 25.04	$ 25.39	$ 25.77	$ 26.59	$ 26.12	$ 28.24	$ 29.85	$ 31.85	$ 33.72	$ 34.85
4/13/2014	pm	$ 34.92	$ 34.10	$ 34.76	$ 36.47	$ 37.66	$ 37.71	$ 40.55	$ 45.44	$ 40.47	$ 32.66	$ 29.43	$ 28.83
4/14/2014	am	$ 27.50	$ 26.24	$ 25.96	$ 26.66	$ 28.98	$ 45.38	$ 44.23	$ 42.00	$ 44.41	$ 45.52	$ 46.60	$ 46.24
4/14/2014	pm	$ 44.01	$ 41.86	$ 38.42	$ 38.16	$ 38.85	$ 38.39	$ 40.99	$ 56.06	$ 50.82	$ 42.17	$ 37.22	$ 33.83
4/15/2014	am	$ 31.53	$ 29.67	$ 29.81	$ 30.20	$ 34.11	$ 57.46	$ 67.83	$ 56.47	$ 55.09	$ 51.69	$ 49.08	$ 44.64
4/15/2014	pm	$ 42.36	$ 38.79	$ 37.01	$ 35.02	$ 34.77	$ 35.08	$ 38.46	$ 55.02	$ 47.92	$ 38.00	$ 32.96	$ 33.82
4/16/2014	am	$ 37.48	$ 35.79	$ 35.07	$ 35.64	$ 40.95	$ 67.48	$ 79.25	$ 64.19	$ 60.38	$ 52.47	$ 49.08	$ 43.82
4/16/2014	pm	$ 36.61	$ 33.87	$ 32.67	$ 31.87	$ 32.25	$ 33.43	$ 35.45	$ 51.94	$ 51.63	$ 37.06	$ 31.94	$ 30.40
4/17/2014	am	$ 29.31	$ 28.10	$ 28.33	$ 28.74	$ 30.47	$ 52.69	$ 54.23	$ 47.85	$ 47.02	$ 47.45	$ 46.77	$ 42.97
4/17/2014	pm	$ 41.19	$ 41.50	$ 39.69	$ 40.05	$ 37.63	$ 38.00	$ 38.65	$ 50.71	$ 48.88	$ 39.84	$ 33.67	$ 30.57
4/18/2014	am	$ 27.50	$ 26.80	$ 26.46	$ 26.68	$ 28.20	$ 34.24	$ 38.57	$ 42.11	$ 43.29	$ 42.01	$ 39.49	$ 35.11
4/18/2014	pm	$ 34.30	$ 32.61	$ 31.79	$ 31.38	$ 30.81	$ 30.76	$ 31.02	$ 36.60	$ 36.56	$ 30.51	$ 29.20	$ 29.61
4/19/2014	am	$ 27.80	$ 26.85	$ 26.48	$ 26.83	$ 27.06	$ 27.35	$ 28.26	$ 30.83	$ 34.62	$ 36.86	$ 34.97	$ 31.31
4/19/2014	pm	$ 30.00	$ 29.08	$ 28.98	$ 28.92	$ 29.01	$ 29.08	$ 29.09	$ 40.22	$ 34.99	$ 30.52	$ 27.08	$ 26.95
4/20/2014	am	$ 24.81	$ 24.44	$ 23.66	$ 23.84	$ 24.63	$ 26.47	$ 26.70	$ 28.35	$ 29.56	$ 29.53	$ 29.55	$ 29.36
4/20/2014	pm	$ 28.86	$ 28.30	$ 27.86	$ 27.62	$ 27.80	$ 28.25	$ 29.07	$ 35.27	$ 37.20	$ 30.29	$ 26.16	$ 25.79
4/21/2014	am	$ 25.95	$ 25.33	$ 25.51	$ 26.26	$ 28.44	$ 40.00	$ 40.13	$ 40.00	$ 42.86	$ 45.57	$ 48.59	$ 48.72
4/21/2014	pm	$ 46.02	$ 46.24	$ 41.38	$ 42.40	$ 40.80	$ 40.07	$ 40.95	$ 50.87	$ 47.16	$ 37.81	$ 31.83	$ 29.02
4/22/2014	am	$ 27.86	$ 26.66	$ 25.96	$ 26.58	$ 30.32	$ 42.97	$ 42.65	$ 48.29	$ 47.33	$ 47.44	$ 47.30	$ 47.39
4/22/2014	pm	$ 47.35	$ 47.44	$ 45.21	$ 44.04	$ 42.72	$ 41.07	$ 40.44	$ 48.22	$ 46.67	$ 34.91	$ 30.44	$ 28.31
4/23/2014	am	$ 26.95	$ 26.41	$ 26.03	$ 26.90	$ 30.69	$ 43.68	$ 45.21	$ 46.11	$ 50.06	$ 49.27	$ 45.50	$ 44.44
4/23/2014	pm	$ 43.16	$ 41.18	$ 38.52	$ 37.72	$ 37.64	$ 36.84	$ 38.02	$ 46.42	$ 42.37	$ 37.17	$ 30.47	$ 29.80
4/24/2014	am	$ 26.14	$ 24.89	$ 24.66	$ 24.98	$ 27.50	$ 40.50	$ 39.55	$ 39.81	$ 41.65	$ 44.03	$ 42.21	$ 41.06
4/24/2014	pm	$ 39.51	$ 39.46	$ 37.43	$ 35.29	$ 35.30	$ 32.88	$ 33.51	$ 41.42	$ 43.04	$ 36.21	$ 29.83	$ 26.68
4/25/2014	am	$ 26.18	$ 25.34	$ 24.63	$ 25.06	$ 27.59	$ 42.47	$ 40.83	$ 41.30	$ 45.62	$ 48.07	$ 48.58	$ 47.63
4/25/2014	pm	$ 46.63	$ 43.70	$ 39.20	$ 36.77	$ 34.72	$ 32.36	$ 36.49	$ 43.87	$ 44.88	$ 38.50	$ 30.20	$ 28.37
4/26/2014	am	$ 27.81	$ 26.33	$ 25.81	$ 26.01	$ 27.02	$ 28.48	$ 30.20	$ 33.46	$ 38.45	$ 40.77	$ 37.70	$ 36.00
4/26/2014	pm	$ 35.47	$ 33.24	$ 32.04	$ 31.59	$ 32.03	$ 33.00	$ 32.85	$ 41.40	$ 40.44	$ 33.56	$ 27.67	$ 28.41
4/27/2014	am	$ 28.26	$ 26.12	$ 25.00	$ 25.43	$ 27.79	$ 29.16	$ 29.84	$ 33.73	$ 36.93	$ 37.73	$ 38.06	$ 37.25
4/27/2014	pm	$ 38.01	$ 35.61	$ 35.07	$ 34.34	$ 33.68	$ 35.08	$ 35.11	$ 46.17	$ 45.25	$ 32.26	$ 26.80	$ 26.25
4/28/2014	am	$ 23.65	$ 22.78	$ 22.57	$ 23.17	$ 26.18	$ 39.26	$ 39.71	$ 38.87	$ 43.43	$ 44.46	$ 47.83	$ 47.34
4/28/2014	pm	$ 49.48	$ 49.67	$ 47.09	$ 45.80	$ 45.30	$ 43.20	$ 43.68	$ 57.54	$ 51.59	$ 37.91	$ 31.65	$ 27.77
4/29/2014	am	$ 28.45	$ 27.10	$ 27.66	$ 28.02	$ 29.98	$ 41.49	$ 46.17	$ 47.52	$ 47.94	$ 49.97	$ 48.18	$ 47.65
4/29/2014	pm	$ 48.73	$ 53.83	$ 52.94	$ 51.15	$ 50.97	$ 46.78	$ 47.51	$ 58.41	$ 56.56	$ 38.70	$ 35.01	$ 29.83
4/30/2014	am	$ 28.56	$ 27.46	$ 27.54	$ 28.72	$ 31.95	$ 42.05	$ 47.28	$ 49.17	$ 52.56	$ 51.61	$ 52.34	$ 50.87
4/30/2014	pm	$ 49.14	$ 49.18	$ 45.52	$ 45.60	$ 48.75	$ 47.35	$ 46.58	$ 58.77	$ 60.15	$ 44.13	$ 37.28	$ 32.82
5/1/2014	am	$ 31.48	$ 30.52	$ 30.19	$ 30.41	$ 34.39	$ 48.75	$ 58.79	$ 58.89	$ 61.07	$ 57.46	$ 56.84	$ 54.00
5/1/2014	pm	$ 51.16	$ 48.86	$ 46.54	$ 46.77	$ 47.45	$ 46.13	$ 47.95	$ 62.13	$ 68.99	$ 47.91	$ 37.80	$ 33.51
5/2/2014	am	$ 29.95	$ 27.18	$ 27.20	$ 27.49	$ 30.13	$ 40.98	$ 50.13	$ 48.16	$ 49.63	$ 47.55	$ 44.91	$ 44.27
5/2/2014	pm	$ 42.15	$ 40.89	$ 39.71	$ 38.06	$ 37.62	$ 37.04	$ 37.98	$ 42.73	$ 45.58	$ 39.14	$ 34.35	$ 31.39
5/3/2014	am	$ 30.73	$ 28.93	$ 27.75	$ 27.69	$ 28.00	$ 30.24	$ 34.71	$ 36.76	$ 44.77	$ 47.09	$ 47.13	$ 44.64
5/3/2014	pm	$ 40.09	$ 38.49	$ 37.98	$ 36.44	$ 35.62	$ 34.91	$ 36.11	$ 43.82	$ 47.85	$ 40.86	$ 32.95	$ 29.83
5/4/2014	am	$ 28.50	$ 27.07	$ 27.12	$ 26.31	$ 26.59	$ 27.91	$ 29.87	$ 35.22	$ 35.47	$ 36.46	$ 36.61	$ 36.31
5/4/2014	pm	$ 37.82	$ 36.72	$ 36.07	$ 35.14	$ 38.68	$ 41.21	$ 39.51	$ 50.62	$ 54.57	$ 38.73	$ 32.46	$ 29.58
5/5/2014	am	$ 27.45	$ 27.19	$ 27.10	$ 27.40	$ 29.56	$ 39.50	$ 47.09	$ 48.28	$ 51.22	$ 50.63	$ 52.06	$ 53.56
5/5/2014	pm	$ 54.40	$ 55.32	$ 52.67	$ 50.87	$ 50.51	$ 49.01	$ 44.98	$ 55.99	$ 58.00	$ 42.55	$ 35.56	$ 31.88

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
5/6/2014	am	$ 30.07	$ 27.68	$ 27.41	$ 27.88	$ 29.91	$ 39.78	$ 45.72	$ 45.63	$ 46.10	$ 44.77	$ 46.19	$ 46.15
5/6/2014	pm	$ 46.23	$ 46.63	$ 48.23	$ 48.67	$ 46.26	$ 44.23	$ 44.77	$ 49.52	$ 51.56	$ 40.68	$ 33.41	$ 29.98
5/7/2014	am	$ 29.14	$ 27.80	$ 27.38	$ 26.98	$ 29.70	$ 35.10	$ 43.40	$ 44.88	$ 47.22	$ 50.06	$ 50.89	$ 52.54
5/7/2014	pm	$ 52.18	$ 56.55	$ 57.34	$ 55.83	$ 54.34	$ 52.42	$ 47.85	$ 54.45	$ 57.44	$ 40.22	$ 33.88	$ 30.37
5/8/2014	am	$ 26.11	$ 25.24	$ 24.98	$ 24.63	$ 27.71	$ 35.53	$ 40.35	$ 42.98	$ 46.15	$ 48.63	$ 50.66	$ 53.41
5/8/2014	pm	$ 54.85	$ 56.90	$ 59.87	$ 60.79	$ 60.09	$ 54.99	$ 50.72	$ 53.53	$ 59.38	$ 42.33	$ 34.49	$ 33.02
5/9/2014	am	$ 27.86	$ 25.76	$ 25.08	$ 24.63	$ 28.12	$ 35.03	$ 39.21	$ 39.80	$ 42.11	$ 43.93	$ 44.07	$ 44.68
5/9/2014	pm	$ 45.05	$ 45.74	$ 45.93	$ 45.86	$ 44.63	$ 43.16	$ 40.27	$ 41.96	$ 45.98	$ 39.85	$ 34.98	$ 29.93
5/10/2014	am	$ 28.22	$ 25.73	$ 25.35	$ 25.08	$ 25.14	$ 25.25	$ 27.06	$ 32.29	$ 36.19	$ 37.73	$ 39.58	$ 38.64
5/10/2014	pm	$ 38.60	$ 37.57	$ 37.93	$ 39.10	$ 37.51	$ 34.94	$ 35.52	$ 36.71	$ 39.19	$ 36.05	$ 28.86	$ 26.94
5/11/2014	am	$ 27.83	$ 26.51	$ 25.08	$ 24.44	$ 23.76	$ 24.02	$ 25.25	$ 27.84	$ 32.69	$ 34.60	$ 36.68	$ 37.27
5/11/2014	pm	$ 37.91	$ 37.72	$ 39.72	$ 38.96	$ 37.82	$ 37.90	$ 39.01	$ 39.29	$ 39.96	$ 36.94	$ 31.99	$ 30.64
5/12/2014	am	$ 31.81	$ 28.24	$ 27.73	$ 28.16	$ 30.93	$ 35.59	$ 40.52	$ 43.47	$ 45.93	$ 48.18	$ 49.63	$ 53.06
5/12/2014	pm	$ 57.02	$ 60.72	$ 61.51	$ 61.94	$ 62.62	$ 60.14	$ 53.85	$ 51.29	$ 54.97	$ 46.91	$ 38.29	$ 33.97
5/13/2014	am	$ 30.94	$ 27.37	$ 26.47	$ 25.92	$ 27.52	$ 35.32	$ 39.88	$ 41.82	$ 43.30	$ 44.11	$ 44.30	$ 45.80
5/13/2014	pm	$ 45.52	$ 46.44	$ 47.06	$ 46.09	$ 45.34	$ 44.40	$ 44.24	$ 44.29	$ 48.63	$ 40.62	$ 33.08	$ 29.04
5/14/2014	am	$ 27.58	$ 26.22	$ 25.80	$ 25.84	$ 27.88	$ 35.76	$ 40.71	$ 37.54	$ 41.82	$ 39.29	$ 41.00	$ 40.88
5/14/2014	pm	$ 40.21	$ 39.73	$ 39.56	$ 37.57	$ 37.61	$ 32.23	$ 33.90	$ 36.15	$ 45.44	$ 31.86	$ 29.11	$ 26.69
5/15/2014	am	$ 24.11	$ 23.20	$ 22.87	$ 23.09	$ 24.75	$ 29.05	$ 49.11	$ 39.34	$ 39.97	$ 40.89	$ 40.00	$ 39.75
5/15/2014	pm	$ 36.99	$ 36.84	$ 37.01	$ 36.63	$ 36.34	$ 35.99	$ 36.30	$ 38.55	$ 61.00	$ 36.41	$ 30.22	$ 27.41
5/16/2014	am	$ 27.04	$ 26.28	$ 26.18	$ 25.83	$ 28.19	$ 34.79	$ 42.76	$ 44.84	$ 44.93	$ 45.33	$ 44.50	$ 45.22
5/16/2014	pm	$ 44.22	$ 43.30	$ 42.81	$ 38.53	$ 38.91	$ 38.42	$ 36.85	$ 40.46	$ 43.34	$ 39.36	$ 33.09	$ 30.15
5/17/2014	am	$ 29.26	$ 27.64	$ 26.81	$ 26.35	$ 26.66	$ 27.73	$ 31.37	$ 35.82	$ 39.00	$ 40.92	$ 42.07	$ 39.75
5/17/2014	pm	$ 37.91	$ 36.20	$ 34.62	$ 33.31	$ 33.89	$ 33.93	$ 34.05	$ 35.64	$ 39.46	$ 35.52	$ 28.72	$ 26.65
5/18/2014	am	$ 25.85	$ 24.83	$ 24.23	$ 24.00	$ 24.12	$ 23.72	$ 25.16	$ 29.26	$ 32.83	$ 34.51	$ 34.34	$ 33.53
5/18/2014	pm	$ 34.35	$ 32.26	$ 32.16	$ 31.98	$ 33.11	$ 34.34	$ 35.22	$ 37.58	$ 39.97	$ 35.32	$ 27.41	$ 27.48
5/19/2014	am	$ 23.49	$ 22.77	$ 22.96	$ 23.53	$ 25.13	$ 33.00	$ 36.84	$ 39.06	$ 42.62	$ 44.18	$ 44.06	$ 42.41
5/19/2014	pm	$ 42.66	$ 42.81	$ 42.48	$ 43.00	$ 41.29	$ 40.09	$ 38.71	$ 41.26	$ 42.52	$ 36.39	$ 28.15	$ 26.61
5/20/2014	am	$ 23.73	$ 21.96	$ 21.74	$ 21.64	$ 23.50	$ 29.26	$ 34.96	$ 36.65	$ 39.40	$ 42.14	$ 44.41	$ 45.45
5/20/2014	pm	$ 46.58	$ 47.75	$ 50.15	$ 50.00	$ 48.85	$ 47.41	$ 44.78	$ 45.01	$ 45.39	$ 38.43	$ 32.38	$ 29.08
5/21/2014	am	$ 27.85	$ 26.16	$ 26.02	$ 26.57	$ 27.79	$ 34.95	$ 36.79	$ 42.14	$ 44.19	$ 47.93	$ 50.98	$ 53.50
5/21/2014	pm	$ 55.68	$ 60.36	$ 61.09	$ 59.93	$ 58.39	$ 53.37	$ 51.50	$ 49.22	$ 52.44	$ 41.36	$ 33.17	$ 28.86
5/22/2014	am	$ 26.90	$ 25.93	$ 25.76	$ 25.35	$ 26.00	$ 32.13	$ 37.33	$ 40.70	$ 42.45	$ 45.08	$ 47.27	$ 46.87
5/22/2014	pm	$ 45.81	$ 45.47	$ 44.41	$ 45.13	$ 44.32	$ 43.31	$ 41.33	$ 41.94	$ 44.94	$ 40.36	$ 32.66	$ 28.13
5/23/2014	am	$ 25.61	$ 23.90	$ 23.73	$ 23.62	$ 25.34	$ 29.76	$ 38.12	$ 38.14	$ 39.68	$ 40.29	$ 44.78	$ 44.37
5/23/2014	pm	$ 44.21	$ 44.18	$ 42.49	$ 42.71	$ 42.00	$ 39.22	$ 36.97	$ 37.30	$ 39.84	$ 35.83	$ 30.58	$ 27.69
5/24/2014	am	$ 25.77	$ 24.69	$ 24.18	$ 23.72	$ 23.72	$ 24.20	$ 27.46	$ 30.55	$ 35.44	$ 37.50	$ 38.23	$ 38.11
5/24/2014	pm	$ 37.91	$ 37.26	$ 37.26	$ 37.78	$ 37.20	$ 37.13	$ 37.01	$ 36.07	$ 37.73	$ 33.62	$ 25.80	$ 26.25
5/25/2014	am	$ 23.35	$ 22.13	$ 21.90	$ 20.13	$ 20.05	$ 19.68	$ 23.45	$ 25.50	$ 29.98	$ 32.46	$ 33.26	$ 33.49
5/25/2014	pm	$ 32.30	$ 32.24	$ 32.73	$ 33.54	$ 34.66	$ 33.81	$ 34.27	$ 34.86	$ 38.07	$ 33.58	$ 27.61	$ 28.64
5/26/2014	am	$ 27.40	$ 25.73	$ 24.85	$ 23.43	$ 24.11	$ 25.07	$ 26.07	$ 28.81	$ 34.68	$ 37.11	$ 38.57	$ 42.33
5/26/2014	pm	$ 44.45	$ 44.44	$ 44.92	$ 43.57	$ 44.00	$ 46.78	$ 43.17	$ 41.73	$ 44.33	$ 39.51	$ 29.42	$ 30.31
5/27/2014	am	$ 28.08	$ 26.21	$ 26.77	$ 25.95	$ 27.14	$ 33.49	$ 44.11	$ 46.77	$ 49.83	$ 56.00	$ 65.24	$ 62.90
5/27/2014	pm	$ 65.27	$ 70.95	$ 70.50	$ 70.20	$ 66.77	$ 64.25	$ 59.89	$ 58.60	$ 58.84	$ 51.64	$ 35.96	$ 33.15
5/28/2014	am	$ 29.39	$ 25.96	$ 26.10	$ 26.00	$ 26.17	$ 30.79	$ 40.61	$ 42.71	$ 44.93	$ 49.95	$ 52.91	$ 53.54
5/28/2014	pm	$ 57.97	$ 67.51	$ 62.92	$ 61.45	$ 59.76	$ 52.97	$ 49.69	$ 46.43	$ 52.33	$ 40.07	$ 31.95	$ 29.78
5/29/2014	am	$ 27.96	$ 26.12	$ 25.80	$ 25.93	$ 26.04	$ 31.89	$ 37.13	$ 36.85	$ 40.14	$ 44.22	$ 48.44	$ 49.39
5/29/2014	pm	$ 51.11	$ 55.46	$ 55.85	$ 55.52	$ 54.47	$ 46.98	$ 43.59	$ 42.41	$ 44.00	$ 37.64	$ 32.57	$ 30.64
5/30/2014	am	$ 25.92	$ 23.57	$ 22.74	$ 21.71	$ 24.17	$ 26.64	$ 34.19	$ 35.66	$ 36.80	$ 39.72	$ 42.52	$ 46.11
5/30/2014	pm	$ 46.45	$ 48.73	$ 49.26	$ 50.05	$ 46.98	$ 41.85	$ 40.33	$ 37.99	$ 37.76	$ 34.10	$ 27.35	$ 26.18

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IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
5/31/2014	am	$ 26.18	$ 24.38	$ 23.65	$ 22.52	$ 22.29	$ 23.36	$ 26.62	$ 34.08	$ 37.12	$ 40.19	$ 44.24	$ 46.22
5/31/2014	pm	$ 45.52	$ 45.81	$ 47.77	$ 46.27	$ 46.03	$ 44.96	$ 42.29	$ 42.91	$ 40.47	$ 34.12	$ 27.15	$ 27.51
6/1/2014	am	$ 26.10	$ 22.72	$ 21.85	$ 20.46	$ 20.88	$ 20.43	$ 23.35	$ 27.54	$ 31.13	$ 33.95	$ 35.16	$ 37.13
6/1/2014	pm	$ 39.43	$ 40.46	$ 41.78	$ 43.48	$ 46.66	$ 48.02	$ 47.09	$ 43.71	$ 43.15	$ 36.97	$ 29.41	$ 29.42
6/2/2014	am	$ 25.56	$ 23.81	$ 22.36	$ 22.53	$ 24.21	$ 27.76	$ 36.51	$ 37.49	$ 39.38	$ 42.87	$ 45.00	$ 50.62
6/2/2014	pm	$ 53.84	$ 55.50	$ 57.50	$ 56.32	$ 52.42	$ 49.42	$ 45.31	$ 42.33	$ 41.34	$ 36.25	$ 31.21	$ 29.52
6/3/2014	am	$ 27.86	$ 25.48	$ 24.58	$ 23.95	$ 26.38	$ 31.25	$ 40.15	$ 42.73	$ 46.77	$ 50.99	$ 54.31	$ 59.79
6/3/2014	pm	$ 65.82	$ 79.68	$ 82.08	$ 73.98	$ 70.13	$ 58.46	$ 52.77	$ 49.09	$ 49.95	$ 41.13	$ 31.65	$ 30.04
6/4/2014	am	$ 26.15	$ 23.03	$ 22.38	$ 20.82	$ 22.96	$ 25.67	$ 33.85	$ 36.48	$ 38.28	$ 41.06	$ 42.61	$ 48.04
6/4/2014	pm	$ 52.58	$ 49.90	$ 49.68	$ 49.56	$ 47.82	$ 46.64	$ 42.21	$ 41.57	$ 41.62	$ 37.50	$ 31.14	$ 29.46
6/5/2014	am	$ 22.81	$ 21.25	$ 20.11	$ 20.06	$ 21.92	$ 24.64	$ 31.23	$ 31.51	$ 33.88	$ 35.53	$ 37.00	$ 40.17
6/5/2014	pm	$ 42.59	$ 39.35	$ 39.31	$ 40.66	$ 39.44	$ 39.73	$ 36.46	$ 34.94	$ 37.31	$ 33.29	$ 27.08	$ 27.68
6/6/2014	am	$ 22.86	$ 20.78	$ 19.96	$ 20.00	$ 21.59	$ 24.77	$ 30.74	$ 33.50	$ 36.52	$ 38.09	$ 38.66	$ 40.69
6/6/2014	pm	$ 41.76	$ 43.29	$ 45.01	$ 43.01	$ 43.38	$ 39.61	$ 40.13	$ 39.41	$ 38.49	$ 34.93	$ 27.85	$ 28.41
6/7/2014	am	$ 22.80	$ 18.97	$ 17.66	$ 17.49	$ 18.28	$ 19.11	$ 20.82	$ 24.11	$ 29.71	$ 34.32	$ 35.94	$ 37.94
6/7/2014	pm	$ 38.37	$ 41.17	$ 40.57	$ 43.83	$ 44.44	$ 42.67	$ 35.16	$ 35.57	$ 35.14	$ 31.23	$ 26.00	$ 25.82
6/8/2014	am	$ 21.39	$ 19.78	$ 17.80	$ 17.02	$ 16.76	$ 17.00	$ 20.32	$ 26.45	$ 28.89	$ 30.98	$ 33.72	$ 34.53
6/8/2014	pm	$ 34.41	$ 35.37	$ 35.99	$ 36.64	$ 38.00	$ 37.19	$ 36.21	$ 37.08	$ 35.80	$ 34.24	$ 26.96	$ 24.69
6/9/2014	am	$ 19.28	$ 14.78	$ 13.33	$ 14.15	$ 17.63	$ 20.29	$ 24.46	$ 31.11	$ 31.51	$ 35.62	$ 38.38	$ 38.50
6/9/2014	pm	$ 40.40	$ 42.16	$ 42.69	$ 41.66	$ 41.27	$ 38.32	$ 35.96	$ 37.00	$ 36.89	$ 32.02	$ 26.42	$ 25.03
6/10/2014	am	$ 21.89	$ 19.29	$ 18.14	$ 18.76	$ 20.18	$ 24.29	$ 30.71	$ 32.39	$ 36.40	$ 39.76	$ 41.95	$ 43.68
6/10/2014	pm	$ 43.98	$ 45.62	$ 45.05	$ 45.04	$ 44.77	$ 42.58	$ 40.88	$ 39.54	$ 39.30	$ 33.88	$ 27.04	$ 25.57
6/11/2014	am	$ 23.55	$ 21.78	$ 20.58	$ 20.36	$ 22.35	$ 25.75	$ 29.28	$ 33.60	$ 34.58	$ 38.00	$ 39.66	$ 40.63
6/11/2014	pm	$ 42.26	$ 43.29	$ 43.96	$ 44.69	$ 42.85	$ 39.31	$ 36.60	$ 34.39	$ 35.17	$ 32.48	$ 27.01	$ 25.34
6/12/2014	am	$ 22.64	$ 19.76	$ 18.94	$ 17.60	$ 19.89	$ 23.62	$ 27.44	$ 28.62	$ 31.45	$ 32.96	$ 34.96	$ 35.70
6/12/2014	pm	$ 38.52	$ 40.84	$ 41.90	$ 43.63	$ 42.15	$ 38.82	$ 36.52	$ 35.03	$ 33.57	$ 31.00	$ 25.63	$ 23.69
6/13/2014	am	$ 20.35	$ 17.75	$ 16.44	$ 15.54	$ 18.13	$ 21.18	$ 26.30	$ 31.02	$ 31.93	$ 33.35	$ 36.46	$ 36.91
6/13/2014	pm	$ 38.18	$ 38.90	$ 38.57	$ 36.89	$ 34.61	$ 33.60	$ 30.27	$ 30.18	$ 30.14	$ 27.30	$ 22.55	$ 21.68
6/14/2014	am	$ 19.41	$ 15.00	$ 12.88	$ 12.05	$ 12.25	$ 12.12	$ 17.43	$ 22.56	$ 25.69	$ 27.13	$ 29.35	$ 28.72
6/14/2014	pm	$ 29.72	$ 29.75	$ 30.35	$ 30.91	$ 30.71	$ 30.06	$ 28.26	$ 26.73	$ 27.01	$ 25.18	$ 21.73	$ 21.83
6/15/2014	am	$ 12.86	$ 7.72	$ 5.79	$ 3.00	$ 2.05	$ (1.72)	$ 2.53	$ 18.39	$ 23.09	$ 24.73	$ 26.80	$ 27.48
6/15/2014	pm	$ 28.10	$ 30.04	$ 30.87	$ 33.52	$ 33.99	$ 34.39	$ 33.76	$ 32.99	$ 34.28	$ 31.62	$ 25.38	$ 23.01
6/16/2014	am	$ 22.28	$ 21.06	$ 18.75	$ 18.44	$ 19.80	$ 23.63	$ 28.96	$ 32.80	$ 36.50	$ 39.54	$ 44.41	$ 45.22
6/16/2014	pm	$ 49.38	$ 54.52	$ 55.00	$ 59.80	$ 61.02	$ 53.88	$ 48.33	$ 44.57	$ 44.72	$ 40.00	$ 30.16	$ 27.00
6/17/2014	am	$ 27.52	$ 25.60	$ 24.58	$ 24.08	$ 25.19	$ 26.99	$ 32.54	$ 36.40	$ 39.53	$ 46.12	$ 53.48	$ 57.15
6/17/2014	pm	$ 61.75	$ 66.64	$ 71.11	$ 78.82	$ 76.57	$ 74.15	$ 61.62	$ 55.32	$ 51.56	$ 44.25	$ 37.25	$ 30.10
6/18/2014	am	$ 28.23	$ 26.29	$ 25.25	$ 24.39	$ 24.97	$ 27.31	$ 36.13	$ 41.00	$ 48.11	$ 58.36	$ 65.63	$ 72.42
6/18/2014	pm	$ 75.29	$ 79.49	$ 86.43	$ 94.81	$ 92.44	$ 78.18	$ 67.79	$ 62.59	$ 57.27	$ 47.64	$ 35.88	$ 29.30
6/19/2014	am	$ 27.34	$ 25.52	$ 24.19	$ 23.67	$ 25.52	$ 27.73	$ 31.23	$ 34.61	$ 38.71	$ 42.68	$ 49.14	$ 53.52
6/19/2014	pm	$ 57.09	$ 58.99	$ 64.09	$ 68.83	$ 66.33	$ 57.82	$ 52.64	$ 47.78	$ 46.62	$ 42.27	$ 34.94	$ 29.62
6/20/2014	am	$ 25.94	$ 23.54	$ 22.76	$ 21.76	$ 23.71	$ 24.97	$ 29.40	$ 33.53	$ 37.29	$ 39.54	$ 44.19	$ 45.06
6/20/2014	pm	$ 49.24	$ 52.15	$ 53.39	$ 56.42	$ 51.65	$ 43.24	$ 42.01	$ 38.78	$ 37.79	$ 36.31	$ 31.18	$ 27.85
6/21/2014	am	$ 24.93	$ 22.25	$ 19.65	$ 17.97	$ 16.87	$ 17.52	$ 21.81	$ 25.80	$ 29.75	$ 32.79	$ 36.13	$ 37.74
6/21/2014	pm	$ 39.84	$ 42.08	$ 45.25	$ 47.42	$ 47.70	$ 42.61	$ 39.74	$ 36.72	$ 36.11	$ 33.53	$ 27.04	$ 26.09
6/22/2014	am	$ 23.25	$ 20.91	$ 17.61	$ 13.54	$ 13.03	$ 11.69	$ 18.31	$ 25.17	$ 27.81	$ 30.31	$ 34.03	$ 35.74
6/22/2014	pm	$ 37.76	$ 39.46	$ 39.30	$ 44.37	$ 45.11	$ 45.08	$ 43.02	$ 41.03	$ 40.17	$ 37.06	$ 28.91	$ 27.03
6/23/2014	am	$ 25.56	$ 24.24	$ 21.54	$ 21.35	$ 24.40	$ 27.50	$ 33.77	$ 35.19	$ 36.69	$ 41.80	$ 47.58	$ 50.18
6/23/2014	pm	$ 54.92	$ 60.42	$ 64.45	$ 68.37	$ 66.70	$ 55.92	$ 49.87	$ 44.29	$ 43.54	$ 38.99	$ 33.29	$ 27.68
6/24/2014	am	$ 25.74	$ 23.87	$ 21.45	$ 20.99	$ 23.40	$ 25.74	$ 29.96	$ 32.83	$ 36.49	$ 40.80	$ 43.48	$ 47.71
6/24/2014	pm	$ 51.62	$ 55.84	$ 59.41	$ 63.57	$ 59.36	$ 51.66	$ 44.91	$ 42.03	$ 40.54	$ 36.12	$ 30.08	$ 27.57

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
6/25/2014	am	$ 25.06	$ 24.25	$ 22.76	$ 21.62	$ 24.57	$ 26.93	$ 31.36	$ 33.80	$ 34.65	$ 36.85	$ 38.79	$ 39.90
6/25/2014	pm	$ 45.06	$ 47.32	$ 49.63	$ 52.52	$ 50.21	$ 44.51	$ 41.88	$ 38.73	$ 38.00	$ 34.81	$ 30.21	$ 27.08
6/26/2014	am	$ 26.08	$ 23.80	$ 23.39	$ 22.97	$ 24.16	$ 26.86	$ 30.92	$ 34.17	$ 37.11	$ 36.81	$ 39.87	$ 42.20
6/26/2014	pm	$ 45.57	$ 47.05	$ 48.07	$ 52.25	$ 52.08	$ 45.60	$ 43.23	$ 39.83	$ 39.50	$ 36.63	$ 29.15	$ 27.88
6/27/2014	am	$ 27.82	$ 25.85	$ 25.10	$ 24.99	$ 27.06	$ 29.23	$ 37.13	$ 38.50	$ 38.69	$ 42.16	$ 46.18	$ 49.35
6/27/2014	pm	$ 52.71	$ 57.67	$ 59.96	$ 61.83	$ 59.00	$ 52.30	$ 45.51	$ 44.96	$ 43.91	$ 38.25	$ 34.95	$ 30.55
6/28/2014	am	$ 27.96	$ 26.01	$ 24.62	$ 23.28	$ 24.02	$ 24.06	$ 28.86	$ 33.46	$ 35.09	$ 38.95	$ 43.53	$ 44.73
6/28/2014	pm	$ 47.28	$ 51.25	$ 53.29	$ 55.48	$ 53.34	$ 49.28	$ 43.77	$ 40.23	$ 39.21	$ 34.98	$ 30.62	$ 28.42
6/29/2014	am	$ 26.13	$ 25.08	$ 23.39	$ 22.34	$ 22.14	$ 18.29	$ 24.67	$ 29.32	$ 33.98	$ 34.01	$ 36.49	$ 40.44
6/29/2014	pm	$ 44.46	$ 47.17	$ 48.39	$ 51.88	$ 52.83	$ 52.26	$ 46.62	$ 42.42	$ 45.08	$ 39.67	$ 31.92	$ 29.65
6/30/2014	am	$ 26.51	$ 25.47	$ 24.80	$ 24.49	$ 25.61	$ 28.00	$ 39.33	$ 42.00	$ 49.51	$ 58.85	$ 64.31	$ 70.83
6/30/2014	pm	$ 76.02	$ 81.25	$ 88.15	$ 91.00	$ 90.79	$ 77.49	$ 64.53	$ 56.64	$ 50.52	$ 47.04	$ 35.55	$ 32.67
7/1/2014	am	$ 28.60	$ 26.55	$ 25.53	$ 24.89	$ 26.47	$ 28.46	$ 34.10	$ 36.07	$ 35.97	$ 43.32	$ 45.37	$ 50.53
7/1/2014	pm	$ 58.80	$ 61.49	$ 64.96	$ 70.04	$ 64.35	$ 54.03	$ 47.52	$ 46.15	$ 43.17	$ 37.74	$ 31.23	$ 28.54
7/2/2014	am	$ 23.64	$ 22.70	$ 20.80	$ 20.00	$ 23.26	$ 24.30	$ 27.60	$ 32.20	$ 33.62	$ 35.70	$ 37.86	$ 39.68
7/2/2014	pm	$ 43.17	$ 45.19	$ 46.07	$ 45.59	$ 43.25	$ 40.59	$ 38.21	$ 35.24	$ 35.17	$ 32.87	$ 27.57	$ 25.95
7/3/2014	am	$ 23.85	$ 23.34	$ 22.04	$ 21.67	$ 22.83	$ 24.42	$ 27.96	$ 32.00	$ 34.50	$ 36.56	$ 37.00	$ 38.27
7/3/2014	pm	$ 40.29	$ 41.20	$ 42.00	$ 42.36	$ 41.08	$ 38.24	$ 35.86	$ 34.59	$ 33.37	$ 30.52	$ 25.53	$ 23.38
7/4/2014	am	$ 20.15	$ 16.94	$ 12.28	$ 9.14	$ 9.47	$ 9.00	$ 15.09	$ 21.72	$ 24.55	$ 26.96	$ 27.86	$ 28.41
7/4/2014	pm	$ 30.09	$ 29.70	$ 30.36	$ 30.99	$ 31.55	$ 30.69	$ 28.39	$ 26.92	$ 26.78	$ 25.17	$ 23.11	$ 22.82
7/5/2014	am	$ 15.96	$ 11.99	$ 6.61	$ 0.16	$ 0.61	$ (0.95)	$ 6.20	$ 22.24	$ 24.35	$ 27.49	$ 28.70	$ 28.90
7/5/2014	pm	$ 30.23	$ 29.99	$ 30.55	$ 32.10	$ 32.99	$ 33.29	$ 31.57	$ 29.13	$ 29.29	$ 27.70	$ 22.71	$ 21.82
7/6/2014	am	$ 17.86	$ 15.00	$ 8.21	$ 6.18	$ 6.15	$ 6.18	$ 10.00	$ 19.93	$ 25.27	$ 27.32	$ 30.51	$ 32.06
7/6/2014	pm	$ 33.60	$ 35.33	$ 35.09	$ 36.25	$ 42.83	$ 42.69	$ 39.15	$ 34.90	$ 34.92	$ 33.61	$ 27.80	$ 25.66
7/7/2014	am	$ 24.76	$ 24.11	$ 22.52	$ 22.21	$ 24.20	$ 25.08	$ 30.37	$ 34.51	$ 36.27	$ 39.48	$ 42.22	$ 44.20
7/7/2014	pm	$ 49.59	$ 55.20	$ 57.94	$ 63.96	$ 59.95	$ 52.61	$ 44.96	$ 41.37	$ 41.00	$ 37.07	$ 32.29	$ 26.85
7/8/2014	am	$ 26.69	$ 25.41	$ 24.07	$ 23.26	$ 24.86	$ 26.81	$ 30.59	$ 32.21	$ 33.89	$ 36.52	$ 39.75	$ 43.34
7/8/2014	pm	$ 44.38	$ 48.14	$ 49.82	$ 54.02	$ 52.13	$ 45.53	$ 41.92	$ 38.53	$ 38.60	$ 34.71	$ 31.13	$ 26.83
7/9/2014	am	$ 25.70	$ 24.75	$ 22.67	$ 22.51	$ 24.11	$ 25.19	$ 28.29	$ 32.35	$ 34.92	$ 34.19	$ 37.98	$ 38.41
7/9/2014	pm	$ 40.09	$ 43.86	$ 43.44	$ 44.67	$ 45.25	$ 42.67	$ 39.76	$ 37.77	$ 36.39	$ 33.95	$ 28.10	$ 26.31
7/10/2014	am	$ 25.13	$ 24.13	$ 23.19	$ 23.00	$ 24.89	$ 26.60	$ 28.30	$ 33.57	$ 33.25	$ 35.52	$ 37.70	$ 39.11
7/10/2014	pm	$ 41.84	$ 43.33	$ 45.59	$ 46.59	$ 46.89	$ 44.85	$ 41.27	$ 36.59	$ 35.98	$ 34.56	$ 27.00	$ 26.30
7/11/2014	am	$ 22.24	$ 21.54	$ 20.94	$ 20.38	$ 22.11	$ 23.41	$ 25.17	$ 27.32	$ 32.01	$ 33.06	$ 34.27	$ 37.33
7/11/2014	pm	$ 38.87	$ 40.06	$ 42.03	$ 44.47	$ 44.70	$ 42.00	$ 39.80	$ 34.72	$ 33.99	$ 32.07	$ 28.08	$ 26.98
7/12/2014	am	$ 25.83	$ 24.30	$ 22.66	$ 22.23	$ 21.98	$ 21.75	$ 23.90	$ 25.66	$ 31.72	$ 32.17	$ 37.89	$ 41.26
7/12/2014	pm	$ 42.30	$ 43.69	$ 43.96	$ 47.13	$ 47.70	$ 45.19	$ 41.39	$ 36.89	$ 36.71	$ 32.45	$ 28.93	$ 26.38
7/13/2014	am	$ 28.21	$ 25.15	$ 24.10	$ 23.49	$ 22.95	$ 23.10	$ 23.62	$ 28.19	$ 31.00	$ 31.55	$ 33.97	$ 37.66
7/13/2014	pm	$ 39.46	$ 42.17	$ 43.96	$ 46.58	$ 47.75	$ 45.97	$ 41.15	$ 38.65	$ 38.87	$ 32.47	$ 30.56	$ 27.84
7/14/2014	am	$ 25.92	$ 25.05	$ 23.09	$ 22.34	$ 23.96	$ 26.12	$ 29.24	$ 30.44	$ 33.45	$ 35.51	$ 41.42	$ 42.87
7/14/2014	pm	$ 43.12	$ 43.51	$ 44.05	$ 45.47	$ 43.47	$ 41.33	$ 38.70	$ 35.25	$ 35.56	$ 33.04	$ 26.20	$ 24.77
7/15/2014	am	$ 23.04	$ 21.98	$ 20.71	$ 20.49	$ 24.09	$ 24.85	$ 27.81	$ 29.39	$ 29.83	$ 34.55	$ 33.88	$ 34.42
7/15/2014	pm	$ 34.79	$ 36.37	$ 34.71	$ 34.66	$ 34.69	$ 33.59	$ 32.23	$ 30.76	$ 31.27	$ 28.22	$ 24.68	$ 23.13
7/16/2014	am	$ 24.13	$ 23.32	$ 22.93	$ 22.74	$ 24.23	$ 27.15	$ 31.02	$ 31.95	$ 34.44	$ 39.72	$ 40.21	$ 42.68
7/16/2014	pm	$ 43.57	$ 43.86	$ 43.82	$ 42.92	$ 43.02	$ 41.60	$ 41.51	$ 39.58	$ 40.72	$ 35.11	$ 26.29	$ 25.33
7/17/2014	am	$ 22.20	$ 20.88	$ 20.06	$ 19.02	$ 21.23	$ 23.73	$ 25.33	$ 27.62	$ 29.87	$ 31.26	$ 33.38	$ 34.93
7/17/2014	pm	$ 34.48	$ 35.65	$ 35.03	$ 36.88	$ 37.10	$ 35.27	$ 35.51	$ 32.65	$ 32.27	$ 29.91	$ 25.03	$ 24.33
7/18/2014	am	$ 23.34	$ 23.02	$ 21.97	$ 21.62	$ 22.87	$ 26.55	$ 27.67	$ 30.65	$ 31.71	$ 35.27	$ 39.57	$ 41.64
7/18/2014	pm	$ 42.22	$ 42.89	$ 43.45	$ 42.88	$ 43.37	$ 40.76	$ 38.38	$ 34.84	$ 34.26	$ 32.00	$ 25.63	$ 25.35
7/19/2014	am	$ 24.16	$ 21.72	$ 21.49	$ 21.41	$ 21.42	$ 21.52	$ 22.87	$ 25.53	$ 30.44	$ 31.54	$ 33.45	$ 34.47
7/19/2014	pm	$ 36.22	$ 34.88	$ 36.08	$ 38.13	$ 41.11	$ 38.11	$ 35.26	$ 33.14	$ 32.36	$ 29.63	$ 26.76	$ 27.10

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IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
7/20/2014	am	$ 22.90	$ 20.79	$ 20.23	$ 18.98	$ 18.10	$ 17.71	$ 19.59	$ 23.69	$ 27.76	$ 29.74	$ 30.25	$ 33.01
7/20/2014	pm	$ 34.04	$ 35.82	$ 36.32	$ 38.99	$ 42.90	$ 42.87	$ 39.22	$ 36.56	$ 35.90	$ 32.83	$ 26.33	$ 26.20
7/21/2014	am	$ 22.38	$ 21.58	$ 20.07	$ 20.73	$ 21.90	$ 24.06	$ 29.20	$ 30.52	$ 32.68	$ 35.62	$ 39.16	$ 42.69
7/21/2014	pm	$ 46.08	$ 51.06	$ 55.82	$ 59.87	$ 60.50	$ 53.18	$ 46.84	$ 40.91	$ 40.19	$ 36.77	$ 27.62	$ 26.06
7/22/2014	am	$ 25.52	$ 24.44	$ 22.89	$ 22.66	$ 23.35	$ 25.38	$ 29.00	$ 31.09	$ 33.50	$ 38.94	$ 42.45	$ 48.21
7/22/2014	pm	$ 52.57	$ 58.02	$ 62.55	$ 68.20	$ 67.00	$ 59.05	$ 51.66	$ 44.47	$ 43.51	$ 36.98	$ 31.35	$ 28.25
7/23/2014	am	$ 26.14	$ 24.85	$ 23.54	$ 23.07	$ 24.29	$ 25.73	$ 27.66	$ 30.39	$ 32.21	$ 32.77	$ 38.37	$ 38.83
7/23/2014	pm	$ 41.01	$ 43.67	$ 44.29	$ 46.71	$ 45.68	$ 42.03	$ 38.88	$ 33.75	$ 33.07	$ 30.32	$ 27.47	$ 25.49
7/24/2014	am	$ 24.21	$ 22.70	$ 22.24	$ 22.00	$ 22.98	$ 25.59	$ 27.26	$ 28.49	$ 30.10	$ 30.89	$ 33.59	$ 34.10
7/24/2014	pm	$ 34.94	$ 36.70	$ 38.63	$ 38.95	$ 38.00	$ 36.14	$ 33.17	$ 30.61	$ 31.35	$ 28.66	$ 25.50	$ 25.57
7/25/2014	am	$ 22.64	$ 22.03	$ 21.43	$ 20.85	$ 22.09	$ 24.63	$ 25.83	$ 29.02	$ 30.24	$ 33.00	$ 32.79	$ 34.21
7/25/2014	pm	$ 34.92	$ 37.53	$ 39.65	$ 42.82	$ 42.95	$ 39.06	$ 34.41	$ 32.92	$ 32.27	$ 30.79	$ 28.96	$ 27.46
7/26/2014	am	$ 24.48	$ 22.92	$ 22.04	$ 21.72	$ 21.58	$ 22.13	$ 23.16	$ 27.80	$ 30.52	$ 32.06	$ 33.50	$ 36.81
7/26/2014	pm	$ 38.22	$ 41.03	$ 43.09	$ 47.87	$ 48.69	$ 47.78	$ 40.29	$ 36.46	$ 37.93	$ 30.80	$ 29.97	$ 27.51
7/27/2014	am	$ 24.49	$ 22.49	$ 21.31	$ 21.42	$ 21.17	$ 20.81	$ 22.60	$ 24.15	$ 26.90	$ 30.03	$ 31.75	$ 33.95
7/27/2014	pm	$ 37.79	$ 40.43	$ 41.05	$ 42.71	$ 42.43	$ 39.43	$ 36.99	$ 32.44	$ 32.68	$ 30.17	$ 26.47	$ 25.73
7/28/2014	am	$ 23.88	$ 22.68	$ 22.47	$ 22.18	$ 23.17	$ 25.58	$ 27.56	$ 29.20	$ 30.70	$ 31.90	$ 32.52	$ 34.15
7/28/2014	pm	$ 36.00	$ 38.52	$ 40.53	$ 40.77	$ 40.44	$ 36.37	$ 32.72	$ 30.78	$ 31.45	$ 29.59	$ 25.84	$ 24.68
7/29/2014	am	$ 23.65	$ 22.62	$ 21.57	$ 21.36	$ 22.22	$ 23.58	$ 25.60	$ 28.87	$ 29.08	$ 30.31	$ 31.62	$ 33.41
7/29/2014	pm	$ 34.36	$ 35.44	$ 36.32	$ 37.31	$ 38.19	$ 34.94	$ 32.57	$ 30.69	$ 31.48	$ 29.42	$ 26.07	$ 25.29
7/30/2014	am	$ 21.98	$ 20.74	$ 20.10	$ 19.71	$ 20.88	$ 23.43	$ 24.50	$ 27.01	$ 29.09	$ 29.63	$ 31.43	$ 32.34
7/30/2014	pm	$ 32.96	$ 34.59	$ 35.64	$ 36.17	$ 36.00	$ 33.64	$ 31.99	$ 30.29	$ 30.40	$ 28.85	$ 25.35	$ 25.32
7/31/2014	am	$ 23.16	$ 22.47	$ 22.15	$ 21.79	$ 23.59	$ 24.94	$ 25.70	$ 28.71	$ 28.42	$ 29.72	$ 32.42	$ 35.09
7/31/2014	pm	$ 36.35	$ 37.66	$ 38.90	$ 40.68	$ 40.09	$ 37.83	$ 36.28	$ 33.09	$ 33.11	$ 29.08	$ 26.53	$ 25.78
8/1/2014	am	$ 24.39	$ 22.99	$ 22.49	$ 22.20	$ 22.86	$ 24.91	$ 26.50	$ 28.10	$ 29.41	$ 32.03	$ 36.09	$ 36.93
8/1/2014	pm	$ 38.31	$ 41.40	$ 43.20	$ 44.45	$ 43.37	$ 38.83	$ 35.94	$ 32.71	$ 33.44	$ 28.78	$ 27.55	$ 26.33
8/2/2014	am	$ 25.27	$ 23.21	$ 22.59	$ 22.30	$ 22.49	$ 22.73	$ 24.03	$ 25.70	$ 28.18	$ 30.03	$ 31.87	$ 34.60
8/2/2014	pm	$ 35.48	$ 38.05	$ 39.25	$ 40.91	$ 40.65	$ 39.29	$ 36.06	$ 31.67	$ 32.65	$ 29.55	$ 26.98	$ 25.57
8/3/2014	am	$ 24.76	$ 23.42	$ 22.27	$ 21.43	$ 20.56	$ 20.73	$ 21.08	$ 24.20	$ 25.76	$ 28.11	$ 30.23	$ 33.33
8/3/2014	pm	$ 35.62	$ 37.90	$ 38.08	$ 40.15	$ 42.12	$ 40.74	$ 37.41	$ 34.88	$ 36.70	$ 30.44	$ 27.62	$ 26.23
8/4/2014	am	$ 24.20	$ 22.82	$ 22.57	$ 22.59	$ 24.27	$ 25.66	$ 27.56	$ 29.75	$ 31.56	$ 34.47	$ 37.88	$ 40.08
8/4/2014	pm	$ 42.39	$ 45.75	$ 49.09	$ 52.22	$ 49.40	$ 42.91	$ 39.32	$ 37.52	$ 37.20	$ 31.05	$ 28.64	$ 26.66
8/5/2014	am	$ 27.04	$ 25.44	$ 24.54	$ 24.54	$ 25.45	$ 27.13	$ 27.84	$ 28.65	$ 30.16	$ 32.20	$ 36.64	$ 38.49
8/5/2014	pm	$ 40.71	$ 44.23	$ 46.49	$ 50.24	$ 48.22	$ 42.98	$ 38.49	$ 36.14	$ 36.59	$ 31.07	$ 27.94	$ 25.92
8/6/2014	am	$ 25.62	$ 25.21	$ 23.82	$ 22.97	$ 24.07	$ 25.91	$ 28.12	$ 27.55	$ 28.66	$ 30.75	$ 33.34	$ 36.11
8/6/2014	pm	$ 39.54	$ 41.81	$ 43.76	$ 44.21	$ 42.24	$ 39.54	$ 36.09	$ 33.07	$ 32.70	$ 29.23	$ 28.10	$ 25.63
8/7/2014	am	$ 25.04	$ 24.14	$ 23.19	$ 22.96	$ 24.21	$ 25.98	$ 27.64	$ 28.29	$ 29.85	$ 32.76	$ 35.36	$ 36.25
8/7/2014	pm	$ 39.89	$ 41.78	$ 43.36	$ 44.86	$ 43.00	$ 40.33	$ 36.94	$ 34.21	$ 35.02	$ 29.69	$ 27.35	$ 25.39
8/8/2014	am	$ 24.77	$ 24.22	$ 22.93	$ 23.01	$ 23.90	$ 25.41	$ 26.09	$ 28.40	$ 30.01	$ 31.52	$ 34.46	$ 37.52
8/8/2014	pm	$ 39.14	$ 41.56	$ 44.04	$ 44.42	$ 43.41	$ 38.66	$ 36.05	$ 33.00	$ 31.59	$ 29.68	$ 27.13	$ 25.59
8/9/2014	am	$ 25.63	$ 24.09	$ 22.95	$ 22.65	$ 22.90	$ 23.31	$ 24.31	$ 25.68	$ 28.13	$ 30.37	$ 34.53	$ 37.19
8/9/2014	pm	$ 39.10	$ 40.37	$ 42.63	$ 44.20	$ 44.52	$ 41.66	$ 38.17	$ 35.01	$ 35.86	$ 29.81	$ 26.07	$ 25.19
8/10/2014	am	$ 22.76	$ 21.85	$ 20.22	$ 19.70	$ 19.27	$ 20.42	$ 20.79	$ 23.73	$ 25.69	$ 27.65	$ 29.21	$ 32.98
8/10/2014	pm	$ 33.92	$ 37.64	$ 39.15	$ 41.19	$ 41.86	$ 41.24	$ 38.59	$ 34.52	$ 34.07	$ 29.23	$ 27.04	$ 24.74
8/11/2014	am	$ 24.25	$ 23.74	$ 22.51	$ 22.25	$ 23.68	$ 25.97	$ 27.56	$ 28.56	$ 29.70	$ 34.15	$ 35.97	$ 38.81
8/11/2014	pm	$ 40.54	$ 45.88	$ 44.67	$ 45.83	$ 45.09	$ 41.79	$ 36.80	$ 34.90	$ 34.84	$ 29.91	$ 27.40	$ 24.94
8/12/2014	am	$ 23.31	$ 22.57	$ 21.96	$ 21.78	$ 22.58	$ 25.06	$ 25.35	$ 26.44	$ 26.94	$ 28.14	$ 29.67	$ 31.49
8/12/2014	pm	$ 32.34	$ 35.03	$ 36.72	$ 37.89	$ 37.14	$ 33.45	$ 31.87	$ 29.35	$ 29.47	$ 28.02	$ 25.26	$ 24.05
8/13/2014	am	$ 22.73	$ 22.67	$ 21.82	$ 21.71	$ 22.28	$ 24.99	$ 26.33	$ 27.21	$ 28.61	$ 30.22	$ 31.36	$ 33.52
8/13/2014	pm	$ 35.40	$ 36.39	$ 38.98	$ 41.59	$ 40.77	$ 38.61	$ 35.62	$ 33.73	$ 33.76	$ 29.59	$ 25.67	$ 23.97

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
8/14/2014	am	$ 23.07	$ 21.93	$ 21.56	$ 21.15	$ 22.05	$ 24.42	$ 25.48	$ 26.64	$ 27.36	$ 29.21	$ 30.75	$ 33.00
8/14/2014	pm	$ 33.40	$ 36.27	$ 36.96	$ 38.70	$ 37.61	$ 35.78	$ 33.18	$ 30.35	$ 31.67	$ 28.31	$ 24.28	$ 23.19
8/15/2014	am	$ 21.30	$ 20.56	$ 20.27	$ 19.17	$ 20.03	$ 23.07	$ 23.55	$ 26.00	$ 26.96	$ 28.58	$ 30.22	$ 31.47
8/15/2014	pm	$ 32.47	$ 36.21	$ 36.58	$ 37.99	$ 37.12	$ 33.50	$ 31.30	$ 29.61	$ 29.95	$ 26.55	$ 24.28	$ 22.88
8/16/2014	am	$ 23.12	$ 22.28	$ 21.69	$ 20.86	$ 20.93	$ 21.73	$ 22.44	$ 24.70	$ 26.17	$ 27.74	$ 30.03	$ 31.36
8/16/2014	pm	$ 33.67	$ 35.11	$ 35.77	$ 38.92	$ 39.70	$ 38.68	$ 34.96	$ 32.56	$ 32.83	$ 28.97	$ 25.79	$ 24.76
8/17/2014	am	$ 22.80	$ 21.65	$ 20.80	$ 20.16	$ 19.63	$ 20.23	$ 20.63	$ 22.32	$ 24.46	$ 26.42	$ 28.14	$ 29.35
8/17/2014	pm	$ 30.48	$ 31.87	$ 32.34	$ 33.70	$ 36.19	$ 35.50	$ 32.88	$ 31.12	$ 31.15	$ 27.54	$ 24.84	$ 22.78
8/18/2014	am	$ 23.45	$ 22.33	$ 22.28	$ 21.89	$ 22.86	$ 26.09	$ 26.42	$ 29.12	$ 30.70	$ 31.72	$ 35.16	$ 37.48
8/18/2014	pm	$ 37.09	$ 41.34	$ 41.98	$ 42.42	$ 43.09	$ 39.64	$ 35.99	$ 35.44	$ 33.84	$ 29.98	$ 27.11	$ 25.12
8/19/2014	am	$ 25.04	$ 24.42	$ 22.65	$ 21.85	$ 23.55	$ 26.48	$ 28.37	$ 28.57	$ 30.14	$ 33.12	$ 36.02	$ 37.25
8/19/2014	pm	$ 39.77	$ 42.48	$ 46.19	$ 47.33	$ 47.07	$ 41.31	$ 37.51	$ 37.42	$ 35.99	$ 30.37	$ 27.99	$ 25.36
8/20/2014	am	$ 25.57	$ 24.85	$ 24.42	$ 23.72	$ 24.87	$ 27.50	$ 29.65	$ 29.95	$ 31.93	$ 34.15	$ 37.85	$ 39.97
8/20/2014	pm	$ 42.99	$ 45.81	$ 50.66	$ 52.99	$ 52.58	$ 44.67	$ 39.41	$ 36.48	$ 35.86	$ 30.53	$ 28.15	$ 26.48
8/21/2014	am	$ 25.36	$ 24.84	$ 23.87	$ 23.18	$ 24.17	$ 26.42	$ 28.66	$ 29.54	$ 31.26	$ 35.34	$ 38.57	$ 42.67
8/21/2014	pm	$ 45.40	$ 51.90	$ 58.92	$ 65.12	$ 62.00	$ 49.94	$ 44.25	$ 42.31	$ 40.62	$ 33.58	$ 30.18	$ 27.73
8/22/2014	am	$ 25.73	$ 24.91	$ 23.93	$ 23.44	$ 23.79	$ 25.63	$ 28.54	$ 28.76	$ 30.98	$ 34.05	$ 38.18	$ 40.89
8/22/2014	pm	$ 45.66	$ 50.12	$ 55.84	$ 60.70	$ 58.33	$ 46.77	$ 40.77	$ 38.43	$ 37.95	$ 31.36	$ 30.44	$ 28.95
8/23/2014	am	$ 26.53	$ 25.80	$ 23.92	$ 23.65	$ 23.42	$ 23.98	$ 25.12	$ 26.39	$ 29.50	$ 30.21	$ 33.64	$ 36.77
8/23/2014	pm	$ 38.14	$ 41.78	$ 42.83	$ 45.29	$ 44.70	$ 42.40	$ 37.52	$ 35.24	$ 34.76	$ 31.14	$ 27.47	$ 27.15
8/24/2014	am	$ 25.40	$ 23.07	$ 22.14	$ 21.85	$ 21.40	$ 22.35	$ 22.44	$ 23.66	$ 25.89	$ 28.41	$ 30.92	$ 35.33
8/24/2014	pm	$ 35.81	$ 39.70	$ 42.11	$ 42.09	$ 47.44	$ 46.74	$ 40.81	$ 39.73	$ 39.15	$ 31.43	$ 27.27	$ 26.30
8/25/2014	am	$ 25.19	$ 24.95	$ 24.03	$ 23.43	$ 24.30	$ 28.01	$ 32.15	$ 35.07	$ 36.23	$ 41.00	$ 43.57	$ 49.45
8/25/2014	pm	$ 48.73	$ 56.34	$ 64.25	$ 69.55	$ 65.75	$ 55.87	$ 51.25	$ 48.55	$ 47.98	$ 38.25	$ 30.99	$ 28.22
8/26/2014	am	$ 26.19	$ 24.99	$ 24.83	$ 24.56	$ 25.44	$ 27.21	$ 29.09	$ 30.04	$ 30.99	$ 40.11	$ 42.74	$ 47.13
8/26/2014	pm	$ 47.93	$ 53.21	$ 60.00	$ 64.29	$ 60.48	$ 50.42	$ 45.84	$ 43.37	$ 41.73	$ 33.54	$ 30.14	$ 28.36
8/27/2014	am	$ 25.50	$ 24.29	$ 23.92	$ 22.53	$ 24.23	$ 26.27	$ 27.75	$ 28.92	$ 30.51	$ 31.99	$ 34.85	$ 39.45
8/27/2014	pm	$ 40.50	$ 44.97	$ 51.39	$ 52.43	$ 50.14	$ 43.09	$ 39.48	$ 40.04	$ 37.68	$ 31.45	$ 26.53	$ 25.25
8/28/2014	am	$ 25.80	$ 24.61	$ 23.65	$ 22.75	$ 23.48	$ 27.67	$ 27.46	$ 29.45	$ 30.22	$ 31.55	$ 34.57	$ 37.84
8/28/2014	pm	$ 39.55	$ 42.53	$ 45.45	$ 47.67	$ 43.89	$ 40.22	$ 37.78	$ 36.89	$ 35.59	$ 29.99	$ 27.42	$ 26.93
8/29/2014	am	$ 25.56	$ 24.47	$ 23.82	$ 23.42	$ 24.69	$ 27.81	$ 28.93	$ 30.10	$ 31.95	$ 34.16	$ 36.32	$ 39.51
8/29/2014	pm	$ 41.49	$ 44.50	$ 48.45	$ 50.03	$ 47.81	$ 41.35	$ 38.47	$ 38.44	$ 36.03	$ 31.52	$ 28.03	$ 26.37
8/30/2014	am	$ 25.39	$ 24.14	$ 23.15	$ 22.28	$ 22.06	$ 22.98	$ 24.40	$ 26.98	$ 30.77	$ 32.82	$ 34.70	$ 37.57
8/30/2014	pm	$ 37.45	$ 40.09	$ 40.86	$ 43.23	$ 42.97	$ 40.48	$ 37.24	$ 36.69	$ 34.59	$ 30.09	$ 26.76	$ 25.41
8/31/2014	am	$ 25.84	$ 24.69	$ 23.27	$ 22.50	$ 23.47	$ 23.99	$ 24.61	$ 26.83	$ 30.75	$ 32.00	$ 33.62	$ 34.89
8/31/2014	pm	$ 37.50	$ 39.29	$ 40.23	$ 42.69	$ 42.56	$ 41.64	$ 39.00	$ 37.50	$ 38.12	$ 32.19	$ 26.98	$ 25.51
9/1/2014	am	$ 25.12	$ 24.39	$ 23.23	$ 22.14	$ 22.67	$ 23.93	$ 25.12	$ 27.68	$ 29.55	$ 32.79	$ 34.57	$ 38.74
9/1/2014	pm	$ 42.18	$ 43.19	$ 45.18	$ 47.77	$ 49.31	$ 44.87	$ 42.53	$ 40.67	$ 38.86	$ 31.65	$ 26.83	$ 25.91
9/2/2014	am	$ 25.48	$ 24.96	$ 23.93	$ 24.14	$ 26.30	$ 31.83	$ 30.70	$ 31.45	$ 34.79	$ 39.80	$ 43.41	$ 44.76
9/2/2014	pm	$ 48.88	$ 53.91	$ 57.28	$ 62.17	$ 58.89	$ 51.25	$ 47.18	$ 45.88	$ 39.91	$ 34.00	$ 30.34	$ 27.49
9/3/2014	am	$ 24.30	$ 22.99	$ 22.09	$ 21.70	$ 22.91	$ 27.04	$ 29.78	$ 29.64	$ 30.68	$ 32.75	$ 35.97	$ 38.33
9/3/2014	pm	$ 41.67	$ 45.58	$ 49.38	$ 52.50	$ 50.73	$ 42.48	$ 39.95	$ 40.86	$ 37.25	$ 31.08	$ 27.13	$ 25.87
9/4/2014	am	$ 25.13	$ 23.64	$ 22.51	$ 22.37	$ 24.00	$ 29.68	$ 28.93	$ 29.98	$ 32.25	$ 36.34	$ 38.90	$ 41.05
9/4/2014	pm	$ 43.16	$ 46.90	$ 53.60	$ 60.85	$ 56.68	$ 47.19	$ 41.86	$ 41.87	$ 39.55	$ 33.89	$ 30.22	$ 28.09
9/5/2014	am	$ 26.93	$ 24.98	$ 23.63	$ 23.28	$ 24.59	$ 29.95	$ 30.88	$ 33.02	$ 38.63	$ 42.04	$ 44.65	$ 48.84
9/5/2014	pm	$ 50.11	$ 59.40	$ 62.94	$ 68.60	$ 56.66	$ 51.79	$ 46.83	$ 45.09	$ 39.26	$ 33.36	$ 31.60	$ 29.78
9/6/2014	am	$ 28.71	$ 26.42	$ 25.19	$ 24.84	$ 24.68	$ 26.10	$ 28.00	$ 30.74	$ 32.85	$ 34.72	$ 36.61	$ 37.88
9/6/2014	pm	$ 39.43	$ 39.70	$ 39.78	$ 39.72	$ 39.93	$ 38.82	$ 36.80	$ 37.82	$ 32.62	$ 29.79	$ 26.82	$ 25.97
9/7/2014	am	$ 24.51	$ 22.87	$ 21.73	$ 20.27	$ 20.68	$ 21.85	$ 23.56	$ 25.55	$ 29.10	$ 30.99	$ 32.07	$ 32.76
9/7/2014	pm	$ 33.61	$ 35.80	$ 36.83	$ 37.12	$ 38.97	$ 38.40	$ 36.55	$ 39.13	$ 32.86	$ 30.25	$ 26.73	$ 24.15

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
9/8/2014	am	$ 20.98	$ 19.31	$ 18.63	$ 19.67	$ 21.41	$ 26.29	$ 29.31	$ 30.10	$ 30.39	$ 33.00	$ 34.79	$ 36.55
9/8/2014	pm	$ 37.80	$ 41.38	$ 41.99	$ 43.90	$ 42.88	$ 39.58	$ 37.74	$ 38.52	$ 34.72	$ 29.38	$ 28.19	$ 26.07
9/9/2014	am	$ 25.14	$ 23.88	$ 23.00	$ 23.22	$ 24.81	$ 28.61	$ 31.18	$ 31.83	$ 34.01	$ 36.56	$ 38.75	$ 40.76
9/9/2014	pm	$ 42.00	$ 47.49	$ 50.27	$ 52.85	$ 51.53	$ 45.15	$ 42.23	$ 42.45	$ 38.57	$ 31.95	$ 29.67	$ 26.48
9/10/2014	am	$ 24.50	$ 22.40	$ 21.55	$ 21.62	$ 23.12	$ 27.45	$ 30.26	$ 30.43	$ 32.49	$ 35.13	$ 38.45	$ 40.42
9/10/2014	pm	$ 41.95	$ 44.15	$ 45.08	$ 46.60	$ 45.26	$ 42.08	$ 39.23	$ 42.34	$ 36.51	$ 31.55	$ 28.49	$ 25.72
9/11/2014	am	$ 25.14	$ 23.75	$ 22.92	$ 23.03	$ 24.50	$ 28.66	$ 31.59	$ 31.90	$ 33.78	$ 36.08	$ 38.53	$ 38.83
9/11/2014	pm	$ 40.00	$ 41.14	$ 40.70	$ 40.40	$ 38.68	$ 36.62	$ 34.89	$ 37.46	$ 31.69	$ 29.62	$ 27.81	$ 26.43
9/12/2014	am	$ 24.14	$ 22.92	$ 21.88	$ 22.12	$ 24.25	$ 29.08	$ 32.98	$ 33.42	$ 33.65	$ 37.00	$ 38.00	$ 37.58
9/12/2014	pm	$ 38.23	$ 39.28	$ 37.56	$ 37.17	$ 34.87	$ 32.86	$ 33.14	$ 36.95	$ 32.54	$ 29.53	$ 27.39	$ 26.79
9/13/2014	am	$ 24.29	$ 22.75	$ 21.60	$ 21.23	$ 21.96	$ 24.20	$ 26.04	$ 27.79	$ 31.08	$ 32.74	$ 33.24	$ 32.46
9/13/2014	pm	$ 31.35	$ 30.89	$ 30.41	$ 30.41	$ 30.10	$ 30.19	$ 30.40	$ 36.80	$ 30.13	$ 27.17	$ 24.92	$ 23.97
9/14/2014	am	$ 20.35	$ 18.26	$ 16.44	$ 16.04	$ 16.98	$ 19.21	$ 21.73	$ 24.20	$ 27.05	$ 28.33	$ 29.11	$ 29.79
9/14/2014	pm	$ 29.84	$ 29.37	$ 29.50	$ 30.42	$ 31.18	$ 32.05	$ 33.78	$ 38.85	$ 32.70	$ 28.97	$ 26.17	$ 24.85
9/15/2014	am	$ 22.72	$ 22.20	$ 21.71	$ 21.83	$ 24.31	$ 29.36	$ 32.80	$ 33.50	$ 34.26	$ 35.67	$ 37.43	$ 38.43
9/15/2014	pm	$ 38.77	$ 39.10	$ 38.87	$ 38.51	$ 38.49	$ 37.15	$ 38.45	$ 41.59	$ 37.51	$ 30.04	$ 27.73	$ 26.52
9/16/2014	am	$ 24.59	$ 23.71	$ 23.15	$ 23.17	$ 25.05	$ 31.68	$ 33.85	$ 34.64	$ 34.49	$ 37.58	$ 37.30	$ 37.51
9/16/2014	pm	$ 38.38	$ 39.00	$ 38.00	$ 38.30	$ 35.89	$ 34.03	$ 36.81	$ 44.71	$ 34.09	$ 28.96	$ 26.59	$ 25.56
9/17/2014	am	$ 22.02	$ 21.18	$ 20.62	$ 21.03	$ 23.78	$ 29.67	$ 31.19	$ 31.10	$ 31.89	$ 33.42	$ 35.77	$ 36.47
9/17/2014	pm	$ 36.07	$ 38.11	$ 36.04	$ 36.08	$ 34.91	$ 34.04	$ 34.87	$ 44.62	$ 33.94	$ 27.88	$ 25.75	$ 25.16
9/18/2014	am	$ 22.70	$ 22.32	$ 21.64	$ 21.82	$ 24.55	$ 29.44	$ 31.18	$ 30.90	$ 32.01	$ 33.57	$ 35.50	$ 36.18
9/18/2014	pm	$ 36.48	$ 37.52	$ 34.69	$ 34.68	$ 32.58	$ 31.95	$ 34.60	$ 43.10	$ 32.19	$ 26.44	$ 25.15	$ 24.74
9/19/2014	am	$ 20.42	$ 18.59	$ 17.71	$ 18.09	$ 21.51	$ 27.86	$ 30.22	$ 29.34	$ 30.50	$ 33.71	$ 34.10	$ 33.75
9/19/2014	pm	$ 33.24	$ 34.35	$ 33.07	$ 32.87	$ 30.69	$ 29.92	$ 31.19	$ 36.74	$ 29.55	$ 25.96	$ 23.43	$ 22.99
9/20/2014	am	$ 23.16	$ 21.23	$ 20.44	$ 20.78	$ 21.86	$ 23.45	$ 25.54	$ 27.35	$ 30.89	$ 33.86	$ 36.79	$ 36.42
9/20/2014	pm	$ 36.98	$ 39.34	$ 39.34	$ 40.00	$ 40.05	$ 39.15	$ 40.51	$ 42.22	$ 32.73	$ 28.96	$ 25.64	$ 24.31
9/21/2014	am	$ 22.37	$ 20.51	$ 19.56	$ 19.29	$ 19.84	$ 21.19	$ 24.05	$ 25.45	$ 28.36	$ 31.00	$ 32.00	$ 32.16
9/21/2014	pm	$ 31.71	$ 32.96	$ 32.81	$ 34.69	$ 35.29	$ 34.30	$ 39.30	$ 46.80	$ 32.89	$ 29.14	$ 24.50	$ 23.68
9/22/2014	am	$ 22.74	$ 22.37	$ 21.41	$ 22.00	$ 24.77	$ 31.78	$ 34.68	$ 33.30	$ 34.31	$ 36.62	$ 37.03	$ 37.70
9/22/2014	pm	$ 37.84	$ 39.62	$ 38.46	$ 37.21	$ 36.18	$ 34.03	$ 36.90	$ 45.00	$ 32.65	$ 27.23	$ 24.90	$ 25.31
9/23/2014	am	$ 23.17	$ 22.27	$ 21.06	$ 22.03	$ 24.12	$ 31.24	$ 34.74	$ 32.15	$ 33.22	$ 35.42	$ 37.00	$ 36.78
9/23/2014	pm	$ 37.62	$ 38.14	$ 38.26	$ 36.64	$ 35.76	$ 35.18	$ 39.00	$ 43.73	$ 33.13	$ 28.39	$ 26.48	$ 25.13
9/24/2014	am	$ 22.94	$ 22.85	$ 21.68	$ 22.50	$ 24.58	$ 32.82	$ 34.10	$ 32.31	$ 34.48	$ 36.30	$ 37.52	$ 37.24
9/24/2014	pm	$ 37.71	$ 38.89	$ 39.44	$ 38.69	$ 37.60	$ 35.83	$ 39.11	$ 43.37	$ 34.83	$ 28.69	$ 26.89	$ 25.52
9/25/2014	am	$ 22.75	$ 22.13	$ 21.80	$ 21.94	$ 23.34	$ 29.02	$ 32.39	$ 30.84	$ 32.88	$ 35.76	$ 37.86	$ 38.30
9/25/2014	pm	$ 38.21	$ 40.87	$ 41.33	$ 41.88	$ 40.76	$ 39.00	$ 39.02	$ 43.40	$ 34.55	$ 28.18	$ 25.64	$ 25.37
9/26/2014	am	$ 23.73	$ 23.27	$ 22.37	$ 22.65	$ 24.30	$ 29.28	$ 33.26	$ 31.40	$ 33.64	$ 36.90	$ 39.30	$ 39.02
9/26/2014	pm	$ 40.29	$ 41.68	$ 41.84	$ 41.82	$ 39.54	$ 37.12	$ 37.70	$ 39.25	$ 32.99	$ 27.87	$ 25.74	$ 25.10
9/27/2014	am	$ 22.65	$ 21.04	$ 20.41	$ 19.52	$ 20.84	$ 22.78	$ 24.99	$ 26.04	$ 28.72	$ 31.55	$ 32.13	$ 32.64
9/27/2014	pm	$ 33.78	$ 35.78	$ 37.70	$ 38.55	$ 37.59	$ 37.32	$ 38.50	$ 41.20	$ 31.01	$ 27.27	$ 24.63	$ 24.13
9/28/2014	am	$ 23.34	$ 22.29	$ 21.23	$ 20.57	$ 21.36	$ 22.51	$ 24.89	$ 26.50	$ 28.34	$ 30.71	$ 32.45	$ 33.09
9/28/2014	pm	$ 34.71	$ 36.37	$ 38.48	$ 40.23	$ 41.17	$ 40.50	$ 41.14	$ 47.90	$ 34.74	$ 28.55	$ 25.74	$ 24.85
9/29/2014	am	$ 22.75	$ 22.30	$ 22.01	$ 21.99	$ 23.71	$ 29.38	$ 34.23	$ 33.56	$ 35.00	$ 38.29	$ 41.16	$ 41.21
9/29/2014	pm	$ 43.53	$ 46.23	$ 49.18	$ 50.55	$ 46.24	$ 41.51	$ 42.73	$ 44.00	$ 34.35	$ 29.75	$ 26.59	$ 25.45
9/30/2014	am	$ 23.59	$ 23.20	$ 22.16	$ 22.64	$ 24.34	$ 31.03	$ 34.37	$ 32.99	$ 35.09	$ 38.77	$ 39.88	$ 38.40
9/30/2014	pm	$ 40.03	$ 41.15	$ 41.08	$ 40.95	$ 39.51	$ 37.69	$ 39.84	$ 43.99	$ 33.25	$ 29.14	$ 26.19	$ 24.90
10/1/2014	am	$ 23.24	$ 22.84	$ 21.84	$ 22.11	$ 23.06	$ 28.80	$ 34.25	$ 33.86	$ 34.44	$ 38.22	$ 39.05	$ 38.96
10/1/2014	pm	$ 40.22	$ 41.89	$ 41.53	$ 43.59	$ 41.72	$ 40.93	$ 48.03	$ 47.84	$ 34.32	$ 31.00	$ 28.05	$ 26.08
10/2/2014	am	$ 23.45	$ 22.69	$ 21.90	$ 22.47	$ 24.21	$ 31.55	$ 36.24	$ 35.33	$ 36.13	$ 40.28	$ 42.09	$ 42.73
10/2/2014	pm	$ 43.25	$ 44.15	$ 45.17	$ 44.97	$ 42.07	$ 40.11	$ 44.85	$ 41.68	$ 33.13	$ 31.00	$ 28.63	$ 26.54

