CenterPoint Energy Indiana South Integrated Resource Plan

Public Stakeholder Meeting 1

March 19, 2025

Stakeholder Meeting Facilitator: 1898 & Co.

WHO: 1898 & Co. is the business, technology and security consultancy part of Burns & McDonnell

WHAT: The Resource Planning & Market Assessments group has been working on Integrated Resource Plans for over 20 years

HOW: Our team will help facilitate stakeholder meetings – we look forward to working with and hearing from you all

Agenda

Time	Topic	Speaker
9:00	Sign-in & Refreshments	
9:30	Facilitators and Meeting Protocols & Participation	Drew Burczyk, Project Manager, Resource Planning & Market Assessments, 1898 & Co.
9:40	Safety Share & Welcome	Shane Bradford, Vice President, Indiana Electric, CenterPoint Energy
9:50	2025 IRP Process, Objectives and Draft Metrics	Matt Rice, Director Regulatory & Rates, CenterPoint Energy
10:30	BREAK	
10:40	All-Source RFP Results	Josh Swanson, Director Power Supply Services, CenterPoint Energy
11:00	MISO Update	Kimberly Dunning, Manager MISO Affairs, CenterPoint Energy
11:15	Environmental Compliance Update	Angie Casbon-Scheller, Director Generation Compliance & Carbon Policy, CenterPoint Energy
11:30	LUNCH	
12:15	Large Load Sensitivity Discussion	Justin Forshey, Director Energy Solutions and Business Development, CenterPoint Energy
12:30	Draft Sales & Demand Forecast	Michael Russo, Forecast Consultant – ITRON
1:00	BREAK	
1:10	Resource Options	Drew Burczyk, Project Manager, Resource Planning & Market Assessments, 1898 & Co.
1:30	Commodity Inputs	Drew Burczyk, Project Manager, Resource Planning & Market Assessments, 1898 & Co.
1:50	Scenario Development	Drew Burczyk, Project Manager, Resource Planning & Market Assessments, 1898 & Co.
2:20	Stakeholder Questions and Feedback	Moderated by Drew Burczyk, Project Manager, Resource Planning & Market Assessments, 1898 & Co.
3:00	Adjourn	

Meeting Protocols

- Please focus questions, comments, and feedback to the IRP process and today's agenda topics
- CenterPoint Indiana Energy (CEI) South does not authorize the use of cameras, video/audio recording devices, or AI transcription during the meeting
- Following the meeting, feedback (concepts, inputs, methodology, etc.) and questions may be sent to IRP@CenterPointEnergy.com
- CEI South will be recording the meeting to accurately capture notes and questions. The public meetings are not transcribed or recordings posted; however, Q&A summaries of our public meetings will be posted on www.CenterPointEnergy.com/irp

Meeting Participation

Time is allotted for questions following each presentation – please hold questions until the designated question period

In-person attendees – please raise your hand to be recognized

Virtual attendees will be in listen-only mode – to participate:

- Use the “Raise” hand feature in Teams to be recognized, and your mic will be activated during the allotted time for questions, or
- Enter questions into the “Q&A” feature in Teams

Identifying yourself by name prior to speaking to help us keep track of feedback and follow up actions

There will be a list compiled for items to be addressed later. Questions that are not able to be answered in this meeting will be answered later.

Safety Share and Welcome

Shane Bradford

Vice President, Indiana Electric

Safety is everyone's responsibility

- **Know your exits**
  - Whenever you are entering a public area or a guest in a facility such as this, always know your exits. Take note of the signs
- **Visualize for safety**
  - When you enter a new space, visualize that an emergency – like a fire, bad weather, or an earthquake – could happen there and consider how you can respond
- **Fire**
  - Evacuate the building and move to the back of the CNP Plaza parking lot, near the YWCA (East side of the building)
- **Bad Weather**
  - During a tornado warning, stay away from windows, glass doors, and outside walls
  - Move in an orderly fashion to the stairwell, just outside of the lobby in the main entrance way
- **Earthquake**
  - Move under the desk where you are sitting, facing away from glass, and cover your head and face
  - Once shaking has subsided, move in an orderly fashion towards the nearest exit and move to the back of the CNP Plaza parking lot, near the YWCA

Who We Are

CenterPoint Energy (NYSE:CNP) is an investor-owned electric and natural gas utility, based in Houston, Texas, serving more than **7 million metered customers** across six states -- Indiana, Ohio, Texas, Minnesota, Louisiana and Mississippi.

With the help of our approximately **9,000 employees**, we provide service to our customers, fueling everyday comfort and productivity. CenterPoint and its predecessor companies have been in business for more than **150 years**.

We are unwavering in our commitment to safely and reliably provide electricity and natural gas to millions of people – so they can focus on what matters most to them.

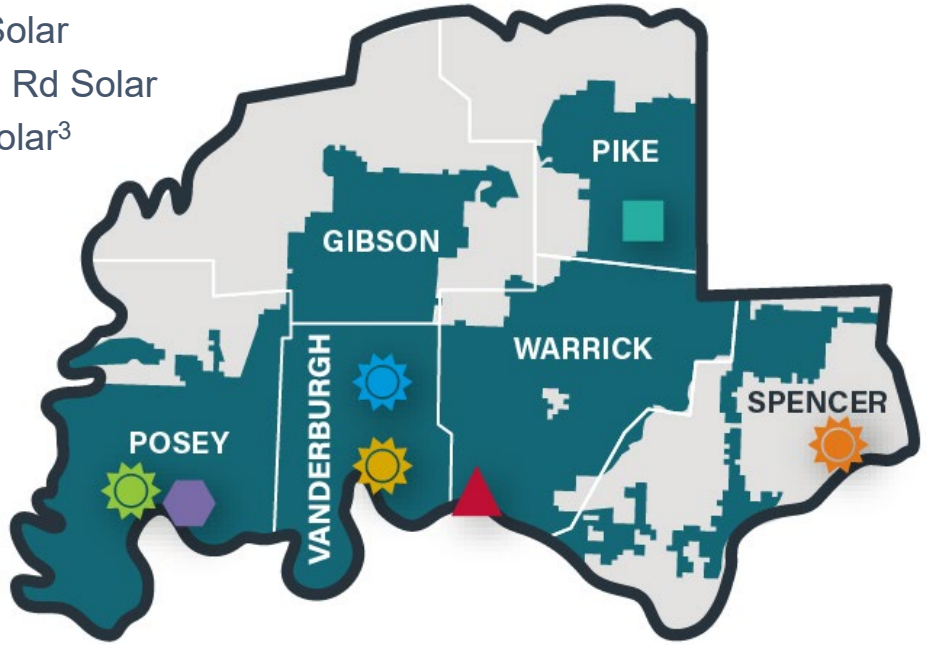
2025 CenterPoint Energy Indiana (CEI) South

In Southwestern Indiana, CEI South Electric:

- Serves more than **150,000** customers
- Owns and operates:
  - **1,039** circuit miles of transmission lines
  - **7,318** circuit miles of distribution lines
  - **109** substations
- Has **1,344 MW** of installed generating capacity, including:
  - **245 MW** of solar
  - **80 MW** of wind
  - **627 MW** of gas-fired units
  - **392 MW** of coal-fired units

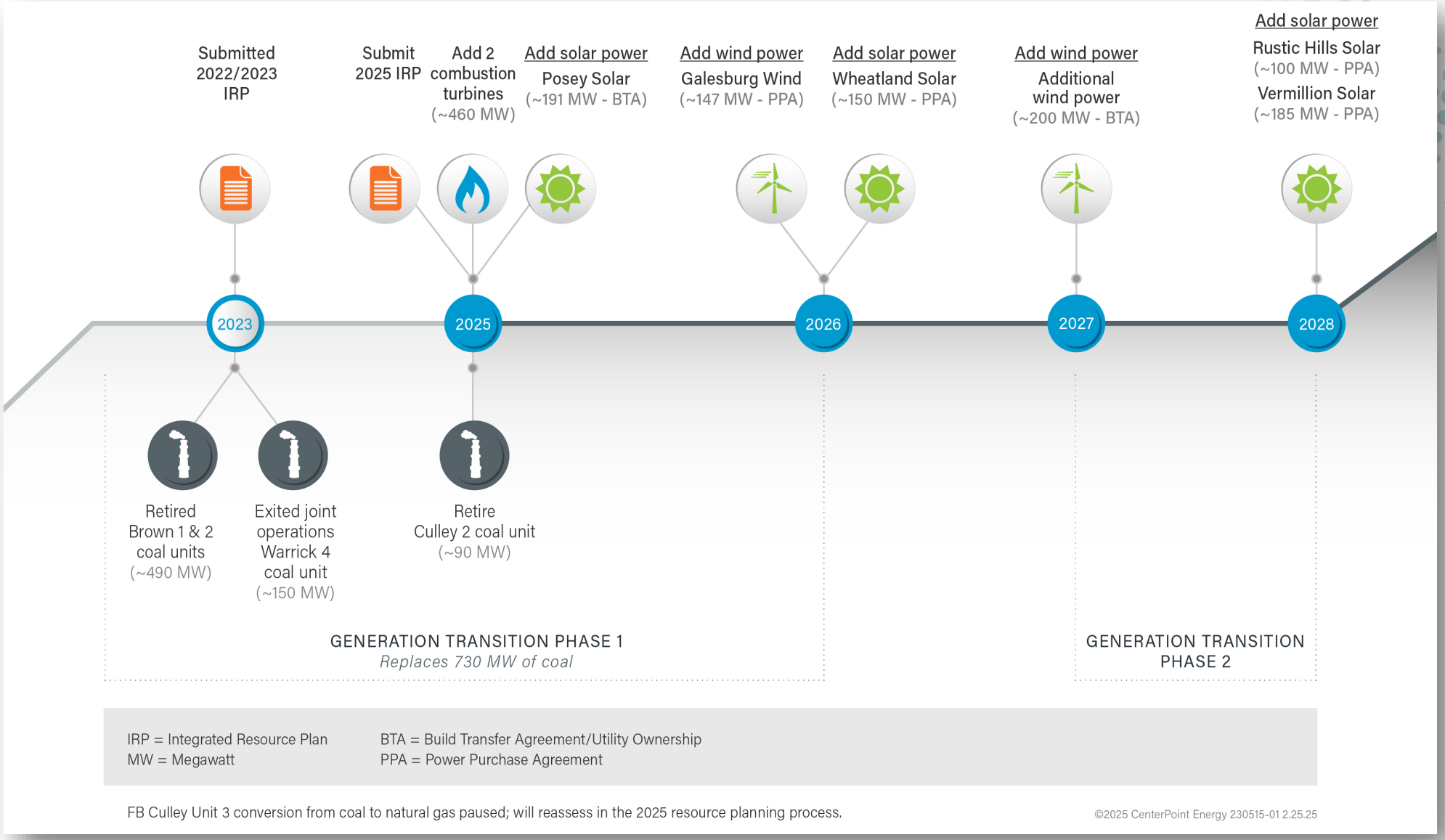
Power plants[1]

- A.B. Brown Gas Turbines[2]
- F.B. Culley
- Blackfoot Clean Energy Plant
- Troy Solar
- Oakhill Solar
- Volkman Rd Solar
- Posey Solar[3]



[1]Fowler Ridge & Benton County Wind Farms not shown.
[2]ABB Gas Turbines 5&6 expected to be in-service 2025.
[3]Posey Solar expected to be in-service 2025.

Generation Transition Timeline



The 2022-2023 IRP preferred portfolio included 600 MWs of wind and 200 MWs of solar through 2032

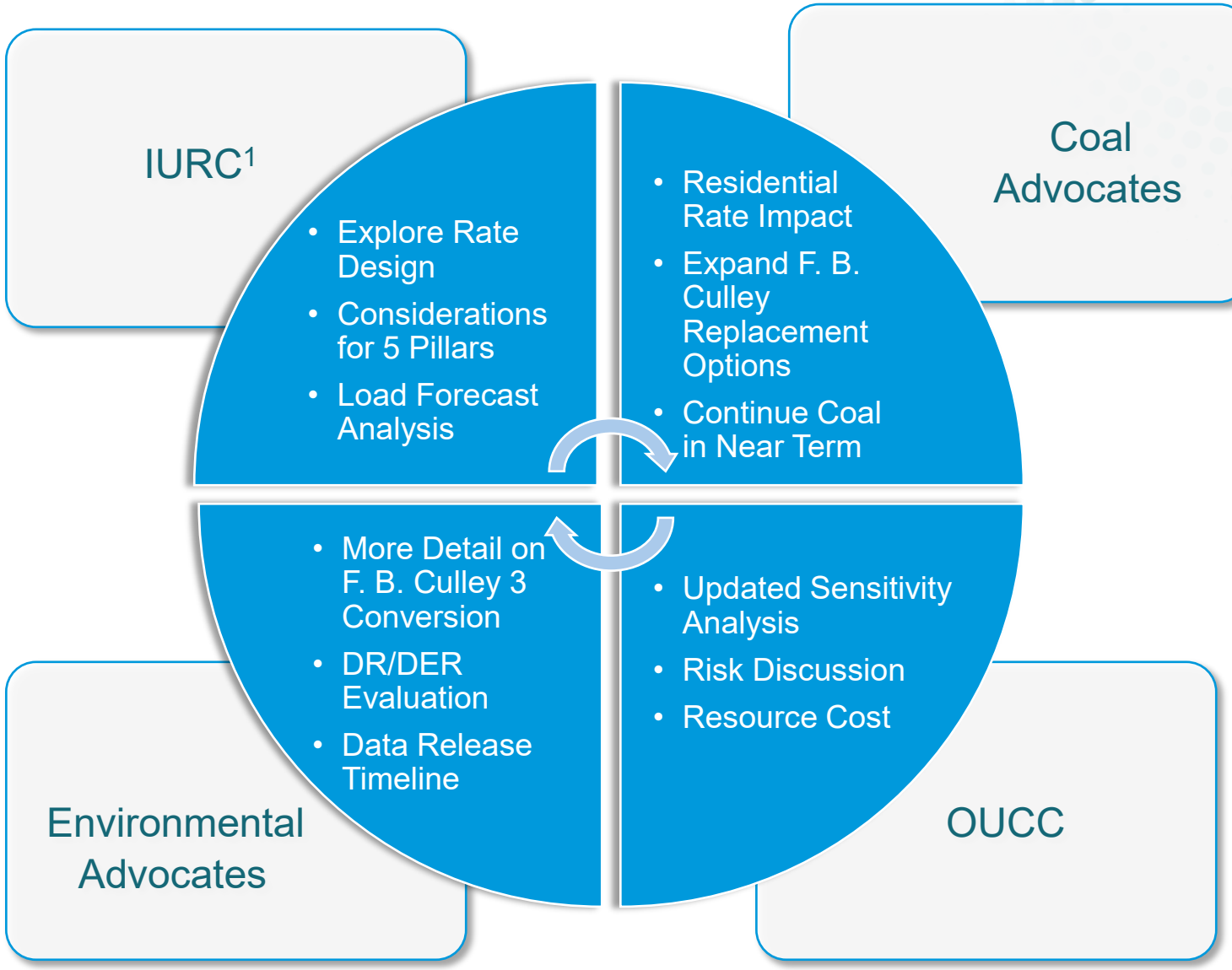
2025 IRP Process, Objectives, & Draft Metrics

Matt Rice

Director, Regulatory and Rates

Feedback From All Parties

- CEI South received written feedback following the 2022-2023 IRP from various stakeholders
- This feedback was utilized to provide the basis for 2025 IRP enhancements
- Please continue to provide feedback as we work through the current analysis



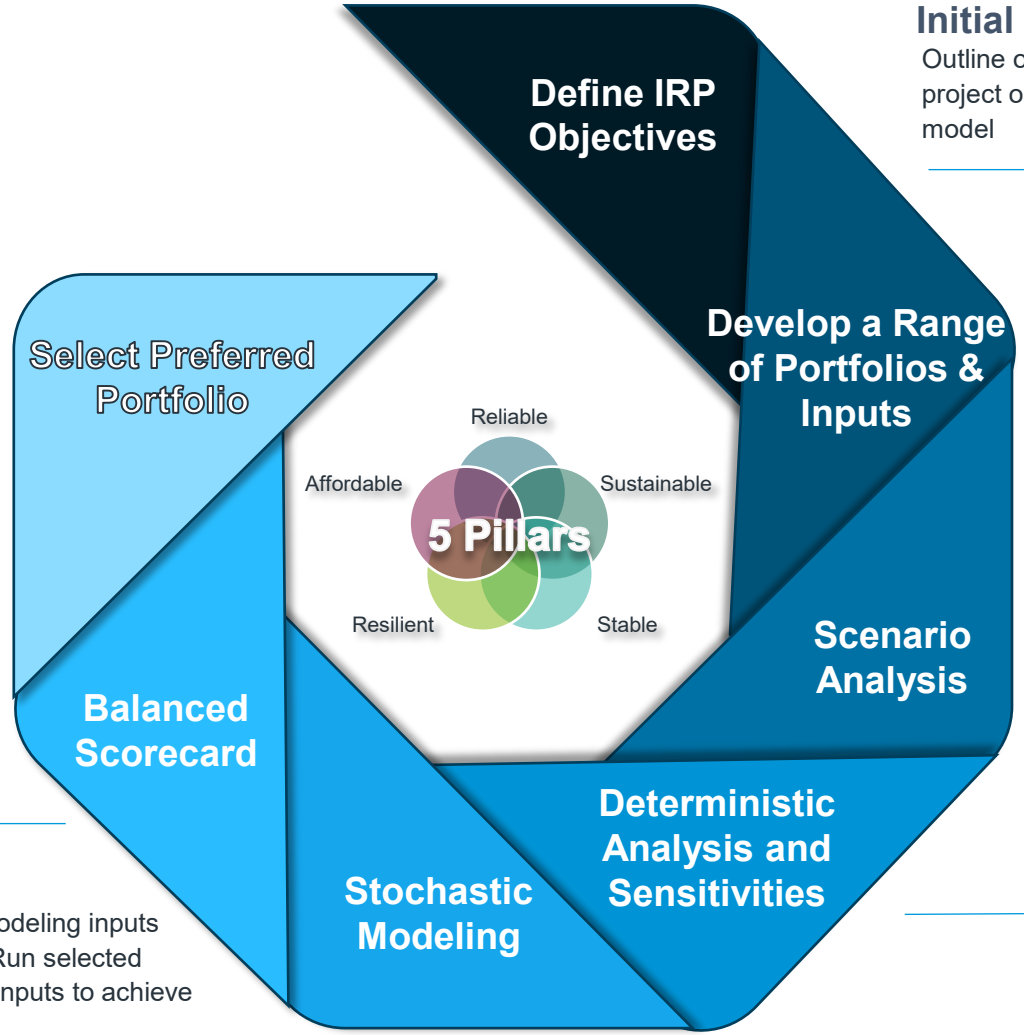
[1] *Based on Draft Director's report as of May 2024* *DR = Demand Response* *DER = Distributed Energy Resource*

2025 IRP Enhancements

- Refreshed IRP layout with enhanced description of analysis and results
- Expanded sensitivity analysis - large load impacts, tax impacts, CO_2, DSM, MISO accreditation
- Increased collaboration with transmission & distribution planning
- Additional analysis of unserved energy
- Provide an expected data release schedule
- 5 pillars-focused score card with expanded view of affordability

DSM = Demand Side Management CO_2 = Carbon dioxide MISO = Midcontinent Independent System Operator

Proposed 2025 IRP Process



Initial Modeling Phase

Outline our requirements and project options/constraints within the model

Deterministic Modeling

Optimize the least cost capacity expansion plan for each portfolio. Run hourly dispatch modeling on all portfolios

