



Regional Energy Resource Council

December 12, 2023

2nd Meeting – Term 6

Welcome!

The Meeting will
begin at
2:00 PM Eastern

Welcome

RERC Live and Virtual Meeting

- **This is the second meeting of the 6th term of the RERC.**
- **We welcome members of the public attending and who are in listen & view only mode.** Written comments are always welcomed (tva.com/rerc).
- **RERC Members who are attending are able to mute and unmute their own line.** RERC Members will use the **raise hand function** to be recognized for questions or comments.

Introductions

RERC Term 6* Members

Adam Benshoff
Ford Motor Company

Jan Berry
Citizens Climate Education

Marquita Bradshaw
Sowing Justice

Ron Bunch
Bowling Green Chamber of
Commerce

Monte Cooper
Jackson Energy Authority

Erin Gill, RERC Chair
Knoxville Utilities Board

Rebecca Goodman
Commonwealth of Kentucky

Rodney Goodman
Habitat for Humanity

Chrissy Heard
State of Mississippi

Chelsea Jenkins
Commonwealth of Virginia

Candy Johnson
Urban League of Greater
Chattanooga

Sen. Steve Livingston
State of Alabama

Pete Mattheis
Tennessee Valley Industrial
Committee

Dan Miller
Oak Ridge National Laboratory

Doug Peters
Tennessee Valley
Public Power Association

Boyd Pettit
State of Georgia

Erik Schmidt
City of Chattanooga

Patricia Sims
Drake State Community &
Technical College

Alexa Voytek
State of Tennessee

Julie Woosley
State of North Carolina

*Aug1, 2023 – July 31, 2025

Agenda

Regional Energy Resource Council (RERC) Meeting Dec 14, 2023 2:00 pm EST Webinar

2:00 pm EST	Welcome – Designated Federal Officer Melanie Farrell & RERC Chair Erin Gill Introductions, Agenda
2:15	Integrated Resource Plan (IRP) Process Update
2:30	IRP Scenarios and Strategies
3:00	Stakeholder Engagement Opportunities
3:15	Questions and Discussion
3:30	Adjourn RERC Meeting

2024 Integrated Resource Plan (IRP) Update

December 12, 2023

IRP Overview

Brian Child; Vice President, Enterprise Planning

TVA's Integrated Resource Plan

The IRP is a study of how TVA could meet customer demand for electricity between now and 2050 across a variety of future worlds.

A programmatic Environmental Impact Statement (EIS) accompanies the IRP to address its environmental effects.

An updated IRP is needed to:

- Proactively establish a strong planning foundation for the 2030s and beyond
- Inform TVA's next long-range financial plan

The IRP provides strategic direction on how TVA will continue to provide low-cost, reliable, and increasingly cleaner electricity to the 10 million residents of the Tennessee Valley.



What TVA's IRP Does

The IRP will:

- Use least-cost planning criteria
- Incorporate resource capital, operating, fuel, and environmental compliance costs
- Include Valley economics as key criteria to evaluate strategies
- Evaluate socioeconomic and climate impacts of alternative strategies in the associated EIS

The IRP will not:

- Establish wholesale or retail electricity rates
- Identify specific sites for new resources
- Be a Distribution Integrated Resource Plan (DIRP)

Key Integrated Resource Plan (IRP) Dates

The 2024 IRP study approach is intended to enable stakeholder involvement and ensure transparency

Spring 2023 – Publication of Notice of Intent (NOI) and public scoping initiation

