Integrated Resource Plan 2026

EXECUTIVE SUMMARY

AUGUST 2026

TENNESSEE VALLEY AUTHORITY

Executive Summary

Unleashing American Energy

For over 90 years, the Tennessee Valley Authority (TVA) has executed its mission to serve the Tennessee Valley region – to provide affordable and reliable power, be a responsible steward of the environment, and support economic development. That mission continues as TVA plans the energy system of the future, working to unleash American energy in the region for the coming decades.

TVA's 2026 Integrated Resource Plan (IRP) and associated programmatic Environmental Impact Statement (EIS) evaluate the long-term demand for power in the TVA region, the resource options available for meeting that demand, and the potential economic, operating, and environmental impacts of these options. Consideration of stakeholder input is integral to TVA's IRP process. The IRP will provide strategic direction for meeting the region's energy needs between now and 2050, establishing a strong planning foundation and informing TVA's next long-range financial plan.

Why is the IRP Important?

Having the right resources at the right time to power the homes, businesses, and industries in the region requires continual and proactive planning. Developing and building new power plants to serve the region's energy needs often takes several years or more. Periodically, TVA develops an IRP that goes beyond standard annual asset planning to take a broader view of potential electricity demand, evolving regulations, and technology advancements, all while incorporating stakeholder input into the planning process.

The Tennessee Valley is one of the fastest growing regions in the nation, and strides are being made in emerging energy technologies, making the work of this IRP especially important. The IRP recommendations, which are based on statutory least-cost planning principles, will shape the future power system, ensuring that the region has affordable, reliable, and resilient energy for years to come.

TVA Overview

TVA's Mission

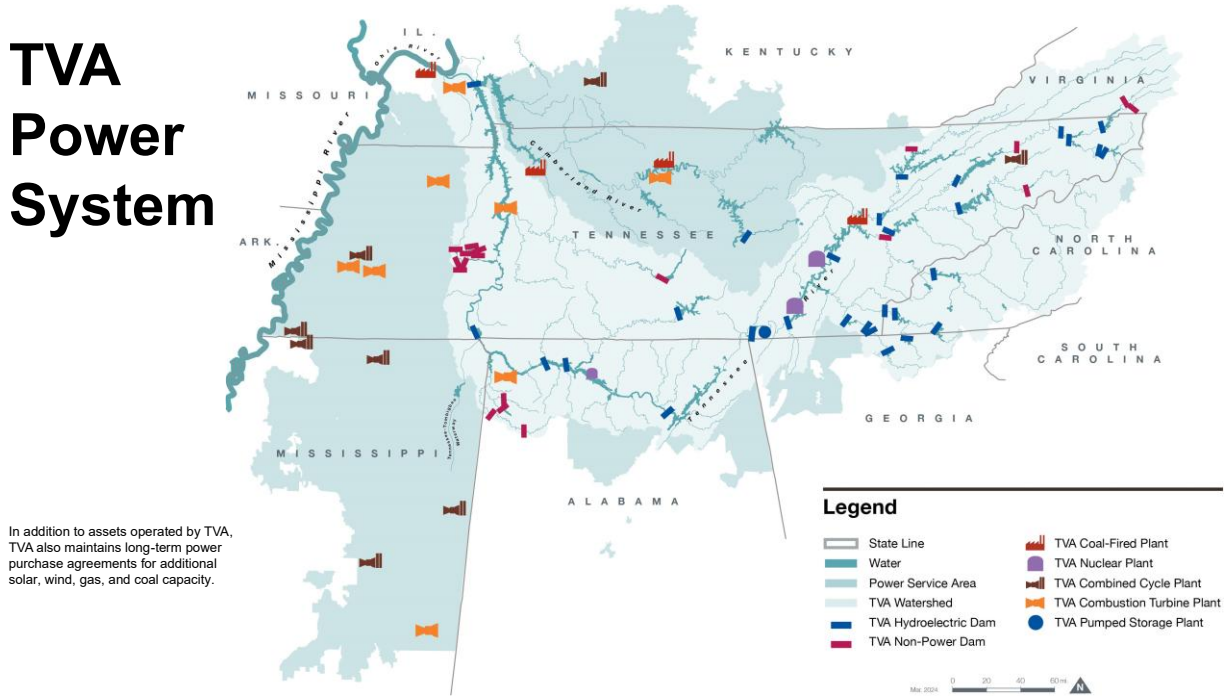
TVA was created by Congress in 1933 and charged with a unique mission – to improve the quality of life in the Valley through the integrated management of the region's resources. For more than 90 years, TVA has carried out this mission to serve the region, providing affordable and reliable energy, being a responsible steward of the environment, and supporting economic development. TVA funds virtually all operations through electricity sales and power system bond financing. TVA sets rates as low as feasible and reinvests net income into power system improvements and economic development initiatives. Additionally, TVA provides flood control, navigation, land management, and natural resource stewardship for the Tennessee River watershed. Today and in the future, TVA will drive growth and prosperity across the seven-state region through excellence in operations, financial discipline and a commitment to the fundamentals of TVA's mission.

TVA Power System

As the nation's largest public power supplier, TVA delivers affordable, reliable, and resilient electricity to 153 local power companies and 62 directly served customers. The TVA power system serves approximately 10 million people in a seven-state, 80,000 square-mile region. TVA's portfolio has evolved over the years to meet growing demand for electricity, diversify the generation mix, and ensure reliable service at low rates. In Fiscal Year (FY) 2025, TVA delivered nearly 168 billion kilowatt-hours of electricity to customers from a power supply

that was 33% nuclear, 35% natural gas, 18% coal-fired, 10% hydro, and 4% wind and solar. Additionally, TVA programmatic energy efficiency efforts reduced power demand by approximately 257 gigawatt-hours of net incremental savings.

To meet the region's energy needs in all types of weather, TVA maintains 42,140 megawatts (MW) of generating capability (FY 2025). TVA operates a generating asset portfolio of 32,268 MW, maintains long-term agreements with third-party power producers totaling 8,482 MW, and offers demand response programs that provide 1,390 MW of capacity. To reliably deliver this energy, TVA operates one of the nation's largest transmission systems.



