



2019 INTEGRATED RESOURCE PLAN

TVA Retirees
March 8, 2018



TVA's Energy Vision for next 20 Years



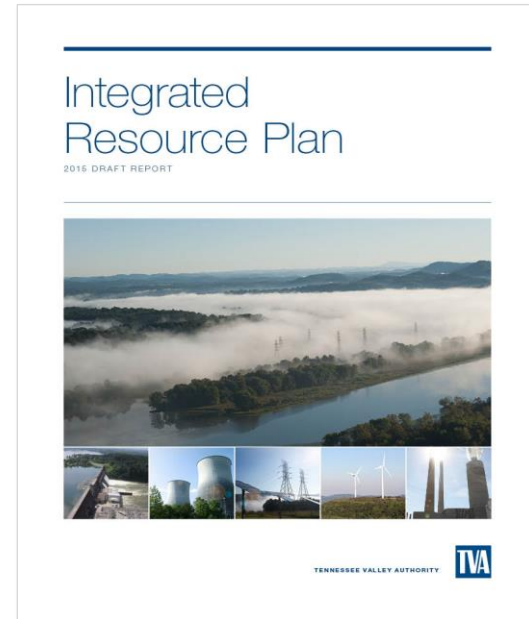
Welcome

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TVA's Integrated Resource Plan

The IRP is a study of how TVA could meet customer demands across a variety of future environments.

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



Utility Marketplace Is Changing Rapidly

An updated Integrated Resource Plan is needed:

- Proactively plan for the future
- Inform next long-range financial plan
- How might TVA continue to:
 - Provide low-cost, reliable electricity
 - Support environmental stewardship
 - Spur economic development

Public Engagement

- TVA periodically updates its power generation strategy. The first step is to understand the environment we're planning in. We call this scoping.
- We ask the general public, our customers, our partners and regulators about their concerns regarding the sources we use to generate power, how we manage demand and how we deliver power.
- With this information, we develop candidate resource plans that are evaluated for viability, socioeconomic and environmental impact.

IRP is a public process – stakeholder engagement is important

- IRP Working Group
- Regional Energy Resource Council
- Public meetings, webinars, listening sessions





2019 IRP Objective & Purpose

Integrated Resource Planning

- Collaboration with stakeholders to envision the generation needs of the future
- Based on least-cost planning foundation
- Provides foundation for developing long-range financial plans
- Considers a number of potential futures to help predict changes in the marketplace



The IRP functions like a compass, not a GPS

Goals for an Optimal Resource Plan

Low Cost

Risk Informed

Environmentally
Responsible

Reliable

Diverse

Flexible

Resource Planning Is About Solving Puzzles



By asking a lot of questions, like ...

How much energy will our customers use in the future?

What alternatives do we have to meet our resource needs?

Are there strategic considerations that will limit the alternatives we can consider?

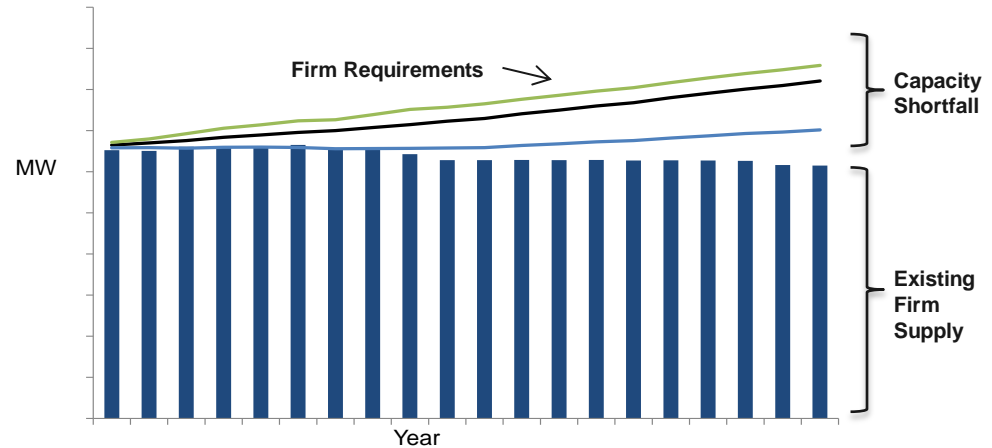
How do we properly evaluate these resource alternatives?