Summer 2023 – IRP Working Group commences

Fall 2023 – Public scoping report published

Fall/Winter 2023 – Modeling and environmental study

Developing scenario forecasts

Running model cases

Spring 2024 – Publish Draft IRP and EIS, public comment period begins

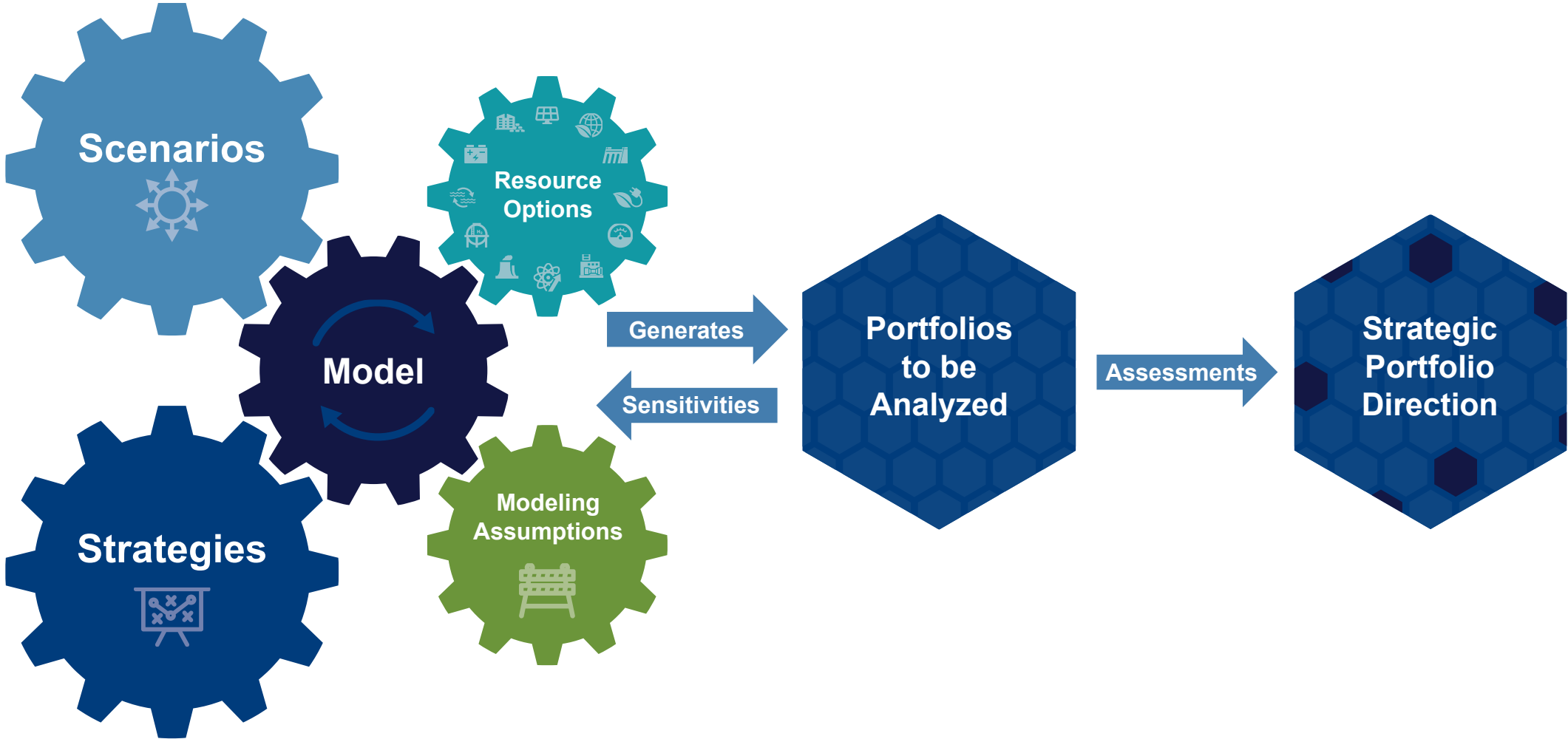
Spring/Summer 2024 – Respond to Draft comments and develop Final documents

Summer 2024 – Publication and TVA Board adoption of Final IRP and EIS

IRP Process

Clifton Lowry; Director, Resource Planning and Strategy

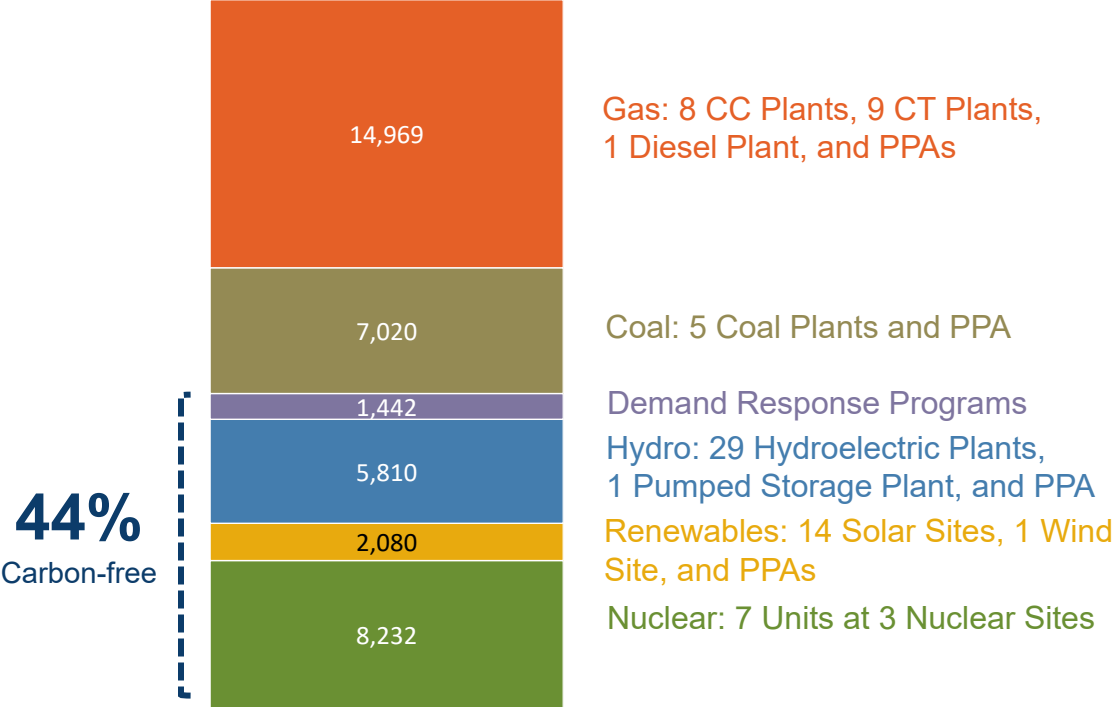
How the Integrated Resource Planning Process Works



Stakeholder feedback is a key component in the development of all model inputs.

