



# INDIANA

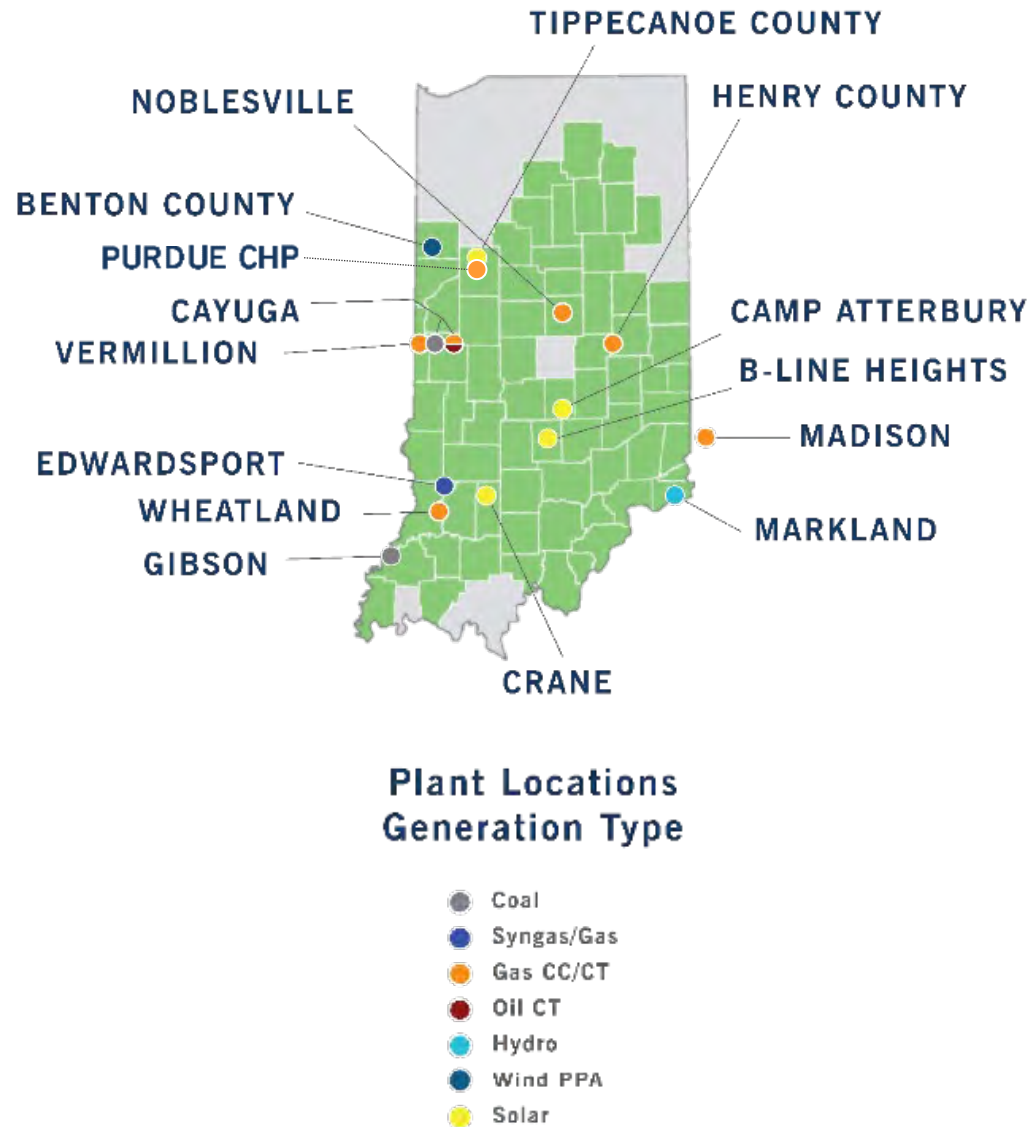
2023 Summer Preparedness



Stan Pinegar  
*President Duke Energy Indiana*  
May 3, 2023



# Duke Energy Indiana at a Glance



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Largest electric utility in Indiana

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23,000 square-mile service area,  
covering 69 of 92 counties

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890,000 customers

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36,800 miles of transmission and  
distribution lines

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6,300 megawatts at 12 large power  
generation sites

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2,500 Duke Energy Employees in  
Indiana

