
IRP Public Educational Webinar

September 21, 2023

About Today's Meeting

A recording of this presentation will be available on the TVA 2024 IRP website.

2024 IRP website: www.tva.gov/IRP.

There will be an opportunity for questions at the end of the presentation using either the Q&A functionality of the Teams webinar or by submitting questions to IRP@tva.gov with the subject line "Public Webinar Q&A".

Webinar Agenda

Integrated Resource Plan (IRP) Overview

IRP Updates

National Environmental Policy Act (NEPA) Process Overview

Public Scoping Summary

Stakeholder Engagement Opportunities

Q&A

Integrated Resource Plan (IRP) Overview

Clifton Lowry; Director, Resource Planning & Strategy
Hunter Reed; IRP Project Manager

TVA's Integrated Resource Plan

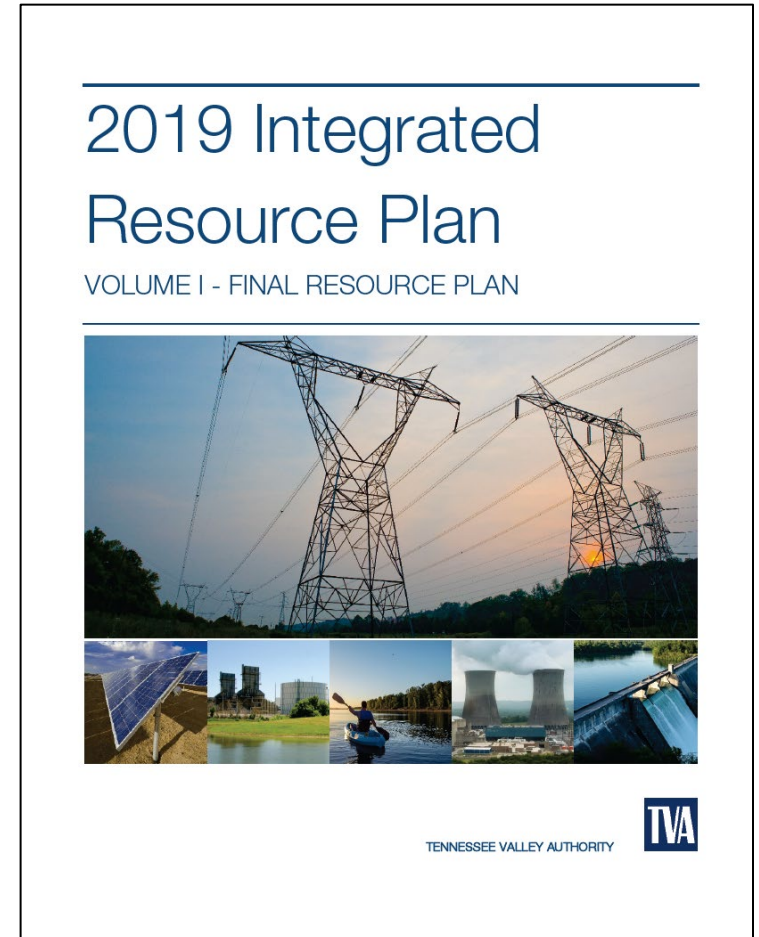
The IRP is a study of how TVA could meet customer demand for electricity between now and 2050 across a variety of future scenarios.

A programmatic Environmental Impact Statement (EIS) accompanies the IRP to analyze the impacts to the Valley.