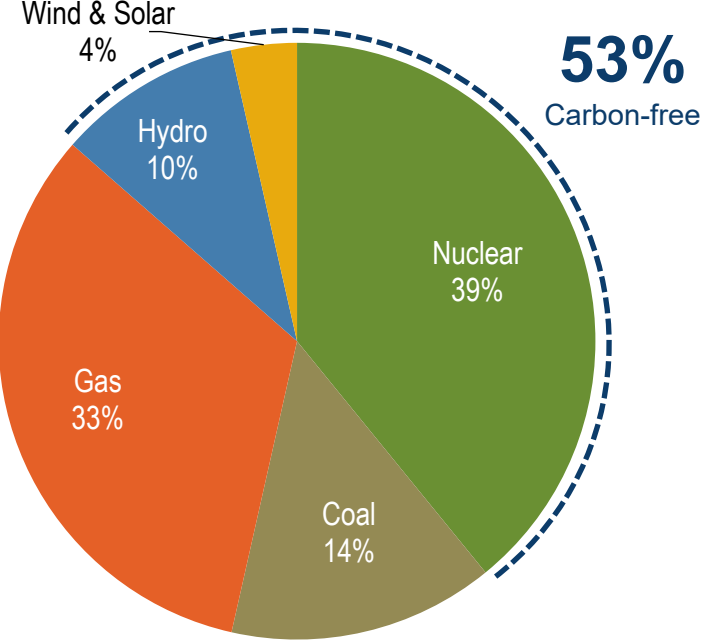
Today's Resource Portfolio

FY22 Capacity 39,553 MW



Capacity aligns to FY22 10-K Net Summer Capability, adjusted to include demand response programs. Planning capacity is lower, as it accounts for Hydro and Renewable expected generation at peak, fuel blend derates, and other factors.

FY22 Energy 165 TWh



In addition to power supply sources included here, TVA offers energy efficiency programs that effectively reduced 2022 energy needs by about 2,200 GWh or 1.3% (Net Cumulative Realized at System basis, 2007 base year).

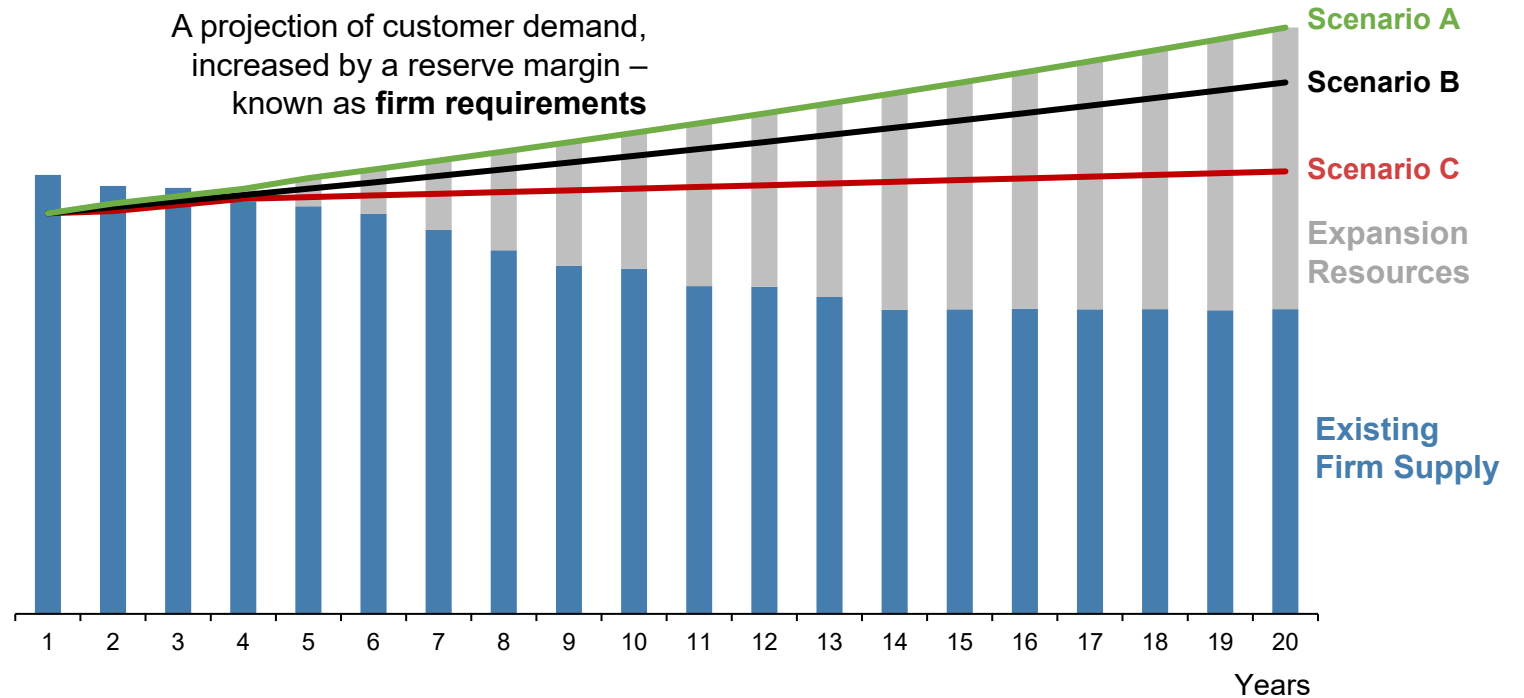
Resource Planning for Future Capacity Needs