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IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
10/3/2014	am	$ 24.89	$ 23.28	$ 22.21	$ 22.78	$ 24.96	$ 31.48	$ 34.32	$ 32.70	$ 35.08	$ 37.19	$ 38.90	$ 37.33
10/3/2014	pm	$ 35.45	$ 35.40	$ 34.49	$ 32.03	$ 31.42	$ 31.90	$ 35.42	$ 33.46	$ 30.39	$ 28.59	$ 26.58	$ 25.59
10/4/2014	am	$ 26.75	$ 24.56	$ 24.08	$ 24.03	$ 24.85	$ 28.45	$ 31.12	$ 32.70	$ 36.05	$ 37.96	$ 38.36	$ 35.76
10/4/2014	pm	$ 33.37	$ 31.76	$ 30.93	$ 30.62	$ 31.63	$ 36.00	$ 43.06	$ 42.37	$ 36.83	$ 33.79	$ 29.61	$ 27.65
10/5/2014	am	$ 26.49	$ 25.65	$ 25.15	$ 24.90	$ 25.13	$ 26.12	$ 28.69	$ 30.47	$ 33.06	$ 34.68	$ 34.54	$ 31.93
10/5/2014	pm	$ 31.39	$ 30.67	$ 30.34	$ 30.27	$ 31.15	$ 34.93	$ 48.48	$ 47.55	$ 36.00	$ 31.30	$ 27.90	$ 26.34
10/6/2014	am	$ 24.96	$ 24.12	$ 24.15	$ 24.13	$ 26.43	$ 34.59	$ 39.28	$ 38.19	$ 42.06	$ 44.33	$ 43.19	$ 40.88
10/6/2014	pm	$ 39.94	$ 39.97	$ 37.62	$ 37.21	$ 37.81	$ 39.30	$ 50.22	$ 47.47	$ 36.97	$ 32.05	$ 27.89	$ 26.21
10/7/2014	am	$ 25.64	$ 24.85	$ 24.47	$ 24.86	$ 27.01	$ 34.80	$ 39.93	$ 34.78	$ 36.74	$ 38.15	$ 38.73	$ 38.26
10/7/2014	pm	$ 39.00	$ 38.37	$ 37.00	$ 37.15	$ 36.41	$ 37.82	$ 49.67	$ 46.54	$ 35.34	$ 30.44	$ 27.86	$ 26.14
10/8/2014	am	$ 24.20	$ 23.90	$ 23.52	$ 23.73	$ 25.31	$ 32.44	$ 39.07	$ 35.69	$ 37.02	$ 38.05	$ 38.51	$ 37.80
10/8/2014	pm	$ 37.41	$ 37.25	$ 35.71	$ 34.56	$ 34.50	$ 36.50	$ 50.27	$ 43.92	$ 34.52	$ 31.68	$ 28.63	$ 26.32
10/9/2014	am	$ 24.04	$ 23.67	$ 23.18	$ 22.96	$ 25.45	$ 34.53	$ 40.06	$ 36.67	$ 38.00	$ 39.42	$ 39.37	$ 36.65
10/9/2014	pm	$ 36.97	$ 36.23	$ 34.00	$ 34.72	$ 34.97	$ 37.24	$ 50.98	$ 41.69	$ 35.35	$ 30.42	$ 27.59	$ 25.96
10/10/2014	am	$ 25.41	$ 24.82	$ 24.46	$ 24.28	$ 26.59	$ 40.80	$ 44.64	$ 40.07	$ 39.86	$ 40.78	$ 40.00	$ 37.50
10/10/2014	pm	$ 36.70	$ 37.47	$ 35.85	$ 35.02	$ 34.40	$ 36.51	$ 48.11	$ 38.99	$ 35.83	$ 31.64	$ 29.74	$ 28.00
10/11/2014	am	$ 28.13	$ 26.75	$ 26.28	$ 25.41	$ 26.68	$ 29.41	$ 32.43	$ 32.98	$ 37.12	$ 37.43	$ 37.51	$ 36.00
10/11/2014	pm	$ 33.17	$ 31.03	$ 30.08	$ 30.30	$ 29.99	$ 32.28	$ 42.34	$ 35.57	$ 30.83	$ 28.93	$ 27.93	$ 25.77
10/12/2014	am	$ 23.77	$ 22.25	$ 21.13	$ 20.24	$ 21.98	$ 24.43	$ 27.33	$ 28.99	$ 30.01	$ 30.24	$ 30.14	$ 29.93
10/12/2014	pm	$ 29.83	$ 29.51	$ 29.40	$ 29.51	$ 30.01	$ 32.34	$ 46.87	$ 41.26	$ 31.06	$ 28.83	$ 25.89	$ 24.42
10/13/2014	am	$ 24.20	$ 24.32	$ 24.14	$ 24.48	$ 28.24	$ 36.81	$ 42.33	$ 38.25	$ 40.30	$ 41.74	$ 40.90	$ 41.31
10/13/2014	pm	$ 44.17	$ 44.50	$ 42.77	$ 43.45	$ 42.28	$ 39.79	$ 52.31	$ 41.20	$ 34.21	$ 30.26	$ 27.84	$ 25.00
10/14/2014	am	$ 23.57	$ 22.71	$ 22.53	$ 22.93	$ 27.54	$ 35.53	$ 48.24	$ 38.94	$ 39.87	$ 40.58	$ 39.88	$ 39.03
10/14/2014	pm	$ 39.72	$ 39.35	$ 37.05	$ 35.12	$ 35.16	$ 38.00	$ 54.56	$ 39.64	$ 33.65	$ 30.44	$ 27.85	$ 25.78
10/15/2014	am	$ 24.14	$ 23.61	$ 23.78	$ 24.13	$ 26.80	$ 36.98	$ 46.83	$ 40.11	$ 40.76	$ 41.00	$ 41.05	$ 40.63
10/15/2014	pm	$ 40.39	$ 40.24	$ 39.00	$ 36.77	$ 36.74	$ 39.84	$ 57.71	$ 42.26	$ 35.32	$ 31.78	$ 28.81	$ 25.39
10/16/2014	am	$ 25.41	$ 24.77	$ 24.23	$ 24.53	$ 26.78	$ 37.41	$ 47.64	$ 39.00	$ 38.31	$ 38.91	$ 38.22	$ 38.44
10/16/2014	pm	$ 37.92	$ 37.57	$ 35.76	$ 34.85	$ 34.84	$ 37.33	$ 48.75	$ 39.69	$ 33.80	$ 30.45	$ 26.61	$ 24.86
10/17/2014	am	$ 25.53	$ 24.74	$ 24.14	$ 25.06	$ 27.37	$ 36.96	$ 43.58	$ 38.37	$ 37.80	$ 39.19	$ 38.92	$ 37.94
10/17/2014	pm	$ 37.75	$ 35.69	$ 34.22	$ 33.63	$ 33.06	$ 34.18	$ 42.82	$ 34.34	$ 31.24	$ 28.46	$ 25.44	$ 24.46
10/18/2014	am	$ 22.59	$ 22.73	$ 21.93	$ 21.74	$ 22.84	$ 26.33	$ 29.14	$ 31.64	$ 33.62	$ 35.26	$ 35.03	$ 33.74
10/18/2014	pm	$ 31.84	$ 31.65	$ 31.95	$ 31.75	$ 32.10	$ 32.79	$ 40.86	$ 34.88	$ 31.23	$ 29.30	$ 26.97	$ 25.37
10/19/2014	am	$ 23.43	$ 23.49	$ 22.97	$ 23.36	$ 23.86	$ 24.82	$ 28.58	$ 29.65	$ 30.26	$ 31.31	$ 29.99	$ 29.77
10/19/2014	pm	$ 28.81	$ 28.42	$ 28.45	$ 28.48	$ 29.04	$ 31.92	$ 47.29	$ 36.78	$ 31.36	$ 28.78	$ 26.19	$ 24.07
10/20/2014	am	$ 23.21	$ 23.22	$ 23.51	$ 23.88	$ 28.56	$ 39.04	$ 49.51	$ 42.27	$ 40.56	$ 40.93	$ 40.01	$ 38.95
10/20/2014	pm	$ 38.17	$ 37.51	$ 35.98	$ 35.34	$ 35.88	$ 38.48	$ 56.84	$ 39.68	$ 34.93	$ 31.46	$ 30.92	$ 25.73
10/21/2014	am	$ 25.52	$ 25.36	$ 25.02	$ 25.06	$ 28.00	$ 37.71	$ 45.52	$ 39.43	$ 39.30	$ 38.93	$ 39.47	$ 39.32
10/21/2014	pm	$ 37.89	$ 37.20	$ 35.74	$ 35.22	$ 35.55	$ 38.56	$ 52.29	$ 40.00	$ 35.94	$ 31.90	$ 27.80	$ 26.00
10/22/2014	am	$ 24.93	$ 24.25	$ 23.77	$ 24.87	$ 29.11	$ 38.11	$ 47.95	$ 41.20	$ 38.14	$ 38.45	$ 37.57	$ 36.50
10/22/2014	pm	$ 35.73	$ 35.35	$ 34.66	$ 35.04	$ 35.26	$ 37.71	$ 54.42	$ 39.04	$ 35.58	$ 31.51	$ 29.09	$ 27.97
10/23/2014	am	$ 25.56	$ 25.18	$ 25.62	$ 26.85	$ 30.45	$ 42.51	$ 55.00	$ 45.97	$ 43.12	$ 44.15	$ 41.07	$ 40.86
10/23/2014	pm	$ 39.96	$ 39.66	$ 37.55	$ 36.76	$ 36.73	$ 40.22	$ 54.80	$ 41.86	$ 38.38	$ 33.35	$ 29.80	$ 28.54
10/24/2014	am	$ 23.09	$ 21.84	$ 21.56	$ 21.62	$ 23.58	$ 32.71	$ 39.68	$ 37.83	$ 36.08	$ 37.44	$ 35.27	$ 35.23
10/24/2014	pm	$ 34.07	$ 34.02	$ 33.73	$ 33.42	$ 33.55	$ 33.78	$ 37.71	$ 34.34	$ 31.57	$ 27.67	$ 25.11	$ 24.57
10/25/2014	am	$ 26.01	$ 25.19	$ 25.12	$ 25.10	$ 25.46	$ 27.32	$ 31.38	$ 31.35	$ 32.71	$ 34.41	$ 34.95	$ 34.31
10/25/2014	pm	$ 32.98	$ 32.16	$ 31.72	$ 31.93	$ 32.46	$ 34.59	$ 39.15	$ 35.24	$ 31.67	$ 28.76	$ 25.78	$ 24.22
10/26/2014	am	$ 24.12	$ 22.54	$ 22.25	$ 21.37	$ 21.95	$ 23.68	$ 26.96	$ 28.75	$ 29.64	$ 30.15	$ 30.11	$ 29.62
10/26/2014	pm	$ 29.43	$ 29.57	$ 29.25	$ 30.50	$ 31.78	$ 34.41	$ 44.41	$ 36.94	$ 32.23	$ 29.52	$ 26.23	$ 24.52
10/27/2014	am	$ 22.72	$ 22.33	$ 22.06	$ 22.61	$ 24.42	$ 32.91	$ 41.55	$ 37.18	$ 36.44	$ 37.15	$ 36.72	$ 36.64
10/27/2014	pm	$ 36.63	$ 35.45	$ 36.40	$ 35.94	$ 35.29	$ 36.63	$ 42.27	$ 35.75	$ 34.06	$ 29.94	$ 27.21	$ 25.08

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
10/28/2014	am	$ 22.19	$ 20.28	$ 19.47	$ 19.16	$ 21.91	$ 29.38	$ 33.89	$ 33.24	$ 32.31	$ 34.09	$ 32.87	$ 32.80
10/28/2014	pm	$ 32.66	$ 32.17	$ 31.38	$ 31.39	$ 31.69	$ 32.99	$ 37.37	$ 34.83	$ 31.58	$ 28.58	$ 24.04	$ 24.45
10/29/2014	am	$ 22.08	$ 21.96	$ 21.64	$ 21.54	$ 23.87	$ 30.18	$ 38.07	$ 37.34	$ 36.81	$ 37.34	$ 36.60	$ 35.71
10/29/2014	pm	$ 35.36	$ 34.53	$ 34.00	$ 32.74	$ 33.50	$ 36.71	$ 47.22	$ 38.43	$ 33.98	$ 31.71	$ 29.05	$ 26.98
10/30/2014	am	$ 25.29	$ 24.75	$ 24.24	$ 24.36	$ 27.20	$ 34.93	$ 45.19	$ 43.19	$ 38.25	$ 37.95	$ 38.04	$ 36.56
10/30/2014	pm	$ 35.67	$ 33.54	$ 33.05	$ 32.93	$ 33.34	$ 37.81	$ 43.17	$ 36.71	$ 34.16	$ 31.14	$ 26.34	$ 26.15
10/31/2014	am	$ 25.33	$ 23.74	$ 23.77	$ 23.92	$ 26.76	$ 35.77	$ 42.53	$ 41.43	$ 38.57	$ 38.53	$ 37.27	$ 36.73
10/31/2014	pm	$ 36.63	$ 36.11	$ 34.17	$ 33.63	$ 33.87	$ 36.20	$ 41.25	$ 37.33	$ 33.84	$ 31.50	$ 30.19	$ 29.11
11/1/2014	am	$ 27.10	$ 26.07	$ 25.76	$ 25.87	$ 27.37	$ 29.77	$ 34.31	$ 36.37	$ 38.42	$ 38.61	$ 37.72	$ 33.57
11/1/2014	pm	$ 30.59	$ 29.61	$ 29.19	$ 29.02	$ 29.91	$ 33.97	$ 38.86	$ 35.74	$ 32.08	$ 29.99	$ 27.57	$ 26.81
11/2/2014	am	$ 28.85	$ 28.01	$ 27.52	$ 27.63	$ 27.72	$ 28.61	$ 31.82	$ 33.67	$ 36.06	$ 35.88	$ 33.76	$ 31.78
11/2/2014	pm	$ 30.78	$ 29.96	$ 29.59	$ 29.48	$ 30.06	$ 38.21	$ 41.36	$ 37.00	$ 31.95	$ 30.36	$ 26.49	$ 25.69
11/3/2014	am	$ 24.87	$ 23.94	$ 24.00	$ 23.90	$ 25.25	$ 30.51	$ 38.49	$ 40.18	$ 38.76	$ 38.67	$ 36.43	$ 35.20
11/3/2014	pm	$ 33.38	$ 32.58	$ 32.29	$ 31.83	$ 32.01	$ 41.91	$ 48.00	$ 38.78	$ 35.63	$ 31.61	$ 28.53	$ 25.75
11/4/2014	am	$ 26.36	$ 26.27	$ 26.49	$ 26.31	$ 27.27	$ 31.97	$ 44.04	$ 43.00	$ 39.72	$ 39.46	$ 38.99	$ 37.79
11/4/2014	pm	$ 35.92	$ 35.57	$ 34.09	$ 33.76	$ 33.77	$ 44.29	$ 50.00	$ 41.33	$ 39.36	$ 34.47	$ 30.90	$ 28.90
11/5/2014	am	$ 26.40	$ 26.03	$ 24.53	$ 24.24	$ 25.22	$ 29.00	$ 42.48	$ 41.83	$ 39.54	$ 39.01	$ 37.98	$ 36.87
11/5/2014	pm	$ 34.63	$ 34.39	$ 33.94	$ 32.83	$ 33.26	$ 46.94	$ 47.15	$ 39.67	$ 36.83	$ 32.08	$ 28.90	$ 26.82
11/6/2014	am	$ 27.39	$ 26.53	$ 25.79	$ 25.05	$ 25.48	$ 28.93	$ 41.69	$ 44.03	$ 40.97	$ 41.21	$ 40.98	$ 40.21
11/6/2014	pm	$ 37.51	$ 37.61	$ 36.90	$ 36.15	$ 36.95	$ 52.00	$ 54.25	$ 45.44	$ 41.66	$ 37.02	$ 32.63	$ 30.23
11/7/2014	am	$ 29.39	$ 28.04	$ 27.50	$ 26.76	$ 27.13	$ 31.77	$ 51.00	$ 53.59	$ 46.37	$ 45.97	$ 43.91	$ 41.60
11/7/2014	pm	$ 40.10	$ 39.37	$ 38.26	$ 35.25	$ 37.17	$ 46.60	$ 48.00	$ 43.44	$ 38.48	$ 34.57	$ 31.60	$ 28.97
11/8/2014	am	$ 28.50	$ 26.70	$ 26.10	$ 26.10	$ 26.18	$ 27.49	$ 32.54	$ 36.15	$ 38.04	$ 40.29	$ 38.81	$ 36.10
11/8/2014	pm	$ 33.18	$ 32.18	$ 31.41	$ 31.43	$ 32.91	$ 44.74	$ 48.23	$ 41.55	$ 36.76	$ 32.22	$ 31.08	$ 28.93
11/9/2014	am	$ 30.78	$ 29.40	$ 27.66	$ 27.88	$ 27.54	$ 28.67	$ 31.83	$ 34.96	$ 35.09	$ 35.50	$ 34.84	$ 32.23
11/9/2014	pm	$ 32.31	$ 31.79	$ 31.24	$ 30.54	$ 32.53	$ 48.00	$ 51.00	$ 45.86	$ 38.22	$ 34.13	$ 31.34	$ 30.34
11/10/2014	am	$ 28.31	$ 27.52	$ 26.46	$ 26.94	$ 27.35	$ 30.15	$ 45.00	$ 45.23	$ 40.67	$ 41.10	$ 39.42	$ 36.91
11/10/2014	pm	$ 35.00	$ 33.77	$ 33.00	$ 32.86	$ 32.90	$ 43.63	$ 45.42	$ 39.82	$ 36.28	$ 34.25	$ 31.06	$ 28.88
11/11/2014	am	$ 26.83	$ 25.35	$ 24.61	$ 24.20	$ 24.57	$ 28.29	$ 39.44	$ 43.22	$ 36.53	$ 37.85	$ 36.26	$ 35.46
11/11/2014	pm	$ 35.05	$ 34.82	$ 33.97	$ 33.48	$ 33.95	$ 45.00	$ 47.08	$ 42.79	$ 39.00	$ 35.93	$ 31.87	$ 29.70
11/12/2014	am	$ 27.56	$ 26.50	$ 25.81	$ 24.78	$ 25.60	$ 32.18	$ 47.00	$ 52.23	$ 48.09	$ 48.75	$ 45.26	$ 41.11
11/12/2014	pm	$ 38.09	$ 37.00	$ 35.43	$ 34.44	$ 35.87	$ 51.95	$ 62.49	$ 49.57	$ 49.17	$ 42.86	$ 35.56	$ 32.83
11/13/2014	am	$ 30.70	$ 29.82	$ 29.12	$ 28.10	$ 28.45	$ 33.62	$ 46.61	$ 51.57	$ 48.34	$ 45.91	$ 44.83	$ 41.66
11/13/2014	pm	$ 37.10	$ 34.83	$ 33.94	$ 33.31	$ 35.00	$ 51.52	$ 62.94	$ 53.70	$ 48.49	$ 44.75	$ 35.60	$ 32.63
11/14/2014	am	$ 31.87	$ 32.01	$ 31.24	$ 31.18	$ 31.90	$ 36.84	$ 47.73	$ 60.05	$ 51.71	$ 52.26	$ 51.35	$ 46.38
11/14/2014	pm	$ 42.97	$ 40.31	$ 38.45	$ 36.90	$ 37.96	$ 48.31	$ 59.10	$ 54.04	$ 48.39	$ 43.79	$ 36.55	$ 32.56
11/15/2014	am	$ 32.35	$ 32.15	$ 31.80	$ 30.98	$ 30.92	$ 32.61	$ 34.77	$ 40.42	$ 43.89	$ 44.87	$ 44.41	$ 41.49
11/15/2014	pm	$ 35.88	$ 34.13	$ 32.58	$ 32.10	$ 34.65	$ 46.12	$ 49.76	$ 44.41	$ 39.53	$ 35.67	$ 33.08	$ 31.80
11/16/2014	am	$ 31.71	$ 29.82	$ 28.51	$ 28.32	$ 28.75	$ 29.95	$ 30.27	$ 32.38	$ 33.27	$ 35.42	$ 35.35	$ 34.90
11/16/2014	pm	$ 33.79	$ 33.13	$ 32.89	$ 32.14	$ 32.33	$ 42.49	$ 44.37	$ 40.66	$ 39.26	$ 35.01	$ 31.34	$ 31.64
11/17/2014	am	$ 29.24	$ 28.26	$ 27.96	$ 27.62	$ 28.28	$ 31.89	$ 43.20	$ 48.22	$ 45.76	$ 45.77	$ 44.67	$ 40.90
11/17/2014	pm	$ 36.68	$ 35.88	$ 34.17	$ 33.82	$ 37.89	$ 51.20	$ 60.77	$ 52.74	$ 48.36	$ 44.39	$ 37.52	$ 33.15
11/18/2014	am	$ 32.90	$ 31.84	$ 32.46	$ 31.72	$ 32.75	$ 39.24	$ 57.59	$ 84.63	$ 68.28	$ 56.05	$ 53.09	$ 47.61
11/18/2014	pm	$ 43.78	$ 41.42	$ 39.33	$ 39.01	$ 43.89	$ 60.73	$ 67.16	$ 56.54	$ 56.39	$ 48.73	$ 40.52	$ 36.09
11/19/2014	am	$ 33.01	$ 31.03	$ 30.97	$ 29.90	$ 30.14	$ 35.76	$ 48.07	$ 59.00	$ 48.97	$ 46.28	$ 44.43	$ 40.34
11/19/2014	pm	$ 38.64	$ 36.06	$ 34.21	$ 34.13	$ 35.69	$ 47.11	$ 50.43	$ 47.26	$ 45.91	$ 41.67	$ 33.91	$ 31.55
11/20/2014	am	$ 33.90	$ 32.20	$ 32.14	$ 31.82	$ 32.23	$ 34.78	$ 45.95	$ 56.26	$ 48.12	$ 47.45	$ 44.78	$ 41.66
11/20/2014	pm	$ 39.52	$ 37.88	$ 37.14	$ 36.94	$ 38.80	$ 50.28	$ 58.33	$ 51.88	$ 49.01	$ 46.41	$ 40.13	$ 37.56
11/21/2014	am	$ 37.36	$ 34.28	$ 32.95	$ 32.55	$ 33.30	$ 38.00	$ 51.85	$ 63.76	$ 52.41	$ 47.79	$ 45.75	$ 41.65
11/21/2014	pm	$ 39.30	$ 37.04	$ 35.02	$ 34.56	$ 35.08	$ 47.59	$ 49.75	$ 46.40	$ 43.57	$ 38.75	$ 36.42	$ 33.26

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Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
11/22/2014	am	$ 32.42	$ 29.64	$ 29.05	$ 28.86	$ 28.45	$ 30.49	$ 33.49	$ 36.44	$ 40.04	$ 44.23	$ 43.75	$ 41.27
11/22/2014	pm	$ 37.71	$ 35.63	$ 34.11	$ 33.65	$ 34.32	$ 44.47	$ 44.51	$ 37.82	$ 37.51	$ 34.08	$ 31.79	$ 30.72
11/23/2014	am	$ 27.51	$ 25.71	$ 24.00	$ 23.84	$ 23.12	$ 24.20	$ 26.26	$ 27.72	$ 30.18	$ 32.64	$ 32.89	$ 32.91
11/23/2014	pm	$ 32.52	$ 32.37	$ 31.59	$ 30.73	$ 32.84	$ 41.56	$ 39.63	$ 37.14	$ 34.54	$ 30.49	$ 27.57	$ 26.94
11/24/2014	am	$ 28.41	$ 24.82	$ 25.03	$ 26.54	$ 26.82	$ 31.56	$ 38.20	$ 43.05	$ 40.23	$ 41.05	$ 41.29	$ 40.13
11/24/2014	pm	$ 38.16	$ 36.87	$ 35.09	$ 34.57	$ 37.60	$ 48.14	$ 48.54	$ 43.06	$ 40.63	$ 34.43	$ 32.27	$ 29.81
11/25/2014	am	$ 28.98	$ 28.72	$ 28.13	$ 28.74	$ 28.33	$ 35.21	$ 47.66	$ 53.59	$ 50.53	$ 51.04	$ 47.37	$ 42.90
11/25/2014	pm	$ 39.86	$ 37.96	$ 36.81	$ 34.86	$ 37.41	$ 49.86	$ 51.11	$ 45.36	$ 41.69	$ 35.82	$ 34.11	$ 32.11
11/26/2014	am	$ 28.96	$ 27.05	$ 27.00	$ 26.88	$ 28.67	$ 32.06	$ 40.74	$ 46.16	$ 43.02	$ 41.36	$ 39.51	$ 36.90
11/26/2014	pm	$ 35.57	$ 33.21	$ 32.78	$ 32.31	$ 35.58	$ 39.19	$ 40.02	$ 39.69	$ 37.71	$ 33.73	$ 32.61	$ 31.07
11/27/2014	am	$ 28.34	$ 26.40	$ 25.35	$ 24.82	$ 24.68	$ 25.97	$ 28.95	$ 31.94	$ 33.62	$ 36.04	$ 37.18	$ 36.16
11/27/2014	pm	$ 32.99	$ 29.93	$ 29.04	$ 28.57	$ 29.28	$ 32.02	$ 31.74	$ 32.08	$ 32.06	$ 31.03	$ 28.81	$ 27.23
11/28/2014	am	$ 27.93	$ 26.94	$ 27.91	$ 27.25	$ 29.30	$ 30.84	$ 32.31	$ 35.50	$ 35.62	$ 38.07	$ 35.69	$ 32.84
11/28/2014	pm	$ 31.33	$ 30.64	$ 30.09	$ 30.21	$ 31.19	$ 42.21	$ 40.00	$ 36.98	$ 33.06	$ 31.41	$ 29.06	$ 26.86
11/29/2014	am	$ 27.57	$ 26.71	$ 26.08	$ 25.79	$ 25.92	$ 27.42	$ 32.44	$ 35.39	$ 38.72	$ 40.38	$ 39.02	$ 33.73
11/29/2014	pm	$ 31.24	$ 30.13	$ 29.81	$ 29.70	$ 30.71	$ 40.28	$ 38.98	$ 33.24	$ 31.75	$ 29.57	$ 25.74	$ 25.08
11/30/2014	am	$ 24.32	$ 23.73	$ 22.08	$ 21.77	$ 21.42	$ 22.48	$ 25.70	$ 27.62	$ 28.13	$ 28.82	$ 29.20	$ 29.05
11/30/2014	pm	$ 29.22	$ 29.05	$ 28.78	$ 28.95	$ 30.46	$ 44.70	$ 41.22	$ 38.13	$ 34.89	$ 29.89	$ 26.34	$ 26.99
12/1/2014	am	$ 25.53	$ 24.64	$ 24.04	$ 23.92	$ 24.89	$ 29.80	$ 39.21	$ 44.00	$ 41.00	$ 41.17	$ 42.62	$ 41.27
12/1/2014	pm	$ 39.31	$ 38.22	$ 35.21	$ 35.10	$ 38.05	$ 53.76	$ 60.96	$ 50.78	$ 45.09	$ 41.12	$ 35.04	$ 30.86
12/2/2014	am	$ 28.79	$ 28.86	$ 27.56	$ 27.36	$ 28.00	$ 29.39	$ 43.77	$ 44.50	$ 42.09	$ 40.34	$ 39.57	$ 37.36
12/2/2014	pm	$ 33.78	$ 32.94	$ 32.62	$ 32.05	$ 38.57	$ 52.20	$ 51.31	$ 46.61	$ 41.71	$ 37.41	$ 31.56	$ 29.14
12/3/2014	am	$ 28.16	$ 26.74	$ 25.69	$ 25.25	$ 25.83	$ 27.69	$ 34.98	$ 38.00	$ 35.70	$ 35.07	$ 34.21	$ 33.69
12/3/2014	pm	$ 31.44	$ 31.33	$ 31.66	$ 31.70	$ 33.85	$ 48.65	$ 48.65	$ 40.05	$ 39.12	$ 36.24	$ 30.95	$ 29.06
12/4/2014	am	$ 29.28	$ 28.14	$ 27.06	$ 27.18	$ 27.12	$ 28.68	$ 35.58	$ 41.34	$ 38.06	$ 37.77	$ 38.26	$ 37.62
12/4/2014	pm	$ 34.35	$ 33.93	$ 33.15	$ 33.59	$ 35.61	$ 50.04	$ 48.04	$ 42.45	$ 39.92	$ 35.49	$ 30.99	$ 28.99
12/5/2014	am	$ 28.47	$ 27.78	$ 27.37	$ 27.43	$ 27.24	$ 28.36	$ 35.68	$ 41.21	$ 42.09	$ 40.57	$ 40.24	$ 38.06
12/5/2014	pm	$ 34.87	$ 34.07	$ 33.59	$ 32.74	$ 34.03	$ 45.69	$ 42.35	$ 37.00	$ 33.72	$ 31.90	$ 30.47	$ 27.97
12/6/2014	am	$ 28.21	$ 26.15	$ 24.94	$ 24.11	$ 24.44	$ 26.31	$ 26.66	$ 31.27	$ 32.86	$ 32.49	$ 32.33	$ 31.94
12/6/2014	pm	$ 30.86	$ 30.00	$ 29.70	$ 28.74	$ 29.52	$ 44.27	$ 36.92	$ 33.17	$ 33.21	$ 31.96	$ 29.45	$ 28.75
12/7/2014	am	$ 27.70	$ 26.09	$ 27.02	$ 26.83	$ 26.49	$ 27.11	$ 28.08	$ 29.49	$ 30.73	$ 31.30	$ 31.23	$ 29.94
12/7/2014	pm	$ 29.27	$ 29.24	$ 29.02	$ 29.08	$ 31.23	$ 46.00	$ 42.03	$ 36.67	$ 34.92	$ 32.17	$ 28.99	$ 28.23
12/8/2014	am	$ 27.75	$ 26.03	$ 25.61	$ 26.10	$ 27.32	$ 29.77	$ 40.49	$ 40.18	$ 36.96	$ 35.85	$ 35.22	$ 34.13
12/8/2014	pm	$ 31.36	$ 31.74	$ 31.53	$ 30.84	$ 31.57	$ 42.50	$ 41.15	$ 36.08	$ 35.32	$ 32.36	$ 29.78	$ 28.12
12/9/2014	am	$ 27.70	$ 26.74	$ 26.74	$ 26.19	$ 27.39	$ 29.78	$ 37.35	$ 38.95	$ 37.68	$ 38.31	$ 36.96	$ 35.62
12/9/2014	pm	$ 34.95	$ 34.64	$ 33.40	$ 32.88	$ 35.30	$ 46.93	$ 43.24	$ 37.07	$ 36.04	$ 33.84	$ 30.20	$ 28.88
12/10/2014	am	$ 27.59	$ 27.26	$ 26.53	$ 26.89	$ 27.91	$ 33.06	$ 40.34	$ 41.04	$ 38.07	$ 37.61	$ 35.33	$ 33.68
12/10/2014	pm	$ 31.69	$ 30.76	$ 30.43	$ 30.16	$ 33.57	$ 48.51	$ 44.57	$ 39.38	$ 38.38	$ 34.52	$ 31.73	$ 29.85
12/11/2014	am	$ 28.52	$ 28.10	$ 27.59	$ 27.29	$ 27.87	$ 31.48	$ 39.39	$ 41.27	$ 38.93	$ 37.03	$ 35.95	$ 34.35
12/11/2014	pm	$ 32.06	$ 32.00	$ 30.67	$ 30.39	$ 32.59	$ 48.65	$ 49.06	$ 40.57	$ 42.00	$ 37.70	$ 31.35	$ 29.30
12/12/2014	am	$ 28.27	$ 26.88	$ 26.92	$ 26.99	$ 27.62	$ 30.97	$ 38.58	$ 44.02	$ 39.58	$ 37.41	$ 35.56	$ 33.46
12/12/2014	pm	$ 31.13	$ 30.45	$ 30.22	$ 29.49	$ 29.37	$ 38.78	$ 39.85	$ 35.10	$ 32.90	$ 31.26	$ 30.65	$ 29.54
12/13/2014	am	$ 28.14	$ 26.30	$ 25.88	$ 25.61	$ 25.31	$ 27.25	$ 28.02	$ 33.06	$ 33.58	$ 33.68	$ 33.14	$ 32.46
12/13/2014	pm	$ 29.93	$ 28.80	$ 28.77	$ 28.70	$ 29.41	$ 37.40	$ 35.29	$ 33.06	$ 31.17	$ 29.85	$ 27.96	$ 26.97
12/14/2014	am	$ 24.49	$ 23.84	$ 23.37	$ 23.25	$ 22.97	$ 24.98	$ 25.04	$ 27.59	$ 28.60	$ 28.42	$ 28.42	$ 28.53
12/14/2014	pm	$ 27.83	$ 27.68	$ 27.45	$ 27.48	$ 28.78	$ 41.10	$ 36.70	$ 34.73	$ 31.63	$ 28.66	$ 25.69	$ 25.00
12/15/2014	am	$ 24.23	$ 23.71	$ 23.58	$ 23.58	$ 23.39	$ 26.92	$ 33.17	$ 35.97	$ 33.65	$ 33.17	$ 32.46	$ 32.07
12/15/2014	pm	$ 30.95	$ 30.65	$ 30.50	$ 29.79	$ 31.85	$ 40.57	$ 40.07	$ 36.67	$ 34.52	$ 31.28	$ 27.44	$ 25.90
12/16/2014	am	$ 25.21	$ 24.22	$ 23.77	$ 23.80	$ 24.27	$ 26.89	$ 34.97	$ 39.35	$ 36.23	$ 34.98	$ 34.77	$ 33.62
12/16/2014	pm	$ 32.94	$ 32.63	$ 32.06	$ 33.07	$ 34.85	$ 47.77	$ 45.26	$ 41.66	$ 38.71	$ 35.24	$ 29.23	$ 27.42

Indiana Municipal Power Agency

IND Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
12/17/2014	am	$ 25.14	$ 24.74	$ 24.18	$ 24.62	$ 25.39	$ 29.72	$ 41.04	$ 44.26	$ 40.25	$ 37.26	$ 35.58	$ 32.97
12/17/2014	pm	$ 31.73	$ 31.01	$ 30.32	$ 30.88	$ 33.88	$ 47.50	$ 45.79	$ 42.41	$ 41.23	$ 35.94	$ 30.60	$ 29.53
12/18/2014	am	$ 28.07	$ 28.02	$ 27.71	$ 27.67	$ 27.78	$ 33.08	$ 45.58	$ 49.63	$ 46.28	$ 44.35	$ 42.22	$ 39.58
12/18/2014	pm	$ 37.40	$ 36.21	$ 34.57	$ 34.27	$ 36.12	$ 57.77	$ 50.36	$ 45.87	$ 44.41	$ 38.79	$ 32.95	$ 30.58
12/19/2014	am	$ 26.87	$ 26.16	$ 26.31	$ 26.44	$ 26.71	$ 29.61	$ 44.49	$ 50.26	$ 44.32	$ 41.41	$ 40.50	$ 38.07
12/19/2014	pm	$ 34.38	$ 33.00	$ 32.58	$ 31.57	$ 33.82	$ 48.47	$ 44.82	$ 40.65	$ 39.53	$ 36.69	$ 31.81	$ 27.21
12/20/2014	am	$ 26.33	$ 25.92	$ 25.10	$ 25.06	$ 25.31	$ 26.19	$ 30.97	$ 34.71	$ 37.33	$ 38.71	$ 36.82	$ 33.97
12/20/2014	pm	$ 30.26	$ 29.33	$ 28.46	$ 27.31	$ 28.94	$ 39.93	$ 37.61	$ 33.37	$ 31.44	$ 29.47	$ 27.52	$ 26.58
12/21/2014	am	$ 25.93	$ 25.42	$ 24.89	$ 24.61	$ 24.48	$ 25.35	$ 26.52	$ 29.85	$ 32.11	$ 35.06	$ 34.17	$ 30.63
12/21/2014	pm	$ 27.51	$ 27.03	$ 26.57	$ 26.54	$ 29.55	$ 42.94	$ 39.53	$ 36.53	$ 36.10	$ 33.03	$ 27.30	$ 25.34
12/22/2014	am	$ 23.94	$ 21.75	$ 21.20	$ 21.60	$ 23.36	$ 25.78	$ 35.85	$ 38.96	$ 37.34	$ 37.85	$ 37.12	$ 35.56
12/22/2014	pm	$ 34.05	$ 33.31	$ 32.38	$ 31.01	$ 32.67	$ 40.73	$ 38.45	$ 36.84	$ 35.96	$ 32.88	$ 27.12	$ 25.03
12/23/2014	am	$ 25.24	$ 24.04	$ 23.44	$ 23.46	$ 23.76	$ 25.11	$ 31.76	$ 35.99	$ 33.70	$ 34.70	$ 34.53	$ 33.80
12/23/2014	pm	$ 32.87	$ 31.05	$ 29.83	$ 28.75	$ 28.71	$ 33.27	$ 32.21	$ 32.36	$ 32.09	$ 29.08	$ 27.11	$ 24.83
12/24/2014	am	$ 22.69	$ 21.78	$ 20.06	$ 18.73	$ 20.15	$ 21.26	$ 22.58	$ 24.54	$ 25.46	$ 26.59	$ 26.05	$ 25.83
12/24/2014	pm	$ 25.28	$ 25.68	$ 24.43	$ 24.07	$ 25.23	$ 27.77	$ 27.69	$ 26.38	$ 26.33	$ 25.48	$ 23.25	$ 23.29
12/25/2014	am	$ 22.34	$ 19.32	$ 17.79	$ 16.37	$ 16.73	$ 18.21	$ 21.05	$ 24.46	$ 24.93	$ 25.63	$ 25.74	$ 25.36
12/25/2014	pm	$ 24.52	$ 23.71	$ 22.74	$ 22.58	$ 22.74	$ 25.21	$ 25.58	$ 24.98	$ 25.51	$ 24.78	$ 23.08	$ 22.77
12/26/2014	am	$ 22.31	$ 20.85	$ 19.10	$ 18.93	$ 19.42	$ 21.98	$ 24.31	$ 27.41	$ 27.17	$ 27.97	$ 28.65	$ 27.30
12/26/2014	pm	$ 26.65	$ 26.09	$ 25.68	$ 25.66	$ 25.86	$ 31.44	$ 31.14	$ 29.42	$ 27.99	$ 27.11	$ 25.16	$ 24.09
12/27/2014	am	$ 22.44	$ 22.05	$ 21.03	$ 19.94	$ 19.51	$ 20.59	$ 23.33	$ 24.17	$ 24.27	$ 26.83	$ 26.67	$ 25.81
12/27/2014	pm	$ 25.38	$ 24.92	$ 24.58	$ 24.51	$ 24.95	$ 29.65	$ 29.69	$ 29.32	$ 28.11	$ 26.88	$ 24.53	$ 24.45
12/28/2014	am	$ 22.67	$ 22.22	$ 21.33	$ 21.33	$ 21.21	$ 21.94	$ 23.60	$ 24.47	$ 25.51	$ 26.78	$ 26.65	$ 26.75
12/28/2014	pm	$ 26.55	$ 26.01	$ 25.51	$ 25.33	$ 26.13	$ 35.27	$ 33.72	$ 32.00	$ 31.61	$ 29.75	$ 26.45	$ 25.07
12/29/2014	am	$ 23.22	$ 22.74	$ 22.53	$ 22.17	$ 22.47	$ 23.69	$ 30.45	$ 29.50	$ 29.72	$ 30.03	$ 29.28	$ 29.11
12/29/2014	pm	$ 27.98	$ 26.76	$ 26.07	$ 25.95	$ 26.41	$ 35.57	$ 35.00	$ 30.97	$ 29.81	$ 28.49	$ 25.59	$ 24.51
12/30/2014	am	$ 24.20	$ 23.43	$ 23.26	$ 23.01	$ 23.23	$ 24.13	$ 27.14	$ 31.30	$ 31.10	$ 30.83	$ 30.91	$ 30.00
12/30/2014	pm	$ 28.92	$ 28.14	$ 27.28	$ 26.87	$ 26.93	$ 33.04	$ 35.00	$ 31.43	$ 31.78	$ 30.42	$ 27.21	$ 25.58
12/31/2014	am	$ 25.42	$ 24.94	$ 24.63	$ 24.81	$ 25.04	$ 26.69	$ 33.51	$ 38.98	$ 36.65	$ 36.50	$ 37.10	$ 33.00
12/31/2014	pm	$ 31.20	$ 28.39	$ 27.54	$ 26.92	$ 27.78	$ 37.17	$ 37.44	$ 32.33	$ 32.12	$ 29.61	$ 27.19	$ 25.31

Appendix C2 – Hourly Market Prices – AD Hub

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
1/1/2014	am	$ 33.68	$ 30.00	$ 30.04	$ 30.07	$ 29.72	$ 30.02	$ 30.64	$ 32.49	$ 32.96	$ 32.86	$ 33.05	$ 32.55
1/1/2014	pm	$ 30.80	$ 30.28	$ 29.83	$ 29.92	$ 30.08	$ 40.08	$ 44.90	$ 41.29	$ 41.67	$ 37.33	$ 31.80	$ 29.82
1/2/2014	am	$ 28.70	$ 27.83	$ 27.46	$ 27.57	$ 27.80	$ 28.42	$ 30.60	$ 36.79	$ 37.77	$ 35.35	$ 35.86	$ 35.15
1/2/2014	pm	$ 34.05	$ 33.22	$ 31.51	$ 31.39	$ 32.47	$ 42.95	$ 46.27	$ 43.00	$ 42.24	$ 38.33	$ 33.49	$ 31.33
1/3/2014	am	$ 35.95	$ 35.15	$ 34.81	$ 36.01	$ 36.55	$ 45.23	$ 66.77	$ 81.06	$ 69.68	$ 65.59	$ 66.59	$ 59.90
1/3/2014	pm	$ 49.55	$ 45.57	$ 42.21	$ 42.30	$ 46.95	$ 63.14	$ 70.89	$ 62.83	$ 64.88	$ 56.24	$ 48.98	$ 39.57
1/4/2014	am	$ 41.34	$ 36.41	$ 33.86	$ 33.94	$ 35.12	$ 36.36	$ 38.38	$ 47.46	$ 49.45	$ 48.70	$ 41.47	$ 35.27
1/4/2014	pm	$ 32.60	$ 31.01	$ 30.21	$ 29.91	$ 31.02	$ 37.03	$ 39.64	$ 36.45	$ 37.16	$ 34.22	$ 33.92	$ 31.29
1/5/2014	am	$ 35.76	$ 34.32	$ 34.18	$ 33.45	$ 32.07	$ 31.87	$ 33.41	$ 32.94	$ 35.27	$ 37.66	$ 36.21	$ 35.82
1/5/2014	pm	$ 34.58	$ 33.61	$ 32.59	$ 32.06	$ 33.70	$ 42.29	$ 48.13	$ 43.86	$ 42.15	$ 37.67	$ 35.65	$ 31.22
1/6/2014	am	$ 31.03	$ 30.31	$ 30.33	$ 30.35	$ 31.80	$ 36.46	$ 53.44	$ 78.23	$ 73.13	$ 79.08	$ 87.43	$ 84.88
1/6/2014	pm	$ 77.83	$ 72.32	$ 71.71	$ 72.09	$ 80.93	$ 150.00	$ 202.89	$ 206.75	$ 207.43	$ 177.13	$ 127.87	$ 117.82
1/7/2014	am	$ 140.81	$ 139.45	$ 141.00	$ 143.76	$ 152.69	$ 206.46	$ 280.92	$ 479.49	$ 323.40	$ 295.23	$ 246.03	$ 150.75
1/7/2014	pm	$ 133.46	$ 130.88	$ 127.21	$ 112.71	$ 130.05	$ 239.09	$ 463.12	$ 275.13	$ 222.25	$ 139.20	$ 124.01	$ 118.24
1/8/2014	am	$ 299.79	$ 205.97	$ 188.87	$ 166.85	$ 184.71	$ 263.55	$ 300.00	$ 670.33	$ 279.20	$ 255.11	$ 178.67	$ 150.30
1/8/2014	pm	$ 140.13	$ 126.77	$ 111.32	$ 109.41	$ 122.24	$ 132.04	$ 182.31	$ 167.69	$ 149.64	$ 137.45	$ 100.47	$ 74.30
1/9/2014	am	$ 37.22	$ 34.81	$ 34.74	$ 34.55	$ 35.85	$ 37.84	$ 50.18	$ 84.52	$ 68.72	$ 55.16	$ 48.43	$ 40.60
1/9/2014	pm	$ 37.69	$ 36.07	$ 35.59	$ 35.11	$ 36.44	$ 45.55	$ 45.76	$ 45.04	$ 41.28	$ 36.89	$ 33.66	$ 30.72
1/10/2014	am	$ 31.24	$ 30.35	$ 30.03	$ 29.89	$ 29.94	$ 30.69	$ 37.57	$ 41.59	$ 42.47	$ 43.21	$ 43.09	$ 38.92
1/10/2014	pm	$ 34.90	$ 33.25	$ 31.99	$ 31.58	$ 32.36	$ 38.83	$ 38.36	$ 35.55	$ 33.13	$ 31.04	$ 29.96	$ 28.22
1/11/2014	am	$ 28.78	$ 27.73	$ 27.06	$ 26.63	$ 25.86	$ 26.59	$ 27.56	$ 29.00	$ 30.77	$ 32.79	$ 33.18	$ 32.67
1/11/2014	pm	$ 30.83	$ 30.04	$ 29.60	$ 29.13	$ 30.12	$ 39.12	$ 37.70	$ 34.89	$ 32.97	$ 30.27	$ 29.10	$ 27.85
1/12/2014	am	$ 27.66	$ 26.92	$ 26.56	$ 26.64	$ 26.41	$ 26.79	$ 27.32	$ 28.06	$ 28.97	$ 29.70	$ 29.57	$ 29.11
1/12/2014	pm	$ 28.92	$ 28.27	$ 28.24	$ 28.19	$ 29.13	$ 38.12	$ 40.51	$ 38.15	$ 35.98	$ 33.37	$ 30.37	$ 28.98
1/13/2014	am	$ 28.42	$ 27.88	$ 27.67	$ 27.84	$ 28.28	$ 29.53	$ 33.67	$ 41.80	$ 37.59	$ 36.97	$ 37.06	$ 35.97
1/13/2014	pm	$ 32.65	$ 31.63	$ 30.76	$ 30.89	$ 33.01	$ 42.53	$ 42.36	$ 41.21	$ 37.03	$ 33.64	$ 30.43	$ 29.00
1/14/2014	am	$ 26.63	$ 26.25	$ 25.84	$ 26.06	$ 26.36	$ 27.66	$ 32.68	$ 35.07	$ 34.96	$ 36.34	$ 37.48	$ 34.99
1/14/2014	pm	$ 33.28	$ 32.14	$ 31.28	$ 31.22	$ 32.12	$ 40.77	$ 39.78	$ 38.57	$ 37.73	$ 34.45	$ 31.80	$ 28.98
1/15/2014	am	$ 28.18	$ 27.67	$ 27.63	$ 27.83	$ 28.12	$ 29.83	$ 36.84	$ 38.42	$ 37.88	$ 37.55	$ 37.45	$ 35.88
1/15/2014	pm	$ 34.63	$ 33.67	$ 32.87	$ 32.51	$ 34.49	$ 43.10	$ 52.50	$ 44.27	$ 41.98	$ 40.91	$ 33.10	$ 30.50
1/16/2014	am	$ 29.87	$ 29.23	$ 29.10	$ 29.18	$ 29.76	$ 31.35	$ 39.23	$ 45.98	$ 41.78	$ 39.91	$ 38.03	$ 34.16
1/16/2014	pm	$ 33.49	$ 32.49	$ 31.39	$ 31.01	$ 33.12	$ 44.25	$ 45.41	$ 39.95	$ 38.25	$ 36.35	$ 32.25	$ 30.44
1/17/2014	am	$ 30.99	$ 30.36	$ 30.43	$ 30.38	$ 31.19	$ 34.04	$ 40.56	$ 51.67	$ 45.85	$ 45.75	$ 45.24	$ 41.55
1/17/2014	pm	$ 39.33	$ 38.70	$ 36.75	$ 35.12	$ 36.96	$ 46.70	$ 51.66	$ 47.34	$ 45.87	$ 43.03	$ 38.74	$ 34.05
1/18/2014	am	$ 38.20	$ 35.51	$ 34.63	$ 34.32	$ 34.19	$ 34.75	$ 36.88	$ 40.24	$ 41.59	$ 42.82	$ 42.48	$ 40.68
1/18/2014	pm	$ 37.06	$ 34.23	$ 32.96	$ 33.05	$ 34.57	$ 43.69	$ 48.12	$ 46.99	$ 44.91	$ 43.10	$ 39.35	$ 35.90
1/19/2014	am	$ 35.84	$ 34.14	$ 32.64	$ 31.87	$ 30.65	$ 30.38	$ 30.52	$ 31.25	$ 32.09	$ 32.14	$ 31.76	$ 31.36
1/19/2014	pm	$ 30.45	$ 29.22	$ 28.71	$ 28.56	$ 29.55	$ 34.78	$ 35.40	$ 36.42	$ 35.38	$ 34.11	$ 32.08	$ 30.12
1/20/2014	am	$ 30.00	$ 29.37	$ 29.07	$ 28.76	$ 29.56	$ 29.44	$ 34.01	$ 38.01	$ 38.24	$ 39.91	$ 39.55	$ 37.60
1/20/2014	pm	$ 36.22	$ 35.15	$ 34.55	$ 34.14	$ 36.27	$ 43.63	$ 43.37	$ 42.91	$ 42.89	$ 39.83	$ 34.94	$ 31.41
1/21/2014	am	$ 34.46	$ 32.60	$ 32.18	$ 32.82	$ 33.66	$ 35.59	$ 47.63	$ 77.83	$ 75.97	$ 83.42	$ 100.44	$ 97.12
1/21/2014	pm	$ 93.23	$ 69.32	$ 60.17	$ 70.51	$ 76.15	$ 130.81	$ 154.89	$ 135.97	$ 135.76	$ 113.18	$ 90.01	$ 83.71
1/22/2014	am	$ 80.58	$ 69.28	$ 63.15	$ 66.81	$ 74.80	$ 75.41	$ 130.52	$ 228.28	$ 182.22	$ 156.25	$ 154.93	$ 113.63
1/22/2014	pm	$ 96.64	$ 84.48	$ 81.63	$ 84.37	$ 89.98	$ 107.63	$ 191.66	$ 154.21	$ 125.01	$ 96.60	$ 80.43	$ 61.04
1/23/2014	am	$ 170.37	$ 109.21	$ 91.00	$ 86.71	$ 104.61	$ 172.62	$ 250.97	$ 308.67	$ 374.73	$ 263.46	$ 315.83	$ 284.57
1/23/2014	pm	$ 245.64	$ 215.22	$ 216.80	$ 214.30	$ 248.07	$ 338.05	$ 488.97	$ 349.39	$ 324.47	$ 239.69	$ 226.51	$ 136.54
1/24/2014	am	$ 203.72	$ 219.42	$ 196.91	$ 204.89	$ 165.84	$ 166.64	$ 243.23	$ 532.29	$ 291.40	$ 154.03	$ 113.59	$ 115.18
1/24/2014	pm	$ 86.96	$ 78.55	$ 75.56	$ 72.67	$ 84.87	$ 98.09	$ 131.18	$ 107.33	$ 96.18	$ 104.08	$ 88.79	$ 63.61
1/25/2014	am	$ 62.57	$ 53.33	$ 51.02	$ 49.29	$ 51.28	$ 49.92	$ 51.98	$ 68.45	$ 85.41	$ 88.61	$ 71.41	$ 61.34
1/25/2014	pm	$ 55.87	$ 48.84	$ 44.96	$ 44.07	$ 49.08	$ 68.68	$ 96.62	$ 80.35	$ 74.99	$ 63.51	$ 51.70	$ 47.00

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
1/26/2014	am	$ 103.15	$ 77.95	$ 76.00	$ 75.14	$ 80.61	$ 81.14	$ 67.92	$ 73.26	$ 82.09	$ 79.09	$ 70.30	$ 59.39
1/26/2014	pm	$ 52.27	$ 47.13	$ 43.61	$ 44.26	$ 49.17	$ 62.55	$ 74.45	$ 61.85	$ 58.65	$ 52.55	$ 48.53	$ 42.47
1/27/2014	am	$ 37.23	$ 34.49	$ 33.94	$ 34.82	$ 37.68	$ 40.19	$ 80.48	$ 132.09	$ 133.15	$ 120.00	$ 117.64	$ 115.33
1/27/2014	pm	$ 112.50	$ 96.75	$ 93.61	$ 97.12	$ 104.13	$ 219.23	$ 395.04	$ 415.72	$ 342.95	$ 265.51	$ 228.07	$ 166.06
1/28/2014	am	$ 211.74	$ 165.69	$ 170.97	$ 208.73	$ 231.46	$ 315.90	$ 528.68	$ 857.06	$ 841.85	$ 748.20	$ 626.36	$ 611.86
1/28/2014	pm	$ 441.76	$ 425.62	$ 326.22	$ 303.49	$ 401.98	$ 530.90	$ 857.69	$ 845.11	$ 618.13	$ 515.57	$ 332.59	$ 247.94
1/29/2014	am	$ 83.20	$ 63.21	$ 57.90	$ 60.18	$ 67.63	$ 88.53	$ 95.57	$ 192.38	$ 149.26	$ 139.98	$ 123.37	$ 115.30
1/29/2014	pm	$ 87.00	$ 79.14	$ 62.19	$ 53.97	$ 56.26	$ 78.92	$ 86.20	$ 79.86	$ 73.56	$ 71.43	$ 61.81	$ 46.43
1/30/2014	am	$ 67.21	$ 62.41	$ 62.13	$ 61.66	$ 69.18	$ 78.00	$ 99.00	$ 129.57	$ 120.98	$ 90.43	$ 84.12	$ 72.96
1/30/2014	pm	$ 59.00	$ 50.78	$ 46.63	$ 44.48	$ 48.04	$ 55.29	$ 91.20	$ 62.66	$ 61.63	$ 51.91	$ 40.81	$ 37.29
1/31/2014	am	$ 40.28	$ 36.32	$ 36.92	$ 37.92	$ 42.27	$ 52.51	$ 68.94	$ 95.74	$ 83.35	$ 63.99	$ 56.86	$ 51.35
1/31/2014	pm	$ 43.54	$ 40.18	$ 38.98	$ 38.08	$ 41.21	$ 50.69	$ 53.00	$ 51.37	$ 50.52	$ 42.74	$ 40.80	$ 36.02
2/1/2014	am	$ 52.14	$ 45.16	$ 40.99	$ 38.51	$ 38.77	$ 38.63	$ 40.45	$ 50.26	$ 56.78	$ 54.19	$ 51.31	$ 42.23
2/1/2014	pm	$ 38.40	$ 36.22	$ 34.63	$ 34.28	$ 34.42	$ 37.47	$ 43.32	$ 41.36	$ 38.99	$ 36.02	$ 35.24	$ 34.41
2/2/2014	am	$ 37.64	$ 35.23	$ 32.35	$ 31.25	$ 31.69	$ 32.48	$ 34.60	$ 34.86	$ 39.10	$ 39.15	$ 38.48	$ 36.75
2/2/2014	pm	$ 36.01	$ 34.58	$ 33.62	$ 33.70	$ 36.13	$ 38.84	$ 47.74	$ 48.05	$ 47.17	$ 45.37	$ 42.92	$ 35.93
2/3/2014	am	$ 37.02	$ 35.90	$ 35.64	$ 36.30	$ 36.92	$ 42.89	$ 59.09	$ 69.98	$ 66.40	$ 64.48	$ 67.89	$ 62.20
2/3/2014	pm	$ 57.23	$ 52.64	$ 52.24	$ 51.42	$ 55.73	$ 72.46	$ 101.63	$ 88.99	$ 73.99	$ 67.33	$ 55.65	$ 49.25
2/4/2014	am	$ 42.52	$ 38.76	$ 38.53	$ 38.79	$ 40.35	$ 47.43	$ 63.75	$ 88.05	$ 69.05	$ 64.88	$ 63.52	$ 56.79
2/4/2014	pm	$ 52.31	$ 49.06	$ 44.11	$ 42.69	$ 44.65	$ 53.61	$ 74.60	$ 59.60	$ 55.21	$ 47.68	$ 39.57	$ 35.92
2/5/2014	am	$ 39.51	$ 36.90	$ 36.38	$ 36.56	$ 36.92	$ 44.00	$ 55.27	$ 66.35	$ 70.08	$ 68.45	$ 69.38	$ 67.15
2/5/2014	pm	$ 60.11	$ 55.71	$ 52.12	$ 48.24	$ 53.51	$ 65.84	$ 97.31	$ 90.63	$ 78.06	$ 63.21	$ 53.12	$ 45.42
2/6/2014	am	$ 52.19	$ 48.89	$ 47.76	$ 49.46	$ 52.48	$ 64.82	$ 78.36	$ 138.64	$ 146.09	$ 128.91	$ 127.31	$ 99.07
2/6/2014	pm	$ 84.16	$ 80.28	$ 78.08	$ 75.83	$ 82.05	$ 111.94	$ 221.26	$ 174.50	$ 165.28	$ 137.18	$ 101.89	$ 69.37
2/7/2014	am	$ 65.85	$ 57.06	$ 55.43	$ 55.96	$ 59.77	$ 70.69	$ 102.14	$ 150.19	$ 119.29	$ 85.46	$ 81.20	$ 76.63
2/7/2014	pm	$ 67.98	$ 62.52	$ 58.30	$ 56.72	$ 59.81	$ 73.00	$ 110.09	$ 98.90	$ 89.66	$ 80.62	$ 68.66	$ 59.30
2/8/2014	am	$ 66.87	$ 57.56	$ 54.98	$ 54.73	$ 53.29	$ 55.82	$ 59.13	$ 72.04	$ 75.78	$ 90.48	$ 87.07	$ 70.01
2/8/2014	pm	$ 62.62	$ 55.34	$ 52.18	$ 50.58	$ 53.56	$ 65.45	$ 105.18	$ 69.50	$ 67.75	$ 58.24	$ 51.60	$ 42.65
2/9/2014	am	$ 61.59	$ 52.60	$ 51.99	$ 51.95	$ 49.56	$ 49.51	$ 48.81	$ 45.33	$ 50.43	$ 52.94	$ 53.69	$ 50.85
2/9/2014	pm	$ 47.94	$ 43.39	$ 39.21	$ 38.83	$ 43.57	$ 51.93	$ 85.68	$ 66.79	$ 64.84	$ 59.21	$ 50.15	$ 43.52
2/10/2014	am	$ 49.32	$ 46.09	$ 47.12	$ 48.66	$ 51.75	$ 59.53	$ 95.72	$ 117.63	$ 113.45	$ 94.99	$ 92.07	$ 80.06
2/10/2014	pm	$ 70.75	$ 68.03	$ 64.64	$ 62.21	$ 69.01	$ 96.06	$ 158.84	$ 148.39	$ 144.59	$ 112.47	$ 77.16	$ 63.64
2/11/2014	am	$ 123.48	$ 102.35	$ 95.89	$ 110.84	$ 100.69	$ 138.17	$ 230.44	$ 300.00	$ 260.11	$ 240.36	$ 213.96	$ 192.92
2/11/2014	pm	$ 155.20	$ 132.80	$ 122.57	$ 116.33	$ 119.76	$ 175.25	$ 245.93	$ 273.56	$ 264.11	$ 212.37	$ 153.16	$ 102.07
2/12/2014	am	$ 92.79	$ 81.48	$ 78.67	$ 79.43	$ 84.14	$ 100.91	$ 152.98	$ 186.37	$ 149.66	$ 134.67	$ 118.25	$ 109.84
2/12/2014	pm	$ 103.27	$ 84.65	$ 80.00	$ 75.50	$ 83.34	$ 104.28	$ 135.08	$ 131.20	$ 113.39	$ 108.08	$ 72.54	$ 53.44
2/13/2014	am	$ 44.92	$ 42.86	$ 42.11	$ 42.05	$ 43.78	$ 48.16	$ 59.96	$ 75.41	$ 70.70	$ 66.06	$ 62.03	$ 58.03
2/13/2014	pm	$ 53.26	$ 47.95	$ 47.04	$ 45.25	$ 45.41	$ 51.78	$ 67.40	$ 59.05	$ 51.56	$ 47.82	$ 41.39	$ 36.08
2/14/2014	am	$ 37.81	$ 35.94	$ 35.45	$ 35.09	$ 35.47	$ 39.20	$ 45.96	$ 57.46	$ 57.27	$ 55.81	$ 54.52	$ 50.12
2/14/2014	pm	$ 45.73	$ 43.40	$ 40.95	$ 40.05	$ 42.42	$ 48.52	$ 57.97	$ 56.48	$ 56.42	$ 46.60	$ 44.23	$ 40.83
2/15/2014	am	$ 46.39	$ 44.53	$ 43.26	$ 40.35	$ 38.90	$ 43.71	$ 44.94	$ 48.78	$ 54.32	$ 56.98	$ 57.63	$ 53.23
2/15/2014	pm	$ 48.40	$ 45.81	$ 43.66	$ 42.40	$ 43.15	$ 51.09	$ 77.48	$ 63.06	$ 57.69	$ 56.51	$ 50.43	$ 47.54
2/16/2014	am	$ 44.52	$ 44.17	$ 41.62	$ 40.75	$ 40.17	$ 41.37	$ 41.25	$ 46.01	$ 47.10	$ 47.69	$ 47.21	$ 44.07
2/16/2014	pm	$ 42.33	$ 39.05	$ 36.47	$ 37.38	$ 38.91	$ 49.57	$ 83.51	$ 72.28	$ 60.95	$ 59.75	$ 51.22	$ 43.28
2/17/2014	am	$ 42.31	$ 41.15	$ 40.96	$ 41.22	$ 43.11	$ 52.59	$ 59.52	$ 63.66	$ 70.84	$ 64.86	$ 67.83	$ 60.25
2/17/2014	pm	$ 56.59	$ 47.70	$ 46.11	$ 44.23	$ 44.66	$ 50.45	$ 77.54	$ 56.50	$ 52.40	$ 45.31	$ 42.71	$ 35.71
2/18/2014	am	$ 40.89	$ 39.32	$ 38.85	$ 38.57	$ 40.05	$ 45.19	$ 69.99	$ 75.80	$ 69.68	$ 61.34	$ 60.79	$ 52.66
2/18/2014	pm	$ 49.14	$ 42.98	$ 40.03	$ 39.26	$ 41.95	$ 47.50	$ 66.37	$ 61.07	$ 54.81	$ 46.39	$ 40.84	$ 33.49
2/19/2014	am	$ 33.31	$ 32.92	$ 32.36	$ 32.22	$ 32.70	$ 34.97	$ 43.07	$ 55.39	$ 56.46	$ 55.67	$ 55.63	$ 50.22
2/19/2014	pm	$ 44.77	$ 42.02	$ 39.49	$ 38.97	$ 39.72	$ 45.26	$ 67.02	$ 60.31	$ 54.67	$ 49.66	$ 37.34	$ 32.07

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
2/20/2014	am	$ 35.83	$ 34.17	$ 33.48	$ 33.97	$ 35.19	$ 38.98	$ 56.09	$ 70.40	$ 58.38	$ 56.92	$ 56.46	$ 53.13
2/20/2014	pm	$ 48.42	$ 45.91	$ 43.04	$ 42.53	$ 43.82	$ 56.71	$ 67.01	$ 59.40	$ 57.77	$ 47.36	$ 37.53	$ 32.68
2/21/2014	am	$ 34.62	$ 33.72	$ 32.66	$ 32.25	$ 33.31	$ 36.26	$ 48.56	$ 52.47	$ 54.16	$ 53.52	$ 56.84	$ 55.98
2/21/2014	pm	$ 52.20	$ 49.97	$ 46.35	$ 44.46	$ 46.34	$ 57.03	$ 77.53	$ 61.68	$ 59.65	$ 53.58	$ 46.93	$ 41.27
2/22/2014	am	$ 48.08	$ 44.60	$ 39.52	$ 39.32	$ 39.11	$ 39.71	$ 45.10	$ 51.41	$ 52.22	$ 52.64	$ 51.01	$ 45.20
2/22/2014	pm	$ 40.96	$ 36.58	$ 34.62	$ 33.49	$ 35.04	$ 41.56	$ 52.54	$ 50.50	$ 50.53	$ 44.93	$ 39.49	$ 34.19
2/23/2014	am	$ 35.85	$ 34.44	$ 33.15	$ 32.47	$ 32.18	$ 33.11	$ 34.66	$ 35.83	$ 37.48	$ 39.55	$ 39.19	$ 38.89
2/23/2014	pm	$ 38.53	$ 37.51	$ 35.41	$ 34.83	$ 36.90	$ 42.39	$ 57.34	$ 56.33	$ 54.39	$ 53.42	$ 45.79	$ 39.66
2/24/2014	am	$ 39.45	$ 37.95	$ 37.66	$ 37.85	$ 37.40	$ 47.28	$ 57.65	$ 74.15	$ 67.83	$ 67.06	$ 66.44	$ 60.97
2/24/2014	pm	$ 54.77	$ 51.87	$ 51.09	$ 50.36	$ 53.32	$ 66.51	$ 101.86	$ 100.47	$ 96.55	$ 74.58	$ 58.40	$ 44.91
2/25/2014	am	$ 38.87	$ 38.15	$ 37.64	$ 37.25	$ 38.65	$ 45.74	$ 66.02	$ 86.60	$ 64.81	$ 62.06	$ 60.62	$ 55.74
2/25/2014	pm	$ 51.55	$ 50.11	$ 46.14	$ 45.50	$ 46.87	$ 52.30	$ 78.57	$ 73.17	$ 65.23	$ 56.19	$ 45.76	$ 38.69
2/26/2014	am	$ 44.21	$ 42.18	$ 42.01	$ 41.45	$ 44.03	$ 51.50	$ 85.43	$ 109.68	$ 93.83	$ 85.00	$ 79.65	$ 69.34
2/26/2014	pm	$ 61.22	$ 56.37	$ 54.07	$ 52.64	$ 54.75	$ 64.57	$ 126.69	$ 117.43	$ 103.77	$ 75.14	$ 64.23	$ 53.09
2/27/2014	am	$ 54.07	$ 50.90	$ 49.79	$ 49.57	$ 52.85	$ 63.06	$ 125.64	$ 153.39	$ 97.11	$ 81.09	$ 85.79	$ 77.90
2/27/2014	pm	$ 69.70	$ 60.98	$ 59.26	$ 59.19	$ 59.87	$ 65.90	$ 151.92	$ 166.11	$ 148.26	$ 121.85	$ 74.23	$ 59.01
2/28/2014	am	$ 64.29	$ 55.94	$ 53.45	$ 48.76	$ 54.99	$ 62.95	$ 165.69	$ 186.28	$ 178.95	$ 132.68	$ 84.93	$ 67.78
2/28/2014	pm	$ 60.65	$ 51.30	$ 47.38	$ 46.05	$ 45.49	$ 52.10	$ 66.04	$ 68.30	$ 58.68	$ 53.96	$ 51.81	$ 41.82
3/1/2014	am	$ 47.54	$ 47.92	$ 43.76	$ 41.56	$ 41.26	$ 42.11	$ 49.15	$ 55.96	$ 57.75	$ 57.88	$ 57.80	$ 50.50
3/1/2014	pm	$ 41.04	$ 39.92	$ 37.00	$ 35.95	$ 36.59	$ 38.32	$ 50.97	$ 51.99	$ 48.05	$ 43.35	$ 38.11	$ 34.77
3/2/2014	am	$ 37.74	$ 37.80	$ 35.63	$ 34.78	$ 35.23	$ 36.16	$ 36.97	$ 37.53	$ 38.73	$ 40.50	$ 40.16	$ 40.23
3/2/2014	pm	$ 39.39	$ 38.89	$ 38.06	$ 37.65	$ 38.88	$ 39.43	$ 54.73	$ 64.20	$ 61.79	$ 52.96	$ 43.06	$ 40.38
3/3/2014	am	$ 39.80	$ 39.28	$ 38.89	$ 40.05	$ 41.21	$ 51.01	$ 93.18	$ 143.48	$ 163.08	$ 166.93	$ 195.15	$ 167.60
3/3/2014	pm	$ 159.21	$ 157.66	$ 130.06	$ 113.72	$ 122.17	$ 162.39	$ 258.58	$ 269.18	$ 264.66	$ 223.90	$ 161.46	$ 95.55
3/4/2014	am	$ 137.49	$ 121.90	$ 116.53	$ 120.52	$ 135.84	$ 147.80	$ 301.20	$ 330.73	$ 266.25	$ 248.41	$ 222.57	$ 206.11
3/4/2014	pm	$ 160.28	$ 135.33	$ 122.81	$ 107.77	$ 121.11	$ 118.86	$ 182.45	$ 254.93	$ 197.97	$ 163.58	$ 123.93	$ 84.32
3/5/2014	am	$ 70.92	$ 64.56	$ 62.77	$ 59.51	$ 67.66	$ 91.12	$ 145.32	$ 163.69	$ 171.20	$ 135.95	$ 112.30	$ 91.37
3/5/2014	pm	$ 76.34	$ 62.93	$ 60.37	$ 55.86	$ 57.82	$ 63.71	$ 101.01	$ 124.47	$ 92.79	$ 81.30	$ 55.22	$ 41.71
3/6/2014	am	$ 47.63	$ 48.08	$ 47.71	$ 47.86	$ 51.01	$ 64.36	$ 92.13	$ 102.30	$ 90.43	$ 88.09	$ 86.72	$ 78.38
3/6/2014	pm	$ 63.35	$ 56.70	$ 49.60	$ 46.59	$ 48.44	$ 54.33	$ 79.13	$ 93.16	$ 76.52	$ 62.23	$ 47.40	$ 36.87
3/7/2014	am	$ 42.04	$ 38.51	$ 37.57	$ 37.50	$ 38.46	$ 44.49	$ 67.78	$ 92.44	$ 67.22	$ 68.22	$ 64.25	$ 55.78
3/7/2014	pm	$ 49.13	$ 43.25	$ 41.69	$ 38.07	$ 37.91	$ 41.48	$ 52.87	$ 56.14	$ 50.54	$ 43.30	$ 39.87	$ 34.06
3/8/2014	am	$ 43.01	$ 42.27	$ 39.66	$ 37.50	$ 39.29	$ 40.59	$ 41.35	$ 40.08	$ 47.29	$ 49.81	$ 51.45	$ 41.64
3/8/2014	pm	$ 37.27	$ 35.28	$ 34.81	$ 34.24	$ 34.53	$ 35.63	$ 53.41	$ 74.31	$ 50.24	$ 43.10	$ 37.76	$ 33.93
3/9/2014	am	$ 38.31	$ 36.03	$ 37.25	$ 37.12	$ 37.47	$ 39.28	$ 41.43	$ 42.39	$ 47.63	$ 44.82	$ 42.63	$ 39.99
3/9/2014	pm	$ 37.72	$ 36.21	$ 35.55	$ 36.20	$ 37.16	$ 37.65	$ 49.01	$ 73.20	$ 46.03	$ 38.14	$ 38.58	$ 37.21
3/10/2014	am	$ 34.33	$ 33.51	$ 35.15	$ 36.96	$ 42.20	$ 58.30	$ 115.19	$ 62.42	$ 51.29	$ 52.71	$ 49.55	$ 47.27
3/10/2014	pm	$ 44.00	$ 42.30	$ 39.08	$ 39.16	$ 39.79	$ 41.87	$ 49.30	$ 59.97	$ 46.41	$ 38.06	$ 33.80	$ 30.94
3/11/2014	am	$ 29.89	$ 30.27	$ 30.37	$ 31.59	$ 32.95	$ 42.59	$ 60.12	$ 47.06	$ 45.29	$ 47.58	$ 44.46	$ 43.37
3/11/2014	pm	$ 42.34	$ 40.52	$ 39.58	$ 39.60	$ 39.79	$ 39.73	$ 45.54	$ 45.92	$ 42.07	$ 35.84	$ 32.71	$ 30.29
3/12/2014	am	$ 29.44	$ 30.33	$ 30.78	$ 31.31	$ 34.12	$ 40.55	$ 43.75	$ 42.11	$ 43.41	$ 46.85	$ 47.72	$ 44.68
3/12/2014	pm	$ 44.03	$ 43.90	$ 42.31	$ 42.98	$ 45.60	$ 50.71	$ 76.61	$ 84.26	$ 59.72	$ 46.74	$ 39.43	$ 49.96
3/13/2014	am	$ 45.40	$ 45.43	$ 46.88	$ 48.62	$ 65.02	$ 112.88	$ 192.19	$ 135.42	$ 119.74	$ 93.15	$ 74.20	$ 69.62
3/13/2014	pm	$ 66.34	$ 61.49	$ 55.20	$ 56.36	$ 59.69	$ 76.44	$ 105.11	$ 105.85	$ 72.87	$ 67.81	$ 56.33	$ 41.86
3/14/2014	am	$ 40.29	$ 39.67	$ 39.65	$ 39.63	$ 47.18	$ 75.41	$ 119.29	$ 68.65	$ 56.91	$ 52.24	$ 47.64	$ 45.32
3/14/2014	pm	$ 42.00	$ 38.32	$ 36.60	$ 35.88	$ 35.52	$ 36.87	$ 40.79	$ 42.49	$ 40.34	$ 35.97	$ 32.91	$ 33.65
3/15/2014	am	$ 33.63	$ 32.97	$ 32.69	$ 31.97	$ 32.86	$ 33.90	$ 35.83	$ 41.62	$ 49.34	$ 49.62	$ 42.76	$ 37.40
3/15/2014	pm	$ 34.54	$ 33.20	$ 32.42	$ 32.97	$ 33.20	$ 35.05	$ 40.09	$ 41.75	$ 38.20	$ 35.61	$ 32.61	$ 35.40
3/16/2014	am	$ 34.95	$ 34.11	$ 32.66	$ 34.36	$ 34.90	$ 36.66	$ 37.70	$ 37.65	$ 40.09	$ 40.72	$ 41.32	$ 40.26
3/16/2014	pm	$ 38.86	$ 37.86	$ 36.82	$ 37.29	$ 38.75	$ 41.58	$ 65.91	$ 70.62	$ 55.81	$ 45.76	$ 37.10	$ 42.01