Probabilistic Modeling

Develop 200 unique families of modeling inputs through Monte Carlo simulation. Run selected portfolios through 200 families of inputs to achieve a balanced scorecard

IRP Overview

Purpose

- Evaluate CEI South's current energy resource portfolio and a range of alternative future portfolios to meet customers' electrical energy needs for reliable and economical power, while considering risks and uncertainties

Guiding Principles

- Five Pillars as outlined in House Enrolled Act (HEA) 1007
  - Reliability
  - Affordability
  - Resiliency
  - Stability
  - Environmental Sustainability

Engagement

- Objective of Stakeholder meetings is to Listen, Inform, & Consider
- Incorporate feedback from IRP Stakeholders and IURC staff
- Provide data release schedule

Scenarios & Modeling

- Modeling helps inform planning decisions
- Robust modeling inputs from load forecast to transmission impacts
- Utilize sensitivities to evaluate various risks

2025 Stakeholder Process

Proposed 2025 CEI South Stakeholder and Tech to Tech Meetings – *Dates and agendas are subject to change*

Meeting 1
March 19

- IRP Process, Objectives, & Draft Metrics
- All-Source RFP Results
- MISO Update
- Environmental Compliance Update
- Draft Sales and Demand Forecast (Reference Case)
- Commodity Inputs
- Large Load Sensitivity Discussion
- Resource Options
- Scenario Development

Tech to Tech
April 28

Meeting 2
May 14

- Follow Up Information From 1st IRP Stakeholder Meeting
- Final Scorecard and Scenarios
- DSM Market Potential Study Update
- Draft Supply-Side Resource Inputs
- Final Load Forecast and Draft Scenario Forecasts
- Probabilistic Modeling Approach and Assumptions
- Portfolio Development Methodology
- Draft Reference Case Modeling Update

Tech to Tech
July 7

Meeting 3
July 23

- Follow Up Information From 2nd IRP Stakeholder Meeting
- Discussion of Final Portfolios
- Scenario and Probabilistic Modeling Update
- Draft Scenario Optimization Results without DSM
- Draft Deterministic Portfolio Results
- Early Sensitivity Results

Tech to Tech
September 5

Meeting 4
September 23

- Follow Up Information from 3rd IRP Stakeholder Meeting
- Preferred Portfolio
- Risk Analysis Modeling and Portfolios
- Risk Analysis Scorecard

Target Filing Date: November 1, 2025

Stakeholder Engagement is Critical to the IRP Process
CEI South is committed to meaningful information sharing and dialogue

Target Data Release Schedule

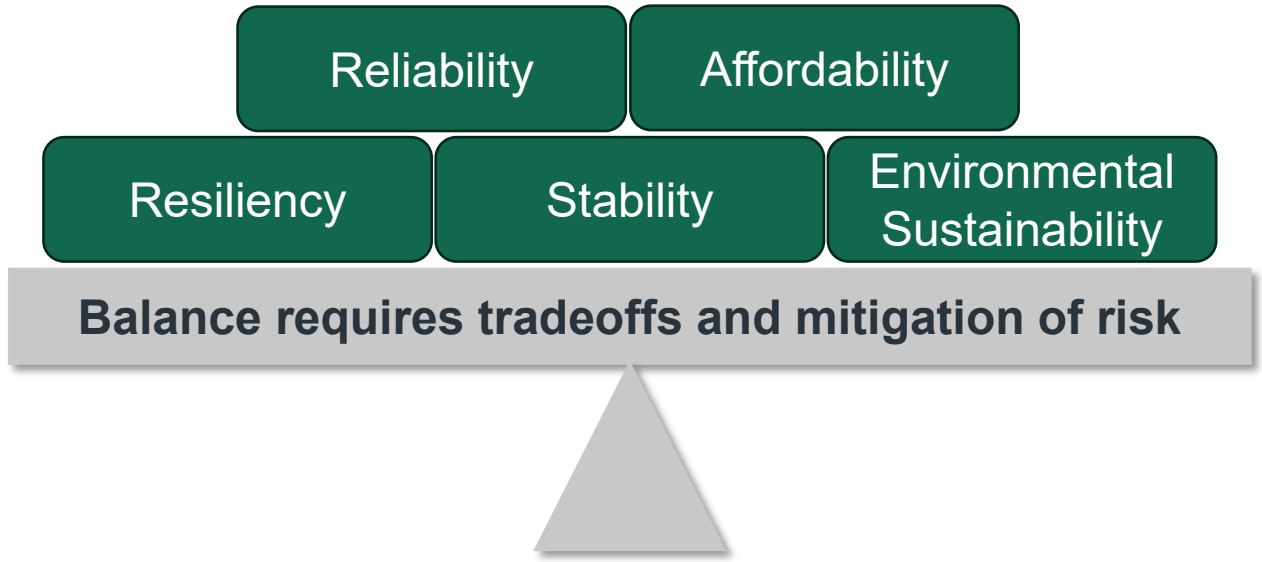
Draft Load Forecast	Draft Base Case Model	Updated Base Case + Scenario Models	Probabilistic + Sensitivity Analysis Models
3/20/2025 1	5/5/2025 2	7/14/2025 3	9/12/2025 4

Note: The released data will be available to the technical stakeholders with a completed Non-Disclosure Agreement

Selection of the Preferred Portfolio

Each portfolio will be tested against:

- Objectives
- Quantitative metrics
- Qualitative analysis



Objectives & Draft Metrics

Objective	Measure	Metrics
Affordability: *Consider portfolios' impact on the retail electric utility service providers ability to provide affordable power across residential, commercial, and industrial customer classes*	➢ 20-year Net Present Value Revenue Requirement ("NPVRR")	➢ $
	➢ 95th percentile of NPVRR (million$) across 200 dispatch iterations under varying market conditions	➢ $
	➢ **5th percentile of NPVRR (million$) across 200 dispatch iterations under varying market conditions**	➢ $
	➢ **5-Year residential rate impact**	➢ $
Environmental Sustainability: *Consider the impact of environmental regulations on the cost of providing electric utility service and demand from consumers for environmentally sustainable sources of electric generation*	➢ CO_2 Intensity	➢ Tons CO_2/kwh
	➢ CO_2 Equivalent Emissions	➢ Tons CO_2e
Reliability: *Consider portfolios' ability of the electric system to supply the aggregate electrical demand and energy requirements of end use customers at all time and withstand sudden disturbances* **Resiliency:** *Consider portfolios' ability to adapt to changing conditions and withstand and rapidly recover from disruptions* **Stability:** *Consider portfolios' ability to maintain a state of equilibrium during normal and abnormal conditions or disturbances and deliver a stable source of electricity, in which frequency and voltage are maintained within defined parameters*	➢ **Unserved energy across 200 dispatch iterations under varying market conditions**	➢ MWh
	➢ Spinning Reserve	➢ Portfolio MW's That Offer Spinning Reserve
	➢ Fast Start Capability	➢ Portfolio MW's That Offer Fast Start
	➢ **Transmission reliability analysis**	➢ Dynamic VAR Support (MVAR) ➢ Short Circuit Ratio
Risk/Other:	➢ Energy Market Purchase and sales	➢ % (average, near/long term)
	➢ **IRA tax credit exposure**	➢ $

Blue text indicates a new measure for this IRP cycle

MWh = Megawatt hour MVAR = Megavolt-Ampere Reactive

Q&A

All-Source RFP Results

Josh Swanson

Director, Power Supply Services

All-Source RFP Overview

- CEI South's 2024 All-Source Request for Proposal (RFP) was conducted from August through December
  - CEI South conducted a non-limiting and accessible All-Source RFP that was objective, fair, and open
- From proposals received, CEI South can better access the current market for resources that best align with CEI South's needs
- RFP Results will be used to help inform CEI South's 2025 Integrated Resource Plan

Summary of RFP Insights

Resource Availability	>>	• Limited wind resources available, specifically in Indiana • Several battery proposals for the re-use of F.B. Culley 2 interconnect
Pricing	>>	• Pricing of proposals was in line with expectations • General increase in pricing, potentially driven by supply chain constraints, increasing demand for renewables, and MISO queue
RFP - IRP Integration	>>	• Proposals received as part of the RFP will help inform input pricing for the IRP • IRP will help to inform resource types to be pursued

RFP General Requirement Overview

Resources

- Renewables
- Storage
- Thermal
- Load Modifying Resources
- Demand Response

Contract Structures

- PPA
- Purchase
- Renewable Project in Development
- Demand-side contracts

Timeline

Preference for resources to be in-service and operational prior to March 1, 2028

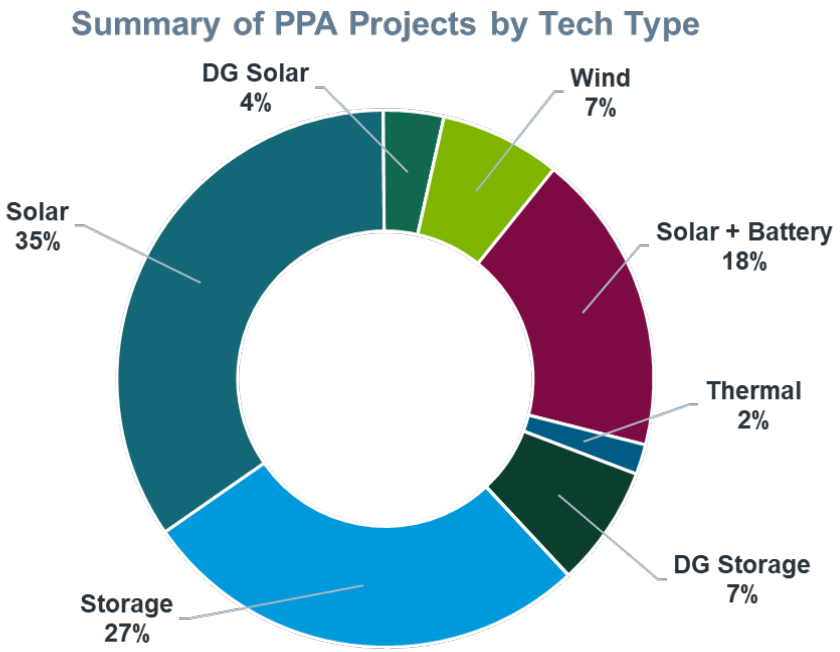
Generator Replacement

Within the All-Source RFP CEI South solicited projects for re-use of the 90 MW interconnect at F.B. Culley 2

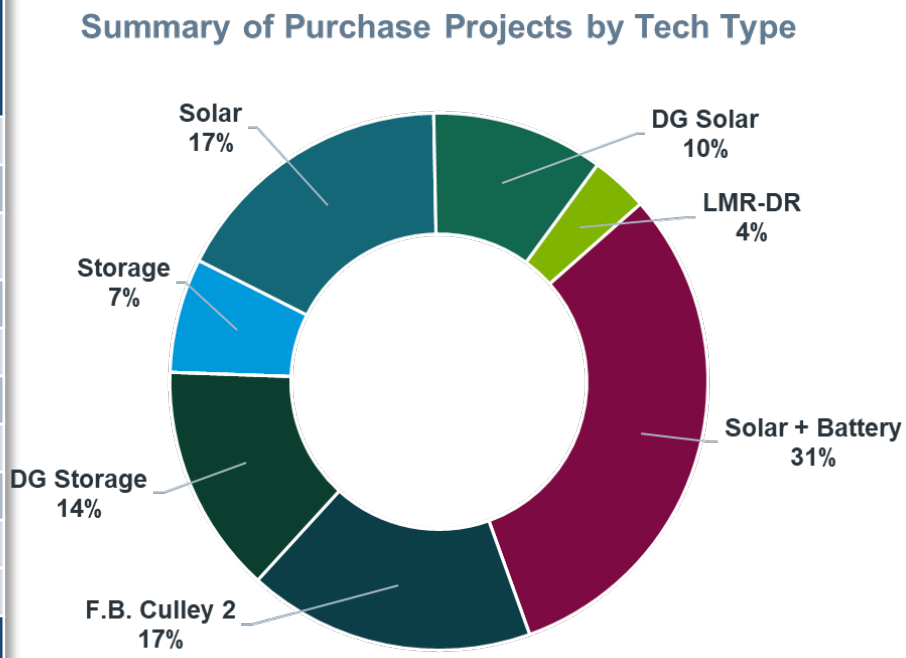
PPA = Purchase Power Agreement

RFP Results

- Total of 95 proposals were received
- Projects will be considered based on outcomes of the 2025 IRP



Tech Type	Count of PPA Projects	Count of Purchase Projects	Other
Solar	19	5	-
Storage	15	2	-
Solar + Storage	10	9	-
Wind	4	-	-
DG Storage	4	4	-
DG Solar	2	3	-
Thermal	1	-	-
LMR-DR	-	1	-
FB Culley 2	-	5	-
Unique*	-	-	11
Subtotals	**55**	**29**	**11**
Total	**95**		



**Unique Proposals were projects offered with alternative contract structures (e.g., EPC, pre-NTP sale, etc.)*

RFP Results – Pricing

Tech Type	PPA Proposals			Purchase Projects	
	Count	Average Price ($/MWh)	Average Price ($/kW-mo)	Count	Average Price ($/kW)
Solar	19	$67.60	-	5	$2,351
Storage*	15	-	$14.25	2	$2,272
Solar + Storage	10	$76.40	$12.85	9	$3,425
Wind	4	$75.00	-	0	-
Thermal**	1	-	*Single bid*	0	-
LMR-DR**	0	-	-	1	*Single bid*
F.B. Culley 2 (Storage)	0	-	-	5	$1,573

**Capacity only - not directly comparable to solar and wind*
***Thermal and LMR-DR pricing information is not shown as it is data from only one bid.*

- The reported pricing does not include proposals that were "unique" in contract structure (e.g., pre-NTP sales, EPC, etc.)

Q&A

MISO Update

Kimberly Dunning

Manager, MISO Affairs

Midcontinent Independent System Operator (MISO)

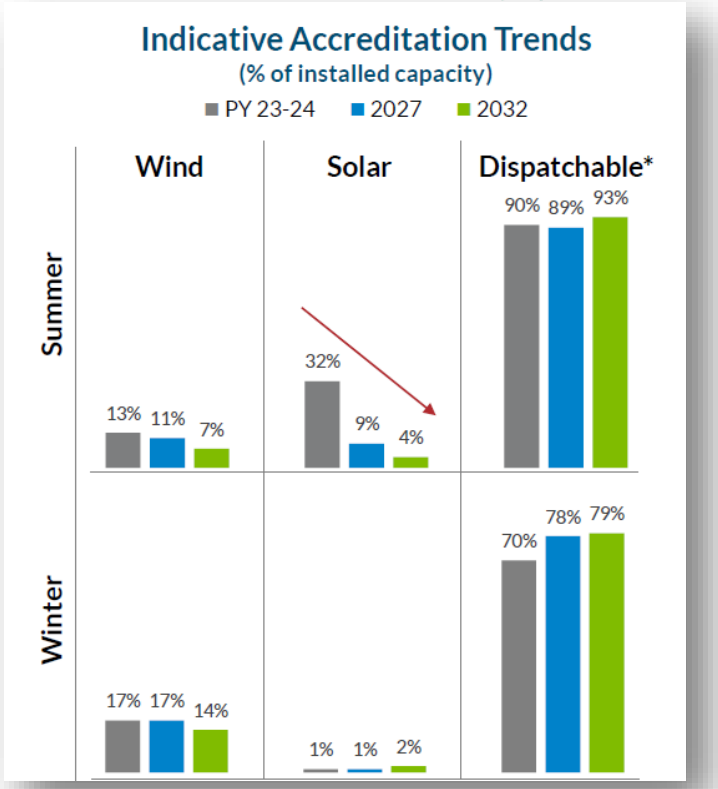
What is it and how does it work?

- MISO is a non-profit, member-based organization
  - Operates the power grid across 15 U.S. states and the Canadian province of Manitoba
  - Primary responsibility is to ensure the reliable delivery of electricity to consumers by managing the generation and transmission of power across its region
- In 2001, MISO was approved as the first Regional Transmission Organization (“RTO”)
  - MISO has operational authority: the authority to control transmission facilities and coordinate security for its region to ensure reliability
  - MISO is responsible for dispatch of lowest cost generation units: MISO’s energy market dispatches the most cost-effective generation to meet load needs
- MISO is divided into three main regions North, Central and South
- MISO is divided into 10 Local Resources Zones (“LRZ”)
  - Indiana is part of Zone 6 in the Central region
  - Each LRZ has its own planning requirements for energy and capacity
  - Each Zone’s ability to rely on neighboring Zones depends largely on transmission infrastructure.

Source: *MISO*

Resource Accreditation Reform - Direct Loss of Load (DLOL)

- The DLOL method examines a resource adequacy contribution of a resource by measuring its availability to serve load during times when reliability risk is the greatest
- MISO will utilize probabilistic modeling to determine DLOL
- MISO's proposed approach is likely to decrease both the accreditation granted to resources as well as the seasonal reserve margin requirement
  - Solar accreditation declines with higher levels of penetration because risk hours are shifted to early evening
- This methodology will accredit resources using a two-step process:
  1. The class-level megawatt will be determined by averaging the availability of each resource during loss-of-load (LOL) hours. This is done within the Loss-of-Load Expectation (LOLE) model. Resource class megawatts are aggregated
  2. Allocate each resource class level megawatts among the individual resources in the class using the individual resources' performance by season using three years of operational experience



Source: *MISO*

Reliability Imperative – Market Redefinition Progress

MARKET REDEFINITION

Completed

✓Attributes Roadmap published
✓Seasonal Resource Auctions (2024-25 PRA)
✓Accreditation - Direct Loss of Load (2028-29 PRA)
✓Reliability Based Demand Curve (2025-26 PRA)
✓Value of Loss Load FERC Filing
✓Shortage Pricing FERC Filing

In-flight or Planned

- Provide Accreditation Data
- Implement Shortage Pricing Across Time Horizons
- Execute Planning Resource Auction with Reliability Based Demand Curve
- Illustrate Energy Adequacy Risks Across Time Horizons and Locations
- Develop and Communicate Risk Metrics
- Implement Dynamic Locational Reserve Products Including Flexibility & Ramping

Source: *MISO*

PRA = Planning Resource Auction *FERC = Federal Energy Regulatory Commission*

CEI South is Monitoring MISO Initiatives

- **Interconnection Queue Volume Cap**:
  - Limit requests to 50% of each planning region's non-coincident peak; effective date January 2025
- **Expedited Resource Addition Studies (ERAS)**:
  - Temporary process to more quickly add generation projects identified as critical in member resource adequacy plans
  - Q1 2025 filing at FERC, proposed effective date June 2025
- **Long-Range Transmission Plan (LRTP) Tranche 2.1:**
  - On December 12, 2024, the MISO Board of Directors approved the MTEP24 report and Appendix A
  - Includes a $21.8 billion investment for 24 projects and 323 facilities across the MISO Midwest subregion.
  - Projects are targeted to go in service from 2032 to 2034
- **Demand Response & Emergency Resource Reform:**
  - Improve operational effectiveness by splitting Demand Response into two categories based on notification time with accreditation based on actual availability
  - Q2 2025 filing at FERC, proposed effective date 2028/2029 Planning Year
- **FERC Order 2222:**
  - Promote competition in electric markets by removing the barriers preventing Distributed Energy Resources (DERs) from competing on a level playing field in the organized capacity, energy and ancillary services markets run by regional grid operators
  - Awaiting FERC decision on MISO's compliance filing; implementation 2029

MTEP = MISO Transmission Expansion Plan FERC = Federal Energy Regulatory Commission