Resource planning is about optimizing the mix of future capacity.

Projections of capacity needed are filled by the most cost-effective resources.

Multiple scenarios will be explored, reflecting different levels of forecasted demand.

Illustrative Capacity Gap Chart



Recommended path provides low cost, reliability, diversity and flexibility

Scenarios and Strategies Establish a Framework

A well-designed strategy will perform well in many possible scenarios

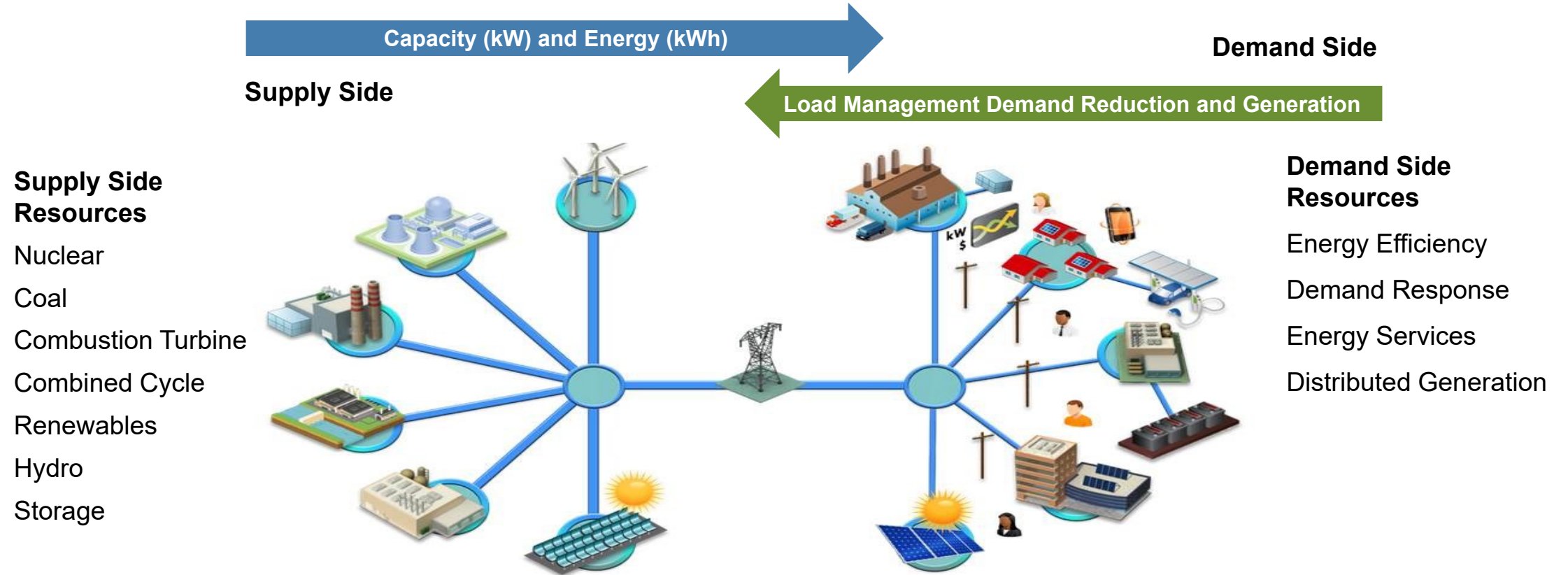
Scenarios are outside TVA's control

- Describe potential outcomes of factors (uncertainties) outside of TVA's control
- Represent possible conditions and are not predictions of the future
- Include uncertainties that could significantly impact operations, such as:
 - Load forecasts
 - Commodity prices
 - Environmental regulations
- Lends insight to riskiness of portfolio choices

