2026 Integrated Resource Plan
Frequently Asked Questions
July 2026

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General IRP information

What is the Integrated Resource Plan?
The Integrated Resource Plan, or IRP, is a comprehensive study that evaluates the region's future power needs, the generating resource options available for meeting that need and the potential economic, environmental and operating impacts of those options. It serves as a compass, providing strategic direction for how TVA can continue to provide affordable, reliable and resilient power for decades to come. Stakeholders play an important role in the IRP process. They work closely with TVA to review the planning information, and their feedback helps TVA shape the analysis and outcomes.

What is the Environmental Impact Statement (EIS)?
An Environmental Impact Statement (EIS) accompanies the IRP and evaluates the potential environmental effects. The EIS assesses broad regionwide impacts on resources, including air quality, climate and greenhouse gases, water resources, land resources, and solid and hazardous waste. The EIS informs TVA's decisionmakers and fulfills TVA's National Environmental Policy Act (NEPA) requirements.

Why is the IRP important?
The planning direction established by the IRP will guide the type of power-generation resources, the timing of those resources, and approximately how much of the resources will be needed to power homes and businesses across the Tennessee Valley region for years to come.

TVA initially announced plans to release the final IRP and EIS in spring 2025. Why did TVA pause the release?
Publication of the final IRP and EIS was delayed in Spring of 2025 due to a loss of quorum on the TVA Board of Directors. During the pause, TVA updated assumptions based on changes in the electric utility landscape, including policy and regulatory changes as well as changes in electricity demand growth. TVA is now moving forward with refreshed baseline assumptions and preparing for final release.

How is the IRP process conducted?
TVA uses an integrated, least-cost planning framework that considers multiple scenarios for the future and alternative business strategies to analyze how potential generating resource portfolios would perform under different external conditions. Stakeholder input plays a vital role in the IRP process, which is conducted in a transparent, inclusive manner to provide numerous opportunities for public education and participation.

Why is TVA updating the IRP now?
TVA regularly updates its IRP to ensure it reflects the best available information. This plan provides a strong planning foundation for meeting the region's energy needs for the 2030s and beyond. It also informs TVA's next long-range financial plan.

How does resource planning work?
Resource Planning is a common practice in the utility industry to identify an optimal solution to meet customer demand over a planning horizon, typically 20 years. It is an iterative process designed to identify the appropriate mix of resources which meet electric load requirements at the lowest cost. Key steps in the process include:

- Estimating future customer demand for electricity and capacity needs
- Comparing capacity needs to existing resources to determine gaps
- Identifying new resource options to be considered for filling the gaps
- Testing different resource combinations to evaluate performance

What do the Preliminary Final IRP results show about future energy needs?
All scenarios indicate that TVA will need new generation capacity to support growing electricity demand and replace aging assets nearing end of life.

How much new capacity could TVA need by 2040?
Preliminary results suggest **11 to 32 gigawatts** of new summer net dependable capacity (NDC) may be required, including:

- 7–26 GW of natural gas
- 1–5 GW of storage (1–8 GW nameplate)
- Up to 5 GW of nuclear
- 2–5 GW renewables (3–12 GW nameplate)
- 2–3 GW of energy efficiency and demand response

Stakeholder and public involvement

When did the IRP process start?
This IRP process began when TVA published a Notice of Intent in the Federal Register in May 2023. That initiated a 45-day public scoping comment period, during which time TVA gathered public input that helped frame the IRP effort and the scope of the environmental review.

How has TVA involved stakeholders and the public?
Throughout the development of the IRP, TVA has engaged external stakeholders to gather their views on the future power system, challenge assumptions, and help shape the analysis and outcomes. External stakeholder groups have included the IRP Working Group, a group of stakeholders with broad-ranging perspectives who have met regularly during IRP development, and the Regional Energy Resource Council (RERC), a federal advisory committee that provides formal advice to the TVA Board of Directors.

