HOOSIERENERGY

Summer Reliability Forum

Indiana Utility Regulatory Commission

Rob Horton - Executive Vice President & Chief Operating Officer

May 9, 2024

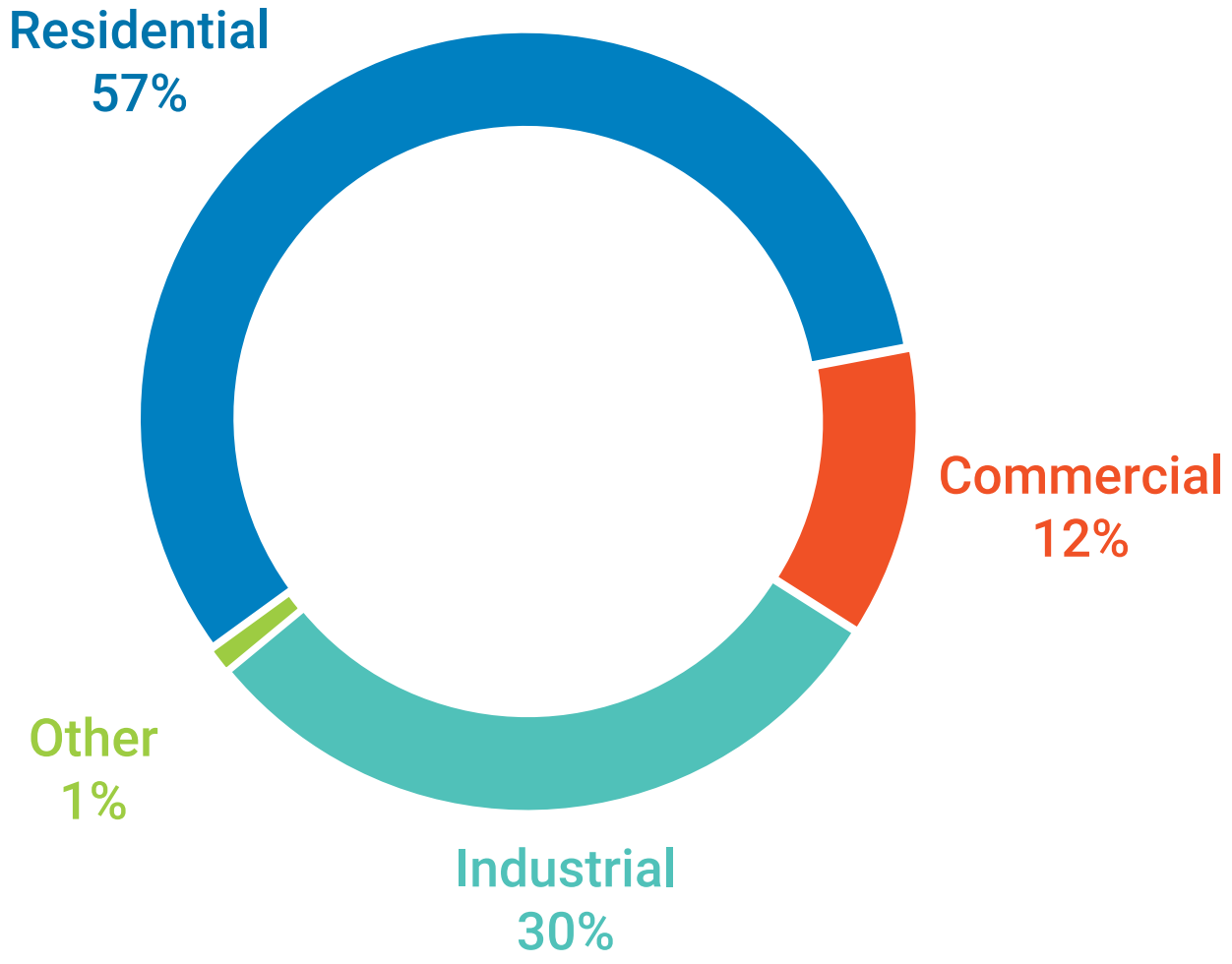
About Hoosier Energy

- Non-profit
- 18 member systems in southern Indiana and southeastern Illinois
- Member of MISO and PJM
- Approximately 1,730 miles transmission line
- 28 transmission stations and 321 delivery points
- Interconnections with 7 major utilities
- All-time system peak 1,828 MW
- 284 employees
- Patronage capital returned - $191M