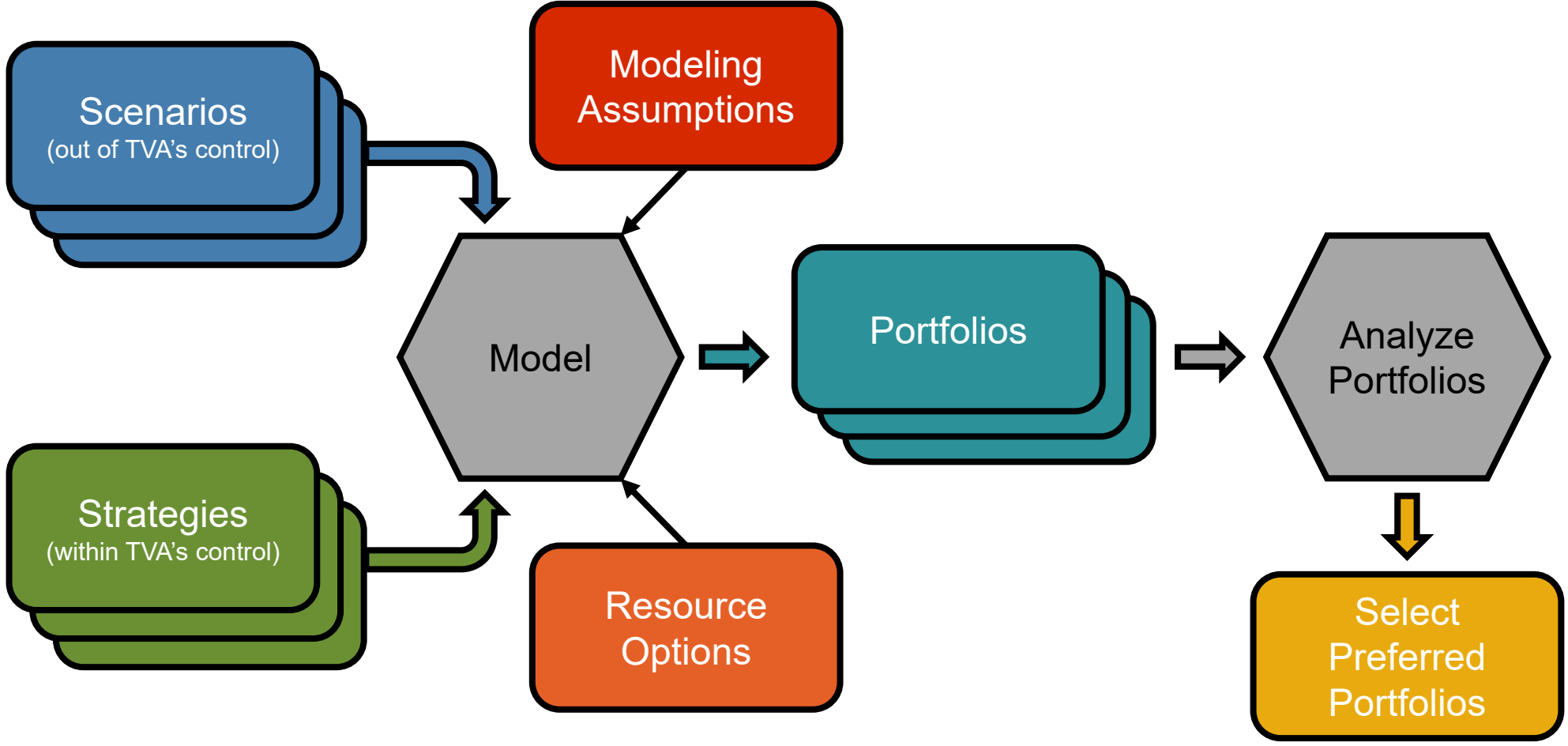
An updated IRP is needed in order to:

- 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.