Objectives of Resource Planning

Integrated resource planning at TVA is grounded in least-cost principles. TVA applies the following least-cost principles, aligned with Section 113 of the Energy Policy Act of 1992, to develop plans for providing affordable, reliable, and resilient energy over the long term:

Least-cost planning evaluates cost, operational, environmental, and other risk factors in order to provide reliable service at the lowest system cost. A system that is flexible, resilient, and diverse is more reliable, year in and year out, so these aspects are key considerations. Planning must also ensure compliance with all

applicable environmental regulations, while considering opportunities to cost-effectively reduce environmental impacts. Finally, TVA evaluates variations in electricity demand, commodity prices, resource costs, and United States (U.S.) energy policy to ensure plans are risk informed and flexible to adapt as the future evolves. Metrics used in the IRP reflect least-cost planning principles, providing insights into tradeoffs across alternative business strategies. When making specific asset decisions, TVA stays within the planning direction and resource ranges that were studied and approved in the most recent IRP.

Integrated resource planning at TVA is not used to set or establish wholesale or retail electricity rates. Additionally, the IRP does not identify specific sites for new resources or act as an approval mechanism for specific generation projects. Finally, TVA's IRP is not designed to be a distribution integrated resource plan.

Delivering on Prior IRP Recommendations

Before embarking on the 2026 IRP, it was important to evaluate the progress made on recommendations from the last IRP. The 2019 IRP provided strategic direction for the existing fleet, system flexibility, renewable and distributed resources, energy usage, and distribution planning. Meaningful progress has been made, as shown below:

- Maintained the existing, low-cost nuclear and hydro fleets and pursued nuclear license extensions
- Invested in the gas fleet to maintain reliability and enhance system flexibility
- Added more solar and battery storage to the resource mix
- Evaluated energy efficiency potential to inform future efforts
- Increased investment in low-income energy efficiency programs

TVA is also investing in the future bulk transmission grid. This includes a new, state-of-the-art System Operations Center which is now operational. The center employs smart technologies to improve reliability, has improved physical security from the previous center, and is flexible to help accommodate operational needs of the future.

Key Signposts Informing this IRP

The 2019 IRP identified key signposts – or market signals – to monitor. These signposts included changing market conditions, evolving policy and regulations, and technology advancements. Movements in these signposts influenced refinements to annual plans and helped determine the timing for initiating the next IRP.

Changing Market Conditions

After a decade of flat electricity demand, the TVA region is now experiencing increasing demand for electricity driven by population, employment, industrial growth, weather trends, and increasing electrification. Industrial forecasts are being driven in part by growth in high-energy users like data centers and electrification of processes. TVA's planning efforts must also account for volatility in both winter temperatures and natural gas prices. Finally, TVA is experiencing rising consumer demand for specific characteristics in generation resources, and in some cases, customers are willing to pay more to utilize those options.

Evolving U.S. Energy Policy

U.S. energy policy and regulations have evolved since the last IRP. Throughout 2025 and continuing in 2026, the utility industry experienced significant policy and regulatory shifts. Executive Order 14156, issued January 20, 2025, formally declared a national energy emergency. In parallel, the U.S. Environmental Protection Agency (USEPA) announced intentions to provide regulatory relief affecting existing coal and future natural-gas generation. The USEPA proposed a rule to repeal all greenhouse gas emissions standards for the power sector under Section 111 of the Clean Air Act (the "2024 GHG Rule"), as well as a final rule authorizing state permit

writers to extend compliance deadlines under the Effluent Limitation Guidelines (ELG) for steam electric generating units.

In addition to these policy and regulatory changes, the One, Big, Beautiful Bill Act (OBBB) was signed into law on July 4, 2025. OBBB included updates to investment tax credit (ITC) opportunities available for renewable, storage, and nuclear resources. All IRP scenarios reflect the impacts of OBBB on resource costs and national and regional energy prices.

Technology Advancements

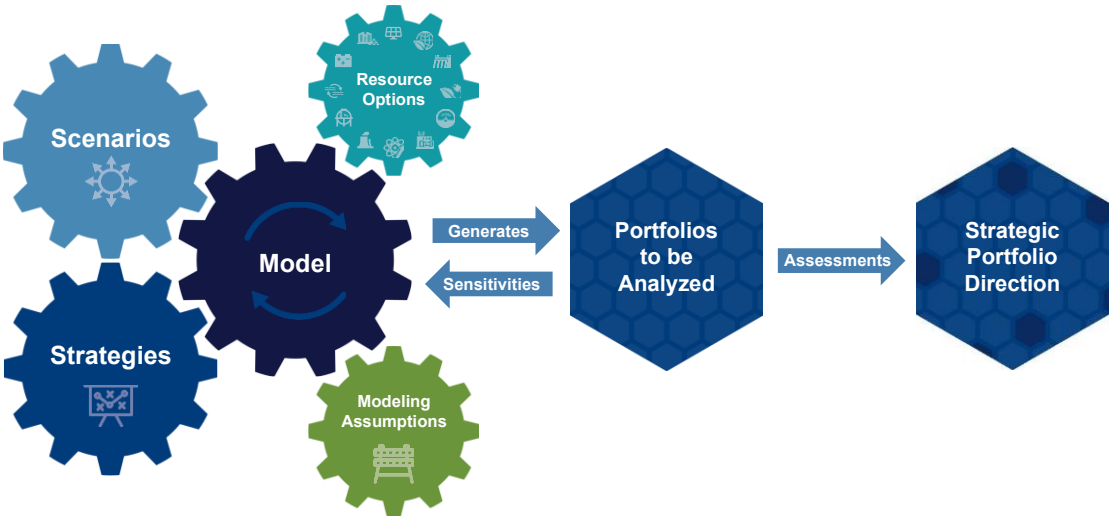
Progress is accelerating on emerging technologies such as advanced nuclear and advanced storage. TVA is collaborating with the Department of Energy, Oak Ridge National Laboratory, Electric Power Research Institute, universities, startup accelerators, and other industry partners to advance the viability and cost-effectiveness of these emerging technologies. Additionally, TVA has gained experience with increasing amounts of new solar generation and battery storage on the system.

Ensuring that resources will be online to replace expiring purchased power contracts and resources reaching their end of life, meet expected load growth, and comply with evolving U.S. energy policy, as well as having confidence in new technology performance, will be essential to meeting the electricity needs of the region between now and 2050.

Planning Approach

Key Planning Elements

TVA used a rigorous and comprehensive scenario and strategy approach to evaluate potential paths for providing affordable, reliable, and resilient energy into the future. This framework is summarized in the graphic below, with each component explained further in the following sections.