Q&A

Environmental Compliance Update

Angie Casbon-Scheller

Director, Generation Compliance & Carbon Policy

Clean Air Act 111(b) & (d) Greenhouse Rules

- In May 2024, EPA finalized a regulation for Greenhouse Gas (CO_2) Emissions for new gas-fired combustion turbines; existing coal & gas fired steam generating units; and repeal of the ACE Rule
  - Established emission guidelines for the longest-running existing coal units and performance standards for new baseload combustion turbines based on the use of carbon capture and sequestration/storage (CCS), unless the units retire or convert by 2032. Medium term existing coal units have a natural gas co-firing option.
  - Excluded from this rule is existing natural-gas fired combustion turbines, which includes A.B. Brown units 3 – 6
- Modeling will be performed to the current rule, as well as running a low-reg scenario in consideration of the uncertainty surrounding CO_2 regulations associated with administration change and their current review of the existing regulations

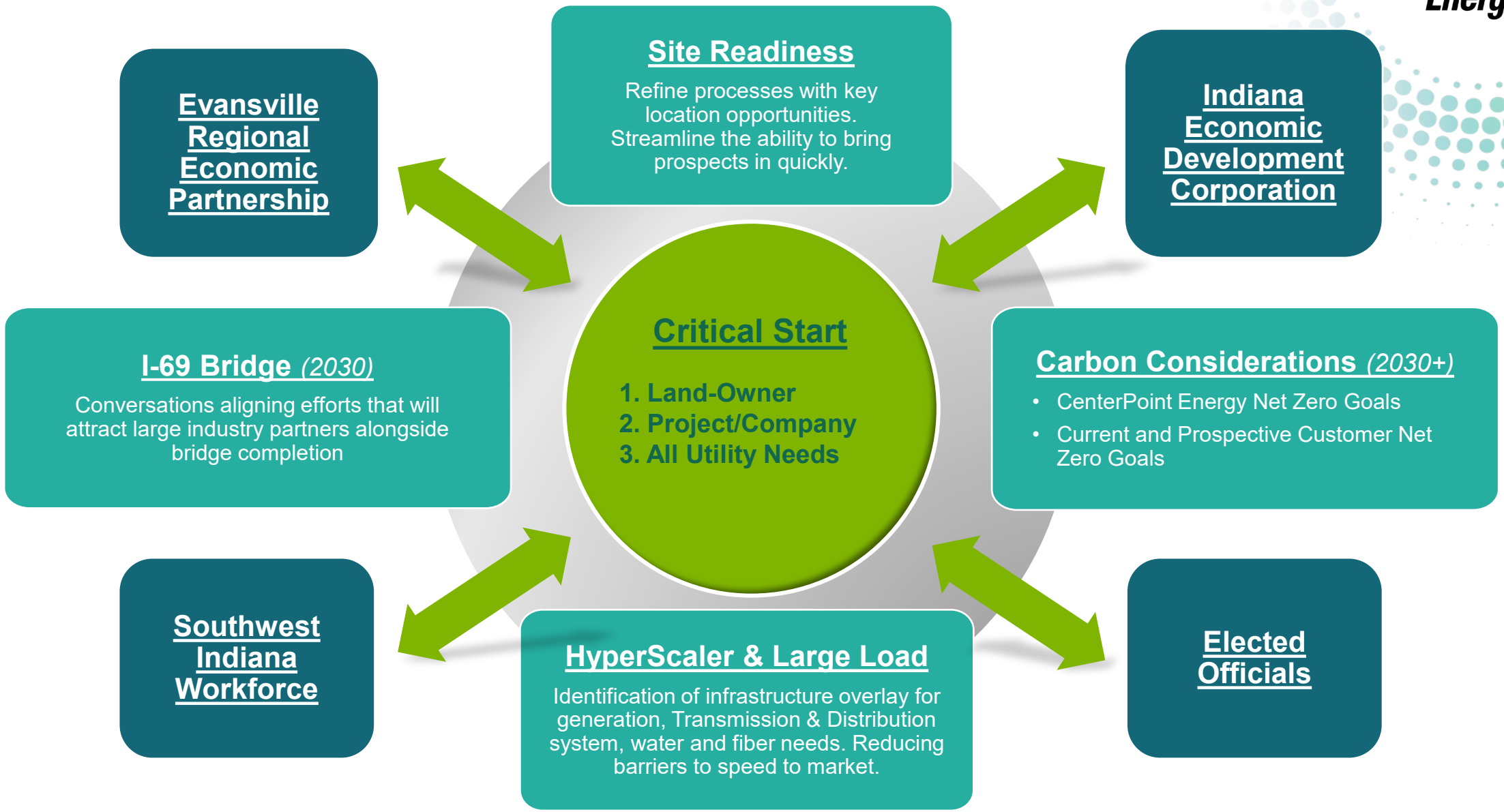
Clean Water Act 316(b) Rule

- In May 2014, EPA finalized its Clean Water Act 316(b) rule which focuses on impingement and entrainment of aquatic species during water intake. The rule has not been revised since being published.
- Best Technology Available (BTA) Selection & Implementation applies to all regulatory scenarios and both fuel options and therefore has to be modeled under the base case and all scenarios.
- In summary, 316(b) compliance / technology is required at F.B. Culley for either continuation or conversion of F.B. Culley 3.
- For purposes of IRP modeling, CEI South is modeling intake screen modifications for the F. B. Culley plant and will assume a 2026 - 2028 deadline for compliance

Q&A

Large Load Sensitivities

Justin Forshey
Director, Energy Solutions and Business Development


Site Readiness
Refine processes with key location opportunities. Streamline the ability to bring prospects in quickly.
Evansville Regional Economic Partnership
Indiana Economic Development Corporation
Critical Start
1. Land-Owner
2. Project/Company
3. All Utility Needs
I-69 Bridge (2030)
Conversations aligning efforts that will attract large industry partners alongside bridge completion
Carbon Considerations (2030+)
• CenterPoint Energy Net Zero Goals
• Current and Prospective Customer Net Zero Goals
Southwest Indiana Workforce
HyperScaler & Large Load
Identification of infrastructure overlay for generation, Transmission & Distribution system, water and fiber needs. Reducing barriers to speed to market.
Elected Officials

Large Load Sensitivity

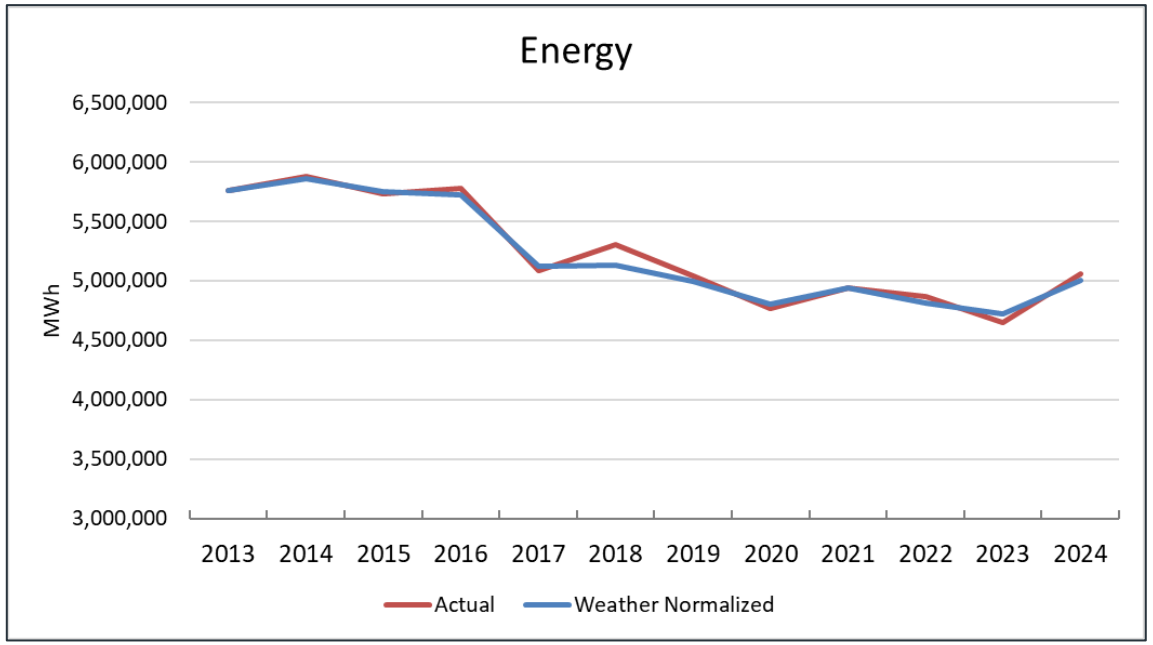
- Speculative load interest continues to evolve, and CEI South is responding alongside customer expectations
- Focused on large load users, not only data centers
  - New growth, expansion and retention of current customers
- Large load considerations - Methodology:
  - Initial consideration - analysis of up to 3 load sizes (ex. 100 MW, 300 MW, 1,000 MW)
  - Focusing on two types of resource mix (heavier gas vs heavier renewables)
  - Understanding transmission & distribution needs
  - Considerations for behind the meter options
- No large load addition is included in the base forecast

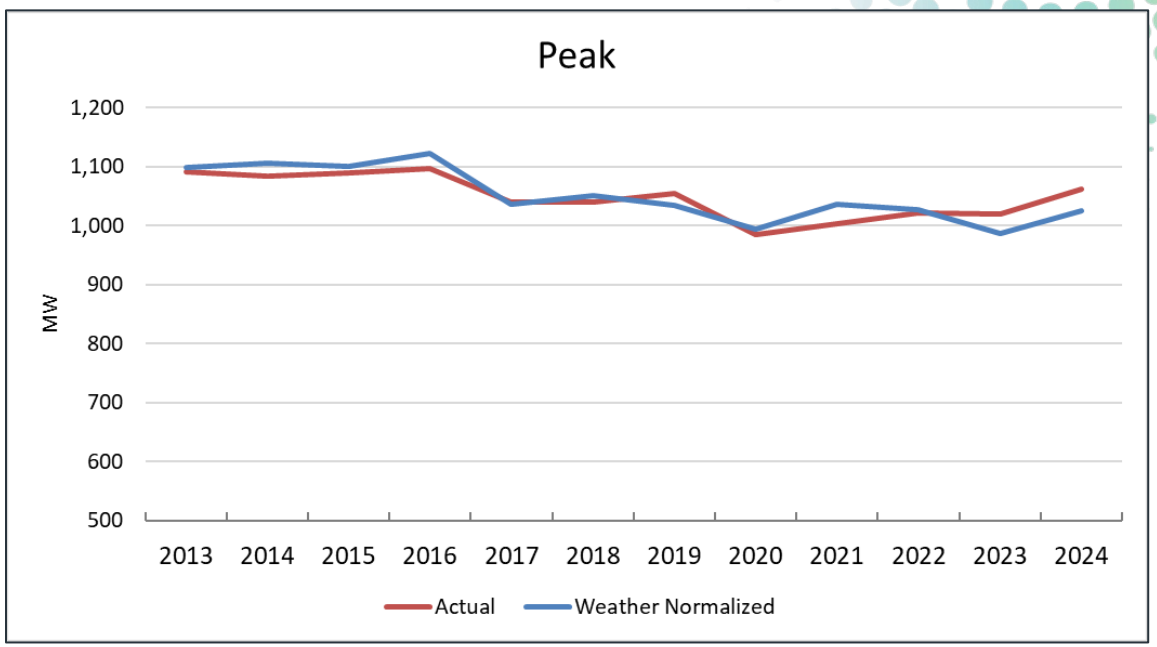
Q&A

Draft Sales & Demand Forecast *(Reference Case)*

Michael Russo
Forecast Consultant – ITRON

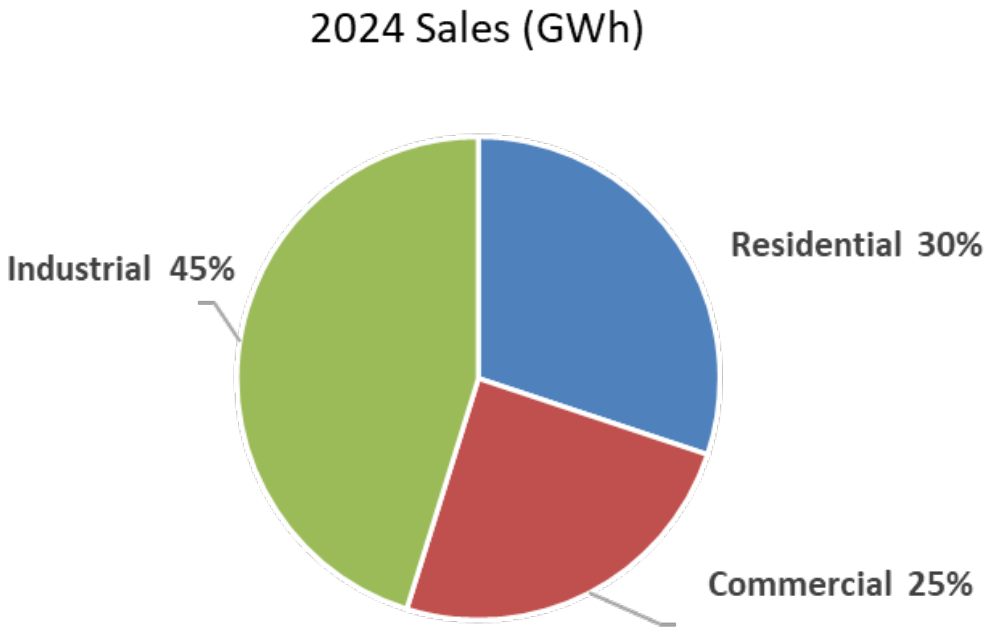
Historical Energy and Peak Trends

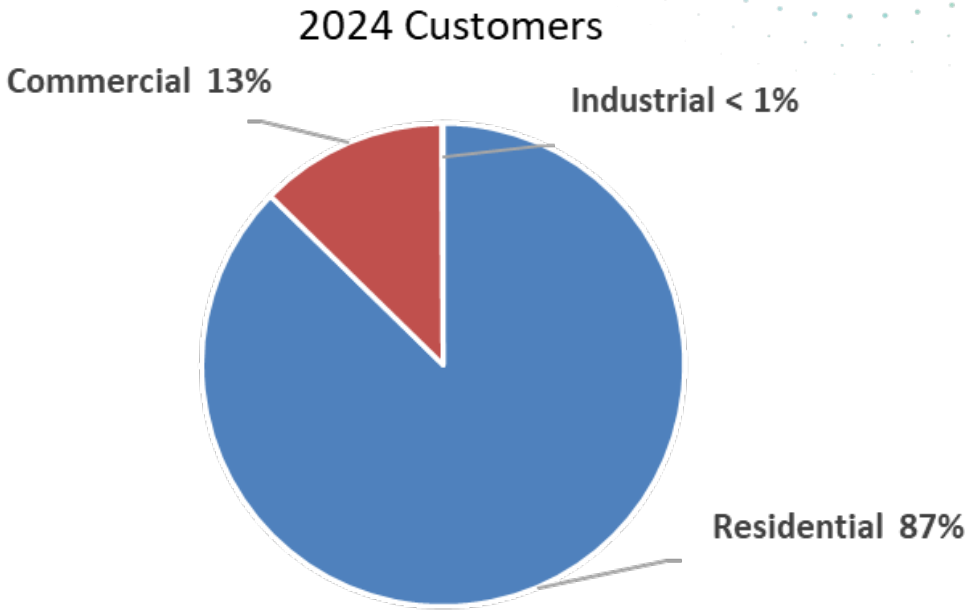




- 0.3% annual decline in energy and 0.1% decline in peak since 2017
- Strong efficiency gains reflecting new and existing federal codes and standards as well as utility sponsored energy efficiency program savings.

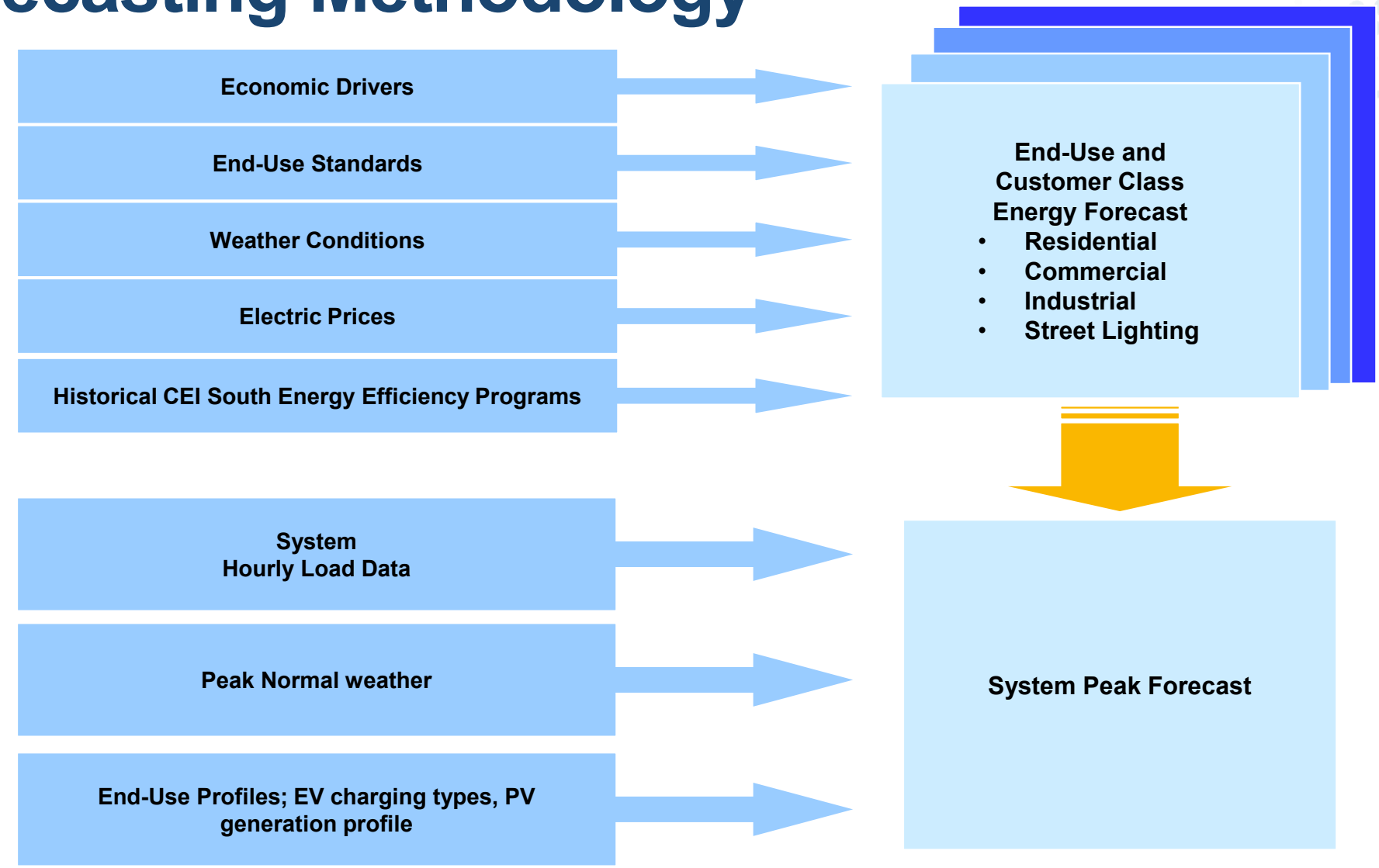
Customer Class Mix





CEI South currently serves more than 150,000 customers

Forecasting Methodology



EV = Electric Vehicle *PV = Photovoltaic*

Statistically Adjusted End-Use Approach (SAE)

Objective:

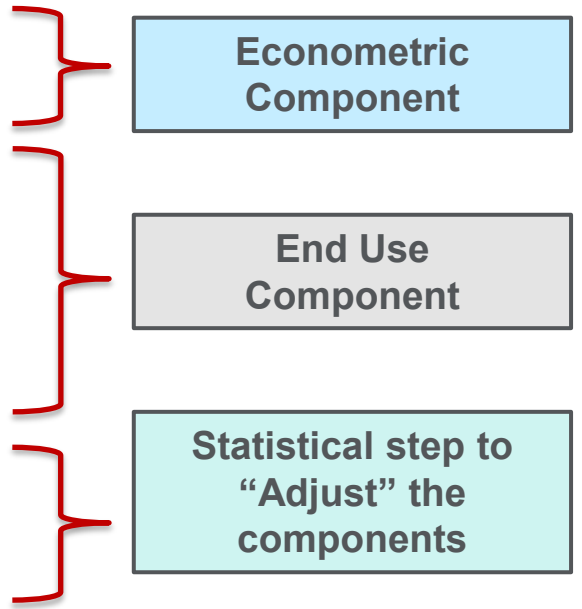
- Develop an econometric approach that incorporates the best characteristics of an econometric and end-use modeling framework

Captures:

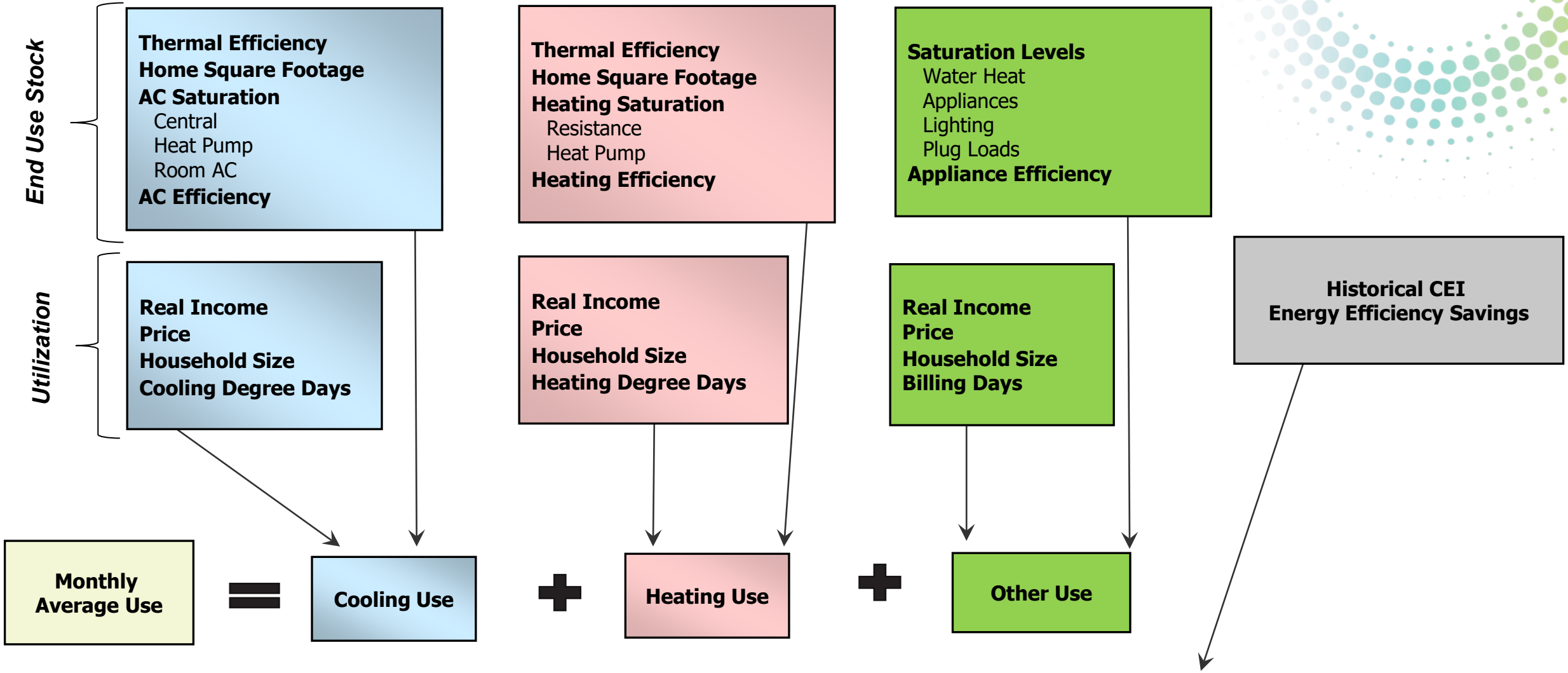
- Economic impacts (e.g., household income and size, price impacts)
- End-Use Structural changes (e.g., saturation and efficiency trends, housing square footage, thermal shell integrity improvements)
- Weather impacts

Statistical Adjustment:

- Model coefficients adjust up or down to calibrate to historical sales

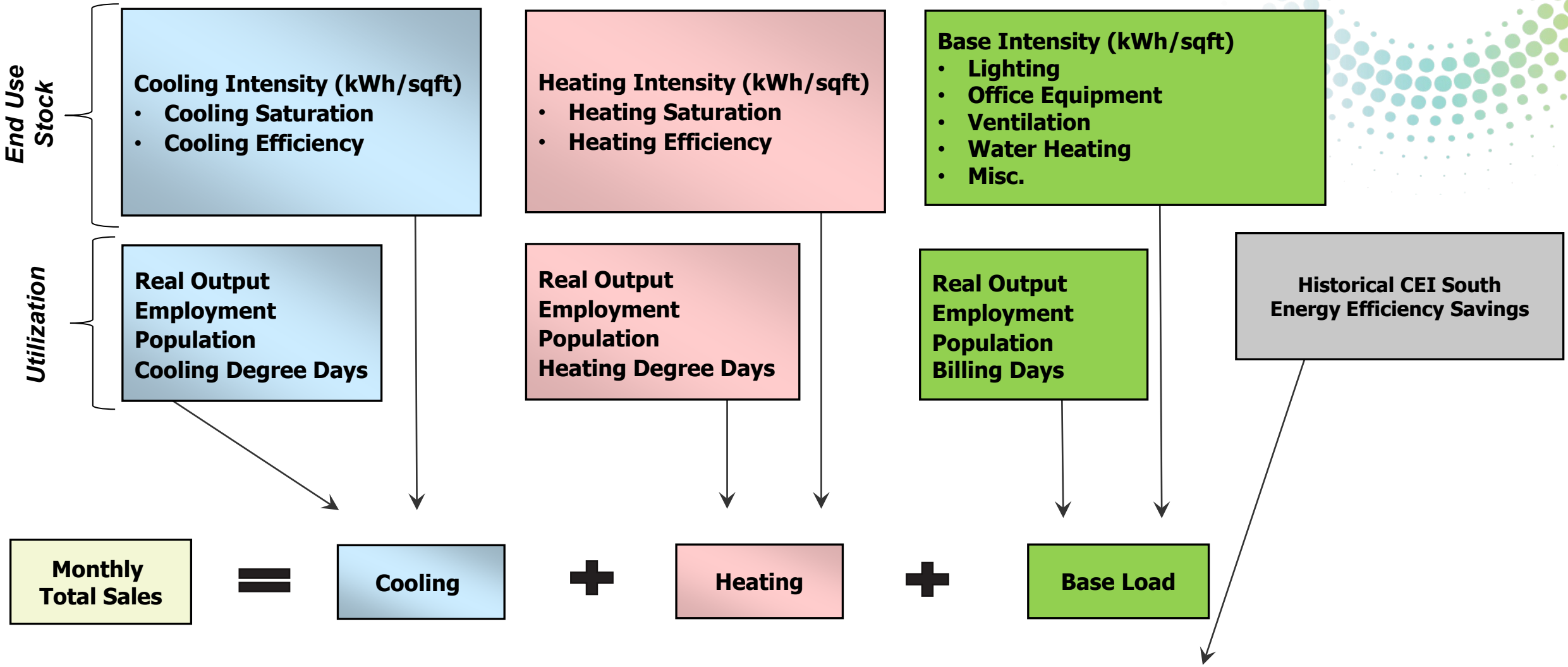


SAE Residential Model Framework



$$AvgUse_m = a + b_c \times XCool_m + b_h \times XHeat_m + b_o \times XOther_m + b_d \times EEm + e_m$$

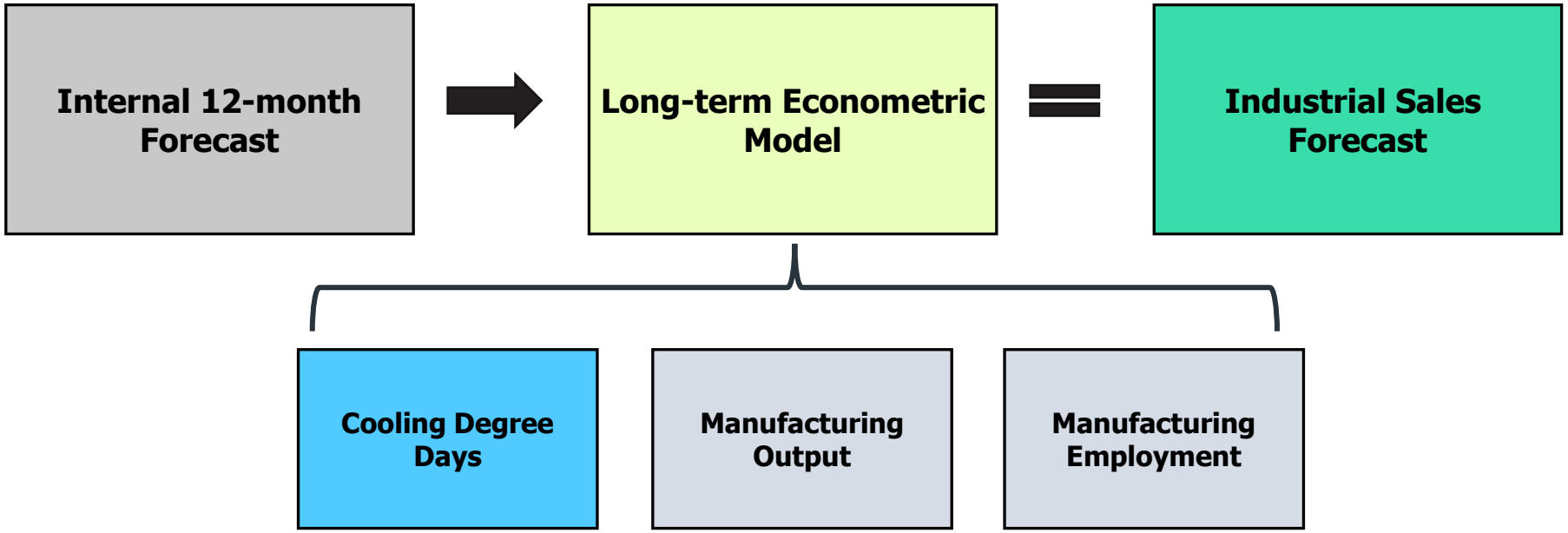
SAE Commercial Model Framework



$$MWh_m = a + b_c \times XCool_m + b_h \times XHeat_m + b_o \times XOther_m + b_d \times EEm + e_m$$

Industrial Model Framework

- The industrial (large customer) forecast is a two-step approach
  - The first 12 months are based on CEI South's internal forecast
  - The long-term growth rate is developed using the econometric model framework



Model Estimation Period

- Models estimated using rate class billed sales and customer data
- Monthly models, estimated for the period January 2013 to December 2024
- Rate class models:
  - Residential average use (kWh)
  - Residential customers
  - Commercial total sales (MWh)
  - Industrial total sales (MWh)
  - Street lighting total sales (MWh)
  - System peak (MW)

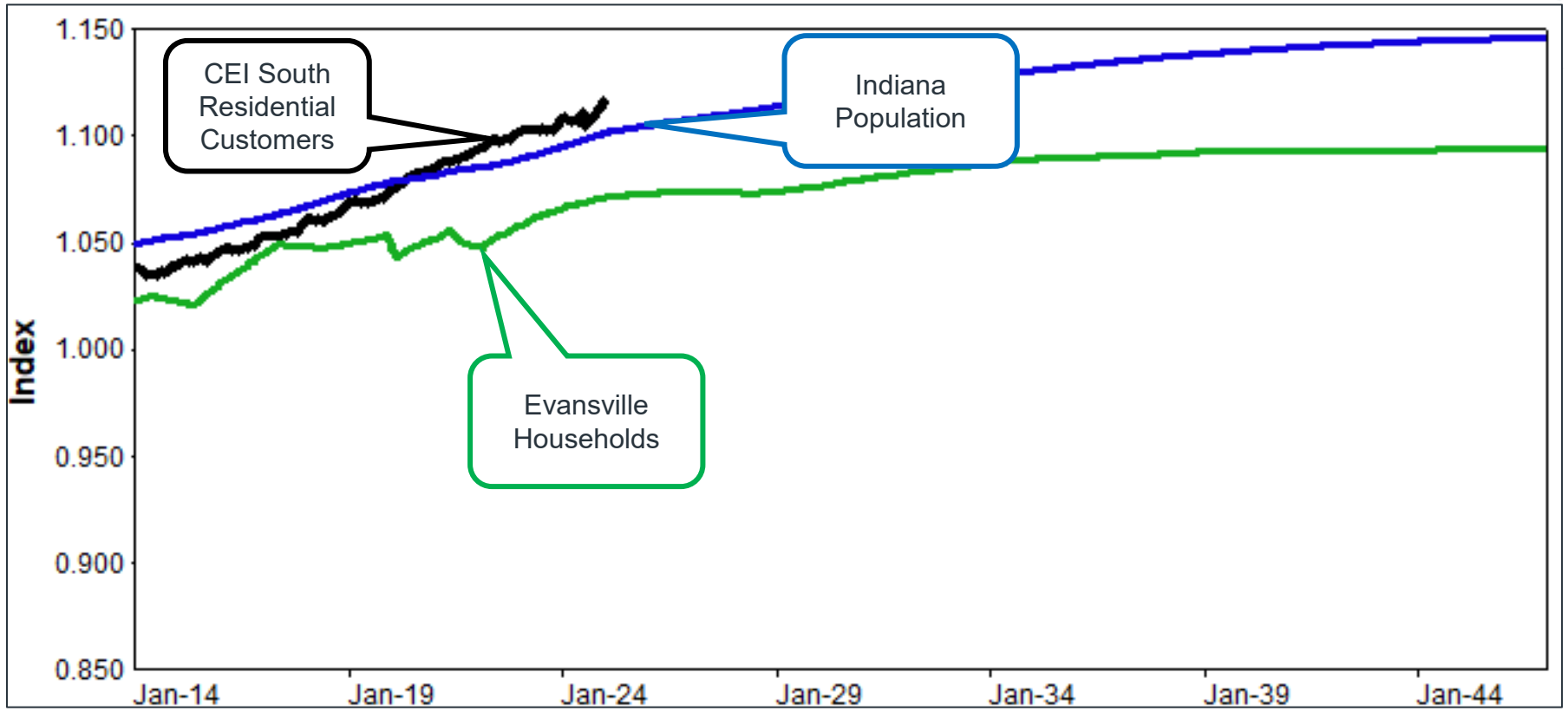
Residential Economic Drivers

S&P Global forecast for Indiana

- Population: 0.1% CAGR
- Real Household Income: 1.8% CAGR
- Household Size: -0.2% CAGR

*CAGR= Compound average growth rate from 2026-2045

Residential Customer Forecast Drivers



- CEI South residential customers are more highly correlated with Indiana population than Evansville metropolitan statistical area (MSA) households

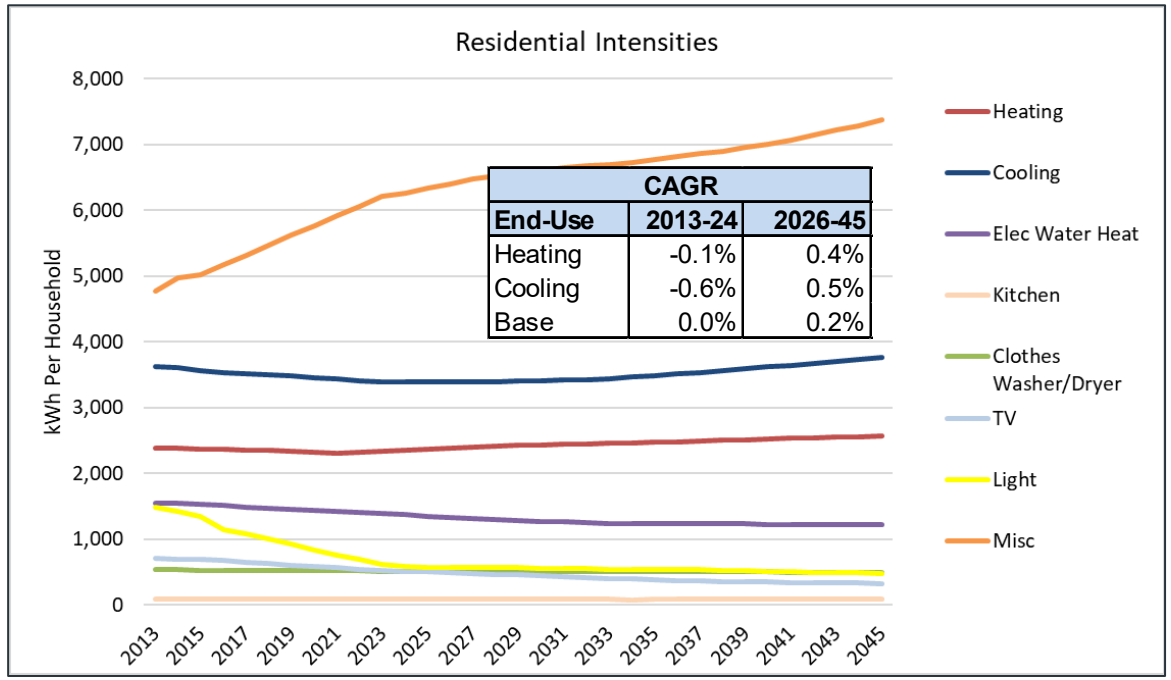
Non-Residential Economic Drivers

S&P Global forecast for the Indiana

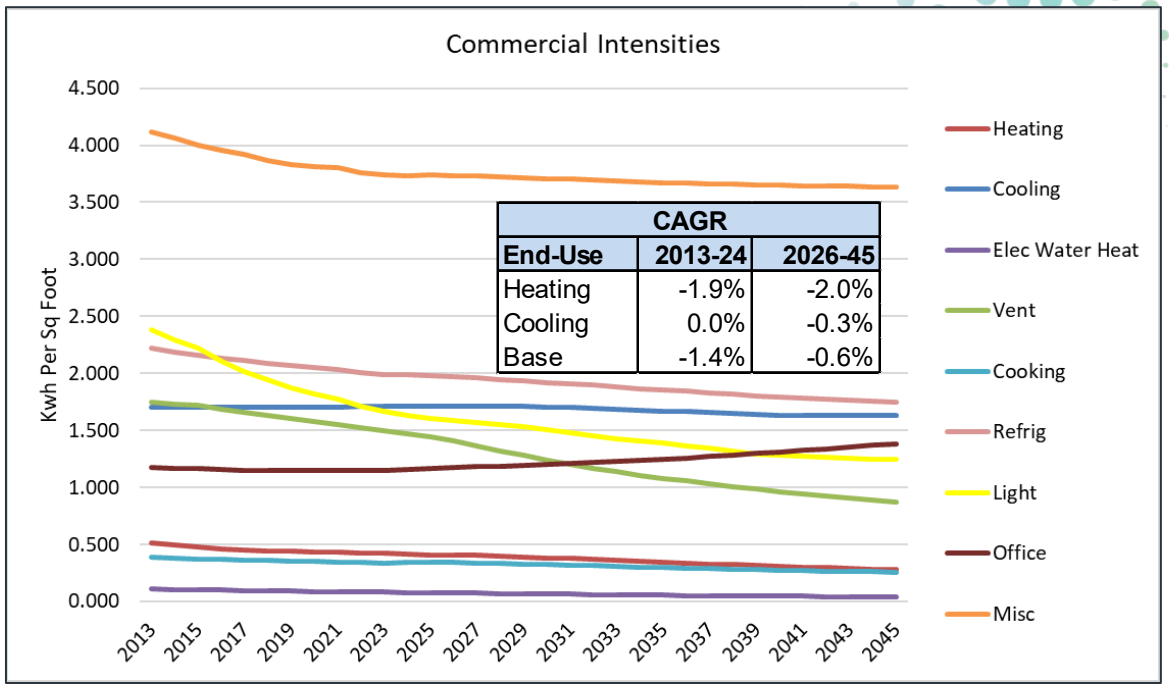
- Commercial Sector
  - Non-Manufacturing Output: 0.7% CAGR
  - Non-Manufacturing Employment : 0.2% CAGR
  - Population 0.1% CAGR
- Industrial Sector
  - Manufacturing Output: 1.1% CAGR
  - Manufacturing Employment: 0.1% CAGR