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AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
3/17/2014	am	$ 40.92	$ 40.52	$ 40.34	$ 43.84	$ 62.30	$ 81.40	$ 114.80	$ 86.46	$ 81.38	$ 82.03	$ 76.87	$ 74.70
3/17/2014	pm	$ 76.54	$ 64.89	$ 53.41	$ 53.41	$ 54.18	$ 56.70	$ 74.68	$ 79.86	$ 60.60	$ 47.15	$ 41.23	$ 37.77
3/18/2014	am	$ 37.02	$ 37.28	$ 37.40	$ 39.37	$ 42.10	$ 67.76	$ 121.15	$ 69.42	$ 61.06	$ 59.16	$ 57.74	$ 49.78
3/18/2014	pm	$ 45.28	$ 41.12	$ 39.88	$ 39.10	$ 39.31	$ 38.66	$ 44.97	$ 47.89	$ 42.21	$ 36.70	$ 33.78	$ 32.51
3/19/2014	am	$ 32.73	$ 32.73	$ 32.49	$ 33.73	$ 37.10	$ 45.29	$ 49.43	$ 47.71	$ 49.12	$ 50.11	$ 46.91	$ 43.49
3/19/2014	pm	$ 40.55	$ 38.77	$ 38.12	$ 37.84	$ 37.90	$ 38.69	$ 40.38	$ 41.97	$ 39.49	$ 35.69	$ 32.12	$ 30.41
3/20/2014	am	$ 30.19	$ 29.96	$ 30.12	$ 30.33	$ 32.48	$ 40.37	$ 56.38	$ 47.44	$ 46.61	$ 44.13	$ 42.31	$ 39.78
3/20/2014	pm	$ 37.57	$ 36.65	$ 35.12	$ 35.46	$ 36.68	$ 37.36	$ 46.78	$ 52.22	$ 46.63	$ 36.38	$ 32.04	$ 31.96
3/21/2014	am	$ 31.15	$ 30.67	$ 30.69	$ 31.07	$ 32.30	$ 40.72	$ 66.24	$ 44.73	$ 41.62	$ 42.09	$ 38.80	$ 36.84
3/21/2014	pm	$ 34.84	$ 32.83	$ 31.67	$ 31.00	$ 31.64	$ 32.21	$ 33.50	$ 38.97	$ 34.93	$ 31.94	$ 29.80	$ 31.61
3/22/2014	am	$ 31.27	$ 30.30	$ 29.58	$ 29.45	$ 30.49	$ 30.56	$ 32.05	$ 34.20	$ 37.06	$ 37.75	$ 38.53	$ 35.58
3/22/2014	pm	$ 33.50	$ 32.06	$ 31.75	$ 31.26	$ 32.16	$ 33.07	$ 38.60	$ 41.96	$ 39.71	$ 34.78	$ 31.30	$ 32.07
3/23/2014	am	$ 30.47	$ 29.82	$ 29.90	$ 30.00	$ 30.51	$ 31.08	$ 32.61	$ 35.96	$ 40.50	$ 42.14	$ 41.45	$ 38.25
3/23/2014	pm	$ 36.00	$ 33.57	$ 33.12	$ 32.48	$ 34.87	$ 37.76	$ 54.84	$ 68.33	$ 51.63	$ 42.61	$ 36.81	$ 35.85
3/24/2014	am	$ 35.77	$ 35.76	$ 35.81	$ 38.00	$ 55.77	$ 83.21	$ 122.50	$ 96.67	$ 88.04	$ 79.09	$ 71.65	$ 69.25
3/24/2014	pm	$ 62.17	$ 51.63	$ 48.08	$ 46.92	$ 50.04	$ 60.83	$ 92.36	$ 97.70	$ 80.24	$ 54.80	$ 42.43	$ 42.91
3/25/2014	am	$ 37.92	$ 36.98	$ 39.37	$ 42.64	$ 53.80	$ 69.68	$ 86.51	$ 86.95	$ 80.02	$ 89.56	$ 74.53	$ 68.52
3/25/2014	pm	$ 61.19	$ 51.90	$ 49.60	$ 47.73	$ 50.24	$ 51.91	$ 69.92	$ 100.68	$ 67.78	$ 52.29	$ 44.37	$ 65.73
3/26/2014	am	$ 53.79	$ 49.48	$ 51.55	$ 59.03	$ 78.91	$ 106.01	$ 133.22	$ 108.15	$ 93.55	$ 81.63	$ 77.36	$ 78.87
3/26/2014	pm	$ 68.16	$ 58.40	$ 53.81	$ 52.93	$ 54.08	$ 54.41	$ 72.14	$ 101.01	$ 84.06	$ 60.95	$ 58.94	$ 42.99
3/27/2014	am	$ 41.53	$ 40.55	$ 40.93	$ 45.06	$ 57.43	$ 92.52	$ 112.72	$ 68.94	$ 73.08	$ 53.14	$ 51.52	$ 45.01
3/27/2014	pm	$ 39.65	$ 37.55	$ 35.97	$ 35.56	$ 35.77	$ 35.91	$ 41.13	$ 41.51	$ 38.00	$ 34.51	$ 33.02	$ 32.68
3/28/2014	am	$ 31.91	$ 32.02	$ 31.64	$ 32.88	$ 35.09	$ 46.43	$ 47.89	$ 47.39	$ 47.78	$ 44.01	$ 43.41	$ 42.49
3/28/2014	pm	$ 41.96	$ 40.17	$ 39.19	$ 36.75	$ 36.44	$ 36.00	$ 41.97	$ 45.92	$ 38.81	$ 35.02	$ 31.43	$ 32.63
3/29/2014	am	$ 31.87	$ 31.59	$ 31.96	$ 31.51	$ 32.30	$ 33.41	$ 33.91	$ 38.23	$ 48.19	$ 47.19	$ 46.45	$ 43.56
3/29/2014	pm	$ 38.96	$ 35.58	$ 34.49	$ 34.68	$ 35.47	$ 37.00	$ 43.90	$ 50.72	$ 42.12	$ 35.68	$ 33.39	$ 31.79
3/30/2014	am	$ 30.80	$ 30.36	$ 29.91	$ 29.63	$ 30.92	$ 31.89	$ 32.45	$ 34.06	$ 35.59	$ 38.07	$ 37.40	$ 36.08
3/30/2014	pm	$ 34.47	$ 33.43	$ 32.38	$ 32.62	$ 33.51	$ 34.17	$ 42.16	$ 61.26	$ 39.44	$ 35.52	$ 32.61	$ 31.08
3/31/2014	am	$ 30.41	$ 30.48	$ 30.99	$ 32.70	$ 37.81	$ 66.41	$ 89.42	$ 58.99	$ 54.52	$ 43.59	$ 41.96	$ 40.57
3/31/2014	pm	$ 39.38	$ 37.89	$ 35.73	$ 35.52	$ 35.48	$ 35.74	$ 40.94	$ 45.96	$ 40.25	$ 33.75	$ 31.08	$ 30.16
4/1/2014	am	$ 29.81	$ 30.35	$ 30.25	$ 31.14	$ 36.11	$ 61.89	$ 74.53	$ 58.11	$ 58.03	$ 54.50	$ 53.12	$ 42.02
4/1/2014	pm	$ 41.33	$ 39.30	$ 39.19	$ 38.85	$ 39.30	$ 39.94	$ 55.20	$ 79.01	$ 46.97	$ 36.57	$ 31.84	$ 30.69
4/2/2014	am	$ 29.19	$ 28.41	$ 29.19	$ 30.83	$ 35.64	$ 47.29	$ 58.87	$ 57.72	$ 56.45	$ 54.88	$ 50.28	$ 48.22
4/2/2014	pm	$ 50.54	$ 46.26	$ 44.90	$ 43.16	$ 43.68	$ 39.46	$ 42.80	$ 65.72	$ 44.09	$ 35.58	$ 31.79	$ 29.46
4/3/2014	am	$ 28.82	$ 28.77	$ 28.55	$ 29.24	$ 32.73	$ 41.50	$ 49.31	$ 49.72	$ 48.49	$ 45.98	$ 44.45	$ 43.95
4/3/2014	pm	$ 42.78	$ 42.02	$ 40.84	$ 40.81	$ 40.55	$ 38.86	$ 42.88	$ 57.74	$ 43.71	$ 35.01	$ 30.19	$ 28.84
4/4/2014	am	$ 28.21	$ 28.02	$ 27.87	$ 28.47	$ 31.58	$ 38.42	$ 43.03	$ 42.77	$ 49.40	$ 46.77	$ 46.61	$ 45.57
4/4/2014	pm	$ 45.17	$ 40.93	$ 39.37	$ 37.17	$ 36.66	$ 35.96	$ 39.11	$ 42.86	$ 37.15	$ 35.80	$ 31.62	$ 30.28
4/5/2014	am	$ 29.59	$ 28.38	$ 28.22	$ 28.17	$ 29.31	$ 32.25	$ 33.56	$ 36.03	$ 41.14	$ 41.61	$ 40.48	$ 35.74
4/5/2014	pm	$ 34.06	$ 33.48	$ 33.36	$ 33.24	$ 33.35	$ 33.87	$ 40.16	$ 48.57	$ 42.15	$ 35.67	$ 32.93	$ 33.40
4/6/2014	am	$ 33.60	$ 32.79	$ 32.67	$ 32.00	$ 32.75	$ 33.46	$ 33.69	$ 40.78	$ 42.24	$ 40.68	$ 36.71	$ 34.20
4/6/2014	pm	$ 33.28	$ 32.84	$ 32.70	$ 32.64	$ 32.68	$ 33.27	$ 42.33	$ 57.80	$ 41.43	$ 32.99	$ 31.51	$ 30.04
4/7/2014	am	$ 29.50	$ 28.66	$ 28.91	$ 29.75	$ 36.04	$ 48.00	$ 52.68	$ 49.09	$ 48.67	$ 52.52	$ 55.50	$ 45.43
4/7/2014	pm	$ 43.67	$ 41.06	$ 38.24	$ 38.90	$ 38.30	$ 37.79	$ 43.22	$ 50.34	$ 41.55	$ 33.79	$ 29.94	$ 29.73
4/8/2014	am	$ 28.98	$ 28.25	$ 28.31	$ 29.17	$ 31.51	$ 44.59	$ 45.62	$ 47.51	$ 47.46	$ 47.47	$ 46.71	$ 42.33
4/8/2014	pm	$ 41.75	$ 38.95	$ 36.82	$ 36.35	$ 36.42	$ 37.09	$ 41.16	$ 59.40	$ 42.57	$ 34.23	$ 31.10	$ 30.54
4/9/2014	am	$ 29.71	$ 29.91	$ 30.15	$ 30.98	$ 35.97	$ 53.84	$ 50.70	$ 47.68	$ 44.76	$ 43.75	$ 43.20	$ 40.26
4/9/2014	pm	$ 38.47	$ 36.52	$ 34.94	$ 34.81	$ 35.32	$ 36.67	$ 39.99	$ 44.56	$ 40.27	$ 34.26	$ 30.61	$ 29.50
4/10/2014	am	$ 29.47	$ 29.10	$ 29.11	$ 29.83	$ 32.32	$ 44.18	$ 43.82	$ 43.07	$ 42.42	$ 42.36	$ 39.85	$ 38.83
4/10/2014	pm	$ 38.53	$ 37.50	$ 36.97	$ 36.31	$ 36.43	$ 36.24	$ 39.81	$ 42.85	$ 43.29	$ 34.38	$ 30.02	$ 28.43

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
4/11/2014	am	$ 28.04	$ 27.38	$ 26.93	$ 27.87	$ 30.01	$ 36.10	$ 38.40	$ 39.64	$ 39.77	$ 39.54	$ 39.03	$ 37.98
4/11/2014	pm	$ 37.48	$ 37.13	$ 36.70	$ 36.56	$ 35.74	$ 34.27	$ 37.60	$ 41.19	$ 41.57	$ 32.86	$ 30.92	$ 30.35
4/12/2014	am	$ 28.71	$ 28.82	$ 28.62	$ 28.75	$ 29.35	$ 30.90	$ 32.60	$ 34.65	$ 38.85	$ 39.24	$ 37.02	$ 36.58
4/12/2014	pm	$ 35.05	$ 34.23	$ 34.38	$ 34.68	$ 35.44	$ 35.02	$ 39.43	$ 47.90	$ 39.65	$ 33.56	$ 30.04	$ 28.96
4/13/2014	am	$ 27.51	$ 26.12	$ 25.86	$ 25.37	$ 25.80	$ 26.50	$ 28.40	$ 31.04	$ 31.79	$ 33.56	$ 34.07	$ 34.88
4/13/2014	pm	$ 35.28	$ 35.79	$ 36.27	$ 36.56	$ 37.14	$ 37.32	$ 41.38	$ 67.24	$ 40.63	$ 34.57	$ 31.31	$ 29.53
4/14/2014	am	$ 28.18	$ 27.81	$ 27.46	$ 27.92	$ 29.71	$ 36.69	$ 39.03	$ 41.49	$ 45.71	$ 49.16	$ 47.93	$ 49.18
4/14/2014	pm	$ 51.37	$ 49.13	$ 46.90	$ 46.24	$ 43.07	$ 39.87	$ 43.69	$ 68.08	$ 46.15	$ 34.99	$ 31.64	$ 31.12
4/15/2014	am	$ 30.05	$ 29.58	$ 29.33	$ 30.33	$ 35.40	$ 51.15	$ 56.72	$ 54.03	$ 60.34	$ 55.59	$ 54.68	$ 53.87
4/15/2014	pm	$ 53.50	$ 51.85	$ 53.18	$ 53.93	$ 51.47	$ 51.72	$ 55.45	$ 71.22	$ 55.37	$ 52.04	$ 43.70	$ 36.69
4/16/2014	am	$ 34.93	$ 35.54	$ 35.80	$ 37.26	$ 48.61	$ 58.28	$ 76.61	$ 62.07	$ 52.49	$ 49.32	$ 47.94	$ 46.24
4/16/2014	pm	$ 41.44	$ 39.15	$ 37.07	$ 37.15	$ 37.13	$ 38.45	$ 43.25	$ 49.14	$ 46.04	$ 39.67	$ 34.01	$ 34.29
4/17/2014	am	$ 33.76	$ 33.49	$ 33.88	$ 34.64	$ 40.82	$ 54.91	$ 71.82	$ 54.30	$ 47.72	$ 47.21	$ 44.80	$ 41.67
4/17/2014	pm	$ 39.19	$ 36.76	$ 35.55	$ 34.76	$ 34.97	$ 35.48	$ 38.05	$ 45.14	$ 44.46	$ 35.66	$ 33.31	$ 33.63
4/18/2014	am	$ 33.17	$ 32.38	$ 32.27	$ 33.05	$ 37.06	$ 42.77	$ 54.40	$ 57.42	$ 54.84	$ 49.58	$ 49.49	$ 47.25
4/18/2014	pm	$ 47.03	$ 41.93	$ 39.25	$ 38.74	$ 38.21	$ 37.67	$ 42.36	$ 52.50	$ 49.28	$ 39.18	$ 37.39	$ 34.50
4/19/2014	am	$ 32.14	$ 31.36	$ 30.92	$ 30.67	$ 30.99	$ 32.26	$ 33.77	$ 37.87	$ 39.48	$ 38.23	$ 37.54	$ 36.31
4/19/2014	pm	$ 34.68	$ 33.48	$ 33.06	$ 32.82	$ 33.02	$ 32.91	$ 37.62	$ 41.23	$ 39.63	$ 33.67	$ 31.29	$ 31.13
4/20/2014	am	$ 30.82	$ 29.71	$ 29.33	$ 29.08	$ 29.88	$ 30.17	$ 31.00	$ 32.06	$ 33.64	$ 33.98	$ 32.98	$ 32.78
4/20/2014	pm	$ 32.49	$ 32.00	$ 31.49	$ 31.70	$ 31.91	$ 32.10	$ 34.08	$ 39.38	$ 37.14	$ 33.90	$ 31.42	$ 30.37
4/21/2014	am	$ 28.96	$ 28.75	$ 28.89	$ 29.52	$ 34.67	$ 47.18	$ 51.22	$ 50.67	$ 59.37	$ 49.12	$ 47.85	$ 48.10
4/21/2014	pm	$ 48.15	$ 48.10	$ 47.04	$ 47.28	$ 45.38	$ 42.87	$ 44.40	$ 51.73	$ 46.96	$ 38.58	$ 34.48	$ 30.30
4/22/2014	am	$ 28.89	$ 28.16	$ 28.02	$ 28.48	$ 30.84	$ 36.83	$ 43.23	$ 44.66	$ 47.67	$ 48.06	$ 46.65	$ 46.71
4/22/2014	pm	$ 46.94	$ 45.46	$ 44.66	$ 43.94	$ 42.43	$ 40.86	$ 44.65	$ 47.14	$ 44.77	$ 36.99	$ 32.30	$ 31.93
4/23/2014	am	$ 31.21	$ 30.62	$ 30.38	$ 31.83	$ 35.42	$ 44.51	$ 50.06	$ 50.42	$ 52.57	$ 54.17	$ 48.64	$ 49.43
4/23/2014	pm	$ 48.37	$ 47.90	$ 45.00	$ 43.65	$ 43.90	$ 43.87	$ 44.85	$ 58.62	$ 49.47	$ 39.87	$ 34.40	$ 34.36
4/24/2014	am	$ 33.69	$ 33.35	$ 33.92	$ 34.77	$ 40.77	$ 51.75	$ 68.10	$ 64.89	$ 55.01	$ 53.10	$ 48.42	$ 48.64
4/24/2014	pm	$ 49.31	$ 47.58	$ 44.81	$ 43.15	$ 43.09	$ 41.94	$ 44.66	$ 54.22	$ 49.67	$ 38.82	$ 34.29	$ 34.57
4/25/2014	am	$ 33.19	$ 32.06	$ 31.84	$ 32.86	$ 35.46	$ 41.10	$ 46.90	$ 50.02	$ 53.47	$ 52.50	$ 51.45	$ 52.19
4/25/2014	pm	$ 50.85	$ 50.08	$ 45.68	$ 43.75	$ 41.25	$ 38.29	$ 39.62	$ 47.99	$ 44.72	$ 37.04	$ 33.46	$ 32.20
4/26/2014	am	$ 30.59	$ 28.86	$ 28.79	$ 28.87	$ 30.31	$ 31.95	$ 34.39	$ 40.14	$ 48.32	$ 49.36	$ 45.80	$ 44.54
4/26/2014	pm	$ 41.09	$ 38.31	$ 37.90	$ 37.91	$ 38.91	$ 38.85	$ 43.43	$ 54.13	$ 47.63	$ 36.20	$ 32.61	$ 31.85
4/27/2014	am	$ 30.20	$ 29.01	$ 28.74	$ 28.12	$ 28.86	$ 29.41	$ 31.63	$ 34.65	$ 35.99	$ 36.69	$ 36.12	$ 36.49
4/27/2014	pm	$ 36.24	$ 35.51	$ 35.28	$ 36.24	$ 37.36	$ 38.52	$ 43.74	$ 61.01	$ 46.15	$ 37.65	$ 33.19	$ 31.11
4/28/2014	am	$ 29.84	$ 29.20	$ 29.13	$ 30.36	$ 33.15	$ 53.60	$ 55.63	$ 57.25	$ 60.07	$ 64.61	$ 64.74	$ 61.28
4/28/2014	pm	$ 63.50	$ 59.71	$ 53.43	$ 53.77	$ 52.55	$ 48.02	$ 51.92	$ 60.47	$ 53.97	$ 41.76	$ 34.67	$ 31.12
4/29/2014	am	$ 28.53	$ 27.78	$ 27.60	$ 27.90	$ 32.20	$ 43.06	$ 49.42	$ 49.26	$ 53.48	$ 61.89	$ 57.14	$ 55.51
4/29/2014	pm	$ 53.42	$ 52.18	$ 48.21	$ 47.84	$ 46.71	$ 45.36	$ 46.72	$ 72.69	$ 54.56	$ 40.87	$ 34.52	$ 31.90
4/30/2014	am	$ 31.02	$ 30.26	$ 29.81	$ 30.44	$ 34.17	$ 49.03	$ 64.06	$ 56.77	$ 61.39	$ 65.03	$ 65.00	$ 61.18
4/30/2014	pm	$ 64.83	$ 65.41	$ 59.06	$ 56.90	$ 56.59	$ 53.89	$ 53.83	$ 66.58	$ 60.00	$ 45.24	$ 35.22	$ 32.37
5/1/2014	am	$ 31.28	$ 29.50	$ 28.55	$ 29.89	$ 33.91	$ 52.93	$ 54.50	$ 57.12	$ 56.99	$ 65.35	$ 63.13	$ 58.00
5/1/2014	pm	$ 55.67	$ 53.50	$ 52.64	$ 52.92	$ 53.21	$ 48.98	$ 50.54	$ 61.00	$ 55.14	$ 38.87	$ 32.91	$ 30.52
5/2/2014	am	$ 29.63	$ 28.72	$ 28.24	$ 28.99	$ 32.36	$ 41.48	$ 47.15	$ 48.99	$ 47.45	$ 47.39	$ 46.76	$ 47.15
5/2/2014	pm	$ 46.87	$ 44.83	$ 43.29	$ 41.70	$ 39.97	$ 38.93	$ 41.41	$ 47.19	$ 46.51	$ 35.84	$ 33.62	$ 32.16
5/3/2014	am	$ 31.33	$ 30.08	$ 29.61	$ 29.56	$ 30.56	$ 32.55	$ 34.49	$ 38.52	$ 43.94	$ 43.66	$ 43.60	$ 43.34
5/3/2014	pm	$ 40.71	$ 37.72	$ 36.80	$ 37.14	$ 37.90	$ 38.47	$ 38.70	$ 54.38	$ 47.56	$ 36.74	$ 32.44	$ 32.15
5/4/2014	am	$ 30.79	$ 28.60	$ 28.05	$ 28.21	$ 29.04	$ 29.28	$ 30.78	$ 34.38	$ 38.13	$ 36.85	$ 36.95	$ 38.25
5/4/2014	pm	$ 36.53	$ 36.03	$ 36.58	$ 37.74	$ 42.38	$ 41.45	$ 42.92	$ 72.49	$ 50.69	$ 40.42	$ 35.34	$ 31.86
5/5/2014	am	$ 30.75	$ 29.70	$ 29.41	$ 30.93	$ 35.76	$ 52.24	$ 51.99	$ 49.31	$ 52.41	$ 59.19	$ 55.39	$ 54.05
5/5/2014	pm	$ 54.92	$ 54.15	$ 52.91	$ 51.95	$ 50.10	$ 49.38	$ 49.42	$ 73.24	$ 51.87	$ 43.60	$ 36.25	$ 30.61

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
5/6/2014	am	$ 29.12	$ 28.20	$ 27.87	$ 29.10	$ 32.81	$ 47.07	$ 52.44	$ 54.42	$ 55.30	$ 56.26	$ 53.82	$ 53.86
5/6/2014	pm	$ 54.94	$ 53.61	$ 53.70	$ 53.98	$ 52.86	$ 49.35	$ 49.81	$ 59.68	$ 50.58	$ 40.20	$ 34.14	$ 28.48
5/7/2014	am	$ 27.42	$ 26.90	$ 26.66	$ 27.48	$ 29.69	$ 38.58	$ 40.47	$ 41.05	$ 42.18	$ 45.01	$ 46.31	$ 48.53
5/7/2014	pm	$ 51.89	$ 50.66	$ 52.02	$ 51.90	$ 50.69	$ 48.96	$ 46.73	$ 56.85	$ 51.26	$ 37.96	$ 31.62	$ 30.83
5/8/2014	am	$ 28.70	$ 27.83	$ 27.53	$ 28.16	$ 31.91	$ 40.51	$ 42.58	$ 45.64	$ 48.70	$ 53.43	$ 57.86	$ 52.87
5/8/2014	pm	$ 61.64	$ 67.29	$ 78.33	$ 77.19	$ 67.36	$ 57.11	$ 55.44	$ 59.60	$ 59.59	$ 46.39	$ 36.44	$ 32.04
5/9/2014	am	$ 30.12	$ 29.12	$ 28.13	$ 28.77	$ 32.12	$ 39.78	$ 44.06	$ 47.67	$ 53.79	$ 60.27	$ 65.97	$ 70.35
5/9/2014	pm	$ 65.44	$ 68.57	$ 69.07	$ 67.07	$ 52.18	$ 48.49	$ 46.35	$ 52.43	$ 52.78	$ 41.53	$ 34.22	$ 31.96
5/10/2014	am	$ 30.60	$ 28.94	$ 28.07	$ 28.09	$ 29.09	$ 29.93	$ 32.71	$ 35.75	$ 41.13	$ 45.30	$ 47.44	$ 47.68
5/10/2014	pm	$ 46.92	$ 46.30	$ 46.15	$ 45.16	$ 45.43	$ 42.93	$ 42.01	$ 45.44	$ 45.21	$ 37.62	$ 31.44	$ 29.65
5/11/2014	am	$ 27.33	$ 26.13	$ 25.28	$ 25.14	$ 25.30	$ 25.32	$ 27.41	$ 29.90	$ 31.44	$ 33.78	$ 35.59	$ 38.92
5/11/2014	pm	$ 40.16	$ 40.81	$ 40.79	$ 42.10	$ 43.37	$ 42.24	$ 41.85	$ 44.98	$ 42.17	$ 35.64	$ 30.58	$ 28.62
5/12/2014	am	$ 26.88	$ 26.11	$ 25.71	$ 26.14	$ 28.86	$ 35.02	$ 38.38	$ 44.61	$ 51.15	$ 55.68	$ 58.43	$ 53.98
5/12/2014	pm	$ 55.88	$ 62.39	$ 76.12	$ 80.56	$ 63.97	$ 56.88	$ 55.65	$ 61.26	$ 59.39	$ 51.20	$ 39.55	$ 32.04
5/13/2014	am	$ 29.57	$ 28.29	$ 27.79	$ 28.13	$ 31.17	$ 39.62	$ 44.57	$ 47.03	$ 58.58	$ 61.03	$ 61.84	$ 63.66
5/13/2014	pm	$ 71.31	$ 73.44	$ 75.30	$ 74.55	$ 64.95	$ 56.65	$ 52.30	$ 56.84	$ 54.68	$ 38.99	$ 33.84	$ 29.98
5/14/2014	am	$ 28.76	$ 28.04	$ 27.52	$ 27.83	$ 29.71	$ 35.47	$ 38.80	$ 42.15	$ 44.30	$ 47.04	$ 52.17	$ 52.57
5/14/2014	pm	$ 57.30	$ 57.54	$ 58.54	$ 58.18	$ 51.76	$ 44.95	$ 42.79	$ 47.69	$ 45.22	$ 36.32	$ 30.73	$ 29.90
5/15/2014	am	$ 28.43	$ 27.70	$ 27.55	$ 27.68	$ 29.87	$ 35.38	$ 37.88	$ 40.96	$ 44.63	$ 45.20	$ 49.50	$ 52.93
5/15/2014	pm	$ 55.19	$ 54.72	$ 52.53	$ 47.48	$ 46.02	$ 42.06	$ 41.18	$ 44.98	$ 43.74	$ 36.23	$ 31.36	$ 31.31
5/16/2014	am	$ 29.16	$ 28.24	$ 28.04	$ 28.45	$ 32.60	$ 40.79	$ 48.16	$ 48.05	$ 49.75	$ 49.55	$ 51.81	$ 50.78
5/16/2014	pm	$ 49.96	$ 47.12	$ 46.31	$ 44.10	$ 40.85	$ 39.52	$ 39.48	$ 45.32	$ 43.83	$ 37.02	$ 34.58	$ 30.38
5/17/2014	am	$ 29.55	$ 28.17	$ 27.63	$ 27.78	$ 28.91	$ 30.31	$ 32.79	$ 37.05	$ 42.31	$ 42.29	$ 42.01	$ 41.30
5/17/2014	pm	$ 40.59	$ 38.38	$ 35.87	$ 36.06	$ 36.67	$ 35.40	$ 35.85	$ 41.97	$ 41.33	$ 35.46	$ 30.55	$ 30.49
5/18/2014	am	$ 29.41	$ 28.50	$ 27.62	$ 27.60	$ 28.20	$ 28.76	$ 29.59	$ 31.14	$ 33.77	$ 33.81	$ 34.31	$ 34.50
5/18/2014	pm	$ 33.60	$ 32.70	$ 32.72	$ 33.20	$ 35.00	$ 35.52	$ 34.77	$ 46.32	$ 44.83	$ 33.81	$ 29.51	$ 28.00
5/19/2014	am	$ 27.08	$ 26.38	$ 26.01	$ 26.74	$ 29.40	$ 37.92	$ 43.10	$ 44.94	$ 45.74	$ 47.54	$ 47.78	$ 46.23
5/19/2014	pm	$ 47.89	$ 48.99	$ 47.85	$ 43.44	$ 42.71	$ 41.86	$ 39.68	$ 43.86	$ 45.66	$ 35.90	$ 30.53	$ 28.39
5/20/2014	am	$ 27.83	$ 27.25	$ 26.97	$ 27.56	$ 30.62	$ 36.70	$ 40.79	$ 41.24	$ 41.60	$ 44.02	$ 47.48	$ 49.42
5/20/2014	pm	$ 48.78	$ 49.00	$ 51.25	$ 54.46	$ 48.88	$ 49.69	$ 46.47	$ 48.03	$ 47.70	$ 38.63	$ 33.15	$ 29.54
5/21/2014	am	$ 27.69	$ 27.05	$ 26.76	$ 27.18	$ 29.13	$ 37.02	$ 40.00	$ 43.16	$ 48.72	$ 50.81	$ 50.91	$ 52.02
5/21/2014	pm	$ 58.20	$ 60.55	$ 66.11	$ 71.06	$ 64.70	$ 54.91	$ 52.47	$ 51.85	$ 52.56	$ 41.81	$ 34.03	$ 34.01
5/22/2014	am	$ 30.08	$ 28.63	$ 28.14	$ 28.69	$ 33.00	$ 45.23	$ 47.49	$ 52.55	$ 56.36	$ 57.56	$ 62.10	$ 64.23
5/22/2014	pm	$ 70.45	$ 73.95	$ 79.84	$ 74.64	$ 64.60	$ 58.51	$ 55.17	$ 58.46	$ 55.62	$ 45.29	$ 35.61	$ 31.92
5/23/2014	am	$ 29.44	$ 28.70	$ 28.03	$ 28.31	$ 31.06	$ 38.41	$ 41.09	$ 43.86	$ 46.84	$ 48.80	$ 50.54	$ 51.55
5/23/2014	pm	$ 53.18	$ 53.24	$ 53.75	$ 49.66	$ 45.95	$ 42.57	$ 37.20	$ 42.81	$ 41.28	$ 35.69	$ 30.04	$ 28.72
5/24/2014	am	$ 27.66	$ 26.15	$ 25.66	$ 25.72	$ 26.61	$ 27.33	$ 28.93	$ 30.74	$ 33.85	$ 35.63	$ 36.34	$ 36.26
5/24/2014	pm	$ 36.22	$ 36.16	$ 36.11	$ 35.82	$ 36.51	$ 35.93	$ 35.85	$ 35.42	$ 35.77	$ 32.62	$ 30.11	$ 28.66
5/25/2014	am	$ 27.65	$ 26.67	$ 25.29	$ 24.97	$ 24.89	$ 24.91	$ 27.57	$ 29.31	$ 30.86	$ 32.70	$ 33.68	$ 34.34
5/25/2014	pm	$ 35.51	$ 37.49	$ 39.33	$ 39.03	$ 39.13	$ 39.11	$ 38.61	$ 38.32	$ 38.96	$ 34.05	$ 30.19	$ 27.83
5/26/2014	am	$ 27.53	$ 26.89	$ 25.57	$ 25.02	$ 24.94	$ 25.22	$ 27.81	$ 28.83	$ 32.65	$ 37.44	$ 43.01	$ 49.24
5/26/2014	pm	$ 52.98	$ 52.44	$ 61.28	$ 65.98	$ 66.54	$ 51.84	$ 50.55	$ 52.70	$ 54.05	$ 45.47	$ 32.15	$ 28.43
5/27/2014	am	$ 27.29	$ 26.69	$ 26.28	$ 26.46	$ 27.95	$ 31.92	$ 37.94	$ 38.79	$ 45.82	$ 47.72	$ 50.82	$ 55.00
5/27/2014	pm	$ 64.83	$ 76.04	$ 80.65	$ 78.54	$ 69.85	$ 50.74	$ 49.47	$ 50.79	$ 47.82	$ 41.66	$ 32.03	$ 30.82
5/28/2014	am	$ 29.88	$ 29.21	$ 28.50	$ 28.70	$ 30.55	$ 38.62	$ 42.52	$ 43.96	$ 48.91	$ 52.75	$ 55.97	$ 57.95
5/28/2014	pm	$ 62.34	$ 65.95	$ 62.81	$ 57.85	$ 49.37	$ 50.00	$ 46.25	$ 48.67	$ 46.72	$ 37.16	$ 30.01	$ 30.15
5/29/2014	am	$ 29.23	$ 28.29	$ 27.42	$ 27.83	$ 29.52	$ 32.53	$ 36.84	$ 38.75	$ 41.91	$ 44.67	$ 44.37	$ 43.89
5/29/2014	pm	$ 44.12	$ 44.36	$ 44.16	$ 43.28	$ 42.95	$ 42.90	$ 39.47	$ 41.97	$ 40.38	$ 34.80	$ 30.44	$ 29.74
5/30/2014	am	$ 28.64	$ 28.51	$ 27.98	$ 28.48	$ 29.82	$ 35.24	$ 37.52	$ 41.30	$ 42.48	$ 48.52	$ 48.26	$ 48.56
5/30/2014	pm	$ 48.25	$ 50.63	$ 55.22	$ 51.08	$ 49.35	$ 46.20	$ 42.04	$ 44.45	$ 42.69	$ 35.67	$ 30.53	$ 29.30

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
5/31/2014	am	$ 28.18	$ 27.25	$ 26.37	$ 26.35	$ 27.59	$ 27.96	$ 28.83	$ 30.24	$ 32.39	$ 35.50	$ 39.95	$ 39.01
5/31/2014	pm	$ 38.00	$ 40.37	$ 40.77	$ 42.30	$ 42.29	$ 38.92	$ 38.19	$ 37.72	$ 37.80	$ 31.94	$ 29.15	$ 27.52
6/1/2014	am	$ 27.17	$ 25.24	$ 24.07	$ 23.98	$ 24.03	$ 23.39	$ 26.56	$ 28.56	$ 30.57	$ 31.59	$ 34.74	$ 36.80
6/1/2014	pm	$ 40.95	$ 41.82	$ 43.21	$ 46.26	$ 46.93	$ 42.82	$ 40.61	$ 43.02	$ 42.95	$ 31.45	$ 30.36	$ 27.86
6/2/2014	am	$ 27.55	$ 26.65	$ 25.88	$ 27.97	$ 29.49	$ 31.67	$ 34.37	$ 37.96	$ 44.29	$ 47.74	$ 53.03	$ 53.77
6/2/2014	pm	$ 58.58	$ 60.18	$ 74.13	$ 71.47	$ 60.35	$ 52.91	$ 52.47	$ 53.60	$ 49.03	$ 37.80	$ 31.60	$ 28.53
6/3/2014	am	$ 27.78	$ 26.99	$ 26.68	$ 27.47	$ 29.04	$ 32.46	$ 32.34	$ 34.70	$ 37.30	$ 41.37	$ 43.05	$ 49.50
6/3/2014	pm	$ 51.63	$ 58.10	$ 66.50	$ 66.87	$ 58.23	$ 52.38	$ 45.84	$ 43.72	$ 42.32	$ 36.66	$ 31.86	$ 30.03
6/4/2014	am	$ 28.65	$ 28.11	$ 27.16	$ 27.58	$ 29.24	$ 32.80	$ 32.05	$ 33.42	$ 38.80	$ 41.11	$ 42.12	$ 44.58
6/4/2014	pm	$ 46.83	$ 54.37	$ 62.03	$ 59.78	$ 54.19	$ 40.13	$ 37.70	$ 38.47	$ 40.15	$ 33.89	$ 30.40	$ 29.56
6/5/2014	am	$ 28.35	$ 27.24	$ 26.86	$ 27.56	$ 29.38	$ 32.32	$ 33.78	$ 35.66	$ 38.74	$ 41.39	$ 44.00	$ 43.11
6/5/2014	pm	$ 44.79	$ 45.36	$ 47.25	$ 45.83	$ 43.45	$ 42.54	$ 40.12	$ 40.17	$ 38.60	$ 31.43	$ 28.63	$ 27.42
6/6/2014	am	$ 26.87	$ 25.67	$ 25.50	$ 26.70	$ 28.03	$ 30.93	$ 31.61	$ 32.50	$ 34.52	$ 38.90	$ 42.68	$ 42.33
6/6/2014	pm	$ 43.10	$ 43.27	$ 48.62	$ 55.56	$ 51.70	$ 42.82	$ 41.18	$ 39.68	$ 38.88	$ 31.56	$ 29.99	$ 27.60
6/7/2014	am	$ 26.81	$ 25.56	$ 24.61	$ 24.76	$ 24.98	$ 25.52	$ 28.41	$ 29.66	$ 30.30	$ 32.38	$ 38.86	$ 40.09
6/7/2014	pm	$ 41.08	$ 40.97	$ 43.25	$ 48.70	$ 48.28	$ 41.09	$ 40.74	$ 40.44	$ 39.37	$ 30.45	$ 28.32	$ 28.05
6/8/2014	am	$ 26.92	$ 26.00	$ 25.47	$ 25.56	$ 25.66	$ 25.36	$ 28.10	$ 28.43	$ 29.94	$ 31.01	$ 33.22	$ 36.24
6/8/2014	pm	$ 37.48	$ 37.27	$ 37.19	$ 40.49	$ 41.27	$ 38.04	$ 37.48	$ 38.01	$ 39.62	$ 30.14	$ 29.16	$ 29.60
6/9/2014	am	$ 28.47	$ 28.10	$ 27.54	$ 28.11	$ 29.48	$ 31.96	$ 34.31	$ 37.96	$ 40.81	$ 47.34	$ 49.38	$ 48.73
6/9/2014	pm	$ 50.31	$ 53.48	$ 59.72	$ 58.93	$ 52.86	$ 48.79	$ 47.61	$ 43.18	$ 41.05	$ 33.83	$ 30.48	$ 30.40
6/10/2014	am	$ 29.01	$ 27.64	$ 26.91	$ 27.13	$ 29.16	$ 32.49	$ 34.02	$ 37.54	$ 39.12	$ 42.83	$ 46.70	$ 46.02
6/10/2014	pm	$ 47.32	$ 52.27	$ 57.61	$ 64.64	$ 52.61	$ 44.56	$ 45.25	$ 42.55	$ 42.53	$ 36.44	$ 32.78	$ 30.06
6/11/2014	am	$ 28.43	$ 27.83	$ 26.68	$ 27.29	$ 28.83	$ 30.96	$ 31.86	$ 34.07	$ 36.54	$ 43.04	$ 48.70	$ 46.93
6/11/2014	pm	$ 49.64	$ 51.52	$ 52.04	$ 55.83	$ 51.02	$ 47.33	$ 40.34	$ 39.30	$ 39.16	$ 33.15	$ 29.94	$ 27.93
6/12/2014	am	$ 27.02	$ 26.28	$ 25.17	$ 25.92	$ 27.57	$ 29.78	$ 30.70	$ 32.98	$ 35.62	$ 39.61	$ 41.71	$ 42.68
6/12/2014	pm	$ 42.93	$ 46.70	$ 50.40	$ 50.81	$ 43.67	$ 45.79	$ 41.40	$ 39.41	$ 38.82	$ 31.01	$ 29.43	$ 27.83
6/13/2014	am	$ 26.45	$ 24.62	$ 24.69	$ 25.32	$ 27.55	$ 29.34	$ 29.80	$ 31.56	$ 34.57	$ 37.20	$ 37.58	$ 37.58
6/13/2014	pm	$ 39.18	$ 39.98	$ 41.02	$ 43.06	$ 40.23	$ 37.13	$ 35.72	$ 34.49	$ 33.98	$ 30.13	$ 28.50	$ 29.82
6/14/2014	am	$ 28.95	$ 27.62	$ 26.43	$ 26.12	$ 26.51	$ 26.90	$ 27.91	$ 28.68	$ 30.16	$ 32.14	$ 33.17	$ 34.06
6/14/2014	pm	$ 34.52	$ 35.21	$ 34.76	$ 35.27	$ 35.81	$ 35.68	$ 34.49	$ 34.27	$ 33.76	$ 29.77	$ 28.61	$ 25.49
6/15/2014	am	$ 21.19	$ 18.59	$ 14.22	$ 13.04	$ 13.33	$ 13.15	$ 19.99	$ 24.88	$ 28.10	$ 28.87	$ 29.45	$ 30.20
6/15/2014	pm	$ 31.99	$ 34.17	$ 37.05	$ 37.04	$ 41.14	$ 38.50	$ 37.85	$ 37.82	$ 37.97	$ 29.72	$ 29.07	$ 28.80
6/16/2014	am	$ 27.63	$ 26.75	$ 26.01	$ 26.99	$ 28.59	$ 29.38	$ 31.03	$ 33.36	$ 37.87	$ 43.45	$ 46.61	$ 52.72
6/16/2014	pm	$ 52.94	$ 54.96	$ 68.26	$ 77.35	$ 68.27	$ 51.15	$ 50.27	$ 48.22	$ 44.42	$ 36.38	$ 30.10	$ 31.14
6/17/2014	am	$ 29.08	$ 28.30	$ 27.86	$ 28.22	$ 29.62	$ 31.38	$ 34.75	$ 39.21	$ 48.69	$ 61.35	$ 62.90	$ 63.24
6/17/2014	pm	$ 66.09	$ 78.00	$ 88.00	$ 100.00	$ 83.72	$ 66.46	$ 53.08	$ 59.39	$ 59.50	$ 47.01	$ 35.17	$ 34.02
6/18/2014	am	$ 31.49	$ 30.68	$ 29.75	$ 29.79	$ 31.04	$ 33.83	$ 37.91	$ 45.00	$ 60.22	$ 64.65	$ 69.82	$ 72.03
6/18/2014	pm	$ 81.35	$ 98.81	$ 112.51	$ 114.76	$ 94.26	$ 68.46	$ 64.72	$ 65.28	$ 61.56	$ 51.77	$ 39.09	$ 32.97
6/19/2014	am	$ 30.04	$ 29.49	$ 28.76	$ 28.92	$ 30.08	$ 32.75	$ 34.94	$ 39.78	$ 43.85	$ 50.22	$ 52.76	$ 55.21
6/19/2014	pm	$ 64.44	$ 67.69	$ 74.12	$ 72.87	$ 62.37	$ 54.63	$ 51.53	$ 50.65	$ 46.71	$ 39.23	$ 32.19	$ 29.31
6/20/2014	am	$ 27.84	$ 27.43	$ 26.10	$ 26.21	$ 28.14	$ 29.44	$ 30.30	$ 33.08	$ 35.45	$ 39.74	$ 42.43	$ 42.40
6/20/2014	pm	$ 49.59	$ 52.88	$ 56.16	$ 60.99	$ 53.94	$ 42.92	$ 40.85	$ 41.36	$ 39.10	$ 32.55	$ 28.29	$ 28.08
6/21/2014	am	$ 27.30	$ 25.39	$ 24.15	$ 23.36	$ 23.69	$ 24.18	$ 27.40	$ 28.77	$ 30.42	$ 32.80	$ 36.47	$ 38.32
6/21/2014	pm	$ 37.97	$ 37.01	$ 39.32	$ 41.77	$ 40.47	$ 37.63	$ 36.10	$ 36.10	$ 36.58	$ 29.91	$ 27.75	$ 26.79
6/22/2014	am	$ 24.23	$ 22.82	$ 21.18	$ 19.31	$ 18.10	$ 18.48	$ 23.02	$ 27.30	$ 28.73	$ 29.79	$ 32.38	$ 36.20
6/22/2014	pm	$ 41.09	$ 44.19	$ 43.12	$ 45.98	$ 50.38	$ 44.96	$ 44.83	$ 43.30	$ 44.54	$ 30.71	$ 28.53	$ 25.10
6/23/2014	am	$ 23.75	$ 22.93	$ 22.11	$ 22.64	$ 24.48	$ 26.31	$ 28.23	$ 30.67	$ 34.47	$ 40.90	$ 48.86	$ 47.34
6/23/2014	pm	$ 51.64	$ 54.49	$ 65.66	$ 77.22	$ 65.34	$ 46.73	$ 47.51	$ 47.35	$ 44.27	$ 33.70	$ 29.44	$ 27.48
6/24/2014	am	$ 26.46	$ 25.43	$ 24.85	$ 24.81	$ 25.85	$ 27.69	$ 29.97	$ 31.70	$ 37.53	$ 41.25	$ 47.70	$ 47.52
6/24/2014	pm	$ 51.85	$ 58.38	$ 66.98	$ 75.13	$ 60.52	$ 47.46	$ 46.25	$ 44.06	$ 41.14	$ 34.66	$ 30.39	$ 29.55

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
6/25/2014	am	28.07	27.15	26.28	26.46	27.68	29.72	30.59	32.85	37.18	41.91	44.92	48.54
6/25/2014	pm	51.63	54.41	60.76	61.21	53.77	47.48	39.95	38.83	37.80	34.29	30.25	29.54
6/26/2014	am	28.66	27.86	27.27	27.25	28.08	29.63	30.57	35.92	39.56	45.66	51.28	48.67
6/26/2014	pm	54.42	59.00	66.95	69.79	63.29	52.47	46.77	47.06	45.57	35.82	30.88	29.22
6/27/2014	am	28.08	26.99	26.05	25.74	26.60	27.58	28.98	32.23	37.04	44.97	49.15	51.60
6/27/2014	pm	55.39	59.45	68.34	69.49	56.68	53.82	48.21	42.42	41.44	32.51	30.64	28.55
6/28/2014	am	27.49	25.99	25.25	25.10	25.51	25.24	26.42	28.54	30.13	33.08	39.26	40.44
6/28/2014	pm	41.77	43.70	49.30	52.32	48.20	43.87	39.20	36.52	35.36	30.48	28.77	27.25
6/29/2014	am	26.07	24.71	22.53	21.96	21.65	22.12	24.77	27.07	28.42	30.77	34.24	38.57
6/29/2014	pm	40.30	40.30	44.92	49.77	47.44	40.13	39.82	37.02	37.51	30.04	27.99	27.32
6/30/2014	am	26.28	25.88	25.22	25.13	26.46	27.77	30.12	34.32	39.52	46.25	54.73	60.07
6/30/2014	pm	59.84	69.36	79.37	89.95	73.01	61.80	56.99	51.63	52.29	37.88	31.06	31.28
7/1/2014	am	29.25	28.50	27.73	27.82	29.64	29.05	31.35	38.15	46.49	53.74	58.68	57.37
7/1/2014	pm	65.91	76.68	87.77	95.68	76.69	60.20	55.94	56.73	55.76	45.21	37.06	30.73
7/2/2014	am	29.06	28.15	27.63	27.41	28.00	29.38	30.88	35.22	39.22	43.22	47.21	52.19
7/2/2014	pm	60.85	60.81	68.20	70.00	53.83	46.80	42.52	40.31	38.48	34.02	29.17	28.25
7/3/2014	am	27.17	25.94	25.44	25.33	25.50	26.55	28.50	30.47	32.99	37.45	41.39	42.02
7/3/2014	pm	44.44	48.06	48.66	46.68	42.33	38.24	35.13	34.07	33.49	30.61	27.30	25.71
7/4/2014	am	23.84	22.93	20.34	20.60	20.88	19.08	21.79	25.02	26.76	28.07	28.65	29.39
7/4/2014	pm	29.58	29.76	29.70	30.00	30.10	30.14	29.86	29.37	28.54	27.11	24.08	20.98
7/5/2014	am	18.96	18.00	8.86	7.81	8.36	8.10	16.00	22.41	25.46	27.43	28.60	29.20
7/5/2014	pm	29.94	30.19	31.00	32.21	32.50	31.46	30.37	29.89	29.29	27.44	24.20	21.72
7/6/2014	am	17.42	14.00	8.22	5.47	3.73	3.78	12.59	22.43	25.85	28.38	29.54	30.70
7/6/2014	pm	33.19	35.70	39.85	46.53	54.09	42.42	38.12	38.04	38.50	29.51	26.86	24.67
7/7/2014	am	22.35	21.34	19.96	20.57	22.64	24.51	27.93	30.59	34.81	38.97	41.98	47.53
7/7/2014	pm	48.70	53.33	65.74	76.54	65.56	51.39	50.65	48.36	45.20	33.30	29.24	28.10
7/8/2014	am	26.72	25.88	24.78	24.81	26.22	28.28	28.71	31.34	34.69	36.23	37.47	38.50
7/8/2014	pm	45.76	47.56	49.71	46.72	39.98	38.84	35.53	35.61	34.34	31.81	28.37	26.67
7/9/2014	am	25.62	24.73	23.73	23.78	24.87	26.59	27.20	29.55	31.82	32.84	36.36	39.42
7/9/2014	pm	38.49	40.67	41.96	41.16	39.12	40.44	38.27	35.15	33.49	30.35	26.93	26.26
7/10/2014	am	25.30	23.80	23.18	23.24	24.75	26.45	27.80	30.03	33.12	35.54	39.64	40.80
7/10/2014	pm	39.98	41.32	44.99	45.30	42.24	43.23	39.76	35.31	35.33	30.47	27.29	25.49
7/11/2014	am	23.93	23.04	22.30	22.56	24.10	26.32	27.35	29.31	31.17	33.42	38.87	40.07
7/11/2014	pm	40.36	46.12	54.12	53.98	45.62	40.21	37.73	35.37	34.16	30.22	27.29	26.53
7/12/2014	am	24.84	22.88	21.75	20.74	21.53	22.24	24.33	27.34	30.01	33.69	40.61	42.27
7/12/2014	pm	43.79	47.00	52.88	60.35	57.50	47.09	43.72	40.85	38.23	31.00	28.37	27.88
7/13/2014	am	25.73	23.68	22.70	22.40	22.36	21.63	24.19	27.11	29.52	31.91	38.16	42.46
7/13/2014	pm	42.01	48.84	51.74	56.54	52.91	48.52	43.41	40.82	39.02	32.06	28.93	28.27
7/14/2014	am	26.06	25.29	24.55	24.68	26.40	28.02	29.81	32.02	37.69	43.84	44.22	49.83
7/14/2014	pm	60.44	65.34	65.67	63.04	50.66	47.72	43.42	41.82	40.39	33.80	29.32	28.40
7/15/2014	am	26.88	26.10	25.46	25.45	26.75	28.43	28.55	33.67	36.55	39.06	39.64	41.20
7/15/2014	pm	44.75	44.40	44.13	42.20	42.83	40.25	37.63	36.85	35.90	31.11	28.95	27.10
7/16/2014	am	25.57	23.87	23.26	23.52	25.54	26.68	27.00	29.65	30.89	32.57	35.31	37.02
7/16/2014	pm	39.06	39.12	40.44	39.80	38.96	37.47	34.41	33.32	32.83	29.77	26.44	25.28
7/17/2014	am	23.25	21.97	20.75	22.12	24.49	27.00	28.53	30.50	31.16	35.14	38.65	40.77
7/17/2014	pm	40.84	41.43	48.41	56.72	48.03	40.38	40.59	37.49	36.45	29.96	27.85	23.68
7/18/2014	am	22.12	19.19	16.90	17.91	21.97	24.04	26.48	27.59	29.75	31.43	35.22	36.30
7/18/2014	pm	37.39	39.73	44.16	46.62	42.77	37.66	36.63	35.32	32.21	28.98	25.53	24.00
7/19/2014	am	22.12	19.67	18.09	17.00	18.59	20.00	23.27	26.20	28.39	30.01	31.39	32.65
7/19/2014	pm	33.01	33.53	33.59	34.83	35.57	33.33	33.01	31.88	31.80	28.51	25.41	23.13

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
7/20/2014	am	22.00	20.00	16.12	15.27	15.05	12.76	21.99	24.21	27.00	28.49	29.43	31.09
7/20/2014	pm	34.51	37.73	38.73	40.92	42.20	39.39	38.88	38.31	39.19	29.06	26.91	25.02
7/21/2014	am	24.05	22.88	22.15	22.68	25.40	26.56	28.07	30.71	34.50	38.37	40.84	45.14
7/21/2014	pm	45.68	52.10	59.10	64.89	64.84	47.13	43.47	43.87	41.11	33.82	29.23	26.80
7/22/2014	am	25.28	24.34	23.56	24.00	25.37	27.47	28.68	30.81	35.22	41.73	45.41	51.58
7/22/2014	pm	51.59	59.16	71.61	77.25	68.80	53.42	47.87	46.64	46.75	39.71	31.32	27.30
7/23/2014	am	26.01	24.63	24.11	24.14	25.47	27.06	29.00	30.93	32.96	36.60	36.14	36.81
7/23/2014	pm	41.14	45.13	44.50	45.34	37.49	31.98	31.48	31.91	31.61	30.70	27.10	26.24
7/24/2014	am	25.53	24.35	23.78	23.94	24.95	26.63	26.95	28.27	30.11	33.08	37.11	38.22
7/24/2014	pm	40.60	41.18	42.47	40.70	38.93	37.98	34.02	32.40	31.58	27.26	25.28	24.03
7/25/2014	am	22.80	20.87	19.88	21.05	23.07	25.00	26.38	27.16	29.11	30.92	34.57	37.14
7/25/2014	pm	37.99	39.28	42.80	44.89	42.91	38.18	35.29	33.84	31.58	28.17	26.16	25.55
7/26/2014	am	22.46	20.14	16.40	16.01	16.96	17.37	24.07	26.88	29.04	30.29	31.90	36.47
7/26/2014	pm	36.89	39.65	45.43	49.16	50.57	43.82	39.64	38.04	36.41	31.38	28.25	26.94
7/27/2014	am	25.60	24.22	22.79	22.27	22.26	21.94	23.78	26.14	28.50	30.20	32.63	35.25
7/27/2014	pm	37.40	36.86	36.62	40.20	39.99	37.67	37.78	36.32	35.59	31.05	27.59	25.80
7/28/2014	am	23.88	22.77	22.20	22.78	24.30	26.21	27.36	28.30	30.73	31.80	32.58	33.35
7/28/2014	pm	35.83	36.77	37.53	37.02	33.17	32.44	32.37	31.46	31.08	27.75	25.29	23.68
7/29/2014	am	20.80	17.26	15.82	17.41	22.15	24.17	25.00	26.14	27.25	28.87	30.24	30.67
7/29/2014	pm	30.69	31.19	33.27	35.08	33.19	30.73	30.30	29.75	29.27	26.53	24.39	22.64
7/30/2014	am	19.85	15.78	14.25	15.34	21.97	24.30	25.02	26.03	27.62	29.21	30.34	31.89
7/30/2014	pm	33.39	33.85	32.81	36.70	36.22	32.33	31.66	30.96	30.63	27.68	24.39	24.53
7/31/2014	am	22.33	20.00	18.00	19.52	23.53	25.11	26.42	27.20	29.10	32.07	34.92	36.47
7/31/2014	pm	37.68	41.48	43.47	52.28	45.96	38.17	36.36	36.32	34.85	29.03	26.60	26.37
8/1/2014	am	25.12	24.11	23.56	23.91	25.33	26.73	27.36	28.73	30.65	35.36	38.14	38.86
8/1/2014	pm	37.87	42.07	41.06	42.25	39.00	35.04	33.83	33.79	32.43	29.64	27.08	25.81
8/2/2014	am	24.84	23.63	22.52	22.03	22.90	23.81	25.24	26.91	28.50	29.89	32.29	35.87
8/2/2014	pm	35.97	35.91	35.88	35.46	34.98	33.09	33.78	33.32	32.40	29.12	26.39	24.94
8/3/2014	am	22.40	20.00	17.51	16.91	17.04	15.20	20.09	24.69	26.92	27.98	30.25	32.18
8/3/2014	pm	36.11	37.24	37.57	41.95	41.74	38.52	38.40	39.39	40.39	31.10	27.95	26.51
8/4/2014	am	25.44	24.28	23.62	24.07	25.36	27.61	29.00	31.93	33.16	37.20	39.79	40.25
8/4/2014	pm	43.76	52.28	55.08	65.15	56.59	43.51	45.00	43.66	40.25	32.18	29.58	27.27
8/5/2014	am	25.60	23.94	23.18	23.56	25.28	27.78	29.15	31.02	33.94	39.85	43.90	44.96
8/5/2014	pm	46.63	47.73	61.88	70.27	51.40	44.21	42.53	44.08	41.02	32.73	29.75	27.61
8/6/2014	am	26.09	24.63	23.94	24.10	25.68	27.96	28.52	30.50	32.04	37.53	40.77	42.23
8/6/2014	pm	43.68	47.60	48.70	52.63	46.41	42.89	38.37	39.34	36.80	31.23	28.21	27.06
8/7/2014	am	25.55	24.25	23.30	23.61	25.26	27.22	27.69	29.50	31.54	34.41	37.58	39.69
8/7/2014	pm	40.91	45.12	51.91	56.55	54.15	43.20	39.21	39.11	35.16	31.33	27.97	26.19
8/8/2014	am	24.45	22.60	21.81	22.41	24.44	26.69	27.14	28.05	30.98	34.72	38.57	39.34
8/8/2014	pm	39.25	45.41	48.09	51.83	48.42	37.86	37.68	37.21	35.07	30.49	27.07	24.72
8/9/2014	am	22.55	20.93	18.46	17.54	19.77	20.52	23.71	25.91	27.54	30.00	32.46	36.31
8/9/2014	pm	35.89	36.14	38.04	40.51	38.95	36.19	34.22	33.48	30.94	28.01	25.64	25.22
8/10/2014	am	23.60	22.36	19.70	18.06	19.10	20.63	22.72	25.83	27.56	28.39	30.91	34.63
8/10/2014	pm	39.56	38.39	38.65	44.96	43.00	37.52	38.43	39.13	35.60	29.35	27.05	26.10
8/11/2014	am	24.07	22.74	21.82	22.72	24.68	26.81	27.56	29.30	31.86	34.79	37.63	39.87
8/11/2014	pm	40.44	45.32	47.69	50.16	43.88	40.58	37.94	40.08	35.39	30.23	27.83	26.43
8/12/2014	am	24.92	23.90	23.13	23.90	25.52	27.33	27.83	29.15	31.49	32.31	34.83	38.57
8/12/2014	pm	38.68	38.49	38.44	40.25	38.95	38.34	34.86	38.29	34.25	29.68	27.04	25.91
8/13/2014	am	24.51	23.19	22.60	23.00	24.87	26.77	27.21	28.35	30.25	32.29	34.59	37.19
8/13/2014	pm	37.53	41.41	43.28	45.14	39.37	36.91	34.71	37.00	34.27	28.52	26.81	24.50

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
8/14/2014	am	$ 22.55	$ 20.58	$ 18.78	$ 20.39	$ 23.28	$ 25.59	$ 26.23	$ 27.35	$ 29.15	$ 29.87	$ 33.58	$ 35.73
8/14/2014	pm	$ 35.55	$ 35.88	$ 38.84	$ 42.12	$ 39.18	$ 35.25	$ 35.06	$ 35.03	$ 31.98	$ 27.35	$ 25.21	$ 23.49
8/15/2014	am	$ 21.30	$ 16.73	$ 15.30	$ 16.34	$ 21.84	$ 24.42	$ 25.89	$ 27.12	$ 28.37	$ 29.59	$ 31.00	$ 33.00
8/15/2014	pm	$ 34.01	$ 34.05	$ 35.17	$ 39.27	$ 36.44	$ 33.09	$ 32.14	$ 32.66	$ 30.00	$ 26.78	$ 23.49	$ 23.32
8/16/2014	am	$ 21.13	$ 17.78	$ 14.77	$ 13.00	$ 14.73	$ 17.35	$ 20.10	$ 24.38	$ 25.71	$ 27.78	$ 28.92	$ 30.62
8/16/2014	pm	$ 33.04	$ 34.11	$ 34.72	$ 42.24	$ 44.19	$ 35.91	$ 34.30	$ 34.01	$ 33.12	$ 27.42	$ 25.08	$ 24.90
8/17/2014	am	$ 23.30	$ 21.76	$ 20.03	$ 18.96	$ 19.00	$ 20.08	$ 22.12	$ 25.63	$ 27.30	$ 28.54	$ 29.88	$ 31.96
8/17/2014	pm	$ 36.11	$ 39.31	$ 41.81	$ 47.00	$ 45.52	$ 43.22	$ 41.28	$ 42.61	$ 36.28	$ 29.61	$ 27.25	$ 26.06
8/18/2014	am	$ 23.71	$ 22.64	$ 22.11	$ 23.00	$ 24.93	$ 27.09	$ 28.04	$ 29.58	$ 31.92	$ 35.37	$ 36.33	$ 41.81
8/18/2014	pm	$ 42.43	$ 48.88	$ 48.37	$ 50.22	$ 47.85	$ 42.83	$ 37.80	$ 41.14	$ 35.02	$ 31.55	$ 28.19	$ 26.05
8/19/2014	am	$ 24.33	$ 22.85	$ 22.22	$ 22.37	$ 24.89	$ 26.88	$ 27.66	$ 28.54	$ 30.68	$ 32.17	$ 36.36	$ 40.80
8/19/2014	pm	$ 42.47	$ 45.71	$ 48.44	$ 54.97	$ 47.30	$ 42.15	$ 40.48	$ 41.23	$ 35.39	$ 30.16	$ 27.59	$ 26.33
8/20/2014	am	$ 24.74	$ 23.45	$ 22.54	$ 22.79	$ 25.38	$ 26.85	$ 28.32	$ 29.17	$ 31.45	$ 33.63	$ 36.28	$ 39.92
8/20/2014	pm	$ 41.54	$ 48.08	$ 51.79	$ 59.45	$ 48.96	$ 43.53	$ 40.04	$ 41.60	$ 35.61	$ 31.08	$ 27.68	$ 26.57
8/21/2014	am	$ 24.87	$ 22.88	$ 22.31	$ 22.52	$ 25.61	$ 27.62	$ 28.48	$ 29.90	$ 32.65	$ 35.26	$ 37.86	$ 42.73
8/21/2014	pm	$ 44.79	$ 47.44	$ 50.76	$ 56.07	$ 49.20	$ 47.28	$ 42.95	$ 43.88	$ 37.62	$ 30.96	$ 27.95	$ 27.77
8/22/2014	am	$ 26.56	$ 25.49	$ 24.68	$ 24.96	$ 26.28	$ 28.45	$ 29.70	$ 31.82	$ 35.84	$ 36.63	$ 42.34	$ 43.91
8/22/2014	pm	$ 48.99	$ 55.60	$ 59.45	$ 62.40	$ 53.43	$ 48.01	$ 44.61	$ 43.86	$ 38.99	$ 33.38	$ 29.62	$ 27.43
8/23/2014	am	$ 26.50	$ 25.08	$ 23.77	$ 23.28	$ 23.78	$ 24.64	$ 25.40	$ 27.02	$ 28.55	$ 30.83	$ 34.52	$ 38.50
8/23/2014	pm	$ 38.95	$ 39.49	$ 42.57	$ 44.69	$ 40.57	$ 37.77	$ 35.63	$ 34.65	$ 30.90	$ 28.64	$ 26.77	$ 24.73
8/24/2014	am	$ 24.00	$ 22.90	$ 20.90	$ 20.01	$ 20.13	$ 20.53	$ 21.53	$ 24.51	$ 26.99	$ 28.27	$ 29.37	$ 31.30
8/24/2014	pm	$ 35.06	$ 35.39	$ 36.81	$ 47.02	$ 44.52	$ 34.32	$ 34.56	$ 34.62	$ 32.55	$ 28.26	$ 26.56	$ 25.16
8/25/2014	am	$ 24.45	$ 22.68	$ 22.14	$ 22.49	$ 24.71	$ 26.63	$ 27.13	$ 28.95	$ 31.14	$ 33.63	$ 39.85	$ 44.05
8/25/2014	pm	$ 43.80	$ 48.69	$ 57.94	$ 68.53	$ 55.74	$ 44.67	$ 44.26	$ 44.15	$ 37.20	$ 31.85	$ 28.38	$ 26.17
8/26/2014	am	$ 24.28	$ 22.60	$ 21.50	$ 21.89	$ 24.31	$ 27.34	$ 27.34	$ 28.83	$ 30.61	$ 33.50	$ 39.99	$ 43.27
8/26/2014	pm	$ 45.37	$ 50.37	$ 59.18	$ 68.00	$ 58.16	$ 46.81	$ 44.42	$ 44.39	$ 41.18	$ 30.53	$ 28.44	$ 26.72
8/27/2014	am	$ 25.39	$ 23.70	$ 22.59	$ 22.95	$ 24.51	$ 27.82	$ 27.98	$ 28.90	$ 30.59	$ 32.47	$ 35.40	$ 37.49
8/27/2014	pm	$ 40.26	$ 48.37	$ 53.99	$ 56.68	$ 45.98	$ 39.48	$ 35.88	$ 37.56	$ 35.12	$ 31.13	$ 28.35	$ 26.16
8/28/2014	am	$ 24.53	$ 22.80	$ 22.35	$ 22.38	$ 24.82	$ 27.69	$ 27.89	$ 28.88	$ 30.78	$ 31.91	$ 34.83	$ 36.51
8/28/2014	pm	$ 39.04	$ 43.31	$ 48.21	$ 51.14	$ 42.50	$ 37.60	$ 36.36	$ 36.31	$ 33.79	$ 28.41	$ 26.94	$ 24.38
8/29/2014	am	$ 22.62	$ 19.13	$ 17.11	$ 18.71	$ 22.73	$ 26.04	$ 26.71	$ 27.41	$ 29.15	$ 31.26	$ 34.07	$ 36.34
8/29/2014	pm	$ 39.32	$ 41.48	$ 47.81	$ 54.10	$ 46.52	$ 38.93	$ 35.60	$ 38.69	$ 32.94	$ 29.86	$ 27.09	$ 25.08
8/30/2014	am	$ 23.17	$ 20.21	$ 18.64	$ 16.79	$ 19.50	$ 20.60	$ 22.83	$ 25.52	$ 27.44	$ 28.48	$ 30.08	$ 32.81
8/30/2014	pm	$ 34.59	$ 36.34	$ 43.06	$ 47.81	$ 43.68	$ 35.23	$ 34.76	$ 35.56	$ 31.25	$ 28.67	$ 26.72	$ 26.21
8/31/2014	am	$ 25.15	$ 23.57	$ 21.42	$ 20.32	$ 20.41	$ 22.17	$ 22.87	$ 25.63	$ 27.30	$ 28.47	$ 31.41	$ 32.78
8/31/2014	pm	$ 36.59	$ 41.09	$ 44.28	$ 54.21	$ 52.07	$ 40.95	$ 38.33	$ 37.13	$ 34.78	$ 30.65	$ 27.66	$ 26.40
9/1/2014	am	$ 25.84	$ 24.89	$ 23.52	$ 22.61	$ 22.56	$ 23.53	$ 23.63	$ 26.09	$ 28.12	$ 29.83	$ 31.41	$ 31.84
9/1/2014	pm	$ 33.67	$ 34.71	$ 39.51	$ 47.72	$ 39.44	$ 36.49	$ 38.39	$ 39.95	$ 34.35	$ 30.17	$ 27.04	$ 26.47
9/2/2014	am	$ 25.46	$ 24.28	$ 23.36	$ 23.64	$ 25.55	$ 27.95	$ 28.20	$ 29.42	$ 31.36	$ 31.92	$ 34.22	$ 35.56
9/2/2014	pm	$ 40.76	$ 51.04	$ 55.00	$ 64.65	$ 46.71	$ 41.07	$ 35.49	$ 36.47	$ 33.78	$ 30.18	$ 27.40	$ 26.15
9/3/2014	am	$ 25.76	$ 25.17	$ 24.50	$ 24.74	$ 25.82	$ 28.79	$ 28.87	$ 29.73	$ 31.01	$ 32.55	$ 35.72	$ 40.66
9/3/2014	pm	$ 44.87	$ 47.80	$ 56.91	$ 68.08	$ 51.71	$ 44.21	$ 40.89	$ 41.52	$ 35.33	$ 30.25	$ 27.37	$ 25.63
9/4/2014	am	$ 24.60	$ 23.95	$ 22.94	$ 23.04	$ 24.52	$ 28.03	$ 28.32	$ 29.09	$ 32.27	$ 34.32	$ 40.54	$ 43.60
9/4/2014	pm	$ 45.20	$ 50.87	$ 60.49	$ 71.46	$ 54.72	$ 46.17	$ 44.30	$ 43.52	$ 40.11	$ 31.70	$ 27.86	$ 26.46
9/5/2014	am	$ 25.19	$ 23.92	$ 22.95	$ 23.23	$ 24.96	$ 28.40	$ 28.93	$ 29.90	$ 33.17	$ 37.67	$ 42.50	$ 44.73
9/5/2014	pm	$ 48.10	$ 54.43	$ 64.21	$ 64.86	$ 50.37	$ 42.83	$ 41.34	$ 42.64	$ 34.47	$ 31.50	$ 29.48	$ 27.28
9/6/2014	am	$ 26.08	$ 24.81	$ 23.89	$ 23.12	$ 23.68	$ 24.32	$ 24.84	$ 27.02	$ 30.18	$ 32.11	$ 32.31	$ 32.97
9/6/2014	pm	$ 33.01	$ 33.82	$ 34.80	$ 33.50	$ 31.64	$ 30.82	$ 30.67	$ 31.14	$ 30.08	$ 28.01	$ 26.17	$ 25.26
9/7/2014	am	$ 24.56	$ 22.68	$ 21.99	$ 21.37	$ 22.00	$ 22.61	$ 22.59	$ 25.53	$ 27.83	$ 28.56	$ 29.44	$ 29.77
9/7/2014	pm	$ 30.79	$ 31.20	$ 31.81	$ 32.16	$ 32.18	$ 32.09	$ 32.69	$ 33.66	$ 29.70	$ 27.64	$ 25.57	$ 23.61