Strategies are within TVA's control

- Test various business options within TVA's control
- Defined by a combination of resource assumptions, such as:
 - DER portfolio
 - Nuclear expansion
 - Energy storage
- Consider multiple viewpoints
 - Public scoping period comments
 - Assumptions that would have the greatest impact on TVA long term

TVA Operates in Multidirectional Environment



2024 IRP Scenarios and Strategies

Clifton Lowry; Director, Resource Planning and Strategy

2024 IRP Scenarios

Scenario	Narrative
1. Reference Case	Represents TVA's current forecast that reflects increasing employment and population, industrial growth, weather-normal trends, growing electric vehicle demand, and increasing efficiencies.
2. Higher Growth Economy	Reflects a technology-driven increase in U.S. productivity growth that stimulates the national and regional economies, resulting in substantially higher demand for electricity.
3. Stagnant Economy	Reflects rising debt and inflationary pressures that stifle consumer demand and business investment, resulting in weaker than expected economic growth and essentially flat electricity demand.
4. Carbon Regulation	Reflects the impact of proposed greenhouse gas rules targeting significant reductions in electric utility CO2 emissions beginning in 2030 and potential future regulations intended to achieve net zero by 2050.
5. Carbon Regulation plus Growth	Reflects the impact of proposed and potential future regulations coupled with substantial advancements in clean energy technologies, spurring economic growth and extensive electrification.