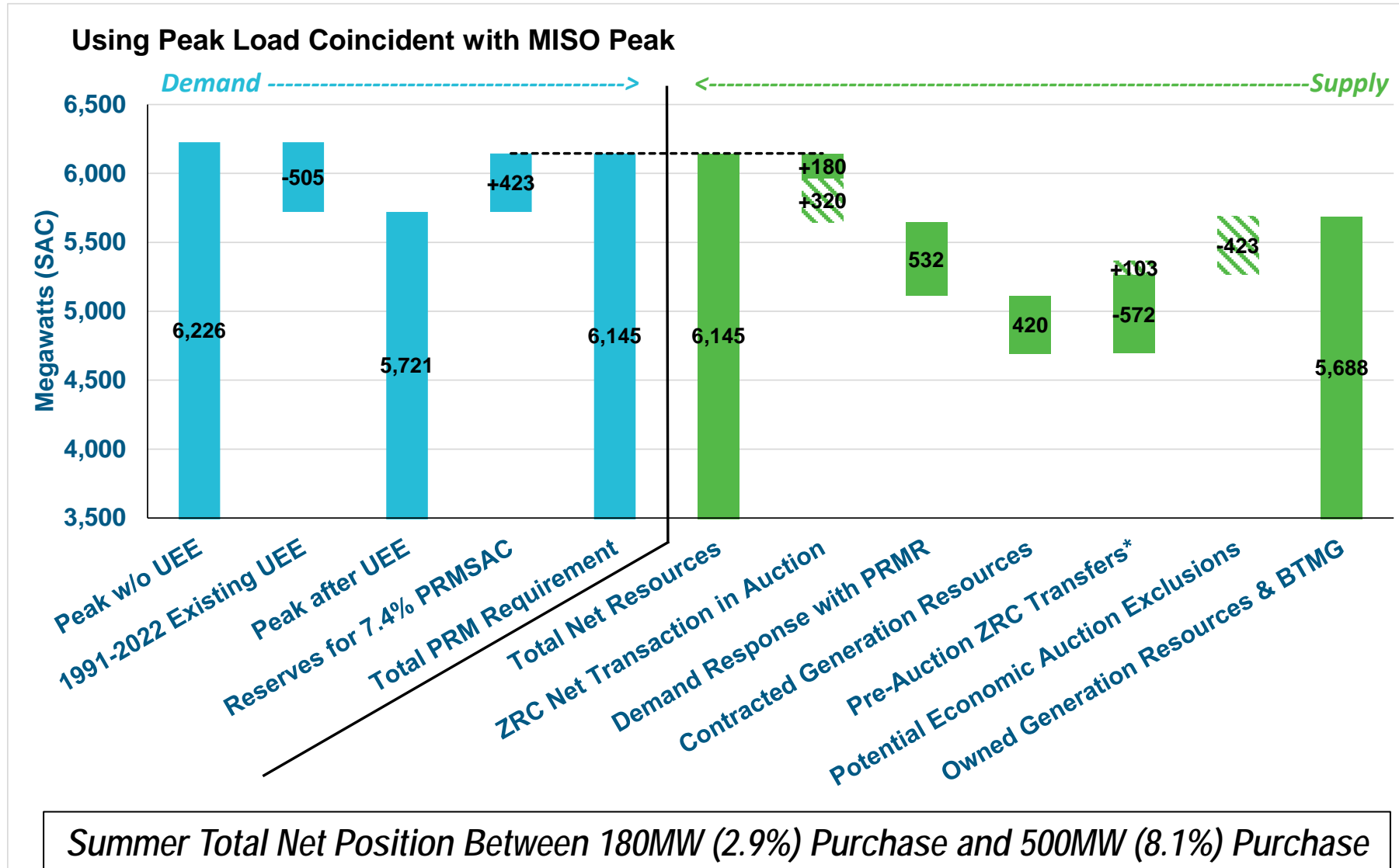
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# 2023 Summer Preparedness