TVA has conducted dozens of public engagements over the past 36 months, and stakeholder feedback has been essential in shaping the assumptions, scenarios, and strategies within the IRP. Public participation included a robust 75-day public comment period on the Draft IRP and EIS documents, complemented by two public webinars and 10 in-person open houses held across the region during this period. TVA also held five additional public briefing webinars to keep the public informed. In addition, the posting of the Preliminary Final IRP on June 22, 2026, initiated a 30-day review and comment period during which the public could provide additional feedback.

Can you say more about the IRP Working Group?
The IRP Working Group is comprised of individuals from local power companies, directly served customers, customer associations, academia and research, state governments, environmental non-government organizations, community stakeholders and other special interest groups. The members represent the broad perspectives of those who live and work in the Valley.

Where can I find more information about the IRP?
Information and materials related to the IRP may be found on the TVA website at www.tva.com/irp.

How is TVA keeping the public informed and involved?
TVA has hosted a number of public webinars, including the most recent on July 2 where the IRP

team walked through the Preliminary Final IRP and answered questions. Recordings of all public webinars are available at www.tva.com/irp. In addition to the draft IRP and EIS public comment period held in the Fall of 2024, the public also was invited to submit comments on the Preliminary Final IRP and EIS at www.tva.com/irp or via email to IRP@tva.gov through **July 22, 2026**.

Details related to long-term planning

What guides TVA's approach to integrated resource planning?
TVA's integrated resource planning is grounded in fundamental least-cost principles: low cost, risk informed, environmentally responsible, reliable and resilient, diverse, and flexible.

What does long-term planning entail?
Long-term planning considers future energy demand, evolving regulations, current power generation resources and new resource options, then determines what new power resources would work best to fill future capacity needs.

How does TVA identify the optimal mix of resources?
TVA utilizes an industry standard model to take the inputs related to the scenarios, strategies, resource options, and other key modeling assumptions to develop portfolios for evaluation in the IRP. A set of pre-defined metrics were used to evaluate these portfolios to demonstrate the tradeoffs associated with the different portfolios.

The IRP process

Can you describe the IRP process?
TVA, with feedback from the IRP Working Group, identified "scenarios" and "strategies" to study. The IRP process evaluates scenarios (i.e., potential future worlds with correlated assumptions) that could arise over the next few decades and what strategies (i.e., business decisions) TVA could use to continue to provide affordable, reliable, and resilient energy in any future condition. Identifying scenarios and strategies is a critical step in the IRP process because they serve as the basis for modeling power generation technologies that can affordably serve future electricity demand.

How would you summarize the strategies?
The IRP starts with a Baseline Utility Planning strategy, which focuses on traditional least-cost planning with no specific emphasis. The IRP also includes alternative strategies which explore the impacts of an emphasis on either innovative emerging technologies, such as advanced nuclear, long duration storage, and demand response, or distributed technologies, such as batteries, renewables, and demand-side programs.

How are power generation resource options considered?
With feedback from the IRP Working Group, TVA developed a list of power generation resource

options for the IRP. The list includes mature technology options, such as hydro, coal, gas, renewables, storage, energy efficiency and demand response technologies. The IRP also considers emerging technologies such as advanced nuclear, carbon capture and sequestration, and advanced chemistry batteries.

How does modeling work?
TVA uses an industry standard capacity expansion and production cost model. Based on a set of assumptions and constraints, the model seeks to determine the lowest cost resource plan. The resource plan includes selected resources, selection year, expected energy output, and financial and operating data.

TVA modeled the three strategies in the three scenarios. The modeling generated nine unique potential resource "portfolios" – the power supply mix that results from assessing a particular strategy in a particular scenario.

How has TVA evaluated the results?
Based on least-cost planning principles and with input from the IRP Working Group, TVA developed a set of metrics to assess the performance and key tradeoffs between the different strategies across the scenarios.