2024 IRP Draft Scenario Total System Load Forecasts

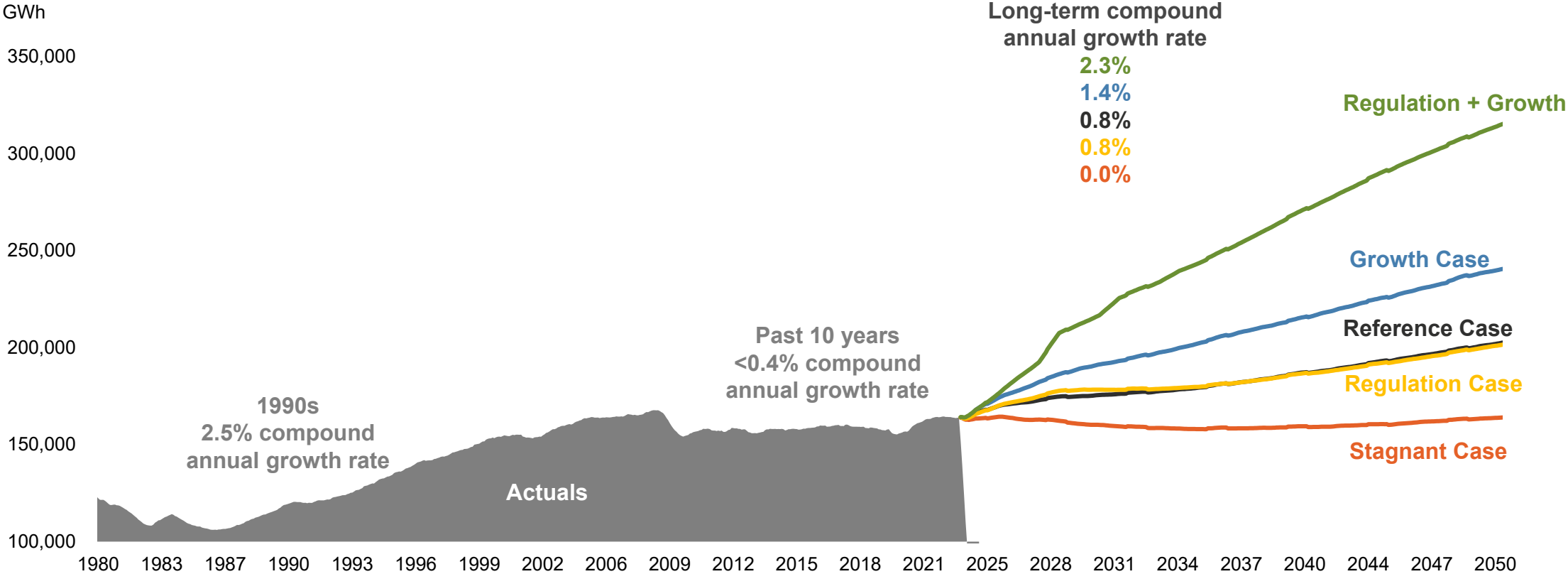
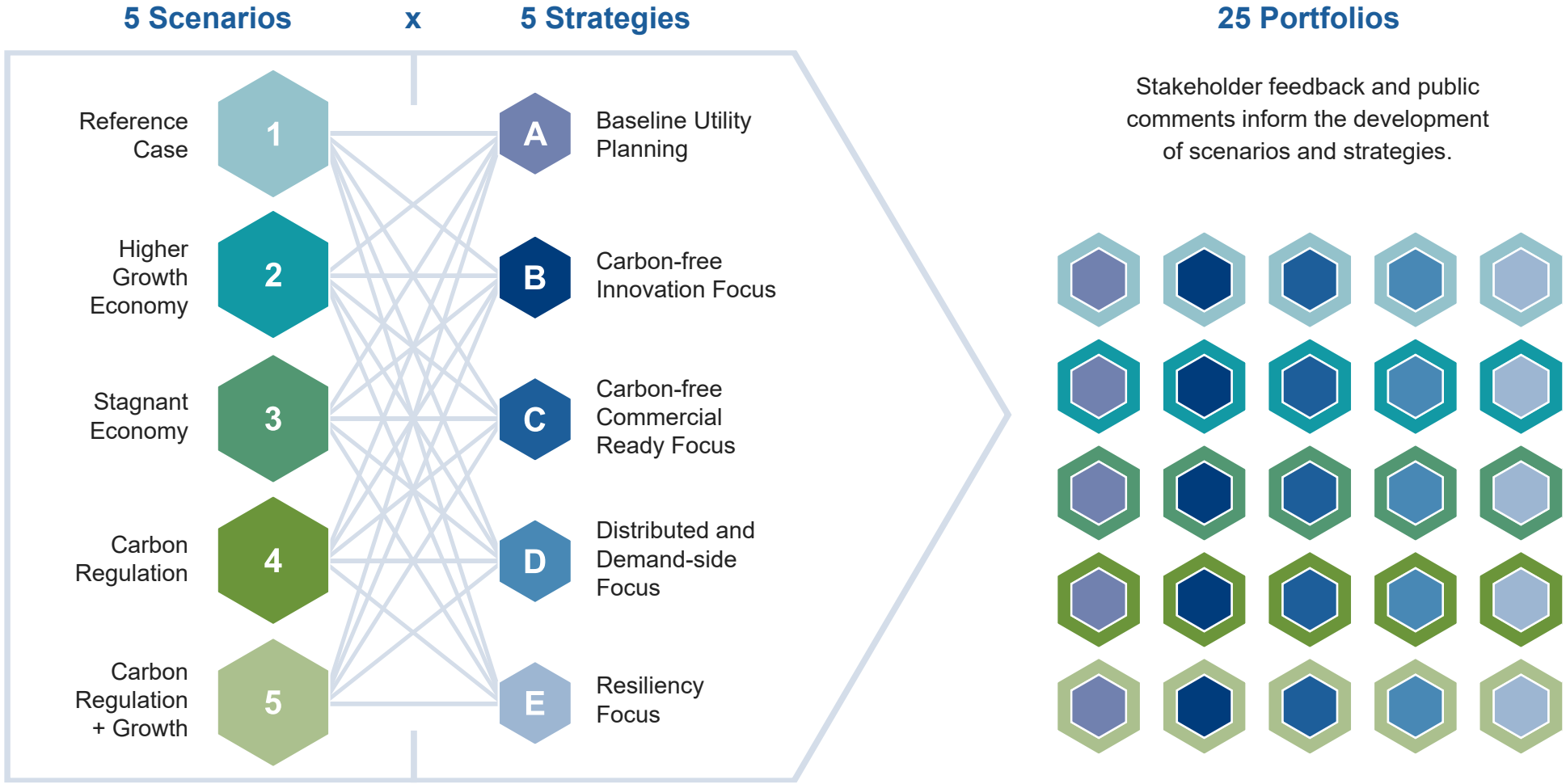