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AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
9/8/2014	am	$ 23.10	$ 22.76	$ 22.38	$ 22.98	$ 24.95	$ 29.38	$ 29.91	$ 31.53	$ 36.69	$ 38.49	$ 40.65	$ 40.70
9/8/2014	pm	$ 42.55	$ 44.58	$ 47.89	$ 48.20	$ 45.71	$ 40.57	$ 40.76	$ 42.21	$ 37.65	$ 29.46	$ 26.64	$ 24.99
9/9/2014	am	$ 24.07	$ 23.35	$ 23.12	$ 23.75	$ 25.45	$ 29.39	$ 30.03	$ 31.92	$ 33.60	$ 35.35	$ 38.94	$ 41.45
9/9/2014	pm	$ 42.47	$ 46.21	$ 48.17	$ 53.35	$ 45.92	$ 41.03	$ 42.42	$ 39.81	$ 34.10	$ 28.84	$ 26.75	$ 25.93
9/10/2014	am	$ 25.56	$ 25.09	$ 24.65	$ 24.90	$ 26.50	$ 31.57	$ 31.21	$ 34.24	$ 39.15	$ 39.48	$ 41.73	$ 45.13
9/10/2014	pm	$ 49.40	$ 55.00	$ 64.53	$ 73.11	$ 53.76	$ 44.41	$ 50.05	$ 45.63	$ 37.91	$ 31.05	$ 29.00	$ 26.92
9/11/2014	am	$ 26.07	$ 25.69	$ 25.29	$ 25.58	$ 27.16	$ 31.82	$ 31.71	$ 34.66	$ 35.85	$ 36.22	$ 37.20	$ 37.87
9/11/2014	pm	$ 37.95	$ 40.74	$ 39.64	$ 40.41	$ 35.23	$ 33.49	$ 33.68	$ 36.06	$ 38.04	$ 31.30	$ 27.18	$ 25.26
9/12/2014	am	$ 24.50	$ 24.00	$ 23.04	$ 23.90	$ 25.64	$ 29.23	$ 28.78	$ 30.34	$ 34.39	$ 35.81	$ 36.10	$ 36.27
9/12/2014	pm	$ 35.36	$ 35.31	$ 36.04	$ 36.45	$ 34.44	$ 31.97	$ 35.19	$ 36.20	$ 30.63	$ 27.85	$ 25.69	$ 24.69
9/13/2014	am	$ 23.93	$ 24.01	$ 23.35	$ 23.49	$ 23.52	$ 24.26	$ 25.29	$ 27.70	$ 29.84	$ 31.35	$ 34.10	$ 32.33
9/13/2014	pm	$ 32.16	$ 32.02	$ 32.65	$ 32.35	$ 31.78	$ 32.06	$ 33.03	$ 33.66	$ 30.89	$ 27.52	$ 26.29	$ 24.04
9/14/2014	am	$ 22.64	$ 21.71	$ 20.80	$ 20.88	$ 21.47	$ 22.29	$ 23.01	$ 24.74	$ 26.88	$ 27.68	$ 27.90	$ 28.20
9/14/2014	pm	$ 28.81	$ 29.05	$ 30.98	$ 32.06	$ 31.77	$ 31.63	$ 37.61	$ 37.79	$ 30.47	$ 27.26	$ 25.08	$ 24.14
9/15/2014	am	$ 22.13	$ 20.75	$ 20.53	$ 22.29	$ 24.95	$ 29.61	$ 28.99	$ 29.92	$ 33.75	$ 35.65	$ 35.15	$ 36.73
9/15/2014	pm	$ 38.15	$ 39.54	$ 39.41	$ 40.68	$ 38.00	$ 34.83	$ 43.56	$ 42.07	$ 32.59	$ 28.21	$ 26.36	$ 24.83
9/16/2014	am	$ 24.10	$ 23.16	$ 22.35	$ 23.76	$ 25.84	$ 29.46	$ 30.53	$ 31.78	$ 33.79	$ 36.96	$ 36.40	$ 36.75
9/16/2014	pm	$ 38.21	$ 37.44	$ 39.38	$ 38.50	$ 36.00	$ 33.72	$ 36.71	$ 37.30	$ 31.89	$ 28.43	$ 25.97	$ 25.20
9/17/2014	am	$ 24.81	$ 24.20	$ 23.42	$ 24.62	$ 26.60	$ 31.90	$ 31.90	$ 33.95	$ 35.42	$ 37.76	$ 38.11	$ 38.56
9/17/2014	pm	$ 38.43	$ 38.03	$ 38.25	$ 38.88	$ 37.80	$ 35.02	$ 45.85	$ 43.79	$ 33.89	$ 29.42	$ 26.93	$ 24.86
9/18/2014	am	$ 24.18	$ 23.53	$ 22.38	$ 23.96	$ 26.01	$ 31.13	$ 30.93	$ 31.97	$ 35.22	$ 37.11	$ 37.43	$ 38.23
9/18/2014	pm	$ 39.52	$ 39.03	$ 39.97	$ 39.74	$ 37.36	$ 36.41	$ 47.26	$ 42.55	$ 33.06	$ 28.44	$ 25.96	$ 24.33
9/19/2014	am	$ 23.45	$ 22.72	$ 21.96	$ 22.79	$ 25.46	$ 29.49	$ 30.06	$ 31.37	$ 33.78	$ 35.39	$ 36.30	$ 35.77
9/19/2014	pm	$ 36.37	$ 36.66	$ 35.42	$ 36.06	$ 35.56	$ 33.26	$ 36.80	$ 35.31	$ 31.73	$ 28.06	$ 25.06	$ 24.06
9/20/2014	am	$ 23.23	$ 21.64	$ 19.57	$ 19.62	$ 22.07	$ 24.29	$ 26.03	$ 28.07	$ 29.20	$ 31.48	$ 34.32	$ 36.48
9/20/2014	pm	$ 37.20	$ 37.76	$ 37.86	$ 38.97	$ 38.23	$ 37.35	$ 44.01	$ 39.30	$ 35.30	$ 28.85	$ 26.36	$ 25.58
9/21/2014	am	$ 24.55	$ 24.03	$ 24.00	$ 23.86	$ 24.10	$ 24.03	$ 24.84	$ 27.51	$ 29.89	$ 31.97	$ 33.75	$ 35.68
9/21/2014	pm	$ 36.89	$ 37.30	$ 41.02	$ 45.81	$ 44.26	$ 40.97	$ 49.15	$ 47.19	$ 35.75	$ 29.98	$ 27.79	$ 26.21
9/22/2014	am	$ 25.08	$ 24.36	$ 23.88	$ 24.78	$ 27.35	$ 33.28	$ 33.81	$ 37.16	$ 38.79	$ 39.00	$ 40.26	$ 41.10
9/22/2014	pm	$ 42.38	$ 39.48	$ 38.16	$ 37.94	$ 35.95	$ 36.85	$ 46.43	$ 41.44	$ 35.08	$ 29.15	$ 27.38	$ 25.69
9/23/2014	am	$ 24.81	$ 24.27	$ 24.11	$ 25.05	$ 28.12	$ 37.65	$ 38.43	$ 36.71	$ 37.68	$ 38.63	$ 38.54	$ 38.43
9/23/2014	pm	$ 37.44	$ 38.11	$ 37.67	$ 38.08	$ 38.26	$ 36.51	$ 48.17	$ 43.30	$ 34.18	$ 28.78	$ 27.48	$ 24.76
9/24/2014	am	$ 23.61	$ 22.36	$ 22.03	$ 23.81	$ 26.69	$ 34.19	$ 31.95	$ 31.35	$ 33.63	$ 34.34	$ 35.44	$ 37.68
9/24/2014	pm	$ 36.94	$ 37.29	$ 36.91	$ 35.86	$ 37.09	$ 36.36	$ 47.26	$ 41.75	$ 32.82	$ 27.48	$ 25.95	$ 24.53
9/25/2014	am	$ 23.95	$ 23.19	$ 22.21	$ 23.86	$ 26.69	$ 32.85	$ 33.37	$ 33.75	$ 36.10	$ 38.89	$ 39.65	$ 39.73
9/25/2014	pm	$ 39.80	$ 39.57	$ 40.35	$ 40.30	$ 40.42	$ 39.22	$ 46.43	$ 41.18	$ 36.01	$ 29.23	$ 26.61	$ 25.58
9/26/2014	am	$ 24.74	$ 24.06	$ 23.23	$ 24.16	$ 27.34	$ 33.23	$ 32.57	$ 33.42	$ 36.49	$ 39.70	$ 42.41	$ 41.47
9/26/2014	pm	$ 44.42	$ 48.29	$ 47.71	$ 49.04	$ 42.81	$ 40.00	$ 43.06	$ 41.95	$ 34.31	$ 29.78	$ 27.65	$ 26.55
9/27/2014	am	$ 25.21	$ 24.71	$ 24.47	$ 24.26	$ 24.79	$ 25.93	$ 26.90	$ 29.03	$ 30.68	$ 33.42	$ 35.31	$ 37.79
9/27/2014	pm	$ 38.59	$ 38.68	$ 39.73	$ 41.50	$ 38.47	$ 37.94	$ 39.77	$ 38.82	$ 34.67	$ 29.69	$ 27.90	$ 25.64
9/28/2014	am	$ 24.28	$ 22.16	$ 21.37	$ 20.53	$ 21.43	$ 23.13	$ 24.30	$ 25.85	$ 27.61	$ 29.27	$ 31.35	$ 35.06
9/28/2014	pm	$ 36.55	$ 36.08	$ 38.92	$ 45.78	$ 45.04	$ 38.29	$ 54.04	$ 43.86	$ 35.18	$ 29.06	$ 27.17	$ 25.15
9/29/2014	am	$ 24.43	$ 23.75	$ 22.99	$ 23.97	$ 26.69	$ 34.31	$ 32.73	$ 35.73	$ 37.97	$ 42.57	$ 46.87	$ 47.25
9/29/2014	pm	$ 50.93	$ 51.98	$ 52.40	$ 52.33	$ 47.21	$ 43.77	$ 52.16	$ 45.67	$ 39.26	$ 29.17	$ 27.71	$ 26.34
9/30/2014	am	$ 25.31	$ 24.49	$ 23.66	$ 24.19	$ 26.94	$ 35.91	$ 35.11	$ 36.24	$ 38.91	$ 41.90	$ 44.17	$ 46.11
9/30/2014	pm	$ 45.09	$ 47.27	$ 45.90	$ 46.13	$ 43.18	$ 39.49	$ 49.92	$ 41.59	$ 36.87	$ 29.23	$ 26.97	$ 24.23
10/1/2014	am	$ 23.80	$ 22.85	$ 21.87	$ 22.23	$ 25.66	$ 30.69	$ 32.54	$ 30.70	$ 32.61	$ 35.31	$ 37.49	$ 37.66
10/1/2014	pm	$ 38.17	$ 36.92	$ 36.62	$ 36.12	$ 37.08	$ 37.13	$ 46.56	$ 38.66	$ 31.43	$ 27.11	$ 25.38	$ 24.53
10/2/2014	am	$ 24.36	$ 23.50	$ 22.76	$ 23.63	$ 26.06	$ 32.34	$ 33.75	$ 31.80	$ 34.90	$ 38.08	$ 40.65	$ 42.79
10/2/2014	pm	$ 43.85	$ 43.97	$ 46.96	$ 46.22	$ 43.12	$ 41.20	$ 49.80	$ 43.81	$ 34.43	$ 29.27	$ 26.52	$ 24.53

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
10/3/2014	am	$ 23.34	$ 22.22	$ 21.51	$ 22.48	$ 25.34	$ 30.85	$ 31.91	$ 32.75	$ 35.73	$ 39.75	$ 39.07	$ 38.35
10/3/2014	pm	$ 39.38	$ 38.64	$ 37.81	$ 38.63	$ 36.11	$ 35.04	$ 39.33	$ 37.16	$ 29.32	$ 28.26	$ 25.86	$ 27.08
10/4/2014	am	$ 25.95	$ 25.17	$ 24.41	$ 24.14	$ 24.86	$ 27.06	$ 27.72	$ 29.47	$ 35.90	$ 37.03	$ 36.86	$ 35.21
10/4/2014	pm	$ 32.62	$ 29.74	$ 29.33	$ 29.26	$ 29.29	$ 34.38	$ 37.27	$ 38.11	$ 30.73	$ 28.82	$ 27.26	$ 27.45
10/5/2014	am	$ 26.69	$ 26.10	$ 25.50	$ 25.47	$ 25.84	$ 27.59	$ 27.98	$ 29.48	$ 32.88	$ 32.35	$ 31.08	$ 29.88
10/5/2014	pm	$ 28.90	$ 28.14	$ 28.03	$ 28.34	$ 30.23	$ 39.16	$ 52.22	$ 41.62	$ 35.18	$ 28.95	$ 27.52	$ 25.46
10/6/2014	am	$ 24.42	$ 23.89	$ 23.75	$ 24.46	$ 27.53	$ 38.80	$ 41.13	$ 39.91	$ 40.33	$ 39.72	$ 39.36	$ 39.26
10/6/2014	pm	$ 39.50	$ 37.28	$ 35.52	$ 34.46	$ 34.12	$ 38.36	$ 52.75	$ 42.34	$ 35.19	$ 29.08	$ 27.06	$ 25.45
10/7/2014	am	$ 25.12	$ 24.55	$ 24.18	$ 24.79	$ 28.25	$ 40.29	$ 41.76	$ 42.52	$ 44.46	$ 50.11	$ 47.65	$ 44.50
10/7/2014	pm	$ 44.80	$ 44.26	$ 43.74	$ 43.03	$ 41.89	$ 45.25	$ 58.93	$ 47.19	$ 40.58	$ 30.48	$ 28.03	$ 25.61
10/8/2014	am	$ 25.04	$ 24.12	$ 23.98	$ 24.86	$ 27.76	$ 37.38	$ 36.71	$ 37.29	$ 39.18	$ 40.30	$ 40.59	$ 39.04
10/8/2014	pm	$ 36.97	$ 35.32	$ 33.59	$ 34.64	$ 32.77	$ 39.05	$ 57.49	$ 42.65	$ 35.84	$ 28.37	$ 26.22	$ 25.46
10/9/2014	am	$ 25.13	$ 24.58	$ 24.60	$ 25.23	$ 28.74	$ 42.07	$ 43.08	$ 39.91	$ 41.61	$ 41.43	$ 40.62	$ 39.96
10/9/2014	pm	$ 37.64	$ 38.52	$ 35.78	$ 35.14	$ 34.44	$ 43.02	$ 57.46	$ 45.61	$ 36.16	$ 29.80	$ 27.63	$ 25.53
10/10/2014	am	$ 24.49	$ 24.00	$ 23.84	$ 24.37	$ 28.14	$ 37.53	$ 43.31	$ 43.25	$ 43.17	$ 42.67	$ 41.56	$ 41.48
10/10/2014	pm	$ 40.84	$ 39.11	$ 35.82	$ 35.68	$ 35.53	$ 42.74	$ 52.87	$ 40.22	$ 33.08	$ 29.36	$ 27.29	$ 27.44
10/11/2014	am	$ 27.41	$ 26.06	$ 25.52	$ 25.35	$ 26.57	$ 28.10	$ 29.72	$ 32.92	$ 40.34	$ 40.59	$ 40.48	$ 38.18
10/11/2014	pm	$ 35.18	$ 33.80	$ 33.83	$ 34.30	$ 34.40	$ 41.13	$ 52.66	$ 41.59	$ 37.80	$ 30.22	$ 28.88	$ 27.02
10/12/2014	am	$ 25.35	$ 24.61	$ 24.24	$ 24.20	$ 24.88	$ 25.96	$ 27.50	$ 31.05	$ 34.35	$ 33.93	$ 33.78	$ 32.87
10/12/2014	pm	$ 31.80	$ 31.74	$ 30.78	$ 32.21	$ 33.21	$ 42.97	$ 62.11	$ 44.16	$ 36.15	$ 28.72	$ 26.85	$ 24.20
10/13/2014	am	$ 22.02	$ 21.81	$ 21.25	$ 21.94	$ 25.64	$ 33.45	$ 38.17	$ 36.26	$ 42.93	$ 43.41	$ 43.49	$ 42.37
10/13/2014	pm	$ 41.33	$ 40.26	$ 37.93	$ 39.83	$ 38.26	$ 46.52	$ 68.15	$ 41.19	$ 31.89	$ 28.15	$ 25.67	$ 25.20
10/14/2014	am	$ 24.24	$ 23.42	$ 22.54	$ 23.52	$ 27.59	$ 38.48	$ 45.50	$ 41.80	$ 44.42	$ 48.64	$ 49.89	$ 51.61
10/14/2014	pm	$ 49.84	$ 48.65	$ 46.52	$ 46.70	$ 44.48	$ 50.47	$ 71.72	$ 46.50	$ 37.45	$ 30.88	$ 26.94	$ 26.37
10/15/2014	am	$ 25.65	$ 24.88	$ 24.74	$ 25.31	$ 28.81	$ 43.65	$ 50.21	$ 43.42	$ 44.42	$ 47.18	$ 46.70	$ 44.83
10/15/2014	pm	$ 44.86	$ 43.99	$ 42.26	$ 42.11	$ 39.80	$ 45.29	$ 65.44	$ 43.25	$ 37.60	$ 29.69	$ 27.11	$ 26.86
10/16/2014	am	$ 25.72	$ 25.23	$ 24.69	$ 25.21	$ 28.17	$ 43.72	$ 47.50	$ 40.99	$ 43.88	$ 44.47	$ 44.93	$ 44.28
10/16/2014	pm	$ 43.72	$ 41.75	$ 41.22	$ 41.37	$ 37.94	$ 46.47	$ 65.07	$ 40.61	$ 33.73	$ 28.70	$ 25.82	$ 24.81
10/17/2014	am	$ 22.55	$ 21.75	$ 21.53	$ 22.62	$ 26.36	$ 34.75	$ 38.84	$ 36.42	$ 38.34	$ 37.57	$ 38.37	$ 37.33
10/17/2014	pm	$ 36.70	$ 35.08	$ 33.82	$ 34.44	$ 32.63	$ 36.40	$ 38.18	$ 34.29	$ 29.62	$ 26.35	$ 24.66	$ 24.24
10/18/2014	am	$ 22.24	$ 21.72	$ 20.66	$ 20.74	$ 24.04	$ 25.41	$ 26.58	$ 28.89	$ 35.60	$ 34.42	$ 33.01	$ 32.55
10/18/2014	pm	$ 30.91	$ 29.52	$ 28.82	$ 28.81	$ 29.71	$ 34.89	$ 38.92	$ 34.86	$ 33.39	$ 27.89	$ 25.64	$ 26.30
10/19/2014	am	$ 25.35	$ 24.65	$ 24.15	$ 23.93	$ 24.77	$ 25.92	$ 28.85	$ 30.28	$ 32.63	$ 32.85	$ 32.10	$ 30.23
10/19/2014	pm	$ 29.44	$ 29.23	$ 29.10	$ 29.94	$ 31.28	$ 44.36	$ 56.83	$ 43.10	$ 41.02	$ 33.09	$ 30.22	$ 27.80
10/20/2014	am	$ 26.24	$ 26.21	$ 26.31	$ 27.41	$ 33.94	$ 53.51	$ 65.82	$ 49.55	$ 47.61	$ 46.28	$ 44.33	$ 42.61
10/20/2014	pm	$ 42.91	$ 41.07	$ 36.10	$ 37.92	$ 39.35	$ 47.80	$ 67.94	$ 46.58	$ 36.77	$ 30.45	$ 27.31	$ 25.86
10/21/2014	am	$ 25.16	$ 24.59	$ 24.05	$ 25.12	$ 28.61	$ 40.63	$ 43.79	$ 41.72	$ 43.56	$ 44.06	$ 43.55	$ 43.00
10/21/2014	pm	$ 40.47	$ 37.49	$ 35.42	$ 35.60	$ 36.06	$ 47.14	$ 58.37	$ 41.71	$ 37.26	$ 31.15	$ 27.00	$ 25.95
10/22/2014	am	$ 25.68	$ 25.10	$ 24.88	$ 25.70	$ 29.59	$ 44.32	$ 51.81	$ 40.71	$ 41.72	$ 44.01	$ 43.61	$ 42.70
10/22/2014	pm	$ 43.04	$ 39.05	$ 36.74	$ 37.04	$ 37.71	$ 50.42	$ 60.47	$ 42.75	$ 36.51	$ 29.85	$ 26.67	$ 26.53
10/23/2014	am	$ 25.90	$ 25.59	$ 25.41	$ 26.11	$ 29.93	$ 47.56	$ 54.64	$ 42.02	$ 42.31	$ 44.22	$ 41.39	$ 39.75
10/23/2014	pm	$ 39.02	$ 35.75	$ 34.06	$ 34.31	$ 35.19	$ 44.21	$ 47.13	$ 39.10	$ 34.17	$ 29.62	$ 26.77	$ 27.38
10/24/2014	am	$ 27.50	$ 27.39	$ 26.92	$ 27.62	$ 32.54	$ 45.99	$ 52.92	$ 42.70	$ 43.69	$ 46.10	$ 44.45	$ 44.40
10/24/2014	pm	$ 41.85	$ 39.36	$ 36.49	$ 35.60	$ 35.47	$ 42.00	$ 41.93	$ 38.00	$ 34.66	$ 30.53	$ 27.46	$ 28.49
10/25/2014	am	$ 27.56	$ 27.19	$ 26.82	$ 27.29	$ 28.00	$ 29.97	$ 32.83	$ 40.94	$ 40.89	$ 38.35	$ 35.88	$ 34.77
10/25/2014	pm	$ 31.80	$ 30.46	$ 29.78	$ 30.32	$ 31.08	$ 40.50	$ 41.05	$ 37.06	$ 32.56	$ 28.63	$ 27.20	$ 26.37
10/26/2014	am	$ 25.52	$ 23.97	$ 23.09	$ 23.61	$ 25.21	$ 27.78	$ 28.33	$ 29.43	$ 31.15	$ 30.82	$ 30.79	$ 30.06
10/26/2014	pm	$ 30.02	$ 29.31	$ 29.16	$ 30.35	$ 32.44	$ 48.68	$ 48.13	$ 39.16	$ 35.46	$ 30.51	$ 29.96	$ 27.15
10/27/2014	am	$ 26.79	$ 26.39	$ 26.29	$ 27.32	$ 32.62	$ 44.01	$ 54.21	$ 42.58	$ 42.07	$ 43.03	$ 43.60	$ 46.05
10/27/2014	pm	$ 46.57	$ 46.37	$ 49.02	$ 47.48	$ 43.79	$ 62.99	$ 63.02	$ 45.00	$ 43.28	$ 33.22	$ 28.50	$ 28.43

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AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
10/28/2014	am	$ 27.70	$ 26.97	$ 26.94	$ 28.09	$ 32.61	$ 47.67	$ 65.47	$ 50.31	$ 51.46	$ 51.38	$ 52.55	$ 54.46
10/28/2014	pm	$ 56.68	$ 56.76	$ 58.96	$ 61.38	$ 51.63	$ 63.76	$ 77.55	$ 48.57	$ 40.16	$ 33.50	$ 28.62	$ 27.90
10/29/2014	am	$ 27.18	$ 26.69	$ 26.10	$ 27.73	$ 32.49	$ 49.16	$ 63.78	$ 51.26	$ 52.31	$ 52.52	$ 50.83	$ 50.06
10/29/2014	pm	$ 48.75	$ 48.49	$ 47.13	$ 47.50	$ 50.14	$ 70.55	$ 71.36	$ 52.01	$ 44.78	$ 35.71	$ 31.46	$ 28.60
10/30/2014	am	$ 27.66	$ 27.06	$ 26.86	$ 28.30	$ 35.09	$ 58.31	$ 77.33	$ 56.51	$ 54.95	$ 53.75	$ 49.96	$ 50.77
10/30/2014	pm	$ 46.15	$ 45.89	$ 43.82	$ 43.49	$ 44.88	$ 74.06	$ 75.12	$ 57.69	$ 47.12	$ 37.59	$ 33.02	$ 31.69
10/31/2014	am	$ 29.57	$ 28.86	$ 28.79	$ 30.51	$ 37.32	$ 66.85	$ 82.49	$ 53.07	$ 48.61	$ 49.05	$ 48.33	$ 49.53
10/31/2014	pm	$ 44.50	$ 43.57	$ 41.17	$ 39.55	$ 38.83	$ 43.72	$ 45.11	$ 43.21	$ 38.38	$ 33.44	$ 29.71	$ 28.83
11/1/2014	am	$ 28.43	$ 27.89	$ 27.81	$ 27.77	$ 28.55	$ 29.52	$ 35.65	$ 43.44	$ 44.54	$ 45.00	$ 44.03	$ 37.21
11/1/2014	pm	$ 34.68	$ 31.86	$ 30.95	$ 31.16	$ 35.63	$ 44.77	$ 44.21	$ 39.95	$ 37.17	$ 31.63	$ 28.13	$ 30.95
11/2/2014	am	$ 29.00	$ 28.75	$ 29.03	$ 28.51	$ 28.60	$ 29.61	$ 31.38	$ 35.56	$ 38.48	$ 40.30	$ 38.55	$ 34.36
11/2/2014	pm	$ 32.14	$ 31.22	$ 30.54	$ 31.04	$ 33.31	$ 60.00	$ 58.79	$ 48.68	$ 47.97	$ 41.62	$ 35.48	$ 30.53
11/3/2014	am	$ 33.53	$ 31.86	$ 31.48	$ 32.20	$ 33.82	$ 43.04	$ 81.76	$ 85.22	$ 67.07	$ 54.60	$ 49.75	$ 46.33
11/3/2014	pm	$ 42.74	$ 40.48	$ 37.57	$ 37.26	$ 40.11	$ 66.10	$ 69.54	$ 45.30	$ 46.57	$ 42.93	$ 34.50	$ 30.27
11/4/2014	am	$ 27.60	$ 26.38	$ 25.89	$ 26.72	$ 27.54	$ 31.95	$ 47.57	$ 47.01	$ 41.19	$ 40.72	$ 39.38	$ 38.35
11/4/2014	pm	$ 37.15	$ 36.32	$ 34.87	$ 33.63	$ 36.33	$ 51.78	$ 54.56	$ 41.16	$ 40.16	$ 36.12	$ 30.06	$ 27.87
11/5/2014	am	$ 27.68	$ 26.67	$ 26.36	$ 26.39	$ 27.42	$ 31.15	$ 42.07	$ 43.74	$ 40.13	$ 40.39	$ 41.46	$ 41.86
11/5/2014	pm	$ 41.00	$ 39.95	$ 38.99	$ 38.28	$ 40.66	$ 62.72	$ 62.84	$ 45.82	$ 44.56	$ 38.76	$ 31.01	$ 29.23
11/6/2014	am	$ 29.82	$ 28.19	$ 27.64	$ 27.65	$ 29.15	$ 32.95	$ 50.23	$ 44.63	$ 42.15	$ 44.35	$ 47.11	$ 44.53
11/6/2014	pm	$ 44.92	$ 44.04	$ 41.72	$ 41.63	$ 45.01	$ 72.00	$ 64.00	$ 46.53	$ 45.91	$ 40.36	$ 32.72	$ 29.84
11/7/2014	am	$ 29.95	$ 29.18	$ 28.52	$ 28.33	$ 29.43	$ 36.48	$ 52.54	$ 50.51	$ 45.95	$ 46.62	$ 47.41	$ 46.55
11/7/2014	pm	$ 45.04	$ 42.44	$ 41.68	$ 41.52	$ 44.99	$ 73.90	$ 59.52	$ 50.58	$ 50.09	$ 45.65	$ 36.97	$ 36.29
11/8/2014	am	$ 34.91	$ 34.42	$ 33.12	$ 32.89	$ 32.70	$ 34.09	$ 40.02	$ 51.77	$ 55.04	$ 50.54	$ 45.06	$ 39.60
11/8/2014	pm	$ 34.57	$ 33.39	$ 31.42	$ 30.96	$ 33.79	$ 49.60	$ 43.84	$ 40.59	$ 40.48	$ 38.22	$ 33.50	$ 30.74
11/9/2014	am	$ 30.36	$ 29.76	$ 28.89	$ 28.67	$ 28.81	$ 30.16	$ 32.10	$ 34.70	$ 36.89	$ 38.10	$ 36.50	$ 33.92
11/9/2014	pm	$ 32.33	$ 31.51	$ 30.61	$ 30.53	$ 33.89	$ 53.87	$ 47.02	$ 44.16	$ 42.72	$ 38.07	$ 33.20	$ 29.87
11/10/2014	am	$ 27.56	$ 27.10	$ 27.02	$ 27.35	$ 28.62	$ 34.33	$ 56.62	$ 59.52	$ 50.11	$ 45.11	$ 43.49	$ 42.17
11/10/2014	pm	$ 38.40	$ 35.60	$ 34.03	$ 33.06	$ 35.13	$ 49.03	$ 47.89	$ 40.23	$ 38.95	$ 34.80	$ 30.15	$ 26.55
11/11/2014	am	$ 27.69	$ 27.24	$ 26.86	$ 27.12	$ 27.63	$ 31.32	$ 42.48	$ 45.66	$ 43.80	$ 41.47	$ 40.61	$ 40.26
11/11/2014	pm	$ 37.19	$ 35.83	$ 34.55	$ 33.22	$ 35.02	$ 48.83	$ 48.04	$ 43.24	$ 42.49	$ 36.36	$ 31.59	$ 27.25
11/12/2014	am	$ 27.02	$ 26.52	$ 26.23	$ 26.38	$ 26.96	$ 29.31	$ 41.58	$ 44.33	$ 41.19	$ 39.76	$ 43.97	$ 42.54
11/12/2014	pm	$ 38.75	$ 37.64	$ 35.75	$ 34.80	$ 37.65	$ 56.33	$ 53.01	$ 47.54	$ 44.38	$ 39.49	$ 34.06	$ 29.66
11/13/2014	am	$ 30.75	$ 30.46	$ 29.93	$ 30.11	$ 31.76	$ 36.92	$ 47.30	$ 51.38	$ 48.22	$ 46.73	$ 47.41	$ 48.81
11/13/2014	pm	$ 42.41	$ 40.90	$ 39.39	$ 38.83	$ 41.86	$ 67.30	$ 65.06	$ 53.19	$ 57.35	$ 48.65	$ 40.52	$ 34.27
11/14/2014	am	$ 30.45	$ 30.23	$ 30.16	$ 30.38	$ 31.99	$ 35.82	$ 44.35	$ 56.13	$ 44.88	$ 42.53	$ 41.41	$ 43.47
11/14/2014	pm	$ 39.85	$ 37.82	$ 37.02	$ 36.22	$ 41.08	$ 63.09	$ 58.80	$ 47.80	$ 52.07	$ 44.77	$ 39.27	$ 34.28
11/15/2014	am	$ 33.47	$ 34.43	$ 33.89	$ 33.65	$ 33.16	$ 34.42	$ 36.04	$ 38.38	$ 39.57	$ 39.94	$ 38.84	$ 34.56
11/15/2014	pm	$ 32.72	$ 31.63	$ 30.93	$ 30.08	$ 31.97	$ 36.11	$ 39.78	$ 38.91	$ 36.45	$ 34.05	$ 32.88	$ 30.62
11/16/2014	am	$ 31.73	$ 31.46	$ 30.32	$ 29.61	$ 29.89	$ 31.12	$ 30.86	$ 32.80	$ 33.45	$ 33.22	$ 32.47	$ 30.89
11/16/2014	pm	$ 29.81	$ 29.23	$ 29.09	$ 29.31	$ 30.93	$ 37.38	$ 37.78	$ 37.19	$ 36.27	$ 33.71	$ 30.51	$ 29.13
11/17/2014	am	$ 27.04	$ 26.88	$ 26.55	$ 26.18	$ 27.26	$ 28.81	$ 34.65	$ 39.15	$ 38.63	$ 39.01	$ 38.69	$ 36.40
11/17/2014	pm	$ 34.19	$ 33.33	$ 32.60	$ 32.42	$ 35.24	$ 42.98	$ 42.12	$ 39.50	$ 38.01	$ 35.46	$ 30.89	$ 28.80
11/18/2014	am	$ 30.49	$ 31.00	$ 30.77	$ 32.80	$ 34.76	$ 40.56	$ 53.69	$ 69.15	$ 52.80	$ 51.38	$ 51.19	$ 47.31
11/18/2014	pm	$ 41.78	$ 40.00	$ 39.48	$ 41.16	$ 46.52	$ 71.99	$ 95.05	$ 74.78	$ 72.89	$ 46.44	$ 42.23	$ 40.03
11/19/2014	am	$ 34.08	$ 36.66	$ 36.23	$ 36.12	$ 40.14	$ 50.59	$ 77.33	$ 84.37	$ 61.54	$ 51.90	$ 46.29	$ 44.21
11/19/2014	pm	$ 40.02	$ 36.31	$ 35.74	$ 35.62	$ 37.73	$ 47.08	$ 50.38	$ 48.13	$ 43.88	$ 40.30	$ 35.21	$ 32.09
11/20/2014	am	$ 31.65	$ 33.44	$ 32.09	$ 31.68	$ 33.26	$ 39.83	$ 50.30	$ 63.78	$ 51.61	$ 51.10	$ 46.00	$ 41.36
11/20/2014	pm	$ 39.01	$ 37.49	$ 36.34	$ 36.61	$ 39.62	$ 53.69	$ 57.04	$ 51.73	$ 49.50	$ 45.23	$ 37.78	$ 31.96
11/21/2014	am	$ 32.15	$ 33.57	$ 33.49	$ 33.09	$ 34.86	$ 39.77	$ 55.70	$ 66.80	$ 51.55	$ 50.16	$ 47.90	$ 43.20
11/21/2014	pm	$ 40.63	$ 39.07	$ 37.13	$ 36.98	$ 40.12	$ 53.73	$ 50.00	$ 45.17	$ 42.67	$ 40.46	$ 37.86	$ 33.19

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
11/22/2014	am	$ 37.76	$ 39.66	$ 38.15	$ 35.85	$ 34.98	$ 35.57	$ 39.49	$ 39.88	$ 41.29	$ 39.29	$ 37.37	$ 33.71
11/22/2014	pm	$ 31.10	$ 29.77	$ 29.11	$ 29.13	$ 31.01	$ 38.93	$ 37.17	$ 37.00	$ 34.64	$ 32.75	$ 30.57	$ 28.42
11/23/2014	am	$ 28.92	$ 29.04	$ 28.76	$ 28.07	$ 27.91	$ 28.52	$ 29.63	$ 31.09	$ 32.29	$ 31.67	$ 31.43	$ 30.11
11/23/2014	pm	$ 29.43	$ 29.02	$ 28.58	$ 28.38	$ 30.86	$ 36.13	$ 35.34	$ 35.60	$ 33.17	$ 29.51	$ 28.20	$ 26.45
11/24/2014	am	$ 24.80	$ 24.05	$ 23.41	$ 23.07	$ 24.18	$ 26.86	$ 31.57	$ 34.59	$ 35.41	$ 34.74	$ 35.84	$ 35.03
11/24/2014	pm	$ 34.95	$ 34.48	$ 32.65	$ 31.80	$ 35.38	$ 48.45	$ 39.30	$ 38.54	$ 37.54	$ 31.89	$ 28.50	$ 26.26
11/25/2014	am	$ 24.74	$ 24.29	$ 22.62	$ 22.75	$ 24.25	$ 26.28	$ 32.67	$ 34.80	$ 35.69	$ 35.48	$ 36.43	$ 36.16
11/25/2014	pm	$ 34.88	$ 34.29	$ 33.70	$ 33.65	$ 37.42	$ 58.10	$ 49.58	$ 45.90	$ 44.73	$ 35.68	$ 30.73	$ 28.53
11/26/2014	am	$ 27.02	$ 26.94	$ 26.36	$ 26.21	$ 27.05	$ 29.22	$ 34.92	$ 40.72	$ 40.05	$ 40.85	$ 42.70	$ 42.81
11/26/2014	pm	$ 40.00	$ 38.34	$ 37.26	$ 36.89	$ 40.41	$ 63.10	$ 52.43	$ 44.86	$ 41.72	$ 38.11	$ 32.38	$ 29.02
11/27/2014	am	$ 28.62	$ 28.43	$ 28.00	$ 28.12	$ 28.20	$ 28.45	$ 29.51	$ 32.04	$ 34.99	$ 35.56	$ 34.68	$ 34.04
11/27/2014	pm	$ 30.34	$ 28.91	$ 28.30	$ 28.33	$ 28.49	$ 33.15	$ 34.56	$ 33.71	$ 35.65	$ 32.66	$ 30.48	$ 28.86
11/28/2014	am	$ 29.83	$ 29.95	$ 29.77	$ 29.53	$ 30.04	$ 31.37	$ 37.03	$ 42.29	$ 40.80	$ 41.42	$ 38.37	$ 35.69
11/28/2014	pm	$ 32.60	$ 31.10	$ 30.94	$ 30.69	$ 36.22	$ 50.77	$ 43.49	$ 41.81	$ 41.28	$ 38.76	$ 33.48	$ 29.15
11/29/2014	am	$ 31.48	$ 31.91	$ 31.96	$ 30.53	$ 31.03	$ 31.88	$ 32.49	$ 36.24	$ 38.83	$ 39.18	$ 37.22	$ 33.92
11/29/2014	pm	$ 30.15	$ 29.33	$ 28.61	$ 28.70	$ 31.63	$ 37.15	$ 35.09	$ 34.31	$ 34.15	$ 31.49	$ 29.89	$ 27.75
11/30/2014	am	$ 28.67	$ 28.79	$ 28.44	$ 27.84	$ 28.13	$ 28.12	$ 27.79	$ 28.02	$ 28.70	$ 29.30	$ 28.89	$ 28.50
11/30/2014	pm	$ 28.10	$ 27.67	$ 27.54	$ 27.71	$ 29.33	$ 38.29	$ 33.27	$ 34.48	$ 32.82	$ 29.34	$ 28.51	$ 24.78
12/1/2014	am	$ 26.19	$ 26.09	$ 25.81	$ 26.04	$ 26.59	$ 28.47	$ 35.35	$ 39.17	$ 38.20	$ 38.80	$ 38.25	$ 37.96
12/1/2014	pm	$ 37.33	$ 37.10	$ 35.34	$ 35.30	$ 38.73	$ 75.49	$ 55.00	$ 47.84	$ 43.80	$ 37.10	$ 33.00	$ 29.73
12/2/2014	am	$ 27.60	$ 27.53	$ 27.35	$ 27.48	$ 28.03	$ 29.58	$ 38.12	$ 40.80	$ 40.20	$ 40.67	$ 43.25	$ 41.99
12/2/2014	pm	$ 39.32	$ 38.63	$ 37.03	$ 36.28	$ 37.88	$ 60.53	$ 47.00	$ 42.27	$ 39.55	$ 37.65	$ 31.28	$ 28.69
12/3/2014	am	$ 28.11	$ 28.05	$ 27.59	$ 27.50	$ 28.25	$ 29.04	$ 37.62	$ 39.47	$ 38.65	$ 38.26	$ 38.95	$ 37.55
12/3/2014	pm	$ 35.34	$ 34.63	$ 32.56	$ 31.83	$ 34.86	$ 48.02	$ 42.44	$ 39.88	$ 39.23	$ 35.13	$ 31.07	$ 27.94
12/4/2014	am	$ 29.32	$ 29.14	$ 28.85	$ 28.91	$ 29.67	$ 33.19	$ 45.35	$ 48.93	$ 44.64	$ 43.57	$ 43.18	$ 42.18
12/4/2014	pm	$ 39.15	$ 37.95	$ 36.03	$ 35.22	$ 41.74	$ 73.45	$ 55.44	$ 50.35	$ 45.52	$ 39.81	$ 33.15	$ 29.53
12/5/2014	am	$ 28.87	$ 28.50	$ 28.14	$ 27.93	$ 28.27	$ 30.90	$ 46.25	$ 49.54	$ 44.47	$ 45.03	$ 42.93	$ 41.16
12/5/2014	pm	$ 38.24	$ 35.84	$ 33.87	$ 32.80	$ 36.25	$ 50.25	$ 39.12	$ 35.32	$ 34.80	$ 32.50	$ 28.98	$ 27.46
12/6/2014	am	$ 27.31	$ 27.22	$ 26.95	$ 26.43	$ 27.07	$ 27.46	$ 28.19	$ 30.25	$ 31.97	$ 34.29	$ 36.31	$ 34.96
12/6/2014	pm	$ 32.01	$ 30.64	$ 28.86	$ 28.65	$ 31.74	$ 35.89	$ 35.29	$ 35.64	$ 34.46	$ 30.96	$ 28.95	$ 27.02
12/7/2014	am	$ 27.78	$ 28.16	$ 27.76	$ 27.67	$ 27.93	$ 28.39	$ 29.14	$ 29.82	$ 31.74	$ 33.52	$ 33.14	$ 32.52
12/7/2014	pm	$ 31.48	$ 30.52	$ 29.14	$ 29.25	$ 34.30	$ 43.90	$ 48.06	$ 45.22	$ 46.60	$ 38.42	$ 31.89	$ 30.13
12/8/2014	am	$ 29.18	$ 28.78	$ 28.80	$ 28.78	$ 29.98	$ 33.75	$ 46.00	$ 49.92	$ 42.01	$ 43.10	$ 41.30	$ 39.13
12/8/2014	pm	$ 36.48	$ 34.84	$ 33.85	$ 32.63	$ 37.03	$ 53.16	$ 47.91	$ 40.37	$ 37.82	$ 35.03	$ 30.32	$ 28.49
12/9/2014	am	$ 28.38	$ 27.95	$ 27.47	$ 27.67	$ 28.36	$ 31.16	$ 41.44	$ 42.57	$ 40.94	$ 41.68	$ 42.87	$ 43.02
12/9/2014	pm	$ 39.37	$ 38.01	$ 35.86	$ 34.51	$ 39.29	$ 56.11	$ 44.24	$ 42.21	$ 41.34	$ 38.63	$ 32.29	$ 29.34
12/10/2014	am	$ 28.99	$ 28.52	$ 28.26	$ 28.26	$ 28.69	$ 31.18	$ 39.81	$ 41.34	$ 38.49	$ 40.15	$ 41.70	$ 39.19
12/10/2014	pm	$ 36.28	$ 34.02	$ 32.92	$ 31.76	$ 34.67	$ 48.13	$ 43.99	$ 40.24	$ 40.41	$ 36.31	$ 31.13	$ 29.43
12/11/2014	am	$ 28.16	$ 28.01	$ 27.83	$ 27.70	$ 28.67	$ 31.12	$ 41.29	$ 41.45	$ 37.85	$ 37.07	$ 36.00	$ 34.16
12/11/2014	pm	$ 32.55	$ 31.45	$ 30.31	$ 30.19	$ 31.52	$ 39.25	$ 38.14	$ 37.53	$ 37.33	$ 35.24	$ 30.71	$ 28.30
12/12/2014	am	$ 28.50	$ 28.52	$ 28.33	$ 28.31	$ 28.70	$ 30.02	$ 44.78	$ 47.15	$ 38.22	$ 37.87	$ 36.50	$ 34.26
12/12/2014	pm	$ 31.69	$ 30.79	$ 29.82	$ 29.63	$ 32.86	$ 44.17	$ 37.18	$ 36.05	$ 34.95	$ 33.12	$ 30.43	$ 28.89
12/13/2014	am	$ 29.34	$ 29.74	$ 29.61	$ 28.98	$ 28.88	$ 30.13	$ 31.89	$ 35.03	$ 38.72	$ 37.73	$ 37.44	$ 34.17
12/13/2014	pm	$ 31.10	$ 29.58	$ 28.65	$ 28.39	$ 29.96	$ 38.66	$ 36.29	$ 35.43	$ 34.17	$ 32.16	$ 29.77	$ 28.50
12/14/2014	am	$ 28.83	$ 28.32	$ 27.46	$ 27.40	$ 27.58	$ 28.01	$ 28.96	$ 29.47	$ 30.29	$ 30.51	$ 29.95	$ 28.93
12/14/2014	pm	$ 28.28	$ 27.86	$ 26.75	$ 26.88	$ 29.30	$ 37.11	$ 35.74	$ 35.97	$ 35.77	$ 31.29	$ 28.67	$ 28.19
12/15/2014	am	$ 27.30	$ 27.02	$ 27.01	$ 27.11	$ 27.54	$ 28.96	$ 33.71	$ 35.69	$ 34.05	$ 35.07	$ 34.64	$ 34.52
12/15/2014	pm	$ 31.81	$ 30.77	$ 30.37	$ 29.87	$ 31.95	$ 43.21	$ 37.24	$ 36.44	$ 36.31	$ 33.75	$ 29.02	$ 27.15
12/16/2014	am	$ 26.77	$ 26.51	$ 26.50	$ 26.76	$ 27.42	$ 28.66	$ 33.96	$ 37.07	$ 34.10	$ 34.26	$ 33.38	$ 34.18
12/16/2014	pm	$ 31.33	$ 30.82	$ 30.03	$ 29.57	$ 31.88	$ 43.85	$ 38.76	$ 37.20	$ 36.86	$ 33.22	$ 28.86	$ 26.63

Indiana Municipal Power Agency

AD Hub Hourly Prices - 2014

Day	am/pm	1	2	3	4	5	6	7	8	9	10	11	12
12/17/2014	am	$ 26.58	$ 26.04	$ 25.72	$ 25.76	$ 26.78	$ 28.22	$ 32.81	$ 35.83	$ 35.11	$ 34.84	$ 34.40	$ 33.97
12/17/2014	pm	$ 31.78	$ 31.43	$ 30.33	$ 30.53	$ 33.04	$ 53.82	$ 43.58	$ 42.18	$ 41.18	$ 37.72	$ 31.25	$ 29.11
12/18/2014	am	$ 28.23	$ 27.84	$ 27.98	$ 27.88	$ 28.80	$ 32.21	$ 42.16	$ 43.99	$ 40.86	$ 39.37	$ 38.83	$ 37.20
12/18/2014	pm	$ 34.73	$ 33.32	$ 31.83	$ 31.68	$ 35.83	$ 56.44	$ 47.57	$ 45.92	$ 43.86	$ 40.80	$ 32.65	$ 29.72
12/19/2014	am	$ 29.06	$ 28.90	$ 28.83	$ 28.55	$ 29.43	$ 32.07	$ 43.42	$ 48.13	$ 40.72	$ 39.78	$ 39.46	$ 38.06
12/19/2014	pm	$ 35.56	$ 34.74	$ 31.89	$ 31.01	$ 35.27	$ 47.78	$ 42.52	$ 39.85	$ 38.89	$ 38.17	$ 34.60	$ 31.20
12/20/2014	am	$ 32.65	$ 30.57	$ 29.95	$ 29.64	$ 30.48	$ 30.94	$ 34.38	$ 36.71	$ 41.19	$ 42.56	$ 42.05	$ 37.11
12/20/2014	pm	$ 32.91	$ 31.93	$ 31.23	$ 30.95	$ 32.96	$ 50.41	$ 45.78	$ 41.57	$ 40.51	$ 38.31	$ 31.94	$ 29.38
12/21/2014	am	$ 31.10	$ 29.24	$ 29.37	$ 29.12	$ 29.22	$ 29.23	$ 30.09	$ 31.79	$ 33.23	$ 34.14	$ 32.02	$ 30.07
12/21/2014	pm	$ 29.69	$ 29.03	$ 28.31	$ 28.31	$ 30.37	$ 43.99	$ 40.79	$ 40.55	$ 40.77	$ 37.22	$ 30.14	$ 28.69
12/22/2014	am	$ 27.99	$ 27.72	$ 27.53	$ 27.33	$ 28.33	$ 29.45	$ 37.18	$ 43.79	$ 39.30	$ 39.29	$ 37.92	$ 37.36
12/22/2014	pm	$ 34.80	$ 33.16	$ 31.88	$ 30.70	$ 35.16	$ 46.84	$ 39.96	$ 37.90	$ 37.04	$ 33.91	$ 28.80	$ 27.07
12/23/2014	am	$ 25.77	$ 24.93	$ 24.31	$ 23.80	$ 24.16	$ 26.54	$ 30.56	$ 32.21	$ 31.64	$ 31.57	$ 32.21	$ 32.13
12/23/2014	pm	$ 30.42	$ 29.47	$ 28.51	$ 28.21	$ 29.43	$ 35.08	$ 32.69	$ 31.13	$ 30.48	$ 28.61	$ 26.91	$ 24.33
12/24/2014	am	$ 22.06	$ 18.00	$ 17.57	$ 17.53	$ 17.69	$ 21.24	$ 23.12	$ 25.42	$ 26.54	$ 27.63	$ 27.68	$ 27.35
12/24/2014	pm	$ 26.43	$ 25.98	$ 25.04	$ 24.80	$ 25.59	$ 27.87	$ 27.23	$ 26.11	$ 26.07	$ 25.11	$ 24.00	$ 19.82
12/25/2014	am	$ 19.62	$ 17.91	$ 16.82	$ 16.67	$ 17.01	$ 18.84	$ 21.12	$ 23.67	$ 24.78	$ 24.83	$ 24.99	$ 24.84
12/25/2014	pm	$ 23.95	$ 23.51	$ 22.85	$ 22.80	$ 24.27	$ 27.62	$ 27.23	$ 27.43	$ 27.56	$ 26.69	$ 25.08	$ 22.69
12/26/2014	am	$ 21.28	$ 19.73	$ 19.71	$ 19.81	$ 20.80	$ 24.33	$ 26.70	$ 27.41	$ 27.74	$ 27.65	$ 27.66	$ 26.94
12/26/2014	pm	$ 25.69	$ 25.18	$ 24.61	$ 24.39	$ 25.84	$ 29.19	$ 28.56	$ 28.21	$ 27.85	$ 27.60	$ 25.99	$ 24.03
12/27/2014	am	$ 23.06	$ 21.36	$ 21.46	$ 21.16	$ 22.17	$ 23.81	$ 24.85	$ 25.75	$ 26.20	$ 26.90	$ 26.69	$ 25.89
12/27/2014	pm	$ 24.59	$ 23.57	$ 22.69	$ 22.55	$ 24.06	$ 28.10	$ 27.11	$ 26.56	$ 26.22	$ 25.44	$ 24.33	$ 21.60
12/28/2014	am	$ 21.19	$ 18.34	$ 16.14	$ 16.03	$ 16.08	$ 19.50	$ 20.93	$ 22.16	$ 23.88	$ 24.80	$ 25.30	$ 25.31
12/28/2014	pm	$ 25.37	$ 25.06	$ 24.63	$ 24.36	$ 26.22	$ 30.28	$ 29.19	$ 28.36	$ 27.75	$ 26.73	$ 25.14	$ 22.91
12/29/2014	am	$ 22.10	$ 21.32	$ 21.39	$ 21.73	$ 22.57	$ 24.89	$ 28.62	$ 29.78	$ 29.07	$ 31.50	$ 32.76	$ 32.76
12/29/2014	pm	$ 29.25	$ 28.83	$ 28.36	$ 28.16	$ 29.47	$ 43.83	$ 38.20	$ 34.33	$ 34.16	$ 31.12	$ 27.87	$ 26.77
12/30/2014	am	$ 26.91	$ 26.23	$ 26.10	$ 26.36	$ 26.79	$ 27.96	$ 29.99	$ 30.91	$ 31.29	$ 33.13	$ 33.20	$ 32.09
12/30/2014	pm	$ 29.46	$ 29.32	$ 28.73	$ 28.57	$ 30.59	$ 46.69	$ 43.02	$ 38.28	$ 37.79	$ 34.57	$ 29.80	$ 27.49
12/31/2014	am	$ 27.98	$ 27.50	$ 27.23	$ 27.24	$ 27.81	$ 29.01	$ 34.29	$ 34.29	$ 34.73	$ 35.39	$ 35.66	$ 34.81
12/31/2014	pm	$ 30.46	$ 28.99	$ 28.43	$ 28.24	$ 28.64	$ 38.47	$ 37.34	$ 33.15	$ 32.04	$ 29.93	$ 28.45	$ 27.55

Appendix D – IMPA Load Forecast

2015 LOAD FORECAST

Report on the monthly forecast of IMPA demand and energy requirements 2015 through 2035

James Welsh – October 2015

Table of Contents

2015 IMPA Monthly Forecast Report Abstract

The Indiana Municipal Power Agency (IMPA) was created by a group of municipally-owned electric utilities, enabling them to share power resources and provide electricity more economically to their customers. As a not-for-profit organization owned and governed by its members, IMPA focuses on providing its 60 members with a power supply that is low-cost, reliable and environmentally responsible. The 60 member communities are located within 5 supply areas which are part of two regional transmission operators, Midwest Independent System Operator (MISO) containing Duke IN, NIPSCO and SIGECO and PJM Interconnection (PJM) with AEP and Duke OH. Members whose transmission and power needs are currently covered by Duke Energy include Coatesville, Montezuma, New Ross, South Whitley, Veedersburg, and Williamsport.

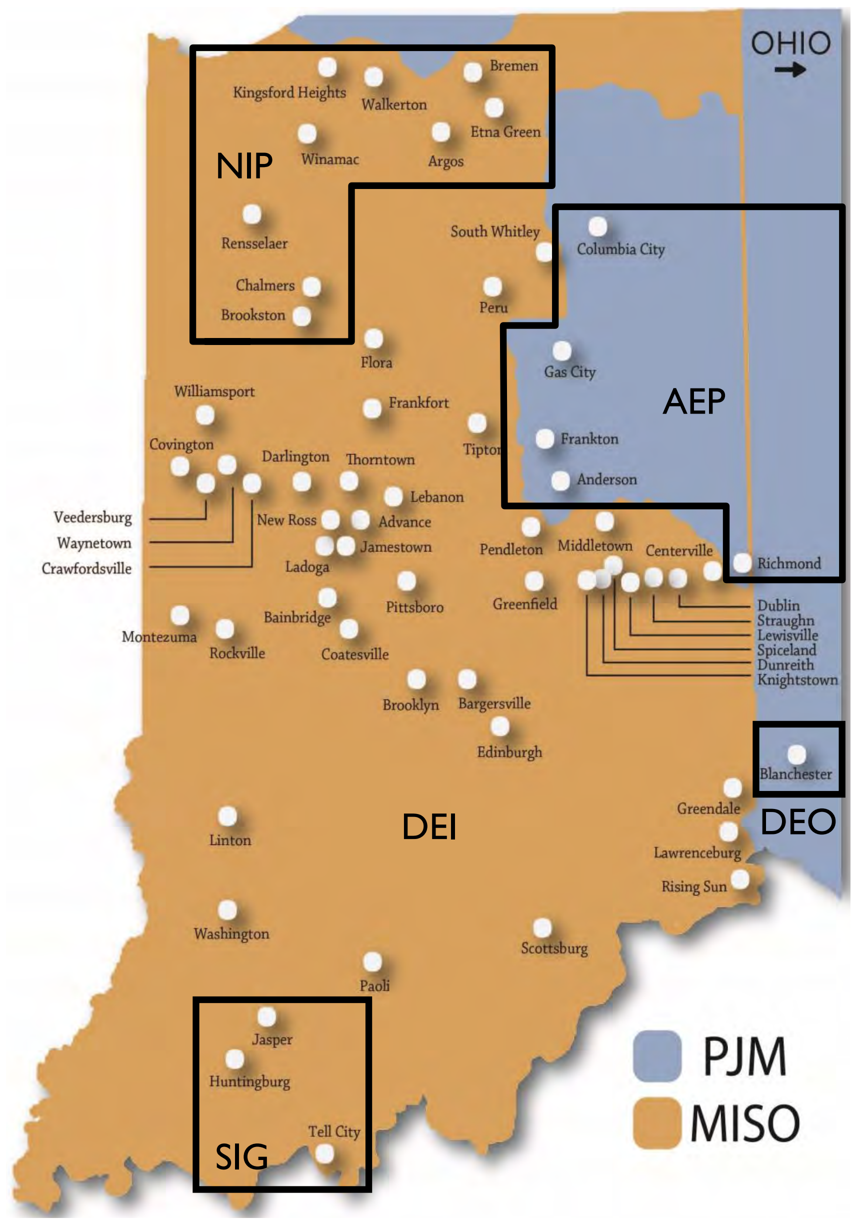


Figure 1: IMPA member communities, load areas, and regional transmission organizations.

The **2015 IMPA Monthly Forecast Report** contains a current listing of the 20-year projected monthly energy requirements, coincident peak demands and billed demands for the IMPA members by control area—AEP, Duke Energy Indiana (DEI), Duke Energy Ohio-Kentucky (DEO), NIPSCO (NIP), and SIGECO (SIG). The monthly forecasts were developed by summing the total energy requirement and coincident peak demands of the IMPA members by area and developing energy models and monthly forecasts for each IMPA supply area. IMPA does not generate forecasts for any non-member loads.

In IMPA's DEI area resides the City of Lawrenceburg. The Lawrenceburg electric utility serves the AEP Combined Cycle (CC) plant that is actually located within the AEP control area. For forecasting, the AEP CC plant load is subtracted from Lawrenceburg's load and from IMPA's DEI control area and added to IMPA's AEP control area load.

The forecast is used for IMPA internal planning purposes and does not include any non IMPA member demand and energy data. The forecast for IMPA's DEI, NIPSCO and SIGECO supply areas is provided to the Midwest Independent System Operator (MISO) to meet their resource adequacy requirements (MCET). The forecast for IMPA member loads within the MISO area is also submitted annually by MISO to the Reliability First Corporation Multiregional Modeling Working Group (RFC-MMWG) yearly series base case development. If MISO does not provide the forecasts to RFC-MMWG in a timely manner, IMPA will provide its forecast directly to RFC. The forecast for members within NIPSCO is submitted to NIPSCO by their request also for RFC-MMWG purposes. The PJM regional transmission operator develops their own system-wide forecast for their planning needs, which includes IMPA's AEP and DEO control area loads.

DATA SOURCES

To create a consistent historical database for developing the statistical models, additional demand and energy data for Argos, Coatesville, Huntingburg, Jasper, Montezuma, New Ross, South Whitley, Straughn, Veedersburg, and Williamsport (part of DEI, NIPSCO, and SIGECO load zones) were included for the period prior to their respective IMPA memberships. Also due to the Great Recession from late 2007 through 2009, there was a noticeable drop in all loads, in Indiana especially in the years 2009 and 2010. Thus, the models excluded the 24 months in 2009 and 2010 in order to better analyze the base trends and growth. In addition, since the historical energy requirements data reflect energy efficiency program reductions from 2011 through 2014, IMPA added the energy from these programs back into the historical energy allowing the statistical models to analyze the natural load growth. As a result, IMPA used 108 observations of monthly historical energy requirements in developing the AEP, DEI, and SIGECO forecast models, while the NIPSCO and DEO models, had 84 and 72 observations, respectively. These numbers were obtained from actual IMPA member billing data.

Monthly historical heating and cooling degree-days (HDD and CDD) with a base temperature of 65 degrees Fahrenheit were obtained for the period 1994 through 2014 (normalized for forecast) from the National Oceanic and Atmospheric Association—NOAA (www.noaa.gov). HDD and CDD are equal to the monthly sum of the base temperature minus/plus the average temperature for each day. Weather data was selected from four weather stations in Indiana and Ohio for their proximity to IMPA's 60 member communities; the Indianapolis weather station for the AEP and DEI load zones, South Bend for NIPSCO, Evansville for SIGECO, and Cincinnati for DEO.

Historic data for the economic causal variables are gathered from the U.S. Bureau of Economic Analysis (BEA), www.bea.gov, and the U.S. Bureau of Labor Statistics (BLS), www.bls.gov. The economic variables used in models included Indiana State Real Personal Income (SPI) and U.S. Unemployment Rate (UE). Except for DEO, each IMPA control area model included economic data as independent variables for forecasting.

- AEP: SPI and UE
- DEI: SPI and UE
- NIP: SPI
- SIG: UE
- DEO: none

In addition to these variables, IMPA implemented the number of peak days and off-peak days per month as variables in the models to quantify monthly usage variability.

METHODOLOGY

For the development of the 2015 Forecast, IMPA used IBM's SPSS Predictive Analytics Software for generating load forecasts using time series analysis. Causal time series models such as regression and ARIMA will incorporate data on influential factors to help predict future values of that data series. In such models, a relationship is modeled between a dependent variable, time, and a set of independent variables (other associated factors). The first task is to find the cause-and-effect relationship.

ARIMA stands for Auto Regressive Integrated Moving Average. An ARIMA model can have any component, or combination of components, at both the non-seasonal and seasonal levels. The name autoregressive implies that the series values from the past are used to predict the current series values. While the autoregressive component of an ARIMA model uses lagged values of the series values as predictors, the moving average component of the model uses lagged values of the model error as predictors. The Integration component of the model provides a means of accounting for trend within a time series model.

The SPSS forecasting software was used to create monthly forecasts of energy requirements for each IMPA control area. The ARIMA method allows for the development of a mathematical equation that accounts for both a seasonal influence and an overall trend based on the data available.

MODEL DEVELOPMENT

Since 2011, IMPA has generated forecasts for each of IMPA's five load zones on the same basis as power is dispatched and reported to MISO (DEI, SIG and NIP) and PJM (AEP and DEO). The dependent variable in the energy model was the sum of each load zone monthly energy requirements (kWh). The independent variables were CDD, HDD, on/off-peak days and the economic variables. Models were developed in the SPSS software. Multiple models were created and the best fit models were chosen after careful attention was given to the statistics and growth rates, making sure all were within an acceptable range and reflect the historical data. Developing energy forecast models for five zones allowed greater attention to statistics and model detail than could be done by forecasting the member cities individually.

Models were developed in the SPSS software with energy as the dependent variable. Forecasts were obtained for each independent variable. Weather variables cannot be forecasted for more than a week or so with any level of accuracy, therefore, monthly averages of the historical monthly data were used. The weather data was normalized for each month using the period 1994 through 2014, and this normalized weather was repeated annually from 2015 through 2035. The Unemployment Rate was projected using forecasted rates from the United States Congress Congressional Budget Office's (CBO) "Budget and Economic Outlook: Fiscal Years 2015 to 2025" report (www.cbo.gov). For years 2026 through the 2035 the growth trend assumption for 2025 was continued. Economic variable Indiana state personal income was projected using a general annual inflation rate of 2.5%, consistent with the inflation assumption used for IMPA's Integrated Resource Plan (IRP).

The monthly area forecast was then distributed by IMPA member within the load serving entity. To do this each member's historical average (2008 to 2014) percent of the total area load by month was applied to the monthly forecasted area load.

From the monthly energy forecast by member the historical median (2008 to 2014) non-coincident peak (NCP) demand load factor by member by month was applied to the member monthly energy forecast to get the monthly NCP demand forecast. Median was used instead of average in order to eliminate outliers of extreme events.

From the NCP demand, the historical median (2008 to 2014) coincident peak (CP) coincident factor (CF) with NCP was applied by member by month the NCP forecast to get the monthly CP demand. The sum of the members CP demand constituted the area CP demand, and the sum of the four area CP demands make up the total IMPA CP (a sum of CP demands but not a total coincidental demand). The IMPA members within the areas of DEI, NIP and SIG make up IMPA's MISO load. These three areas of IMPA CP load make up IMPA's NCP demand in MISO.

MODEL SELECTION

The SPSS software produced model fit parameters, residual errors and variable coefficients. The R-square, t-Statistics and coefficients were evaluated to determine whether to keep or eliminate a model. The statistical validity of each forecast model was evaluated focusing on the R-square and error residuals of the models, the sign of each coefficient and the significance of each t-Statistic of the variables. For example, the HDD and CDD weather variables should have a positive sign on the coefficient indicating that as the temperatures increase or decrease from the base temperature, the load increases. The personal income economic variable should have a positive sign as well, indicating as the economy grows, electricity use will increase. An exception here is the unemployment rate; the sign of the coefficient would be negative, because as the joblessness rises, spending/consumption/usage should inversely decrease.

The t-Statistics of all independent variables were significant, minimum 2.0, showing that the variable contributes significantly to the model against the null hypothesis. The R-square statistic measures how successful the fit of the model is in explaining the variation of the historical data—a 1.0 R-square would explain 100% of the variation. In selecting models, higher R-squares with higher t-statistics were used to determine the best models for the forecast.

FORECAST DEVELOPMENT

Having input the monthly projections of the independent variables for 2015 to 2035, the SPSS software was used to compute the energy forecasts from the selected energy models. For quick visual analysis of the load curves and growth rates, the SPSS software also generated a graph of the fitted historical and forecast data. The SPSS software calculated monthly energy estimates of the historical period and projections from 2015 to 2035. The software also developed the monthly residual between the historical and estimated data. The SPSS forecasted data were then exported and transferred into Microsoft Excel for further analysis.

IMPA gathers historical coincident and non-coincident (maximum) monthly peaks and energy requirements for each member. Using this information, various monthly relationships are determined:

A. Ratios of individual member energy requirements to load zone energy requirements.
B. Load Factors of member energy requirements and member non-coincident (maximum) demand.
C. Coincidence Factors of member coincident demand (coincident with load zone demand) to member non-coincident demand.

Monthly historical average contributions of each member to the load zone energy requirements (A) are used to allocate the load zone energy forecasts back to individual members. Then based on the historical monthly median non-coincident load factors (B), the monthly maximum loads are calculated for each member. Finally, using the historical median monthly coincident factors (C), IMPA calculates each member's contribution to the load zone monthly coincident demand forecasts. These demands are summarized to finalize the load zone demand forecasts. All the individual load zone forecasts are aggregated to produce the IMPA forecast.

FORECAST UNCERTAINTY

This section includes assumptions, methods, and the manner in which uncertainties are treated in the forecasts of the energy requirements. In addressing forecast uncertainty, IMPA developed forecasts using confidence intervals. A confidence interval addresses the issue of how good of a fit the forecast model is because the intervals provide a range of values and is a measure of how precise the estimated effect is. A confidence stated at a level can be thought of as the inverse of a significance level. The confidence levels here are 95%, meaning that the resulting intervals would bracket the true data range in approximately 95% of the cases. A two-sided confidence interval is used which brackets the data from above (UCL – upper confidence interval) and below (LCL – lower confidence interval). For each supply area there is an upper and lower 95% confidence limit forecast for energy.

ALTERNATE FORECAST METHODOLOGIES

IMPA has not generated forecasts by rate classification or sector. Since IMPA does not sell directly to retail customers, it does not have direct access to customer billing units. To generate a customer sector forecast, IMPA would need to collect several years of annual historical billing summary data from each of its members. In addition, the criteria determining member rate classes can change over time, and it would be nearly impossible to ensure consistent sector data back through the historical period. Finally, members identify sectors (or classes) of customers differently. For example, what one member identifies as a large power or industrial customer, such as a large manufacturing facility in Anderson, may also be classified as large power in a smaller community, such as a school in Chalmers. Therefore, sector forecast would not be appropriate for IMPA.

Another forecast methodology is an end-use model. The data requirements for an end-use model are extensive. They include detailed information on appliance saturations and usage patterns in the residential sector, data on building and business types in the commercial sector and detailed equipment inventories, lighting types, and square footage area in the industrial sector. IMPA's member communities are not uniform, they contain various ages of homes and businesses. The age of the residents and vintage of the houses can have a significant impact on the saturation of various appliances. To collect the proper saturation data at the member level, IMPA would need to collect a valid sample of each member's customers. A valid sample is approximately 300 customers whether the community is large or small. Plus, since the response rate to surveys is typically 30% to 35%, IMPA would need to survey at least 1,000 customers in each member community. This requirement makes end-use sampling unreasonable, considering that IMPA would need to sample 25% to 30% of all the customers its members serve. Most investor-owned utilities, while serving thousands more customers, would only need to sample about 1,000 customers to ensure a valid sample. Therefore, IMPA cannot realistically utilize this type of a forecast model.

FUTURE IMPACTS OF ENERGY EFFICIENCY, CONSERVATION AND/OR OTHER CUSTOMER PROGRAMS

As stated previously, since the historical energy requirements data reflect energy efficiency (EE) program reductions from 2011 through 2014, IMPA added the estimated energy from these programs back into the historical energy to allow the statistical models to analyze the natural load growth ("potential" load). The potential forecast is the base load which would have occurred without energy efficiency programs. The EE is then removed to create the net forecast. The net forecast is what is used for reporting and contrasted to the potential forecast below.

IMPA does not currently have a direct control load program in place. Also, IMPA does not currently offer time-of-use rates to its members. IMPA does have an Interruptible Demand Rate available to customers through IMPA members, however there are currently no customers or members participating in this interruptible program.

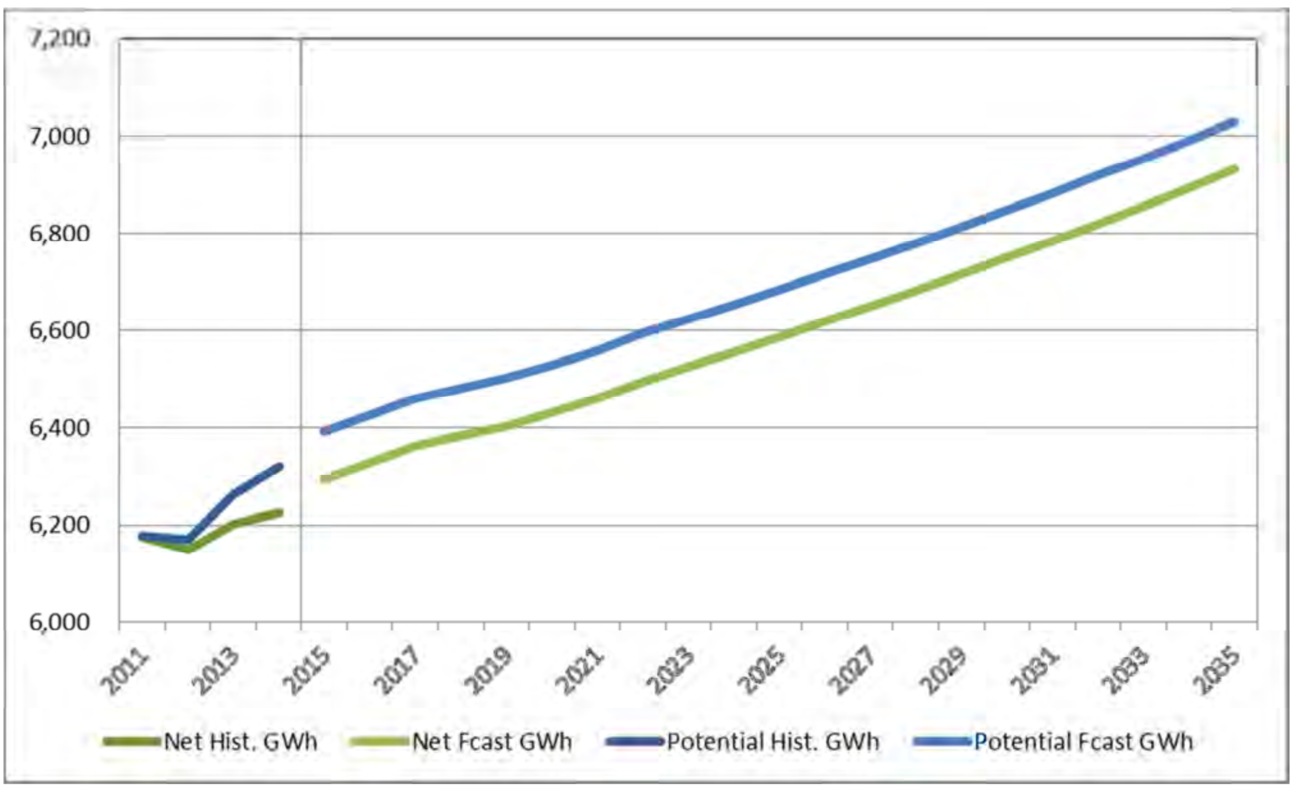


Figure 2: History and forecast energy with (potential) and without (net) energy efficiency.

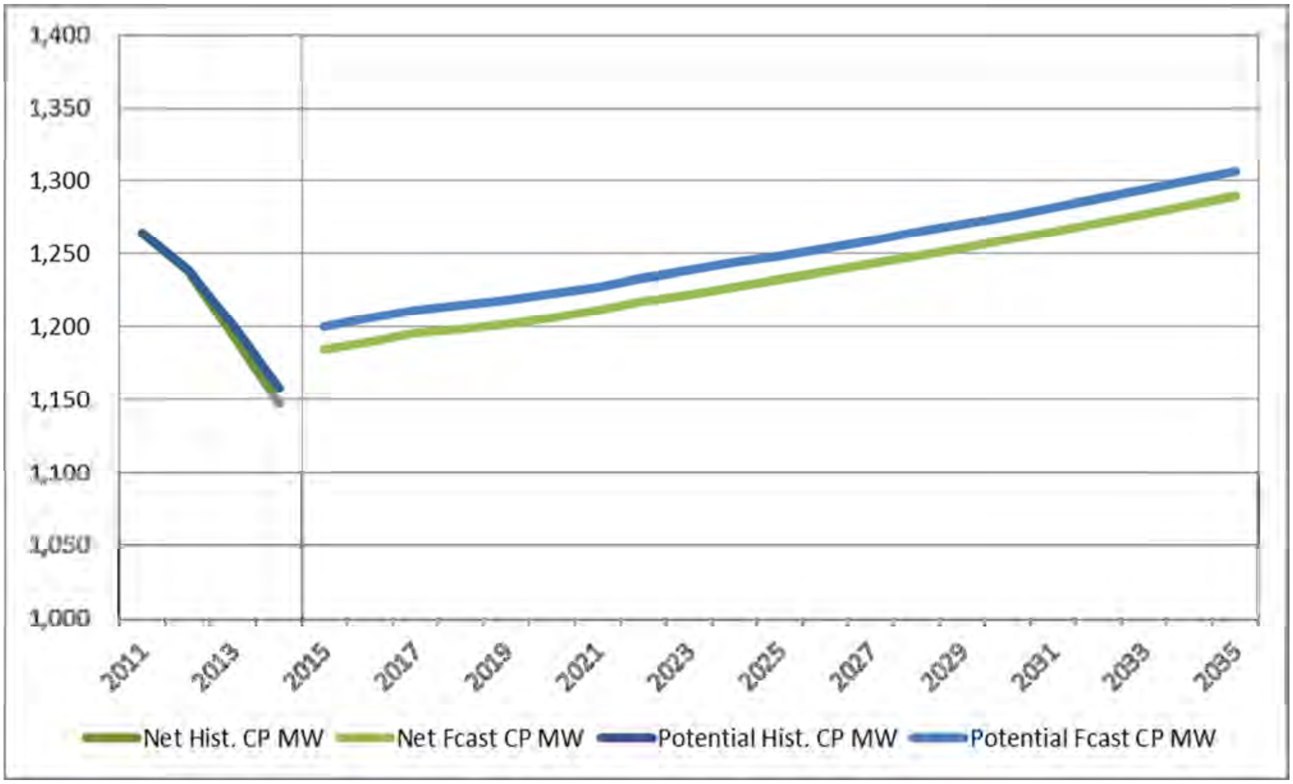


Figure 3: Figure 1: History and forecast demand with (potential) and without (net) energy efficiency.

INDUSTRY COMPARISONS

To evaluate whether the forecast growth rate was within the means of other industry forecasts, the IMPA forecast was compared to several industry forecasts from the Indiana State Utility Forecasting Group (SUFG), Energy Information Administration (EIA), Duke Energy Indiana's 2013 IRP forecast, and Vectren's 2014 IRP forecast results. The forecasts for MISO's load zone 6, in which a part of IMPA's load resides, for both energy and demand was developed by the SUFG for years 2013 through 2024. The "MISO Independent Load Forecast, November 2014" report from the SUFG is the latest forecast available from the group. The "Annual Energy Outlook 2015" from the EIA reports an energy only forecast for the Reliability First Corporation West (RFCW) for years 2012 through 2040 that pertained to IMPA's needs for comparison. Jurisdictional Indiana electric utilities Duke Energy Indiana and Vectren Corporation are required to file an Integrated Resource Plan (IRP) with the Indiana Utility Regulatory Commission every two years. Within the IRP's are demand and energy forecasts for Duke (2013 to 2035) and for Vectren (2014 to 2034).