Informed by stakeholder input and public feedback, scenarios and strategies were designed to be evaluated in the IRP. Scenarios explored possible futures that TVA may find itself operating in that have varying levels of macro-economic conditions, electricity demand, and environmental policy and regulations. Strategies modeled alternative approaches TVA could employ to meet electricity demand by emphasizing certain resource options.

For each unique scenario and strategy combination, the planning model solved for the lowest-cost generating resource portfolio. Each of these portfolios was then analyzed using metrics that reflect TVA's mission and least-cost planning principles. Sensitivity analysis was performed to answer key "what if?" questions, with consideration of IRP Working Group and Regional Energy Resource Council (RERC) input and public

comments. The EIS evaluated the environmental impacts of potential changes in the portfolio. Collectively, these evaluations informed the IRP recommendations for strategic portfolio direction included in this final IRP report.

Scenarios and Strategies

The three external scenarios and three business strategies evaluated in the IRP are summarized below. The scenarios explore potential futures, including varying electricity demand growth and potential for future environmental regulations. The strategies depict business approaches TVA could employ to meet energy demand in these future worlds.

SCENARIOS		STRATEGIES	
1	**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	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
2	**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	B	**Innovation** Emphasizes emerging, firm and dispatchable technologies such as advanced nuclear and long-duration storage through innovation, continued R&D, and partnerships.
3	**Carbon Legislation** Reflects the impact of potential future carbon legislation designed to reduce power sector emissions.	C	**Distributed** Emphasizes distributed technologies such as batteries, renewables, and demand-side programs to reduce reliance on central station generation and utilize virtual power plants

Resource Options

Maintaining resource mix diversity is fundamental to TVA's ability to provide affordable, reliable, and resilient energy to the residents, businesses, and industries in the region. The IRP considered a wide range of supply-side, distributed, and demand-side resources. Shown below are the resource options included, categorized by the following fuel types: nuclear, hydro, coal, natural gas, renewables, storage, and energy efficiency and demand response (EE and DR).

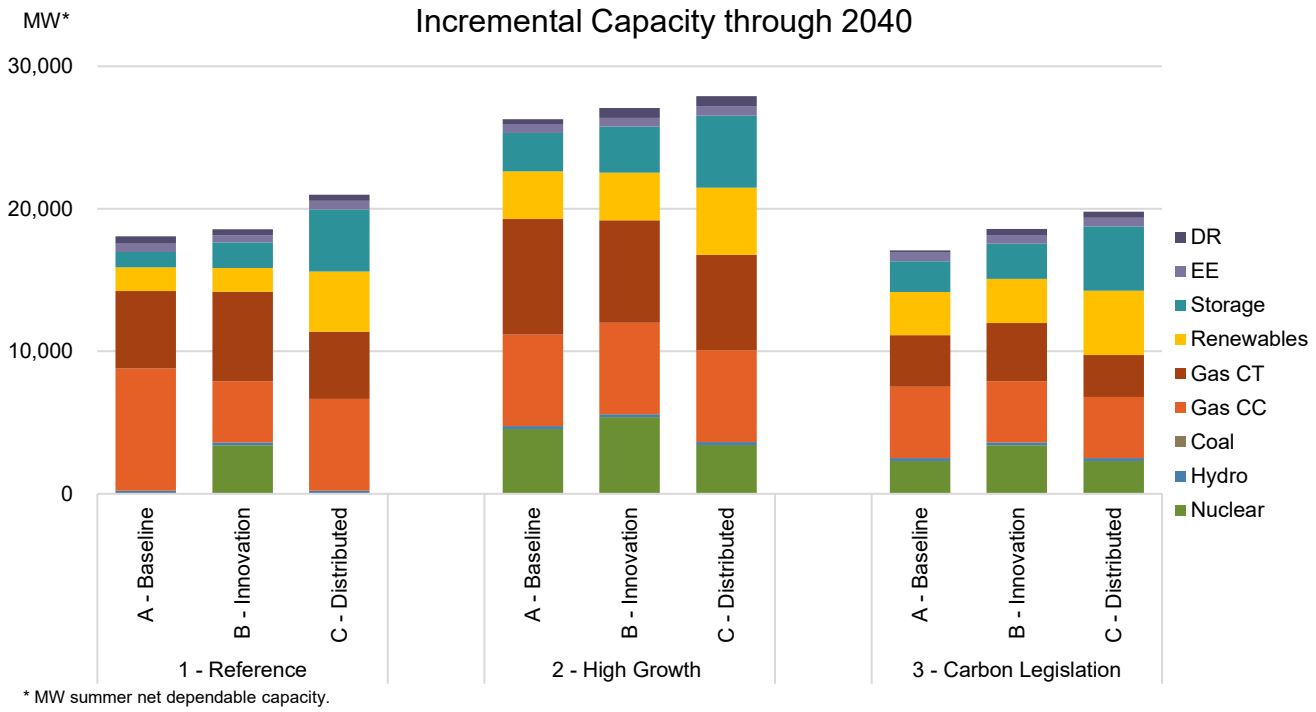
Nuclear	Hydro	Coal	Gas	Renewables	Storage	EE and DR
Advanced pressurized water reactor (APWR) Light water small modular reactor (LW SMR) Generation IV small modular reactor (Gen IV SMR)	Hydro uprates	Supercritical pulverized coal Supercritical pulverized coal with carbon capture	Combined cycle (CC) CC with carbon capture Combustion turbine (CT) Aeroderivative Reciprocating engine (RICE)	Utility-scale solar Distributed solar Midwest wind Southeast high-hub wind	Pumped storage Lithium-ion battery (4-hour) Advanced chemistry battery (8-hour) Distributed storage	Energy efficiency (EE) Demand response (DR)