How do we find the best solution?

Resource Planning Addresses Future Capacity Needs

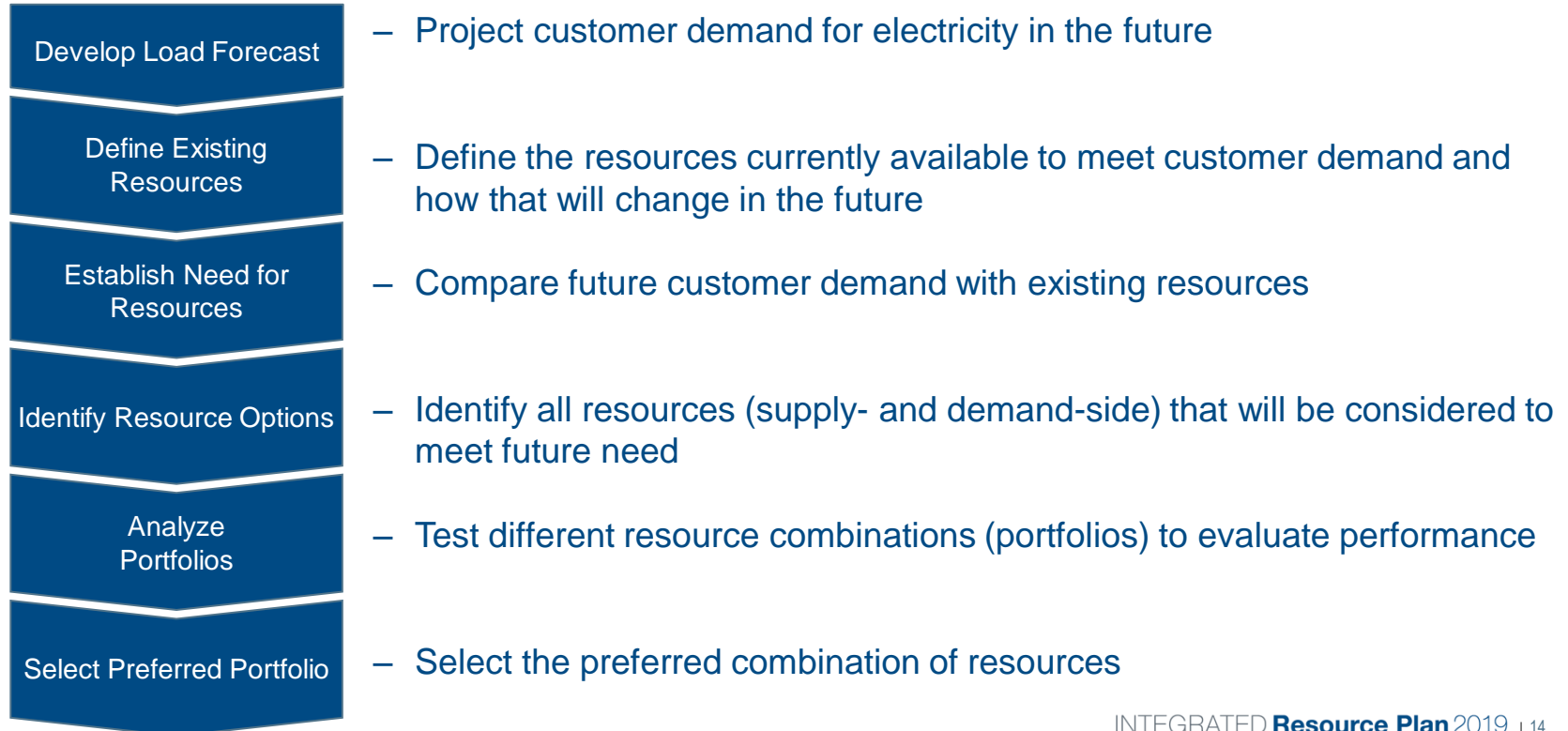
Resource planning is about optimizing the mix of future capacity.