The growth rates were extracted from these industry forecasts for the period 2015 to 2035 (if the forecast ended before 2035, the last available rate was continued) and applied to IMPA's actual historic 2014 data annually to create a four new IMPA forecasts for demand and energy for comparison. Since the EIA only generates energy forecasts, those growth rates were used also for demand. This assumption is reasonable since demand and energy typically grow at similar rates to ensure a realistic load factor.

The resulting forecasts indicated IMPA's forecasts were reasonable compared to calculations under the higher SUFG and EIA forecast but not as close to the IRP forecasts which reflect specific service areas.

	CP DEMAND (MW)						ENERGY (GWh)					
	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast
2014	1,147					1,181	6,226					6,259
2015	1,184	1,103	1,156	1,114	1,157	1,195	6,293	6,319	6,274	5,918	6,368	6,334
2016	1,190	1,121	1,194	1,134	1,158	1,206	6,329	6,422	6,329	6,016	6,391	6,416
2017	1,195	1,138	1,208	1,142	1,115	1,217	6,363	6,521	6,427	6,049	5,937	6,455
2018	1,199	1,152	1,212	1,147	1,111	1,226	6,383	6,602	6,515	6,034	5,925	6,502
2019	1,202	1,166	1,210	1,144	1,108	1,234	6,403	6,679	6,575	6,004	5,915	6,544
2020	1,207	1,179	1,208	1,155	1,108	1,241	6,431	6,758	6,608	6,022	5,919	6,601
2021	1,211	1,194	1,213	1,170	1,108	1,249	6,460	6,840	6,645	6,083	5,913	6,624
2022	1,217	1,207	1,222	1,186	1,109	1,256	6,496	6,918	6,701	6,152	5,915	6,663
2023	1,222	1,220	1,226	1,202	1,109	1,264	6,525	6,993	6,749	6,223	5,915	6,707
2024	1,227	1,234	1,232	1,219	1,109	1,272	6,555	7,074	6,800	6,294	5,918	6,767
2025	1,232	1,249	1,236	1,234	1,108	1,279	6,586	7,155	6,847	6,363	5,908	6,789
2026	1,238	1,263	1,239	1,250	1,108	1,288	6,617	7,237	6,884	6,432	5,908	6,835
2027	1,243	1,278	1,244	1,265	1,109	1,296	6,649	7,320	6,918	6,495	5,913	6,878
2028	1,248	1,292	1,247	1,282	1,111	1,304	6,682	7,404	6,943	6,564	5,929	6,941
2029	1,254	1,307	1,253	1,298	1,112	1,313	6,716	7,489	6,965	6,629	5,932	6,970
2030	1,260	1,322	1,257	1,320	1,113	1,321	6,750	7,575	6,984	6,698	5,940	7,016
2031	1,266	1,337	1,262	1,330	1,113	1,330	6,785	7,662	6,999	6,767	5,947	7,062
2032	1,271	1,353	1,268	1,347	1,115	1,338	6,820	7,750	7,013	6,840	5,965	7,130
2033	1,278	1,368	1,275	1,367	1,116	1,348	6,857	7,839	7,035	6,911	5,974	7,161
2034	1,284	1,384	1,282	1,387	1,117	1,357	6,894	7,929	7,062	6,978	5,987	7,211
2035	1,290	1,400	1,290	1,403	1,118	1,367	6,932	8,020	7,094	7,043	5,999	7,261
											Historical	*Forecast*
	Compound Annual Growth Rates											
2015-2035	0.4%	1.1%	0.5%	1.1%	-0.2%	0.6%	0.5%	1.1%	0.6%	0.8%	-0.3%	0.7%

Figure 4: Industry comparison forecasts.

CONCLUSION

The **2015 IMPA Load Forecast** was generated using historical data through 2014 and time series models for the loads of each of IMPA's control areas. The model results show projections of IMPA demand and energy with an annual average growth rate of 0.4% and 0.5% respectively. Demand and energy are both 0.2% lower than last year's forecast. These findings can be reasoned to show that though the recovery from the Great Recession is progressing, the growth is slower than originally anticipated. The SUFG, who also forecasted both demand and energy, projected demand at a lower growth rate as well. The growth rate of IMPA's forecast is reasonable considering similar forecasts developed by SUFG and EIA and with the improved economic situation compared to the previous year.

	IMPA Energy (GWh)			IMPA CP Demand (MW)		
	History	'14 Fcst	Forecast	History CP	'14 Fcst CP	Forecast
Year	GWh	GWh	GWh	MW	MW	CP MW
2004	5,928		5,567	1,076		1,027
2005	6,157		5,763	1,171		1,127
2006	6,076		5,675	1,197		1,097
2007	6,454		6,447	1,271		1,330
2008	6,340		6,254	1,164		1,153
2009	5,921	5,948		1,144	1,122	
2010	6,238	6,208		1,205	1,172	
2011	6,175	6,190	6,142	1,264	1,169	1,291
2012	6,149	6,181	6,216	1,238	1,167	1,360
2013	6,201	6,201	6,203	1,194	1,170	1,160
2014	6,226	6,259	6,235	1,147	1,181	1,141
2015		6,334	6,293		1,195	1,184
2016		6,416	6,329		1,206	1,190
2017		6,455	6,363		1,217	1,195
2018		6,502	6,383		1,226	1,199
2019		6,544	6,403		1,234	1,202
2020		6,601	6,431		1,241	1,207
2021		6,624	6,460		1,249	1,211
2022		6,663	6,496		1,256	1,217
2023		6,707	6,525		1,264	1,222
2024		6,767	6,555		1,272	1,227
2025		6,789	6,586		1,279	1,232
2026		6,835	6,617		1,288	1,238
2027		6,878	6,649		1,296	1,243
2028		6,941	6,682		1,304	1,248
2029		6,970	6,716		1,313	1,254
2030		7,016	6,750		1,321	1,260
2031		7,062	6,785		1,330	1,266
2032		7,130	6,820		1,338	1,271
2033		7,161	6,857		1,348	1,278
2034		7,211	6,894		1,357	1,284
2035		7,261	6,932		1,367	1,290
Compound Annual Growth Rates						
2011-2014	0.2%	0.3%	0.4%	-2.4%	0.3%	-3.0%
2015-2035		0.7%	0.5%		0.6%	0.4%

Figure 5: IMPA's 2015 forecast results.

Indiana Municipal Power Agency
IMPA 2015 Forecast

IMPA 2015 Forecast

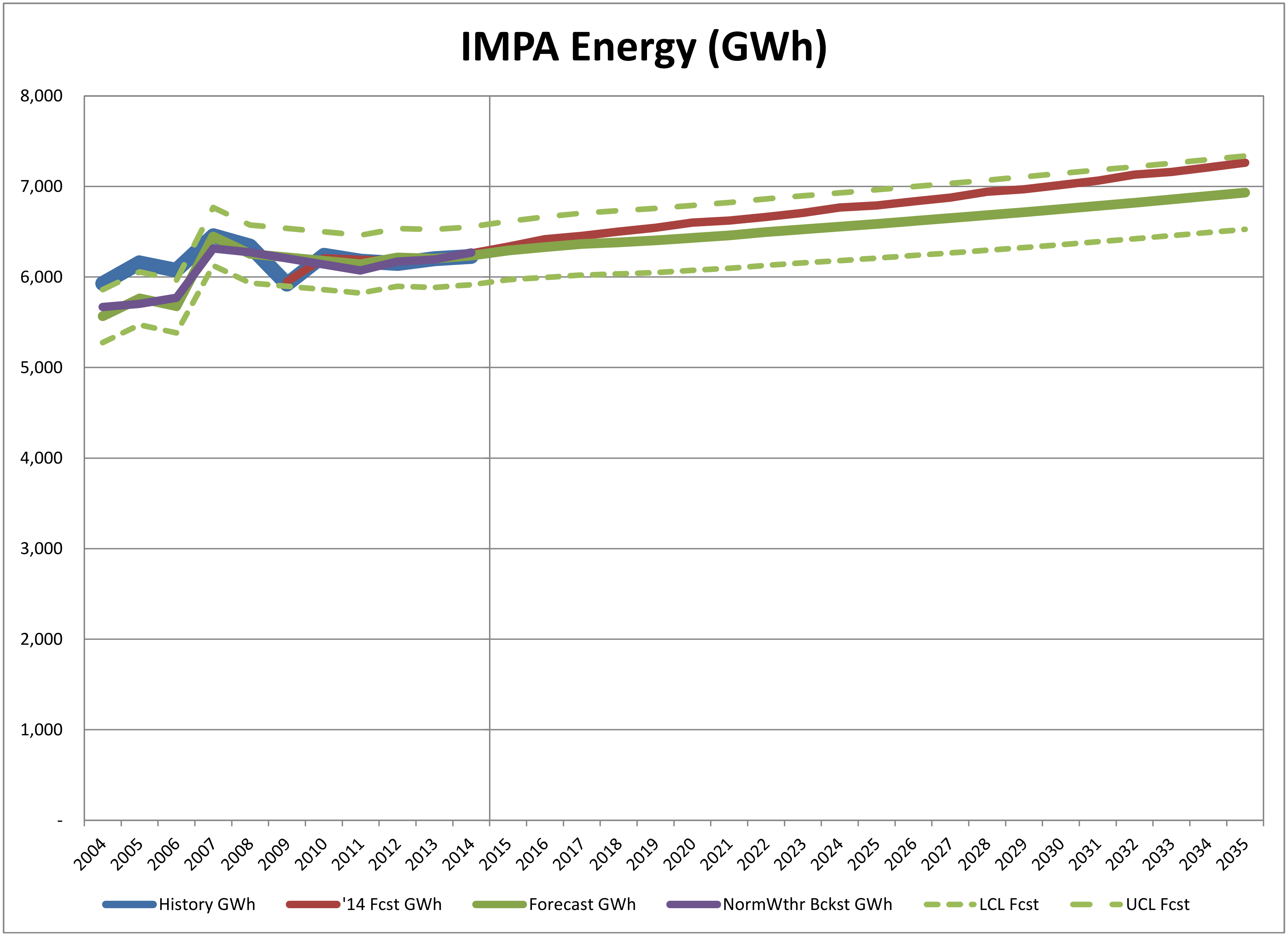
IMPA Total Summary - Net
IMPA 2015 Forecast

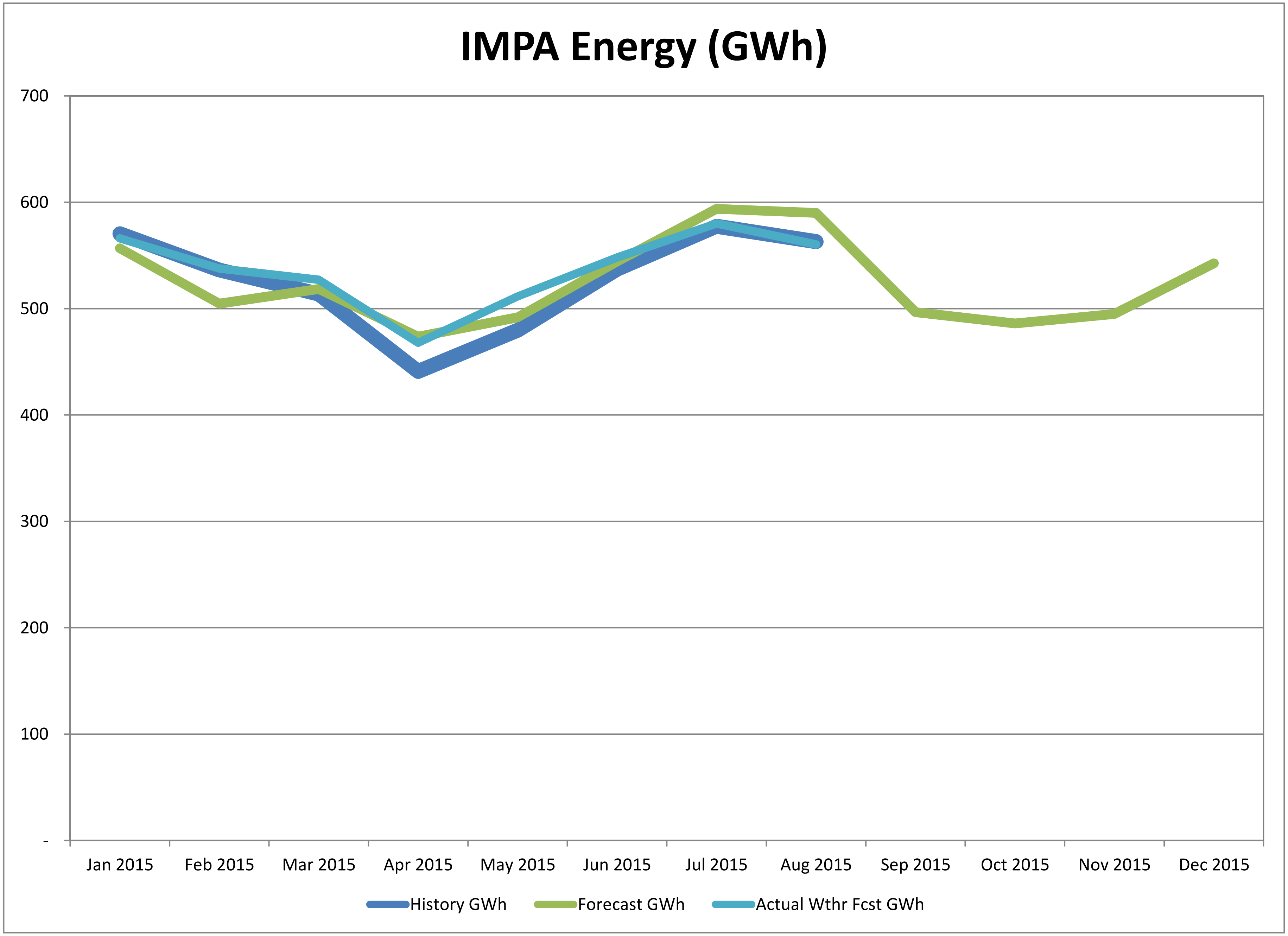
	IMPA Energy (GWh)				IMPA NCP Demand (MW)			IMPA CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004	5,928		5,567	5,669	1,109		1,044	1,076		1,027	5,275	5,860	(12)
2005	6,157		5,763	5,703	1,209		1,147	1,171		1,127	5,471	6,056	(20)
2006	6,076		5,675	5,770	1,225		1,116	1,197		1,097	5,382	5,967	(16)
2007	6,454		6,447	6,314	1,304		1,355	1,271		1,330	6,125	6,768	8
2008	6,340		6,254	6,272	1,187		1,178	1,164		1,153	5,935	6,574	86
2009	5,921	5,948			1,170	1,148		1,144	1,122				
2010	6,238	6,208			1,252	1,198		1,205	1,172				
2011	6,175	6,190	6,142	6,071	1,284	1,195	1,319	1,264	1,169	1,291	5,822	6,462	29
2012	6,149	6,181	6,216	6,170	1,272	1,193	1,390	1,238	1,167	1,360	5,897	6,536	(90)
2013	6,201	6,201	6,203	6,192	1,214	1,197	1,183	1,194	1,170	1,160	5,884	6,523	(63)
2014	6,226	6,259	6,235	6,271	1,168	1,208	1,164	1,147	1,181	1,141	5,915	6,555	(105)
2015		6,334	6,293			1,221	1,207		1,195	1,184	5,971	6,616	
2016		6,416	6,329			1,234	1,213		1,206	1,190	5,994	6,664	
2017		6,455	6,363			1,245	1,219		1,217	1,195	6,021	6,706	
2018		6,502	6,383			1,254	1,222		1,226	1,199	6,035	6,732	
2019		6,544	6,403			1,262	1,226		1,234	1,202	6,050	6,757	
2020		6,601	6,431			1,269	1,230		1,241	1,207	6,073	6,790	
2021		6,624	6,460			1,277	1,235		1,249	1,211	6,097	6,822	
2022		6,663	6,496			1,284	1,241		1,256	1,217	6,129	6,862	
2023		6,707	6,525			1,293	1,247		1,264	1,222	6,155	6,896	
2024		6,767	6,555			1,300	1,252		1,272	1,227	6,181	6,929	
2025		6,789	6,586			1,308	1,257		1,279	1,232	6,209	6,963	
2026		6,835	6,617			1,317	1,262		1,288	1,238	6,237	6,998	
2027		6,878	6,649			1,325	1,268		1,296	1,243	6,266	7,033	
2028		6,941	6,682			1,333	1,273		1,304	1,248	6,295	7,069	
2029		6,970	6,716			1,343	1,279		1,313	1,254	6,326	7,105	
2030		7,016	6,750			1,351	1,285		1,321	1,260	6,357	7,142	
2031		7,062	6,785			1,360	1,291		1,330	1,266	6,389	7,180	
2032		7,130	6,820			1,369	1,297		1,338	1,271	6,423	7,218	
2033		7,161	6,857			1,379	1,303		1,348	1,278	6,456	7,257	
2034		7,211	6,894			1,389	1,310		1,357	1,284	6,491	7,297	
2035		7,261	6,932			1,398	1,316		1,367	1,290	6,527	7,337	
Compound Annual Growth Rates													
2011-2014	0.2%	0.3%	0.4%	0.8%	-2.3%	0.3%	-3.1%	-2.4%	0.3%	-3.0%			
2015-2035		0.7%	0.5%			0.6%	0.4%		0.6%	0.4%			

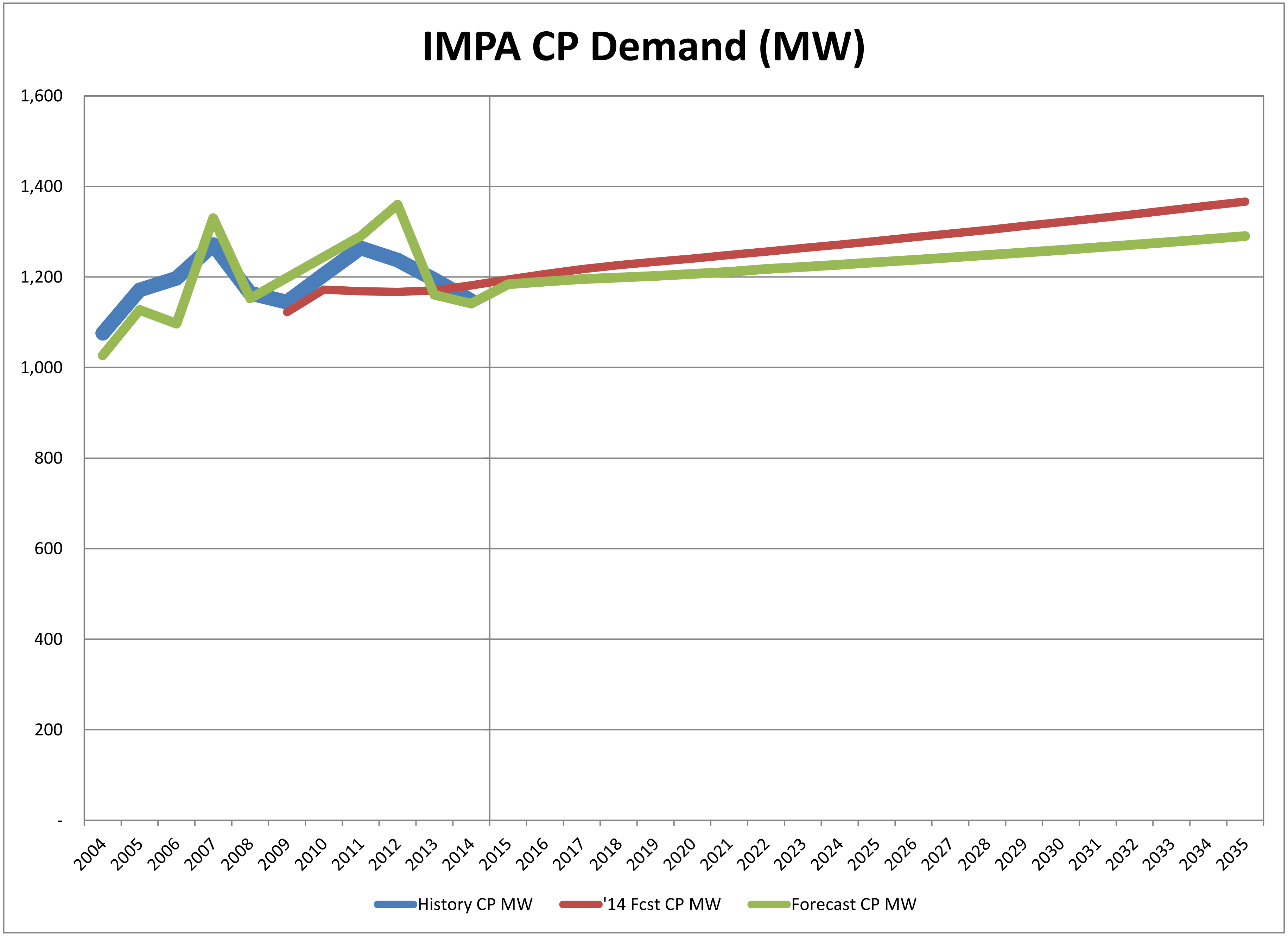
IMPA Total Summary - Net

IMPA 2015 Forecast

	IMPA Load Factors				IMPA Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		IMPA Energy (GWh)				IMPA NCP Demand (MW)			IMPA CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004	60.9%	60.7%	62.7%	61.7%										
2005	58.1%	57.3%	60.0%	58.4%	3.9%		3.5%	0.6%	9.1%		9.9%	8.9%		9.8%
2006	56.6%	58.0%	57.9%	59.1%	-1.3%		-1.5%	1.2%	1.3%		-2.7%	2.2%		-2.7%
2007	56.5%	54.3%	58.0%	55.3%	6.2%		13.6%	9.4%	6.4%		21.4%	6.2%		21.3%
2008	60.8%	60.4%	62.0%	61.8%	-1.8%		-3.0%	-0.7%	-8.9%		-13.1%	-8.4%		-13.3%
2009	57.8%		59.1%		-6.6%				-1.5%			-1.7%		
2010	56.9%		59.1%		5.4%	4.4%			7.0%	4.4%		5.3%	4.4%	
2011	54.9%	53.1%	55.8%	54.3%	-1.0%	-0.3%			2.6%	-0.3%		4.9%	-0.3%	
2012	55.0%	50.9%	56.6%	52.0%	-0.4%	-0.1%	1.2%	1.6%	-0.9%	-0.1%	5.4%	-2.1%	-0.1%	5.4%
2013	58.3%	59.9%	59.3%	61.0%	0.9%	0.3%	-0.2%	0.4%	-4.6%	0.3%	-14.9%	-3.5%	0.3%	-14.7%
2014	60.9%	61.2%	61.9%	62.4%	0.4%	0.9%	0.5%	1.3%	-3.8%	0.9%	-1.6%	-3.9%	0.9%	-1.6%
2015		59.5%		60.7%		1.2%	0.9%			1.1%	3.7%		1.1%	3.7%
2016		59.4%		60.6%		1.3%	0.6%			1.0%	0.5%		1.0%	0.5%
2017		59.6%		60.8%		0.6%	0.5%			0.9%	0.5%		0.9%	0.5%
2018		59.6%		60.8%		0.7%	0.3%			0.7%	0.3%		0.7%	0.3%
2019		59.6%		60.8%		0.6%	0.3%			0.6%	0.3%		0.6%	0.3%
2020		59.5%		60.7%		0.9%	0.4%			0.6%	0.4%		0.6%	0.4%
2021		59.7%		60.9%		0.3%	0.4%			0.6%	0.4%		0.6%	0.4%
2022		59.7%		60.9%		0.6%	0.6%			0.6%	0.5%		0.6%	0.5%
2023		59.8%		60.9%		0.7%	0.5%			0.6%	0.4%		0.6%	0.4%
2024		59.6%		60.8%		0.9%	0.5%			0.6%	0.4%		0.6%	0.4%
2025		59.8%		61.0%		0.3%	0.5%			0.6%	0.4%		0.6%	0.4%
2026		59.8%		61.0%		0.7%	0.5%			0.7%	0.4%		0.7%	0.4%
2027		59.9%		61.1%		0.6%	0.5%			0.6%	0.4%		0.6%	0.4%
2028		59.7%		60.9%		0.9%	0.5%			0.6%	0.4%		0.6%	0.4%
2029		59.9%		61.1%		0.4%	0.5%			0.7%	0.4%		0.7%	0.4%
2030		60.0%		61.2%		0.7%	0.5%			0.6%	0.5%		0.6%	0.5%
2031		60.0%		61.2%		0.7%	0.5%			0.7%	0.5%		0.6%	0.5%
2032		59.9%		61.1%		1.0%	0.5%			0.7%	0.5%		0.7%	0.5%
2033		60.1%		61.3%		0.4%	0.5%			0.7%	0.5%		0.7%	0.5%
2034		60.1%		61.3%		0.7%	0.5%			0.7%	0.5%		0.7%	0.5%
2035		60.1%		61.3%		0.7%	0.6%			0.7%	0.5%		0.7%	0.5%
Average														
2011-2014	57.3%	56.3%	58.4%	57.4%	0.0%	0.2%	0.5%	1.1%	-1.7%	0.2%	-3.7%	-1.2%	0.2%	-3.6%
2015-2035		59.8%		61.0%		0.7%	0.5%			0.7%	0.6%		0.7%	0.6%


IMPA Energy (GWh)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History GWh
'14 Fcst GWh
Forecast GWh
NormWthr Bckst GWh
LCL Fcst
UCL Fcst


IMPA Energy (GWh)
700
600
500
400
300
200
100
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh



IMPA CP Demand (MW)
1,600
1,400
1,200
1,000
800
600
400
200
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

IMPA Monthly - Net Demand & Energy
IMPA 2015 Forecast

	IMPA Energy		IMPA NCP Demand		IMPA CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	599		1,076		1,046	
Feb 2014	529		1,033		1,014	
Mar 2014	522		968		946	
Apr 2014	447		827		805	
May 2014	486		989		964	
Jun 2014	545		1,142		1,121	
Jul 2014	536		1,114		1,096	
Aug 2014	570		1,168		1,147	
Sep 2014	488		1,155		1,140	
Oct 2014	473		869		843	
Nov 2014	502		961		945	
Dec 2014	530		931		908	
Jan 2015	570	557	1,067	991	1,041	971
Feb 2015	536	505	1,048	988	1,024	970
Mar 2015	514	518	960	941	948	920
Apr 2015	441	474	795	875	763	853
May 2015	480	492	946	1,020	922	998
Jun 2015	537	544	1,105	1,167	1,080	1,148
Jul 2015	577	594	1,181	1,197	1,163	1,171
Aug 2015	563	590	1,109	1,207	1,084	1,184
Sep 2015	-	497	-	1,154	-	1,134
Oct 2015	-	486	-	883	-	857
Nov 2015	-	495	-	926	-	911
Dec 2015	-	543	-	982	-	960
Jan 2016	-	561	-	998	-	978
Feb 2016	-	507	-	959	-	941
Mar 2016	-	521	-	946	-	925
Apr 2016	-	477	-	880	-	858
May 2016	-	495	-	1,026	-	1,004
Jun 2016	-	547	-	1,174	-	1,154
Jul 2016	-	597	-	1,203	-	1,177
Aug 2016	-	593	-	1,213	-	1,190
Sep 2016	-	500	-	1,161	-	1,140
Oct 2016	-	489	-	888	-	862
Nov 2016	-	498	-	931	-	917
Dec 2016	-	545	-	987	-	965

		IMPA NCP Demand		IMPA CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	1,168	-	1,147	-
Winter	2014	1,076	-	1,046	-
Summer	2015	1,181	1,207	1,163	1,184
Winter	2015	1,067	991	1,041	971
Summer	2016	-	1,213	-	1,190
Winter	2016	-	998	-	978
Summer	2017	-	1,219	-	1,195
Winter	2017	-	1,003	-	982
Summer	2018	-	1,222	-	1,199
Winter	2018	-	1,006	-	985
Summer	2019	-	1,226	-	1,202
Winter	2019	-	1,009	-	988
Summer	2020	-	1,230	-	1,207
Winter	2020	-	1,013	-	992
Summer	2021	-	1,235	-	1,211
Winter	2021	-	1,017	-	996
Summer	2022	-	1,241	-	1,217
Winter	2022	-	1,022	-	1,001
Summer	2023	-	1,247	-	1,222
Winter	2023	-	1,027	-	1,005
Summer	2024	-	1,252	-	1,227
Winter	2024	-	1,031	-	1,009

AEP IMPA Members

IMPA 2015 Forecast - AEP Control Area

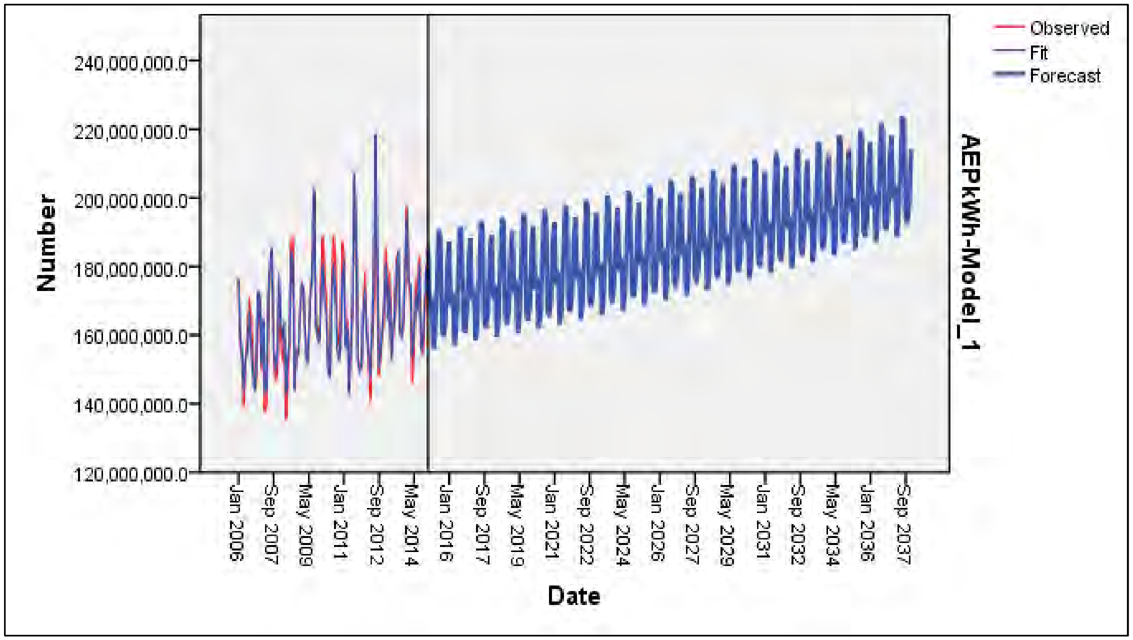
Members in Control Area
ANDERSON
COLUMBIA CITY
FRANKTON
GAS CITY
RICHMOND
AEP CC Plant

AEP - AEP IMPA Control Area

Economic Variables Used
Indiana Real Personal Income, U.S. Unemployment Rate

AEP Forecast Model

IMPA 2015 Forecast - AEP Control Area



Observations

108

Model Description

			Model Type
Model ID	AEP kWh	Model_1	ARIMA(0,0,0)(0,0,0)

Model Statistics

Model	Number of Predictors	Model Fit statistics					Ljung-Box Q(18)			Number of Outliers
		squared	R-squared	RMSE	MAPE	MAE	Statistics	DF	Sig.	
AEP kWh-Model_1	6	.906	.906	4,700,059.133	2.101	3,483,700.074	88.150	18	.000	0

ARIMA Model Parameters

					Estimate	SE	t	Sig.
AEP kWh-Model_1	AEP kWh	No Transformation	Constant		-13,518,558.547	18,291,649.202	-.739	.462
	IN Real Per Inc	No Transformation	Numerator	Lag 0	170.315	24.940	6.829	.000
	US UE	No Transformation	Numerator	Lag 0	-1,206,367.970	389,999.945	-3.093	.003
	HDD	No Transformation	Numerator	Lag 0	37,517.861	1,574.962	23.821	.000
	CDD	No Transformation	Numerator	Lag 0	135,241.427	4,757.237	28.429	.000
	Peak Days	No Transformation	Numerator	Lag 0	4,153,987.275	615,472.449	6.749	.000
	Off-Peak Days	No Transformation	Numerator	Lag 0	3,181,612.588	653,264.778	4.870	.000

AEP Members Summary - Net

IMPA 2015 Forecast - AEP Control Area

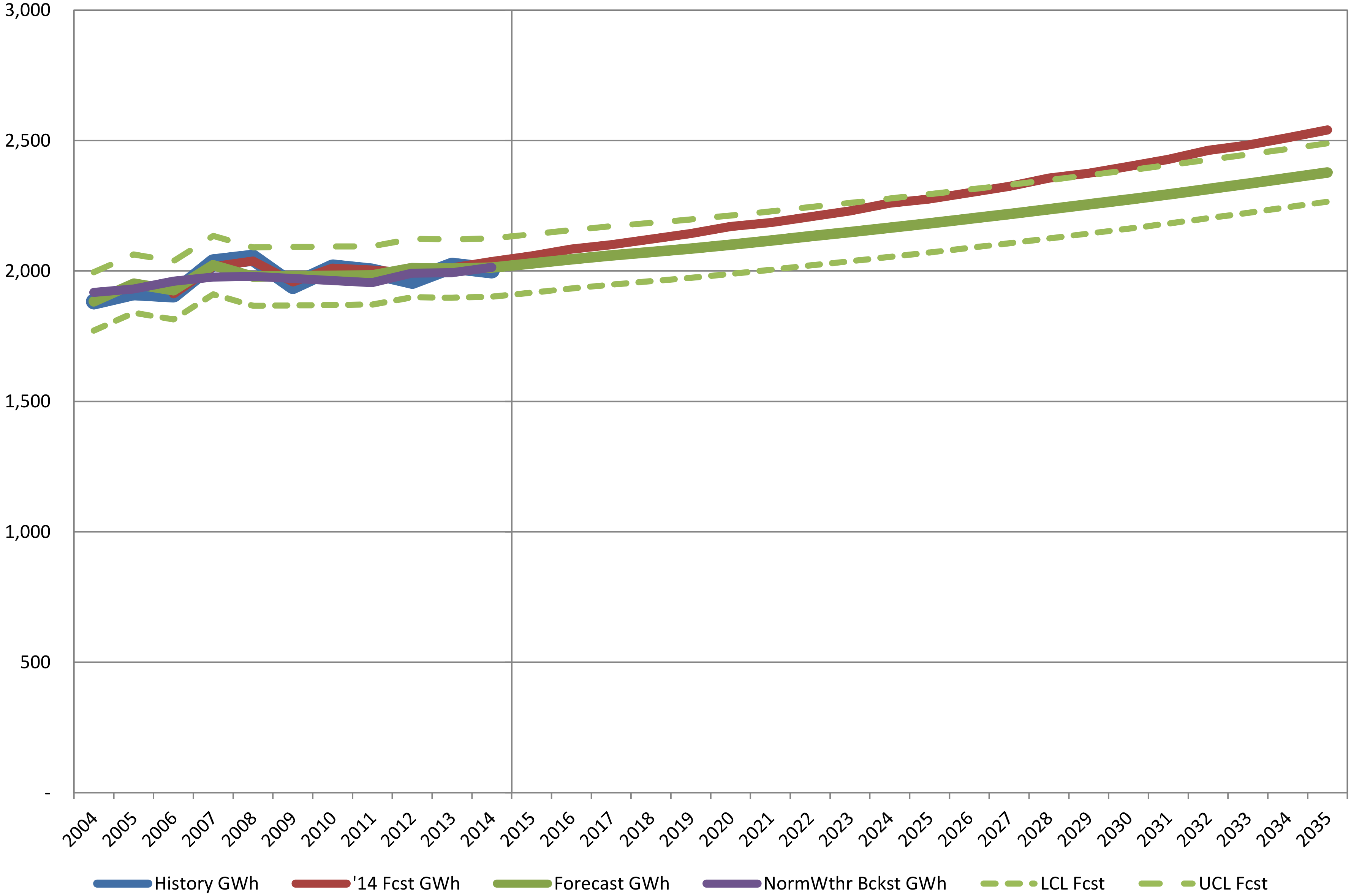
	AEP Energy (GWh)				AEP NCP Demand (MW)			AEP CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004	1,883		1,883	1,918	351		344	327		332	1,771	1,995	(0)
2005	1,918		1,951	1,930	388		378	358		362	1,839	2,063	(33)
2006	1,910	1,912	1,926	1,960	400	358	370	386	345	354	1,814	2,038	(17)
2007	2,033	2,017	2,022	1,977	405	378	413	387	364	396	1,910	2,134	11
2008	2,051	2,038	1,978	1,979	378	382	362	367	367	347	1,866	2,090	72
2009	1,943	1,958			371	367		357	353				
2010	2,013	2,011			400	377		370	363				
2011	1,998	2,004	1,983	1,955	405	376	415	393	361	398	1,871	2,095	14
2012	1,962	1,992	2,011	1,991	391	373	438	379	359	420	1,899	2,122	(53)
2013	2,020	2,012	2,009	1,994	381	377	373	372	363	358	1,897	2,121	(8)
2014	2,002	2,036	2,013	2,013	366	382	365	354	367	350	1,901	2,125	(41)
2015		2,058	2,029			386	380		371	365	1,917	2,141	
2016		2,084	2,044			390	383		375	367	1,932	2,156	
2017		2,100	2,060			394	386		379	370	1,948	2,172	
2018		2,122	2,073			398	388		383	372	1,961	2,184	
2019		2,143	2,086			402	390		386	374	1,974	2,198	
2020		2,171	2,101			406	393		390	376	1,989	2,213	
2021		2,185	2,116			410	395		394	379	2,004	2,228	
2022		2,208	2,133			414	398		398	382	2,021	2,245	
2023		2,230	2,149			418	401		402	384	2,037	2,261	
2024		2,260	2,166			422	404		406	387	2,054	2,278	
2025		2,276	2,183			427	407		410	390	2,071	2,295	
2026		2,300	2,200			431	410		415	393	2,088	2,312	
2027		2,324	2,218			436	413		419	396	2,106	2,330	
2028		2,356	2,236			440	416		423	399	2,124	2,348	
2029		2,375	2,255			445	419		428	402	2,143	2,367	
2030		2,401	2,274			450	423		433	405	2,162	2,386	
2031		2,427	2,294			455	426		438	408	2,182	2,406	
2032		2,462	2,314			460	429		442	412	2,202	2,426	
2033		2,482	2,335			465	433		448	415	2,223	2,447	
2034		2,511	2,356			471	437		453	418	2,244	2,468	
2035		2,540	2,377			476	440		458	422	2,266	2,489	
Compound Annual Growth Rates													
2011-2014	0.1%	0.4%	0.4%	0.7%	-2.5%	0.4%	-3.2%	-2.6%	0.4%	-3.2%			
2015-2035		1.0%	0.8%			1.0%	0.7%		1.0%	0.7%			

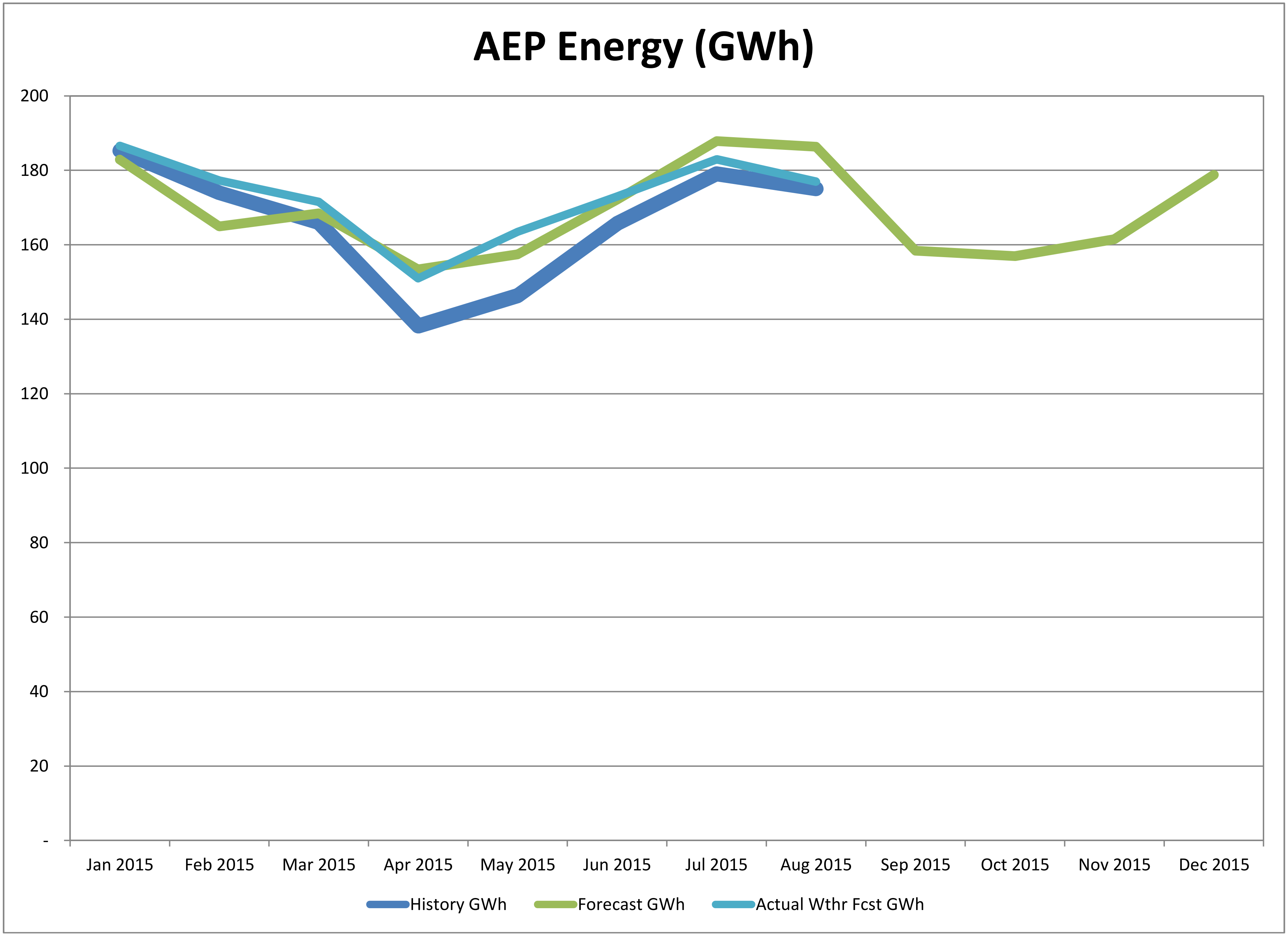
AEP Members Summary - Net

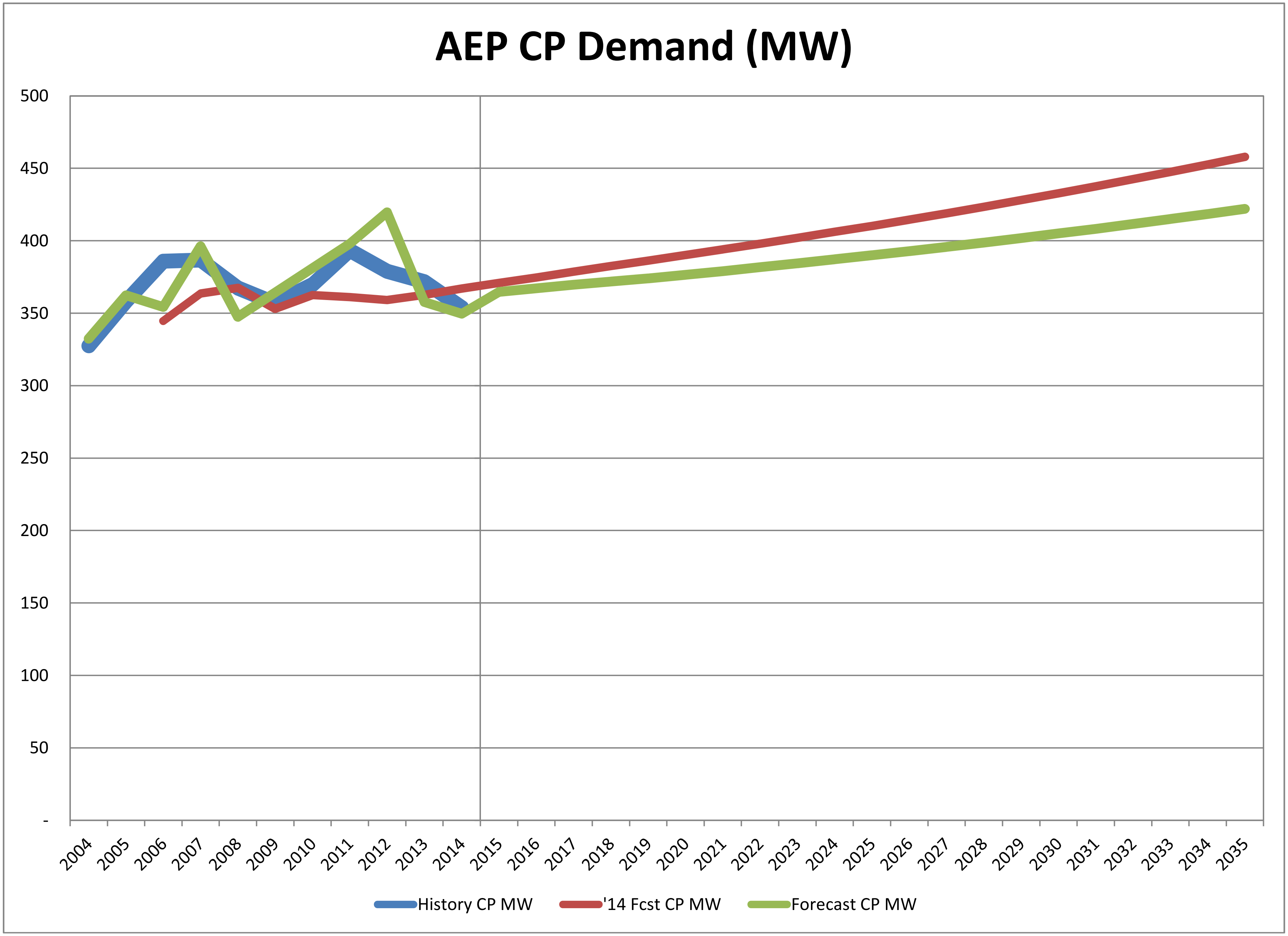
IMPA 2015 Forecast - AEP Control Area

	AEP Load Factors				AEP Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		AEP Energy (GWh)				AEP NCP Demand (MW)			AEP CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004	61.0%	62.3%	65.5%	64.5%										
2005	56.4%	58.9%	61.1%	61.5%	1.9%		3.6%	0.7%	10.5%		9.8%	9.4%		9.0%
2006	54.5%	59.5%	56.5%	62.1%	-0.5%		-1.3%	1.6%	2.9%		-2.2%	7.7%		-2.2%
2007	57.3%	55.9%	60.0%	58.3%	6.5%	5.5%	5.0%	0.8%	1.3%	5.5%	11.8%	0.2%	5.5%	11.8%
2008	61.8%	62.2%	63.5%	64.8%	0.9%	1.1%	-2.2%	0.1%	-6.7%	1.1%	-12.3%	-5.0%	1.1%	-12.3%
2009	59.7%		62.1%		-5.3%	-3.9%			-1.7%	-3.9%		-2.9%	-3.9%	
2010	57.5%		62.1%		3.6%	2.7%			7.6%	2.7%		3.6%	2.7%	
2011	56.4%	54.5%	58.0%	56.9%	-0.8%	-0.4%			1.2%	-0.4%		6.4%	-0.4%	
2012	57.2%	52.3%	59.0%	54.5%	-1.8%	-0.6%	1.4%	1.9%	-3.4%	-0.6%	5.5%	-3.7%	-0.6%	5.5%
2013	60.5%	61.5%	62.0%	64.1%	2.9%	1.0%	-0.1%	0.1%	-2.4%	1.0%	-14.8%	-1.9%	1.0%	-14.8%
2014	62.4%	63.0%	64.6%	65.7%	-0.9%	1.2%	0.2%	1.0%	-3.9%	1.2%	-2.3%	-4.8%	1.2%	-2.3%
2015		60.9%		63.5%		1.1%	0.8%			1.1%	4.3%		1.1%	4.3%
2016		60.8%		63.4%		1.3%	0.8%			1.0%	0.7%		1.0%	0.7%
2017		61.0%		63.6%		0.8%	0.8%			1.1%	0.7%		1.1%	0.7%
2018		61.0%		63.6%		1.0%	0.6%			1.0%	0.6%		1.0%	0.6%
2019		61.0%		63.7%		1.0%	0.6%			1.0%	0.6%		1.0%	0.6%
2020		60.9%		63.5%		1.3%	0.7%			1.0%	0.7%		1.0%	0.7%
2021		61.1%		63.7%		0.7%	0.7%			1.0%	0.7%		1.0%	0.7%
2022		61.1%		63.8%		1.0%	0.8%			1.0%	0.7%		1.0%	0.7%
2023		61.2%		63.8%		1.0%	0.8%			1.0%	0.7%		1.0%	0.7%
2024		61.0%		63.7%		1.3%	0.8%			1.0%	0.7%		1.0%	0.7%
2025		61.3%		63.9%		0.7%	0.8%			1.0%	0.7%		1.0%	0.7%
2026		61.3%		63.9%		1.1%	0.8%			1.1%	0.7%		1.1%	0.7%
2027		61.3%		64.0%		1.1%	0.8%			1.1%	0.7%		1.1%	0.7%
2028		61.2%		63.8%		1.4%	0.8%			1.1%	0.8%		1.1%	0.8%
2029		61.4%		64.1%		0.8%	0.8%			1.1%	0.8%		1.1%	0.8%
2030		61.4%		64.1%		1.1%	0.9%			1.1%	0.8%		1.1%	0.8%
2031		61.5%		64.1%		1.1%	0.9%			1.1%	0.8%		1.1%	0.8%
2032		61.4%		64.0%		1.4%	0.9%			1.1%	0.8%		1.1%	0.8%
2033		61.6%		64.2%		0.8%	0.9%			1.1%	0.8%		1.1%	0.8%
2034		61.6%		64.3%		1.1%	0.9%			1.1%	0.8%		1.1%	0.8%
2035		61.6%		64.3%		1.2%	0.9%			1.2%	0.9%		1.2%	0.9%
Average														
2011-2014	59.1%	57.8%	60.9%	60.3%	-0.1%	0.3%	0.5%	1.0%	-2.1%	0.3%	-3.9%	-1.0%	0.3%	-3.9%
2015-2035		61.2%		63.9%		1.1%	0.8%			1.1%	0.9%		1.1%	0.9%

AEP Energy (GWh)




AEP Energy (GWh)
200
180
160
140
120
100
80
60
40
20
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh


AEP CP Demand (MW)
500
450
400
350
300
250
200
150
100
50
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

AEP Monthly - Net Demand & Energy
IMPA 2015 Forecast

	AEP Energy		AEP NCP Demand		AEP CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	195		335		328	
Feb 2014	172		326		314	
Mar 2014	170		312		302	
Apr 2014	144		262		250	
May 2014	153		299		287	
Jun 2014	174		360		345	
Jul 2014	171		353		339	
Aug 2014	180		362		349	
Sep 2014	156		366		354	
Oct 2014	152		263		250	
Nov 2014	163		308		297	
Dec 2014	173		296		290	
Jan 2015	185	183	340	319	325	307
Feb 2015	174	165	335	316	318	306
Mar 2015	166	168	295	299	295	288
Apr 2015	138	153	250	271	235	266
May 2015	146	157	281	318	269	309
Jun 2015	166	172	332	365	328	355
Jul 2015	179	188	367	377	355	361
Aug 2015	175	186	339	380	324	365
Sep 2015	-	158	-	364	-	352
Oct 2015	-	157	-	276	-	267
Nov 2015	-	161	-	293	-	287
Dec 2015	-	179	-	314	-	303
Jan 2016	-	184	-	321	-	309
Feb 2016	-	166	-	307	-	297
Mar 2016	-	170	-	301	-	290
Apr 2016	-	155	-	273	-	268
May 2016	-	159	-	321	-	311
Jun 2016	-	173	-	368	-	357
Jul 2016	-	189	-	379	-	363
Aug 2016	-	188	-	383	-	367
Sep 2016	-	160	-	367	-	355
Oct 2016	-	158	-	278	-	269
Nov 2016	-	163	-	295	-	289
Dec 2016	-	180	-	316	-	305

		AEP NCP Demand		AEP CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	366	-	354	-
Winter	2014	335	-	328	-
Summer	2015	367	380	355	365
Winter	2015	340	319	325	307
Summer	2016	-	383	-	367
Winter	2016	-	321	-	309
Summer	2017	-	386	-	370
Winter	2017	-	323	-	312
Summer	2018	-	388	-	372
Winter	2018	-	325	-	313
Summer	2019	-	390	-	374
Winter	2019	-	327	-	315
Summer	2020	-	393	-	376
Winter	2020	-	329	-	317
Summer	2021	-	395	-	379
Winter	2021	-	331	-	319
Summer	2022	-	398	-	382
Winter	2022	-	334	-	322
Summer	2023	-	401	-	384
Winter	2023	-	336	-	324
Summer	2024	-	404	-	387
Winter	2024	-	339	-	326

DEI IMPA Members

IMPA 2015 Forecast - Duke Energy IN Control Area

Members in Control Area			
ADVANCE		MONTEZUMA	Legacy
BAINBRIDGE		NEW ROSS	Legacy
BARGERSVILLE		PAOLI	
BROOKLYN		PENDLETON	
CENTERVILLE		PERU	
COATESVILLE	Legacy	PITTSBORO	
COVINGTON		RISING SUN	
CRAWFORDSVILLE		ROCKVILLE	
DARLINGTON		SCOTTSBURG	
DUBLIN		SOUTH WHITLEY	Legacy
DUNREITH		SPICELAND	
EDINBURGH		STRAUGHN	
FLORA		THORNTOWN	
FRANKFORT		TIPTON	
GREENDALE		VEEDERSBURG	Legacy
GREENFIELD		WASHINGTON	
JAMESTOWN		WAYNETOWN	
KNIGHTSTOWN		WILLIAMSPORT	Legacy
LADOGA			
* LAWRENCEBURG		*Lawrenceburg without AEP CC Plant	
LEBANON			
LEWISVILLE			
LINTON			
MIDDLETOWN			

Additional Data **

- Coatesville (January 2009 to June 2012)
- Montezuma (January 2009 to December 2012)
- New Ross (January 2009 to December 2012)
- South Whitley (January 2009 to October 2012)
- Straughn (January 2009 to November 2010)
- Veedersburg (January 2009 to December 2011)
- Williamsport (January 2009 to June 2012)

**To create a consistent historical database for developing the statistical models, additional demand and energy data for the cities above was included even though the city was not yet part of IMPA.

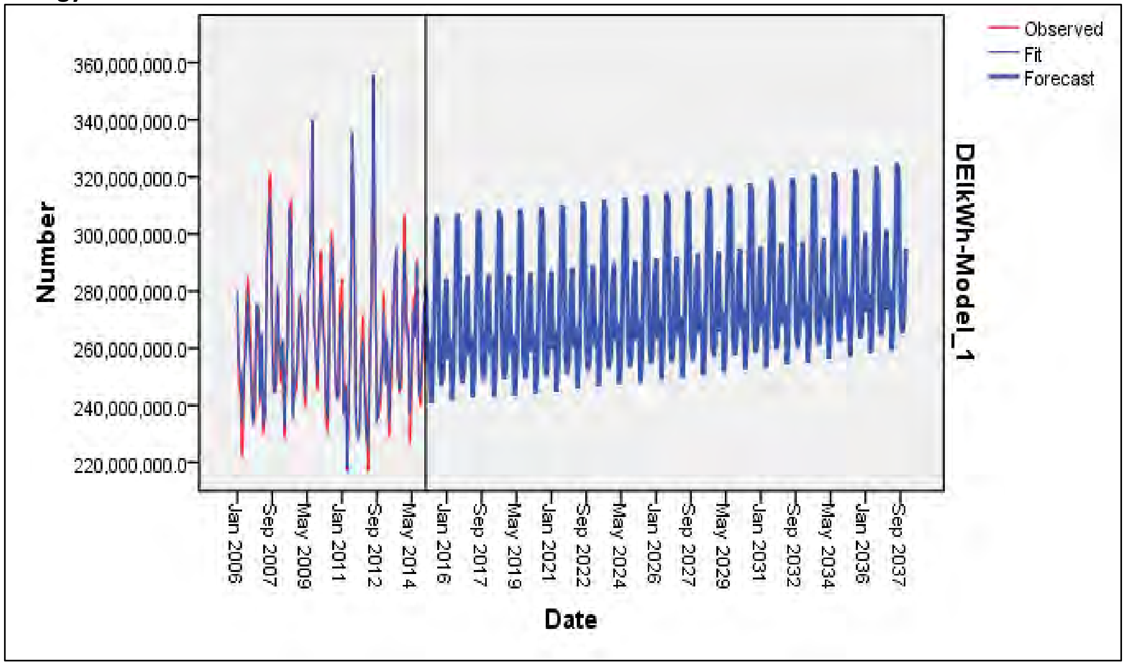
Economic Variables Used

Indiana Real Personal Income, U.S. Unemployment Rate

DEI - Duke Energy IN IMPA Control Area

DEI Forecast Model

IMPA 2015 Forecast - Duke Energy IN Control Area



Observations

108

Model Description

			Model Type
Model ID	DEI kWh	Model_1	ARIMA(0,0,0)(0,0,0)

Model Statistics

Model	Number of Predictors	Model Fit statistics					Ljung-Box Q(18)			Number of Outliers
		squared	R-squared	RMSE	MAPE	MAE	Statistics	DF	Sig.	
DEI kWh-Model_1	6	.945	.945	6,160,582.164	1.775	4,658,478.137	68.361	18	.000	0

ARIMA Model Parameters

					Estimate	SE	t	Sig.
DEI kWh-Model_1	DEI kWh	No Transformation	Constant		27,371,100.784	23,944,146.124	1.143	.256
	IN Real Per Inc	No Transformation	Numerator	Lag 0	94.464	32.692	2.890	.005
	US UE	No Transformation	Numerator	Lag 0	-3,900,603.363	511,043.024	-7.633	.000
	HDD	No Transformation	Numerator	Lag 0	53,003.099	2,054.167	25.803	.000
	CDD	No Transformation	Numerator	Lag 0	241,726.269	6,193.955	39.026	.000
	Peak Days	No Transformation	Numerator	Lag 0	6,786,261.493	805,680.537	8.423	.000
	Off-Peak Days	No Transformation	Numerator	Lag 0	5,033,597.371	855,493.435	5.884	.000

DEI Members Summary - Net

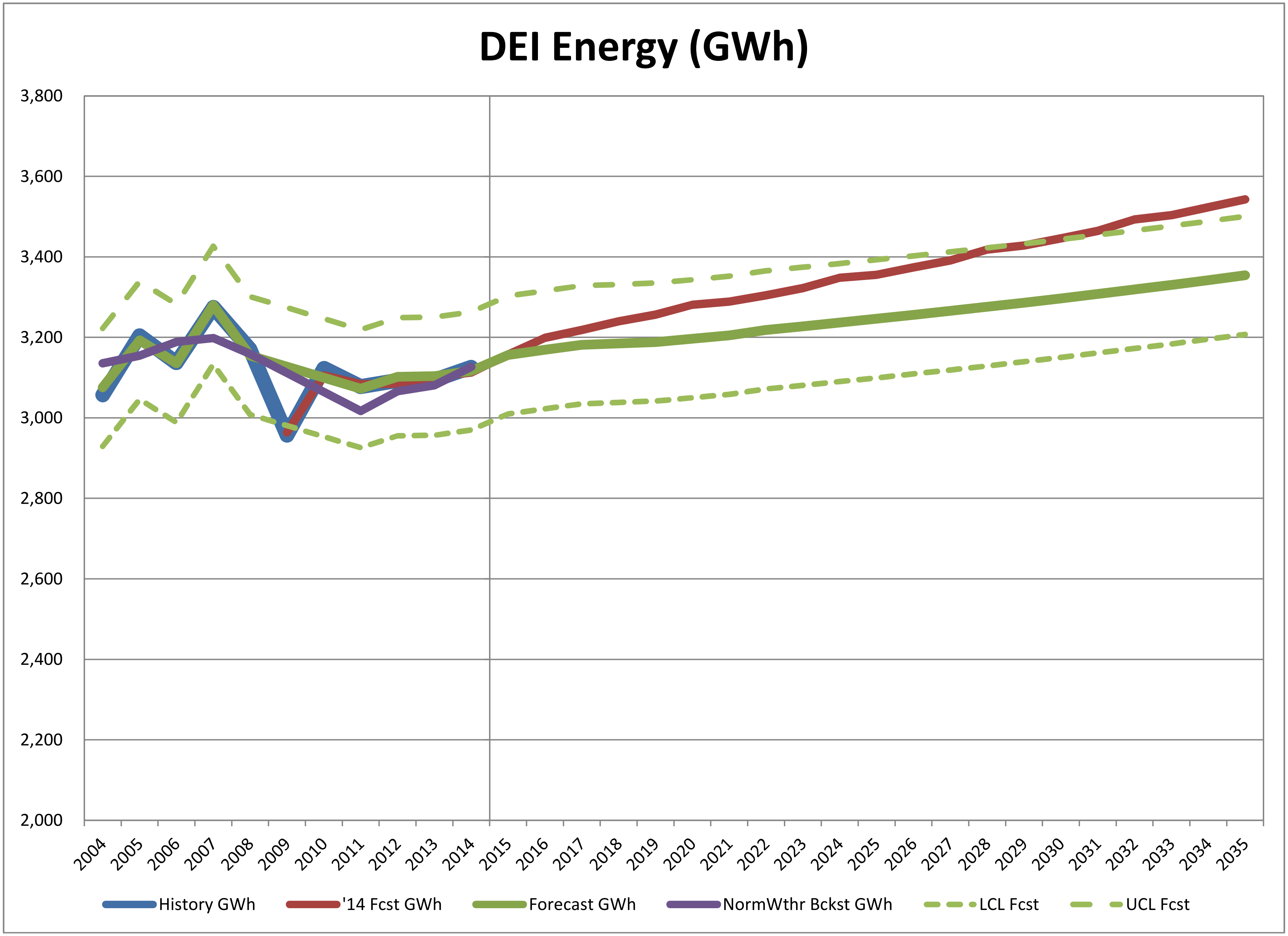
IMPA 2015 Forecast - Duke Energy IN Control Area

	DEI Energy (GWh)				DEI NCP Demand (MW)			DEI CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004	3,057		3,076	3,136	552		580	544		575	2,929	3,222	(19)
2005	3,204		3,193	3,155	603		634	598		631	3,046	3,339	11
2006	3,137		3,135	3,189	599		614	593		611	2,989	3,282	1
2007	3,275		3,280	3,198	662		690	651		687	3,133	3,426	(5)
2008	3,170		3,155	3,159	593		591	584		585	3,008	3,301	15
2009	2,957	2,964			585	574		580	565				
2010	3,123	3,105			621	601		610	593				
2011	3,078	3,084	3,072	3,017	644	597	668	638	588	660	2,926	3,219	3
2012	3,093	3,085	3,102	3,066	650	597	706	632	589	698	2,956	3,249	(22)
2013	3,094	3,102	3,103	3,081	608	600	593	602	592	591	2,957	3,250	(41)
2014	3,126	3,112	3,117	3,127	589	602	579	587	594	577	2,970	3,263	(41)
2015		3,157	3,156			610	607		601	605	3,010	3,303	
2016		3,199	3,169			616	609		608	607	3,023	3,316	
2017		3,218	3,182			622	611		613	609	3,035	3,328	
2018		3,240	3,185			626	612		617	609	3,038	3,332	
2019		3,256	3,188			629	612		620	610	3,042	3,335	
2020		3,281	3,197			632	614		623	611	3,050	3,343	
2021		3,289	3,205			635	615		627	613	3,059	3,352	
2022		3,304	3,219			639	617		630	615	3,072	3,365	
2023		3,322	3,228			642	619		633	617	3,081	3,374	
2024		3,348	3,237			645	621		636	618	3,090	3,383	
2025		3,356	3,246			648	622		639	620	3,099	3,393	
2026		3,374	3,256			652	624		643	622	3,109	3,402	
2027		3,391	3,266			655	626		646	623	3,119	3,412	
2028		3,418	3,276			659	627		649	625	3,129	3,422	
2029		3,428	3,286			662	629		653	627	3,139	3,433	
2030		3,446	3,297			666	631		657	628	3,150	3,443	
2031		3,464	3,308			669	633		660	630	3,161	3,454	
2032		3,493	3,319			673	635		664	632	3,172	3,466	
2033		3,504	3,330			677	637		668	634	3,184	3,477	
2034		3,523	3,342			681	639		671	636	3,195	3,489	
2035		3,543	3,354			685	641		675	638	3,207	3,501	
Compound Annual Growth Rates													
2011-2014	0.4%	0.2%	0.4%	0.9%	-2.2%	0.2%	-3.5%	-2.1%	0.2%	-3.3%			
2015-2035		0.6%	0.3%			0.6%	0.3%		0.6%	0.3%			

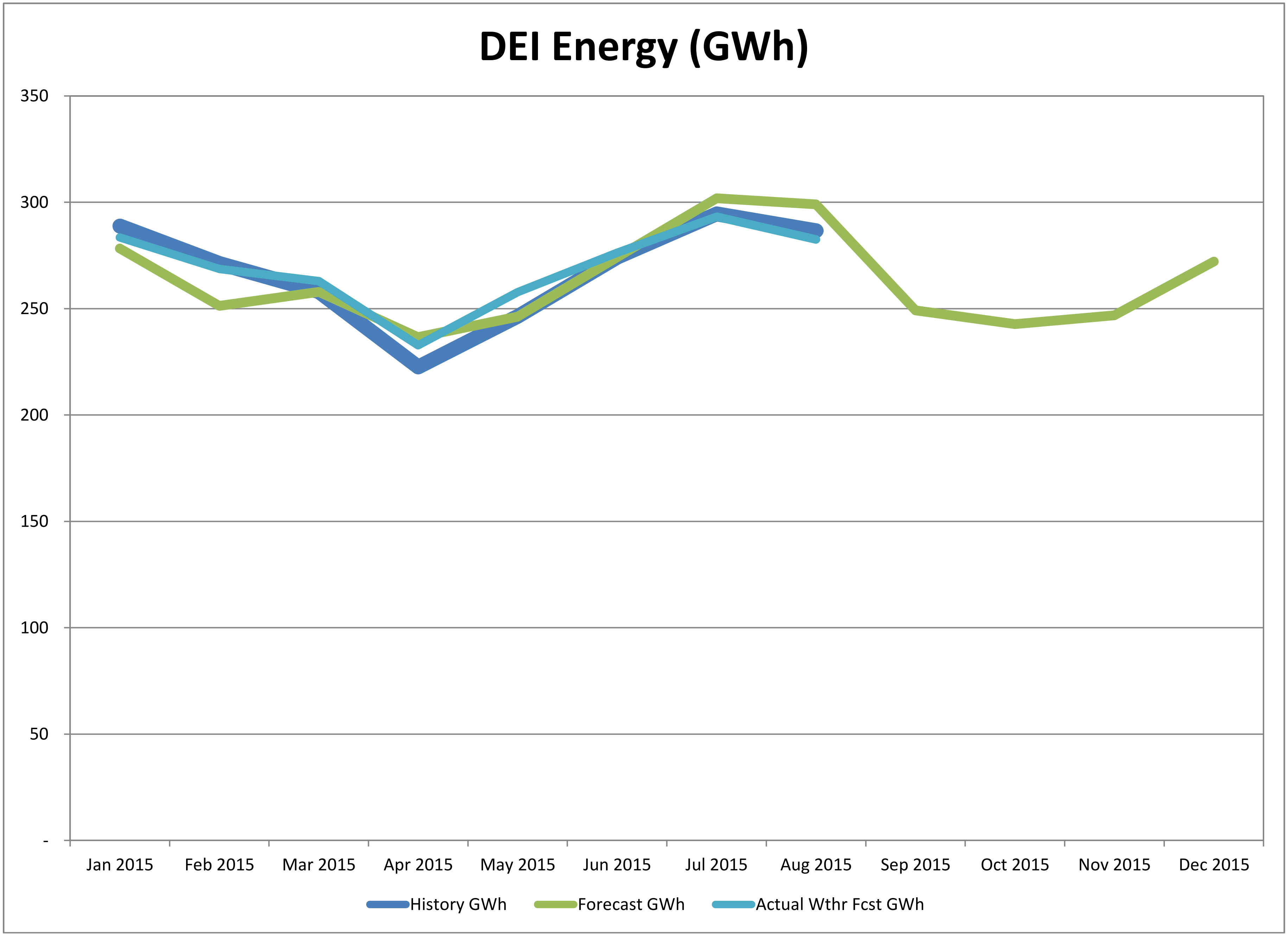
DEI Members Summary - Net

IMPA 2015 Forecast - Duke Energy IN Control Area

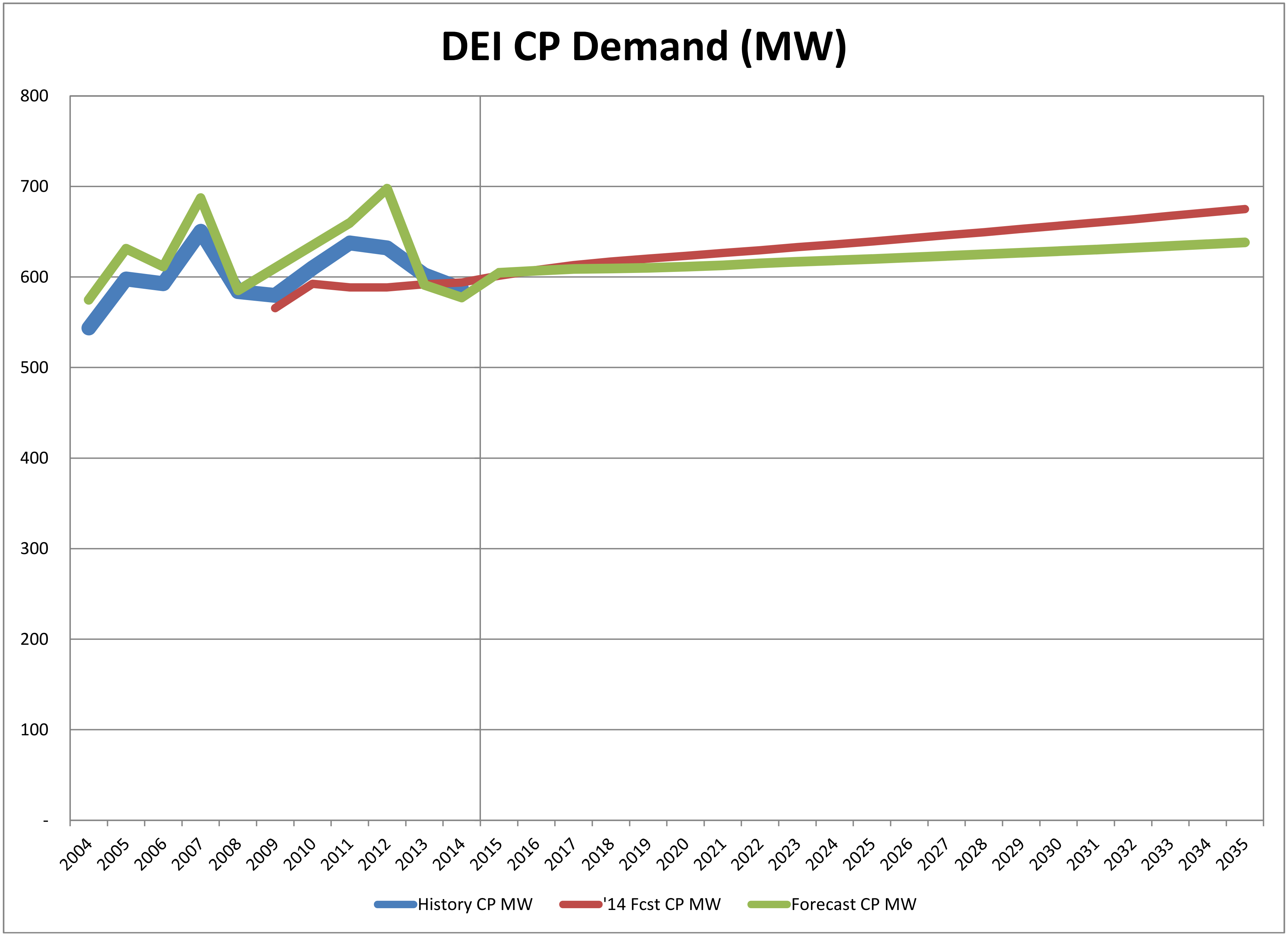
	DEI Load Factors				DEI Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		DEI Energy (GWh)				DEI NCP Demand (MW)			DEI CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004	63.0%	60.4%	64.0%	60.9%										
2005	60.6%	57.5%	61.2%	57.7%	4.8%		3.8%	0.6%	9.2%		9.3%	10.0%		9.8%
2006	59.7%	58.3%	60.4%	58.5%	-2.1%		-1.8%	1.1%	-0.6%		-3.1%	-0.9%		-3.1%
2007	56.5%	54.3%	57.5%	54.5%	4.4%		4.6%	0.3%	10.4%		12.3%	9.8%		12.4%
2008	60.8%	60.7%	61.8%	61.4%	-3.2%		-3.8%	-1.2%	-10.3%		-14.3%	-10.3%		-14.9%
2009	57.7%		58.2%		-6.7%				-1.4%			-0.7%		
2010	57.4%		58.4%		5.6%	4.8%			6.3%	4.8%		5.3%	4.8%	
2011	54.5%	52.5%	55.1%	53.2%	-1.5%	-0.7%			3.7%	-0.7%		4.5%	-0.7%	
2012	54.2%	50.0%	55.7%	50.6%	0.5%	0.0%	1.0%	1.6%	0.8%	0.0%	5.7%	-0.9%	0.0%	5.7%
2013	58.0%	59.7%	58.6%	59.9%	0.0%	0.6%	0.0%	0.5%	-6.3%	0.6%	-16.0%	-4.7%	0.6%	-15.3%
2014	60.6%	61.4%	60.8%	61.6%	1.0%	0.3%	0.4%	1.5%	-3.2%	0.3%	-2.4%	-2.6%	0.3%	-2.4%
2015		59.4%		59.6%		1.4%	1.3%			1.3%	4.8%		1.3%	4.8%
2016		59.2%		59.5%		1.3%	0.4%			1.0%	0.3%		1.0%	0.3%
2017		59.4%		59.6%		0.6%	0.4%			0.9%	0.3%		0.9%	0.3%
2018		59.4%		59.7%		0.7%	0.1%			0.7%	0.1%		0.7%	0.1%
2019		59.4%		59.7%		0.5%	0.1%			0.5%	0.1%		0.5%	0.1%
2020		59.3%		59.5%		0.8%	0.3%			0.5%	0.2%		0.5%	0.2%
2021		59.5%		59.7%		0.2%	0.3%			0.5%	0.2%		0.5%	0.2%
2022		59.5%		59.7%		0.5%	0.4%			0.5%	0.4%		0.5%	0.4%
2023		59.5%		59.7%		0.5%	0.3%			0.5%	0.2%		0.5%	0.2%
2024		59.4%		59.6%		0.8%	0.3%			0.5%	0.3%		0.5%	0.3%
2025		59.6%		59.8%		0.2%	0.3%			0.5%	0.3%		0.5%	0.3%
2026		59.6%		59.8%		0.5%	0.3%			0.5%	0.3%		0.5%	0.3%
2027		59.6%		59.8%		0.5%	0.3%			0.5%	0.3%		0.5%	0.3%
2028		59.5%		59.7%		0.8%	0.3%			0.5%	0.3%		0.5%	0.3%
2029		59.6%		59.9%		0.3%	0.3%			0.6%	0.3%		0.6%	0.3%
2030		59.7%		59.9%		0.5%	0.3%			0.5%	0.3%		0.5%	0.3%
2031		59.7%		59.9%		0.5%	0.3%			0.5%	0.3%		0.5%	0.3%
2032		59.5%		59.8%		0.8%	0.3%			0.5%	0.3%		0.5%	0.3%
2033		59.7%		59.9%		0.3%	0.3%			0.6%	0.3%		0.6%	0.3%
2034		59.7%		60.0%		0.6%	0.4%			0.6%	0.3%		0.6%	0.3%
2035		59.8%		60.0%		0.6%	0.4%			0.6%	0.3%		0.6%	0.3%
							Average							
2011-2014	56.8%	55.9%	57.6%	56.3%	0.0%	0.1%	0.5%	1.2%	-1.2%	0.1%	-4.2%	-0.9%	0.1%	-4.0%
2015-2035		59.5%		59.7%		0.6%	0.4%			0.6%	0.5%		0.6%	0.5%