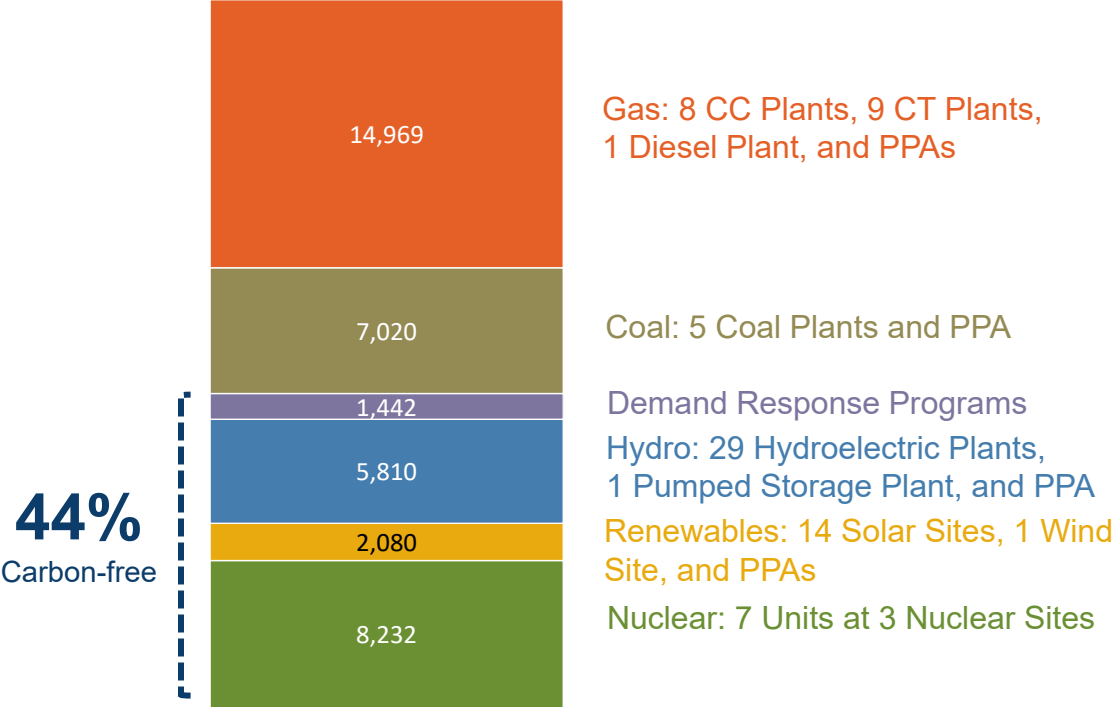
How the Integrated Resource Planning Process Works



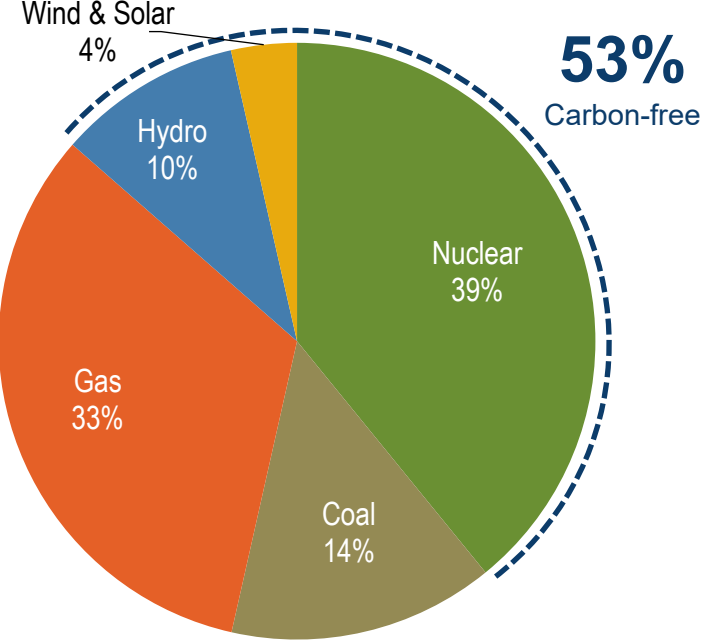
Stakeholder feedback is a key component in the development of all model inputs

Today's Resource Portfolio

FY22 Capacity 39,553 MW



FY22 Energy 165 TWh



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.

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).