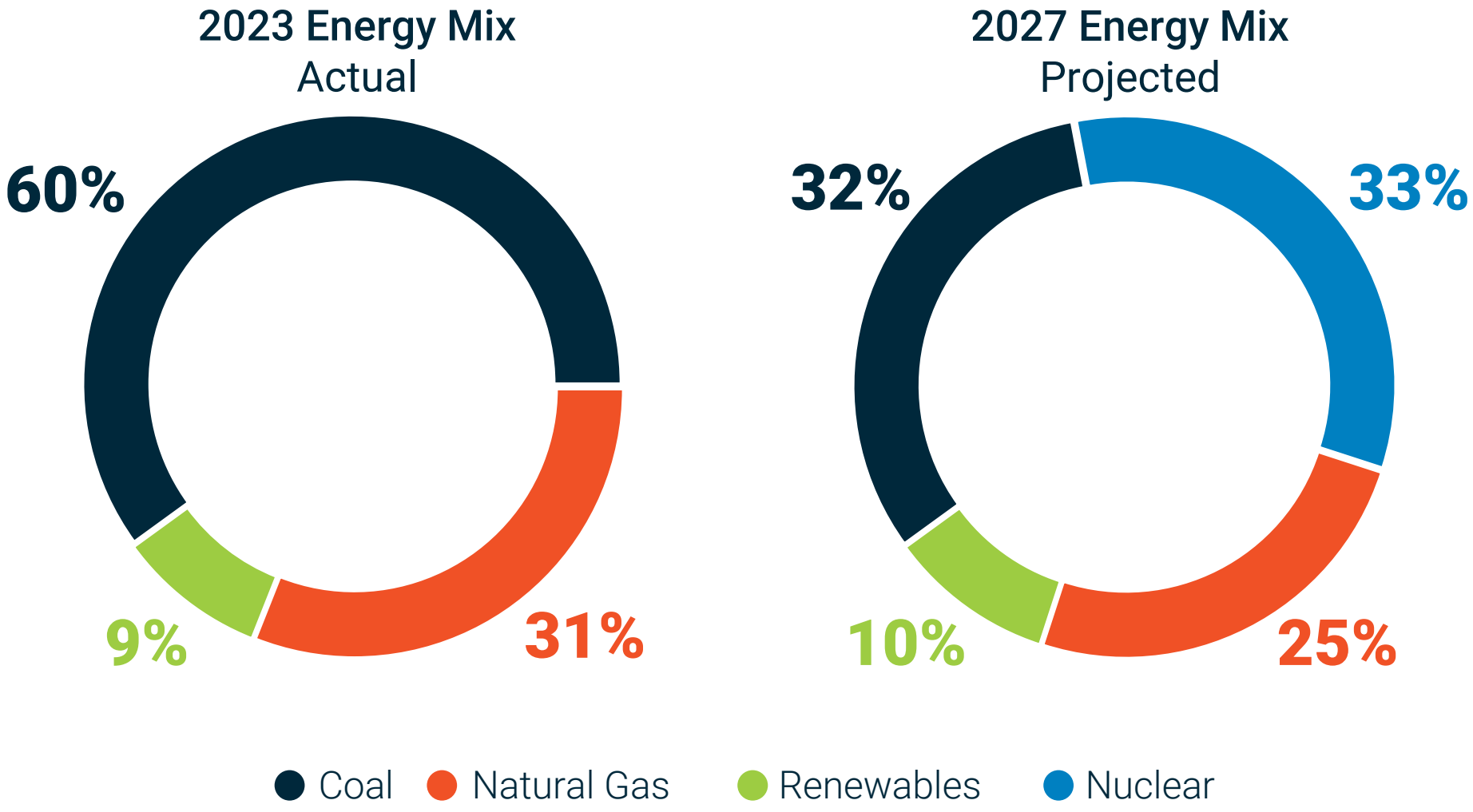
Member Systems

Energy Profile

- Diverse retail customer mix
- No single member system constituted more than 10% in 2023
- No single consumer constituted more than 3% of a member system's 2023 aggregate billings