DEI Energy (GWh)
3,800
3,600
3,400
3,200
3,000
2,800
2,600
2,400
2,200
2,000
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History GWh
'14 Fcst GWh
Forecast GWh
NormWthr Bckst GWh
LCL Fcst
UCL Fcst



DEI Energy (GWh)
350
300
250
200
150
100
50
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh


DEI CP Demand (MW)
800
700
600
500
400
300
200
100
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

DEI Monthly - Net Demand & Energy
IMPA 2015 Forecast

	DEI Energy		DEI NCP Demand		DEI CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	303		545		526	
Feb 2014	266		516		512	
Mar 2014	262		478		468	
Apr 2014	222		403		397	
May 2014	244		500		491	
Jun 2014	273		570		567	
Jul 2014	269		552		552	
Aug 2014	287		589		587	
Sep 2014	243		579		580	
Oct 2014	236		429		420	
Nov 2014	253		473		473	
Dec 2014	267		461		452	
Jan 2015	289	278	533	488	526	483
Feb 2015	271	251	521	486	516	481
Mar 2015	258	258	485	460	478	453
Apr 2015	223	237	386	431	372	418
May 2015	246	246	483	508	475	500
Jun 2015	274	274	565	588	548	582
Jul 2015	295	302	592	600	589	593
Aug 2015	287	299	557	607	551	605
Sep 2015	-	249	-	579	-	574
Oct 2015	-	243	-	435	-	421
Nov 2015	-	247	-	456	-	450
Dec 2015	-	272	-	484	-	478
Jan 2016	-	280	-	492	-	486
Feb 2016	-	252	-	471	-	467
Mar 2016	-	259	-	462	-	455
Apr 2016	-	238	-	433	-	420
May 2016	-	247	-	510	-	502
Jun 2016	-	275	-	590	-	584
Jul 2016	-	303	-	603	-	595
Aug 2016	-	300	-	609	-	607
Sep 2016	-	250	-	582	-	577
Oct 2016	-	244	-	437	-	423
Nov 2016	-	248	-	457	-	452
Dec 2016	-	273	-	486	-	479

		DEI NCP Demand		DEI CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	589	-	587	-
Winter	2014	545	-	526	-
Summer	2015	592	607	589	605
Winter	2015	533	488	526	483
Summer	2016	-	609	-	607
Winter	2016	-	492	-	486
Summer	2017	-	611	-	609
Winter	2017	-	493	-	488
Summer	2018	-	612	-	609
Winter	2018	-	494	-	488
Summer	2019	-	612	-	610
Winter	2019	-	494	-	489
Summer	2020	-	614	-	611
Winter	2020	-	495	-	490
Summer	2021	-	615	-	613
Winter	2021	-	497	-	491
Summer	2022	-	617	-	615
Winter	2022	-	499	-	493
Summer	2023	-	619	-	617
Winter	2023	-	500	-	495
Summer	2024	-	621	-	618
Winter	2024	-	501	-	496

DEO IMPA Members

IMPA 2015 Forecast - Duke Energy OH-KY Control Area

Members in Control Area

BLANCHESTER OH

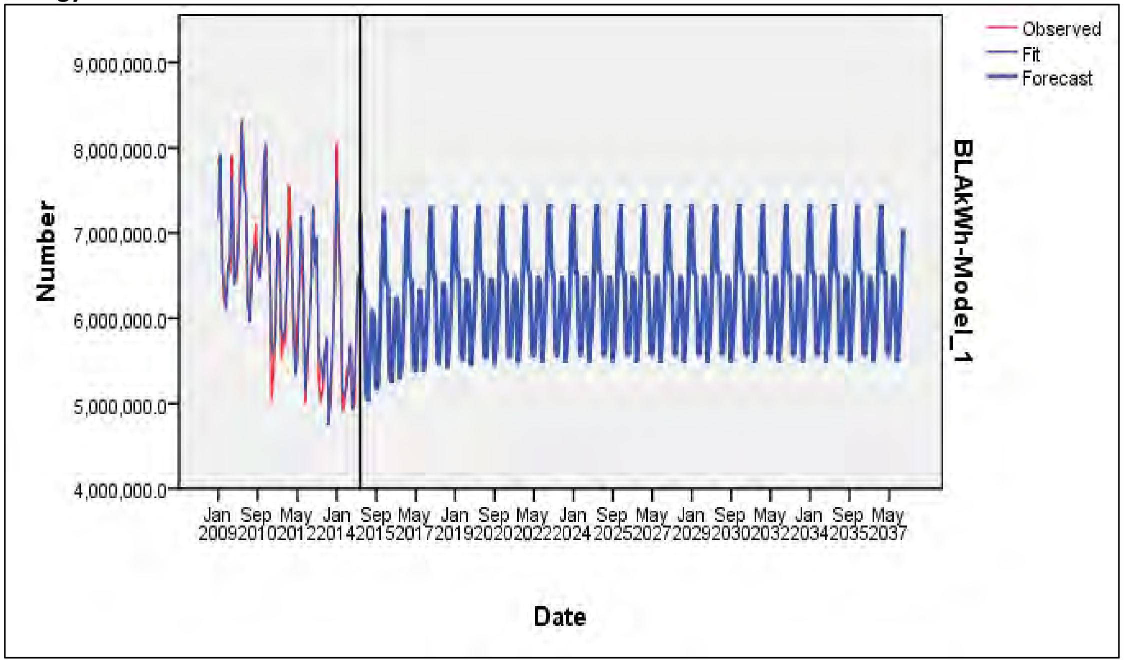
Economic Variables Used

NA

DEO - Duke Energy OH-KY IMPA Control Area

DEO Forecast Model

IMPA 2015 Forecast - Duke Energy OH-KY Control Area



Observations

72

Model Description

			Model Type
Model ID	BLA kWh	Model_1	ARIMA(1,0,0)(1,0,0)

Model Statistics

Model	Number of Predictors	Model Fit statistics					Ljung-Box Q(18)			Number of Outliers
		squared	R-squared	RMSE	MAPE	MAE	Statistics	DF	Sig.	
BLA kWh-Model_1	4	.934	.934	240,281.229	2.845	178,444.481	13.550	16	.632	0

ARIMA Model Parameters

					Estimate	SE	t	Sig.
BLA kWh-Model_1	BLA kWh	No Transformation	Constant		615,328.067	1,191,780.547	.516	.607
			AR	Lag 1	.831	.066	12.614	.000
			AR, Seasonal	Lag 1	.577	.115	5.023	.000
	HDD	No Transformation	Numerator	Lag 0	2,320.343	166.387	13.945	.000
	CDD	No Transformation	Numerator	Lag 0	4,512.888	401.746	11.233	.000
	Peak Days	No Transformation	Numerator	Lag 0	159,021.571	37,955.737	4.190	.000
	Off-Peak Days	No Transformation	Numerator	Lag 0	100,352.894	40,378.352	2.485	.016

DEO Members Summary - Net

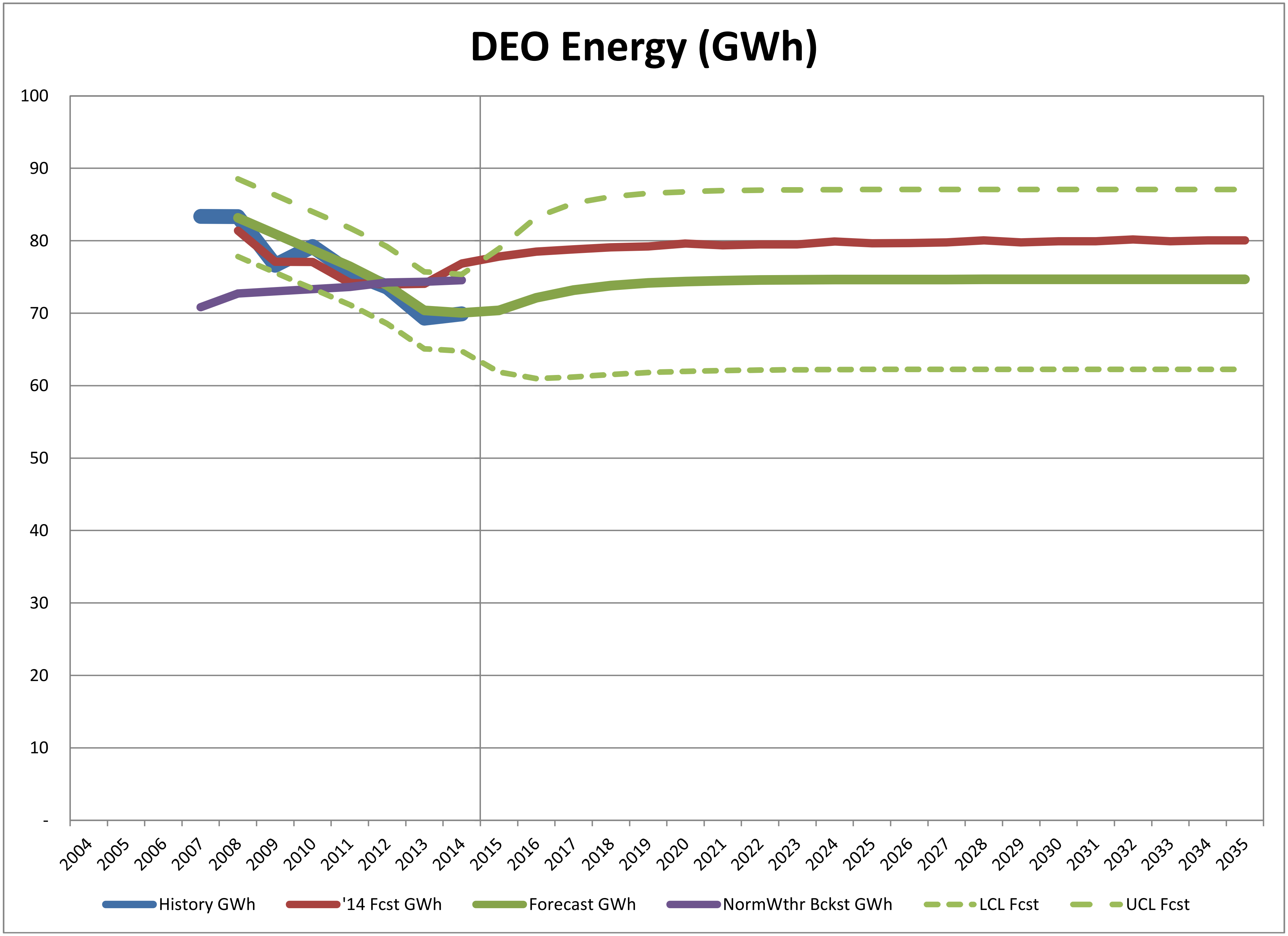
IMPA 2015 Forecast - Duke Energy OH-KY Control Area

	DEO Energy (GWh)				DEO NCP Demand (MW)			DEO CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004													
2005													
2006													
2007	83			71	16			16					
2008	83	81	83	73	16	16	16	16	16	16	78	89	0
2009	77	77			16	15		16	15				
2010	79	77			15	15		15	15				
2011	76	74	76	74	15	15	15	15	15	15	71	82	(1)
2012	74	74	74	74	14	14	15	14	14	15	69	79	(0)
2013	69	74	70	74	15	14	14	15	14	14	65	76	(1)
2014	70	77	70	75	16	15	15	16	15	15	65	75	(0)
2015		78	70			15	14		15	14	62	79	
2016		78	72			15	14		15	14	61	83	
2017		79	73			15	14		15	14	61	85	
2018		79	74			15	14		15	14	62	86	
2019		79	74			16	14		16	14	62	87	
2020		80	74			16	14		16	14	62	87	
2021		79	75			16	14		16	14	62	87	
2022		80	75			16	14		16	14	62	87	
2023		80	75			16	14		16	14	62	87	
2024		80	75			16	14		16	14	62	87	
2025		80	75			16	14		16	14	62	87	
2026		80	75			16	14		16	14	62	87	
2027		80	75			16	14		16	14	62	87	
2028		80	75			16	14		16	14	62	87	
2029		80	75			16	14		16	14	62	87	
2030		80	75			16	14		16	14	62	87	
2031		80	75			16	14		16	14	62	87	
2032		80	75			16	14		16	14	62	87	
2033		80	75			16	14		16	14	62	87	
2034		80	75			16	14		16	14	62	87	
2035		80	75			16	14		16	14	62	87	
Compound Annual Growth Rates													
2011-2014	-2.0%	0.9%	-2.2%	0.3%	1.6%	0.9%	0.0%	1.6%	0.9%	0.0%			
2015-2035		0.1%	0.3%			0.1%	0.1%		0.1%	0.1%			

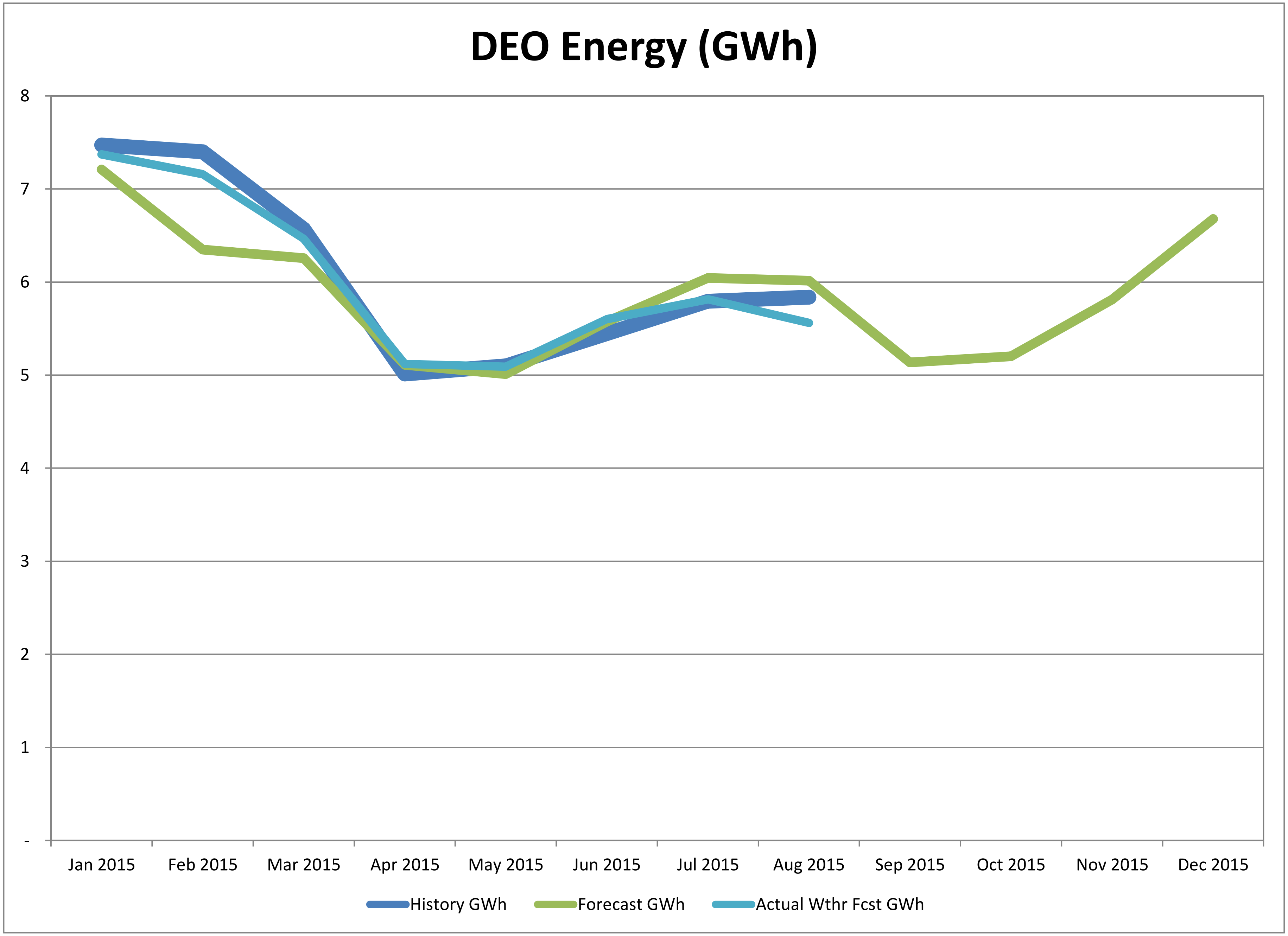
DEO Members Summary - Net

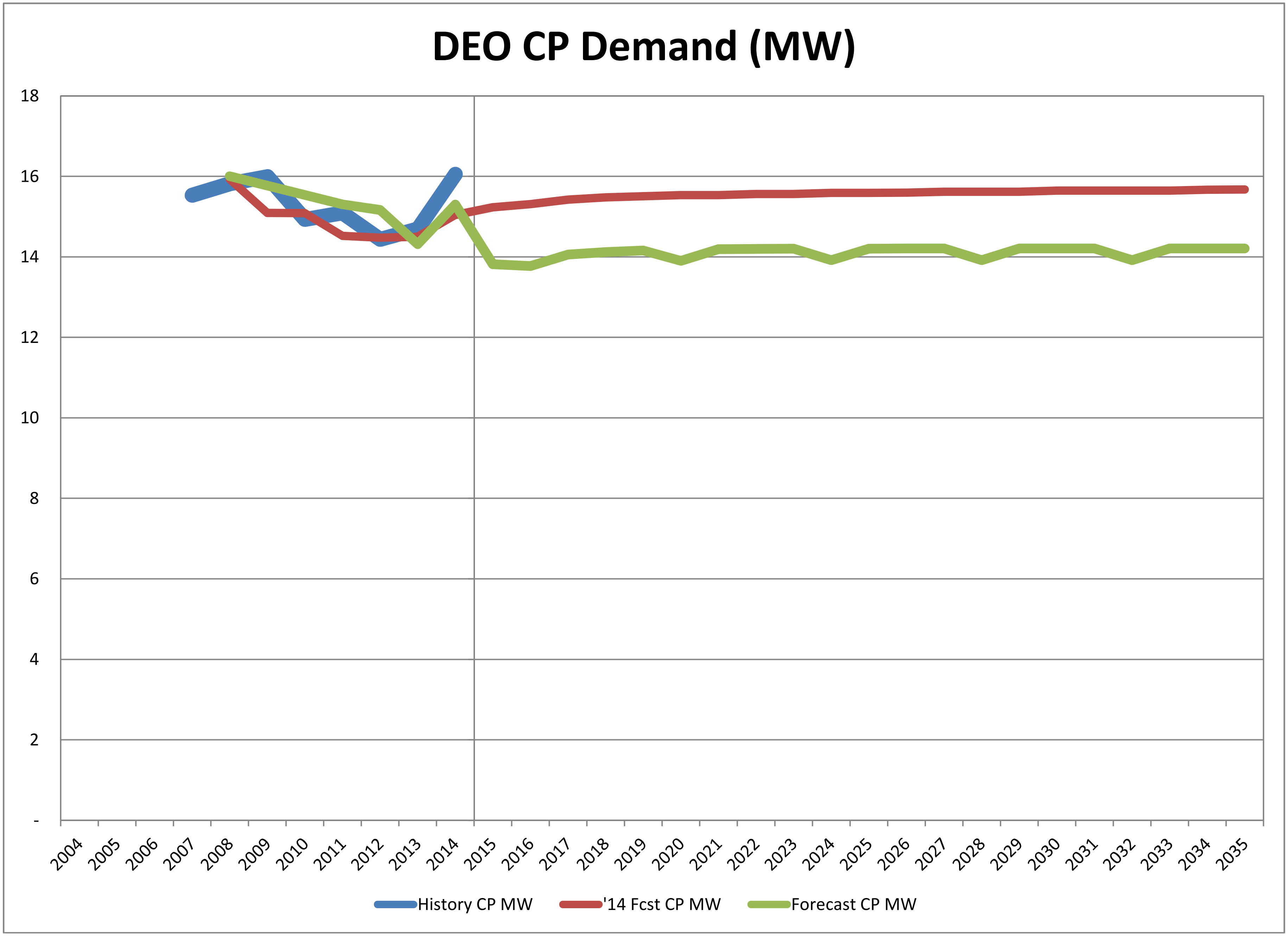
IMPA 2015 Forecast - Duke Energy OH-KY Control Area

	DEO Load Factors				DEO Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		DEO Energy (GWh)				DEO NCP Demand (MW)			DEO CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004														
2005														
2006														
2007	61.3%		61.3%											
2008	60.0%	59.2%	60.0%	59.2%	0.0%			2.7%	1.8%			1.8%		
2009	54.7%		54.7%		-8.1%	-5.3%			1.2%	-5.3%		1.2%	-5.3%	
2010	60.6%		60.6%		3.4%	-0.1%			-6.7%	-0.1%		-6.7%	-0.1%	
2011	57.2%	57.0%	57.2%	57.0%	-4.5%	-3.7%			1.1%	-3.7%		1.1%	-3.7%	
2012	58.0%	55.5%	58.0%	55.5%	-2.7%	-0.3%	-3.4%	0.8%	-4.3%	-0.3%	-0.9%	-4.3%	-0.3%	-0.9%
2013	53.8%	56.1%	53.8%	56.1%	-5.8%	0.1%	-4.7%	0.1%	1.8%	0.1%	-5.6%	1.8%	0.1%	-5.6%
2014	49.7%	52.3%	49.7%	52.3%	0.9%	3.8%	-0.5%	0.3%	9.2%	3.8%	6.9%	9.2%	3.8%	6.9%
2015		58.2%		58.2%		1.2%	0.5%			1.2%	-9.7%		1.2%	-9.7%
2016		59.6%		59.6%		0.9%	2.5%			0.5%	-0.3%		0.5%	-0.3%
2017		59.4%		59.4%		0.4%	1.5%			0.7%	2.1%		0.7%	2.1%
2018		59.7%		59.7%		0.4%	0.9%			0.4%	0.4%		0.4%	0.4%
2019		59.8%		59.8%		0.2%	0.5%			0.2%	0.3%		0.2%	0.3%
2020		60.9%		60.9%		0.5%	0.3%			0.2%	-1.8%		0.2%	-1.8%
2021		59.9%		59.9%		-0.3%	0.2%			0.0%	2.1%		0.0%	2.1%
2022		60.0%		60.0%		0.2%	0.1%			0.2%	0.1%		0.2%	0.1%
2023		60.0%		60.0%		0.0%	0.1%			0.0%	0.0%		0.0%	0.0%
2024		61.1%		61.1%		0.5%	0.0%			0.2%	-2.0%		0.2%	-2.0%
2025		60.0%		60.0%		-0.3%	0.0%			0.0%	2.1%		0.0%	2.1%
2026		60.0%		60.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2027		60.0%		60.0%		0.1%	0.0%			0.1%	0.0%		0.1%	0.0%
2028		61.1%		61.1%		0.3%	0.0%			0.0%	-2.0%		0.0%	-2.0%
2029		60.0%		60.0%		-0.3%	0.0%			0.0%	2.1%		0.0%	2.1%
2030		60.0%		60.0%		0.2%	0.0%			0.2%	0.0%		0.2%	0.0%
2031		60.0%		60.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2032		61.1%		61.1%		0.3%	0.0%			0.0%	-2.0%		0.0%	-2.0%
2033		60.0%		60.0%		-0.3%	0.0%			0.0%	2.1%		0.0%	2.1%
2034		60.0%		60.0%		0.2%	0.0%			0.2%	0.0%		0.2%	0.0%
2035		60.0%		60.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
Average														
2011-2014	54.7%	55.2%	54.7%	55.2%	-3.0%	0.0%	-2.9%	0.4%	1.9%	0.0%	0.1%	1.9%	0.0%	0.1%
2015-2035		60.0%		60.0%		0.2%	0.3%			0.2%	-0.3%		0.2%	-0.3%



DEO Energy (GWh)
100
90
80
70
60
50
40
30
20
10
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History GWh
'14 Fcst GWh
Forecast GWh
NormWthr Bckst GWh
LCL Fcst
UCL Fcst


DEO Energy (GWh)
8
7
6
5
4
3
2
1
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh


DEO CP Demand (MW)
18
16
14
12
10
8
6
4
2
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

DEO Monthly - Net Demand & Energy
IMPA 2015 Forecast

	DEO Energy		DEO NCP Demand		DEO CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	8		16		16	
Feb 2014	7		15		15	
Mar 2014	6		14		14	
Apr 2014	5		11		11	
May 2014	5		11		11	
Jun 2014	5		12		12	
Jul 2014	5		12		12	
Aug 2014	6		12		12	
Sep 2014	5		12		12	
Oct 2014	5		9		9	
Nov 2014	6		13		13	
Dec 2014	6		12		12	
Jan 2015	7	7	16	14	16	14
Feb 2015	7	6	16	14	16	14
Mar 2015	7	6	15	13	15	13
Apr 2015	5	5	10	11	10	11
May 2015	5	5	11	11	11	11
Jun 2015	5	6	12	12	12	12
Jul 2015	6	6	13	13	13	13
Aug 2015	6	6	12	13	12	13
Sep 2015	-	5	-	12	-	12
Oct 2015	-	5	-	10	-	10
Nov 2015	-	6	-	12	-	12
Dec 2015	-	7	-	13	-	13
Jan 2016	-	7	-	14	-	14
Feb 2016	-	6	-	13	-	13
Mar 2016	-	6	-	13	-	13
Apr 2016	-	5	-	11	-	11
May 2016	-	5	-	11	-	11
Jun 2016	-	6	-	13	-	13
Jul 2016	-	6	-	13	-	13
Aug 2016	-	6	-	13	-	13
Sep 2016	-	5	-	13	-	13
Oct 2016	-	5	-	10	-	10
Nov 2016	-	6	-	12	-	12
Dec 2016	-	7	-	13	-	13

		DEO NCP Demand		DEO CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	12	-	12	-
Winter	2014	16	-	16	-
Summer	2015	13	13	13	13
Winter	2015	16	14	16	14
Summer	2016	-	13	-	13
Winter	2016	-	14	-	14
Summer	2017	-	13	-	13
Winter	2017	-	14	-	14
Summer	2018	-	13	-	13
Winter	2018	-	14	-	14
Summer	2019	-	14	-	14
Winter	2019	-	14	-	14
Summer	2020	-	14	-	14
Winter	2020	-	14	-	14
Summer	2021	-	14	-	14
Winter	2021	-	14	-	14
Summer	2022	-	14	-	14
Winter	2022	-	14	-	14
Summer	2023	-	14	-	14
Winter	2023	-	14	-	14
Summer	2024	-	14	-	14
Winter	2024	-	14	-	14

NIP IMPA Members

IMPA 2015 Forecast - NIPSCO Control Area

Members in Control Area	Additional Data *
ARGOS	Argos (January 2005 to December 2008)
BREMEN	
BROOKSTON	
CHALMERS	
ETNA GREEN	
KINGSFORD HEIGHTS	
RENSSELAER	
WALKERTON	
WINAMAC	

*To create a consistent historical database for developing the statistical models, additional demand and energy data for the cities above was included even though the city was not yet part of IMPA.

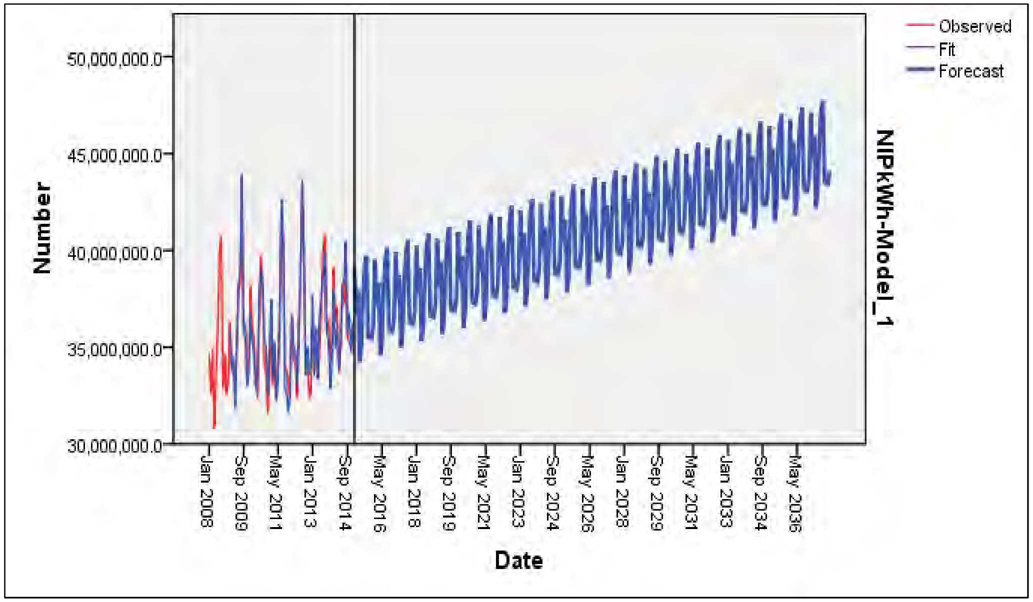
NIP - NIPSCO IMPA Control Area

Economic Variables Used

U.S. Unemployment Rate

NIP Forecast Model

IMPA 2015 Forecast - NIPSCO Control Area



Observations

84

Model Description

			Model Type
Model ID	NIP kWh	Model_1	ARIMA(0,0,0)(0,1,0)

Model Statistics

Model	Number of Predictors	Model Fit statistics					Ljung-Box Q(18)			Number of Outliers
		squared	R-squared	RMSE	MAPE	MAE	Statistics	DF	Sig.	
NIP kWh-Model_1	5	.712	.887	914,187.584	2.059	735,728.723	86.082	18	.000	0

ARIMA Model Parameters

					Estimate	SE	t	Sig.
NIP kWh-Model_1	NIP kWh	No	Constant		362,272.143	110,733.298	3.272	.002
			Seasonal Difference		1			
	US UE	No	Numerator	Lag 0	-262,130.901	70,477.930	-3.719	.000
			Seasonal Difference		1			
	HDD	No	Numerator	Lag 0	2,061.679	733.094	2.812	.006
			Seasonal Difference		1			
	CDD	No	Numerator	Lag 0	18,391.791	1,577.628	11.658	.000
			Seasonal Difference		1			
	Peak Days	No	Numerator	Lag 0	1,558,715.239	467,268.166	3.336	.001
			Seasonal Difference		1			
	Off-Peak Days	No	Numerator	Lag 0	1,239,925.236	477,845.840	2.595	.012
			Seasonal Difference		1			

NIP Members Summary - Net

IMPA 2015 Forecast - NIPSCO Control Area

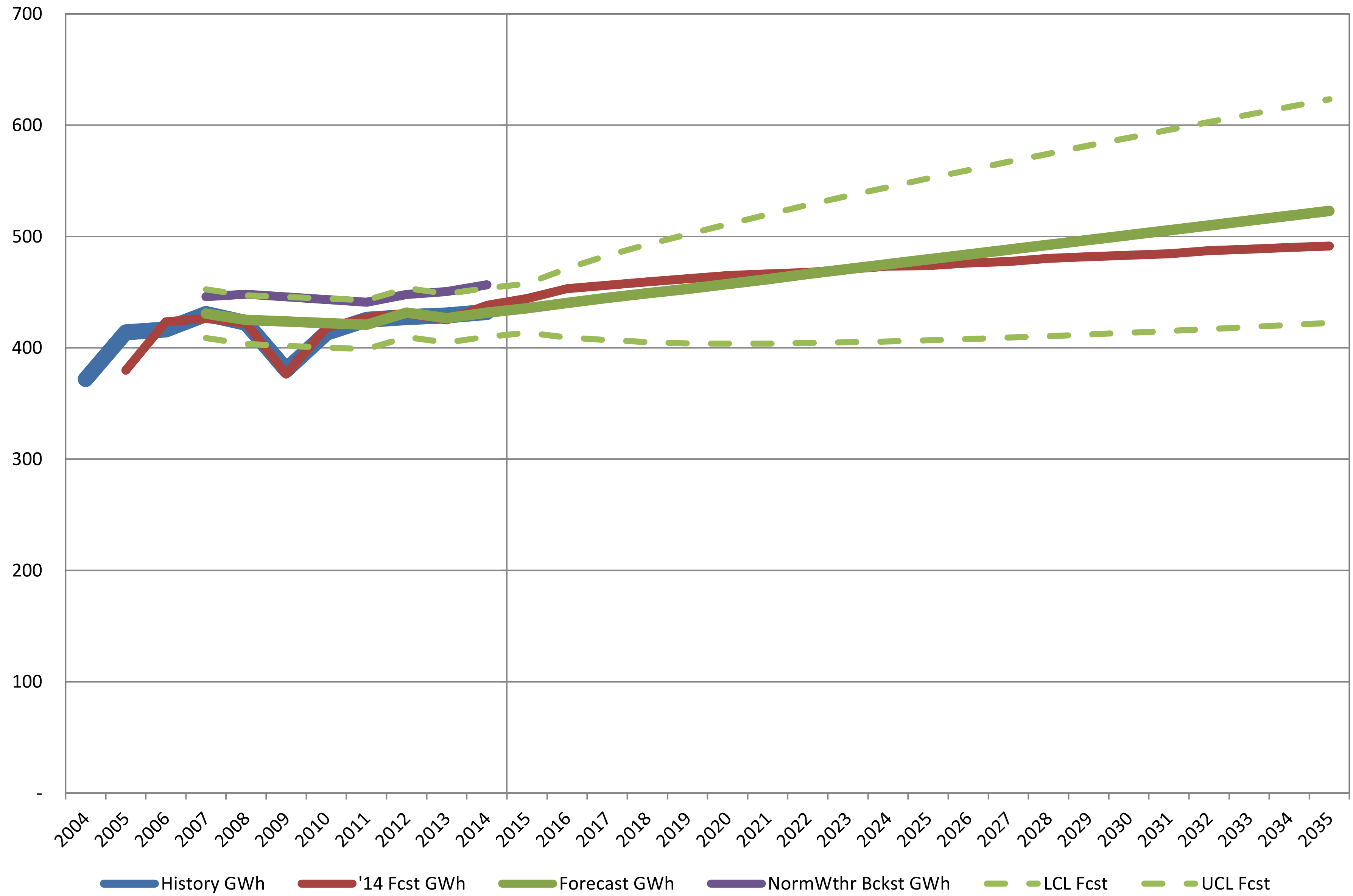
	NIP Energy (GWh)				NIP NCP Demand (MW)			NIP CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004	372				73			73					
2005	414	380			82	74		80	73				
2006	416	423			85	83		82	81				
2007	430	426	431	446	84	84	90	80	82	86	409	453	(0)
2008	422	422	425	448	81	83	82	79	81	80	403	447	(3)
2009	380	376			76	74		73	72				
2010	413	418			83	82		79	80				
2011	425	427	421	441	87	84	89	85	82	87	399	443	4
2012	428	431	432	448	87	84	91	85	83	89	410	453	(6)
2013	429	425	427	450	88	83	82	86	82	80	405	449	(2)
2014	432	438	432	457	81	86	82	79	84	79	410	454	(6)
2015		444	436			87	81		85	79	414	457	
2016		453	440			89	82		87	80	409	471	
2017		456	445			89	83		88	81	407	483	
2018		459	449			90	83		88	81	405	493	
2019		462	453			91	84		89	82	404	502	
2020		465	457			91	85		89	83	404	511	
2021		466	462			91	86		90	84	404	520	
2022		468	466			92	87		90	85	404	528	
2023		471	471			92	87		90	85	405	536	
2024		473	475			92	88		91	86	406	544	
2025		474	479			93	89		91	87	407	552	
2026		476	484			93	90		92	88	408	560	
2027		478	488			94	91		92	89	409	567	
2028		480	492			94	92		92	90	410	574	
2029		482	497			94	92		93	90	412	582	
2030		483	501			95	93		93	91	414	589	
2031		485	505			95	94		93	92	415	596	
2032		487	510			95	95		93	93	417	603	
2033		489	514			96	96		94	94	419	610	
2034		490	519			96	97		94	94	421	616	
2035		491	523			96	98		94	95	422	623	
Compound Annual Growth Rates													
2011-2014	0.4%	0.6%	0.6%	0.9%	-1.7%	0.6%	-2.1%	-1.8%	0.6%	-2.3%			
2015-2035		0.5%	0.9%			0.5%	0.9%		0.5%	0.9%			

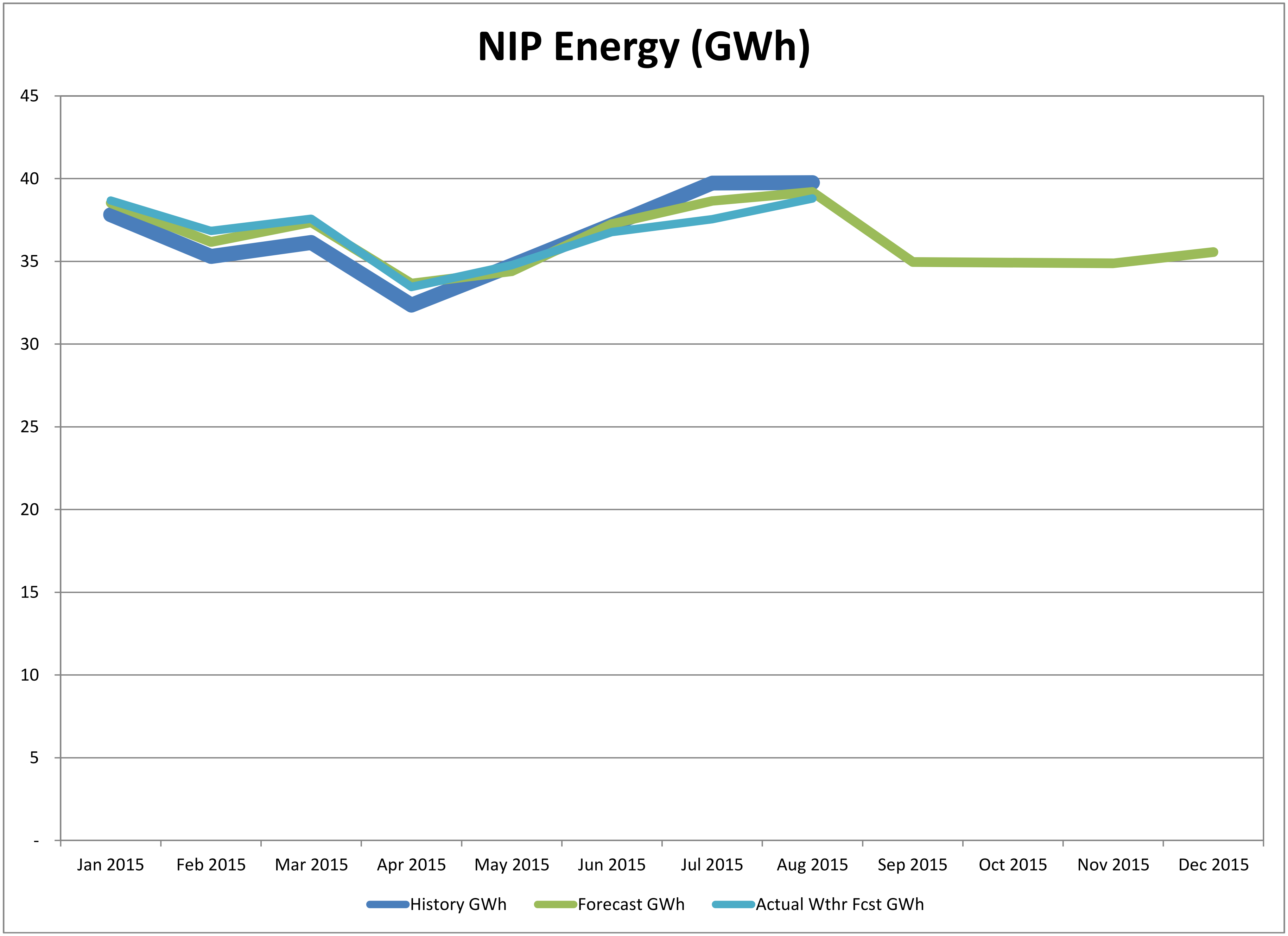
NIP Members Summary - Net

IMPA 2015 Forecast - NIPSCO Control Area

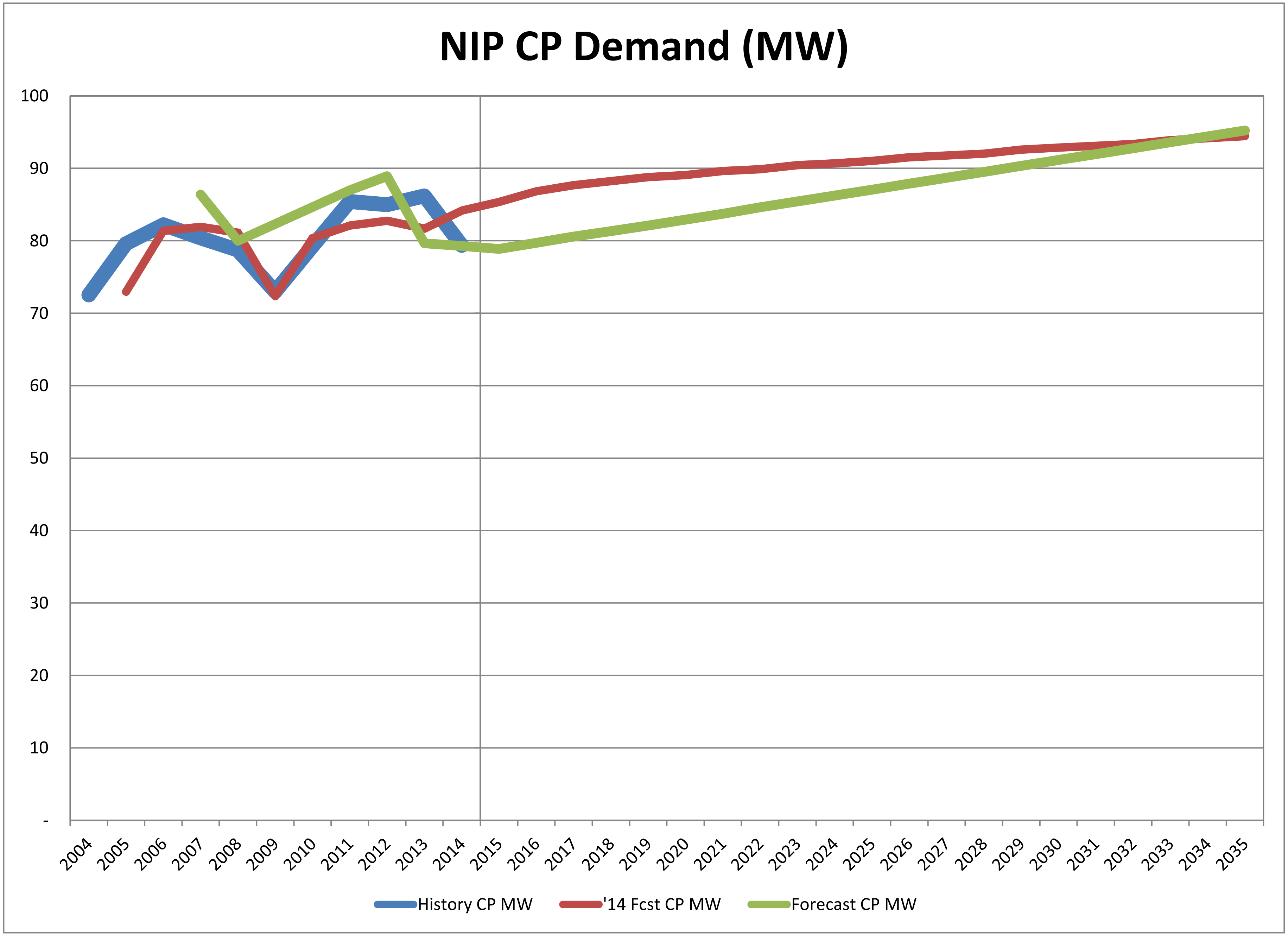
	NIP Load Factors				NIP Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		NIP Energy (GWh)				NIP NCP Demand (MW)			NIP CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004	58.0%		58.4%											
2005	57.6%		59.3%		11.3%				12.2%			9.8%		
2006	56.1%		57.8%		0.6%	11.5%			3.5%	11.5%		3.3%	11.5%	
2007	58.8%	54.7%	61.1%	56.9%	3.3%	0.7%			-1.5%	0.7%		-2.2%	0.7%	
2008	59.3%	59.1%	61.1%	60.5%	-1.8%	-1.0%	-1.3%	0.5%	-3.0%	-1.0%	-8.8%	-2.1%	-1.0%	-7.4%
2009	56.8%		59.5%		-10.0%	-10.8%			-5.8%	-10.8%		-7.3%	-10.8%	
2010	56.8%		59.6%		8.7%	11.1%			8.8%	11.1%		8.6%	11.1%	
2011	55.8%	53.9%	56.8%	55.2%	2.8%	2.2%			4.7%	2.2%		7.8%	2.2%	
2012	55.9%	54.0%	57.3%	55.3%	0.6%	0.8%	2.6%	1.5%	0.1%	0.8%	2.2%	-0.5%	0.8%	2.2%
2013	55.6%	59.7%	56.8%	61.2%	0.4%	-1.3%	-1.1%	0.6%	1.2%	-1.3%	-10.4%	1.4%	-1.3%	-10.4%
2014	60.8%	60.3%	62.2%	62.2%	0.7%	3.1%	1.2%	1.4%	-7.9%	3.1%	0.3%	-7.9%	3.1%	-0.5%
2015		61.6%		63.0%		1.4%	0.9%			1.4%	-1.3%		1.4%	-0.5%
2016		61.4%		62.9%		2.0%	1.1%			1.7%	1.1%		1.7%	1.0%
2017		61.6%		63.0%		0.7%	1.1%			1.0%	1.1%		1.0%	1.1%
2018		61.5%		63.0%		0.6%	0.9%			0.6%	0.9%		0.6%	0.9%
2019		61.5%		63.0%		0.6%	0.9%			0.6%	0.9%		0.6%	0.9%
2020		61.3%		62.8%		0.6%	1.0%			0.3%	1.0%		0.3%	1.0%
2021		61.5%		62.9%		0.3%	1.0%			0.6%	1.0%		0.6%	1.0%
2022		61.5%		62.9%		0.3%	1.0%			0.3%	1.0%		0.3%	1.0%
2023		61.4%		62.9%		0.6%	0.9%			0.6%	1.0%		0.6%	1.0%
2024		61.2%		62.7%		0.6%	0.9%			0.3%	1.0%		0.3%	1.0%
2025		61.4%		62.9%		0.1%	0.9%			0.4%	0.9%		0.4%	1.0%
2026		61.4%		62.8%		0.5%	0.9%			0.5%	0.9%		0.5%	0.9%
2027		61.4%		62.8%		0.3%	0.9%			0.3%	0.9%		0.3%	0.9%
2028		61.2%		62.6%		0.6%	0.9%			0.3%	0.9%		0.3%	0.9%
2029		61.3%		62.8%		0.3%	0.9%			0.6%	0.9%		0.6%	0.9%
2030		61.3%		62.8%		0.3%	0.9%			0.3%	0.9%		0.3%	0.9%
2031		61.3%		62.7%		0.3%	0.9%			0.3%	0.9%		0.3%	0.9%
2032		61.1%		62.6%		0.6%	0.9%			0.3%	0.9%		0.3%	0.9%
2033		61.2%		62.7%		0.3%	0.9%			0.6%	0.9%		0.6%	0.9%
2034		61.2%		62.7%		0.3%	0.8%			0.3%	0.9%		0.3%	0.9%
2035		61.2%		62.7%		0.3%	0.8%			0.3%	0.9%		0.3%	0.9%
							Average							
2011-2014	57.0%	57.0%	58.3%	58.5%	1.1%	1.2%	0.9%	1.2%	-0.5%	1.2%	-2.6%	0.2%	1.2%	-2.9%
2015-2035		61.4%		62.8%		0.6%	0.9%			0.6%	0.8%		0.6%	0.9%

NIP Energy (GWh)





NIP Energy (GWh)
45
40
35
30
25
20
15
10
5
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh


NIP CP Demand (MW)
100
90
80
70
60
50
40
30
20
10
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

NIP Monthly - Net Demand & Energy
IMPA 2015 Forecast

	NIP Energy		NIP NCP Demand		NIP CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	39		71		69	
Feb 2014	36		69		67	
Mar 2014	37		67		65	
Apr 2014	33		63		61	
May 2014	35		71		69	
Jun 2014	38		80		78	
Jul 2014	37		79		77	
Aug 2014	40		81		79	
Sep 2014	35		81		79	
Oct 2014	35		64		61	
Nov 2014	34		69		67	
Dec 2014	35		68		63	
Jan 2015	38	39	70	71	66	69
Feb 2015	35	36	70	72	67	70
Mar 2015	36	37	67	69	64	67
Apr 2015	32	34	62	64	59	62
May 2015	35	34	70	72	67	69
Jun 2015	37	37	78	80	74	77
Jul 2015	40	39	82	81	80	79
Aug 2015	40	39	80	80	77	77
Sep 2015	-	35	-	81	-	79
Oct 2015	-	35	-	66	-	63
Nov 2015	-	35	-	69	-	66
Dec 2015	-	36	-	69	-	66
Jan 2016	-	39	-	72	-	70
Feb 2016	-	37	-	70	-	68
Mar 2016	-	38	-	69	-	68
Apr 2016	-	34	-	65	-	63
May 2016	-	35	-	73	-	70
Jun 2016	-	38	-	80	-	78
Jul 2016	-	39	-	82	-	80
Aug 2016	-	40	-	81	-	78
Sep 2016	-	35	-	82	-	80
Oct 2016	-	35	-	66	-	63
Nov 2016	-	35	-	70	-	67
Dec 2016	-	36	-	70	-	67

		NIP NCP Demand		NIP CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	81	-	79	-
Winter	2014	71	-	69	-
Summer	2015	82	81	80	79
Winter	2015	70	72	67	70
Summer	2016	-	82	-	80
Winter	2016	-	72	-	70
Summer	2017	-	83	-	81
Winter	2017	-	73	-	71
Summer	2018	-	83	-	81
Winter	2018	-	74	-	72
Summer	2019	-	84	-	82
Winter	2019	-	75	-	72
Summer	2020	-	85	-	83
Winter	2020	-	75	-	72
Summer	2021	-	86	-	84
Winter	2021	-	76	-	74
Summer	2022	-	87	-	85
Winter	2022	-	77	-	74
Summer	2023	-	87	-	85
Winter	2023	-	78	-	75
Summer	2024	-	88	-	86
Winter	2024	-	77	-	75

SIG IMPA Members

IMPA 2015 Forecast - SIGECO Control Area

Members in Control Area
JASPER
HUNTINGBURG
TELL CITY

Additional Data *
Huntingburg (January 2004 to December 2006)
Jasper (January 2004 to December 2007)

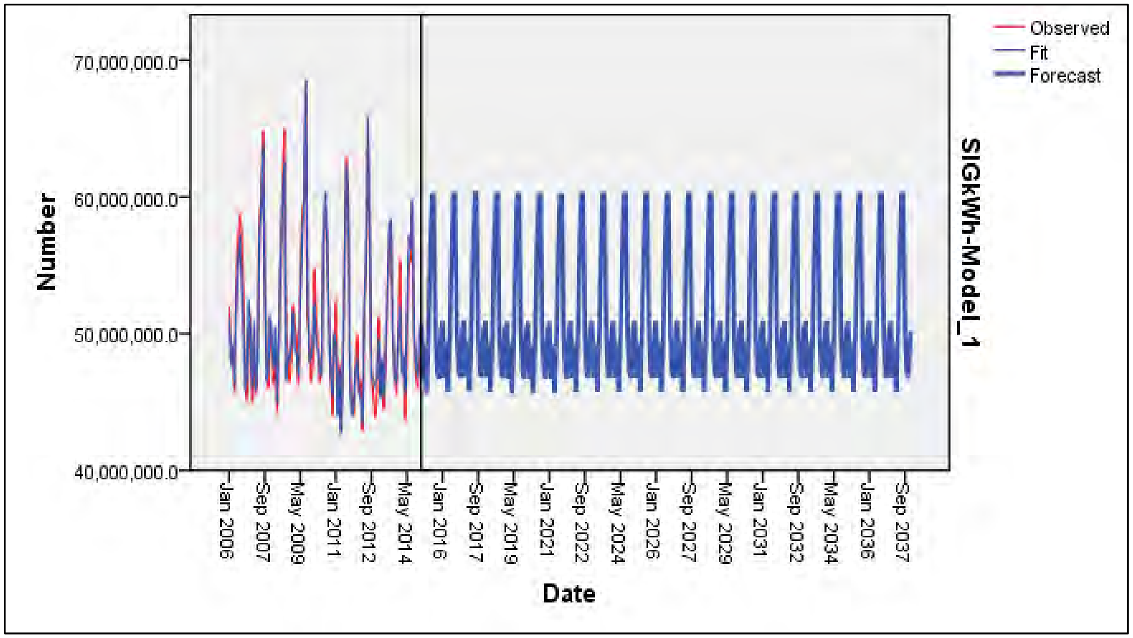
*To create a consistent historical database for developing the statistical models, additional demand and energy data for the cities above was included even though the city was not yet part of IMPA.

Economic Variables Used
U.S. Unemployment Rate

SIG - SIGECO IMPA Control Area

SIG Forecast Model

IMPA 2015 Forecast - SIGECO Control Area



Observations

108

Model Description

			Model Type
Model ID	SIG kWh	Model_1	ARIMA(0,0,0)(0,0,0)

Model Statistics

Model	Number of Predictors	Model Fit statistics					Ljung-Box Q(18)			Number of Outliers
		squared	R-squared	RMSE	MAPE	MAE	Statistics	DF	Sig.	
SIG kWh-Model_1	5	.935	.935	1,422,479.262	2.261	1,150,911.558	46.908	18	.000	0

ARIMA Model Parameters

					Estimate	SE	t	Sig.
SIG kWh-Model_1	SIG kWh	No Transformation	Constant		9,934,687.079	5,423,024.754	1.832	.070
	US UE	No Transformation	Numerator	Lag 0	-695,018.094	91,728.060	-7.577	.000
	HDD	No Transformation	Numerator	Lag 0	6,157.222	523.937	11.752	.000
	CDD	No Transformation	Numerator	Lag 0	37,438.840	1,152.791	32.477	.000
	Peak Days	No Transformation	Numerator	Lag 0	1,509,701.669	186,187.091	8.109	.000
	Off-Peak Days	No Transformation	Numerator	Lag 0	698,402.457	197,430.693	3.537	.001

SIG Members Summary - Net

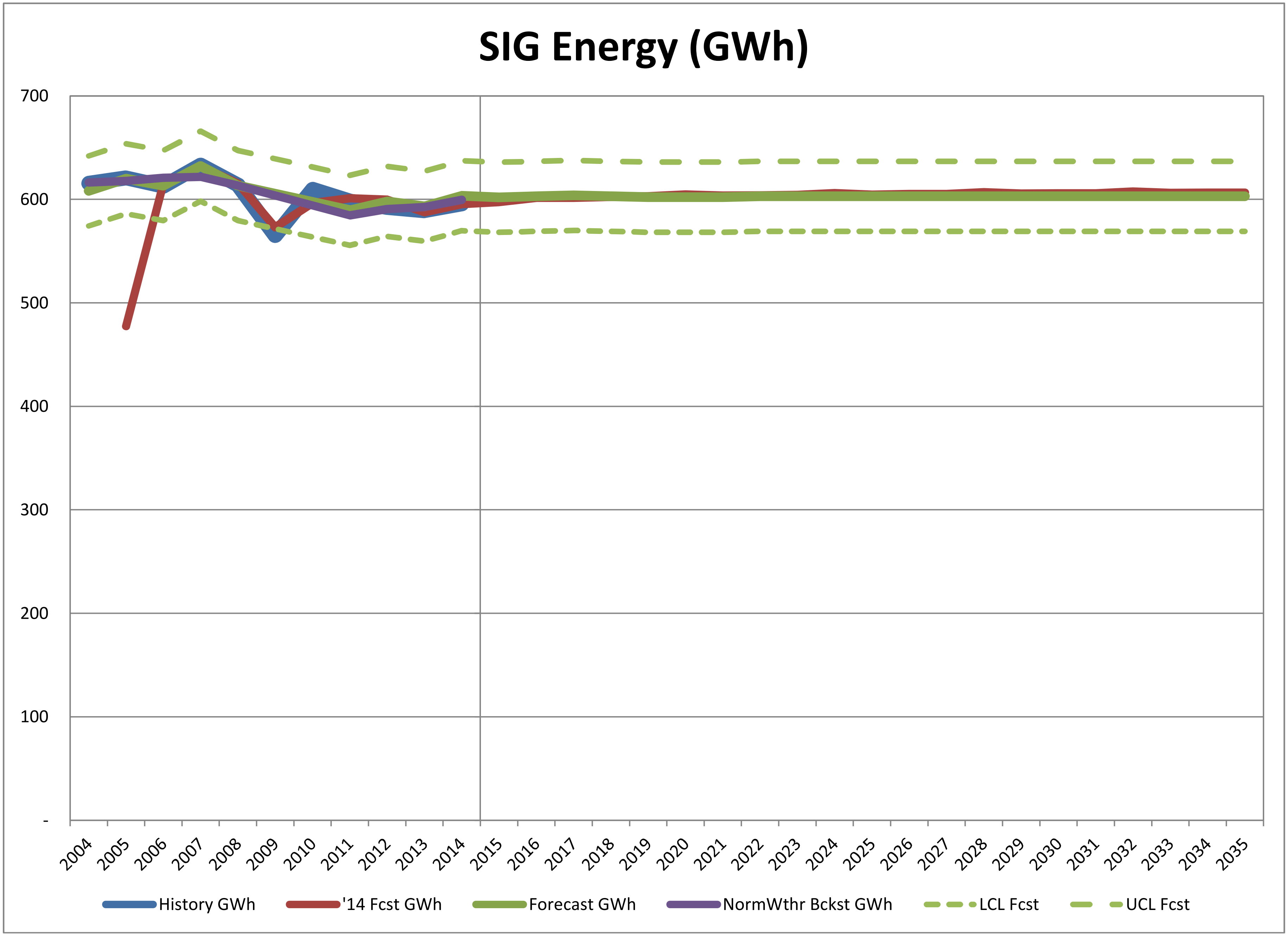
IMPA 2015 Forecast - SIGECO Control Area

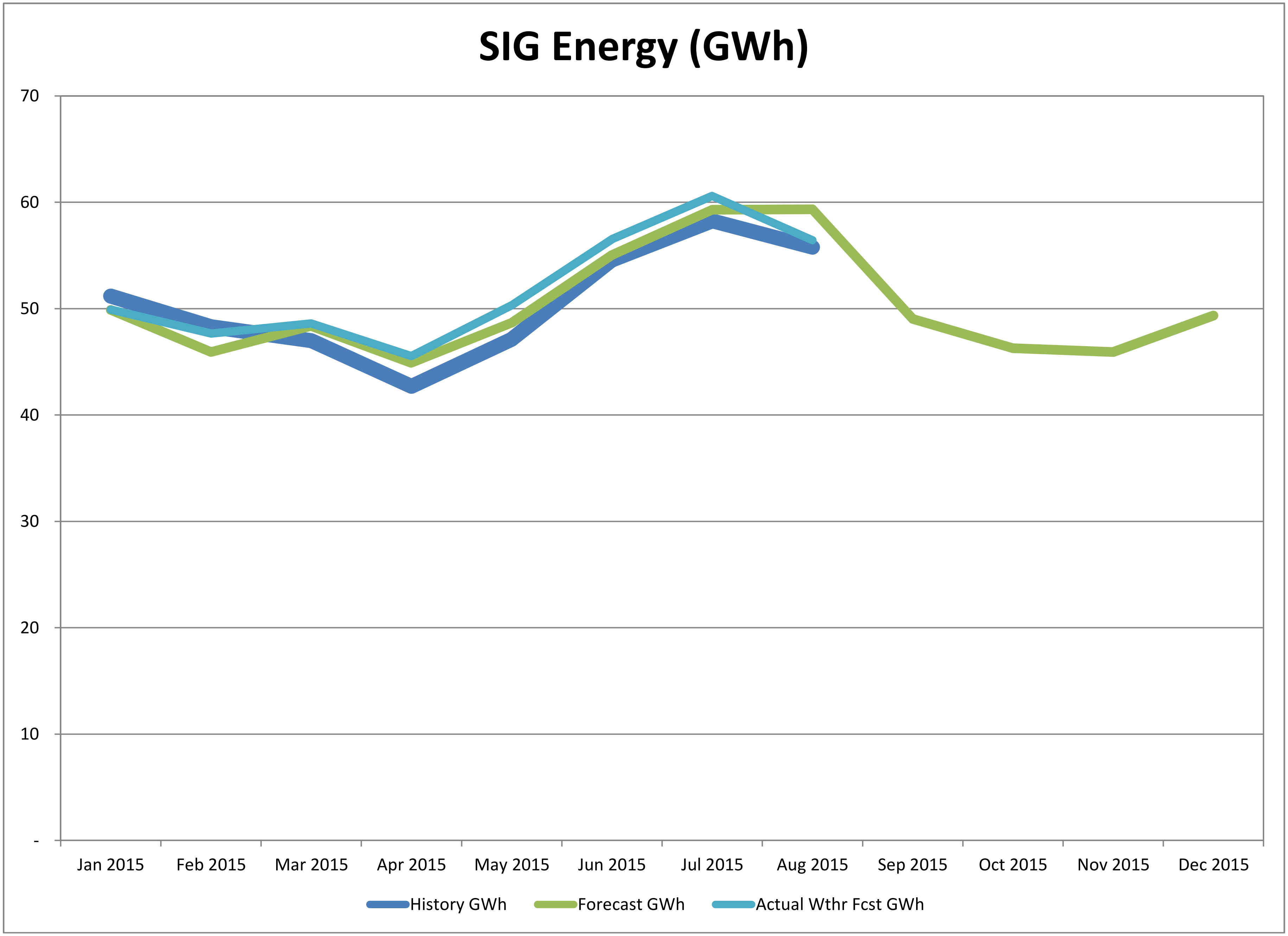
	SIG Energy (GWh)				SIG NCP Demand (MW)			SIG CP Demand (MW)			Confidence Intervals & Residuals (GWh)		
Year	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW	LCL Fcst	UCL Fcst	Nresidual Fcst
2004	615		608	616	132		123	132		122	574	642	7
2005	621	477	620	618	136	100	136	136	99	134	586	654	1
2006	613	615	613	621	141	129	134	141	127	131	579	647	(1)
2007	633	632	632	622	139	133	146	138	131	144	598	666	1
2008	614	615	613	613	127	129	129	125	127	127	579	647	1
2009	565	573			124	120		122	119				
2010	610	597			134	125		131	123				
2011	598	601	589	585	133	126	133	132	124	131	556	623	8
2012	592	600	598	591	130	126	140	127	124	138	564	632	(9)
2013	589	588	593	592	123	123	124	121	122	122	559	627	(11)
2014	596	595	604	600	123	125	126	120	123	124	570	637	(17)
2015		597	602			125	127		124	125	568	636	
2016		601	603			126	127		124	125	569	637	
2017		601	604			126	127		124	125	570	638	
2018		602	603			126	127		125	125	569	637	
2019		603	602			127	127		125	125	568	636	
2020		605	602			127	127		125	125	568	636	
2021		604	602			127	127		125	125	568	636	
2022		604	603			127	127		125	125	569	637	
2023		604	603			127	127		125	125	569	637	
2024		606	603			127	127		125	125	569	637	
2025		604	603			127	127		125	125	569	637	
2026		605	603			127	127		125	125	569	637	
2027		605	603			127	127		125	125	569	637	
2028		607	603			127	127		125	125	569	637	
2029		606	603			127	127		125	125	569	637	
2030		606	603			127	127		125	125	569	637	
2031		606	603			127	127		125	125	569	637	
2032		607	603			127	127		125	125	569	637	
2033		606	603			127	127		125	125	569	637	
2034		606	603			127	127		125	125	569	637	
2035		606	603			127	127		125	125	569	637	
Compound Annual Growth Rates													
2011-2014	-0.1%	-0.2%	0.6%	0.6%	-1.9%	-0.2%	-1.3%	-2.3%	-0.2%	-1.3%			
2015-2035		0.1%	0.0%			0.1%	0.0%		0.1%	0.0%			

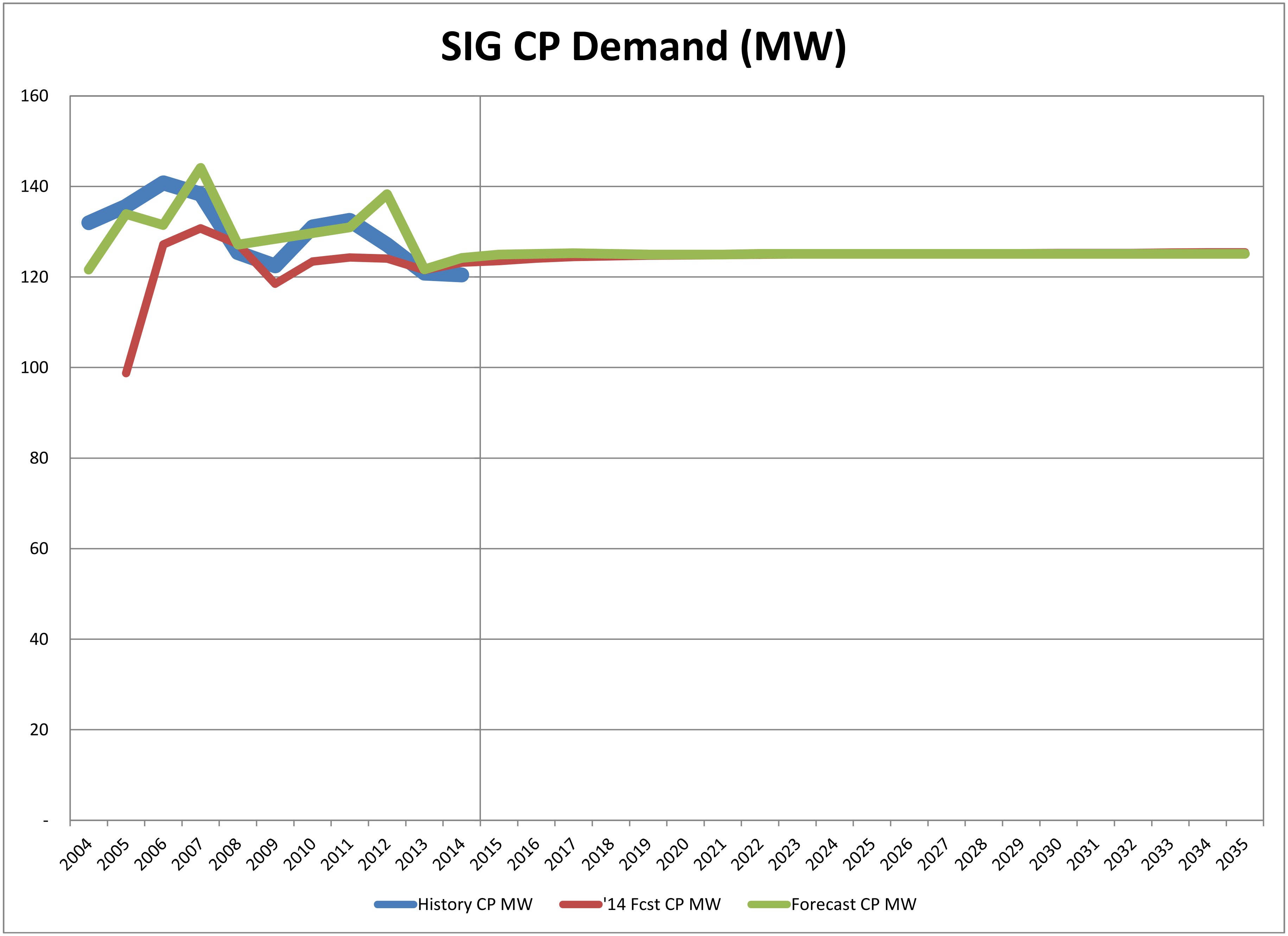
SIG Members Summary - Net

IMPA 2015 Forecast - SIGECO Control Area

	SIG Load Factors				SIG Growth Rates									
	Non-Coin. Peak LF		Coincident Peak LF		SIG Energy (GWh)				SIG NCP Demand (MW)			SIG CP Demand (MW)		
Year	History NCP LF	Forecast NCP LF	History CP LF	Forecast CP LF	History GWh	'14 Fcst GWh	Forecast GWh	NormWthr Bckst GWh	History NCP MW	'14 Fcst NCP MW	Forecast NCP MW	History CP MW	'14 Fcst CP MW	Forecast CP MW
2004	53.0%	56.4%	53.1%	56.9%										
2005	52.2%	52.0%	52.3%	52.8%	0.9%		1.9%	0.2%	2.8%		10.9%	2.8%		10.1%
2006	49.6%	52.4%	49.7%	53.3%	-1.3%	28.8%	-1.1%	0.5%	3.8%	28.8%	-1.8%	3.8%	28.8%	-1.8%
2007	52.1%	49.3%	52.3%	50.1%	3.3%	2.8%	3.1%	0.1%	-1.5%	2.8%	9.6%	-1.8%	2.8%	9.6%
2008	54.9%	54.2%	55.7%	54.9%	-3.0%	-2.6%	-3.0%	-1.3%	-8.3%	-2.6%	-11.9%	-9.3%	-2.6%	-11.8%
2009	52.1%		52.7%		-8.0%	-6.9%			-2.6%	-6.9%		-2.4%	-6.9%	
2010	52.0%		53.1%		7.9%	4.1%			8.0%	4.1%		7.0%	4.1%	
2011	51.4%	50.7%	51.6%	51.4%	-1.8%	0.7%			-0.7%	0.7%		1.1%	0.7%	
2012	52.0%	48.6%	53.0%	49.2%	-1.0%	-0.2%	1.5%	1.0%	-2.4%	-0.2%	5.6%	-4.0%	-0.2%	5.6%
2013	54.8%	54.8%	55.6%	55.7%	-0.6%	-2.0%	-0.8%	0.3%	-5.4%	-2.0%	-11.9%	-4.9%	-2.0%	-12.0%
2014	55.4%	54.7%	56.4%	55.5%	1.1%	1.3%	1.7%	1.2%	0.1%	1.3%	2.0%	-0.3%	1.3%	2.1%
2015		54.2%		55.0%		0.3%	-0.3%			0.3%	0.6%		0.3%	0.6%
2016		54.1%		54.9%		0.7%	0.2%			0.4%	0.1%		0.4%	0.1%
2017		54.3%		55.0%		0.0%	0.1%			0.3%	0.1%		0.3%	0.1%
2018		54.3%		55.0%		0.1%	-0.1%			0.1%	-0.1%		0.1%	-0.1%
2019		54.2%		55.0%		0.1%	-0.1%			0.1%	-0.1%		0.1%	-0.1%
2020		54.1%		54.9%		0.3%	0.0%			0.0%	0.0%		0.0%	0.0%
2021		54.2%		55.0%		-0.2%	0.0%			0.1%	0.0%		0.1%	0.0%
2022		54.3%		55.0%		0.0%	0.1%			0.0%	0.1%		0.0%	0.1%
2023		54.3%		55.0%		0.1%	0.0%			0.1%	0.0%		0.1%	0.0%
2024		54.1%		54.9%		0.3%	0.0%			0.0%	0.0%		0.0%	0.0%
2025		54.3%		55.0%		-0.3%	0.0%			0.0%	0.0%		0.0%	0.0%
2026		54.3%		55.0%		0.1%	0.0%			0.1%	0.0%		0.1%	0.0%
2027		54.3%		55.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2028		54.1%		54.9%		0.3%	0.0%			0.0%	0.0%		0.0%	0.0%
2029		54.3%		55.0%		-0.2%	0.0%			0.1%	0.0%		0.1%	0.0%
2030		54.3%		55.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2031		54.3%		55.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2032		54.1%		54.9%		0.3%	0.0%			0.0%	0.0%		0.0%	0.0%
2033		54.3%		55.0%		-0.2%	0.0%			0.1%	0.0%		0.1%	0.0%
2034		54.3%		55.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
2035		54.3%		55.0%		0.0%	0.0%			0.0%	0.0%		0.0%	0.0%
Average														
2011-2014	53.4%	52.2%	54.2%	52.9%	-0.6%	0.0%	0.8%	0.9%	-2.1%	0.0%	-1.4%	-2.0%	0.0%	-1.4%
2015-2035		54.2%		55.0%		0.1%	0.0%			0.1%	0.0%		0.1%	0.0%


SIG Energy (GWh)
700
600
500
400
300
200
100
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History GWh
'14 Fcst GWh
Forecast GWh
NormWthr Bckst GWh
LCL Fcst
UCL Fcst


SIG Energy (GWh)
70
60
50
40
30
20
10
-
Jan 2015
Feb 2015
Mar 2015
Apr 2015
May 2015
Jun 2015
Jul 2015
Aug 2015
Sep 2015
Oct 2015
Nov 2015
Dec 2015
History GWh
Forecast GWh
Actual Wthr Fcst GWh


SIG CP Demand (MW)
160
140
120
100
80
60
40
20
-
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
History CP MW
'14 Fcst CP MW
Forecast CP MW

SIG Monthly - Net Demand & Energy

IMPA 2015 Forecast

	SIG Energy		SIG NCP Demand		SIG CP Demand	
Month Year	History GWh	Forecast GWh	History NCP MW	Forecast NCP MW	History CP MW	Forecast CP MW
Jan 2014	55		108		107	
Feb 2014	48		106		105	
Mar 2014	47		97		97	
Apr 2014	43		88		86	
May 2014	49		108		107	
Jun 2014	55		120		119	
Jul 2014	55		118		117	
Aug 2014	57		123		120	
Sep 2014	49		116		116	
Oct 2014	46		104		103	
Nov 2014	45		98		96	
Dec 2014	48		94		91	
Jan 2015	51	50	109	99	108	98
Feb 2015	48	46	107	101	106	99
Mar 2015	47	48	99	100	97	99
Apr 2015	43	45	88	97	87	96
May 2015	47	49	102	111	101	110
Jun 2015	55	55	119	122	118	121
Jul 2015	58	59	126	127	126	125
Aug 2015	56	59	121	127	120	125
Sep 2015	-	49	-	118	-	117
Oct 2015	-	46	-	97	-	96
Nov 2015	-	46	-	97	-	96
Dec 2015	-	49	-	102	-	101
Jan 2016	-	50	-	100	-	98
Feb 2016	-	46	-	97	-	96
Mar 2016	-	48	-	100	-	100
Apr 2016	-	45	-	97	-	96
May 2016	-	49	-	111	-	110
Jun 2016	-	55	-	123	-	121
Jul 2016	-	59	-	127	-	125
Aug 2016	-	59	-	127	-	125
Sep 2016	-	49	-	118	-	117
Oct 2016	-	46	-	97	-	96
Nov 2016	-	46	-	97	-	96
Dec 2016	-	49	-	102	-	101

		SIG NCP Demand		SIG CP Demand	
Season	Year	History	Forecast	History CP	Forecast
Summer	2014	123	-	120	-
Winter	2014	108	-	107	-
Summer	2015	126	127	126	125
Winter	2015	109	102	108	101
Summer	2016	-	127	-	125
Winter	2016	-	102	-	101
Summer	2017	-	127	-	125
Winter	2017	-	103	-	101
Summer	2018	-	127	-	125
Winter	2018	-	102	-	101
Summer	2019	-	127	-	125
Winter	2019	-	102	-	101
Summer	2020	-	127	-	125
Winter	2020	-	102	-	101
Summer	2021	-	127	-	125
Winter	2021	-	102	-	101
Summer	2022	-	127	-	125
Winter	2022	-	102	-	101
Summer	2023	-	127	-	125
Winter	2023	-	102	-	101
Summer	2024	-	127	-	125
Winter	2024	-	102	-	101

Industry Forecasts Comparisions

IMPA 2015 Forecast

	SUFG-MISO LRZ6			EIA-RFCW	DEI-'13 IRP			Vectren-'14 IRP		
Year	Demand MW	Energy GWh	Load Factor	Energy TWh	Demand MW	Energy GWh	Load Factor	Demand MW	Energy GWh	Load Factor
2015	18,101	102,861	64.9%	185	6,415	34,634	61.6%	1,155	5,914	58.5%
2016	18,395	104,532	64.9%	187	6,533	35,205	61.5%	1,156	5,936	58.6%
2017	18,677	106,137	64.9%	190	6,577	35,400	61.4%	1,113	5,514	56.6%
2018	18,911	107,466	64.9%	192	6,606	35,308	61.0%	1,109	5,503	56.6%
2019	19,131	108,715	64.9%	194	6,587	35,132	60.9%	1,106	5,494	56.7%
2020	19,358	110,005	64.9%	195	6,652	35,243	60.5%	1,106	5,497	56.7%
2021	19,593	111,342	64.9%	196	6,741	35,600	60.3%	1,106	5,492	56.7%
2022	19,816	112,607	64.9%	198	6,832	36,004	60.2%	1,107	5,494	56.7%
2023	20,031	113,833	64.9%	199	6,924	36,414	60.0%	1,107	5,494	56.7%
2024	20,261	115,140	64.9%	201	7,019	36,833	59.9%	1,107	5,496	56.7%
2025	-	-		202	7,110	37,234	59.8%	1,106	5,487	56.6%
2026	-	-		203	7,202	37,638	59.7%	1,106	5,487	56.6%
2027	-	-		204	7,287	38,008	59.5%	1,107	5,492	56.6%
2028	-	-		205	7,386	38,410	59.4%	1,109	5,507	56.7%
2029	-	-		205	7,474	38,792	59.2%	1,110	5,509	56.7%
2030	-	-		206	7,602	39,196	58.9%	1,111	5,517	56.7%
2031	-	-		206	7,662	39,603	59.0%	1,111	5,523	56.7%
2032	-	-		207	7,761	40,028	58.9%	1,113	5,540	56.8%
2033	-	-		208	7,871	40,445	58.7%	1,114	5,548	56.9%
2034	-	-		208	7,991	40,834	58.3%	1,115	5,560	56.9%
2035	-	-		209	8,080	41,213	58.2%	-	-	

Using the State Utility Forecasting Group's (SUFG) "MISO Independent Load Forecast" for Indiana Zone 6 (LRZ6), the Energy Information Administration's (EIA) "Annual Energy Outlook 2015" for the Reliability First Corporation West (RFCW) forecast, Duke Energy Indiana's Integrated Resource Plan (IRP) forecast, and Vectren Corporation IRP forecast—these growth rates were applied to IMPA's actual historic data in 2014 to create a forecast for an industry comparison. EIA's energy growth was repeated for demand since demand was not reported.