Capacity

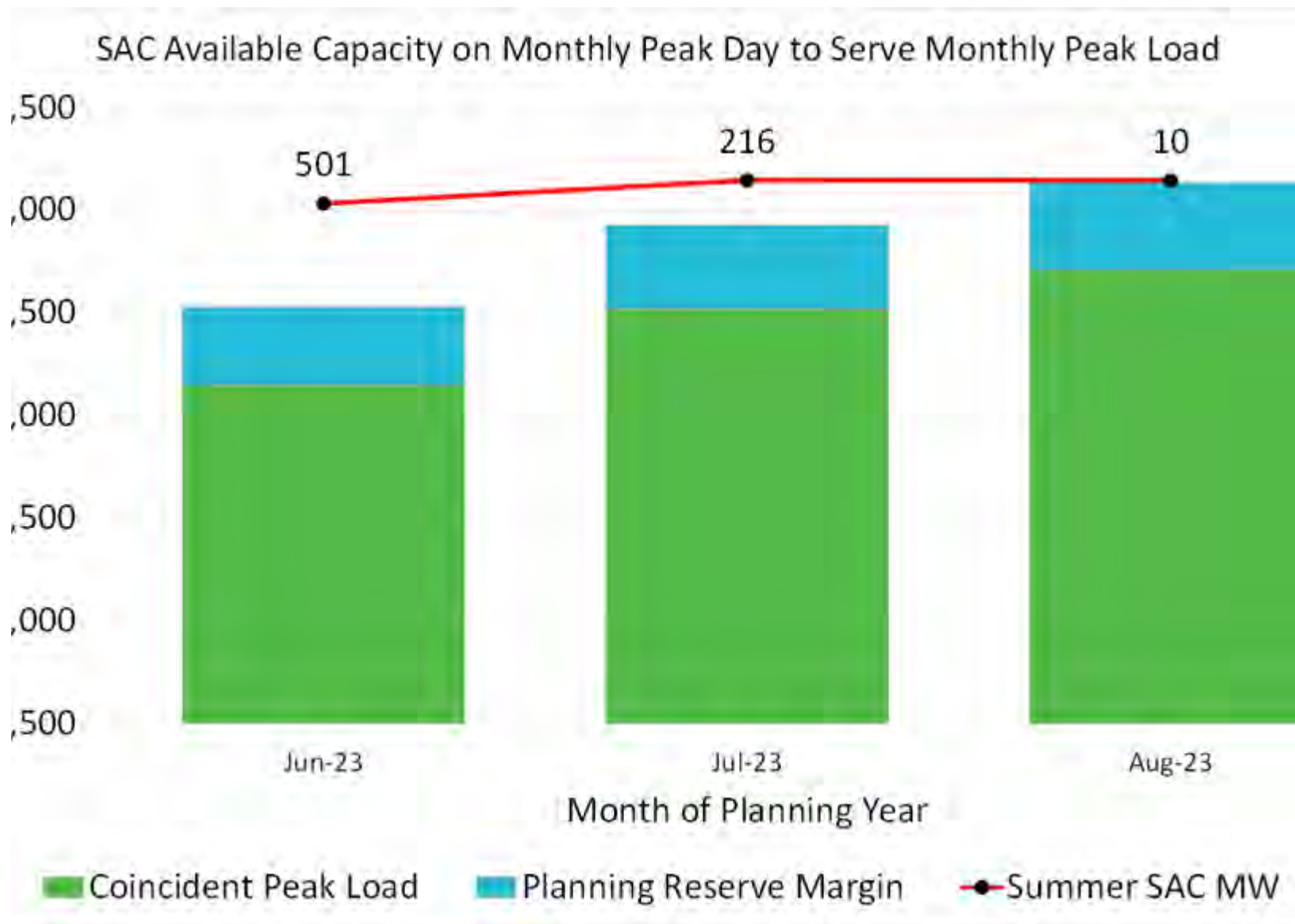


# Preparation for Summer 2023: Capacity Supply–Demand Balance



\*IMPA ownership share of Gibson 5; WVPA ownership share of Vermillion CT; WVPA contract share of Henry County CT; 310MW STBNS  
 Note: ZRC Net Transactions: (+) Purchase, (-) Sale

# Serving Monthly Peak Loads



Note: Depicts the seasonal SAC available on the monthly peak day to serve the monthly peak load, deducting for actual scheduled outages planned to be in progress on the monthly peak day based on the planned outage schedule. Includes PRA ZRC Purchase.

# 2023 Summer Preparedness: MISO

## MISO changes to watch

- Non-Thermal accreditation changes and potential for application of Direct Loss of Load to thermal resources
- Reliability based demand curve
- FERC Order 2222

## Transition to Seasonal Accredited Capacity (SAC)

- Re-optimization of the future planned outage schedule
- Registration of incremental season-specific Demand Response
- Development of, and transactions within, a seasonal bilateral market
- Default offer price process for Capacity Replacement Non-Compliance Charge and future accreditation impacts is well understood and is being leveraged to produce economic outcomes for customers
- We have coordinated well with the Independent Market Monitor on default offer prices and exclusions

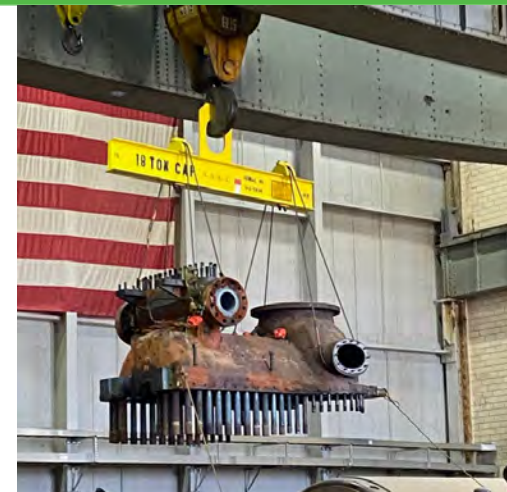


# 2023 Summer Preparedness

Generation



- About 50 weeks of base load unit outages and 45 weeks of combustion turbine outages performed Spring 2023
- Execution of capital maintenance plan
- All planned outages are scheduled to be complete by end of May, except one CT and a unit derate into June
- All MISO capacity resource units available this summer
- Summer preparation activities coordinated through work management system and seasonal procedures
- Managing environmental risks
  - Ozone Season NOx emission compliance
    - SCR Catalyst replacement/installation
    - Cayuga river temperature IDEM protocols



Noblesville Unit 2 – Steam Turbine Shell



Gibson Unit 3 – Boiler Division Wall Scaffold



## Challenges

### **Rising coal inventories driven by low gas prices and mild winter**

Between December and January, US inventories grew by 4.6% at a time of year when they typically decline (EIA)

### **Inelastic supply chain**

Downward volatility putting financial pressure on supply reducing future reliability

Production sales conducted in advance with little excess to respond to increased demand

Lead time for trained labor limits transportation ability to respond to changes in increased demand