Portfolio Results

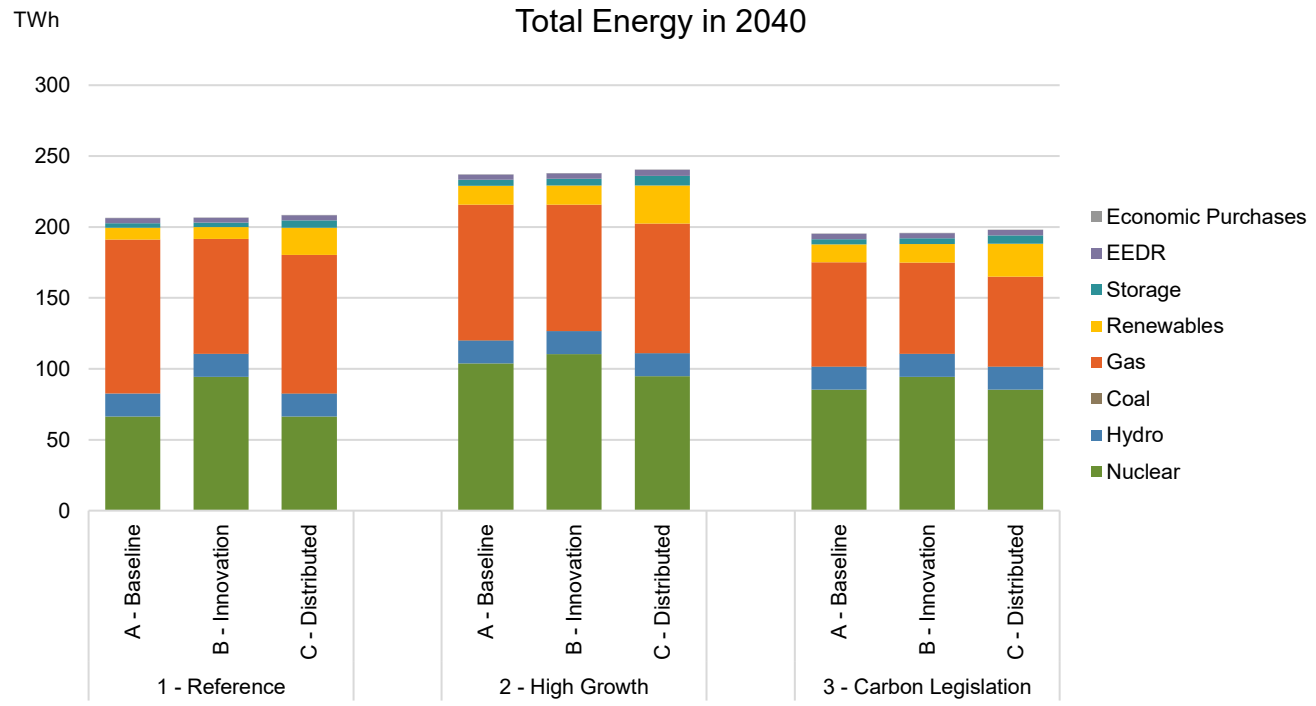
During the IRP process, TVA – with input from stakeholders and the public – considered a range of future scenarios, various business strategies, and a wide range of resource options. Applying the three strategies in the three scenarios generated nine potential resource portfolios to analyze.

2040 Portfolios

The charts below show the portfolio results through 2040. Results are presented in two ways – incremental capacity additions from now through 2040 and total energy in 2040. Incremental capacity represents the new resources selected to fill capacity needs. Capacity needs are driven by forecasted growth in energy demand and the expiration or expected end of life of approximately 11,000 MW of existing capacity. Total energy represents the economic dispatch of resources in the capacity plans for each portfolio. The results for each scenario are grouped together. Within a scenario, strategy results are grouped by resource type, which varies based on strategic focus and the impact on portfolio optimization.

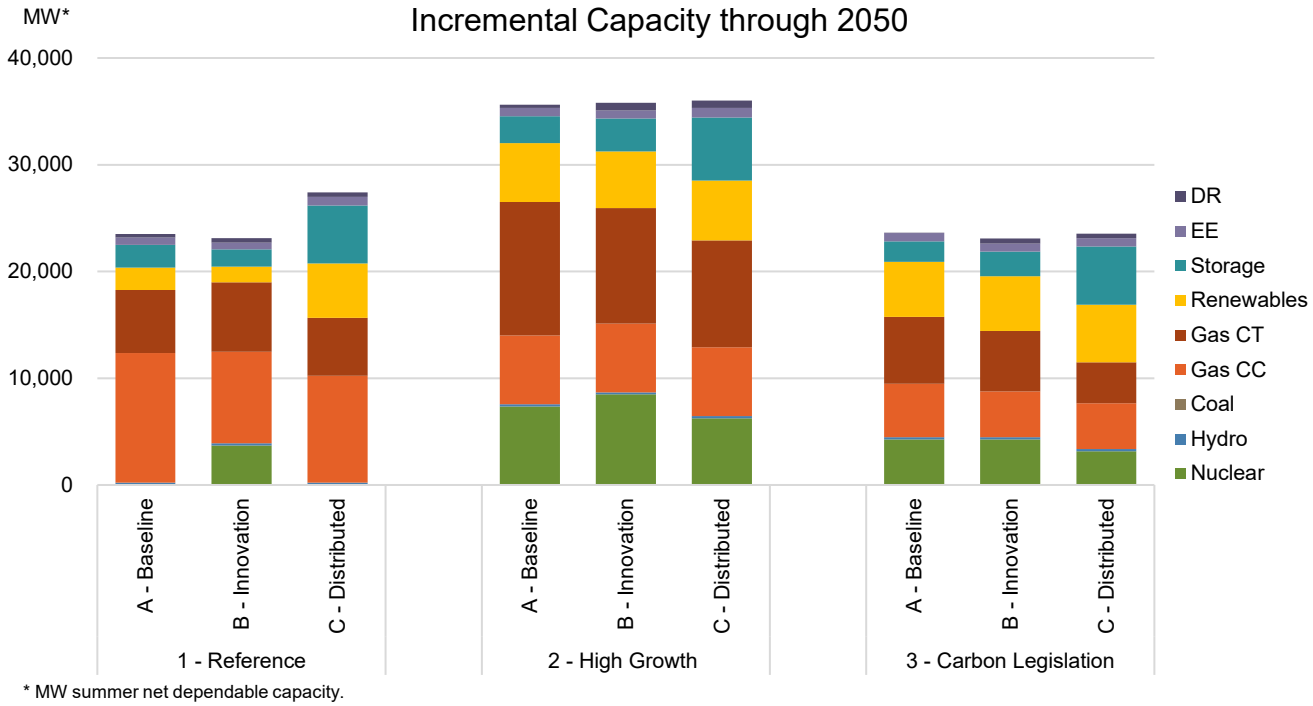


* MW summer net dependable capacity.