Industry Forecasts Comparisions

IMPA 2015 Forecast

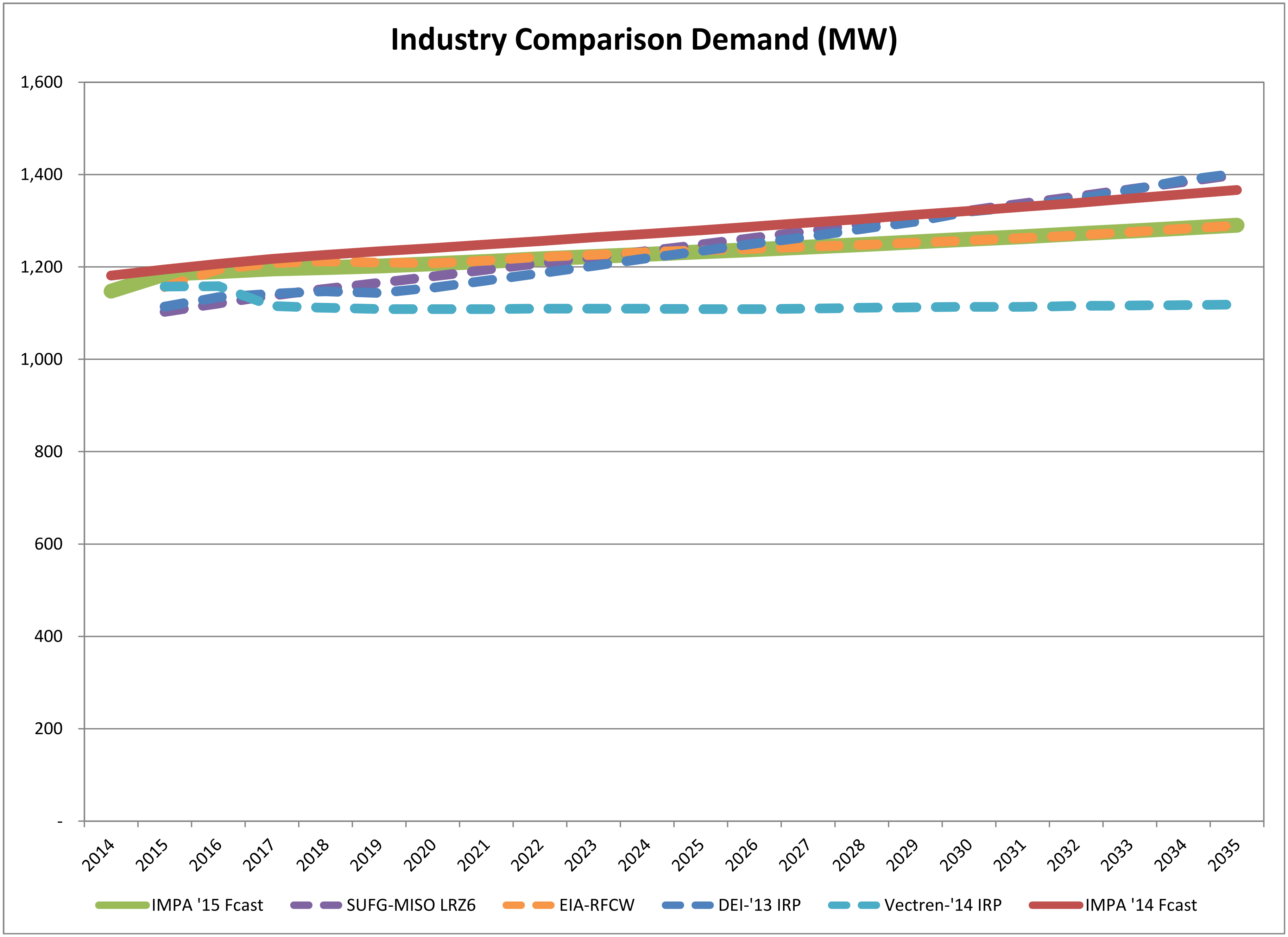
	DEMAND Growth Rate						**ENERGY Growth Rate**					
Year	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast
2015	3.2%	-3.9%	0.8%	-2.9%	0.9%	1.1%	1.1%	1.5%	0.8%	-4.9%	2.3%	1.2%
2016	0.5%	1.6%	0.9%	1.8%	0.1%	1.0%	0.6%	1.6%	0.9%	1.7%	0.4%	1.3%
2017	0.5%	1.5%	1.6%	0.7%	-3.7%	0.9%	0.5%	1.5%	1.6%	0.6%	-7.1%	0.6%
2018	0.3%	1.3%	1.4%	0.4%	-0.4%	0.7%	0.3%	1.3%	1.4%	-0.3%	-0.2%	0.7%
2019	0.3%	1.2%	0.9%	-0.3%	-0.3%	0.6%	0.3%	1.2%	0.9%	-0.5%	-0.2%	0.6%
2020	0.4%	1.2%	0.5%	1.0%	0.0%	0.6%	0.4%	1.2%	0.5%	0.3%	0.1%	0.9%
2021	0.4%	1.2%	0.5%	1.3%	0.0%	0.6%	0.4%	1.2%	0.5%	1.0%	-0.1%	0.3%
2022	0.5%	1.1%	0.8%	1.3%	0.1%	0.6%	0.6%	1.1%	0.8%	1.1%	0.0%	0.6%
2023	0.4%	1.1%	0.7%	1.3%	0.0%	0.6%	0.5%	1.1%	0.7%	1.1%	0.0%	0.7%
2024	0.4%	1.1%	0.8%	1.4%	0.0%	0.6%	0.5%	1.1%	0.8%	1.1%	0.0%	0.9%
2025	0.4%	1.1%	0.7%	1.3%	-0.1%	0.6%	0.5%	1.1%	0.7%	1.1%	-0.2%	0.3%
2026	0.4%	1.1%	0.5%	1.3%	0.0%	0.7%	0.5%	1.1%	0.5%	1.1%	0.0%	0.7%
2027	0.4%	1.1%	0.5%	1.2%	0.1%	0.6%	0.5%	1.1%	0.5%	1.0%	0.1%	0.6%
2028	0.4%	1.1%	0.4%	1.4%	0.2%	0.6%	0.5%	1.1%	0.4%	1.1%	0.3%	0.9%
2029	0.4%	1.1%	0.3%	1.2%	0.1%	0.7%	0.5%	1.1%	0.3%	1.0%	0.0%	0.4%
2030	0.5%	1.1%	0.3%	1.7%	0.1%	0.6%	0.5%	1.1%	0.3%	1.0%	0.1%	0.7%
2031	0.5%	1.1%	0.2%	0.8%	0.0%	0.6%	0.5%	1.1%	0.2%	1.0%	0.1%	0.7%
2032	0.5%	1.1%	0.2%	1.3%	0.2%	0.7%	0.5%	1.1%	0.2%	1.1%	0.3%	1.0%
2033	0.5%	1.1%	0.3%	1.4%	0.1%	0.7%	0.5%	1.1%	0.3%	1.0%	0.1%	0.4%
2034	0.5%	1.1%	0.4%	1.5%	0.1%	0.7%	0.5%	1.1%	0.4%	1.0%	0.2%	0.7%
2035	0.5%	1.1%	0.5%	1.1%	0.1%	0.7%	0.6%	1.1%	0.5%	0.9%	0.2%	0.7%

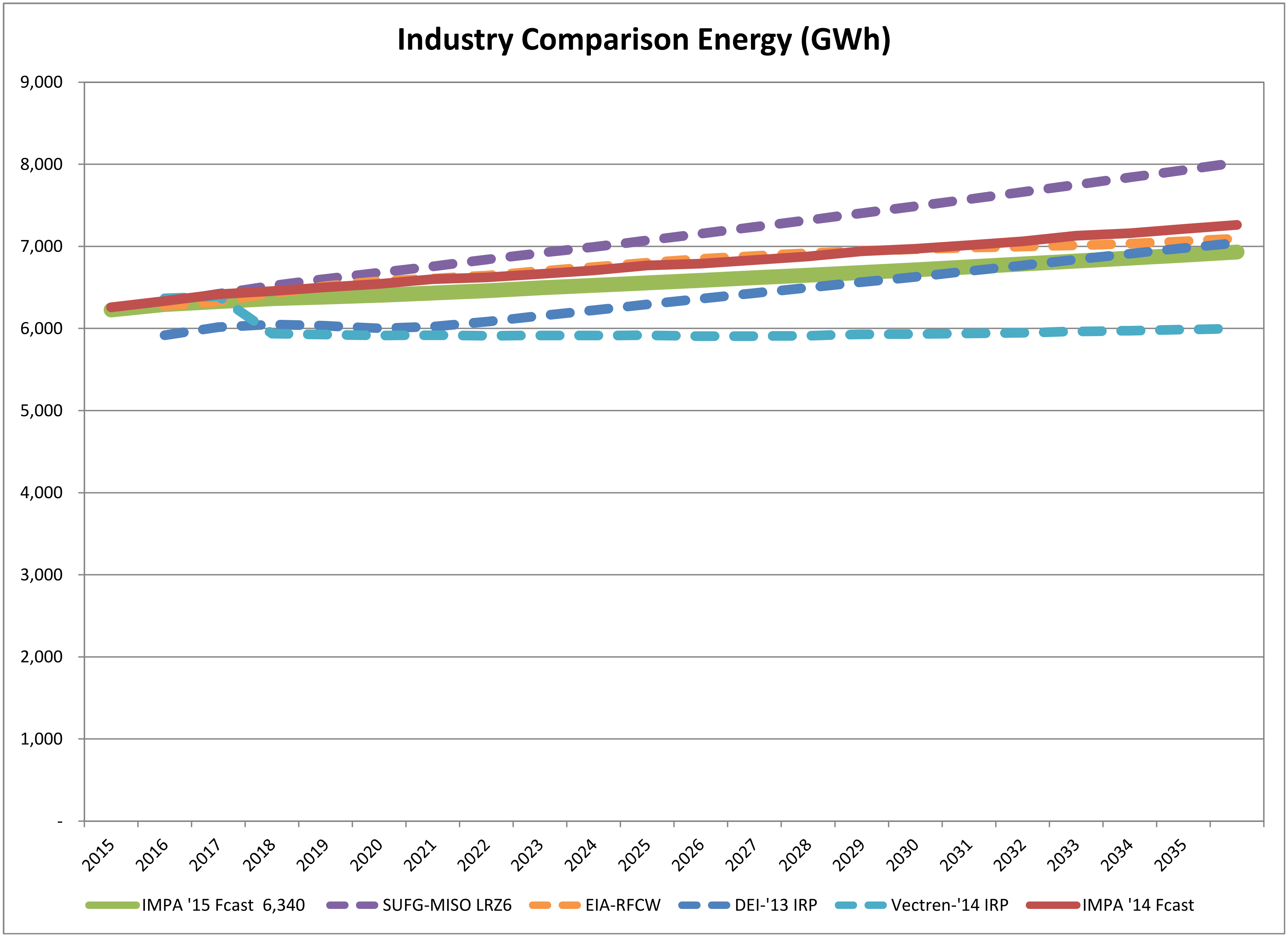
**Last year of fcast growth repeated.*

Industry Forecasts Comparisions

IMPA 2015 Forecast

	CP DEMAND (MW)						ENERGY (GWh)					
	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast	IMPA '15 Fcast	SUFG-MISO LRZ6	EIA-RFCW	DEI-'13 IRP	Vectren-'14 IRP	IMPA '14 Fcast
2014	1,147					1,181	6,226					6,259
2015	1,184	1,103	1,156	1,114	1,157	1,195	6,293	6,319	6,274	5,918	6,368	6,334
2016	1,190	1,121	1,194	1,134	1,158	1,206	6,329	6,422	6,329	6,016	6,391	6,416
2017	1,195	1,138	1,208	1,142	1,115	1,217	6,363	6,521	6,427	6,049	5,937	6,455
2018	1,199	1,152	1,212	1,147	1,111	1,226	6,383	6,602	6,515	6,034	5,925	6,502
2019	1,202	1,166	1,210	1,144	1,108	1,234	6,403	6,679	6,575	6,004	5,915	6,544
2020	1,207	1,179	1,208	1,155	1,108	1,241	6,431	6,758	6,608	6,022	5,919	6,601
2021	1,211	1,194	1,213	1,170	1,108	1,249	6,460	6,840	6,645	6,083	5,913	6,624
2022	1,217	1,207	1,222	1,186	1,109	1,256	6,496	6,918	6,701	6,152	5,915	6,663
2023	1,222	1,220	1,226	1,202	1,109	1,264	6,525	6,993	6,749	6,223	5,915	6,707
2024	1,227	1,234	1,232	1,219	1,109	1,272	6,555	7,074	6,800	6,294	5,918	6,767
2025	1,232	1,249	1,236	1,234	1,108	1,279	6,586	7,155	6,847	6,363	5,908	6,789
2026	1,238	1,263	1,239	1,250	1,108	1,288	6,617	7,237	6,884	6,432	5,908	6,835
2027	1,243	1,278	1,244	1,265	1,109	1,296	6,649	7,320	6,918	6,495	5,913	6,878
2028	1,248	1,292	1,247	1,282	1,111	1,304	6,682	7,404	6,943	6,564	5,929	6,941
2029	1,254	1,307	1,253	1,298	1,112	1,313	6,716	7,489	6,965	6,629	5,932	6,970
2030	1,260	1,322	1,257	1,320	1,113	1,321	6,750	7,575	6,984	6,698	5,940	7,016
2031	1,266	1,337	1,262	1,330	1,113	1,330	6,785	7,662	6,999	6,767	5,947	7,062
2032	1,271	1,353	1,268	1,347	1,115	1,338	6,820	7,750	7,013	6,840	5,965	7,130
2033	1,278	1,368	1,275	1,367	1,116	1,348	6,857	7,839	7,035	6,911	5,974	7,161
2034	1,284	1,384	1,282	1,387	1,117	1,357	6,894	7,929	7,062	6,978	5,987	7,211
2035	1,290	1,400	1,290	1,403	1,118	1,367	6,932	8,020	7,094	7,043	5,999	7,261
											Historical	*Forecast*
	Compound Annual Growth Rates											
2015-2035	0.4%	1.1%	0.5%	1.1%	-0.2%	0.6%	0.5%	1.1%	0.6%	0.8%	-0.3%	0.7%


Industry Comparison Demand (MW)
1,600
1,400
1,200
1,000
800
600
400
200
-
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
IMPA '15 Fcast
SUFG-MISO LRZ6
EIA-RFCW
DEI-'13 IRP
Vectren-'14 IRP
IMPA '14 Fcast



Industry Comparison Energy (GWh)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
IMPA '15 Fcast 6,340
SUFG-MISO LRZ6
EIA-RFCW
DEI-'13 IRP
Vectren-'14 IRP
IMPA '14 Fcast

Causal Variable Summary
IMPA 2015 Forecast

Economic Variables:

	IN Real Personal Income		US Unemployment	
	SPI	Growth	UE Rate	Growth
2004	192,107		5.5	
2005	197,603	2.9%	5.1	-7.3%
2006	209,439	6.0%	4.6	-9.8%
2007	216,943	3.6%	4.6	0.0%
2008	224,631	3.5%	5.8	26.1%
2009	217,596	-3.1%	9.3	60.3%
2010	222,888	2.4%	9.6	3.2%
2011	236,977	6.3%	8.9	-7.3%
2012	249,326	5.2%	8.1	-9.0%
2013	253,779	1.8%	7.4	-8.6%
2014	260,599	2.7%	6.2	-16.2%
2015	268,649	3.1%	5.5	-11.3%
2016	275,365	2.5%	5.4	-1.8%
2017	282,249	2.5%	5.3	-1.9%
2018	289,305	2.5%	5.4	1.9%
2019	296,538	2.5%	5.5	1.9%
2020	303,951	2.5%	5.5	0.0%
2021	311,550	2.5%	5.5	0.0%
2022	319,339	2.5%	5.4	-1.8%
2023	327,322	2.5%	5.4	0.0%
2024	335,505	2.5%	5.4	0.0%
2025	343,893	2.5%	5.4	0.0%
2026	352,490	2.5%	5.4	0.0%
2027	361,303	2.5%	5.4	0.0%
2028	370,335	2.5%	5.4	0.0%
2029	379,594	2.5%	5.4	0.0%
2030	389,084	2.5%	5.4	0.0%
2031	398,811	2.5%	5.4	0.0%
2032	408,781	2.5%	5.4	0.0%
2033	419,000	2.5%	5.4	0.0%
2034	429,475	2.5%	5.4	0.0%
2035	440,212	2.5%	5.4	0.0%
			Historical	*Forecast*
Compound Annual Growth Rates				
2011-2014	-2.3%		9.5%	
2015-2035	-2.3%		0.1%	
Historical Data Source and Updated Through Period				
Source:	BEA		BLS	
Updated:	2015.Q1		Jun 2015	

Economic historic data for the causal variables are gathered from the U.S. Bureau of Economic Analysis (BEA), www.bea.gov, and the U.S. Bureau of Labor Statistics (BLS), www.bls.gov. The source is noted with each variable along with the most current update of historical data that was available at the start of the forecast development.

The Unemployment Rate was projected using forecasted rates from the United States Congress Congressional Budget Office's (CBO) "Budget and Economic Outlook: Fiscal Years 2015 to 2025" report (www.cbo.gov). For years 2026 through the 2035 the growth trend assumption for 2025 was continued. Economic variable state personal income was projected using a general annual inflation rate of 2.5%, consistent with the inflation assumption used for IMPA's Integrated Resource Plan (IRP).

Except for DEO, each IMPA control area model included economic data as independent variables for forecasting.

- AEP—SPI and UE.
- DEI—SPI and UE.
- NIP—SPI.
- SIG—UE.
- DEO—none.

Causal Variable Summary

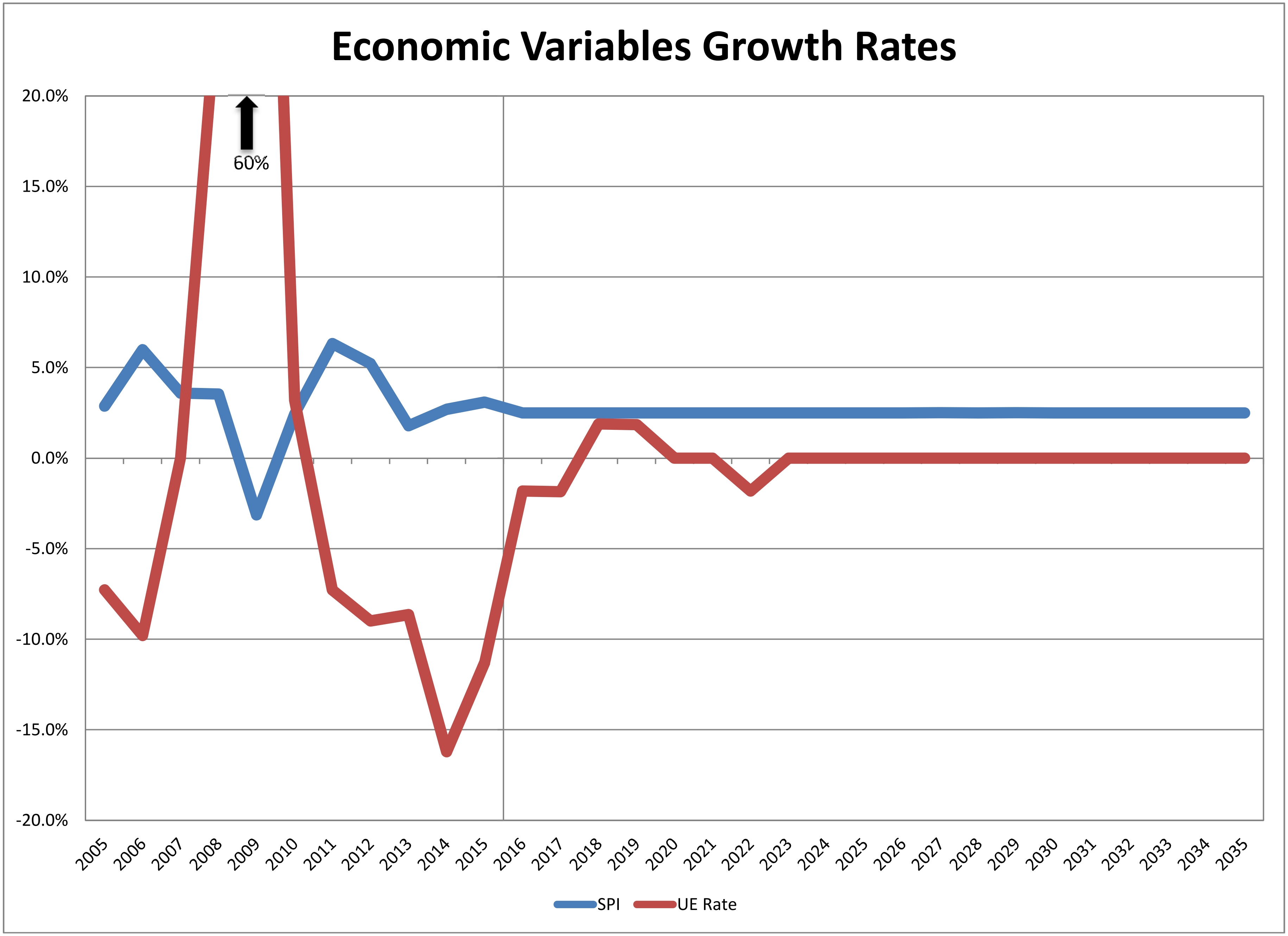
IMPA 2015 Forecast

Normalized Weather (1994 - 2014) for Weather Stations Used in Forecast:

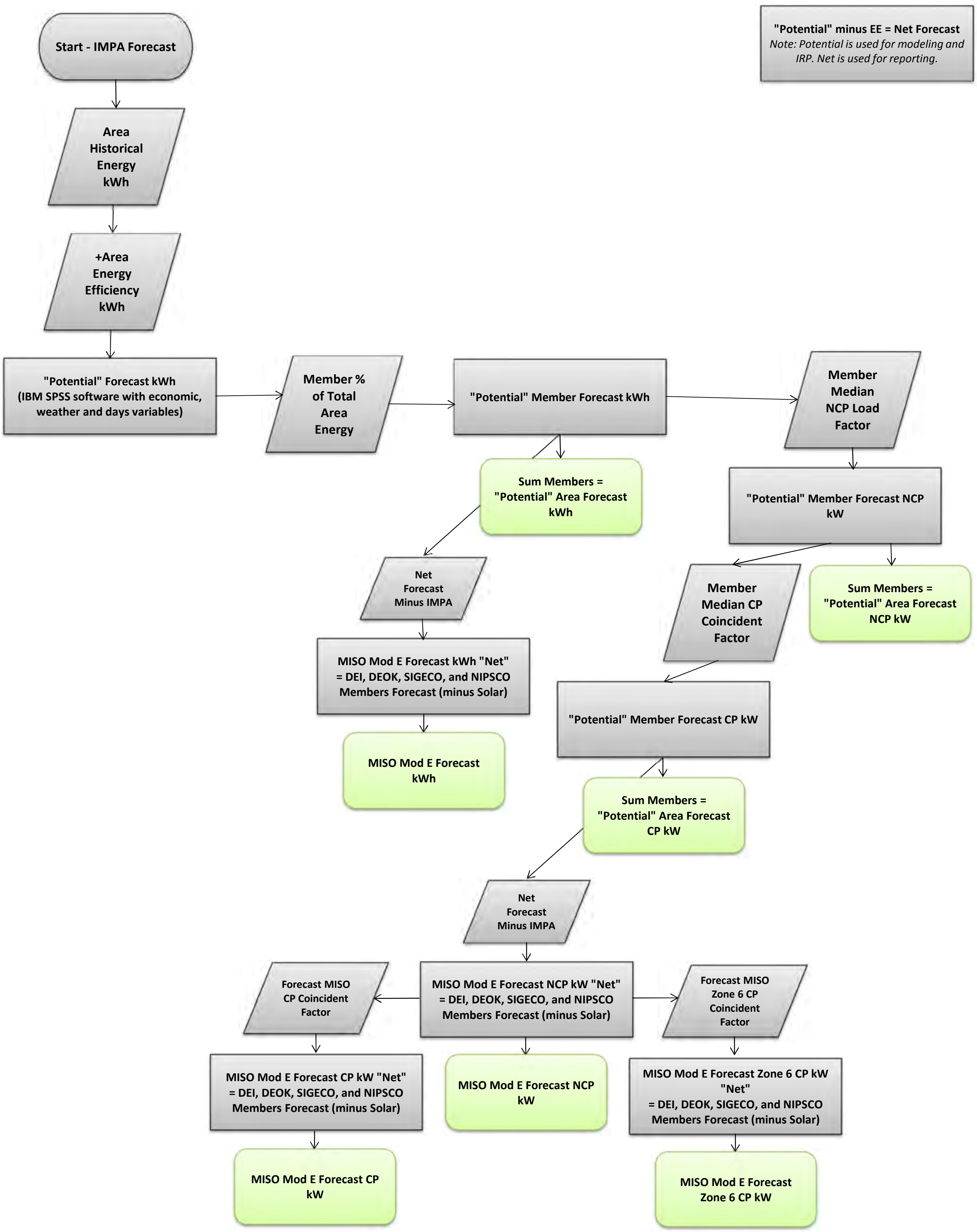
	Cincinnati		Evensville		Indianapolis		South Bend	
	HDD	CDD	HDD	CDD	HDD	CDD	HDD	CDD
January	1,025	-	1,237	-	1,126	-	980	-
February	841	-	1,047	-	921	-	787	-
March	646	3	843	3	694	4	581	6
April	293	13	468	9	341	16	261	29
May	110	77	214	54	126	82	76	125
June	10	238	35	184	12	246	5	314
July	-	342	6	266	1	339	-	409
August	1	309	9	218	2	320	-	388
September	48	127	101	87	54	137	34	175
October	285	17	386	12	310	20	239	34
November	605	-	719	-	639	-	557	1
December	898	-	1,081	-	989	-	870	-
Weather Station's Forecast Area								
	DEO		NIP		DEI & AEP		NIP	

Summary of all variables used in each area's forcast:

Causal Variables	**AEP**	**DEI**	**DEO**	**NIP**	**SIG**
Indiana Real Personal Income (PI)	x	x		x	
U.S. Unemployment Rate (US UE)	x	x			x
Heating Degree Days (HDD)	x	x	x	x	x
Cooling Degree Days (CDD)	x	x	x	x	x
Peak Days	x	x	x	x	x
Off-Peak Days	x	x	x	x	x


Economic Variables Growth Rates
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
-10.0%
-15.0%
-20.0%
60%
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
SPI
UE Rate

Flow Chart of Forecast Process
IMPA 2015 Forecast



Appendix E1 – Existing Resource Data – Summary

Indiana Municipal Power Agency
Summary of Existing Generating Resources

Plant Name	Unit	State	In Service Year	Prime Mover	Primary Fuel	Secondary Fuel	Summer Rating (MW)	Winter Rating (MW)	Current Environmental Controls	Comments
Gibson	5	IN	1982	ST	Coal	-	155.0	156.0	D-ESP, FGD, LNB, SCR, CP	MW Rating Represents IMPA's 24.95% Share of Unit
Trimble County	1	KY	1990	ST	Coal	-	66.0	66.0	CT, D-ESP, FGD, LNB, SCR	MW Rating Represents IMPA's 12.88% Share of Unit
Trimble County	2	KY	2011	ST	Coal	-	96.0	96.0	BH, CT, D-ESP, FGD, LNB, SCR, W-ESP	MW Rating Represents IMPA's 12.88% Share of Unit
Prairie State	1	IL	2012	ST	Coal	-	102.6	102.6	CT, D-ESP, FGD, LNB, SCR, W-ESP	MW Rating Represents IMPA's 12.64% Share of Unit
Prairie State	2	IL	2012	ST	Coal	-	103.3	103.3	CT, D-ESP, FGD, LNB, SCR, W-ESP	MW Rating Represents IMPA's 12.64% Share of Unit
Anderson	1	IN	1992	CT	Nat Gas	Oil	33.5	42.0	WI	
Anderson	2	IN	1992	CT	Nat Gas	Oil	33.5	42.0	WI	
Anderson	3	IN	2004	CT	Nat Gas	Oil	72.5	85.0	DLN1, WI	WI - only on oil
Georgetown	2	IN	2000	CT	Nat Gas	-	72.5	85.0	DLN1	DLN1 system (Dry Low Nox bruner)
Georgetown	3	IN	2000	CT	Nat Gas	-	72.5	85.0	DLN1	DLN1 system (Dry Low Nox bruner)
Richmond	1	IN	1992	CT	Nat Gas	Oil	33.5	42.0	WI	
Richmond	2	IN	1992	CT	Nat Gas	Oil	33.5	42.0	WI	
Whitewater Valley	1	IN	1955	ST	Coal	-	30.0	30.0	BH, CT, D-ESP, LNB, NOx	
Whitewater Valley	2	IN	1973	ST	Coal	-	60.0	60.0	BH, CT, D-ESP, LNB, NOx, DSI	
Rensselaer	5	IN	1950	IC	Oil	-	1.5	1.5		Exempt from CAIR and CSAPR
Rensselaer	6	IN	1957	IC	Oil	Nat Gas	2.4	2.4		Exempt from CAIR and CSAPR
Rensselaer	10	IN	1971	IC	Oil	Nat Gas	1.7	1.7		Exempt from CAIR and CSAPR
Rensselaer	11	IN	1971	IC	Oil	Nat Gas	1.7	1.7		Exempt from CAIR and CSAPR
Rensselaer	14	IN	1994	IC	Nat Gas	Oil	4.7	4.7		Exempt from CAIR and CSAPR
Rensselaer	15	IN	2006	IC	Nat Gas	-	8.4	8.4	CO catalyst	Exempt from CAIR and CSAPR

Prime Movers

ST = Steam Turbine
CT = Combined Cycle
IC = Internal Combustion

Environmental Controls

BH = Baghouse
CT = Cooling Tower
CP = Cooling Pond
D-ESP = Dry Electrostatic Precipitator
FGD = SO2 Scrubber
LNB = Low-NOx Burners
SCR = Selective Catalytic Reduction
W-ESP = Wet Electrostatic Precipitator
WI = Water Injection
NOx = Other NOx Reduction
DLN1 = Dry Low Nox System 1
DSI = Dry Sorbent Injection

Indiana Municipal Power Agency
Summary of IMPA Long Term Purchased Power Contracts

CounterParty	Capacity (MW)	Capacity Planning Factor	Expiration	Comments
Duke	50.0	1.099	05/31/17	7x24, 50MW fixed for term
Duke	Varies	1.099	Varies	Full Req Contracts Related to New Members - Exp by 5/31/2017
Duke	100.0	1.099	05/31/21	Begins June 1, 2017
WPPI	50.0	1.000	05/31/18	MISO PRC
NextEra	50.0	-	12/31/18	Wind PPA, Up to 50 MW of wind energy
AEP	190.0	1.118	12/31/34	7x24, Can increase capacity annually at IMPA's option

Appendix E2 – Existing Resource Data - Detailed

REDACTED

Appendix F – Expansion Resource Data

REDACTED

Appendix G – Avoided Costs

IMPA's avoided costs are determined by calculating the cost of serving the next increment of load. Avoided costs can be determined for capacity, energy and transmission expense based on the current constructs utilized in the RTOs. The following sections describe the methodology used to determine the avoided costs. The table on the following page represents the annual avoided cost figures.

Avoided Capacity Costs

In the MISO and PJM RTOs, the next increment of capacity will cost the final realized planning year cleared capacity auction price. The underlying cost curve for these auctions is based on the cost of constructing a new combustion turbine however; the final cleared auction price can be affected by many factors, including:

- Load Forecast
- Demand Response
- Market Participant Behavior
- RTO Reserve Requirements

The design of the RTO capacity markets effectively caps the cleared auction price at or slightly above the value of a new CT, a value known as the Cost of New Entry (CONE). Historically, cleared auction prices for IMPA's load zones have been substantially less than the cost of a new CT.

As discussed in Sections 12 and 14, IMPA's market model produces long term forecasts of market capacity process for both PJM and MISO. IMPA's stochastic process projects multiple streams of capacity prices that vary across the time period. The stochastic mean values are shown on the attached table.

Avoided Energy Costs

By definition, in an LMP energy market, the marginal cost of serving the next increment of load is the LMP. IMPA's avoided energy cost is the projected cost of market energy. The stochastic mean values are shown on the attached table.

Avoided Transmission Capacity Costs

As in energy, IMPA's avoided cost of transmission is based on the charges applied by the RTO for open access transmission service to serve its member loads in the RTO load zones.

IMPA Avoided Costs				
	Capacity $/kW-Month	Energy - 5x16 $/MWh	Energy - WRAP $/MWh	Transmission $/kW-Month
2016	[redacted]			
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
2033				
2034				
2035				

All values are weighted averages of IMPA pricing zones

Appendix H – Statement on Form 715

Statement on Annual Transmission and Planning Evaluation Report - Form 715

The Federal Energy Regulatory Commission has determined that this report contains “Critical Energy Infrastructure Information” (CEII) and is this treated as confidential. Furthermore, as operator of the joint transmission system, this report is prepared and submitted by Duke Energy on behalf of the three JTS participants.

Appendix I1 – 2014 IMPA Annual Report

2014
Annual Report

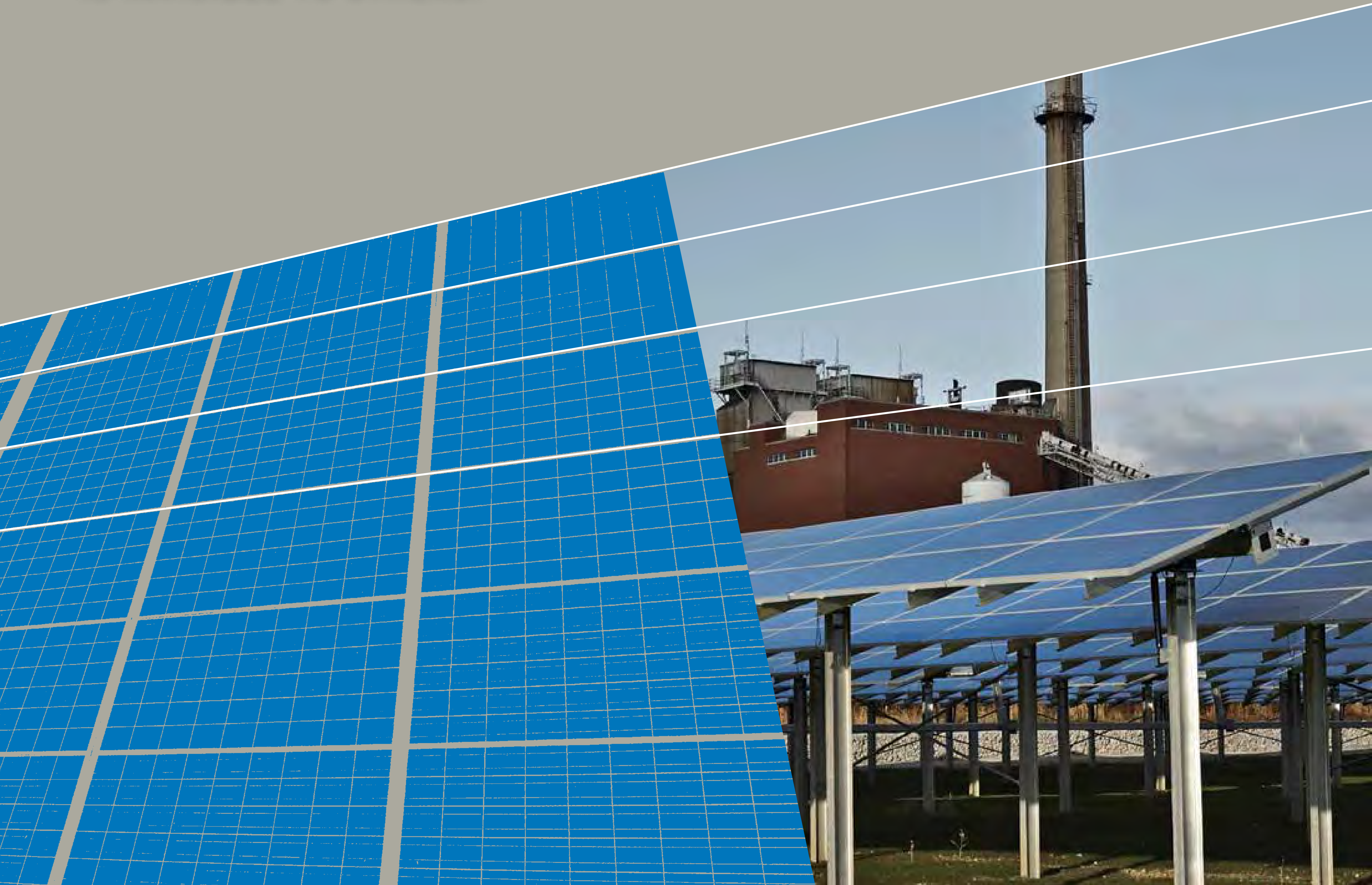
CONSTANT GROWTH
CONSTANT VISION

IMPA
Indiana Municipal Power Agency

IMPA CONSTRUCTION
Sondra Brosmer, Office Manager at IMPA, and Darrell Drake, Superintendent with Brandt Construction, Inc. review construction plans for IMPA's new conference center. Construction on the 14,000 square foot facility began in 2014.

CONTENTS

VISION IS THE ART OF SEEING WHAT IS INVISIBLE TO OTHERS. – Jonathan Swift



MESSAGE TO MEMBERS

The Indiana Municipal Power Agency (IMPA) began with a vision. A singular vision, focused on the customers of municipal electric utilities throughout the state. An achievable vision, one seeking affordability and reliability in municipal power for years to come. A dynamic vision, not a static one, able to adapt to changing competition, regulations and technology. A vision crafted not by one person, but by many working together.

As a joint action agency providing wholesale power to municipal electric utilities, IMPA is not a unique entity. However, our vision for the future and the methods by which we are achieving it certainly make us stand out from the crowd. At the core of the Agency, and always the driving force behind our operations, is providing our members with a low-cost, reliable and environmentally-responsible power supply. By staying true to our vision, we and our member communities continue to experience growth and success. Constant growth, constant vision.

Progress and development played a central role in guiding IMPA's operations in 2014. Growth in our power supply portfolio was accomplished with the construction and development of three, one megawatt solar parks in IMPA member communities. Through the development of the parks, the Agency grew in its understanding of them, learning the best processes and techniques to build the parks at the most economical price possible. As we expand our program in 2015 and beyond, we will use the lessons learned in their construction to ensure we are even more economical and efficient. The solar parks in Frankton, Rensselaer and Richmond have played a vital role in further diversifying our power supply, ensuring we provide municipal electric utilities throughout the state with an environmentally-responsible energy source. Additionally, we expanded our power supply operations in our member community of Richmond, Indiana by welcoming Whitewater Valley Station into our generation portfolio. No matter what we have faced throughout the years—be it changes in fuel resources, environmental regulations, or other obstacles—our diverse power supply portfolio has served us well and helped us to remain focused on our vision.

Our member communities also achieved their own growth, as many saw businesses and industries locate or expand in their service territories. For many communities, these successes are the culmination of years of hard work—a vision established long ago for the future of their communities. Together, we celebrate that these visions have come to fruition, and together we work to ensure similar growth and accomplishments occur in the future.

IMPA's expanded member services and offerings led to internal growth as well, as we witnessed growth in staff as well as in our facilities. In 2014, IMPA continued to add skilled employees to serve members throughout the state, as well as broke ground on a conference center and expanded office building complex. Once completed, the new and renovated facilities will host a variety of functions for IMPA and our municipal electric communities.

While 2014 was a banner year in many ways for the Agency, it was still just a stepping stone in our overall vision. In many ways, we have already achieved what we set out to do over thirty years ago. However, the mark of a true visionary is being able to adapt your vision to the ever changing environment around you to achieve greater results. As we reflect on 2014 and our many successes, we are already looking ahead, adjusting our dynamic vision to accomplish the best we can for the Agency and our members in the future.

Raj g. Rao
Raj Rao
President and CEO

Marlow J. Smethurst
Marlow Smethurst
Chairman of the Board


WHITING

GROWTH IN POWER

WHITEWATER VALLEY STATION

During 2014, IMPA began operating the Whitewater Valley Station in Richmond, Indiana, and welcomed its employees to the IMPA staff. Pictured at left (L to R): Alan Burkhart, Scott Schultz, Rick Pennington, Clint Markley, Larry Thomas, Mel Bond, Chris Cox, Jerry Catron, Dave Madden, Steve Clark, Dan Straight, Jeff Henderson, Mark Phenis, Dustin Jones, Chico Cotton, Jeff Newton, Mike Gadd and Steve Brown. Not pictured: Jim Chaplin, Jeff Coleman, Doug Friend, Gene Giffen, Jerry Spicer, Scott Sweet, and Randy Thurston

Pictured above: Steve Brown, General Manager, Whitewater Valley Station

The Indiana Municipal Power Agency's (IMPA) diverse power supply portfolio relies on a variety of fuel sources to fulfill the energy needs of its member communities. Coal, natural gas, oil, nuclear, and wind are all counted among the fuels used. In 2014, IMPA diversified its portfolio even further with the addition of four power supply resources: the Whitewater Valley Station in Richmond, Indiana, and solar parks in three member communities.

Early in the year, IMPA began talks with utility officials in Richmond to acquire operational control of the Richmond Power and Light Whitewater Valley Station. The utility was considering closure of the facility, which has been in operation since 1954. However, after further investigation by IMPA and Richmond Power and Light, both parties felt it would be a win-win situation for IMPA to take over operations of the plant. Not only could the plant continue to provide a reliable power supply to residents of the community and supplement IMPA's power portfolio, but the experienced and skilled employees at Whitewater Valley Station would also be retained and remain as a valuable resource to the utility industry and in the community. The Agency finalized the contract with Richmond Power and Light in May and started operating on June 1, 2014. Additionally, IMPA welcomed the employees of the plant as IMPA employees, increasing the size of the Agency's overall staff.

IMPA also fulfilled its plan to add solar energy as a resource in 2014. The Agency decided to add three solar parks in IMPA member communities throughout the state. IMPA considered a number of locations before deciding on Frankton, Rensselaer and Richmond as the three members comprising the first stage of solar park development. The communities secured land for the parks while IMPA staff handled the development and construction.

The three solar parks are each housed on eight acres of land and each include 4,000 solar panels capable of generating one megawatt (MW) of electricity. The Rensselaer and Frankton sites utilize fixed tilt panels, permanently mounted at 25 degrees from horizontal, to maximize annual energy production. The Richmond IMPA Solar Park, while similar in size, relies on panels that track the sun's path throughout the course of the day. The panels shift position, maximizing the panels' exposure to the sun and the potential for solar power generation.

To celebrate the addition of the solar park facilities to the Agency's portfolio, IMPA held a ribbon cutting ceremony in August following the completion of the last site in Richmond. By the end of the year, the three solar park sites had generated over 1.5 million kilowatt hours of electricity, or enough to power about 150 homes.

Through this process, IMPA expanded its knowledge of solar power and the processes needed to successfully complete parks of this scale in the most cost effective way possible. Besides relying on in-house expertise in the development of the parks, IMPA worked with local contractors in the communities to keep costs down and give back to the businesses in those communities. Additionally, the Agency did not accept any government subsidies for the construction of the parks.

IMPA's vision for solar power has not stopped with the completion of these parks, however. The Agency has already begun to expand its solar park program with a second phase to include three additional parks by mid-year 2015. A third phase is planned for completion later in the year, with the goal of adding 10 MW of solar capacity to the Agency's portfolio by year's end. IMPA hopes to have a solar park located in all 60 communities it serves by completion of the program.

ISC ENGINEERING

ISC, Inc. offers at-cost engineering services to municipal electric communities. While ISC Operations offers distribution line services, ISC Engineering provides assistance with project management, rate design, management consulting and retail customer services. Pictured: Joe Schmidt, Assistant Vice President of ISC Engineering

GROWTH IN SERVICES

While IMPA's core vision has always been focused on an affordable and reliable power supply for member communities, throughout the years that vision has expanded to serve member utilities in a variety of other ways.

With the addition of ISC, Inc. in 2001, a subsidiary of IMPA offering at-cost engineering services to municipal electric communities, and a further expansion of ISC to include distribution line services, IMPA continued to build upon its services to fulfill the needs of member communities. The frigid temperatures and unprecedented snowfall witnessed by Indiana over the winter of 2014 did nothing to slow the ISC Operations' crews in their efforts to assist municipal electric communities. In its first full year of service, ISC Operations worked with members throughout the state on a variety of projects. Everything from system management to distribution utility services and substation maintenance to outage restoration fell within the wheelhouse of the ISC crews. During the height of the winter storm in 2014, ISC Operations found itself assisting four municipal electric communities in less than a 48 hour period. From Centerville to Greenfield then over to Pittsboro and Coatesville, ISC answered every call for assistance. ISC is dedicated to providing cost-effective services to municipally-owned utilities.

After participating in the statewide energy efficiency program known as Energizing Indiana, IMPA launched its own energy efficiency program to serve residents and businesses in member communities. The program offers cash incentive opportunities to those individuals and businesses interested in saving money and energy. Residents of IMPA member communities may apply for incentives for heating, ventilation and air-conditioning units (HVAC), heat pumps and geothermal systems. For business and industries, incentives are available in the areas of lighting, HVAC, variable frequency drives, refrigeration, food service and controls.

IMPA offers economic development assistance to member communities as well, and recognizes the value of having Shovel Ready sites in member communities. The Agency works with members applying for Indiana's Shovel Ready Program, available through the Indiana Economic Development Corporation (IEDC) and the Indiana Office of Community and Rural Affairs (OCRA). The Indiana Shovel Ready designation certifies sites that are ready for quick development and that do not have any associated development costs or site challenges that could delay a project. The designation serves as a "welcome sign" that the community is open for business and ready to assist companies considering an Indiana presence. Communities of any size may apply for the designation through OCRA and Indiana recognizes three tiers of readiness: Shovel Ready, Shovel Ready Silver, and Shovel Ready Gold. The various tiers are determined by set criteria that must be completed to receive the applicable designation, and a community must assess which level makes the most sense for the site based on the costs and time investment to reach the tier.

With IMPA's assistance, three member communities received Shovel Ready designation from the state in 2014: Argos, Jasper and Scottsburg. The designation includes national recognition that provides these sites with a measurable advantage when competing to attract new businesses and industries. It also bolsters involvement, commitment and support from local government officials and utility staff through a collective effort to prepare a competitive submission to OCRA. The Shovel Ready designation assists these members in growing opportunities for economic development.

GROWTH IN FACILITIES

Central to IMPA's core vision has been the Agency's goal to provide low-cost power and cost-effective services to municipally-owned utilities from a centralized location, accessible by all members. During its earliest days, the Agency's commissioners met in Greenfield, Indiana.

ISC OPERATIONS

ISC Operations is dedicated to providing cost-effective distribution services to municipal electric utilities throughout Indiana. During its first full year of operations, ISC's line crews assisted communities with everything from system management and substation maintenance to outage restoration.

GROWTH ISC OPERATIONS

LEADERSHIP
IS THE CAPACITY
TO TRANSLATE
VISION
INTO REALITY
– WARREN G. BENNIS

FRANKFORT AND JAMESTOWN, INDIANA

IMPA is connected to economic development initiatives in towns, cities, counties, regional areas and throughout the state. Frankfort, Indiana, is one community that has witnessed a steady uptick in growth, development and redevelopment. The City, under the leadership of Mayor Chris McBarnes (pictured at left), saw the addition of Ivy Tech Community College to its downtown area, bringing increased traffic and bolstering the economy.

In Jamestown, Indiana, FTIC broke ground on an over 200,000 square foot facility (pictured above).

Later, when IMPA sought a permanent place to call home, the Agency secured a spot just north of the state's capital in Carmel. IMPA's headquarters were completed in 1989, and have served the Agency's staff and members for well over 25 years.

Providing a wholesale power supply to municipal electric communities has always been IMPA's core business. However, as the Agency's membership has grown, IMPA has added services and staff to meet additional needs beyond power supply for those communities. Over time, the Agency has slowly started to expand beyond the boundaries and capabilities of its current facilities.

Today, IMPA offers engineering, rates and consulting services, energy efficiency programs, marketing and communications, government relations, legal and regulatory assistance and economic development. Services provided through ISC include system management, distribution utility services, outage restoration and substation maintenance, amongst others. To facilitate this growth and potential expansion, IMPA purchased the building that lies just north of its current facility along College Avenue. Additionally, as the current headquarters board room was built to accommodate far fewer commissioners and staff than the Agency currently hosts, IMPA also decided to construct a conference center between the current headquarters and the newly purchased building.

IMPA broke ground on the conference center at its May Board of Commissioners meeting and began work later in the year. The new, 14,000 square foot facility will include a state-of-the-art meeting center designed to adapt to the changing needs of members over time. Additionally, the renovated and expanded office space will allow IMPA's staff room to grow and better assist members throughout the state.

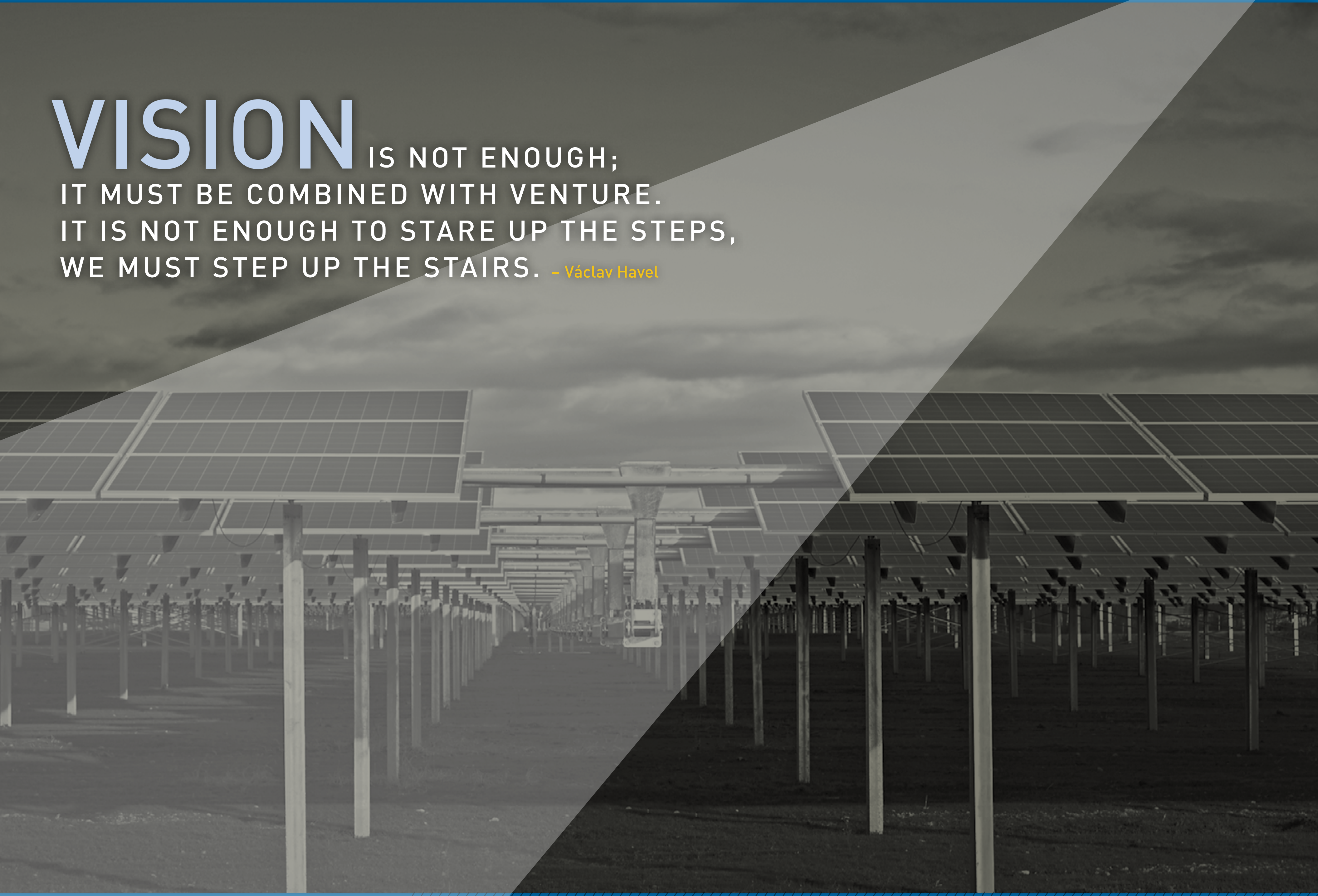
GROWTH IN COMMUNITIES

While IMPA maintains a vision for itself and its member utilities, the Agency also works with municipal electric communities to help them accomplish their own visions for their communities. In addition to power supply and other supplementary services, IMPA is connected to economic development initiatives in towns, cities, counties, regional areas and throughout the state. Each economic development success story helps strengthen the community, while also fortifying the strength of the regional area and the state as a whole.

One community where economic development initiatives are truly a community wide vision is Frankfort, Indiana. The community has witnessed a steady uptick in growth, development and redevelopment over the past few years. Central to many of these efforts was the addition of the Ivy Tech Community College to Frankfort's downtown corridor. Ivy Tech is Indiana's largest public postsecondary institution, with nearly 200,000 students enrolled annually. It serves as an engine of workforce development for the state, offering affordable degree programs and training aligned with the needs of its local businesses and industries. The city worked with Ivy Tech to establish a beautiful new facility in the heart of Frankfort to provide training and courses to area workers and to build an educated workforce of students from the surrounding regional area. The inclusion of Ivy Tech in the community has not only brought increased traffic to the area, bolstering the local economy and particularly the downtown businesses, but has actually influenced two additional projects in the area and helped secure their location in Frankfort.

In the small community of Jamestown, years of hard work and dedication led to the fulfillment of their vision when it was announced that Fukai Toyotetsu Indiana Corporation (FTIC) would locate in the small but progressive community. The Japanese auto parts supplier announced in September that it had selected Jamestown as the home to its over 200,000 square foot facility. While

VISION IS NOT ENOUGH;
IT MUST BE COMBINED WITH VENTURE.
IT IS NOT ENOUGH TO STARE UP THE STEPS,
WE MUST STEP UP THE STAIRS. – Václav Havel



THE VIEW FROM HERE…

IMPA's vision for solar power includes plans to add up to 10 MW of solar capacity to the Agency's portfolio by the end of 2015. IMPA hopes to have a solar park located in all 60 communities it serves by completion of the solar program.

their decision to locate there was based on many factors, the ability to receive low-cost, reliable electric service from the municipally-owned Jamestown Power and Light played an integral role. Once construction of the facility is complete, FTIC plans to employ approximately 193 people.

New company attraction projects were not the only economic development successes in IMPA member communities in 2014. Several cities and towns experienced expansions of existing companies as well. Elanco, a global animal health company and subsidiary of Lilly, Inc. headquartered in Greenfield, Indiana, began construction of an expanded facility to provide additional services. Greenfield Power and Light, the local electric utility serving Elanco, works closely with the company on an ongoing basis to ensure their needs are always met and expectations exceeded.

Crawfordsville and Scottsburg also witnessed their share of economic development announcements, with Samtec announcing a new manufacturing facility in Scottsburg and Random House expanding its operations in Crawfordsville. Samtec, which manufactures cables and other products for electronic interconnection, broke ground on a 70,000 square foot manufacturing facility near Scottsburg's Mid-America Science Park. About 300 jobs will be located at the facility when construction is completed in 2015. The Science Park has been a driver of several economic development initiatives for the southern Indiana community. Additionally, Random House, the world's largest consumer book publisher, announced plans to create up to 313 new jobs in Crawfordsville through the consolidation of a major portion of its US distribution and fulfillment operations in the community. The company invested millions of dollars in expanding, renovating and equipping its Crawfordsville operations center, expanding by nearly 350,000 square feet and growing its existing facility to one million square feet. The growth enabled the company to double its annual book shipments.

Finally, some IMPA communities took steps to ensure their future visions could be accomplished. One such community was Lebanon, which began construction of a large shell building in the community. This proactive effort ensures the community has a viable and enviable product to market for future leads. The Indiana Economic Development Corporation estimates that around 80% of leads start with a search for an existing building which meets modern building requirements. By investing in a shell building now, Lebanon increases its chances of bringing a prospective company to the community for a site visit and having the company select Lebanon for a new investment, impacting not only the local but also the regional economy.

Václav Havel, the first democratic president of the Czech Republic, once said "Vision is not enough, it must be combined with venture. It is not enough to stare up the steps, we must step up the stairs." IMPA has not just stared up the steps, but is reaching for a vision far into the future. Since its inception, the Agency has cautiously, but with confidence and strength, taken each stair in the climb. We know that vision is not a static, one-time event, but an ongoing process. Our vision has driven our operations for the past thirty years, yet we know there are more stairs to climb. Our present vision will take us to new heights as we continue to step up the stairs, always pushing ourselves beyond the boundaries of our current sight to the vision we know we can obtain.

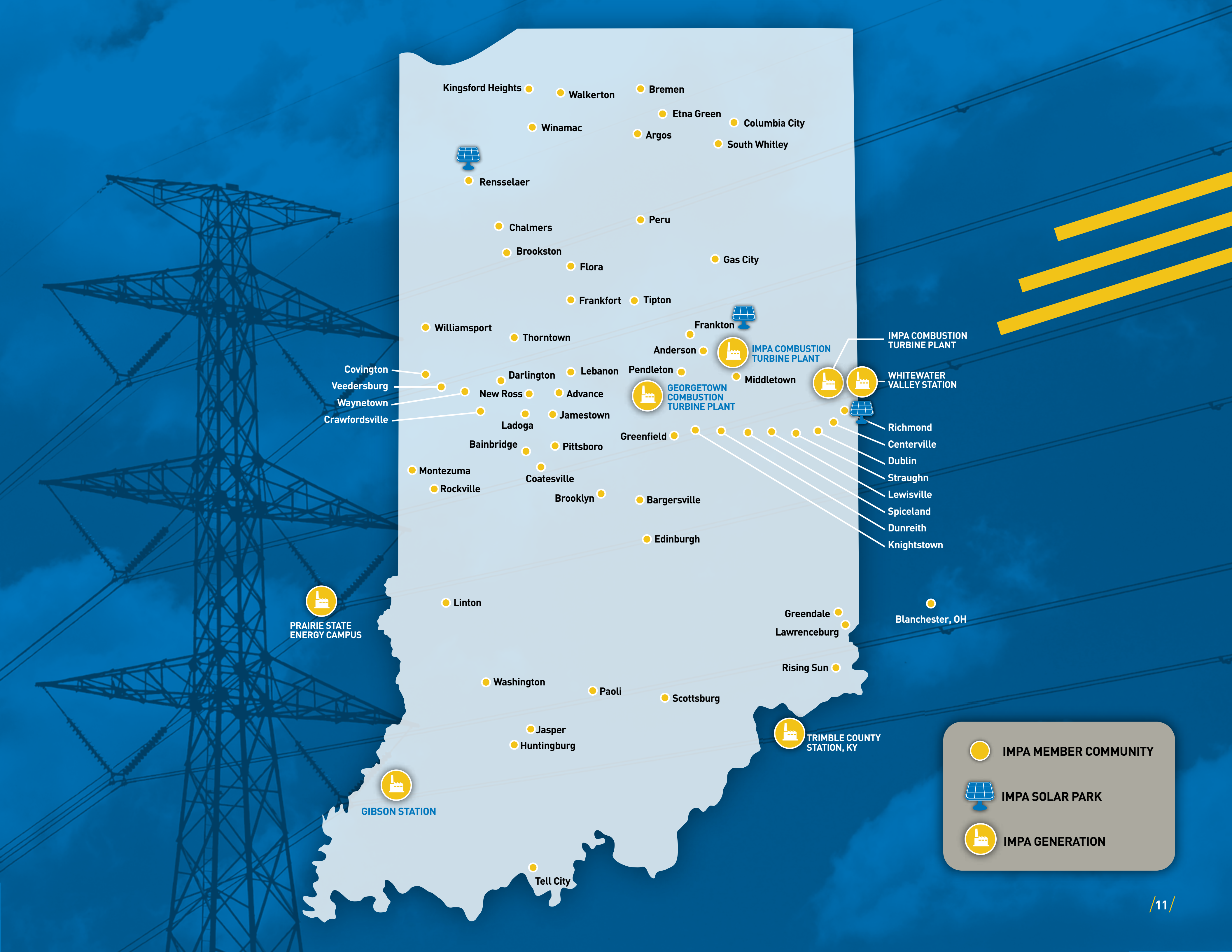
IMPA MEMBER COMMUNITIES

ADVANCE
ANDERSON
ARGOS
BAINBRIDGE
BARGERSVILLE
BLANCHESTER, OH †
BREMEN
BROOKLYN
BROOKSTON
CENTERVILLE
CHALMERS
COATESVILLE
COLUMBIA CITY
COVINGTON
CRAWFORDSVILLE
DARLINGTON
DUBLIN
DUNREITH
EDINBURGH
ETNA GREEN
FLORA
FRANKFORT
FRANKTON
GAS CITY
GREENDALE
GREENFIELD
HUNTINGBURG
JAMESTOWN
JASPER
KINGSFORD HEIGHTS
KNIGHTSTOWN
LADOGA
LAWRENCEBURG
LEBANON
LEWISVILLE
LINTON
MIDDLETOWN
MONTEZUMA
NEW ROSS
PAOLI
PENDLETON
PERU
PITTSBORO
RENSSELAER
RICHMOND
RISING SUN
ROCKVILLE
SCOTTSBURG
SOUTH WHITLEY
SPICELAND
STRAUGHN
TELL CITY
THORNTOWN
TIPTON
VEEDERSBURG
WALKERTON
WASHINGTON
WAYNETOWN
WILLIAMSPORT
WINAMAC

† WHOLESALE POWER CUSTOMER

IMPA GENERATING FACILITIES

Facility	Unit Type	Fuel Type	Capacity (MW)
Anderson	Combustion Turbine	Natural Gas/Oil	167
Georgetown Units 2&3	Combustion Turbine	Natural Gas	170
Gibson Unit 5	Steam	Coal	156
IMPA Solar Parks	Solar	Sun	3
Prairie State Units 1&2	Steam	Coal	206
Richmond	Combustion Turbine	Natural Gas/Oil	82
Trimble County Units 1&2	Steam	Coal	162
Whitewater Valley Station	Steam	Coal	91
			1037


Kingsford Heights
Walkerton
Bremen
Etna Green
Columbia City
Winamac
Argos
South Whitley
Rensselaer
Peru
Chalmers
Brookston
Flora
Gas City
Frankfort
Tipton
Frankton
Williamsport
Thorntown
Anderson
IMPA COMBUSTION TURBINE PLANT
IMPA COMBUSTION TURBINE PLANT
Covington
Darlington
Lebanon
Pendleton
Middletown
WHITEWATER VALLEY STATION
Veedersburg
New Ross
Advance
GEORGETOWN COMBUSTION TURBINE PLANT
Waynetown
Crawfordsville
Ladoga
Jamestown
Richmond
Centerville
Bainbridge
Pittsboro
Greenfield
Dublin
Montezuma
Coatesville
Straughn
Rockville
Brooklyn
Bargersville
Lewisville
Spiceland
Dunreith
Edinburgh
Knightstown
PRAIRIE STATE ENERGY CAMPUS
Linton
Greendale
Blanchester, OH
Lawrenceburg
Rising Sun
Washington
Paoli
Scottsburg
Jasper
Huntingburg
TRIMBLE COUNTY STATION, KY
GIBSON STATION
Tell City
IMPA MEMBER COMMUNITY
IMPA SOLAR PARK
IMPA GENERATION

IMPA BOARD OF COMMISSIONERS / 2014 AND IMPA SENIOR EXECUTIVES

1 Ray Young / Brooklyn*
2 Eugene Kates / Centerville
3 Olin Clawson / Lawrenceburg
4 Shawn E. Lickey / Columbia City
5 Stephen A. Miller / Frankfort
6 Barry J. Baker / Etna Green
7 Nathan D. Ulerick / Dublin
8 Ram G. Reddy / Blanchester
9 Rosalie A. Jacobs / Kingsford Heights
10 E. Sue Bovard / Rising Sun
11 Richard Denney / Winamac
12 John W. Norris / Montezuma
13 Anita K. Ash / Washington
14 Jay McCoskey / Lebanon
15 Stephen A. Wood / Rensselaer
16 Marlow J. Smethurst / Tell City*

17 Beverly J. Stout / Waynetown
18 James J. Lindstrom / Argos
19 Tim McClintick / Pendleton
20 Brent W. Slover / Linton*
21 James E. Hanson / Middletown
22 Roger B. Merriman / Peru
23 Tony P. Pochard / Anderson
24 Jack Alvey / IMPA

25 Doug Buresh / IMPA
26 Raj Rao / IMPA
27 Peter Prettyman / IMPA
28 John Reutepohler / Huntingburg
29 Chris Rettig / IMPA
30 Mike C. Jenner / Edinburgh
31 David A. Wilkinson / South Whitley
32 David B. Dudley / Dunreith

33 Steven G. Waltz / Rockville
34 Lisa M. Corey / Frankton
35 Kathryn Tiede Chrapliwy / Walkerton
36 Bobby Taylor, Jr. / Jamestown
37 David L. Banta / Williamsport
38 Larry Parker / Richmond
39 Jerald L. Schitter / Jasper
40 Raymond P. Smith / Gas City*

41 Michael L. Fruth / Greenfield
42 S. Troy Elless / Bainbridge
43 Jay M. Stoneburner / Bremen
44 C. Sue Saunders / Lewisville*
45 Gary D. Moody / Thorntown
46 Steve A. Wingler / Coatesville
47 Greg F. Gayler / Darlington
48 Dick Klein / Tipton

49 Charles H. Everett / Flora*
50 Phillip R. Goode / Crawfordsville*

NOT PICTURED

Jeremy Ferguson / Advance
Kevin J. McGinnis / Bargersville
Max L. Eldridge / Brookston
Perry Hughes / Chalmers

Bradley D. Crain / Covington
Robert H. Hartman / Greendale
Greg L. Neice / Knightstown
James B. Cox / Ladoga
Rebecca L. Lowe / New Ross
Gary N. Barnett / Paoli
Jason Love / Pittsboro
William H. Graham / Scottsburg
Jeffrey L. Lane / Spiceland*
Stacy Smith / Straughn
Keith K. Smith / Veedersburg

* Executive Committee Member

IMPA STAFF / 2014

SENIOR MANAGEMENT

Raj Rao
President and
Chief Executive Officer

Jack Alvey
Senior Vice President
of Generation

Doug Buresh
Senior Vice President of
Planning and Operations

Peter Prettyman
Vice President and
General Counsel

Chris Rettig
Senior Vice President and
Chief Financial Officer

MANAGEMENT

Larry Brown
Steve Brown
Maria Grossman
Bev Matthews
Joel Roper
Joe Schmidt
Frank Smardo
Kerry Vincent
Carolyn Wright

MARKET OPERATIONS

Matt Andryuk
Kyle Brouillette
Ryan Daugherty
John Lloyd
Rob Rucker
Brodie Williams
Sam Wilson

PLANNING, ENGINEERING & OPERATIONS

Scott Berry
Mel Denton
Brian Markley
Alan New
Don Summitt
Nathan Van Winkle
James Welsh
Dan Worl

WHITEWATER VALLEY STATION

Melvin Bond
Alan Burkhart
Jerry Catron
James Chaplin
Steve Clark
Jeffrey Coleman
Chico Cotton
Chris Cox
Doug Friend
Michael Gadd
Gene Giffen
Jeff Henderson
Dustin Jones
David Madden
Clint Markley
Jeffrey Newton
Rick Pennington
Mark Phenis
Scott Schultz
Jerry Spicer
Daniel Straight
Scott Sweet
Larry Thomas
Randal Thurston

ISC–ENGINEERING

Bill Castrodale
Tom Connell
Steve Esarey
Phil Lopresto

ISC–OPERATIONS

Roger Butler
Paul Conklin
Rob Doty
Ben Hocking
Alex Jervis
Dan Jervis
Keith Priddy
David Sanders

MEMBER SERVICES

Emily Atwood
Eric Burch
Niki Dick
Susan Reed

ACCOUNTING AND FINANCE

Jacki Hall
Alisha Hunter
Lezli Lingerfeldt
Sarah Shaughnessy

ADMINISTRATION

Sondra Brosmer
Jane Hemmerlein
Brandy Noelker
Cathy Rudd
Shanah Tran

OPERATING RESULTS / 2014

Operating revenues, which are composed of sales to municipalities and other revenues, increased approximately $19.2 million (4.4%). The primary driver of increased operating revenues was higher average rates. The average accrued cost per kilowatt hour (kWh) for 2014 was 7.3 cents, an approximate 3.7% increase compared to 2013. 2014 summer temperatures were mild in comparison to 2013, resulting in comparatively level energy sales, an approximate .4% increase, in 2014 compared to 2013.