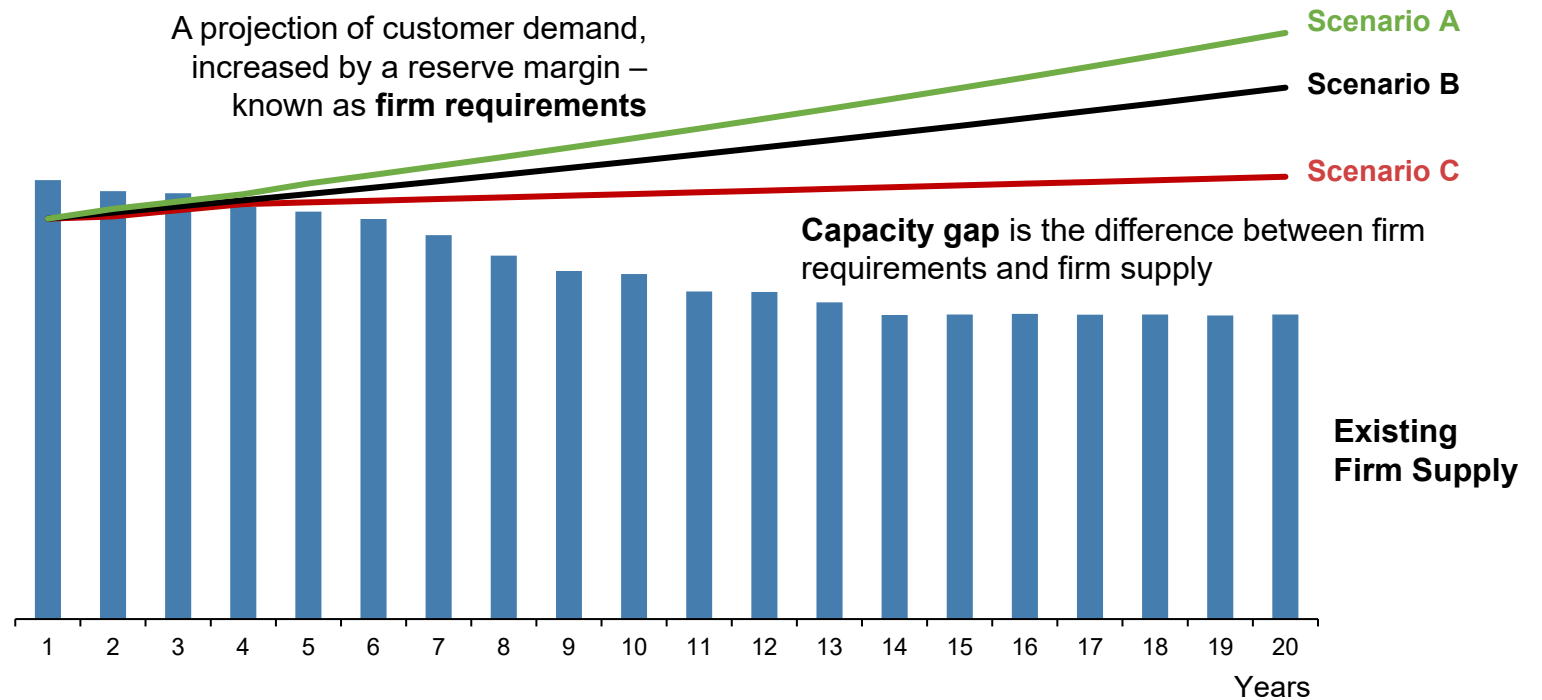
Resource Planning for Future Capacity Needs