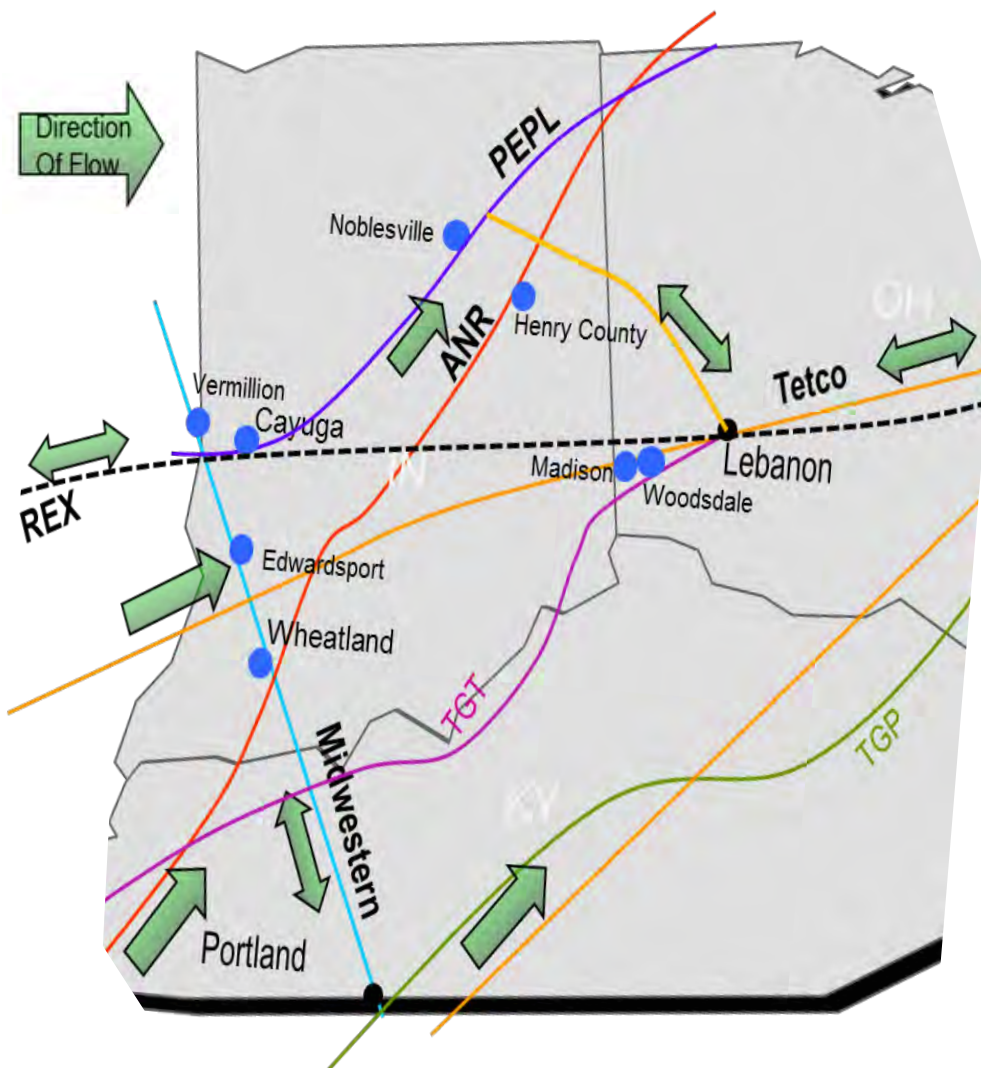
## Mitigation

Supply procured to 100% of projected need for 2023 and 2024 with supplier diversity

DEI continues to adjust its MISO offer price at Gibson and Cayuga Stations to reflect the economics of the coal landscape subject to power prices, actual coal deliveries and inventory levels to maintain reliable supply of coal and transportation

# Gas Supply – Summer Preparations

## Natural Gas Pipeline Systems – DEI Generators and Gas Transportation



### Natural Gas Supply

- DEI contracts with Tenaska as asset manager and the market for firm delivered gas supply
- Asset manager provides fuel security, operational flexibility, 24-hour availability, helps mitigate risk

### Firm Capacity Held

- Midwestern – 52,800 dth/day
- Panhandle – 25,000 dth/day
- Ensures delivery of gas during times of high demand

### Planning and Operations

- Monitor gas supply, increase communication
- Reflect the price and availability of natural gas through the Company's MISO cost offers
- Day-Ahead Offers
- Real Time: MISO Dispatches

# 2023 Summer Preparedness

## Transmission & Distribution



# Preparation for Summer 2023: Transmission & Distribution Systems

- TDSIC 1.0 plan:
  - \$1.4B invested over the 7-year period
  - Plan focused on replacement of aging T&D infrastructure
  - Plan complete on schedule and on budget
- TDSIC 2.0 plan:
  - ~\$2B (2023 – 2028)
  - Plan focuses on reliability improvements, grid hardening and resiliency, and grid modernization
  - Plan includes coordinated infrastructure projects related to Economic Development
- Smart meters enabling faster outage identification
- Infrastructure improvements for system growth and/or reliability continue outside of TDSIC
- 10-Year reduction in SAIFI: trend 1.6% per year
- 2022 Self-Healing Teams performance

	CI Saved	Minutes Saved
w/o MED	30,900	2,690,000
w/ MED	43,800	4,770,000



# Preparation for Summer 2023: Vegetation Management

## Transmission

- Continued implementation of Integrated Vegetation Management (“IVM”) strategy
- Prioritizes “grow-in” and “fall-in” threats
- EAB program: 15k trees removed
- 2022: Completed planned work on 273 transmission line miles