*CAGR= Compound average growth rate from 2026-2045

End-Use Intensity Trends



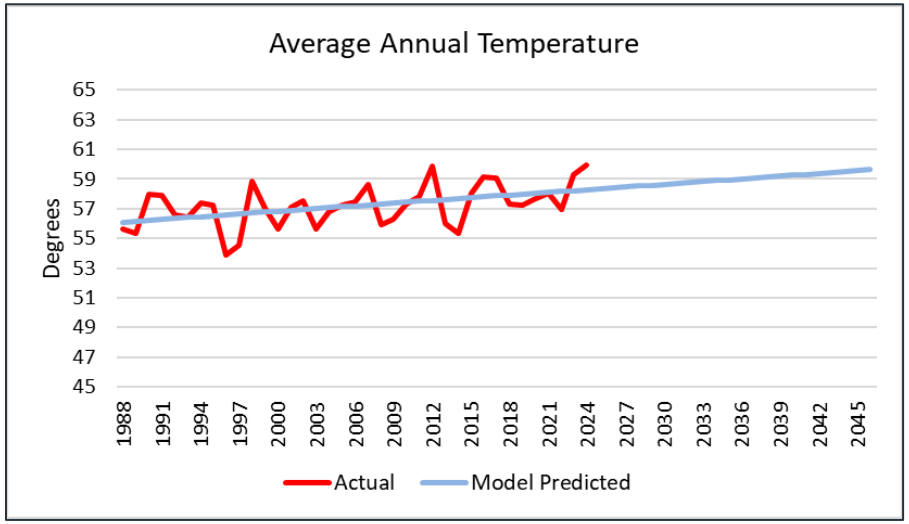
CAGR		
End-Use	2013-24	2026-45
Heating	-0.1%	0.4%
Cooling	-0.6%	0.5%
Base	0.0%	0.2%



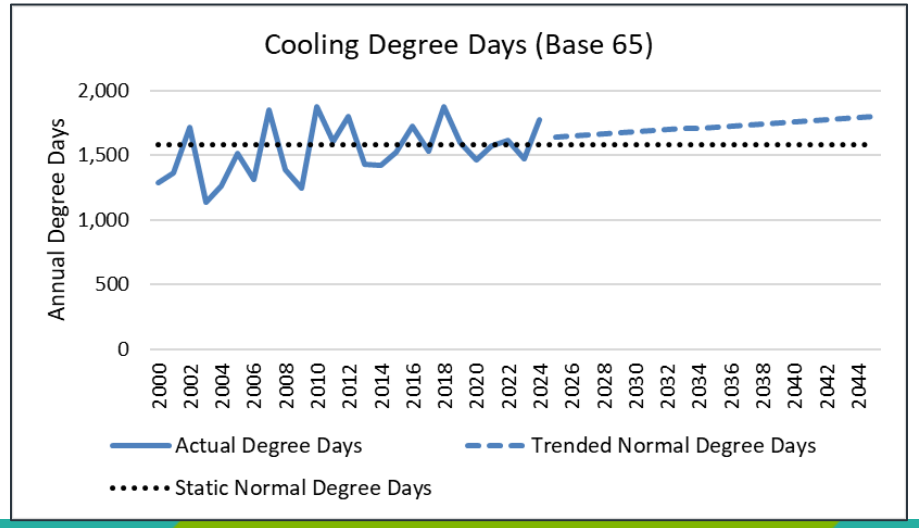
CAGR		
End-Use	2013-24	2026-45
Heating	-1.9%	-2.0%
Cooling	0.0%	-0.3%
Base	-1.4%	-0.6%

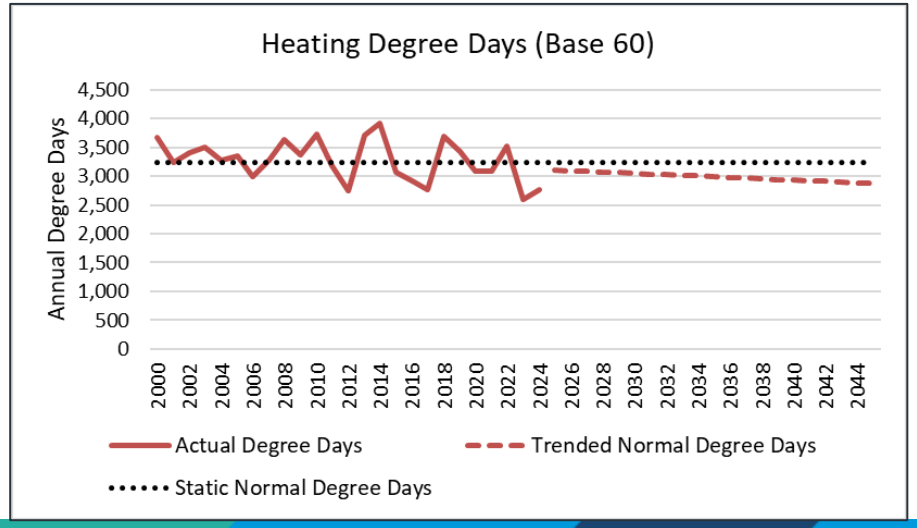
- Intensities based on the 2023 Annual Energy Outlook from the Energy Information Administration (EIA)
- Reflects changes in end-use ownership, efficiency trends, and home thermal shell efficiency

Trended Normal Weather

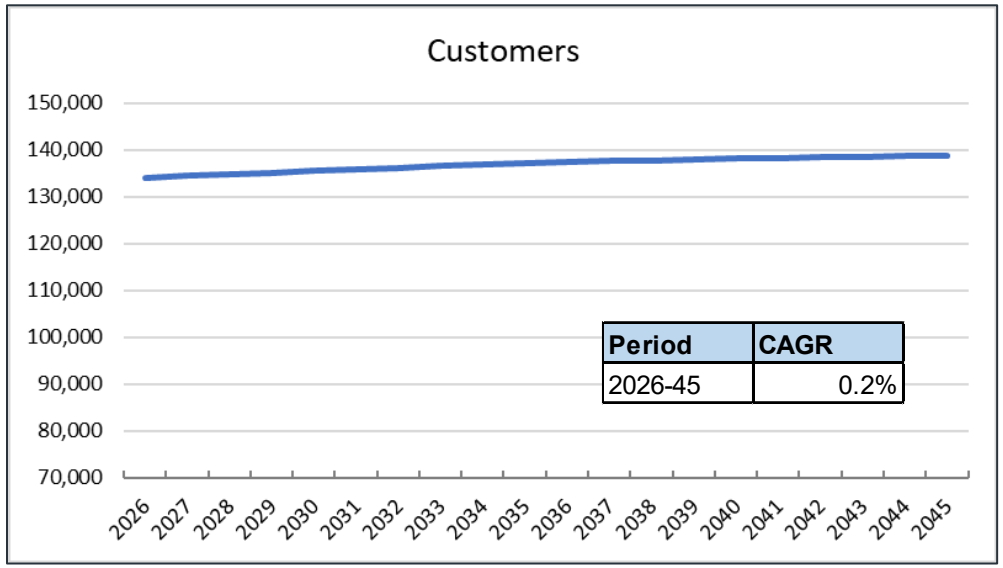


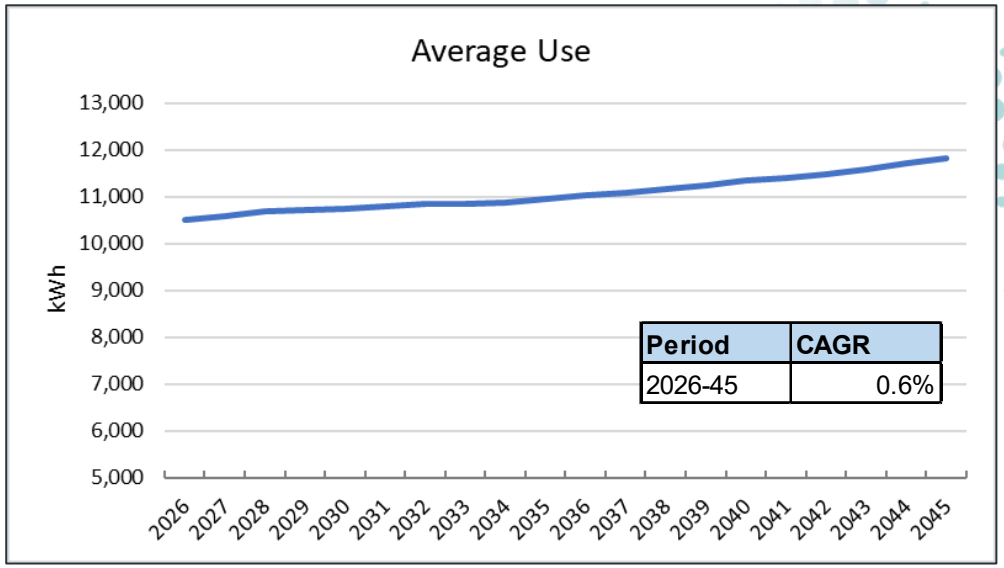
- Trend based on statistical analysis of historical weather data (1988 to 2024)
- Average annual temperature increasing 0.6 degrees per decade
- Decline in HDD (0.4% annual decline)
- Increase in CDD (0.4% annual increase)

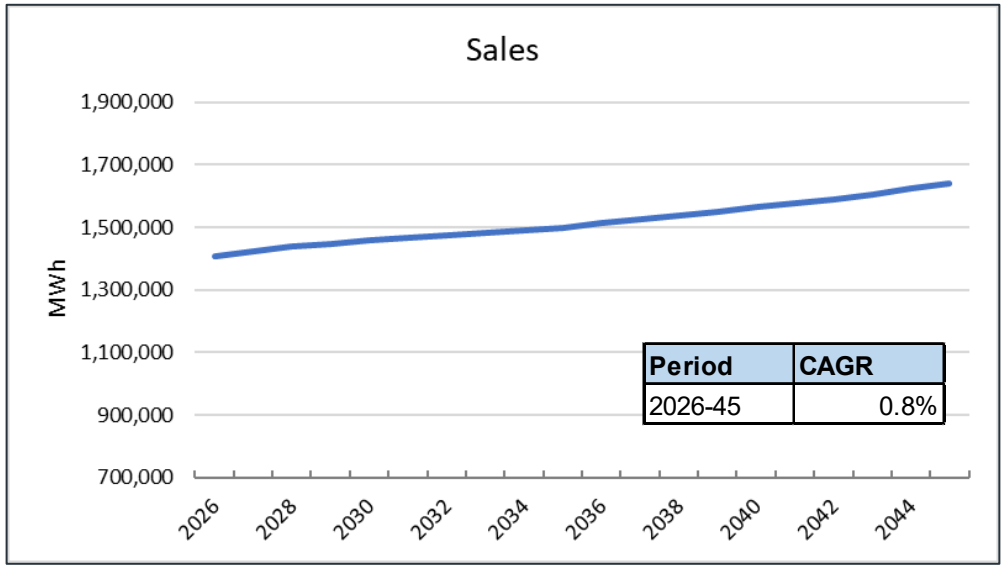




Residential Forecast

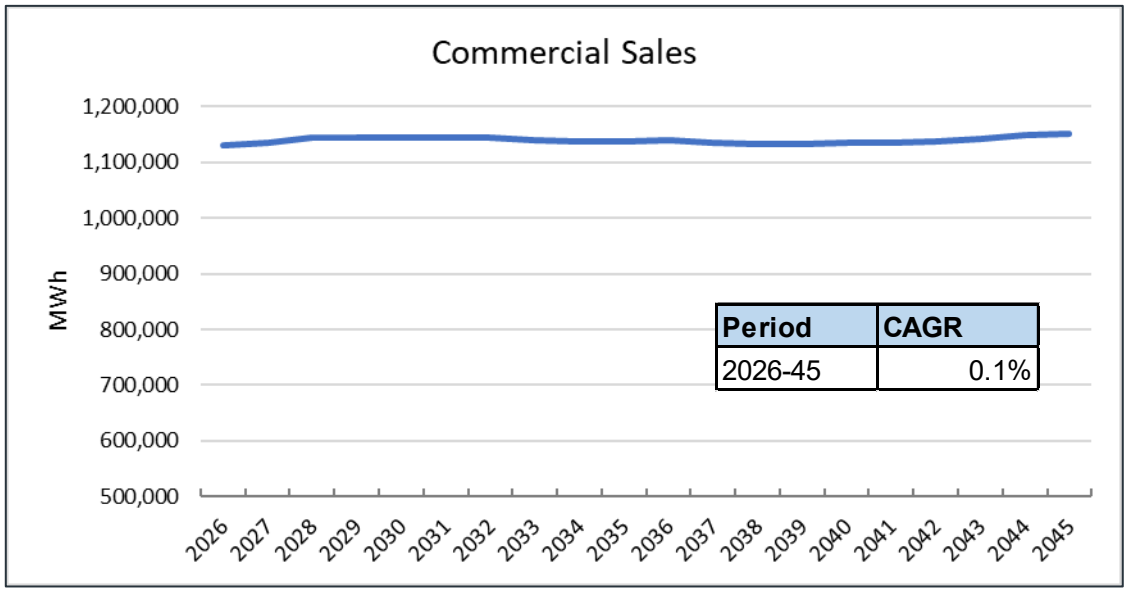


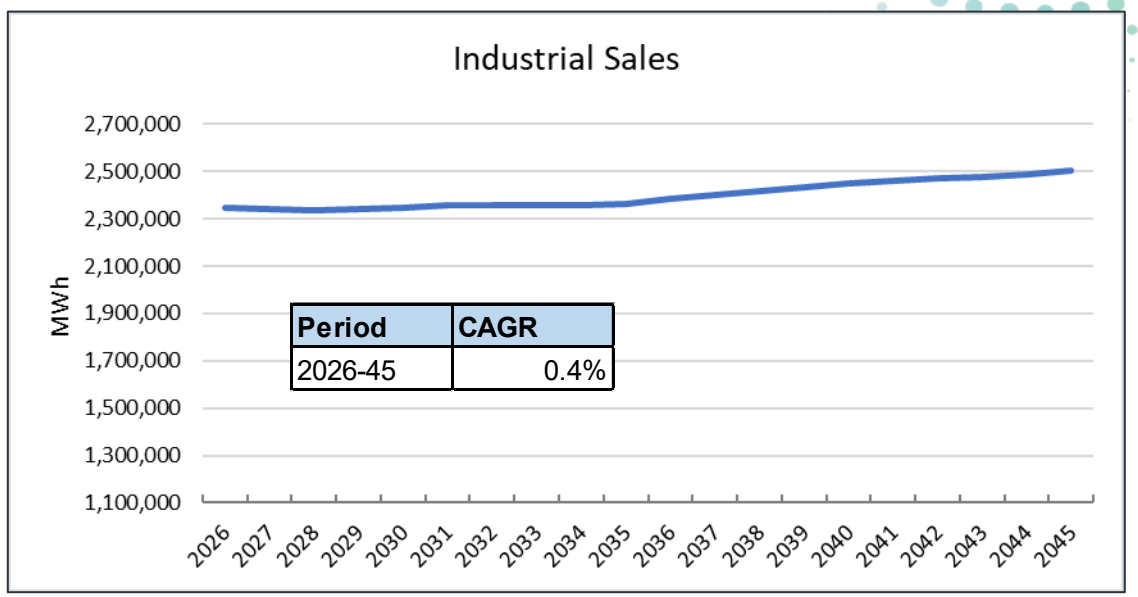




- Does not include the impact of future CEI South efficiency program savings
- Does not include the impact of EV or PV

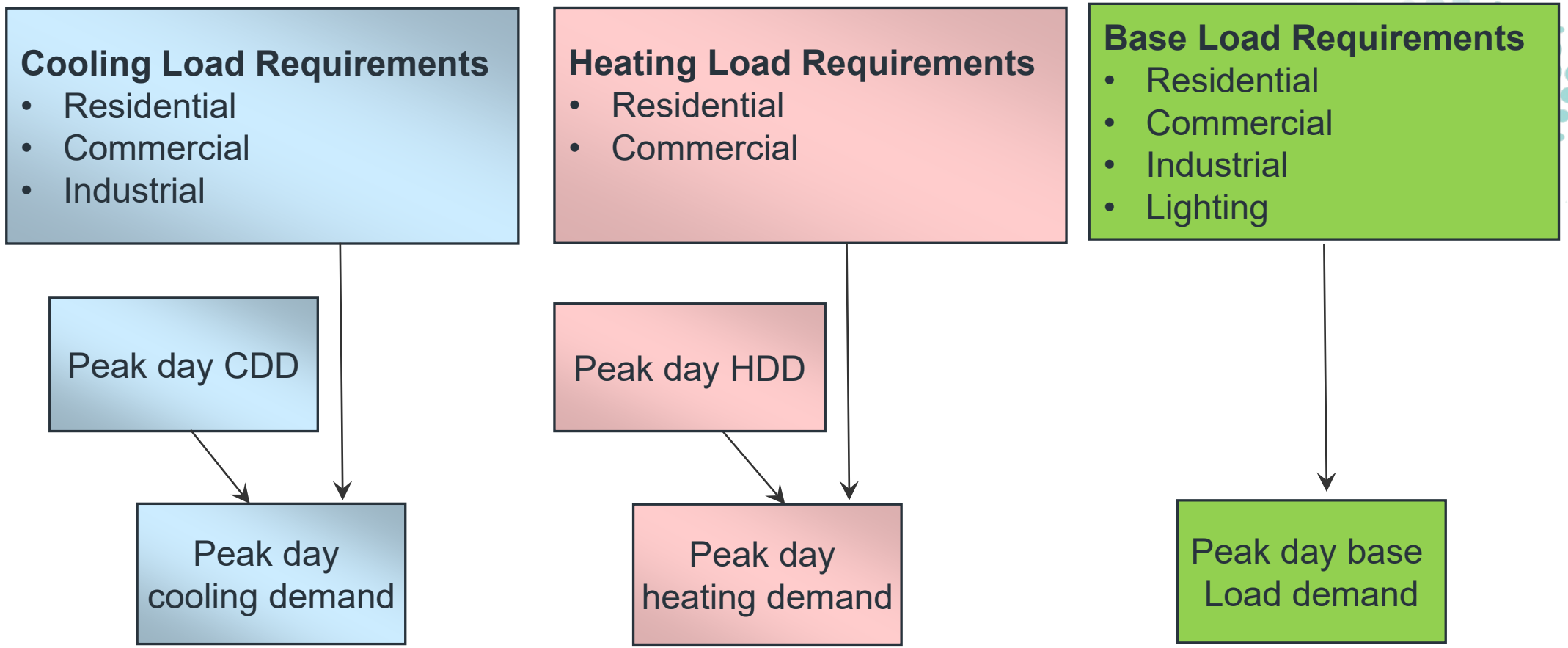
Commercial & Industrial Forecast





- Does not include the impact of future CEI South efficiency program savings
- Does not include the impact of EV or PV