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



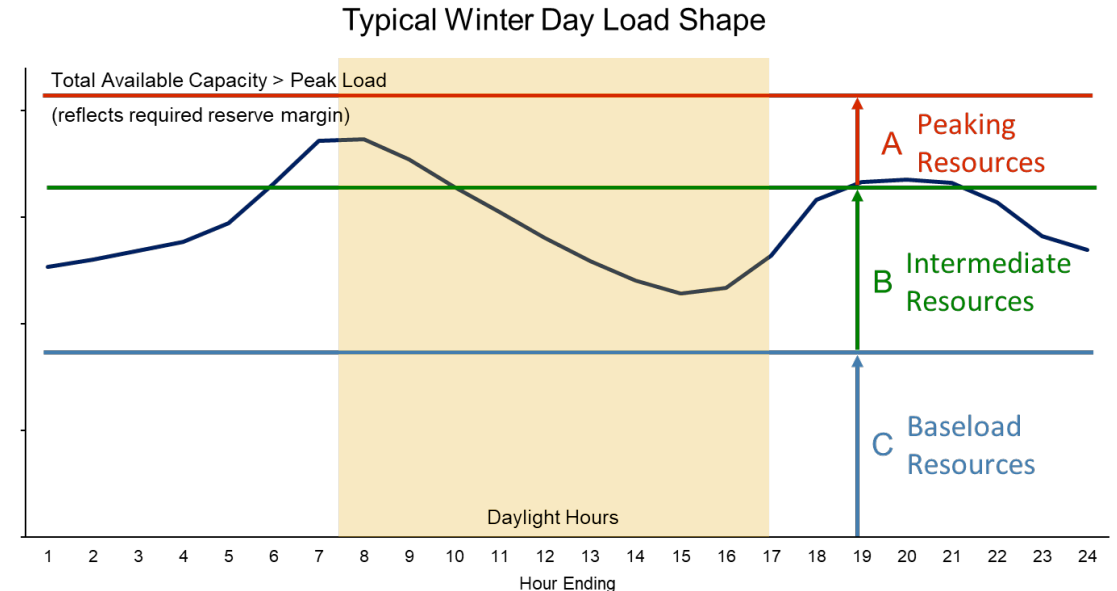
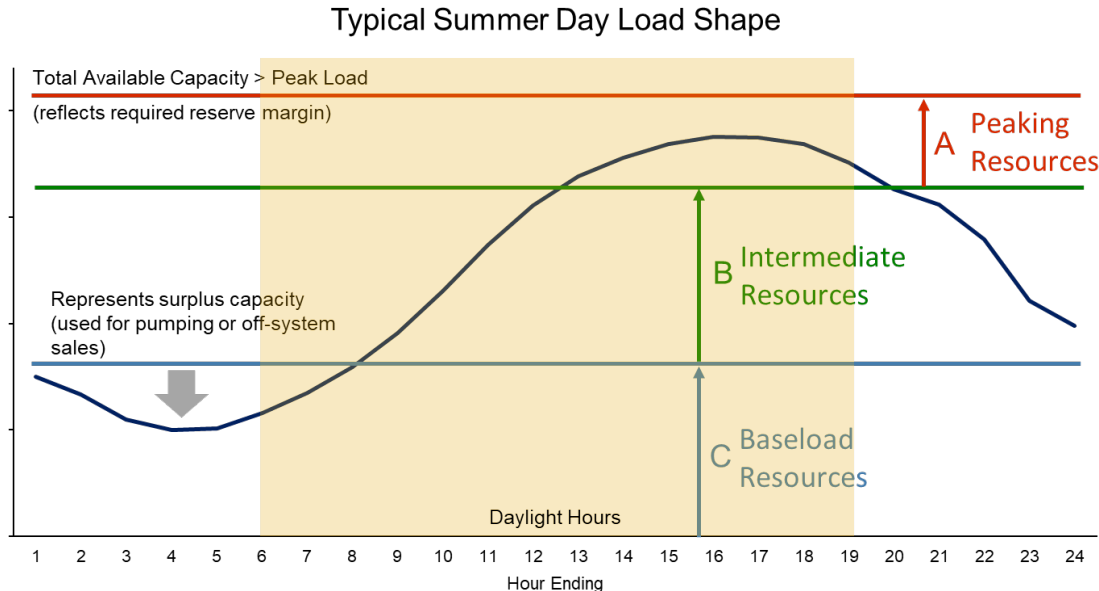
Recommended path provides low cost, reliability, diversity and flexibility