Total net expenses increased approximately $16.8 million or 4.1% in 2014. As expected, purchased power costs declined and production and fuel costs increased as Prairie State's output continued to improve throughout 2014. Prairie State's combined availability and capacity factors for 2014 were 72.48% and 67.16% respectively, an improvement of 15.7% and 15.0% respectively, over 2013.

During 2014, the Agency issued the 2014 Series A Bonds (the "2014 Bonds"). The par value of the 2014 Bonds was $167.7 million. The 2014 Bonds were issued for the purpose of refunding the 2004 Series A Bonds and certain 2006 Series A Bonds (the "Refunded Bonds"). The refunding of the Refunded Bonds will result in a reduction of future debt service of approximately $35.0 million. The present value of the reduction in debt service is approximately $25.9 million.

Debt service coverage for 2014 was 1.28 times. The Agency's bond resolution requires debt service coverage to be at least 1.10%.

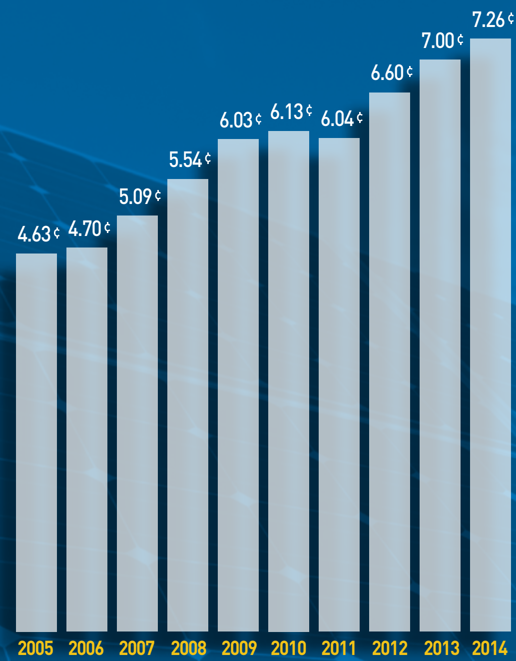
CONDENSED CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION ($ millions)

		2014		2013
Sales to municipalities	$	452.3	$	434.5
Other revenues		4.3		2.9
Total Operating Revenues		**456.6**		**437.4**
Purchased power, fuel and production expenses		274.9		274.3
Transmission and local facilities		34.9		31.8
Other operating expenses		62.3		49.4
Total Operating Expenses		**372.1**		**355.5**
Total Operating Income		**84.5**		**81.9**
Interest expenses		64.7		64.2
Interest income		(4.2)		(4.5)
Other non-operating income		(2.6)		(2.0)
Total Non-Operating Expenses (Income)		**57.9**		**57.7**
Net Income		**26.6**		**24.2**
Net Position at Beginning of Year		**221.0**		**196.8**
Net Position at End of Period	**$**	**247.6**	**$**	**221.0**

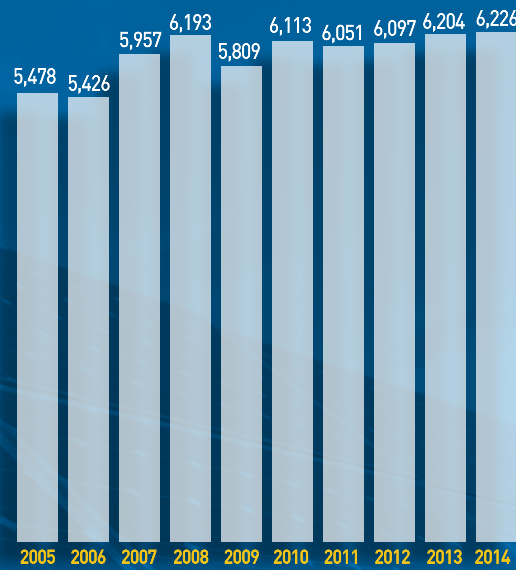
CONDENSED CONSOLIDATED STATEMENTS OF NET POSITION ($ millions)

		2014		2013
Utility plant, net	$	1,167.3	$	1,181.3
Cash and investments		270.0		289.2
Other current assets		122.9		101.5
Deferred outflows		85.0		67.4
Total Assets	**$**	**1,645.2**	**$**	**1,639.4**
Net investment in capital assets		(139.3)		(145.4)
Restricted		168.7		188.1
Unrestricted		218.2		178.3
Total Net Position	**$**	**247.6**	**$**	**221.0**
Non-Current Liabilities		1,299.2		1,320.3
Current liabilities		98.4		98.1
Total Liabilities	**$**	**1,397.6**	**$**	**1,418.4**
Total Net Position and Liabilities	**$**	**1,645.2**	**$**	**1,639.4**

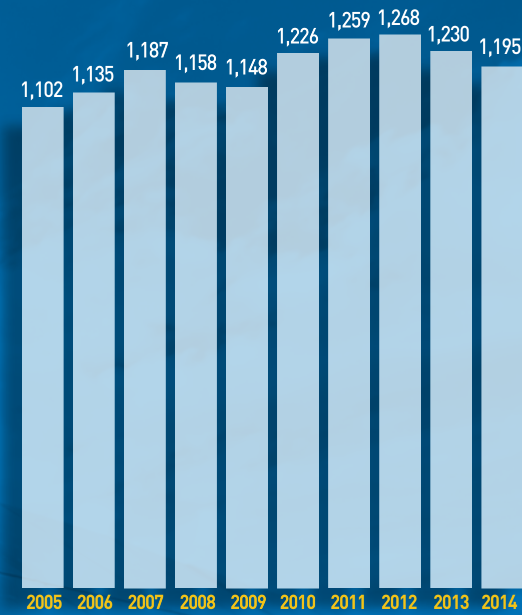
FINANCIAL HIGHLIGHTS / 2014



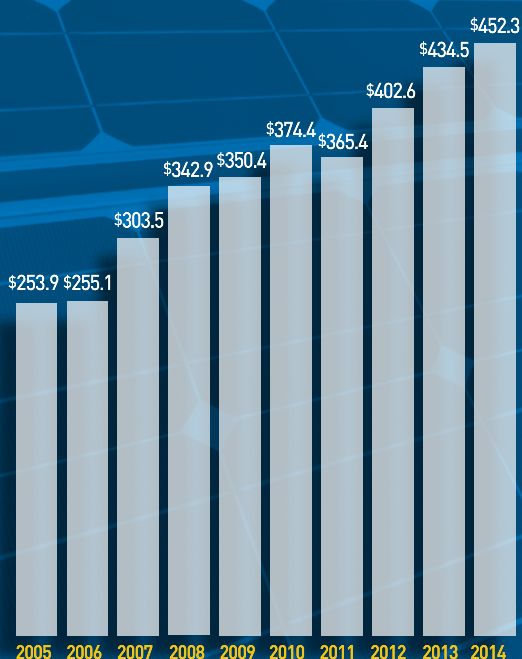
COST PER KILOWATT-HOUR TO MEMBERS (CENTS/KWH)



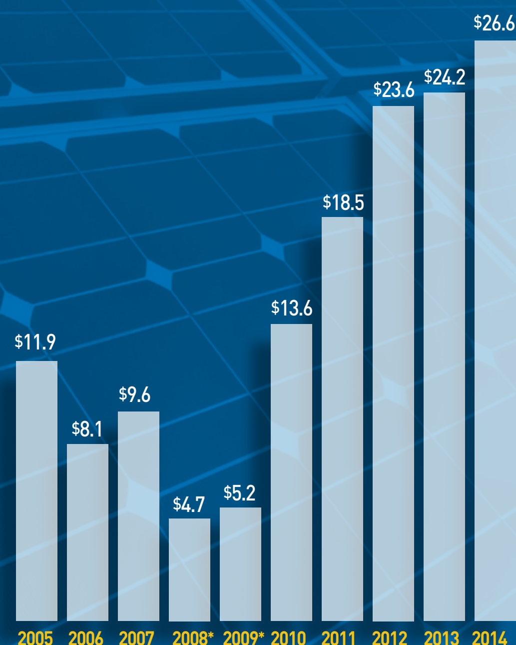
KILOWATT-HOUR SALES (IN MILLIONS)



NON-COINCIDENT PEAK DEMAND (MW)

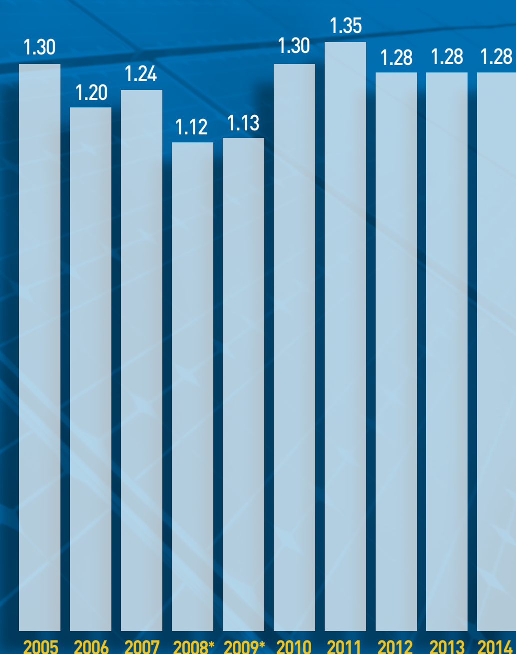


SALES TO MUNICIPALITIES (IN MILLIONS)



NET INCOME (IN MILLIONS)

* Includes transfers from Rate Stabilization Fund



DEBT SERVICE COVERAGE (TIMES)

* Includes transfers from Rate Stabilization Fund

2014 ANNUAL REPORT

11610 North College Ave.
Carmel, Indiana 46032
317.573.9955
info@impa.com

www.impa.com

Appendix I2 – 2014 IMPA Annual Report - Financials

Indiana Municipal Power Agency

Consolidated Financial Statements as of and for the years ended December 31, 2014 and 2013, Management's Discussion and Analysis, and Independent Auditor's Report

Indiana Municipal Power Agency

Consolidated Financial Statements as of and for
the years ended December 31, 2014 and 2013
Management's Discussion and Analysis and Independent Auditor's Report

Table of Contents

INDEPENDENT AUDITOR'S REPORT

To the Board of Commissioners of
Indiana Municipal Power Agency

We have audited the accompanying consolidated financial statements of Indiana Municipal Power Agency and its affiliate (the "Agency"), which comprise the consolidated statement of net position as of December 31, 2014 and 2013, and the related consolidated statements of revenues, expenses, and changes in net position and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Agency's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Agency's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Indiana Municipal Power Agency and its affiliate as of December 31, 2014 and 2013, and the results of their operations and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Required Supplementary Information

The accompanying management's discussion and analysis on pages 3 through 5 is required by accounting principles generally accepted in the United States of America to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Cleveland, Ohio
March 27, 2015

INDIANA MUNICIPAL POWER AGENCY
MANAGEMENT'S DISCUSSION AND ANALYSIS

This discussion and analysis of the Indiana Municipal Power Agency's (IMPA or the Agency) consolidated financial performance provides an overview of the Agency's activities for the fiscal year ended December 31, 2014. It should be read in conjunction with the basic consolidated financial statements and the accompanying notes.

CONSOLIDATED FINANCIAL STATEMENTS

The consolidated financial statements presented herein include all of the activities of IMPA and its affiliate ISC, Inc. (ISC). The Agency substantially follows the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission. These statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America. IMPA has implemented all Financial Accounting Standards Board (FASB) pronouncements that do not conflict with or contradict Governmental Accounting Standards Board (GASB) pronouncements. ISC is a not-for-profit service corporation formed by IMPA to provide non-power supply services to IMPA members and other municipal entities. ISC's revenues and expenses are reported in IMPA's consolidated statements of revenues, expenses and changes in net position in other revenues and other non-operating expenses, respectively.

The consolidated statements of revenues, expenses and changes in net position and cash flows present information about IMPA's business activities. The consolidated statements of net position report year-end assets, liabilities and net position based on the original cost adjusted for any depreciation, amortization or unrealized gains/losses, as appropriate. Over time, increases in the Agency's net position are one indicator of its financial strength. Other factors to consider are the Agency's wholesale electric rates and its ability to maintain or exceed the debt service coverage levels required by its bond resolution.

CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

Operating revenues, which are composed of sales to municipalities and other revenues, increased approximately $19.2 million (4.4%). The primary driver of increased operating revenues was higher average rates. The average accrued cost per kilowatt hour (kWh) for 2014 was 7.3 cents, a 3.7% increase compared to 2013. While energy sales grew at expected levels during 2014, summer temperatures were mild in comparison to 2013, resulting in comparatively level energy sales, an approximate 0.4% increase, in 2014 compared to 2013.

Total net expenses increased approximately $16.8 million or 4.1% in 2014. As expected, purchased power costs declined and fuel and production costs increased as Prairie State's output continued to improve throughout 2014. Prairie State's combined availability and capacity factors for 2014 were 72.48% and 67.16% respectively, an improvement of 15.7% and 15.0% respectively, over 2013.

CONDENSED CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION ($ millions)

	2014	2013
Sales to municipalities	$ 452.3	$ 434.5
Other revenues	4.3	2.9
Total Operating Revenues	**456.6**	**437.4**
Purchased power, fuel, and production expense	274.9	274.3
Transmission and local facilities	34.9	31.8
Other operating expenses	62.3	49.6
Total Operating Expenses	**372.1**	**355.5**
Total Operating Income	**84.5**	**81.9**
Interest expenses	64.7	64.2
Interest income	(4.2)	(4.5)
Other non-operating expenses	(2.6)	(2.0)
Total Non-Operating Expenses	**57.9**	**57.7**
Net Income	**26.6**	**24.2**
Net Position at Beginning of Year	**221.0**	**196.8**
Net Position at End of Year	**$ 247.6**	**$ 221.0**

CONSOLIDATED STATEMENTS OF NET POSITION

Utility plant decreased approximately $14.0 million. 2014 net capital additions were approximately $25.4 million. Depreciation expense was approximately $41.3 million.

During 2014, the Agency issued the 2014 Series A Bonds (the "2014 Bonds"). The par value of the 2014 Bonds was approximately $167.7 million. The 2014 Bonds were issued for the purpose of refunding the 2004 Series A Bonds and certain 2006 Series A Bonds (the "Refunded Bonds"). The refunding of the Refunded Bonds will result in a reduction of future debt service of approximately $35 million. The present value of the reduction in debt service is approximately $25.9 million.

Net position increased approximately $26.6 million, reflecting IMPA's 2014 net income. The major changes in components of net position include: capital additions net of disposals of approximately $25.4 million; depreciation expense of approximately $41.3 million; and principal payments on revenue bonds of $21.3 million.

CONDENSED CONSOLIDATED STATEMENTS OF NET POSITION

($ millions)

	2014	2013
Utility plant, net	$ 1,167.3	$ 1,181.3
Cash and investments	270.0	289.2
Other current assets	122.9	101.5
Deferred outflows	85.0	67.4
Total Assets	**$ 1,645.2**	**$ 1,639.4**
Net investment in capital assets	(139.3)	(145.4)
Restricted	168.7	188.1
Unrestricted	218.2	178.3
Total Net Position	**247.6**	**221.0**
Non-current liabilities	1,299.2	1,320.3
Current liabilities	98.4	98.1
Total Liabilities	**1,397.6**	**1,418.4**
Total Net Position and Liabilities	**$ 1,645.2**	**$ 1,639.4**

DEBT SERVICE COVERAGE

Debt service coverage for 2014 was 1.28 times. The Agency's bond resolution requires debt service coverage to be at least 1.10 times.

INDIANA MUNICIPAL POWER AGENCY
CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
(in thousands)

For the Years Ended December 31,	2014	2013
Operating Revenues		
Sales to municipalities	$ 452,261	$ 434,513
Other revenues	4,312	2,891
Total Operating Revenues	456,573	437,404
Operating Expenses		
Purchased power	176,455	184,482
Fuel	72,973	67,163
Production	25,427	22,672
Transmission and local facilities	34,891	31,783
Other operating	13,514	11,114
Maintenance	16,948	18,462
Depreciation	41,252	40,744
Future recoverable costs	(9,406)	(20,930)
Total Operating Expenses	372,054	355,490
Operating Income	84,519	81,914
Non-Operating Expenses (Income)		
Interest expense on revenue bonds	64,705	64,213
Accretion of premiums received on debt	(1,933)	(1,097)
Interest income	(4,168)	(4,534)
Other non-operating income	(695)	(831)
Total Non-Operating Expenses (Income)	57,909	57,751
Net Income	26,610	24,163
Net Position at Beginning of Year	220,955	196,792
Net Position at End of Year	$ 247,565	$ 220,955

The accompanying notes are an integral part of the above statements.

INDIANA MUNICIPAL POWER AGENCY
CONSOLIDATED STATEMENTS OF NET POSITION
(in thousands)

December 31,	2014	2013
Assets		
Utility Plant		
Utility plant in service	$ 1,497,401	$ 1,475,096
Less: accumulated depreciation	(363,296)	(323,882)
	1,134,105	1,151,214
Construction work in progress	33,188	30,093
Total Utility Plant, Net	1,167,293	1,181,307
Long-Term Investments	79,813	94,187
Restricted Cash and Cash Equivalents	118,983	123,560
Current Assets		
Unrestricted cash and cash equivalents	56,996	55,636
Short-term investments	14,159	15,830
Municipality accounts receivable	68,565	64,638
Fuel stock and material inventory	19,162	16,869
Other current assets	35,170	20,001
Total Current Assets	194,052	172,974
Deferred Outflows		
Regulatory assets	70,069	60,116
Other	14,986	7,307
Total Deferred Outflows	85,055	67,423
Total Assets	$ 1,645,196	$1,639,451
Net Position and Liabilities		
Net Position		
Net investment in capital assets	$ (139,280)	$ (145,395)
Restricted	168,692	188,073
Unrestricted	218,153	178,277
Total Net Position	247,565	220,955
Non-Current Liabilities		
Long-term revenue bonds, net	1,277,419	1,305,377
Other non-current liabilities	14,359	8,878
Deferred inflows of resources	7,454	6,055
Total Non-Current Liabilities	1,299,232	1,320,310
Current Liabilities		
Current maturities of revenue bonds	29,155	21,325
Accounts payable	31,577	33,876
Accrued interest on revenue bonds	27,833	30,543
Accrued liabilities	9,834	12,442
Total Current Liabilities	98,399	98,186
Total Net Position and Liabilities	$ 1,645,196	$1,639,451

The accompanying notes are an integral part of the above statements.

INDIANA MUNICIPAL POWER AGENCY
CONSOLIDATED STATEMENT OF CASH FLOWS
(in thousands)

For the Years Ended December 31,	2014	2013
Cash Flows From Operating Activities:		
Receipts from municipalities	$ 443,739	$ 415,270
Other operating receipts	4,312	3,168
Payments for purchased power	(179,978)	(181,752)
Payments for fuel	(74,835)	(65,972)
Payments for production	(28,223)	(21,991)
Payments for transmission and local facilities	(34,180)	(31,634)
Cash deposits as collateral	(7,539)	-
Payments for other operating expenses	(11,157)	(6,570)
Payments for maintenance	(15,566)	(18,438)
Net cash provided by operating activities	**96,573**	**92,081**
Cash Flows From Capital And Related Financing Activities:		
Net additions to utility plant	(30,415)	(21,948)
Net issuance of long-term debt	197,554	113,985
Refunding of long-term debt	(197,056)	(60,890)
Principal payments on long-term debt	(21,325)	(24,085)
Interest payments	(67,416)	(64,793)
Net cash used in capital and related financing activities	**(118,658)**	**(57,731)**
Cash Flows From Investing Activities:		
Investment purchases	-	(33,529)
Maturities and called investments	15,500	23,500
Interest income and other	3,368	5,958
Net cash provided by (used in) investing activities	**18,868**	**(4,071)**
Net Increase (Decrease) in Cash and Cash Equivalents	**(3,217)**	**30,279**
Cash and Cash Equivalents at Beginning of Year	**179,196**	**148,917**
Cash and Cash Equivalents at End of Year	**$ 175,979**	**$ 179,196**
Reconciliation of Operating Income to Net Cash Provided by Operating Activities:		
Operating Income	$ 84,519	$ 81,696
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	41,252	40,744
Future recoverable costs	(9,406)	(20,713)
Changes in current assets and liabilities:		
Municipality accounts receivable	(3,927)	(7,475)
Fuel stock and material inventory	(2,293)	(1,808)
Accounts payable	(917)	5,945
Other	(12,655)	(6,308)
Net Cash Provided by Operating Activities	**$ 96,573**	**$ 92,081**

The accompanying notes are an integral part of the above statements.

INDIANA MUNICIPAL POWER AGENCY
CONSOLIDATED FINANCIAL STATEMENTS' NOTES

1. Organization and Significant Accounting Policies

Organization and Operations

Indiana Municipal Power Agency (IMPA or the Agency) is a body corporate and politic and a political subdivision of the State of Indiana. IMPA was created in June of 1980 by a group of municipalities for the purpose of jointly financing, developing, owning and operating electric generation and transmission facilities appropriate to the present and projected energy needs of its participating members. IMPA serves 59 Indiana cities and towns and one Ohio village. IMPA sells power to its members under long-term power sales contracts. The members resell the power to retail customers within their respective municipal service territories. IMPA's owned generating capacity is 943 megawatts (MW) or 83% of IMPA's 2014 peak demand (IMPA's maximum year-to-date hourly load). The remainder of IMPA's power is purchased from other utilities under long-term contracts with varying terms and expiration dates. Power is delivered to members through an integrated transmission system known as the Joint Transmission System (JTS), jointly-owned by IMPA, Duke Energy Indiana, Inc. (DEI), Duke Energy Ohio, Inc. (DEO), and Wabash Valley Power Association (WVPA); and, transmission service arrangements with other utilities and regional transmission organizations.

ISC, Inc. (ISC) was created by the Agency as a not-for-profit corporation to provide cost-effective services beyond power supply and transmission to members and other municipal utilities.

Principles of Consolidation

The consolidated financial statements include the accounts of the Agency and its affiliate, ISC. All significant intercompany account balances and transactions have been eliminated in consolidation.

Basis of Presentation

The Agency substantially follows the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission (FERC). The accompanying consolidated financial statements are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America (US GAAP). IMPA has chosen the option to implement all Financial Accounting Standards Board (FASB) pronouncements that do not conflict with or contradict Governmental Accounting Standards Board (GASB) pronouncements.

Utility Plant

IMPA provides power to the communities it serves through ownership of utility plant, which includes: (1) an undivided 24.95% ownership in the 625 MW Gibson Unit 5 generating facility (Gibson Unit 5) acquired in 1983 from Public Service Indiana (now known as DEI), a wholly-owned subsidiary of Duke Energy Corp.; (2) an undivided 12.88% ownership in the 511 MW Trimble County Unit 1 generating facility (Trimble County Unit 1) acquired in 1993 from

Louisville Gas and Electric Company (LG&E), a wholly-owned subsidiary of PPL Corporation; (3) an undivided 12.88% ownership in the 750 MW Trimble County Unit 2 generating facility (Trimble County Unit 2) constructed at the same site as Trimble County Unit 1 and placed in service in 2011, (4) an undivided 12.64% ownership in the 1629 MW Prairie State Generating Company, LLC (PSGC or Prairie State) placed in service in 2012 and (5) seven wholly-owned combustion turbines and associated facilities aggregating 419 MW (two 41 MW units placed in service in 1992 and one 85 MW unit placed in service in 2004 located in Anderson, Indiana; two 41 MW units placed in service in 1992 located near Richmond, Indiana; and two 85 MW units located in Indianapolis, Indiana placed in service in 2000).

The Agency capitalizes fixed assets with an original cost greater than $25,000, except for jointly-owned utility plant, which are capitalized based on the policies defined by DEI for Gibson Unit 5, by LG&E for Trimble County Unit 1 and Unit 2 and by PSGC for Prairie State Units 1 and 2, the coal mine and other Prairie State facilities. Utility plant is recorded at cost including capitalized interest during construction and a proportionate share of overhead costs. Construction overhead costs include salaries, payroll taxes, fringe benefits and other expenses. The original cost of property replaced or retired, less salvage, is charged to accumulated depreciation. Depreciation is recorded over the estimated useful lives of the utility plant by using the straight-line method. The effective composite depreciation rate on utility plant is approximately 2.8% in 2014 and in 2013.

IMPA's ownership interest in Prairie State includes an interest in coal reserves with an original cost net of depletion of $10.1 and $10.3 million at December 31, 2014 and 2013, respectively.

At December 31, 2014 and 2013, construction work in progress (CWIP) included construction costs for ongoing utility plant capital improvements.

Funds

IMPA's Master Power Supply System Revenue Bond Resolution (the Bond Resolution) requires the creation and maintenance of certain funds and accounts. The Restricted Funds under the Bond Resolution are the Debt Service Fund and the Debt Service Reserve Fund. The Bond Resolution also allows for the creation and maintenance of the Rate Stabilization Account, the Reserve and Contingency Fund and the Asset Retirement Obligation Fund, the use of which is restricted by Board resolution. The Construction Fund includes restricted proceeds from bonds issued for specified capital projects. The Revenue Fund, the General Reserve Fund and the Operation and Maintenance Fund are all unrestricted and are to be used for the operating needs of the Agency.

Restricted and Unrestricted Cash and Cash Equivalents

IMPA considers all highly liquid investments with an original maturity of three months or less to be cash equivalents.

Restricted and Unrestricted Investments

IMPA classifies investments in U.S. Government agencies as available for sale. In accordance with GASB Statement No. 31, *"Accounting and Financial Reporting for Certain Investments and for External Investment Pools,"* non-transferable investment contracts are recorded at amortized cost.

Fair Value Measurements

IMPA uses fair value to measure certain financial instruments, with related unrealized gains or losses generally affecting regulatory assets and deferred inflows of resources (see Regulatory Assets and Deferred Inflows of Resources). The fair value of a financial instrument is the amount at which an instrument could be exchanged in a current transaction between willing parties.

Hedging Derivative Instruments

IMPA accounts for derivatives in accordance with GASB Statement No. 53, *"Accounting and Financial Reporting for Derivative Instruments"* (GASB 53). GASB 53 requires that hedging derivative instruments ("Hedging Transactions") be recorded at fair value and establishes certain requirements for revenue recognition, measurement and disclosure related to Hedging Transactions. IMPA's Hedging Transactions have been tested for effectiveness under the guidelines prescribed by GASB 53. IMPA utilized one of the three quantitative methods required by GASB 53, the regression analysis method. This method evaluates the effectiveness of a hedge transaction by comparing the statistical relationship between the cash flows of the potential hedging item and the hedgeable item. The effectiveness testing of IMPA's Hedging Transactions demonstrated that the hedges are effective as defined by GASB 53. See Note 5 for specific disclosures related to derivatives.

Fuel Stock and Material Inventory

Fuel stock and materials and supplies are valued at average cost. The cost of fuel and materials used in production are expensed as recovered through revenues.

Regulatory Assets and Deferred Inflows of Resources

In accordance with GASB Statement No. 62, "*Codification of Accounting and Financial Reporting Guidance*" (GASB 62), IMPA's consolidated financial statements reflect the rate making actions of the Board of Commissioners that result in the recognition of revenues and expenses in different time periods than entities that are not rate regulated. Regulatory assets are expenditures incurred by the Agency that will be recovered in rates in future periods. Deferred inflows of resources are revenues collected in rates for expenses not yet incurred by the Agency.

Regulatory assets and deferred inflows of resources consist of the following (in thousands):

Regulatory Assets	2014	2013
Debt service net of related depreciation and amortization	$ 63,616	$ 50,088
Deferred energy efficiency costs	3,075	7,253
Net valuation of financial instruments	3,378	2,775
	$ 70,069	$ 60,116

Deferred Inflows of Resources	2014	2013
Reserve for contingencies	$ 5,015	$ 4,440
Valuation of inventories	2,439	1,615
	$ 7,454	$ 6,055

Employee Benefit Plan

IMPA maintains a 401(k) plan on behalf of all employees meeting certain eligibility requirements regarding length of employment, age and employee contributions. Employer contributions to the plan were approximately $0.6 million for 2014 and $0.3 million for 2013.

Committed Line of Credit

IMPA has entered into a $50.0 million Committed Line of Credit agreement (Credit Agreement) with PNC Bank. Under the Credit Agreement, IMPA may draw funds and/or post standby letters of credit (LOC). The Credit Agreement expires on May 23, 2016. At December 31, 2014 and 2013 IMPA had a $7.8 million and $6.7 million Letter of Credit (LOC) posted and no outstanding draws on the Credit Agreement.

Revenue Recognition and Rates

IMPA sets rates in accordance with the Bond Resolution. The Bond Resolution requires the establishment of rates that, together with other revenues, are reasonably expected to pay IMPA's operating costs (excluding depreciation and amortization), and at least 110% of the Agency's aggregate debt service. IMPA's debt service requirements are designed to be relatively equal over the life of the bonds to help provide stable rates to the communities IMPA serves. Rates are not subject to state or federal regulation. The debt service included in rates provides for full cost recovery of the utility plant assets over a period not exceeding the utility plant useful lives.

Revenues are recognized on an accrual basis when energy is delivered, while the communities are billed using budgeted rates. Differences between the accrued rate and the billed rate are collected from or returned to the communities via a tracker in subsequent periods. The amount to be collected from members (a regulatory asset) at December 31, 2014 and 2013 was $18.8 million and $14.2 million, respectively. These amounts are billed over the subsequent six-month period. These regulatory assets are included in other current assets in the consolidated statements of net position at December 31, 2014 and 2013, respectively.

Operating Expenses

Operating expenses are defined as purchased power and expenses directly related to, or incurred in support of, the production and transmission of electricity to the participating communities IMPA serves. All other expenses are classified as non-operating expenses.

Non-Operating Expenses

Non-operating expenses include interest income and expenses, costs related to the issuance of bonds, amortization of bond premiums, Build America Bond (BAB) subsidies and other non-operating revenues and expenses as previously defined in Operating Expenses.

ISC

ISC's revenues and expenses are reported as other revenues and other operating expenses, respectively.

Regional Transmission Organizations (RTOs)

IMPA is a transmission owning member of the Midcontinent Independent System Operator (MISO) and a transmission dependent utility of the MISO and PJM Interconnection, LLC (PJM). The MISO schedules, manages and oversees operational control of the JTS.

The MISO and PJM are independent organizations whose purposes are to ensure the reliability of their respective integrated, regional electrical transmission systems, to facilitate a regional wholesale marketplace, to provide non-discriminatory access to the transmission system and to maintain and improve electric system reliability.

IMPA records all net sales through MISO and PJM to purchase power on the Consolidated Statements of Revenues, Expenses and Changes in Net Position.

Income Taxes

IMPA, as a political subdivision of the State of Indiana, is exempt from federal and state income taxes. ISC, Inc. qualifies for income tax exclusion under Internal Revenue Code Section 115.

Related Parties

IMPA has been hired through a management services agreement to provide general management and administrative services for the Northern Illinois Municipal Power Agency, a participant in Prairie State.

Reclassification

Certain amounts included in the 2013 consolidated financial statements have been reclassified to conform to the 2014 presentation. The results of these reclassifications had no effect on the net income previously reported.

Use of Estimates

The preparation of the consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. The reported results of operations are not indicative of results of operations for any future period. IMPA has evaluated events and transactions for potential recognition or disclosure through March 27, 2015, the issuance date of the consolidated financial statements.

Accounting Pronouncements Issued

GASB has issued the following statements: Statement No. 69, "*Government Combinations and Disposals of Government Operations*" (GASB 69), effective for periods beginning after December 15, 2013; Statement No. 70, "*Accounting and Financial Reporting for Nonexchange Financial Guarantees*" (GASB 70), effective for periods beginning after June 15, 2013; and Statement No. 72, "*Fair Value Measurement and Application*" (GASB 72), effective for periods beginning after June 15, 2015. GASB 69, 70, or 72 do not have a material impact on the Agency.

2. Capital Assets

Capital asset activity for the years ended December 31, 2014 and 2013, was as follows (in thousands):

2014	Beginning Balance	Additions	Transfers	Retirements	Ending Balance
Utility plant in service	$ 1,475,096	$ 1,756	$ 24,325	$ (3,776)	$ 1,497,401
Construction work in progress	30,093	27,420	(24,325)	-	33,188
Total Utility Plant (Gross)	1,505,189	29,176	-	(3,776)	1,530,589
Less accumulated depreciation for utility plant in service	(323,882)	(41,252)	-	1,838	(363,296)
	$1,181,307	**$ (12,076)**	**$ -**	**$ (1,938)**	**$ 1,167,293**

2013	Beginning Balance	Additions	Transfers	Retirements	Ending Balance
Utility plant in service	$ 1,449,324	$ 6,546	$ 20,524	$ (1,298)	$ 1,475,096
Construction work in progress	33,075	17,542	(20,524)	-	30,093
Total Utility Plant (Gross)	1,482,399	24,088	-	(1,298)	1,505,189
Less accumulated depreciation for utility plant in service	(283,603)	(40,744)	-	465	(323,882)
	$1,198,796	**$ (16,656)**	**$ -**	**$ (833)**	**$ 1,181,307**

3. Cash, Cash Equivalents and Investments

A Board policy governs IMPA's investments and deposits. IMPA's authorized investments include money market funds, federal agencies, investment contracts, US treasuries, commercial paper and repurchase agreements if the instruments meet certain minimum rating requirements.

During the years ended December 31, 2014 and 2013, IMPA recorded net decreases in the fair value of investments of $0.6 million and $2.1 million, respectively. To the extent any unrealized gains or losses are realized in the future, those realized gains or losses are refundable or recoverable through IMPA's rate-making methodology. Accordingly, any unrealized losses or gains at December 31, 2014 and 2013 have been included in regulatory assets on IMPA's consolidated balance sheets (see Note 1).

The Agency has a guaranteed investment contract (GIC) with Societe Generale that earns a fixed rate of 6.9%. A portion of the Debt Service Reserve Fund is invested in the GIC. The GIC is evidenced by a repurchase agreement with the Trustee, The Bank of New York Company and is collateralized by investments in US government obligations. Societe Generale is rated A by Standard and Poor's as well as Fitch and A2 by Moody's. The GIC extends to 2016 and allows the Trustee to request immediate remittance of the funds for purposes set forth in the Resolution. As required by the Resolution, the Trustee has custody of collateral and securities. All of the Agency's investments are insured, registered or held by the Trustee in the Agency's name.

The carrying amount of cash and cash equivalents approximates fair value due to the short maturity of the instruments. All investment contracts are recorded at cost as they are not transferable instruments. The disclosed fair value of the investment contracts represents their liquidation values as of December 31, 2014 and 2013.

At December 31, 2014 and 2013, the original cost and the estimated fair values of the Agency's cash, cash equivalents and investments were as follows (in thousands):

	2014		2013	
INVESTMENT TYPE	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Long-Term Investments:				
Restricted:				
Investment Contracts	$ 39,289	$ 39,289	$ 39,289	$ 39,289
U.S. Government Agencies	27,840	31,549	44,774	46,005
Total Restricted	67,129	70,838	84,063	85,294
Unrestricted:				
U.S. Government Agencies	9,074	8,975	9,074	8,893
Total Long-Term Investments	$ 76,203	$ 79,813	$ 93,137	$ 94,187
Cash and Cash Equivalents:				
Restricted	$ 118,983	$ 118,983	$ 123,560	$ 123,560
Unrestricted	56,996	56,996	55,636	55,636
Total Cash and Cash Equivalents	$ 175,979	$ 175,979	$ 179,196	$ 179,196
Short-Term Investments:				
Restricted:				
U.S. Government Agencies	$ 19,064	$ 14,159	$ 18,331	$ 15,830
Total Short-Term Investments	$ 19,064	$ 14,159	$ 18,331	$ 15,830
Total	**$ 271,246**	**$ 269,951**	**$ 290,664**	**$ 289,213**

U.S. Government agencies consist solely of mortgage-backed securities which are backed by the full faith and credit guaranty of the United States' government. All long-term investments mature in less than five years.

At December 31, 2014 and 2013, the Agency's cash, cash equivalents and investments were restricted as follows (in thousands):

	2014		2013	
FUND	Cost	Estimated Fair Value	Cost	Estimated Fair Value
Unrestricted:	$ 66,070	$ 65,971	$ 64,710	$ 64,529
Restricted by Board:				
Rate Stabilization Fund	20,087	19,741	20,232	19,884
Other Board Restricted	7,423	7,314	6,264	6,239
Restricted by Bond Resolution:				
Debt Service Reserve Fund	91,802	91,061	92,560	91,663
Debt Service Account	56,401	56,401	52,387	52,387
Construction	29,293	29,293	54,377	54,377
Other Restricted:	170	170	134	134
Total	**$271,246**	**$269,951**	**$ 290,664**	**$ 289,213**

Debt service is comprised of current principal payments and interest due on long-term debt payable on the first business day of the subsequent year. The Bond Resolution restricts the debt service, the debt service reserve and the construction funds. Additionally, certain accounts are restricted by Board resolution, including the rate stabilization account. For further discussion of accounts restricted by Board resolution, see Note 1.

4. Net Position

At December 31, 2014 and 2013, the Agency's net position included the following components (in thousands):

	2014	2013
Net investment in capital assets	$(139,280)	$ (145,395)
Restricted for debt service	28,165	21,844
Restricted for debt service reserve	91,061	91,663
Restricted for bond financed construction projects	29,695	54,377
Restricted by Board resolution	19,771	20,189
Unrestricted	218,153	178,277
	$ 247,565	**$ 220,955**

5. Hedging Transactions

IMPA purchases forward power contracts to minimize the cost volatility of purchased power in the energy markets. IMPA does not purchase derivatives for speculative purposes. The acquisition of forward power contracts allows IMPA to effectively plan and set stable rates from period to period for IMPA's Members. Certain of IMPA's forward power contracts are settled by a cash payment that is equal to the differential between the contract price and the settlement price (financially settled). Financially settled forward power contracts are hedging derivative instruments as defined by GASB 53. IMPA has entered into hedging transactions in the MISO and PJM energy markets.

IMPA is required to test its hedging transactions for effectiveness as of the reporting date as defined by GASB 53. IMPA's outstanding hedging transactions at December 31, 2014 and 2013 have been determined by management to be effective. Accordingly, IMPA's outstanding hedging transactions are reported in the Agency's December 31, 2014 and 2013 consolidated statements of net position at fair value. The fair market value for each of IMPA's hedging transactions have been determined by computing the difference between the contractual forward price and the published forward price at the respective energy market's settlement point(s) at market closing as of December 31, 2014 and 2013. All of IMPA's hedging transactions settle and are valued at either the Indiana Hub or the AEP Dayton Hub, which are settlement hubs in the MISO and PJM energy markets, respectively.

As of December 31, 2014, the Agency has recorded unrealized gains and losses in Other current assets, approximately $2.0 million, Deferred outflows, approximately $3.7 million, Other non–current liabilities, approximately $1.4 million and Accrued liabilities of approximately $0.2 million. As of December 31, 2013, the Agency has recorded unrealized gains and losses in Other current assets of approximately $1.0 million.

The following tables provide information related to IMPA's outstanding derivative instruments as of December 31, 2014 and 2013 (in thousands) Credit ratings listed are Standard and Poor's and Moody's, respectively.

December 31, 2014

Trade Date Range	Duration	Notional Amount (MWhs)	Ending Fair Value	
			Classification	Amount
May 2014 to Aug 2014	Oct 2015 thru Nov 2015	448	Accrued liabilities	$ (1,982)
May 2014 to Aug 2014	Jan 2015 thru Dec 2015	75	Other current assets	168
Dec 2014	Jun 2016 thru Dec 2021	544	Other non-current liabilities	(3,736)
Dec 2014	Jul 2016 thru Aug 2021	260	Deferred outflows	1,415
		1,326		**$ (4,135)**

December 31, 2013

Counterparty Credit Rating	Trade Date Range	Duration	Notional Amount (MWhs)	Ending Fair Value Classification	Ending Fair Value Amount
A-/A3	Aug 2010 to Dec 2011	Jan 2013 thru Dec 2014	88	Accrued liabilities	$ (979)

Credit Risk

During 2014, IMPA began transacting on certain exchanges. Exchanges are designed to avoid contract defaults and credit risk. Exchanges utilize clearing houses to guarantee the performance of each market participant for each transaction. The clearing house requires every market participant to deposit funds into a margin account. There is a required deposit for a percent of the nominal value of outstanding contracts and a deposit to reflect each market participant's daily gain or loss in the market. These funds are held by the clearing house and available to settle any defaults by market participants, thus mitigating credit risk related to IMPA's outstanding forward power contracts traded through the exchange.

Basis Risk

IMPA is exposed to basis risk on its hedging transactions because the pricing point of the hedged commodity may settle at a different pricing point than the hedge transaction (Indiana Hub or AEP-Dayton Hub). At December 31, 2014 and 2013, the Indiana Hub price was $31.21 and $35.11 per MWh and the AEP-Dayton Hub price was $32.32 and $35.86 per MWh, respectively.

Termination Risk

IMPA is exposed to termination risk on its hedging transactions because a counterparty may fail to perform under the terms of one or more contracts resulting in the termination of the contract with that counterparty. IMPA's termination risk is mitigated for those forward power contracts transacted on the Exchanges.

Commitments

If the collateral posting requirements related to IMPA's credit profile had been triggered at December 31, 2013, IMPA would not have been required to post collateral with its counterparties, as IMPA was below each counterparty's collateral posting threshold. Since IMPA began transacting on certain commodity futures exchanges during 2014, IMPA had $7.5 million posted as margin requirement, collateral, at December 31, 2014, which is recorded in Other Current Assets on the Consolidated Statement of Net Position.

6. Long-Term Revenue Bonds

IMPA issues Power Supply System Revenue Bonds to finance its acquisition and construction of utility plant. Long-term revenue bonds issued and outstanding at December 31, 2014 and 2013, consist of the following (in thousands):

Bond Series	Interest Rates	Due Date January 1,	Optional Redemption Date January 1,	2014	2013
1993 Series B	5.500%	2015 to 2016		$ 31,050	$ 51,135
1998 Series A	Variable	2016 to 2018		37,000	37,000
2004 Series A				-	43,840
2006 Series A	4.500 - 5.000%	2029 to 2032	2016	25,000	171,205
2007 Series A	4.500%	2023 to 2042	2017	403,575	403,575
2007 Series B	5.800%	2019 to 2022		20,125	20,125
2009 Series A	3.000 - 5.000%	2015 to 2029	2019	26,985	28,225
2009 Series B	5.250 - 6.000%	2024 to 2039	2019	133,510	133,510
2009 Series C	7.350%	2019 to 2024		16,035	16,035
2010 Series A	5.594%	2031 to 2042		123,640	123,640
2010 Series B	5.000%	2020 to 2023	2021	20,235	20,235
2011 Series A	5.000%	2016 to 2042	2022	87,355	87,355
2012 Series A	4.000% - 5.000%	2016 to 2028	2022	51,130	51,130
2013 Series A	3.000% - 5.250%	2017 to 2042	2023	108,400	108,400
2014 Series A	5.000%	2019 to 2032	2025	167,730	-
				1,251,770	1,295,410
Less current maturities				(29,155)	(21,325)
Long-term revenue bonds				1,222,615	1,274,085
Unamortized premium, net				54,804	31,292
				$ 1,277,419	**$ 1,305,377**

The 1993 Series B Bonds, the 2007 Series B Bonds and 2009 Series C Bonds are non-callable. The 1998 Series A Bonds are currently callable at a redemption price of 100%. The 2010 Series A Bonds are designated as direct payment Build America Bonds and have make-whole optional redemption and extraordinary optional redemption provisions. The 2004 Series A Bonds were fully refunded and the 2006 Series A Bonds were partially refunded during 2014 (See 2014 Series A Bonds). All other bonds are callable on or after the optional redemption date at a redemption price of 100%.

Debt service requirements based on contractual maturities at December 31, 2014 were as follows (in thousands):

	Principal	Interest
2015	$ 29,155	$ 62,601
2016	24,865	59,751
2017	24,680	58,559
2018	25,255	57,938
2019	25,035	57,282
2020 - 2024	145,720	265,303
2025 - 2029	185,410	223,390
2030 - 2034	242,220	171,570
2035 - 2039	318,005	103,251
2040 - 2042	231,425	21,321
	$ 1,251,770	$ 1,080,966

Long-term revenue bond activity for the periods ended December 31, 2014 and 2013, was as follows (in thousands):

December 31, 2014	Beginning Balance	Additions	Reductions	Reclassification	Ending Balance
Long-term revenue bonds	$ 1,295,410	$ 167,730	$ (211,370)	$ -	$ 1,251,770
Less:					
Current maturities	(21,325)	21,325	(29,155)	-	(29,155)
Unamortized premium, net	31,292	29,824	(6,312)	-	54,804
	$1,305,377	$ 218,879	$(246,837)	$ -	$ 1,277,419

December 31, 2013	Beginning Balance	Additions	Reductions	Reclassification	Ending Balance
Long-term revenue bonds	$ 1,234,985	$ 108,400	$ (84,975)	$ 37,000	$1,295,410
Less:					
Current maturities	(24,085)	24,085	(21,325)	-	(21,325)
Unamortized premium, net	26,633	6,397	(1,738)	-	31,292
	$1,237,533	$ 138,882	$(108,038)	$ 37,000	$1,305,377

Debt Service Coverage

The IMPA Power Supply System Revenue Bond Resolution (Resolution) contains covenants that require IMPA to collect through rates 1.1 times the current year's accrued aggregate debt service. Debt service coverage was 1.28 times for 2014 and 2013. Debt service coverage for 2014 was calculated based on approximately $29.2 million of principal payable in January 2015, approximately $64.7 million of 2014 interest expense payable during 2014 and in January 2015, net of approximately $6.5 million released from the debt service reserve fund in January 2015. Management believes that IMPA is in compliance with all financial debt covenants and restrictions as of December 31, 2014.

1998 Series A Variable Rate Bonds

The 1998 Series A Bonds are secured by an irrevocable transferable direct-pay letter of credit ("Letter of Credit") issued for the benefit of the owners of the 1998 Series A Bonds. The interest rate on the 1998 Series A Bonds is adjusted weekly, and bondholders may require repurchase of the 1998 Series A Bonds at the time of such interest rate adjustments. Through the Letter of Credit, the Agency has right of direct offset with its lender for any repurchases. These bonds have a contractual maturity of January 1, 2018 and the letter of credit expiration coincides with the maturity date of the Bonds. The variable interest rate is adjusted weekly by the remarketing agent to reflect current market rates. The interest rate at December 31, 2014 on the 1998 Series A Bonds was .04%.

2010 Series A Build America Bonds (BAB)

During the years ended December 31, 2014 and 2013, IMPA received BAB subsidies of approximately $2.3 million and $2.2 million, respectively. BAB subsidies are included in other non-operating income on the consolidated statements of revenues, expense and changes in net position.

2013 Series A Bonds

On November 21, 2013, the Agency issued the 2013 Series A Bonds of $108.4 million to finance ongoing capital improvements to the Power Supply System and for the purpose of refunding the principal amount of the 2009 Series B Bonds maturing on January 1, 2034. The partial refunding of the 2009 Series B Bonds resulted in a reduction of future debt service of approximately $10.4 million. The present value of the reduction in debt service is approximately $6.5 million.

2014 Series A Bonds

On December 11, 2014, the Agency issued the 2014 Series A Bonds of approximately $167.7 million for the purpose of refunding the principal amount of the 2004 Series A Bonds maturing on January 1, 2024 through 2032 and refunding certain 2006 Series A Bonds maturing on

January 2019 through 2032. The refunding of the 2004 Series A Bonds was a current refunding and the refunding of certain 2006 Series A Bonds was an advance refunding. The refunding of the 2004 Series A Bonds and certain 2006 Series A Bonds resulted in a reduction of future debt service of approximately $35 million. The present value of the reduction in debt service is approximately $25.9 million. The difference between the carrying values of the previously issued bonds and the refunding bonds has been deferred and is included in deferred outflows of resources.

Fair Value of Long-Term Revenue Bonds

Long-term revenue bonds are recorded at amortized cost. The estimated fair value of long-term revenue bonds is approximately $1.4 billion and $1.3 billion at December 31, 2014 and 2013, respectively. IMPA used over-the-counter broker quotes to estimate the fair value of these bonds which are corroborated by similar transactions for similar securities.

7. Asset Retirement Obligations

Asset retirement obligations represent legal obligations associated with the retirement of tangible long-lived assets that are incurred upon the acquisition, construction, development or normal operation of the assets. IMPA's asset retirement obligations consist primarily of costs associated with the future cost of mine reclamation and closure at Prairie State and with the future closure of waste disposal facilities at IMPA's jointly-owned plants.

Asset retirement obligations are recognized in the period in which they are incurred, if a reasonable estimate of fair value can be made. The asset retirement obligations are accreted to their present value at the end of each reporting period. The associated estimated asset retirement costs are capitalized as part of the carrying amount of the long-lived asset and depreciated over their useful life. The Agency uses an expected cash flow approach to measure the obligations. IMPA's asset retirement obligations have no impact on net income due to the Agency applying the provisions of GASB 62.

The following table presents the details of the Agency's asset retirement obligations for the periods ended December 31, 2014 and 2013 (in thousands):

	Beginning Balance	Liabilities Incurred	Liabilities Settled	Accretion	Cash Flow Revisions	Ending Balance
2014	$ 8,283	-	-	414	(65)	$ 8,632
2013	$ 4,302	-	-	223	3,758	$ 8,283

8. Arbitrage

A rebate payable to the Internal Revenue Service (IRS) generally results from the investment of bond proceeds at a higher rate of interest than the cost of borrowing. The excess of interest income over cost of borrowing is payable to the IRS within five years of the date of the bond offering and every five years thereafter. The estimated current arbitrage liability at December 31, 2014, was approximately $60,000. There was no estimated current arbitrage liability at December 31, 2013. The estimated non-current arbitrage liability at December 31, 2014 and 2013 was approximately $0.6 million and was included in other non-current liabilities on the Consolidated Statements of Net Position. The estimated arbitrage expense is recorded as a reduction of interest income.

9. Concentration of Risk

Credit risk represents the risk of loss that would occur if suppliers or customers did not meet their contractual obligations to IMPA. Concentration of credit risk occurs when significant suppliers or customers possess similar characteristics that would cause their ability to meet contractual obligations to be affected by the same events.

Approximately 28% of the Agency's sales to municipalities were provided to two communities for the period ended December 31, 2014 and 2013. Accounts receivable balances for the two communities account for 30% and 29% of the total accounts receivable balances as of December 31, 2014 and 2013, respectively. IMPA has long-term energy purchase contracts with two suppliers that account for approximately 35% and 36% of IMPA's total energy for the years ended December 31, 2014 and 2013, respectively.

10. Jointly-Owned Plant

IMPA is a joint owner of Gibson Unit 5, Trimble County Unit 1 and Unit 2, Prairie State Units 1 and 2 and co-owns certain transmission property and local facilities. IMPA's portion of all operating costs associated with the commonly-owned facilities is reflected in the consolidated financial statements. For further discussion of Jointly-Owned Plant, see Note 1, Utility Plant.

IMPA's investments in jointly-owned plant at December 31, 2014 were as follows (in thousands):

	Share	Utility Plant In Service	Accumulated Depreciation
Production			
Gibson Unit 5	24.95%	$ 160,780	$ 89,278
Prairie State Units 1 & 2	12.64%	746,767	49,297
Trimble County Units 1 & 2	12.88%	292,811	78,847
Transmission and local facilities	4.83%	107,701	43,077

11. Commitments and Contingencies

Contracts and Capital Expenditures

IMPA has purchased power contracts with several power producers. IMPA has firm commitments under take-or-pay contracts which expire on or before April 1, 2042. The total amount of these future purchase obligations at December 31, 2014 was approximately $161.9 million for 2015 and $2.5 billion through April 1, 2042.

IMPA anticipates its share of future capital expenditures for Gibson Unit 5, Prairie State Units 1 and 2, Trimble County Units 1 and 2, the combustion turbines, the JTS and other ongoing system projects to total approximately $316 million for the years 2015 through 2019. The projected capital expenditures include both environmental improvements and expenditures of a normal and recurring nature. IMPA continues to fully assess environmental capital improvements with the co-owners of Gibson Unit 5 and Trimble County Unit 1. IMPA believes that the amount may be significantly reduced depending on a final assessment of all alternatives to meet new Environmental Protection Agency (EPA) requirements. IMPA anticipates funding the foregoing projected capital improvements with a combination of internally generated funds and proceeds from future debt offerings.

Environmental Protection Agency Matters

The Cross State Air Pollution Rule

The Clean Air Interstate Rule (the "CAIR") promulgated by the EPA in 2005 was appealed and remanded to EPA in 2008. The original CAIR rule targeted the reduction of NO_x in 2009 and SO_2 beginning in 2010. EPA issued the Clean Air Transport Rule ("CATR") in August 2010 and then on July 6, 2011 released a revised final rule and changed the name to the Cross State Air Pollution Rule (the "CSAPR"), which modified and expanded certain provisions of the rule in part due to comments received on the CATR.

CSAPR applies to electric generating units greater than 25 MW. Its objective is to control and reduce emissions of SO_2 and NO_x in the eastern half of the United States. The Clean Air Act allows for rules to be promulgated to control upwind emissions, and also outlines a process to allow states to be the first to propose a plan to make these reductions. If state plans do not meet Federal criteria, then the EPA may assume this responsibility. On August 8, 2011, EPA finalized CSAPR setting emissions caps for NO_x and/or SO_2 in 28 states with the purpose of reducing impacts to downwind states' ability to comply with fine particulate matter (PM2.5) and ozone standards.

On August 21, 2012, the U.S. District Court of Appeals for the D.C. Circuit (the "D.C. Circuit Court") vacated CSAPR, finding that EPA exceeded its Clean Air Act statutory authority. On April 29, 2014, the United States Supreme Court issued an opinion upholding CSAPR, sending CSAPR back to the D.C. Circuit Court for review. On June 26, 2014, the EPA filed a motion requesting that the D.C. Circuit Court lift its stay on CSAPR and extend CSAPR's compliance deadlines. On October 23, 2014 the D.C. Circuit Court lifted its stay on CSAPR. CSAPR's compliance periods began on January 1, 2015. Certain outstanding legal issues related to CSAPR are expected to be heard by the D.C. Circuit Court in March, 2015. IMPA expects that the Agency will have to acquire a small percentage of its overall SO_2 and NO_X emission allowances needed for compliance, but that there will be no material impact from CSAPR on IMPA's generating facilities.

The Mercury and Air Toxics Standards ("MATS")
The final MATS rule became effective April 16, 2012, and affects generating units greater than 25 MW. When it is implemented, this rule will set new emission limits for hazardous air pollutants (HAPS), including mercury, particulate matter (PM), and hydrochloric acid (HCl). The full implementation date of this rule is April 16, 2015, 3 years after the effective date or April 2016, if an extension is granted by the permitting authority for those units installing upgraded equipment for compliance. This proposed rule is intended to address HAPs, including mercury, from coal and oil-fired electric generating units by requiring the use of maximum achievable control technology. This rule will require capital additions to Gibson 5, WWVS and Trimble County Unit 1. Final plans for MATS compliance are being made and will be in place prior to April 2016.

Contract Disputes
In the normal course of business, IMPA may be involved in various disputes with other parties. While management cannot predict the ultimate outcome of these disputes, total exposure as of the report issuance date is not material to IMPA's financial position or results of operations.

Securities and Exchange Commission (SEC)
In January 2013, the SEC staff served a subpoena on the Agency seeking information and documents relating to the development of Prairie State. IMPA complied with the SEC's request. IMPA has received no further requests or communications from the SEC. The Agency cannot predict the ultimate outcome of this investigation. As of the report issuance date, IMPA management does not believe this investigation will have a material impact on IMPA's financial position or operating results.

Litigation
On August 19, 2014, IMPA was informed of a putative class action lawsuit filed in the Circuit Court of Kane County, Illinois, on behalf of certain ratepayers receiving electric utility service from the City of Batavia, Illinois The lawsuit names IMPA, an affiliate of IMPA, IMPA's President and CEO, and other parties as defendants. The plaintiffs allege that the defendants made certain negligent misrepresentations relating to the Prairie State Energy Campus project, and seek actual and punitive damages in an unspecified amount. It is not possible to predict with certainty the outcome of any litigation, including the litigation described above. IMPA intends to vigorously defend the lawsuit.

Appendix J – IRP Summary Document

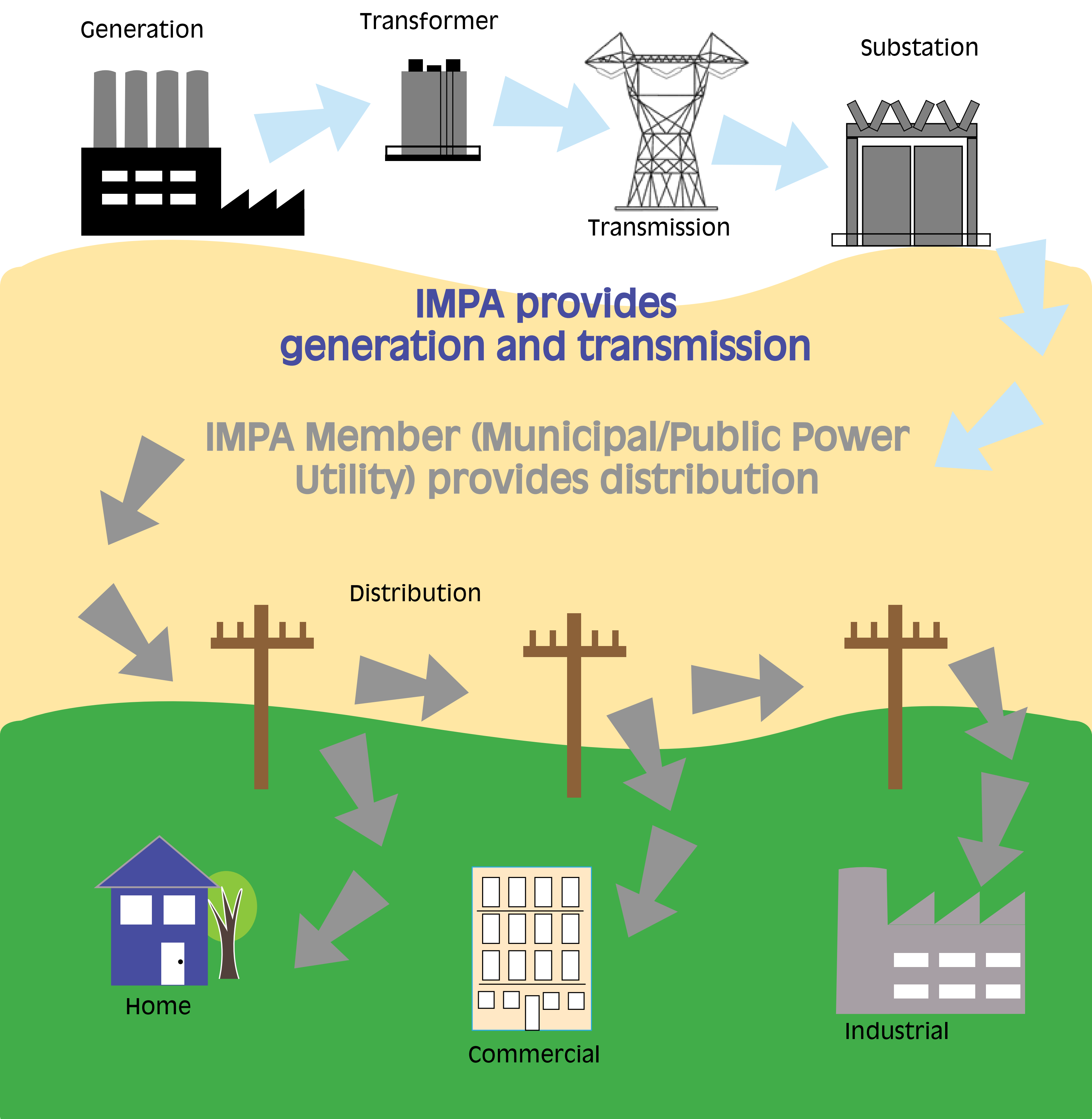
IMPA's Energy Future

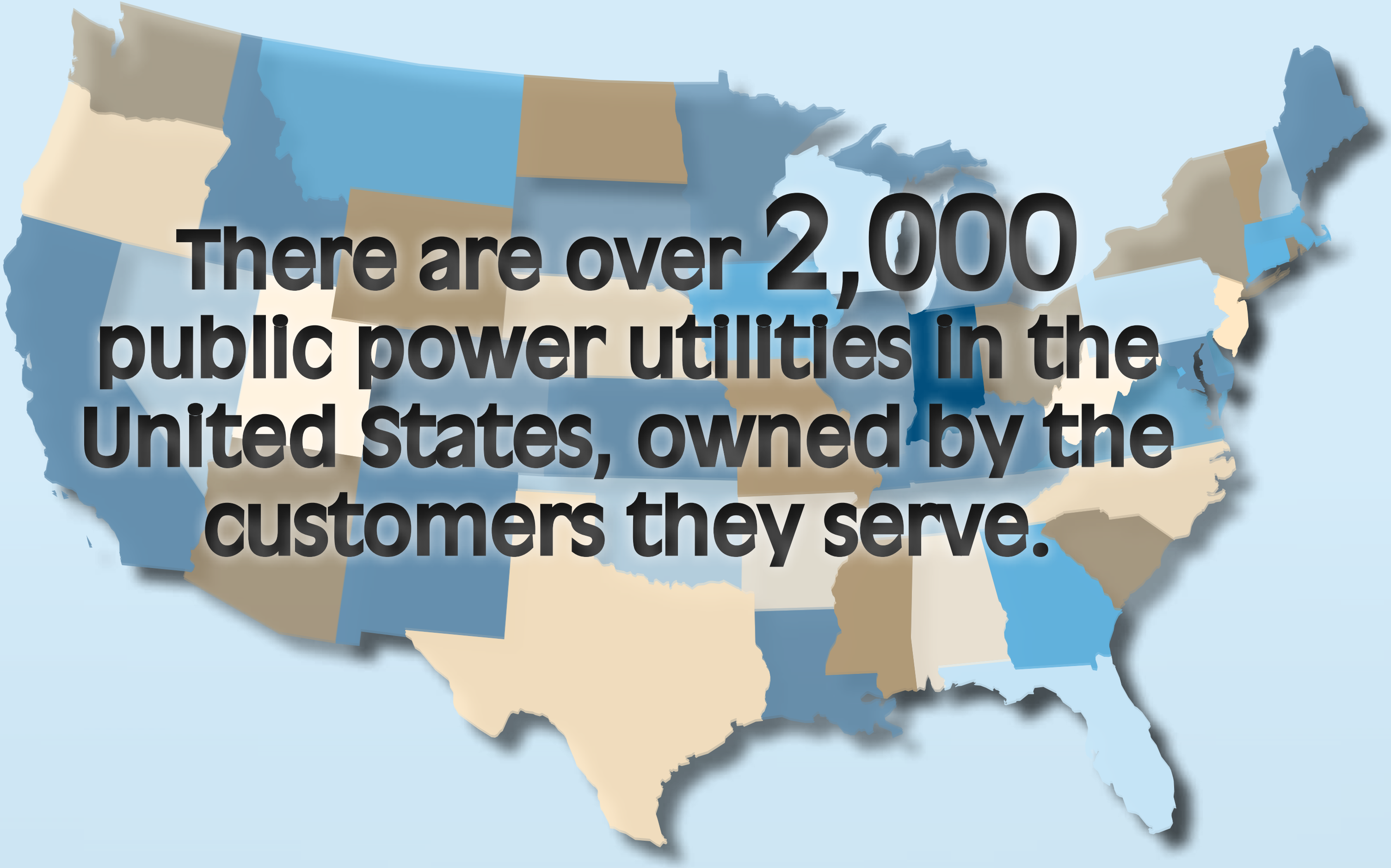
Integrated Resource Plan
2015 - 2035

IMPA
INDIANA MUNICIPAL POWER AGENCY

November 2015

How does electricity flow from IMPA to its member utilities?





There are over 2,000 public power utilities in the United States, owned by the customers they serve.

47 Million

customers served throughout the U.S.

Local & Reliable

service provided by friends & neighbors

Not for Profit

entities that exist to serve customers

Public Power

IMPA by the Numbers

32 years of operations

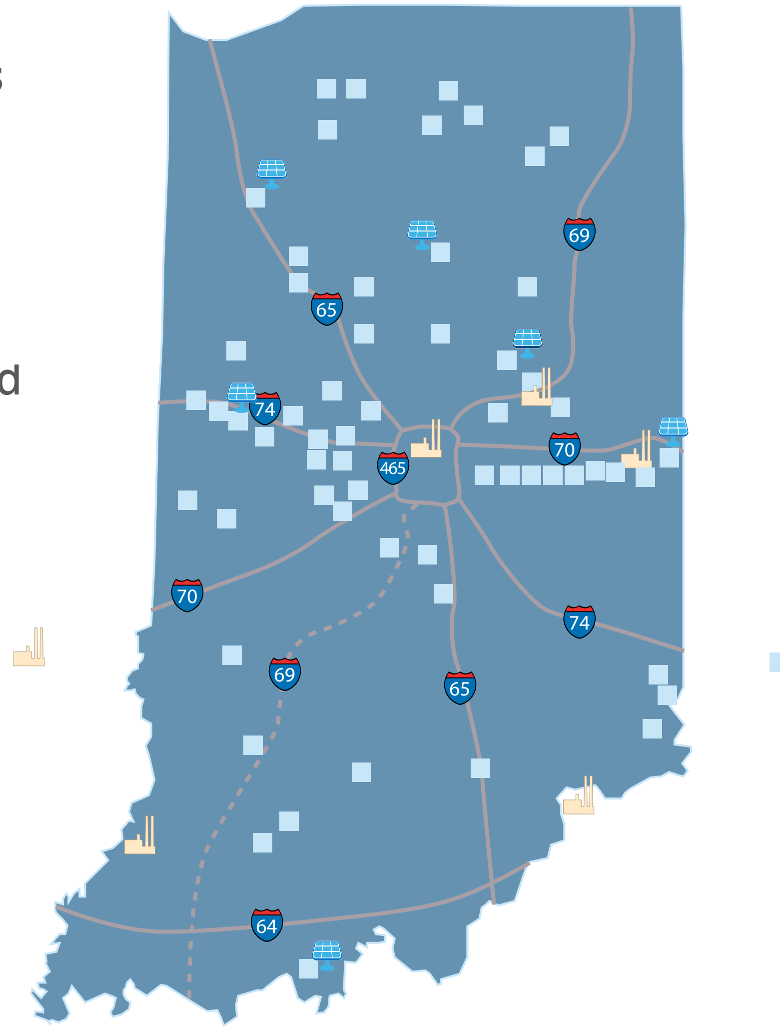
60 communities served

330,000 customers

$450 million in annual revenues

$1.6 billion in total assets

A1/A+ strong bond ratings

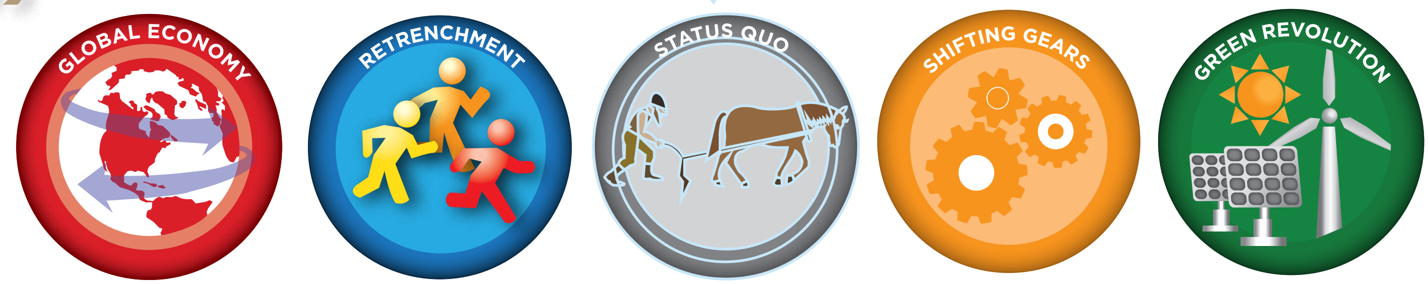


Low-cost, Reliable, Environmentally Responsible Wholesale Power Provider

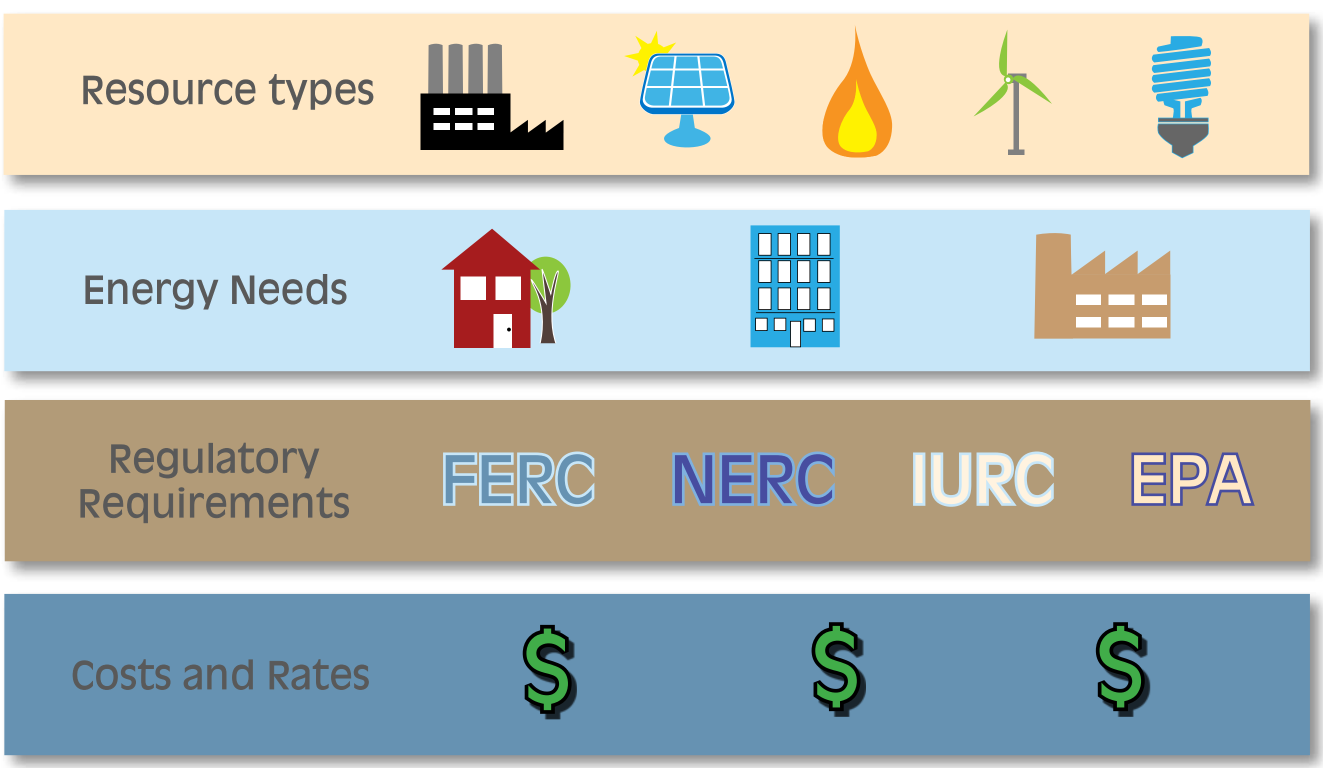
What is Resource Planning?

Scenarios

IMPA stakeholders identified five distinct scenario themes which are expected to have the greatest impact on the future energy business environment over the next 20 years. IMPA looks for signposts that signal the scenario may occur, providing an early warning system of possible events to follow. The more credible signposts identified for any given scenario, the greater the likelihood that the scenario and its associated strategic implications will be relevant. While possible carbon regulations are a major factor of each theme, demand, fuel prices, technology, resources, reserve margins, etc. all play a role in the development of the scenario.



Resource Planning Process



Integrated Resource Plan

Resource Options

Baseload - Coal

Long lead time to develop
Capital cost: $5,000/kW to $5,500/kW with CCS
Operating Costs (production and fuel) are relatively low and stable
Stably priced fuel and proven operating reliability

Intermediate - Natural Gas Combined Cycle

Mid-range development time
Capital cost: $1,000/kW
Cost dependent on natural gas, currently low-cost

Peaking - Natural Gas Combustion Turbine

Development times are short
Capital cost: $800/kW
Operating costs are high
Used during peak energy use times

Intermittent - Wind

Development times are short
Capital cost: $1,700-$1,800/kW
Operating costs are low
Dependent on wind conditions for energy output
Unpredictable generation output

Intermittent - Solar

Development time is short
Capital cost: $2,000 to $2,500/kW
Operating costs are low and stable
On-peak energy
Dependent on local solar conditions for energy output

Energy Efficiency - Reduced Consumption

Investment is initial rebate/incentive to participants
Achieves energy savings and reduces peak load
Effectiveness depends on customer participation

IMPA's Integrated Resource Plan

Key Findings

- Lose over 150 MW of existing resources by 2021
- Will need additional capacity resources with or without renewables and energy efficiency
- EPA Clean Power Plan will drive future resource decisions

IMPA's Action Plan

Monitor Clean Power Plan implementation before deciding on next resource decision

Add 50 MW of solar projects in next five years

Continue to evaluate available market capacity and energy opportunities

Continue energy reduction through energy efficiency programs and education

Investigate Resource Opportunities

- Combustion turbine
- Combined cycle
- Internal Combustion (IC Gas Units)
- Wind

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Indiana Municipal Power Agency

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