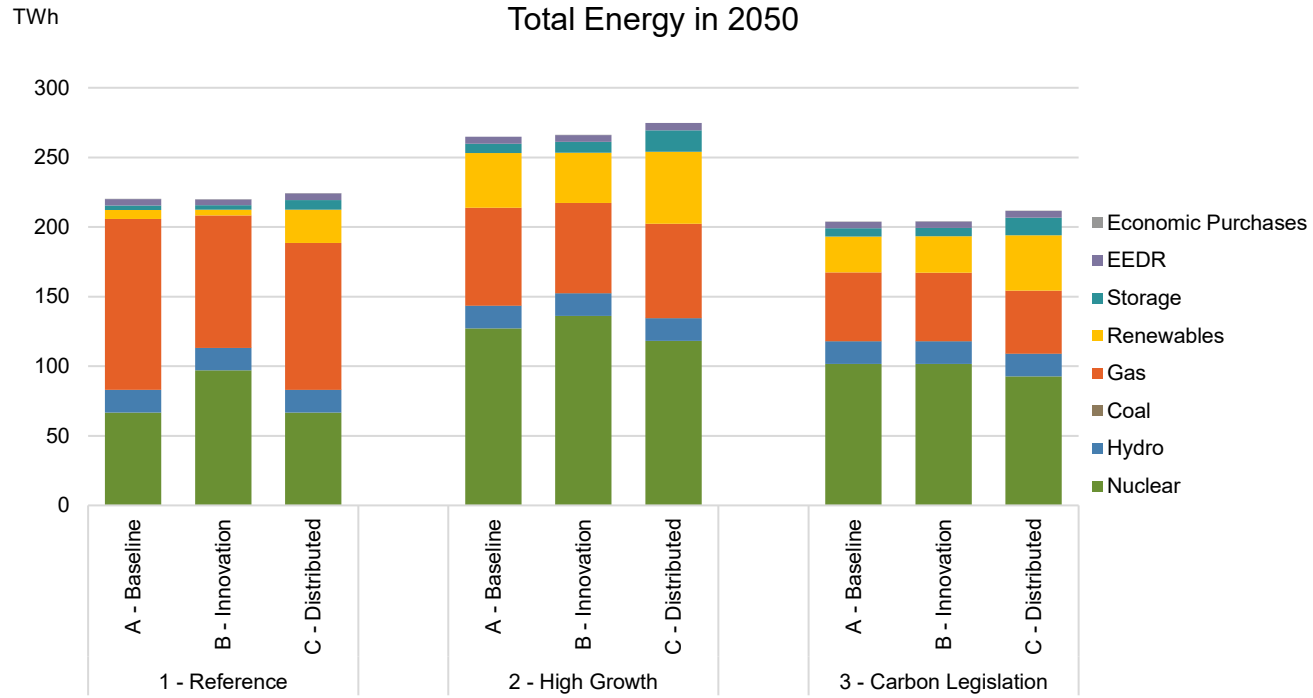


2050 Portfolios

The charts below show the portfolio results for 2050, including incremental capacity changes from now through 2050 and total energy in 2050. Capacity needs are driven by forecasted growth in energy demand and the expiration or expected end of life of approximately 14,000 MW of coal, gas, and renewable capacity. Total energy represents the economic dispatch of resources in the capacity plans for each portfolio.



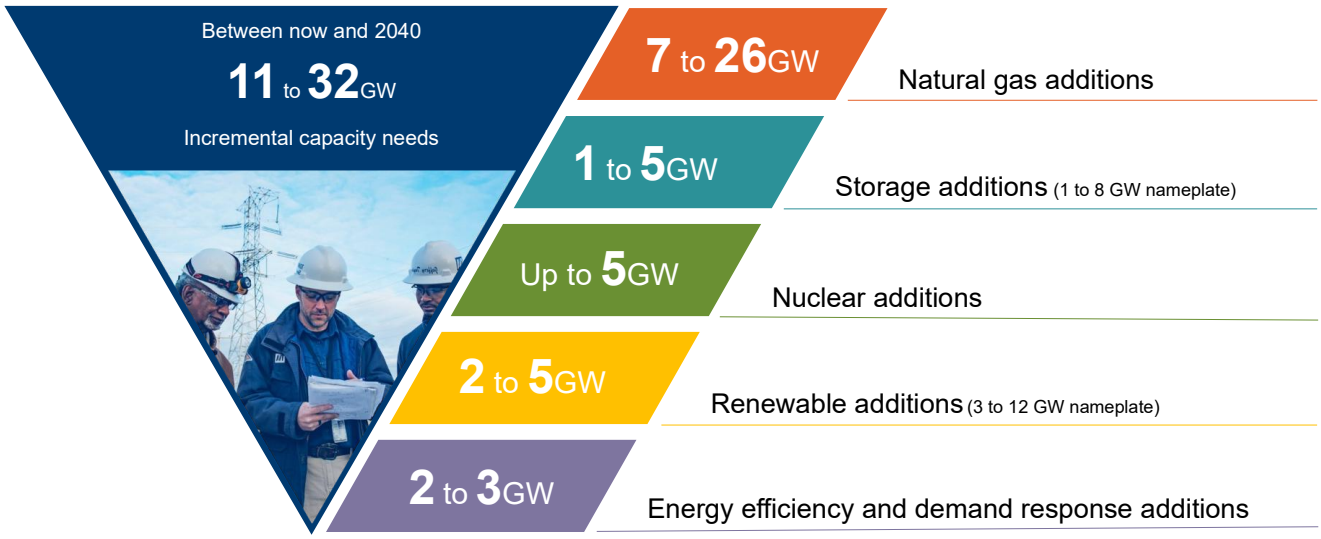
* MW summer net dependable capacity.



Key Themes

Uncertainty in electricity demand, legislative or regulatory actions, resource costs, and available technologies increases as the forecast horizon extends further into the future. The IRP analyzed potential ways the resource portfolio might evolve between now and 2050 to respond to changes in these key drivers, and insights gained from evaluating the entire planning horizon were used to inform strategic portfolio direction, with a focus on results through 2040. Key themes are expressed in gigawatts (GW), with one GW providing enough energy to power about 585,000 average homes.