Peak Model Framework



- Model produces a baseline peak forecast, not including the impact of EV or PV

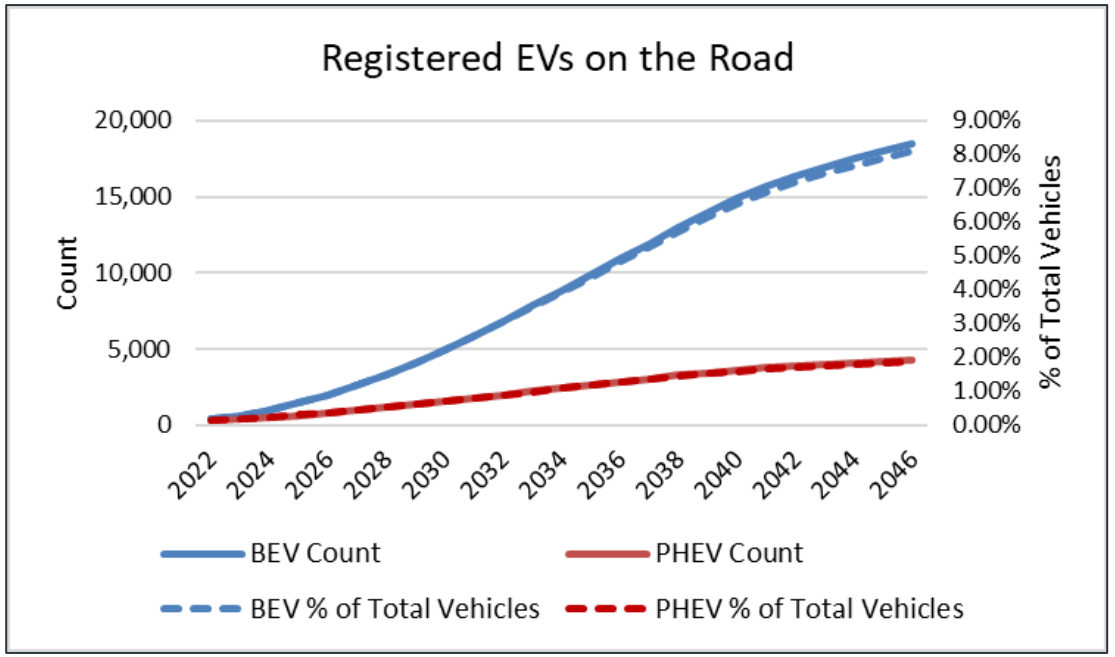
Electric Vehicle (EV) Forecast Methodology

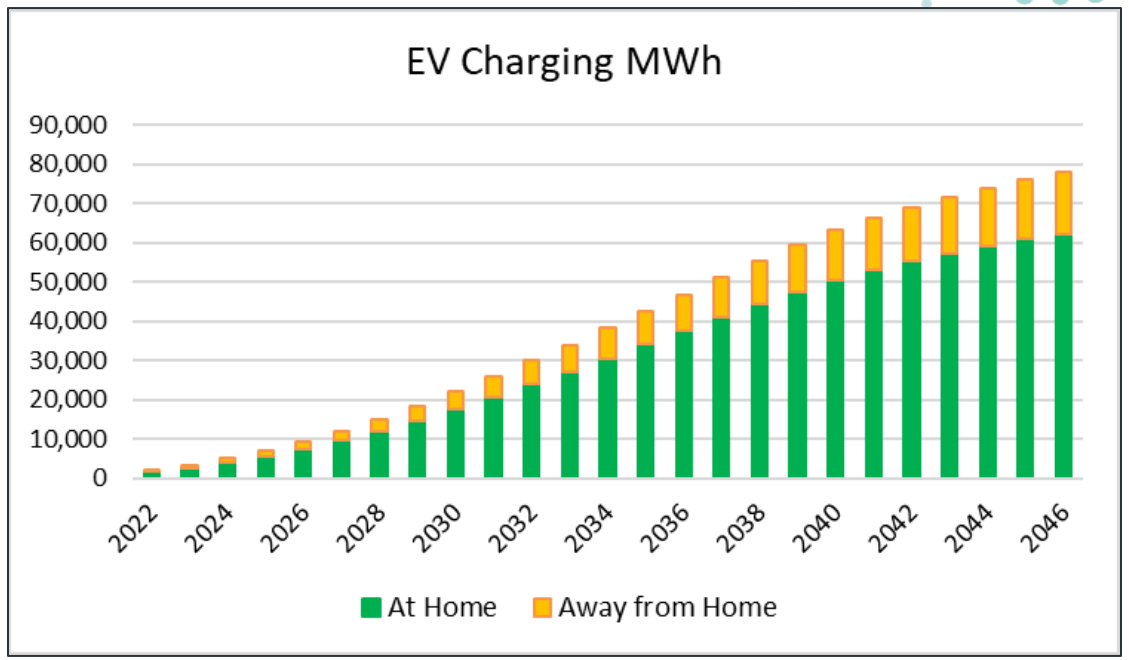
- Energy Information Administration (EIA) forecast based on share of new vehicle sales; differentiating between all electric (BEV) and plug-in hybrid electric (PHEV).

- Starting electric vehicle numbers based on the number of currently registered electric vehicles in CEI South's service territory.

- Annual kWh per vehicles based on the current mix of BEV and PHEV and 12,000 miles per year.

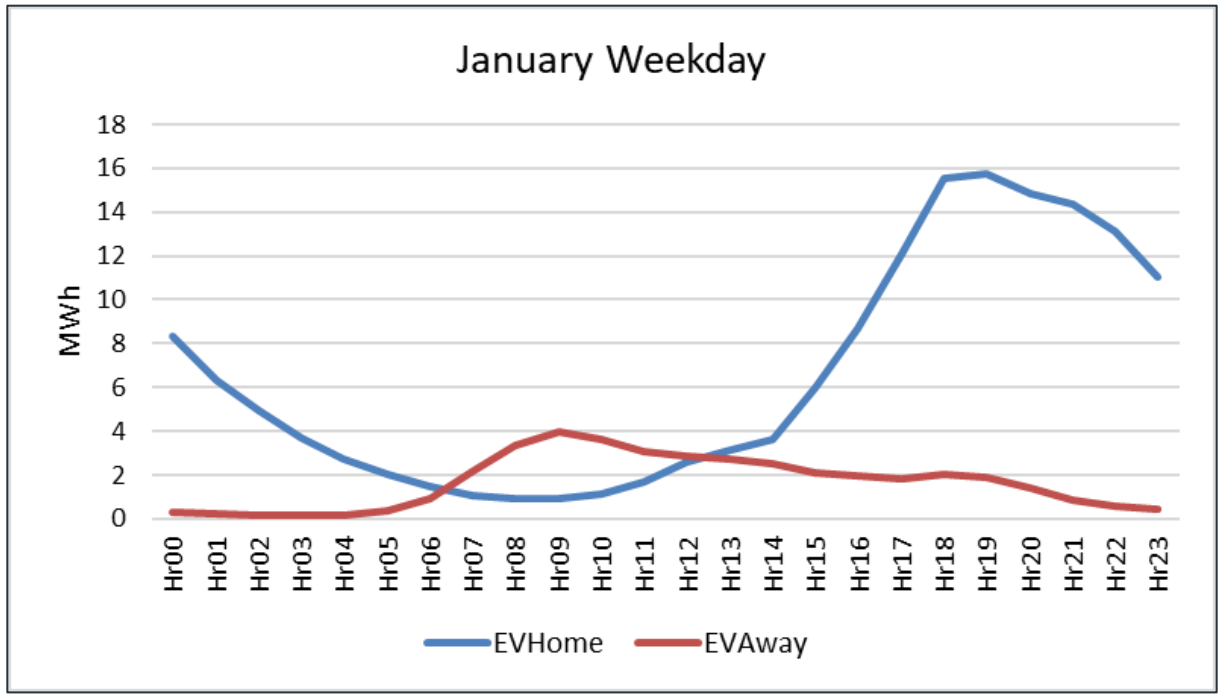
Electric Vehicle (EV) Forecast





- Currently there are approximately 1,000 BEV and 520 PHEV in CEI South's service territory

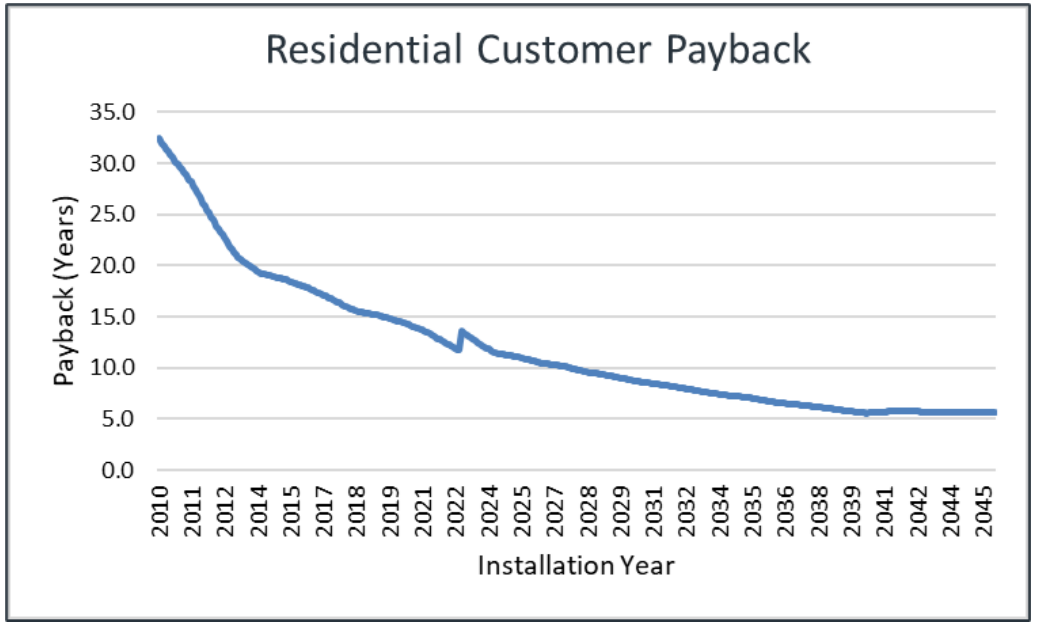
Electric Vehicle Charging Profiles



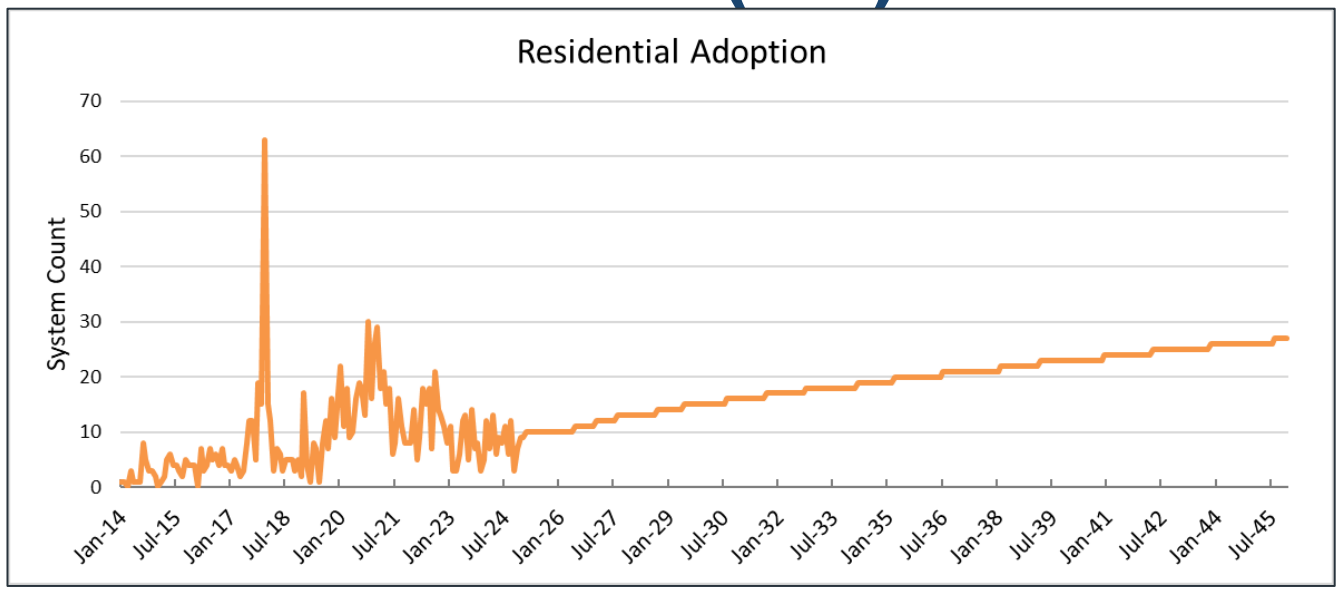
- Separate charging profiles based on home and public/workplace charging
  - Assumes that 80% of charging occurs at home and 20% away from home
- Seasonal differences based on temperature assumptions
- Profiles derived from the National Renewable Energy Laboratory's EVI-Pro Lite tool

Customer Owned Photovoltaic (PV) Forecast Methodology

- Monthly adoption modeled as a function of simple payback
  - Incorporates declining solar system costs, electric price projections, changes in net metering laws, and federal incentives
    - Switch from net metering to Excess Distributed Generation (EDG) policy
    - Continued decline in solar costs
    - Future projections of electric prices

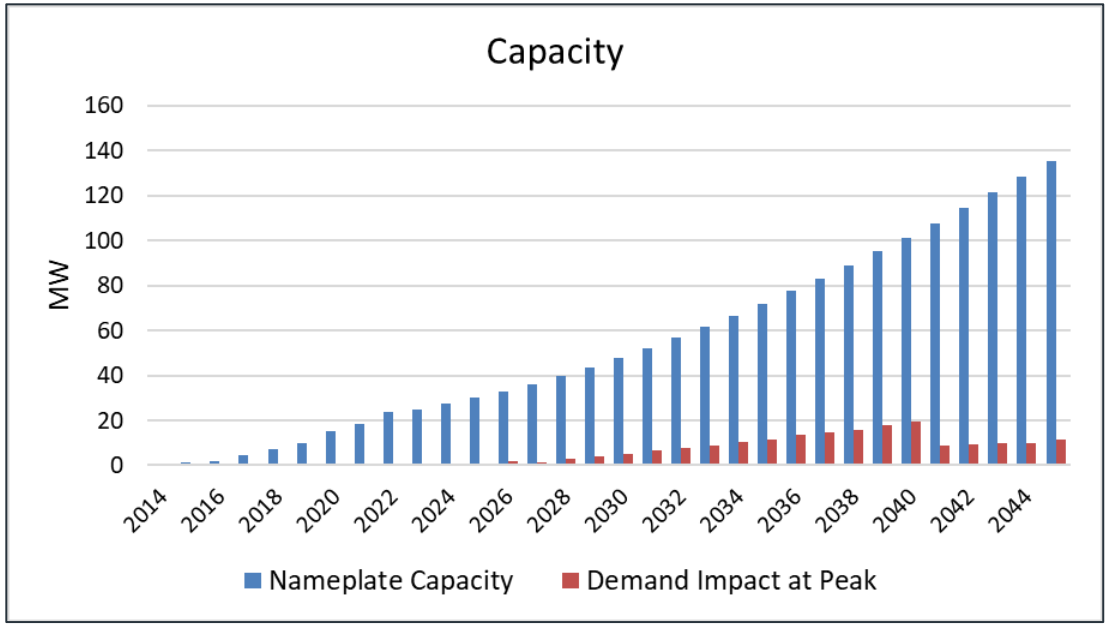


Photovoltaic (PV) Forecast

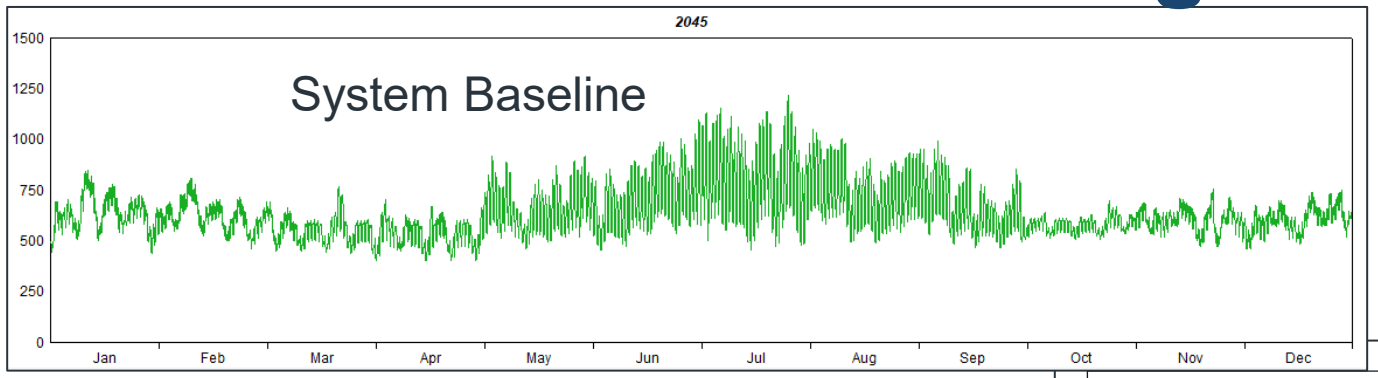


- Total installed capacity derived by combining monthly adoptions with average (kW) system size
- NREL PVWatts hourly solar profile is used to calculate monthly load factors and estimate monthly solar generation

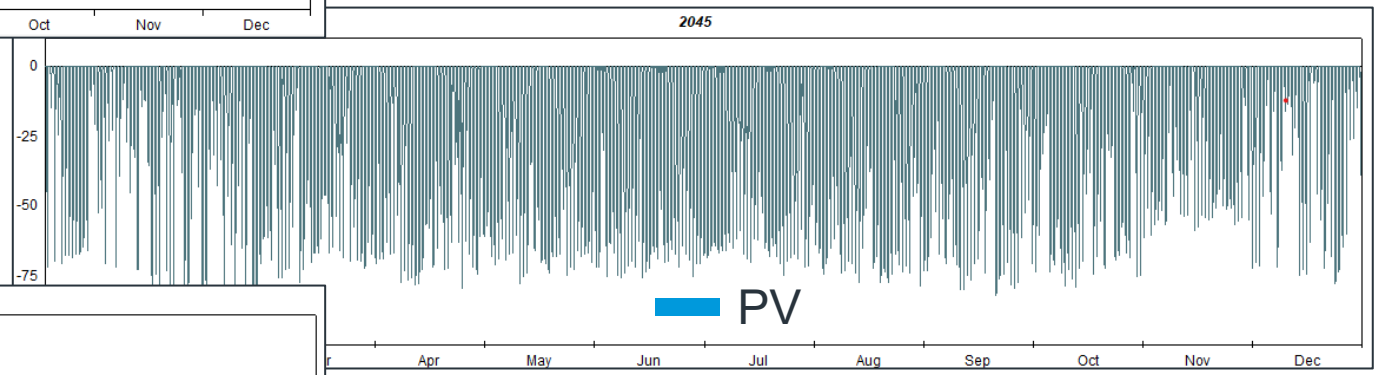
- Commercial adoption based on historical relationship between residential and commercial installations.