Key Resource Considerations

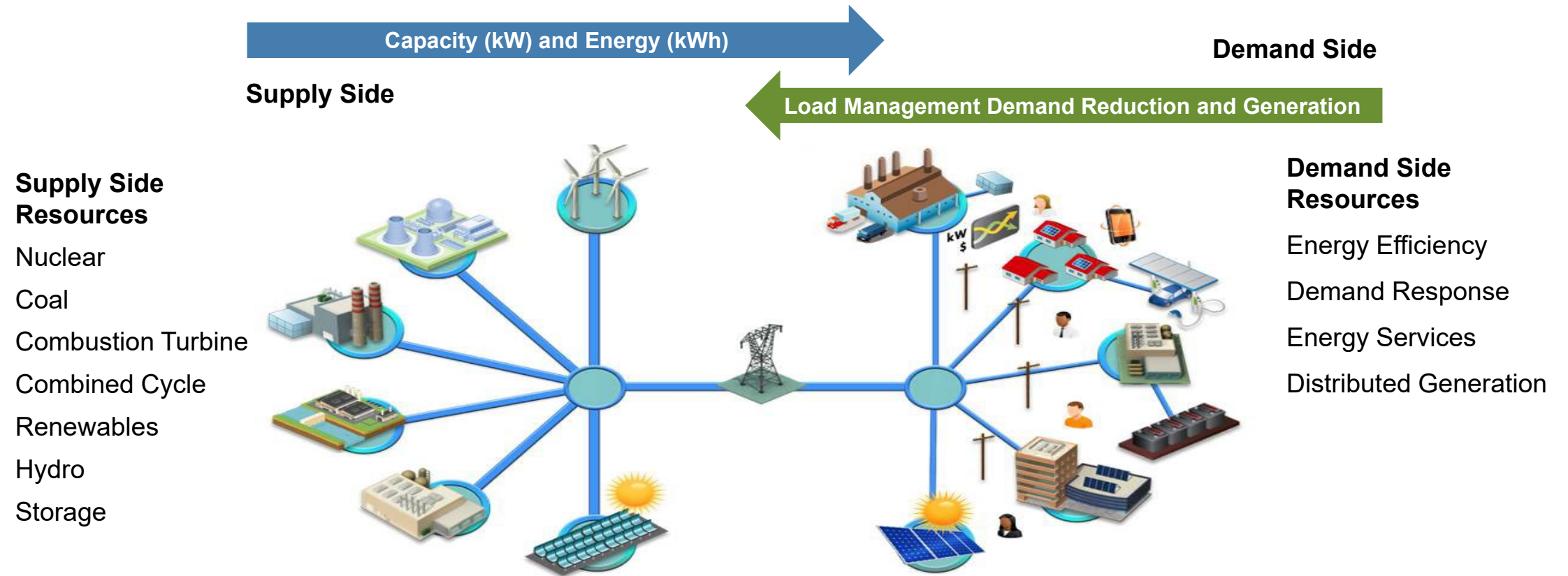
Resource selection considers seasonal load shape differences, particularly the timing of expected peak loads.

Resource selection considers typical duty cycle operation: baseload, intermediate, or peaking.

Resources that are intermittent in nature, such as renewables and demand-side programs, are modeled using expected generation patterns.