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

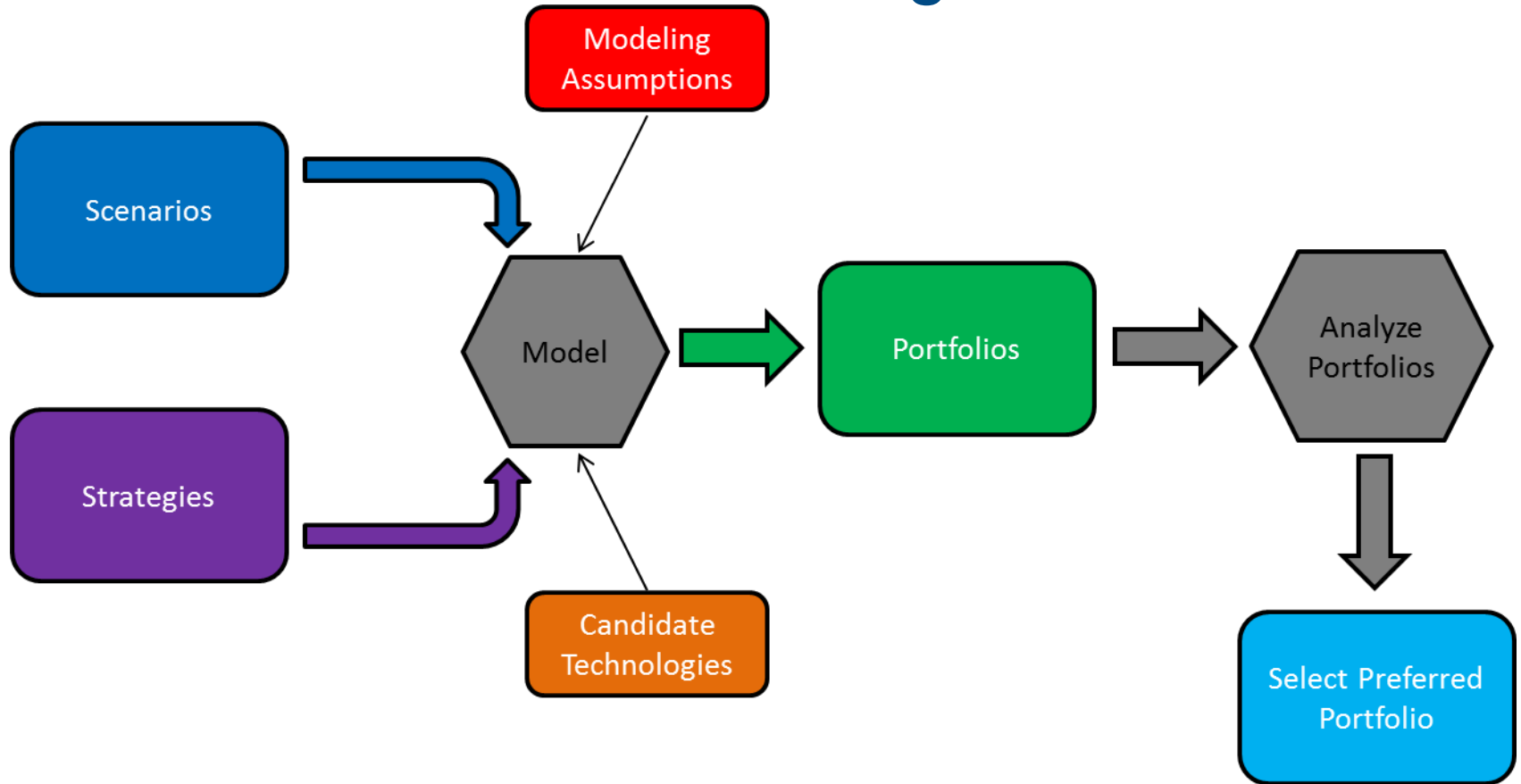


The TVA Resource Planning Process

Resource Planning is a common tool in the utility industry to identify the least cost solution to meet customer demand over a long horizon (usually 20 years)



How the Resource Planning Process Works



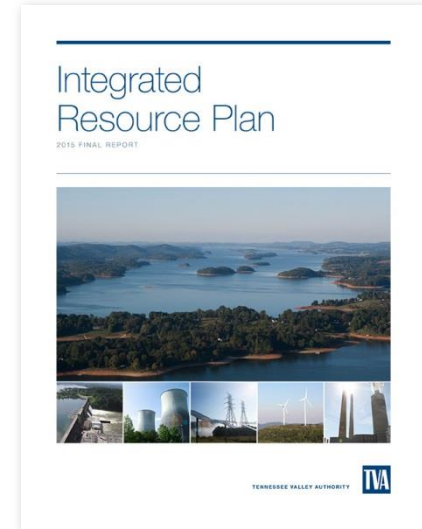
2015 IRP Recommendation



More . . .