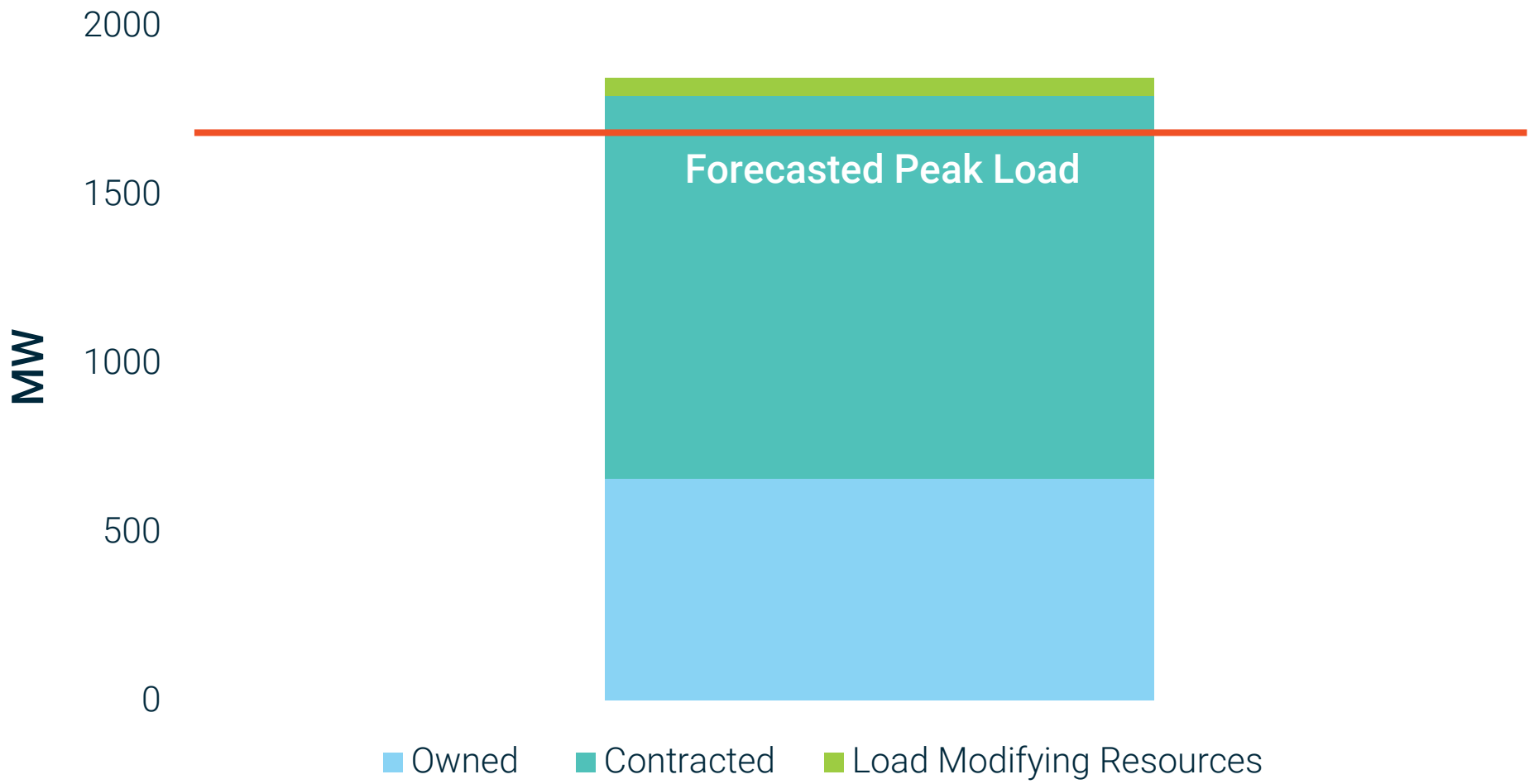
Resource Portfolio Transition



HOOSIERENERGY

Reliability Forum Q&A

2024 Projected Summer Peak Load & Supply Portfolio



Fuel Supply & Reliability Planning

- Fuel supply strategy ensures operations remain reliable, efficient and competitive, regardless of fuel type

- For natural gas, goal is to ensure fuel supply reliability at competitive prices
  - Enables generating capacity to be competitively offered into the day-ahead and real-time MISO markets on a daily basis