Looking across all portfolios, including sensitivity analysis, through 2040, IRP results suggest:



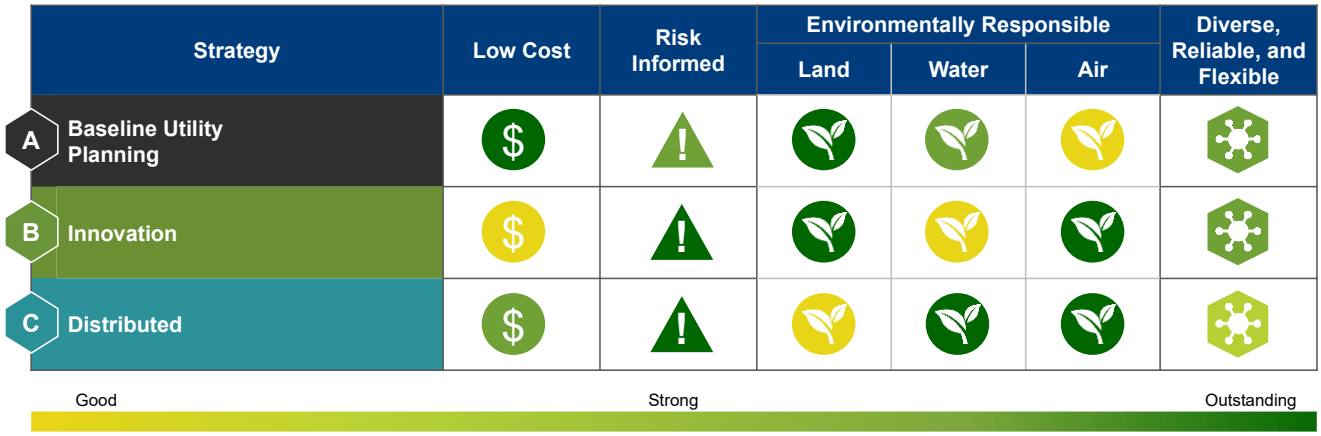
Power supply mix ranges, summarized in summer net dependable gigawatts (GW) above, vary based on energy demand, market conditions, policy and regulations, and technology advancements.

- New capacity is needed in all scenarios to support load growth or replace expiring and end of life capacity.
- Firm, dispatchable technologies are needed to ensure system reliability throughout the year.
- Gas expansion serves broad system needs, with the ability to provide firm, dispatchable capacity, economic energy, and system flexibility.
- Storage expansion continues, driven by both battery storage and the potential for additional pumped storage.
- New nuclear technologies, with continued advancements, can support load growth and reduce fuel volatility and regulatory risks.
- Solar expansion plays a complementary role, meeting customer needs and providing economic energy.
- Energy efficiency deployment reduces energy needs, particularly between now and 2040, and demand response programs grow with the system and the use of smart technologies.

A mix of resource types – both supply and demand-side – will be required to meet system needs. In all scenarios, TVA will continue to provide affordable, reliable, and resilient energy for years to come.

Strategy Performance

Reflecting least-cost planning principles and feedback from the IRP Working Group, TVA developed a set of metrics to assess the performance of the portfolios. Metrics were grouped into four categories – low cost, risk informed, environmentally responsible, and diverse, reliable, and flexible system operations. Metrics were calculated for the nine portfolios and were used to evaluate tradeoffs between each strategy.



Looking across the metric categories, there were key tradeoffs to consider. Key takeaways include:

- Strategy A that applies baseline utility planning is the lowest cost strategy overall, though its reliance on natural gas generation results in higher financial risk exposure than alternative strategies.
- Strategy B is the most expensive overall, as it would require significant investments in nuclear expansion, but performs well in risk informed and operational metrics with low variation in operating cost due to lower fuel price volatility.
- Strategy C is generally the median in cost and performs well in risk informed metrics due to low variation in operating cost because of lower fuel price volatility; Strategy C is most challenged in operational metrics as higher reliance on intermittent renewable generation increases the risk of unserved energy and energy curtailment.
- All strategies include timeline, technological, transmission, and/or market depth uncertainty and execution risks, which are amplified by load growth and regulatory impacts.
- Strategies feature environmental tradeoffs, such as Strategy C having the highest land use, Strategy B having the highest water consumption, and Strategy A having the highest carbon dioxide (CO_2) intensity.
- All strategies perform well in operational metrics on an absolute basis and would continue to result in a reliable and resilient system.

Sensitivity Analysis

When analyzing draft results and considering IRP Working Group, RERC, and public input, TVA identified questions related to key assumptions that warranted further evaluation. TVA used sensitivity analysis to vary a key assumption and isolate the impact of that change on portfolio results. TVA performed sensitivity analysis focused on electricity demand changes, resource costs and availability, and natural gas commodity prices to gain additional insights and inform IRP recommendations. In general, sensitivity results fell within the capacity expansion bounds for resource selection of the nine core portfolios with the exception of Higher EE Availability and Deployment and Supercharged Growth.

Environmental Impacts

As a federal agency, TVA is required to comply with the National Environmental Policy Act (NEPA), which includes evaluating the impact of proposed plans or actions on the environment before final decisions are made. In accordance with NEPA, the EIS (2026 IRP, Volume 2) is a programmatic review that broadly assesses the natural, cultural, and socioeconomic impacts associated with the 2026 IRP portfolios and Preferred Alternative. The primary study area is the TVA service area, but for resources such as air quality and greenhouse gas emissions, the assessment area extends beyond the TVA region. Baseline Utility Planning (Strategy A) is the No Action Alternative, and the other two strategies and the IRP recommendations are the Action Alternatives. The analysis considers the power supply mix ranges and strategic portfolio direction from the IRP recommendations as the Preferred Alternative. The EIS analyzes and identifies the relative impacts of strategies and sensitivity analysis on the natural and human environment.

Highlights of EIS observations include:

Environmental Resources	Summary of Impacts
Air Quality	Long-term reductions in all air emissions based on expected end of life for existing coal units*
Climate and Greenhouse Gases	Long-term reductions in CO_2 emissions and intensity, lowest in Strategies B and C
Water Resources	Long-term reductions in water use for all cases; water consumption rises in cases with nuclear expansion, highest in Strategy B
Land Resources	Long-term increases in land use requirements, particularly to support renewable expansion, highest in Strategy C
Solid and Hazardous Waste	Long-term production of coal combustion residuals drops to zero based on expected end of life for existing coal units*

*Subject to further site-specific evaluation, TVA Board approval, and environmental review

Environmental impacts differ less between strategies than between scenarios, as the scenario dictates load and U.S. energy policy which are primary drivers of environmental profiles. For most environmental resources, impacts would be greatest in Scenario 2 (High Growth) and lowest in Scenario 3 (Carbon Legislation). IRP strategies feature environmental tradeoffs, such as Distributed (C) having the highest land use, Innovation (B) having the highest water consumption, and Baseline (A) having the highest air quality and climate impacts.