- Energy efficiency & demand response
- Natural gas
- Renewables
- Nuclear uprates

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- Less coal
 - No new base load in the planning horizon after Watt Bar Unit 2 and nuclear uprates



TVA will provide reliable, affordable and sustainable power & strive for economic growth in the Valley

2019 IRP Focus Areas

- Distributed energy resources (DER)
- System flexibility
- Portfolio diversity



Defining the IRP

The IRP Will:

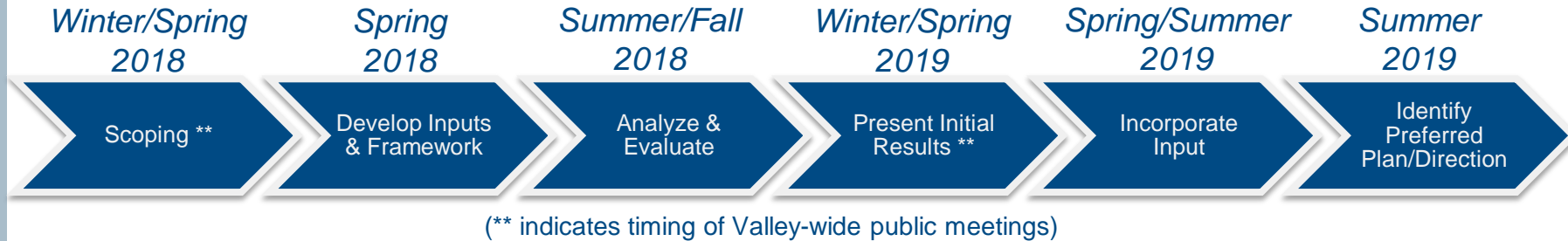
- Use least-cost planning criteria
- Incorporate resource capital and operating costs, fuel costs
- Include Valley economics as key criteria to evaluate strategies
- Evaluate socioeconomic impacts of alternative strategies
- Attempt to understand the speed of DER penetration in the Valley

The IRP Will Not:

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

2019 IRP Schedule: Schedule & Milestones

The 2019 IRP Study Approach is intended to ensure transparency & enable stakeholder involvement



Key Tasks/Milestones in this study timeline include:

- Establish stakeholder group and hold first meeting (Feb 2018)
- Initial modeling (June 2018)
- Publish draft EIS and IRP (Feb 2019)
- Complete public meetings (April 2019)
- Board approval and final publication of EIS and IRP (expected Summer 2019)



IRP Programmatic Environmental Impact Statement (EIS)

IRP Environmental Impact Statement - Purpose and Approach

- Determine environmental impacts system-wide
- Inform decision makers of potential impacts
- Provide public involvement

Analyze Key Environmental Factors

- The EIS will assess broad system-wide impacts of a new IRP on environmental factors such as:
 - Air quality
 - Water resources
 - Fuel requirements
 - Waste production
 - Land requirements
 - Socioeconomics

EIS Process



Questions



We Want Your Input

How you can comment on the IRP Scoping:

- In person at any of the public open houses
- Use the online IRP comment form at www.tva.gov/irp
- Email your comment to irp@tva.gov
- Mail written comments to:

Ashley Pilakowski
400 W Summit Hill Dr., WT 11D
Knoxville, TN 37902

Opportunities to Stay Involved

- Submit comments during the scoping period, which ends April 16, 2018
- Quarterly Public Update Webinars
- TVA Website www.tva.gov/irp
- Make comments on the Draft IRP and Draft EIS, expected to be available in early 2019

For information and to comment:

www.tva.gov/irp

