

TVA IRP Employs Rigorous Scenario and Strategy Approach

TVA is developing its 2026 Integrated Resource Plan (IRP) with input from stakeholders and the public. The IRP will provide strategic direction for meeting the energy needs of TVA’s customers and residents of the Valley region from now through 2050.

TVA considered feedback from the IRP Working Group and public comments to design scenarios and strategies to be evaluated in the IRP. Scenarios explore possible futures, or worlds, that TVA may find itself operating in. Strategies reflect alternative business approaches TVA could employ to meet electricity demand by emphasizing certain resource options.

Identifying scenarios and strategies is a critical step in the IRP process because they serve as the basis for modeling.

Scenarios consider a wide range of ways the future could unfold. They evaluate uncertainties related to macro-economic conditions, electricity demand, environmental policy and regulations, and other factors.

The Reference scenario represents TVA’s current forecasts for macro-economic conditions and electricity demand. The alternative scenarios were generated by incorporating TVA’s expertise with public and stakeholder feedback to generate alternative, plausible futures. These alternative scenarios explore futures with even higher levels of

electricity demand growth as well as legislation aimed at reducing power sector carbon emissions.

Strategies are alternative business approaches TVA could take to meet electricity demand by emphasizing certain resource options.

The Baseline Utility Planning strategy utilizes traditional least-cost planning, whereas the alternative strategies emphasize different resource technologies aligned with a focus on emerging energy technologies or more distributed energy technologies.

Modeling each strategy in each scenario generates nine resource portfolios. Tradeoffs between these resource portfolios are then evaluated using metrics that reflect TVA’s mission and least-cost planning principles.

Sensitivity analysis is performed to answer key “what if?” questions, with consideration of IRP Working Group and RERC input and public comments on the draft IRP and Environmental Impact Statement (EIS).

Collectively, these evaluations will inform the IRP recommendations for strategic portfolio direction, which will be included in the final IRP report.

IRP Scenarios and Strategies

SCENARIOS



Reference

Represents TVA’s current forecast that reflects moderate population, employment, and industrial (primarily data center) growth, weather-normal trends, growing electrification, and increasing efficiencies



High Growth

Reflects a technology-driven increase in U.S. productivity growth that stimulates the national and regional economies, resulting in substantially higher demand for electricity



Carbon Legislation

Reflects the impact of potential future carbon legislation designed to reduce power sector emissions.

STRATEGIES



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



Innovation

Emphasizes emerging, firm and dispatchable technologies such as advanced nuclear and long-duration storage through innovation, continued R&D, and partnerships.



Distributed

Emphasizes distributed technologies such as batteries, renewables, and demand-side programs to reduce reliance on central station generation and utilize virtual power plants