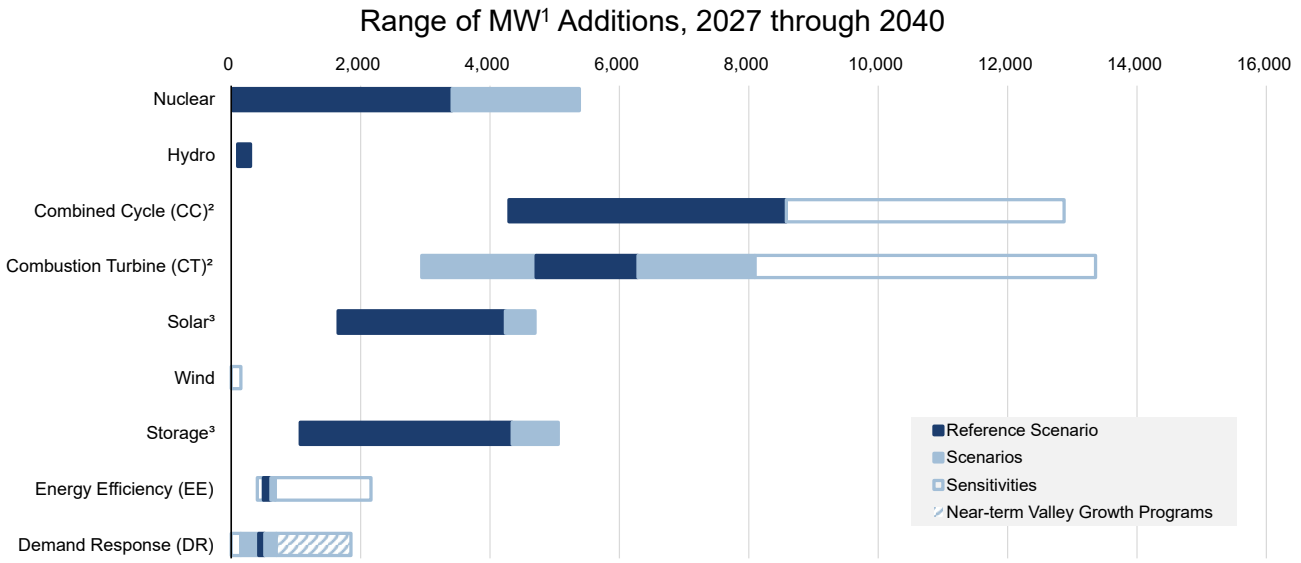
While the IRP is not site-specific, the IRP and EIS provide insights into potential impacts to communities across the region. For example, the average system cost metric is directionally indicative of overall trends in customer bills (Strategy A is the lowest cost strategy overall), and metrics related to emissions are directionally indicative of air quality trends in the region (Strategies B and C have the lowest air emissions). Site-specific aspects of actions that are later proposed to implement the IRP strategic direction will be addressed and considered in tiered environmental reviews. Public comments on the draft IRP and EIS are addressed in the final EIS.

IRP Recommendations

The IRP results – including the nine core portfolios, metrics, sensitivities, and EIS – provide robust analysis that offers insights into the potential power supply mix and impacts to the customer priorities of power cost, reliability, resiliency, and environmental responsibility. The IRP recommendations include power supply mix ranges through 2040 and 2050, strategic portfolio direction, and key signposts to monitor to understand potential implications to recommended actions and evolution of the power system over the long term.

Power Supply Mix Ranges through 2040

Exploring potential scenarios and strategies in the IRP is fundamental to ensuring TVA is well prepared to meet the region's energy needs however the future unfolds. The chart below shows the power supply mix ranges – or incremental additions – from now through 2040. The ranges encompass the full set of results, with reference scenario results shown in the dark blue bars, and alternative scenario and sensitivity results outside of the reference ranges shown in the light blue bars and outline-only bars, respectively. In general, the upper end of most ranges are set by the High Growth scenario or the Supercharged Growth sensitivity.



[1] MW capacity expressed in summer net dependable capacity.

[2] CC and CT additions could include control technologies, such as carbon capture and sequestration, alternative fuel co-firing (e.g., hydrogen), or gas re-firing of existing coal burners.

[3] Solar and storage include utility-scale and distributed resource additions.

Strategic Portfolio Direction

TVA's IRP analysis reaffirms the importance of adhering to least-cost planning principles to ensure the continued delivery of affordable, reliable, and resilient power to the Tennessee Valley. The results underscore that no single resource will fully meet future system needs; rather, maintaining a diverse portfolio remains essential. In the near-term, TVA should prioritize the addition of firm, dispatchable resources, particularly natural gas and storage, to address capacity requirements. TVA should also continue collaborating with industry and federal partners to prepare for the potential deployment of firm, dispatchable advanced nuclear technologies, which could support long-term load growth while mitigating fuel volatility and regulatory risks. Finally, complementary deployment of solar, demand-side, and distributed generation resources should be used to satisfy capacity requirements, provide economic energy, and/or meet customer needs.

The 2026 IRP's strategic portfolio direction includes the following recommended actions:

Existing Resources

- Invest in the hydro and nuclear fleets and pursue nuclear license extensions to maintain low-cost generation
- Invest in the gas and storage fleets to maintain reliability
- Continue operation of the coal fleet, subject to regulatory requirements, to reduce total system cost and reliability risk

Supply-side Resource Additions

- Add firm, dispatchable gas to maintain system reliability and enhance flexibility
- Add firm, dispatchable storage to maintain system reliability and improve system efficiency
- Pursue solar to reduce total system costs or meet customer needs
- Suspend wind additions given cost and portfolio fit challenges

Demand-side Resource Additions

- Utilize demand response and behind-the-meter resources to enable near-term interconnection of new industrial loads
- Partner with customers to leverage cost-effective energy efficiency and demand response
- Collaborate with local power companies on the evolution of distributed generation programs

Grid and Innovation Enablement

- Prepare for Gen III+ and Gen IV nuclear to support load growth and reduce fuel volatility and regulatory risks while pursuing external funding opportunities
- Pursue transmission system enhancements to deliver low-cost generation resources
- Collaborate with industry partners to evaluate emerging technologies, such as fusion and long-duration storage

The table below outlines the IRP ranges, current actions in progress, and planned actions through 2040 for existing resources and mature resource additions including supply-side and demand-side resources. A combination of resource additions is needed to ensure the region continues to have affordable, reliable, and resilient power. Additions will vary within the ranges based on movements in key signposts.