Chart reflects energy, actuals are shown on a weather-normal basis

2024 IRP Strategies

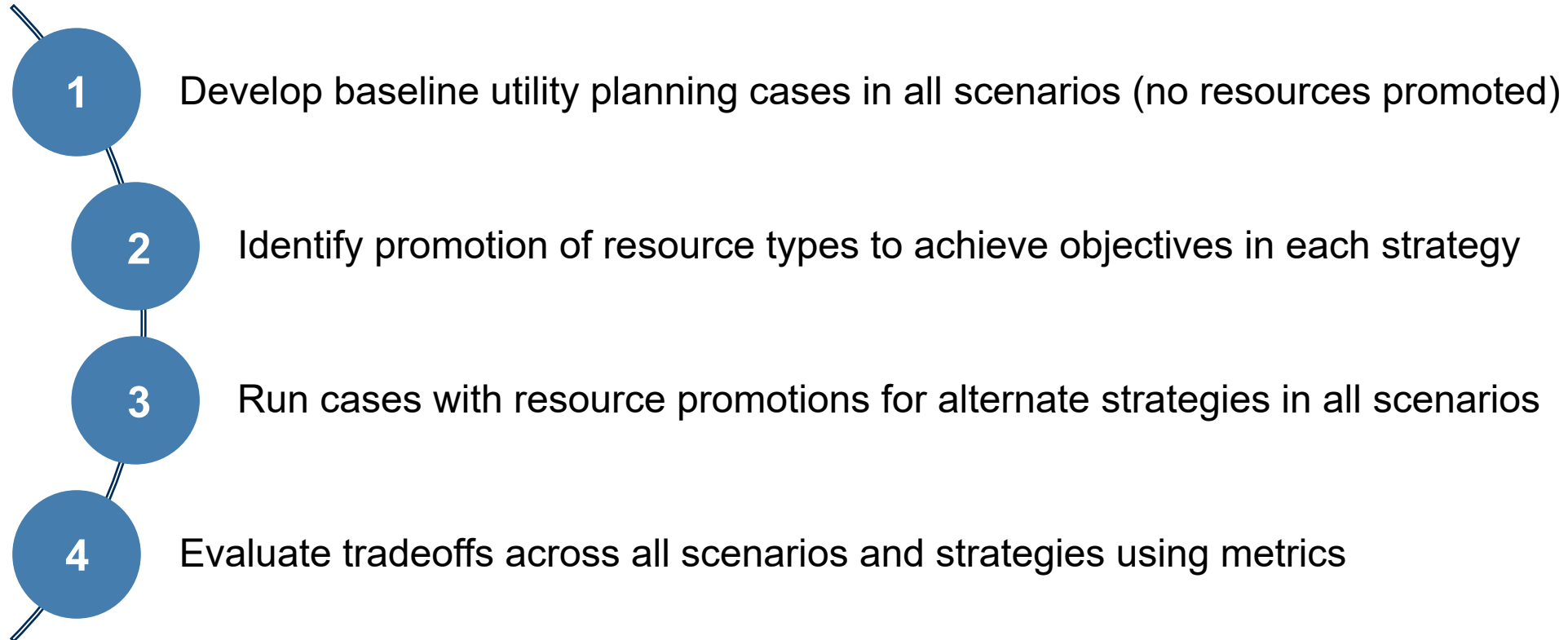
Strategy	Description
A. Baseline Utility Planning	Represents TVA’s current outlook based on least-cost planning, incorporating existing programs and a planning reserve margin target. This reserve margin target applies in all strategies.
B. Carbon-Free Innovation Focus	Emphasizes and promotes emerging, firm, and dispatchable carbon-free technologies through innovation, continued research and development, and strategic partnerships.
C. Carbon-Free Commercial Ready Focus	Emphasizes proven renewable technologies such as wind, solar, battery and long-duration storage, at both utility-scale and through customer partnerships, along with strategic transmission investment.
D. Distributed and Demand Side Resources Focus	Emphasizes existing and potentially expanded customer partnerships and programmatic solutions to reduce reliance on central station generation and promote virtual power plants.
E. Resiliency Focus	Emphasizes smaller units and the promotion of storage, coupled with strategic transmission investment, to drive wider geographic distribution of resources and additional resiliency across the system.

IRP Utilizes a Rigorous Analytical Process



Strategy Design and Evaluation

The IRP will compare baseline-utility planning with alternate strategies that promote certain resource types to evaluate tradeoffs across least-cost planning principles – low cost, risk informed, environmentally responsible, reliable and resilient, diverse and flexible.



Stakeholder Engagement Opportunities

Melanie Farrell; Vice President, External Strategy and Regulatory Oversight

2024 IRP Working Group

Diverse representation creates support and credibility for TVA's long-term resource plans

Eight customer representatives, including:

- Three from Local Power Companies (LPCs)
- Five from customer associations

16 stakeholder representatives, including:

- Three from research or academic institutions
- Three from energy or environmental non-governmental organizations
- Four from state or federal government
- Six from community, sustainability, or other special interests