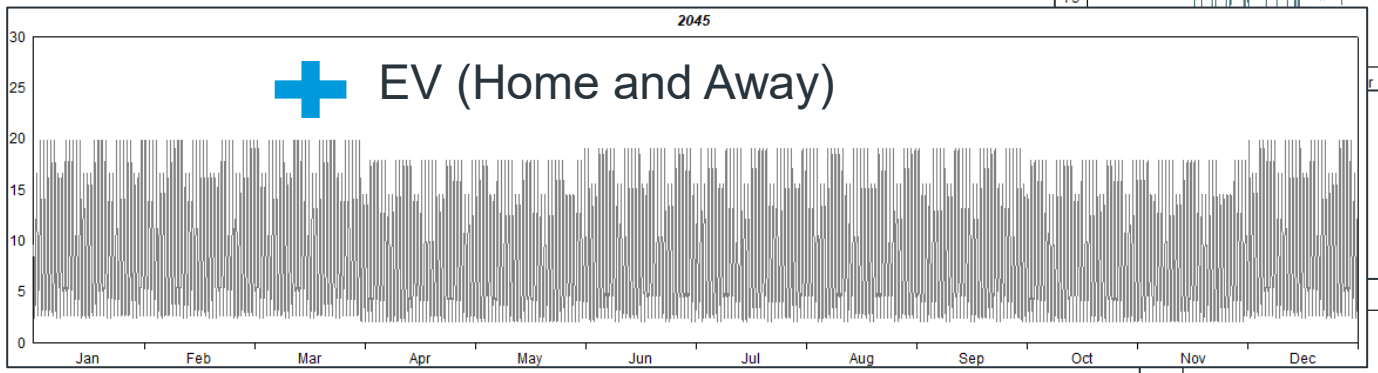


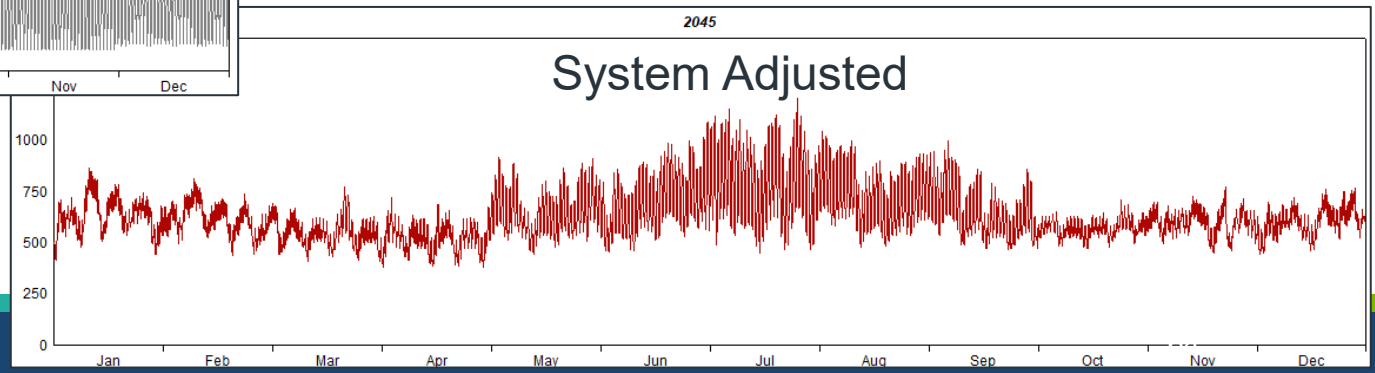
Peak Forecast: Accounting for EV & PV



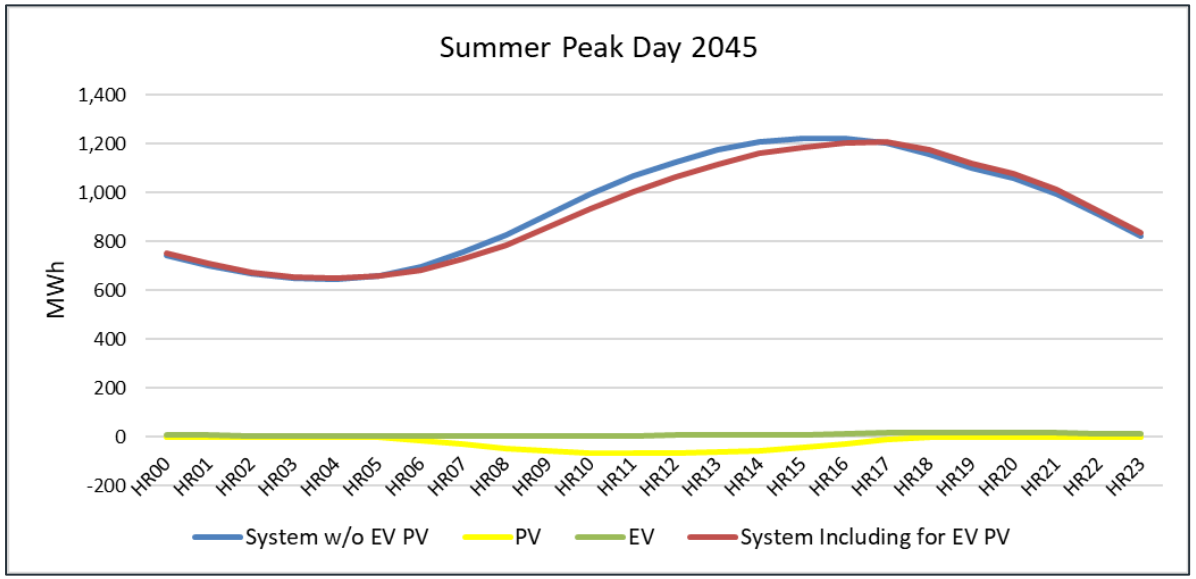
- Combine monthly or annual MWh forecasts with hourly profiles forecasts





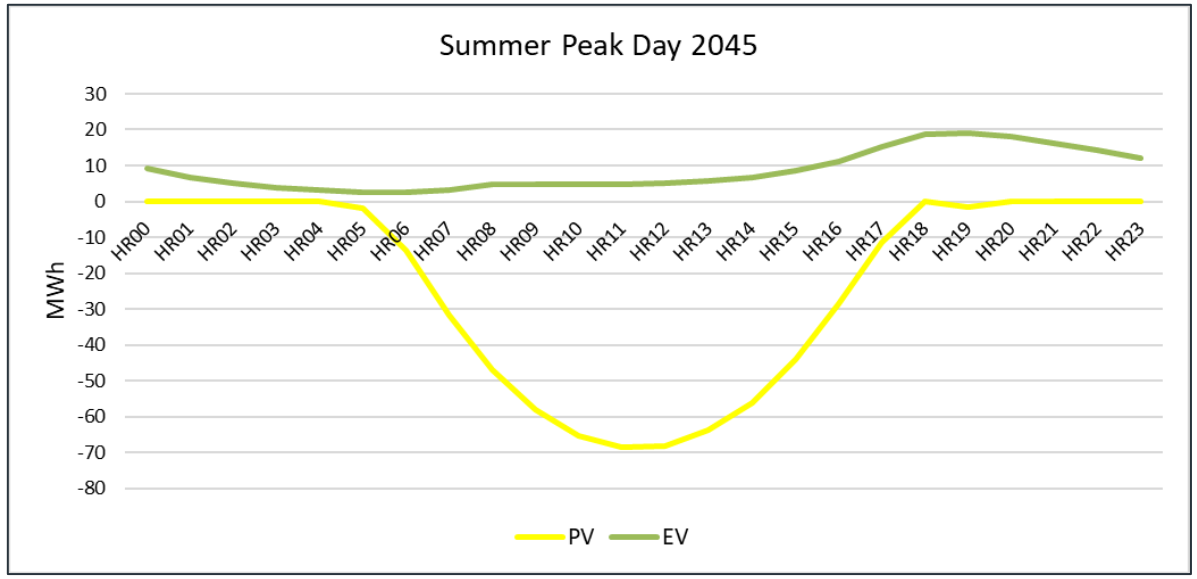


Peak Day Impact of EV & PV: Summer

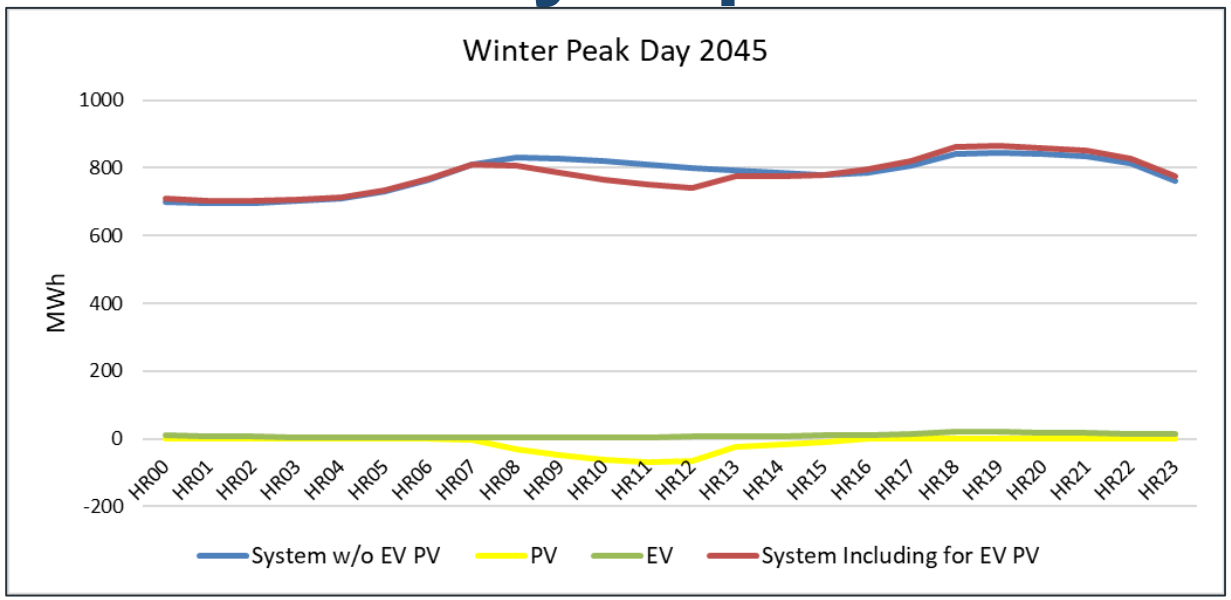


- The impact of EV and PV causes the system peak to move two hours later into the evening

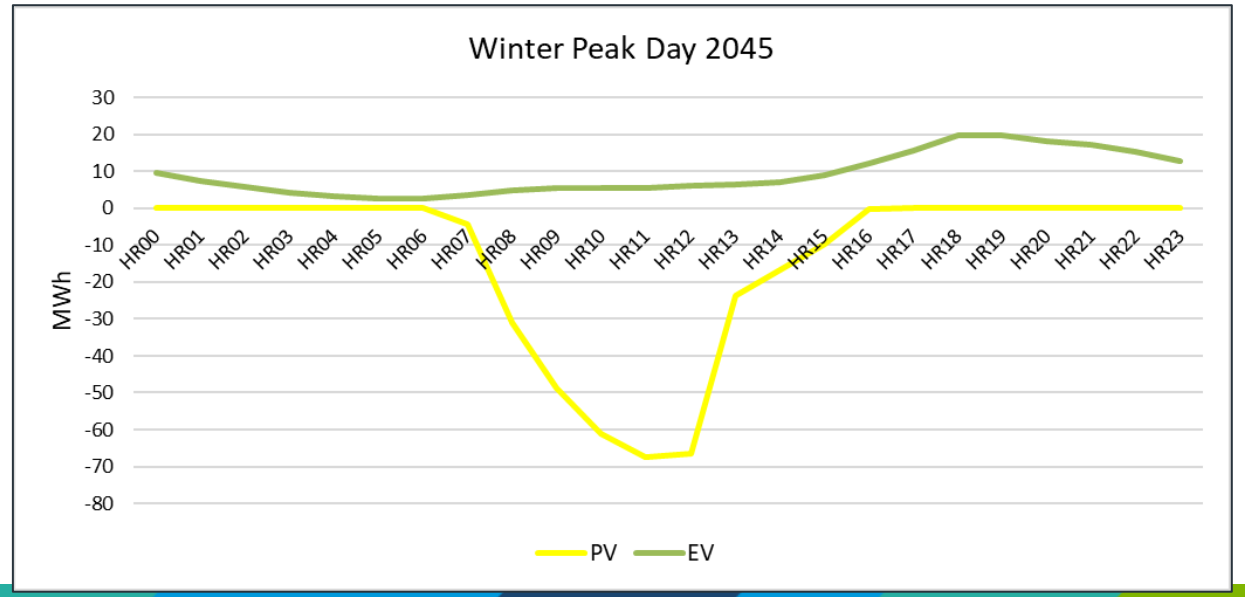
- As the peak shift the impact of addition PV decreases and EV increases



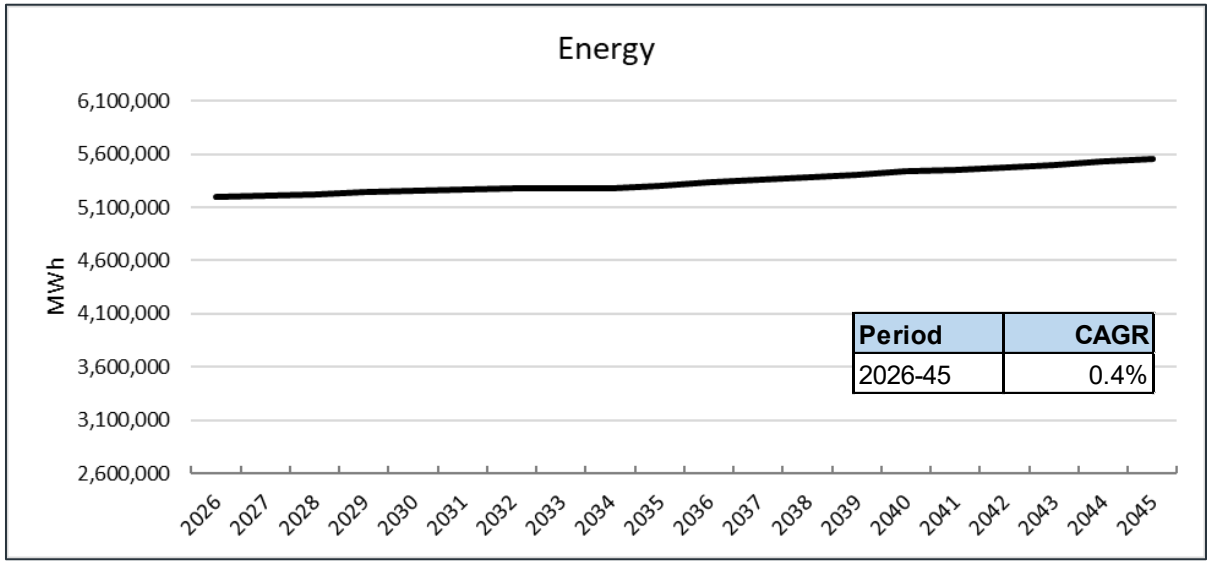
Peak Day Impact of EV & PV: Winter

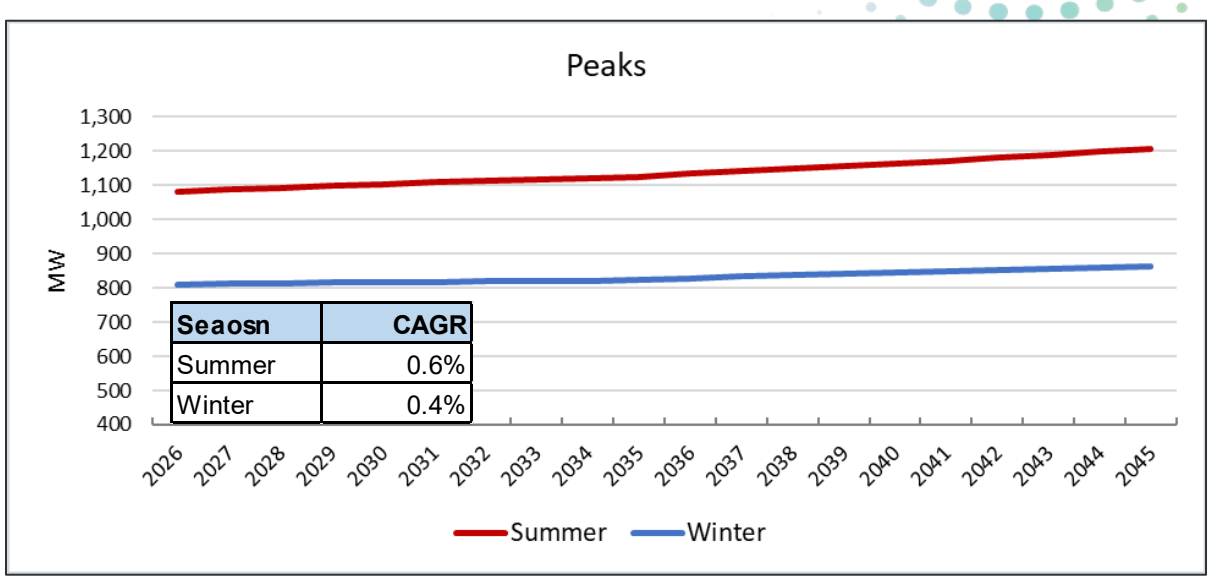


- Winter peak now occurs in the evening
- Solar has no impact on winter peaks



Energy & Peak Forecast





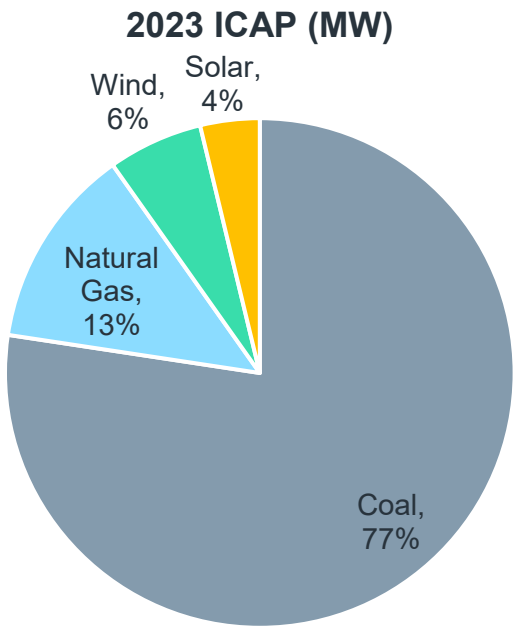
- Does not include the impact of future CEI South efficiency program savings
- Includes the impact of photovoltaics and electric vehicles

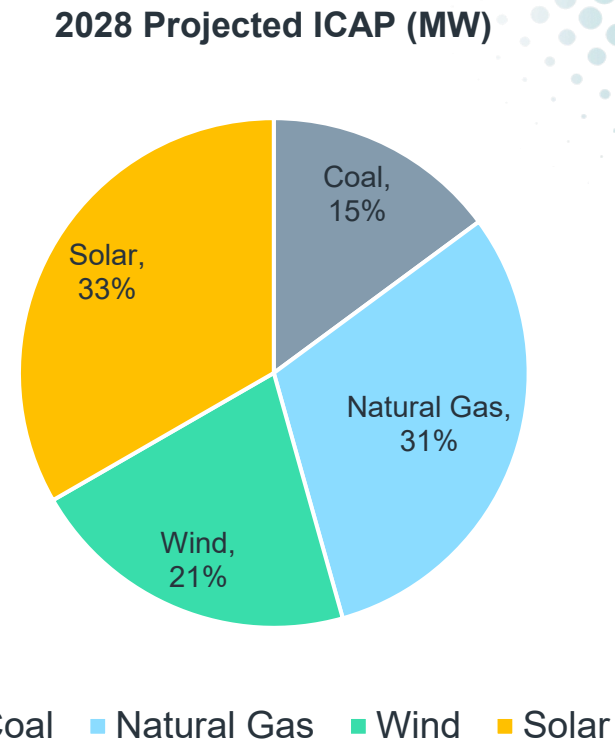
Q&A

Resource Options

Drew Burczyk
Project Manager, Resource Planning & Market Assessments, 1898 & Co.