Resource Type	GW through 2040	Actions in Progress	Planned Actions through 2040
Nuclear	Up to 5 GW	Pursuing license extensions for and investing in the existing nuclear fleet; evaluating advanced nuclear options	Continue investing in the existing nuclear fleet and cost-effective opportunities to increase output; potential for advanced nuclear deployment
Hydro	Up to 1 GW	Ongoing investments in the Hydro Life Extension (HLE) program, leveraging cost-effective ways to increase output	Continue investing in the existing hydro fleet, maximize cost-effective uprate potential, and evaluate market opportunities
Coal	-	Continuing operation of coal fleet, subject to regulatory requirements, as an immediate, cost-effective option to reduce total system cost and system reliability risk	Evaluate existing fleet, as needed
Gas Combined Cycle (CC)	4 to 13 GW	2 GW of CC capacity being added by 2028 to address capacity requirements and provide grid support	Continue investing in the existing fleet and evaluate future CC additions and market opportunities for system reliability needs
Gas Combustion Turbine (CT)	3 to 13 GW	2 GW of Frame and Aero capacity being added by 2028 to address capacity requirements, provide grid support, and enhance system flexibility	Continue investing in the existing fleet and evaluate future CT additions and market opportunities for system reliability, flexibility, and resiliency needs
Solar	2 to 5 GW (3 to 12 GW nameplate)	3 GW (nameplate) of Green Invest, self-directed, and Generation Flexibility solar projects contracted to come online by 2030	Evaluate solar additions to either lower system costs or meet customer needs utilizing regular procurement cycles

Resource Type	GW through 2040	Actions in Progress	Planned Actions through 2040
Wind	<1 GW (Up to 1 GW nameplate)	Suspend wind additions given cost and portfolio fit challenges	Gauge how changes in signposts are affecting cost and system fit challenges
Storage	1 to 5 GW (1 to 8 GW nameplate)	0.7 GW of Green Invest, self-directed, and Generation Flexibility battery projects contracted to come online by 2030; evaluating pumped storage option	Continue investing in the existing pumped storage fleet and evaluate storage options to support reliability, resiliency, and system flexibility; potential for additional pumped storage deployment
Energy Efficiency (EE)	1 to 2 GW	Investing in residential, commercial, and industrial EE programs using insights from the potential study	Partner with customers to realize cost-effective EE program potential, reducing power generation resource needs
Demand Response (DR)	Up to 2 GW	Investing in residential, commercial, and industrial DR programs to enable interconnection of new industrial loads and to serve system needs	Collaborate with customers to realize cost-effective DR program potential, reducing power generation resource needs

A portion of resource additions will be driven by local power companies through flexible generation options or the evolution of contractual arrangements. Also, TVA will continue to evaluate future market offers received on a one-off basis in the context of least-cost planning and the IRP's strategic direction.

Additions of new energy resources of all types typically require additional investments in the transmission system. Generally, these investments include optimizing existing infrastructure through projects such as reconductoring transmission lines and upgrading substations, along with building new transmission infrastructure such as transmission lines, substations, and other devices that support system reliability and stability. Where possible, TVA prefers to utilize brownfield sites with existing infrastructure and easements. TVA is also expanding its use of grid-enhancing and grid-supporting technologies, such as advanced conductors and STATCOMS, as well as exploring dynamic line ratings, to greater leverage the existing transmission system when adding new generation and storage to the system.

Additions of new gas-fired resources typically require new or expanded gas pipeline infrastructure. The TVA region has a robust gas pipeline network, and future siting efforts will seek to leverage existing pipelines and minimize the need for infrastructure expansion to the extent possible. To support reliability of gas-fired plants, TVA typically contracts for a high level of fuel delivery priority and/or invests in a backup fuel source on site, depending on the expected operations profile of a particular plant.

The strategic portfolio direction also includes recommended actions to advance emerging technologies, such as advanced nuclear. Actions for emerging resources focus on enabling and demonstrating emerging energy technologies, leveraging partnerships that reduce cost and risk.

Key Signposts and Implications

TVA identified key signposts to monitor that will provide insights into potential impacts to recommended actions between now and 2040 and will ultimately guide future portfolio decisions. The key signpost themes relate to changing market conditions, evolving policy and regulations, and emerging technologies. Movement in key signposts can signal potential shifts in the portfolio mix and indicate the appropriate timing for the next IRP.

Theme	Signpost
Changing Market Conditions	Electricity demand
	Natural gas prices
	Customer needs
	Resource costs
Evolving Policy and Regulations	Shifts in U.S. energy policy
	Tax credits and incentives
	Regulatory requirements
	Permitting and siting challenges
Emerging Technologies	Advanced nuclear technologies
	Advanced storage technologies

Implementation

In finalizing the IRP and EIS and developing the IRP recommendations, TVA considered the input received throughout the process, including from the IRP Working Group, RERC, and during the public review and comment periods. Any actions taken by the Board and TVA with respect to the IRP will comply with requirements of the Administrative Procedure Act and NEPA.

A key next step in implementing the IRP recommendations is translating the IRP's strategic direction into an executable asset strategy from an operational, commercial, and financial perspective. A successful asset strategy also relies on partnering with TVA customers, especially on the distributed and demand-side aspects of the plan, and with other key stakeholders. Site-specific aspects of actions that are later proposed to implement the IRP strategic direction will be addressed and considered in tiered environmental reviews and subject to any required TVA Board approvals.

Conclusion

The IRP provides strategic guidance for the region's future energy system. The full IRP and EIS provide additional information on planning the future system, stakeholder engagement, process and methodology, portfolio results and assessments, and recommendations and implementation, along with an environmental impacts analysis. TVA greatly appreciates the input, review, and insights provided by the IRP Working Group and the RERC, along with the comments received from other stakeholders and the public that have strengthened the analysis and recommendations. TVA looks forward to continued stakeholder and public involvement as the IRP recommendations are implemented, paving the way for affordable, reliable, and resilient energy in the region through 2040 and beyond.