TVA Operates in Multidirectional Environment



2024 IRP: Key Considerations

Reliability, affordability, and resiliency

Dispatchability

Electrification and load growth

Carbon reductions and net zero

Renewables and storage

Climate impacts

Environmental justice

Other risks

IRP Updates

Candy Kelly; Sr. Manager, Resource Strategy

Key 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: Power system modeling and environmental study

Spring 2024: Publish Draft documents, 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 Updates and Upcoming Activities

Engaging the IRP working group

Finalizing scenarios and strategies and reviewing/refining assumptions

Consulting industry experts, e.g., National Renewable Energy Laboratory (NREL)

Performing power system modeling

Next public webinar planned for December 2023

NEPA Process Overview

Matthew Higdon; Sr. NEPA Compliance Specialist

IRP Environmental Impact Statement - Purpose and Approach

To comply with the National Environmental Policy Act (NEPA)

Ensures TVA decision-makers are informed of environmental impacts

Provide public involvement

Determine the environmental impacts system-wide

Programmatic EIS

EIS Analyzes Key Environmental Factors

The EIS will assess broad region-wide impacts of the next IRP on environmental factors such as:

- Air quality and climate impacts
- Water resources
- Fuel requirements
- Waste production
- Land requirements
- Socioeconomics and environmental justice

EIS Process and Milestones



*Opportunity for public feedback

Public Scoping Summary

Kelly Baxter; IRP NEPA Project Manager

Notice of Intent (NOI) Scoping Questions

How do you think **energy demand** will **change** between now and 2050 in the TVA region?

Should the **diversity** of the current power **generation mix** (e.g., coal, nuclear, power, natural gas, hydro, renewable resources) **change**?
If so, how?

How should **Distributed Energy Resources (DER)** be considered in TVA planning?

How should **energy efficiency and demand response** be considered in planning for **future energy needs**?

How will the resource decisions discussed in the NOI affect the **reliability, dispatchability** (ability to turn on or off energy resources) and **cost of electricity**?

And how can TVA **directly affect electricity usage** by consumers?

2024 IRP Public Scoping Summary



Scoping Period: May 12–July 3, 2023

Outreach methods:

- Media outlets received news releases throughout TVA region
- Social media advertisements on multiple platforms
- Emails to individuals, agencies, and organizations



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|--|--|---|
| <p>Scoping webinar 1: May 23, 2023 5:30 p.m.</p> | <p>Scoping webinar 2: June 7, 2023 12:00 p.m.</p> | <p>115 Participants 34 Clarifying Questions</p> |
| <p>How many comments?</p> <p>43 Official comments via email, online portal, mail</p> <p>Over 300 unofficial comments via social media</p> | <p>Who made the comment?</p> <p>13 businesses 20 self/individuals 2 government agencies 11 non-government organizations</p> | <p>Where are commenters from?</p> <p>4 Valley states (86% in-Valley) 4 other states and Washington, D.C.</p> |

Public Scoping Common Themes

Increase/accelerate decarbonization efforts and faster

Consider resources from outside the Valley (wind)

General support and opposition to various generation options

Consider climate change impacts and risks

Consider existing and emerging generation and storage technologies

Rate impacts

Recognize socioeconomic and environmental justice strategies

Increase public outreach and stakeholder involvement



Scoping Advice from Commenters



Increase decarbonization efforts and faster

Consider resources from outside the Valley

Climate change impacts and risks

General scenario design ideas

Consider existing and emerging generation and storage technologies

Consider improving rates

Recognition of socioeconomic and environmental justice strategies

Interest in various types of generation options

Suggestions to increase public outreach and stakeholder involvement

2024 IRP Public Scoping Report

**2024 IRP SCOPING
REPORT WILL BE
AVAILABLE SOON
AT
www.tva.com/irp**

Stakeholder Engagement Opportunities

Amy Edge; Director, Customer Relations

2024 IRP Stakeholder 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 includes utilizing past effective engagement venues as well as leveraging several new dynamics and initiatives.



- Ongoing tools for stakeholder engagement:
- IRP Website - [Integrated Resource Plan \(tva.com\)](https://www.tva.com)
 - IRP Mailbox - IRP@tva.gov
 - Social Media

2024 IRP Working Group

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

Eight customer representatives, including:

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

16 stakeholder representatives, including:

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



Opportunities to Stay Involved

TVA Website www.tva.gov/IRP.