How are transmission investments addressed in the IRP?
Required transmission investments to support new generation assets or supply demand are highly dependent on location. As the IRP is not site-specific, the IRP modeling uses generic transmission estimates for new resource additions based on a review of recent projects, incorporating adjustments based on expected future changes as the system continues to evolve. Final transmission investments would be based on individual future project scopes and requirements.

What happens next?

How will the final IRP and EIS differ from the draft IRP and EIS?
The final IRP includes refreshed analysis based on key changes to the electric utility landscape in 2025. These changes have included adjustments to tax credits under the One Big Beautiful Bill Act, policy and regulatory changes, and increasing electricity demand growth. The final IRP will also feature the IRP Recommendation, which includes power supply mix ranges through 2040 and 2050, strategic portfolio direction, and a set of key signposts to monitor that will influence future planning efforts. The final EIS will evaluate the final IRP recommendations to assess the environmental impacts.

What are the last steps in the process?
If the TVA Board accepts the IRP recommendations, the IRP will serve as TVA's compass for power generation decisions as well as for long-term operational and financial planning.

Questions and answers from public briefings

**Questions and Answers below are summarized from those submitted during the public briefing. The answers provided below may reflect adjustments for clarity or conciseness, compared to the answer provided during the live Q&A.*

March 2026

How does TVA determine future natural gas price projections, and how are customer impacts evaluated when these inputs are used in the IRP?

TVA uses an industry standard gas model (GPCM) that considers things like pipeline capacity and transportation costs, expected consumption by sector (so think heating, industry, and electric demand), and costs for each supply location. The process starts with near-term market costs, and then a long-term forecast is generated based on assumptions of the scenario. For example, our High Growth scenario features a higher natural gas price than Reference due to higher use driven by increased electricity demand and economic growth. Each portfolio (unique scenario/strategy combination) will consider the forecasted price of natural gas when creating an optimal portfolio.

Will renewables and storage have specific targets in the IRP, and where might these resources be located on the grid?

There are no specific targets for any resource types in the IRP. The IRP evaluates strategies, which will emphasize certain resource types based on the particular focus of that strategy. The IRP is not location or site specific.

Will TVA consider expanding the 5% LPC Flexibility Program limit to help LPCs manage load growth?

The IRP does not contemplate raising the 5% flexibility limit, or any other specific contractual changes. However, the potential for changes of this sort is studied in a couple of different ways. First, the IRP utilizes a behind-the-meter adoption model for distributed solar and storage that forecasts the uptake of distributed resources in each scenario/strategy combination. Strategy C - Distributed - emphasizes distributed resources and increases the forecasted adoption rate. In practice, this would be achieved through either existing or potentially expanded programs, such as LPC Flexibility. Additionally, the IRP is giving us an indication of the types of generating resources that could be used to meet future load. When it comes to actual implementation, these resources could be built by TVA or through some sort of partnership, be it with LPCs or independent power providers. Build and contractual decisions are determined later.

How does TVA view the role of coal going forward, and is it considered as essential as nuclear, gas, and hydro in future planning?

All existing assets are considered essential to maintaining low-cost, reliable, and resilient power. Based on recent evaluations, TVA concluded that continued operation of the coal fleet is cost effective and is taking steps, subject to permitting and regulatory requirements, to pursue continued operation to reduce total system cost and reliability risks, based on rapidly growing load requirements.

How will the IRP address potential nuclear deployment, for example the agreement with ENTRA1 Energy, TVA's Clinch River Project, etc.?
TVA is currently exploring a number of opportunities to facilitate potential deployment of new nuclear. As stated in the question, this includes the potential deployment of SMRs by TVA at Clinch River as well as our partnership with ENTRA1 for the potential deployment and operation of NuScale SMRs. The IRP includes three expansion options for nuclear - light water SMR, advanced PWR, and GEN IV SMRs. These are available for selection in all cases. Strategy B - Innovation - emphasizes new nuclear. In practice, this could be achieved through projects or partnerships like Clinch River or ENTRA1.