- In evaluating natural gas purchasing strategy and execution, consider core values of being reliable, efficient and competitive
  - **Reliable** – Provide for a timely, reliable supply of natural gas in the quantities necessary to meet the burn requirements of the generating facility
  - **Efficient** – Meet operational needs of generating facilities
  - **Competitive** – Provide lowest evaluated cost, incorporating various potential operating impacts as identified in the compatibility and reliability valuation process

Fuel Supply & Reliability Planning

- Primary supply agreements are 1-3 years
  - Allows for effective evaluation of potential suppliers that could further enhance reliability or reduce associated costs
  - Includes transportation, imbalance charges, etc.
  - Procurement flexibility provides ability to respond to changing market conditions

- Long-term investment in reliability
  - Natural gas is an important fuel source supporting industry transition to renewables
  - Currently evaluating ownership/construction of new natural gas generation
  - Options exist to contract with developers to build and purchase as well

Spring Maintenance Outages

- All spring outages scheduled with MISO to be complete by May 15
- Robust internal outage coordination/optimization between generation and transmission operations, especially given recent changes in MISO
  - Coordination with neighboring utilities, MISO, and member systems
- Most generation outages take place in shoulder months and are typically completed during March, April, May, September, October and November
  - Strategy may change with implementation of MISO seasonal construct depending on outage and length of time required to complete work
- Transmission outages coordinated with neighboring utilities and MISO based upon distribution system needs and load transfer capabilities

Severe Weather Preparedness

- Multiple sources for assessing severe weather conditions
- Internal models updated frequently for holistic view of forecast horizon
  - Local/regional demand, transmission congestion, MISO pricing/reserve margins, etc.
- Notification of a pending weather event prompts a procedural refresher, assessment of market and operational conditions (energy, gas, pipeline), and implementation of a management plan
- Communications meeting with internal stakeholders and member systems to ensure appropriate contacts and approval authorities are available and engaged

RTO Hot Weather Alerts & Capacity Advisories

- Contact gas suppliers for potential pipeline interruptions or Operational Flow Order (OFO) conditions
- Report NOx limited constraints to be compliant with environmental emission limitations
- Notify load modifying resources (LMRs) for potential deployment (approx. 50 MW)
- One week prior to anticipated event:
  - Test communication systems (including backup power supplies)
  - Review available internal and contract labor resources and develop plans for labor availability
  - Review equipment, tools, fuel supply
  - Initiate plans to return all transmission system components that may be unavailable for maintenance outages, if possible
  - Return generation resources, if possible
- As an event develops, closely monitor neighboring systems, increase control center staffing, and change/develop strategies to address severity and system needs

Changes in Tree-Related Outages

- Increased number of severe storms in our service territory over the last two years
- Much of the storm-related tree outages are from healthy, off-right-of-way trees being uprooted or wind-broken into our lines
  - Taking proactive steps to mitigate this risk, including removal of hazard trees identified by aerial and walk patrols, as well as aerial saw trimming to the extent of our rights-of-way
  - Also purchasing skid steers with forestry mulching heads for all vegetation management areas to enable line crews to respond and repair outages more efficiently
- When considering storms with similar characteristics (lightning, straight-line wind, tornado, hail), Hoosier Energy has not seen an increase in tree-related outages

Limiting Outages & Speeding Restoration

- All storm events are different in terms of characteristics
- Hoosier maintains robust vegetation management practices, which helps to limit outages
  - Preventative maintenance tasks
  - Actively engaged in widening property easements for critical transmission facilities
  - Automated switching installation
- Several operational efforts to limit outages and increase speed of restoration:
  - Remotely operated line switches, line fault indicators and digital fault recorders
  - Digital management of data and analytics
- Hoosier Energy crews also continue to provide storm recovery assistance to our member systems

Supply Chain Issues

- Hoosier mitigating risks by increasing spares inventory on long lead-time items while keeping overall inventory numbers manageable
  - Breaker lead times have now exceeded lead times for voltage transformers
  - High voltage breakers (100 kV and above) have a current lead time of 2 years
  - Ultra-high voltage breakers (345 kV and above) have a current lead time of 4+ years

RTO Changes & Engagement

- Ongoing committee and stakeholder engagement at MISO and PJM to monitor market changes, resource adequacy and planning issues