Attend future periodic public educational webinars.

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

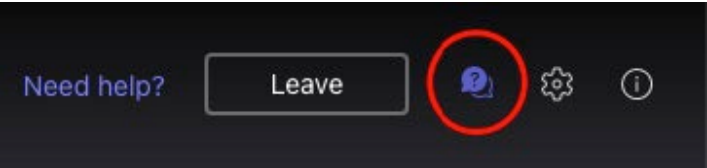
Submit comments on the Draft IRP/EIS Report, expected to be available in spring 2024.



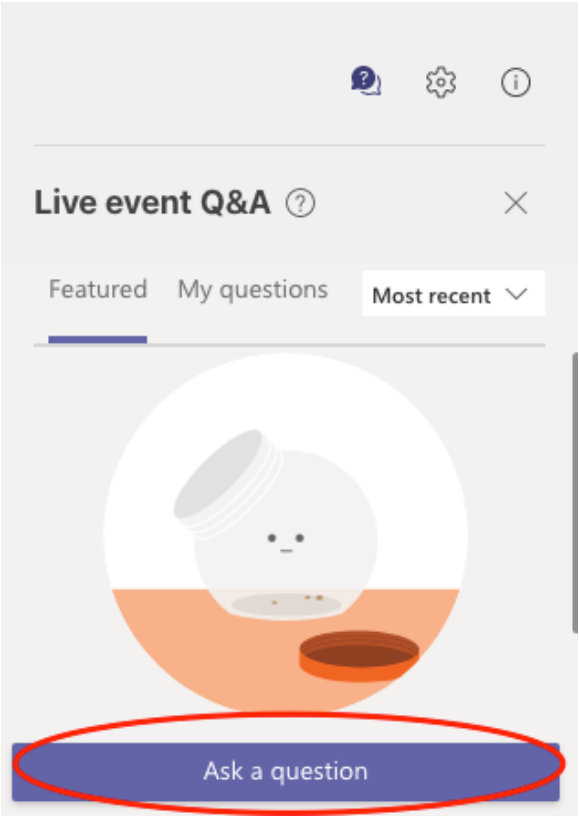
Questions from Audience

Q&A Operation

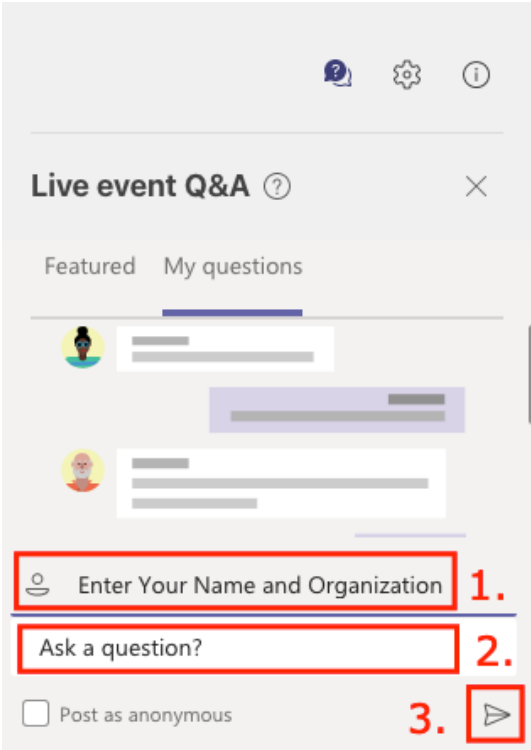
1. Click the Q&A button



2. Click "Ask a Question"



3. Please enter your name and organization in box 1, your question in box 2, then the arrow to submit



Use the Q&A box or email your question to IRP@tva.gov

Closing Remarks

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TVA

**TENNESSEE
VALLEY
AUTHORITY**