How will the IRP address recent EPA regulatory changes, including their potential legal challenges? Will these actions affect TVA's plans for renewable energy?
The IRP incorporates recent Administration and EPA regulatory relief actions, and the model will consider their implications when optimizing portfolio results. Scenario 3 - Carbon Legislation - includes a proxy for current and potential future regulatory or legislative actions to illustrate how the portfolio would evolve differently to meet heightened regulatory requirements. Each scenario and strategy combination will optimize the future resource mix - including renewables - to create a reliable system at the lowest total system cost.

What portion of TVA's generation comes from power purchase agreements (PPAs), and when do these contract terms generally expire?
In 2025, approximately 20% of TVA's power supply came from purchased power. The majority of this power was supplied via long-term PPAs and includes in-Valley gas and coal resources, in-Valley solar facilities, and contracted wind facilities.

Will continued investment in gas turbines and the use of aging coal units cost ratepayers more than large scale solar and battery alternatives?
To reliably meet electricity demand at the lowest total system cost, TVA will continue to rely on our existing system, including our coal and gas resources, as well as constructing new resources to meet forecasted energy demand. The goal of the IRP is to select new energy generation sources which, taken together, ensure that we continue to maintain a reliable system and do so at the lowest possible cost.

How are technology costs, use cases, and performance assumptions for solar and storage determined and verified?
All resources considered in the IRP include a vast number of economic and physical characteristics which tell the model how they can contribute to meeting generation needs. For instance, the model understands typical load requirements throughout the day and how solar or wind resources will perform on a typical day, given the season. TVA performs studies to inform the expected contribution of renewable and storage resources at the time of both the summer and winter peak. For resource costs, TVA uses a combination of actual project

experience and quotes, recent request for proposal responses, and third-party estimates to inform forecasted costs.

July 2026 Webinar Questions

Is TVA concerned that raising the rate for data centers will be counter to its economic development mission?

Creation of the data center rate demonstrates our commitment to the Valley region and the people who call it home. At the August Board meeting, the TVA Board will vote on pricing actions intended to maintain affordable rates for all without unfairly burdening residents with higher costs and risks. This will include a new rate specifically for all data center customers, along with a financial commitment for new and expanding data center loads. This change will support ongoing economic development in the Valley region without raising rates for existing customers, in alignment with the Administration's Ratepayer Protection Pledge.

The draft IRP notes that the utility sees solar as a "complementary" resource going forward. The US Energy Information Administration noted in February 2026 that 51% of new utility-scale generation coming online this year comes from solar projects. Why is TVA taking this approach that deprioritizes solar, and what data is it using to reinforce that decision? Alternatively, what gives TVA confidence that investing further into natural gas and nuclear will provide essential generation sooner than other resources?

Given strong demand growth across the TVA region, the IRP results reflect the need for significant amounts of firm capacity which can be counted on at the time of TVA's summer and winter peaks. TVA is a dual-peaking utility, which means it could experience its highest peak loads in either the summer or the winter. While solar can contribute at the time of our expected summer peak, around 5 pm, this contribution diminishes as higher volumes of solar are installed on the system. Beyond summer, TVA's expected winter peak is in the early morning, around or before dawn, when solar contribution is very minimal or even non-existent. Taken together, TVA must prioritize firm, dispatchable sources of generating capacity to maintain system reliability for our customers.

An additional consideration is the pending phase-out of the investment tax credits (ITC) for renewable resources under the One, Big, Beautiful Bill Act. The loss of these tax credits will raise the effective cost of installing solar in the future. TVA does see a role for solar energy, which can reduce total system costs when it is operating and meet customer needs for programmatic renewables.

Regarding the second portion of the question, TVA's strategic portfolio direction highlights the near-term priority should be firm, dispatchable resources, such as natural gas and storage, while we could see a role for new nuclear over the longer-term given the longer construction timelines.