CEI South Resource Mix





CEI South's resource mix has been evolving. The 2025 IRP will evaluate the current and future resource needed to meet customers' electrical energy needs for reliable, resilient, stable, affordable and sustainable power, while considering risks and uncertainties

ICAP = Installed Capacity

CEI South Thermal Resources

Existing Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
F.B. Culley 2	Coal	90	1966	2025
F.B Culley 3	Coal	270	1973	
OVEC	Coal	32	1950s-60s	
A.B. Brown 3	Natural Gas	80	1991	
A.B. Brown 4	Natural Gas	80	2002	

Planned Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
A.B. Brown 5	Natural Gas	232	2025	
A.B. Brown 6	Natural Gas	232	2025	

OVEC = Ohio Valley Electric Corporation

CEI South Wind Resources

Existing Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
Benton County	Wind	50	2008	2028
Fowler Ridge	Wind	30	2009	2030

Planned Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
Galesburg	Wind	147	2026	2051
Additional Wind Power*	Wind	200	2027	

**Projects are not named due to confidentiality limitations*

CEI South Solar Resources

Existing Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
Troy	Solar	50	2021	

Planned Resources

Name	Type	Capacity (MW)	In-Service Date	Retirement / Contract End Date
Posey	Solar	191	2025	
Vermillion	Solar	185	2028	2042
Wheatland	Solar	150	2026	2046
Rustic Hills	Solar	100	2028	2052

New Alternative Resources: Thermal

Simple Cycle Natural Gas

- F class
- J class

Combined Cycle Natural Gas*

- Fired and Unfired
- F class**
- G/H class
- J class

Peaking Natural Gas

- Reciprocating Engines
- Aeroderivative SCGT

Nuclear

- Small Modular Reactors

Existing Unit Conversions

- A.B. Brown SCGT to CCGT
- F.B. Culley 3 Coal to NG Conversion/ Co-Fire

** Only select CCGT models will be considered for the base capacity expansion simulations, while additional options may be considered during the large load sensitivity runs. 1x1 and 2x1 configurations may be considered.*

***CCS as a selectable option is currently only being considered on the F class CCGT*

New Alternative Resources: Non-Thermal

Wind

- Wind
- Wind with Storage

Solar

- Single Axis Tracking
- Single Axis Tracking with storage

Storage

- Short Duration Lithium Ion
- Long Duration Lithium Ion
- Long Duration Non-Lithium Ion

Hydroelectric

- At existing Newburgh dam
- At existing J.T. Myers dam

Demand-Side Management / Innovative Rates

- Demand Response
- Energy Efficiency
- Time of Use Rate

Q&A

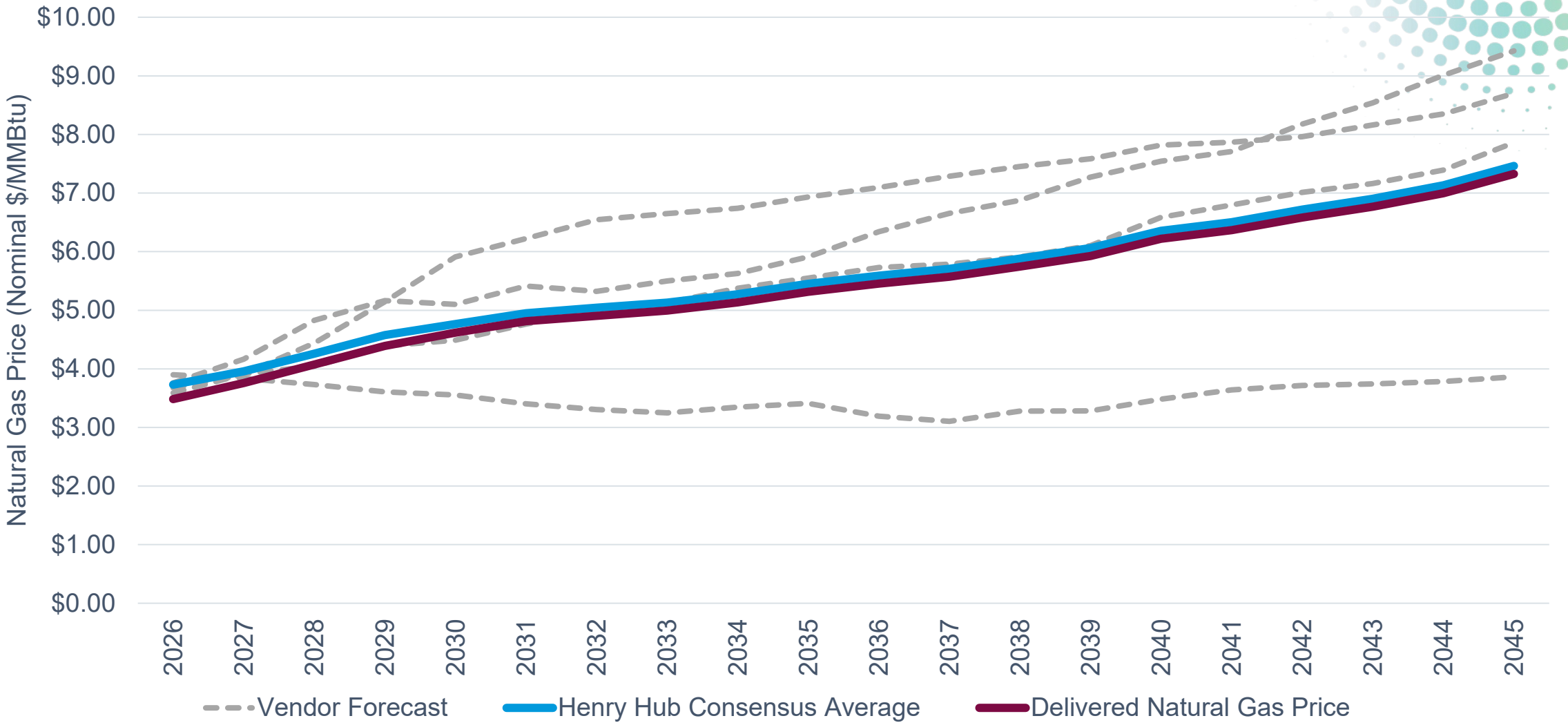
Commodity Inputs

Drew Burczyk
Project Manager, Resource Planning & Market Assessments, 1898 & Co.

Commodity Input Methodology

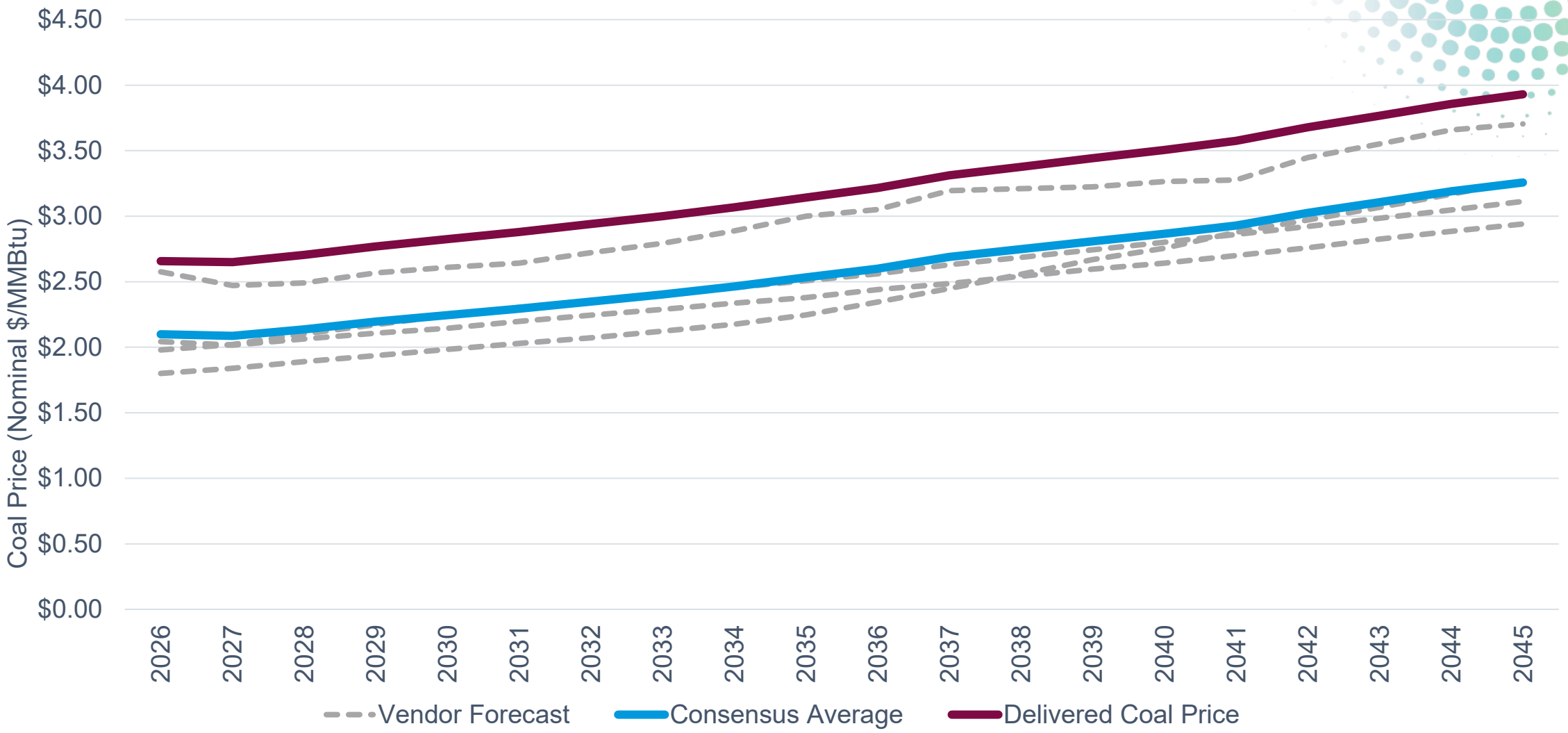
- CenterPoint Energy Indiana (CEI) South surveyed and incorporated a wide array of sources in developing its Reference Case Commodity inputs, which reflect a current consensus view of key drivers in power and fuel markets
  - This methodology protects against reliance on a single forecast
- Commodity Inputs include:
  - Henry Hub and delivered natural gas prices
  - Illinois Basin mine mouth and delivered coal prices
  - MISO capacity costs

Natural Gas (Henry Hub) Forecast



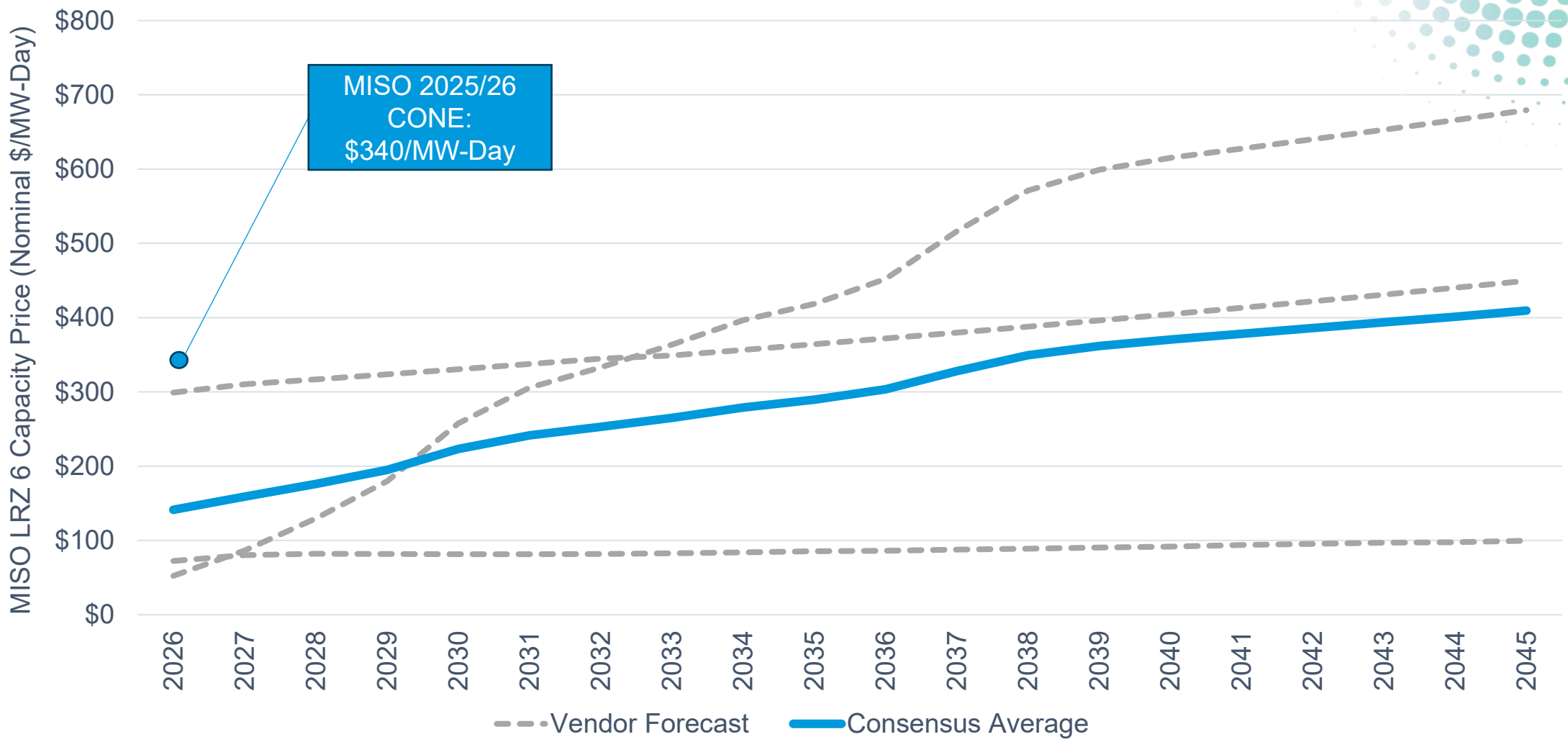
$/MMBtu = Dollars per Million British Thermal Units

Coal Forecast



$/MMBtu = Dollars per Million British Thermal Units

MISO Capacity Forecast



LRZ = Local Resource Zone *CONE = Cost of New Entry*

Q&A

Scenario Development

Drew Burczyk
Project Manager, Resource Planning & Market Assessments, 1898 & Co.

Scenario Development

- **Scenario ("Plausible Future"):** a simulation with a specific set of input assumptions
  - Scenarios are used to capture different goals or views of the future
  - Scenarios are commonly structured such that they represent plausible future states that provide high and low boundaries relative to the reference case
  - Forecasts within each scenario are internally consistent
- **Sensitivity:** a single variable that drives results
  - Sensitivities may be used to change only one variable at a time to understand the impact of that single risk factor

Reference Case Scenario

Scenario	Environmental Policy	Economic Policy	CO_2 Regulation	Load	Natural Gas Price	Coal Price	Generation Capital Costs	EE Costs
Reference Case	Clean Air Act 111 (b & d)	IRA	None	Base	Base	Base	Base	Base

- As per Rule 170 IAC 4-7-4, the base case [reference case] is to be the most likely future scenario. As such, it is designed to be an extension of the status quo
- The Reference Case includes base commodity forecasts and assumptions for the following key drivers:
  - Policy Factors
    - Clean Air Act 111 (b & d)
    - Inflation Reduction Act (IRA)
    - CO_2 Policy
  - Load
  - Commodity Prices
    - Consensus natural gas price
    - Consensus coal price
  - Capital costs
    - Generation (informed by technology assessment and All Source RFP market data)
    - Energy efficiency (based on market potential study)

Narrative - High Regulatory

Scenario	Environmental Policy	Economic Policy	CO_2 Regulation	Load	Natural Gas Price	Coal Price	Generation Capital Costs	EE Costs
High Regulatory	Clean Air Act 111 (b & d) and expansion to existing gas resources	IRA	Addition of CO_2 Tax	Lower	Higher	Higher	Lower	Higher

- In the High Regulatory Scenario, the Clean Air Act 111(b & d) is enforced as well as expanded to include existing gas resources and a CO_2 Tax is added
- **Load (↓)** – additional regulation drives lower demand growth for electricity
- **Commodity Prices (↑)** – additional environmental regulations increase costs for producing NG and coal, thus driving prices up
- **Generation Capital Costs (↓)** – continuation of the IRA, technology advancements, and lower demand for new generation results in lower capital costs
- **EE Costs (↑)** – lower load leads to less opportunity for cost-effective energy efficiency. In addition, a high regulatory environment leads to more codes and standards for equipment; This in turn results in higher incentives for more efficient equipment

Narrative - Low Regulatory

Scenario	Environmental Policy	Economic Policy	CO_2 Regulation	Load	Natural Gas Price	Coal Price	Generation Capital Costs	EE Costs
Low Regulatory	No Clean Air Act 111 (b & d)	No IRA	None	Higher	Lower	Lower	Higher	Lower

- Under the Low Regulation Scenario, several environmental policies are eventually revised, including CAA 111. No new carbon emission regulations are created
- **Load (↑)** – reduced regulation encourages expansion of industrial/other large load users
- **Commodity Prices (↓)** – lower regulatory encourages the use of fossil fuels, increasing supply and lowering prices
- **Generation Capital Costs (↑)** – reduced incentives for renewables and increased pressure from tariffs drive costs up for new generation. Additional load growth also leads to an increase in demand, and higher costs
- **EE Costs (↓)** – higher load leads to greater opportunity for cost-effective energy efficiency and thus decreasing incentive costs

Scenario Summary

Key Drivers:	Policy Factors			Load	Commodity Prices		Capital Costs	
Scenario	Environmental Policy	Economic Policy	CO_2 Regulation	Load	Natural Gas Price	Coal Price	Generation	EE Costs
Reference Case	Clean Air Act 111 (b & d)	IRA	None	Base	Base	Base	Base	Base
High Regulatory	Clean Air Act 111 (b & d) and expansion to existing gas resources	IRA	Addition of CO_2 Tax	Lower	Higher	Higher	Lower	Higher
Low Regulatory	No Clean Air Act 111 (b & d)	No IRA	None	Higher	Lower	Lower	Higher	Lower

Q&A

Stakeholder Questions and Feedback

Moderated by Drew Burczyk
Project Manager, Resource Planning & Market Assessments, 1898 & Co.

Q&A

In-person attendees – please raise your hand to be recognized

Virtual attendees will be in listen-only mode – to participate:

- Use the “Raise” hand feature in Teams to be recognized, and your mic will be activated during the allotted time for questions, or
- Enter questions into the “Q&A” feature in Teams

Identifying yourself by name prior to speaking to help us keep track of feedback and follow up actions