<i>T Vegetation Caused Outages</i>	Grid Level, All Lines
2020/ 2021/ 2022, w/o MED	31/ 32/ 27
2020/ 2021/ 2022, MED Only	38/ 7/ 18



→2022 Total T&D expenditure of ~\$85M

## Distribution

- Systematic process identifies and mitigates risks inside and outside of the maintained right-of-way (hazard trees)
- ~100k hazard trees removed since 2019
- 2022: Pruned 1/5 of distribution line miles

<i>D Vegetation Caused Outages</i>	Retail Level, All Lines
2020/ 2021/ 2022, w/o MED	4,030/ 4,592/ 4,632
2020/ 2021/ 2022, MED Only	1,888/ 1,118/ 891

# Preparation for Summer 2023: Supply-Chain Challenges

## Duke Energy Supply Chain Challenges

- Global supply chain issues have been an ongoing challenge for our country – and the utility industry is not immune from the impacts
- Like other utilities, Duke Energy has been faced with material and inventory shortages from suppliers and have done everything possible to manage those challenges
- As a result of these challenges, we will need to delay certain grid improvement work so that we can ensure sufficient inventories to meet the needs of routine maintenance and new construction

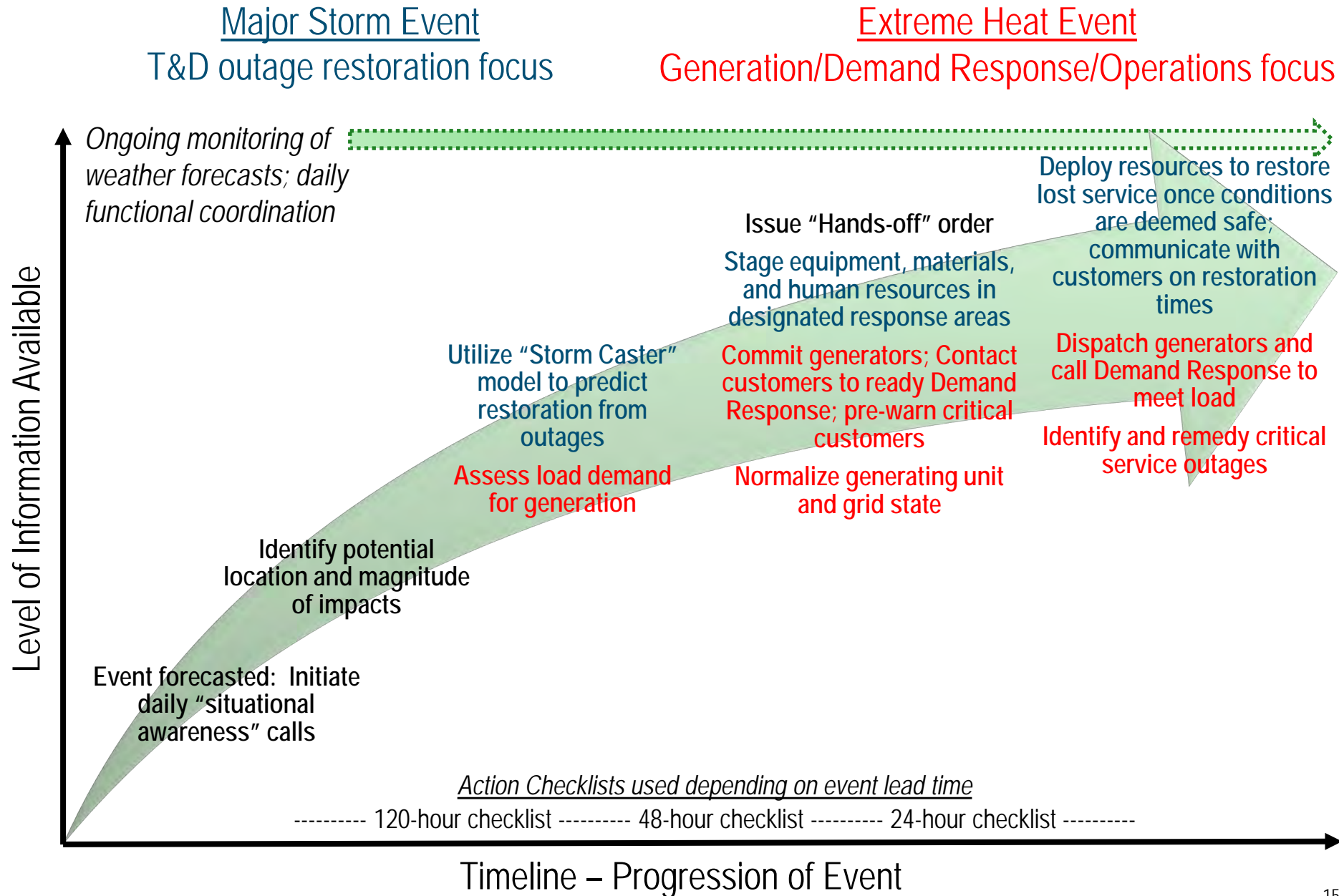


## Prioritization process – In addition to our mitigation efforts, we also have a process in place to use our inventory based on the following prioritization:

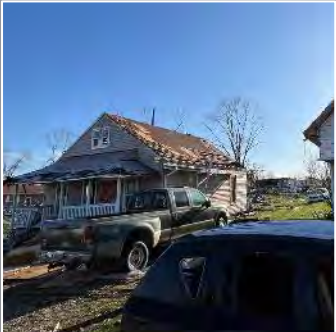
1. Outage Restoration
2. Regulatory-required repairs
3. New Customer Work – prioritizing critical and multiple customers
4. Grid improvement work



# System Readiness: Event Identification and Response



# March 31 Severe Storm and Power Restoration



## Severe storm moved through Indiana

- Customer messaging began before March 31
- Severe and Damaging Storms on Friday March 31
- At Least 19 Tornadoes Struck Indiana
- Persistent High Winds on Saturday April 1



## DEI Damage

- Martinsville, Sullivan and Franklin sustained significant damage
- Approximately 70,000 were affected by outages
- More than 200 broken or damaged poles
- 81 broken transmission poles
- Considerable amount of spans of wire down



## Restoration

- Self-Healing technology avoided more than 8,000 customer outages
- Over 300 contractors to supplement the local work force and speed restoration
- As of 4pm on April 1 approximately 17,800 were without power
- As of 8:30am on April 2 approximately 9,200 were without power
- Nearly all customers were restored by midnight on April 3