- Closely monitor and engaged in developments related to:
  - MISO's changes to the resource adequacy construct, seasonal accreditation processes, and outage scheduling and planning parameters
  - Planning changes to MISO's market design related to demand curves, fixed resource adequacy plans and compensation mechanisms
  - Increased reserve margin requirements
  - Natural gas/electric coordination efforts and the impact of market alignment efforts

Renewable Energy Variability

- Hoosier Energy's portfolio built on reliability
- No concerns regarding ability to meet member system demands in summer 2024
- Any concerns related to broader footprint
  - Loss of dispatchable resources due to retirements – combined with influx of intermittent resources that have different operating characteristics – presents risks that must be identified and managed

Obligation to Serve & Resource Performance

- As a member of MISO, Hoosier Energy benefits in reserve sharing
  - MISO has a large geographic footprint; generation and load diversity can provide a great deal of value to serve load across multiple local balancing areas
  - In the real time, when generation is de-rated or forced out, other generation resources can be raised to meet load
- Indiana and MISO have import/export capabilities
- In the event of energy emergencies, MISO has access to nearly 11 GW of Load Modifying Resources (LMRs), which would act as a secondary backup

Workforce Strategies

Recruiting

- Leverage employee networks and social media platforms
- Internship program pipeline
- Active engagement with educational institutions, vocational schools and community colleges

Retention & Professional Development

- Nationally-recognized Hoosier Energy Apprenticeship Training & Safety program (HEATS)
- Voluntary benefits, extensive health navigation tools
- Tuition reimbursement, leadership development programs, dedicated mentorship
- Flexible work arrangements

Abnormally Dry Conditions

- Hoosier Energy owns industrial water wells at Worthington and Lawrence County combustion turbine stations
  - Wells used to supply water to closed-loop cooling tower systems and for pollution control water injection
  - Water capacity from wells proven adequate to meet needs of facilities over lifespan
- Large fresh-water storage tanks exist at each location as well, providing resiliency and redundancy for water supply
- In an extreme event, generation units could experience a reduction in generating capabilities based on water temperatures or river levels

Distribution Outage Restoration

- Hoosier Energy continuously monitors our transmission and distribution (69KV and 34.5KV) system in real-time through our System Control Center
- Resources are dispatched immediately upon recognition of an interruption to service
- If an event exceeds capability to immediately respond with internal resources, Hoosier's operations management team will prioritize outage locations based on number of affected consumers

Advanced Metering Infrastructure

- Hoosier Energy monitors all elements of our electrical system through an advanced energy management SCADA system
  - Outage information provided by SCADA system used for tracking outages, outage metrics, and communication to stakeholders Hoosier's ITOA software platform
- Most Hoosier member systems use advanced metering infrastructure for real-time operations
- Hoosier strives to remove personal judgement from restoration processes by providing as much data as possible from software and communication systems to drive decisions

Energy Efficiency Programs & Bill Assistance

- Hoosier Energy and our member systems manage several energy efficiency programs, both for residential and commercial/industrial consumers:
  - Residential HVAC incentives for energy efficient heat pump installation/maintenance/operation
  - Energy efficient LED lighting conversion
  - USDA Technical Assistance Grant to promote REAP qualified energy efficiency and renewable projects in small businesses and agricultural producers
  - Load Modifying Resource (LMR) program with incentives for large commercial and industrial consumers during grid emergency events
- Regarding bill assistance, our 18 member systems manage their programs individually and provide a variety of options to their member-consumers

Communications During a Summer Event

- Communications department closely monitors summer weather events and collaborates with operations staff
- Public communications tied to MISO steps:
    1. Public conservation
    2. Temporary emergency service interruptions
    3. Event termination
- Sent via press release to media contacts in and around Hoosier Energy service territory
- Also send emails to communications rep for each of our member systems and ask them to amplify message; content includes specific messaging for vulnerable and medical-alert customers

MISO Market Reforms & Resource Adequacy Seasonal Construct

- Market compensation mechanisms would be helpful to address reliability risks and to compensate generators for their contribution to system reliability, both in real-time and across the long-term planning horizon
- Evolution of MISO's resource adequacy construct reflects increased operating risks across the footprint
- Seasonal risks require different reserve margin requirements
- Current lack of seasonal-only resources causes load serving entitles to over-procure to meet specific seasonal requirements

Discussion

HOOSIERENERGY