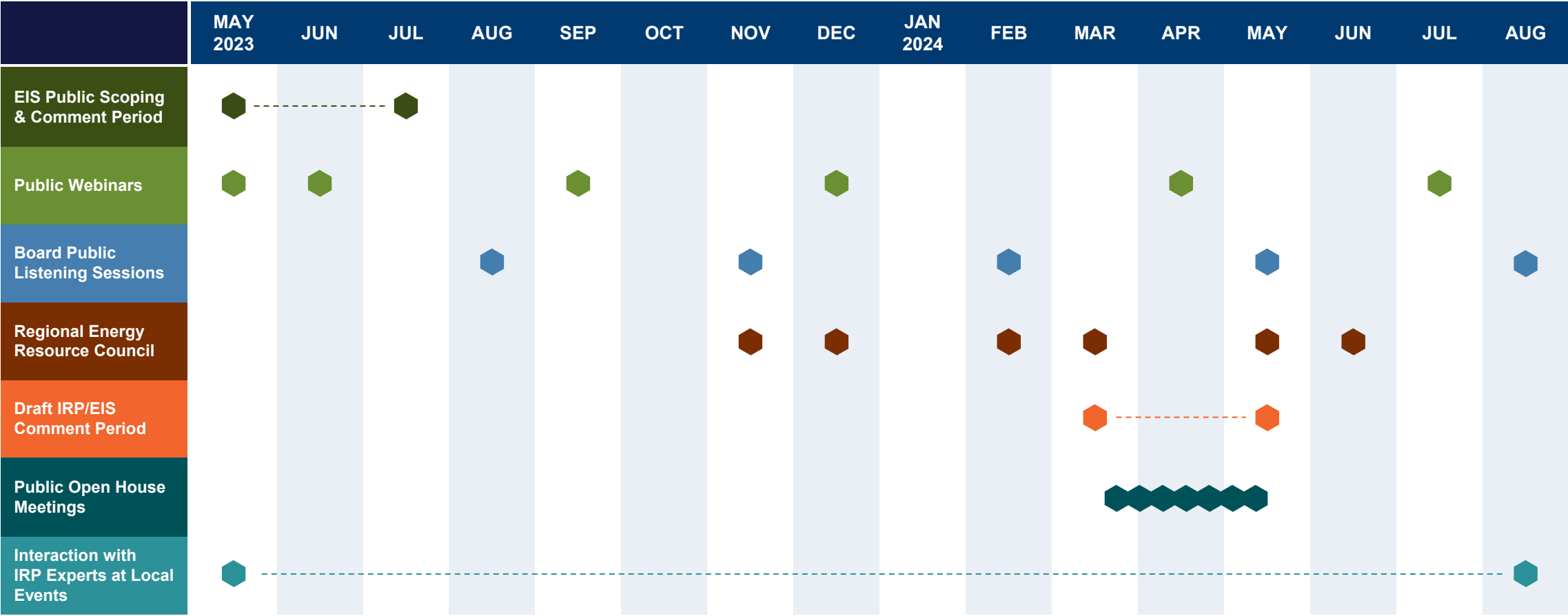
IRP Public Engagement Opportunities

A key element of TVA's IRP process is to ensure public involvement and direct engagement with a diverse group of stakeholders. The 2024 IRP process is utilizing past effective engagement venues as well as leveraging several new dynamics and initiatives.



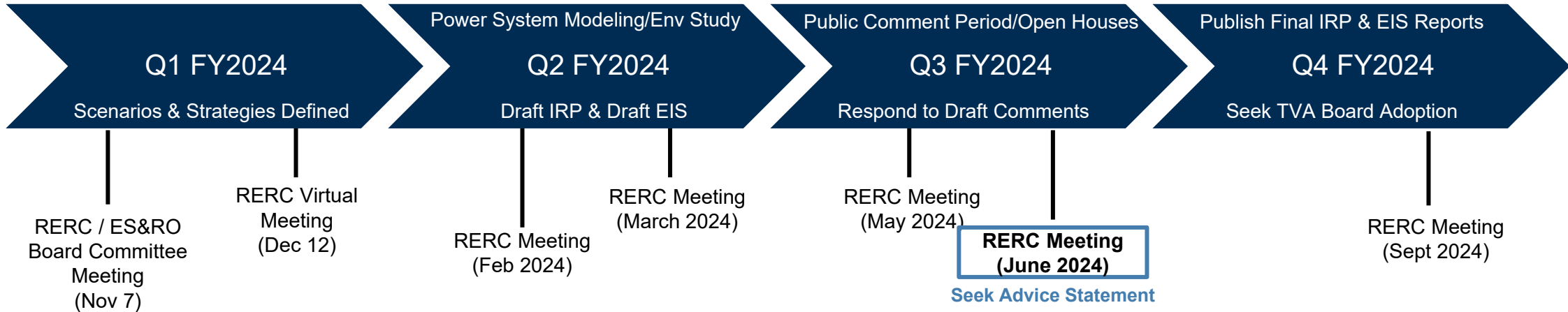
Online: tva.com/IRP / Email: IRP@tva.gov / Channels: @TVA @TVANews

IRP Stakeholder Input Opportunities / Public Outreach Tools



Role of RERC in TVA's Integrated Resource Plan

- Objective of RERC - Provide TVA advice on its energy resource activities and the priorities among competing objectives and values. The advice of the Council is reported to TVA Board's External Stakeholders and Regulation Committee.
- TVA staff will provide updates to the RERC throughout the development of the IRP.
- The RERC will be asked to provide a consensus advice statement on the final version of the IRP.



Opportunities to Stay Involved

TVA Website www.tva.gov/IRP.

Attend future periodic public educational webinars – **Next webinar December 14, 2023 at 12 noon Eastern.**

Add your name to the IRP mailing list at www.tva.gov/IRP to be notified when documents are released.

Submit comments on the Draft IRP/EIS Report, expected to be available in spring 2024.



Questions & Comments

Next RERC Meeting

Jan 18, 2024 Joint Meeting RERC and RRSC

Advice on Valley Pathways Study

Knoxville

Adjourn