# Duke Energy Indiana is Prepared to Serve Customers Reliably



# Appendix

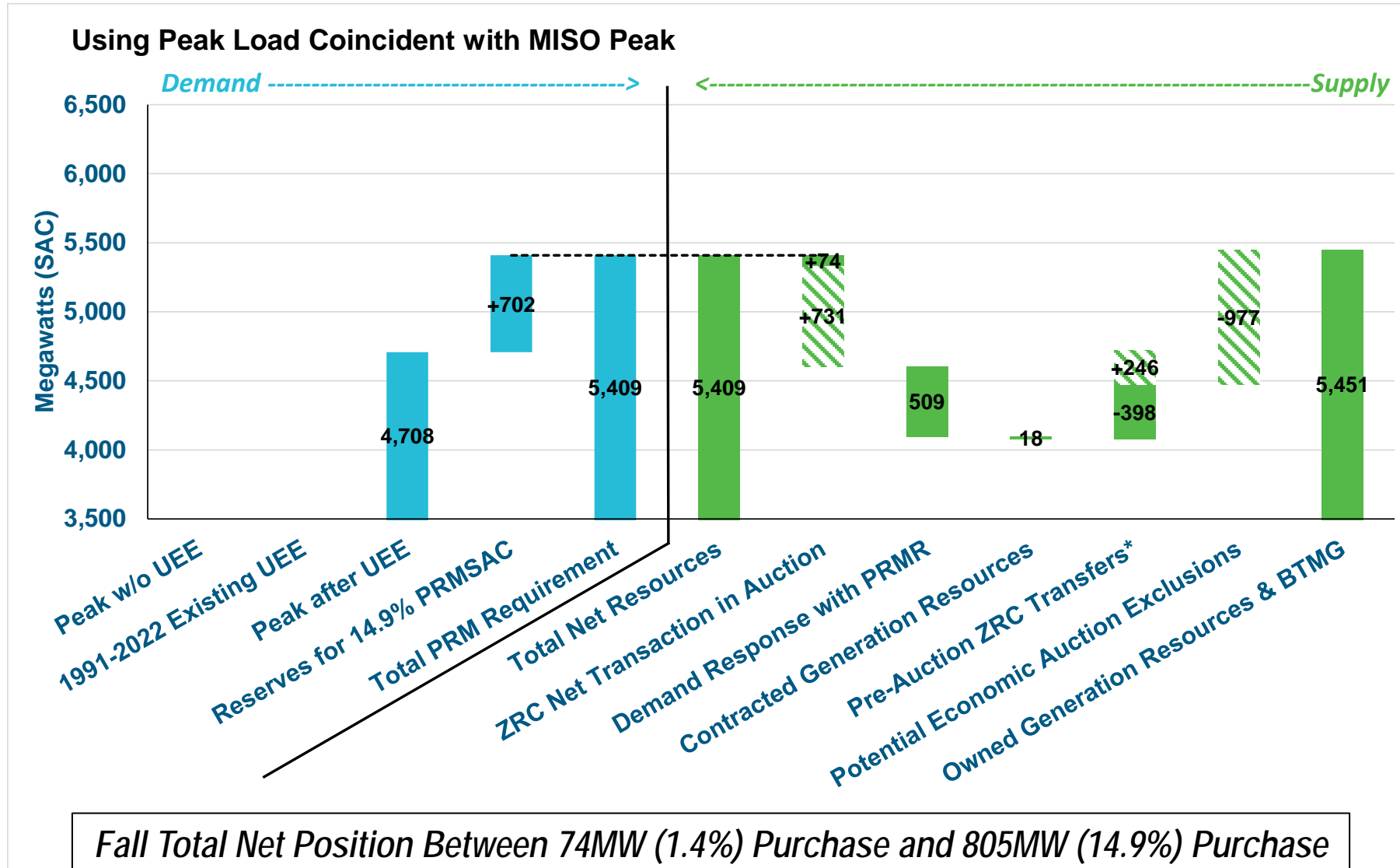


# 2023 Summer Preparedness

Capacity

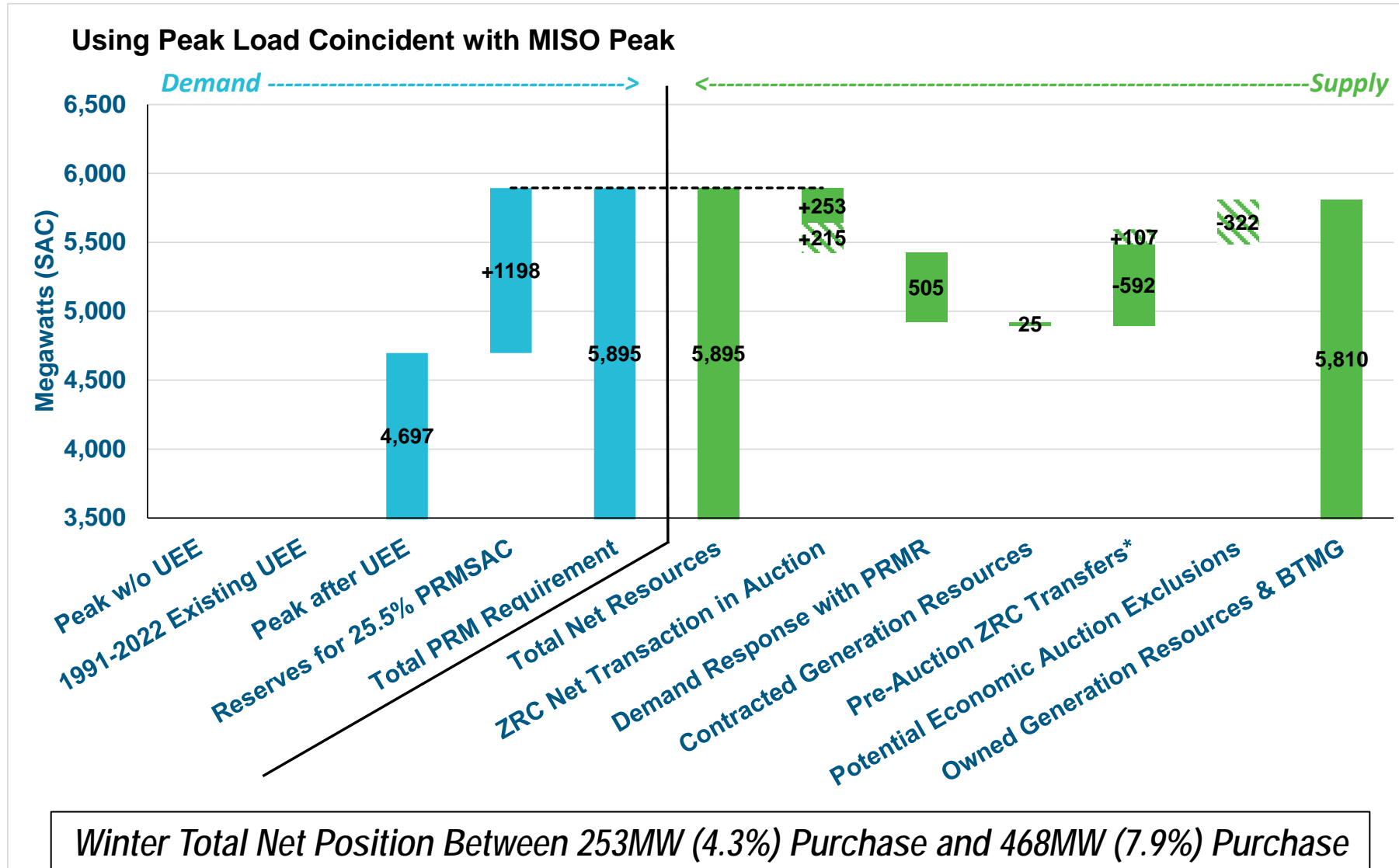


# Preparation for Fall 2023: Capacity Supply–Demand Balance



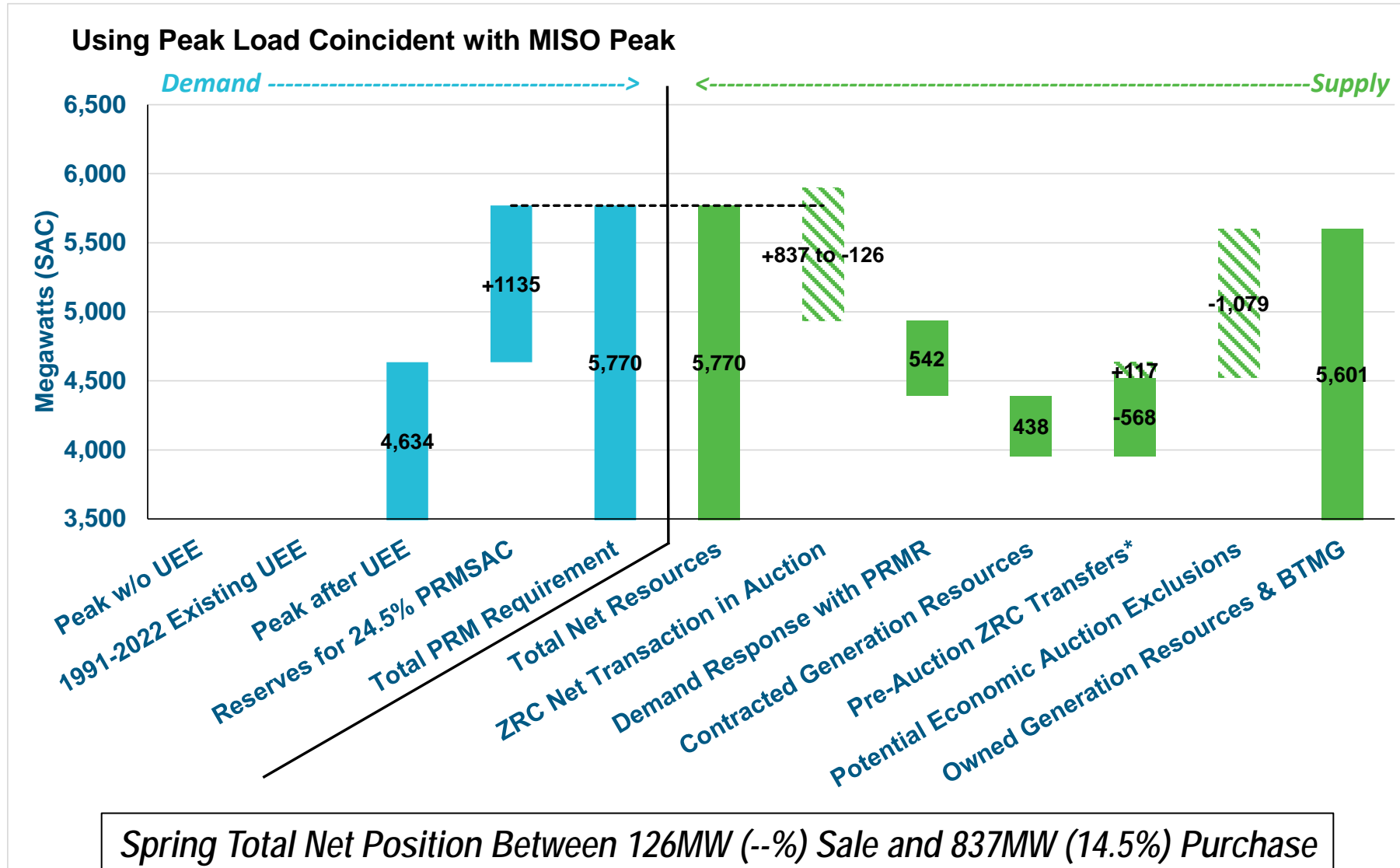
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# Preparation for Winter 2023: Capacity Supply–Demand Balance



\*IMPA ownership share of Gibson 5; WVPA ownership share of Vermillion CT; WVPA contract share of Henry County CT; 310MW STBNS  
 Note: ZRC Net Transactions: (+) Purchase, (-) Sale

# Preparation for Spring 2023: Capacity Supply–Demand Balance



\*IMPA ownership share of Gibson 5; WVPA ownership share of Vermillion CT; WVPA contract share of Henry County CT; 310MW STBNS  
 Note: ZRC Net Transactions: (+) Purchase, (-) Sale

# Preparation for Summer 2023: Energy Efficiency and Demand Response Programs

- From 1991 through 2022, Energy Efficiency (i.e., conservation) programs achieved:
  - Approximately 505 Net MW of annual peak demand reductions (277 MW in the last 10 years)
  - 2,738,145 Net MWh annual energy reductions (1,740,845 Net MWh in the last 10 years)
- About \$100M investment in the current 3-year plan (2021-2023)
- Approximately \$175M investment in proposed 2024-2026 portfolio
- About \$345M invested since 2009
- 2023 projected Demand Response reductions in July (UCAP):