In the US, over 90% of new energy is solar, because it's the cheapest and fastest to build. Why is that not true for TVA?

TVA is currently adding a significant amount of new solar, with around 4,000 MW of solar either

operating or contracted to come online over the next few years.

See the answer to the question above for additional information regarding solar's contribution to peak load requirements and tax credit phase-outs.

What is your strategy for continued growth vis a vis the TVA debt limit?
The goal of the IRP is to determine the resource types and portfolios which lower total system costs while maintaining reliability. Specific procurement and implementation decisions, such as build-vs-contract, are outside of the scope of the IRP. Beyond traditional debt, which is capped via statute, TVA has a number of other options to procure new resources.

How many MWs of solar, solar + BESS and standalone BESS are expected to be procured in the next one to five years?
The IRP does not prescribe specific MW targets or approve specific projects. Rather, it will provide both overall strategic guidance, as well as guardrails (or ranges) for future asset additions of each type and more general recommended actions to take over the next five to ten years. As seen in the results, TVA could see a need for 1 to 8 GW of nameplate storage and 3 to 12 GW of nameplate renewables, primarily solar, between now and 2040.

Please provide spreadsheets for the charts shared publicly. Please provide more granular annual capacity addition and retirement data for each scenario. Please provide cost data used in modeling.
The IRP Appendix and Supporting files available on the IRP website provide this information. Specifically, Appendix E in Volume 1 includes detailed cost and performance data for each of the expansion resource options. Appendix H includes annual results for each of the portfolios in graphical and table formats. Finally, the IRP webpage, tva.com/IRP, includes several detailed supporting spreadsheets at the bottom of the page, including detailed incremental capacity tables and resource cost tables which include more detail than Appendix H.

Please outline key differences between this IRP and the 2025 IRP.
Key differences in the 2026 IRP are primarily driven by the three major factors - the phase out of tax credits (particularly for renewables), executive orders and regulatory relief, and continued strong demand growth. The impacts of these changes can be seen in the IRP results, and ultimately the recommendations. For example, the phase out of renewable tax credits has resulted in a lower upper-band for solar additions through 2040, when compared to the Draft 2025 IRP results.

Will Demand Response allow fossil fuel generation to be considered? If so, how much will TVA allow? Years ago, some LPCs were allowed to work with TVA to help via diesel or natural gas powered generators during peak times and this sounds like a good time to bring this back. But, not penalizing the "Flexibility %" if fossil related, these types of generation would of course have to meet the EPA standards and thus should be viewed equally to solar and other renewables!

The IRP does not make specific asset or programmatic recommendations. Additions of distributed gas assets, as a part of the overall gas ranges, are covered as a part of the IRP results and potential future programmatic or contractual arrangements with third parties or LPCs could be a mechanism to deploy distributed gas. However, these decisions are outside the scope of the IRP and would come during implementation.

Can you discuss present and future costs and rates? I know your costs will be passed on to your direct customers and my local utility and they pass them on to me.
Future rate actions are outside of the scope of the IRP. That said, the goal of the IRP is to produce a resource portfolio that provides reliable service at the lowest cost. Therefore, maintaining low costs, which lead to low rates for our customers, is a primary component of what the IRP is looking to do.

For those who aren't available for the webinar, will it be recorded and available online to watch later and if so, where, please?
Yes, www.tva.com/irp.

What is TVA doing to analyze portfolios that consider Long Duration Energy Storage (LDES) technologies as alternatives to peaker plants?
The IRP includes two long-duration storage options: hydro pumped storage and advanced chemistry batteries; these were available for selection in all cases. The Innovation strategy, Strategy B, includes an emphasis on long-duration storage which requires 1,200 MW, or more, of long-duration storage by 2040.