  - Special contracts (i.e., interruptible) 231.7 MW
  - PowerShare®
    - CallOption (customer contractual commitment) 222.0 MW
    - QuoteOption (voluntary, yet compensated)\* 0.7 MW
  - Power Manager – direct load control 53.7 MW
  - Total registered UCAP\*\* 507.4 MW
- Purdue CHP is BTMG and registered with 14.6 MW UCAP
- IVVC capability registered with 10.2 MW UCAP

\*Due to its voluntary nature, QuoteOption cannot be counted for MISO Resource Adequacy

\*\*UCAP accounts for all MISO factors including losses, XEFORd, and PRMR as appropriate for BTMG and DR



# 2023 Summer Preparedness

CUSTOMERS





# Supporting Customers and Creating Vibrant Communities

- Nine local Government & Community Relations Managers and active in the community
  - Serving on 56 non-profit boards statewide
  - Supporting over 300 local governments
- Dedicated internal teams serve as customer liaisons
  - Statewide community action agencies delivering energy assistance funds
  - Share the Light Fund
    - Contributed \$740k to help customers who need assistance
  - Low-Income Weatherization program funding
  - Home builders (Builder Concierge Program)
  - Large power customers
  - Infrastructure Stakeholder Engagement
- In 2022, Duke Energy Indiana was part of efforts to attract \$5.7B in capital investment and more than 4,400 jobs to Indiana
- Philanthropy remains strong
  - \$2.6M donated in 2022
  - Over \$544k in 2022 sponsorships