Please explain the current plans for new nuclear buildout, including timelines, capacity additions, size considerations (SMRs or large-scale nuclear program) and does the debt ceiling need to be raised in order to begin the new nuclear program build-out? Lastly, is the announced Entra1-TVA deal for 6GWe of new nuclear considered in the IRP?
TVA continues to evaluate multiple nuclear technologies for potential deployment across the Valley region as directed by the TVA Board through the establishment of the New Nuclear Program. TVA submitted a construction permit application with the Nuclear Regulatory Commission in the Spring of 2025 for the nation's first BWRX-300 small modular reactor at the Clinch River Nuclear Site. The application is under NRC review and remains subject to environmental assessments and TVA Board approval.

Advanced nuclear in the Tennessee Valley region requires partnerships to share in cost and risk of first of a kind technologies. TVA is strategically partnering with innovative companies like GE, Kairos Power, ENTRA1, and Oklo, to advance the development of new nuclear technologies, and TVA will continue to seek partnership opportunities in funding to support advanced nuclear builds and purchased power agreements in the region. The advanced nuclear considered in the IRP is technology focused but is not site or developer specific.

Would like to understand why HVDC wind imports are removed from the 2026 IRP, and why

wind energy only shows up in by the late 2040s.
The focus of the IRP results and ultimately the IRP recommendations is around what are the right resource types and technologies for TVA moving forward. Since Midwest Wind was viewed as more economical in past modeling exercises, TVA determined it was a better proxy for all off-system delivered wind. In actual implementation or procurement, TVA could consider all delivery types, including HVDC.

For the TVA region, wind features cost and portfolio fit challenges. TVA would either have to pay to procure wind from off-system, which has gotten increasingly expensive, or use more expensive high-hub height technologies. From a renewable standpoint, solar fits the Tennessee Valley region much better.

The IRP states that cost estimates for gas units are based on recent project experience and discussions with equipment manufacturers. How reliable are those two methods for projecting the cost of gas units years from now? Natural gas resource options in the IRP include aeroderivative CT and reciprocating internal combustion engines (RICE). Explain how aeros and RICE engines would be used.
TVA's forecasting process includes robust economic forecasting. In addition to standard measures of inflation, such as Gross Domestic Product, TVA also forecasts industrial inflation, using what's called the Handy-Whitman index, which is specialized for industrial projects, like gas power plants, which are primarily comprised of steel, concrete, and other heavy building materials.

Aeroderivative CTs and RICE engines are extremely flexible natural gas-powered technologies. Their flexibility pairs very well with intermittent renewable resources, as they can ramp their power generation up and down extremely quickly. Typically, these engines would operate as peaker plants during high load, or during times where the system needs highly flexible generation. They also tend to be very fuel efficient, although less efficient than combined cycles which are used as intermediate-to-baseload resources.

How does TVA plan to use public comments from this webinar and submitted online?
TVA will review and consider all submitted public comments. TVA will provide a summary of these comments in the final IRP document and to the TVA Board. Additionally, a summary of any major changes made as a result of public comments will be included in the final documents.

What is the source for your overnight capital cost data?
For utility-scale options, TVA used a combination of direct experience with recent projects, market-based request for proposal responses, industry expertise working with equipment manufacturers, and industry forecasts to inform resource costs. For more information on each specific resource type studied in the IRP, please see Appendix E of Volume 1.

What is TVA doing to prioritize solar and battery storage in the IRP? Renewable Energy is faster, cleaner, and cheaper and needs to be our top generation priority.

All IRP cases include solar and storage as selectable options for the model to choose, given its goal of producing a resource portfolio at the lowest total system cost that meets reliability requirements. The IRP also includes Strategy C, Distributed, which is focused on emphasizing renewable, storage, and demand-side type resources. When it comes to implementation, TVA works with customers to provide programs which can accelerate adoption of renewables, such as our Green Invest program, which allows TVA to add additional renewables while not putting any additional costs associated with them on the rest of our customers.

The IRP Executive Summary states that 3 GW nameplate of solar and 0.7 GW nameplate of battery storage are contracted and coming online by 2030. Could you clarify whether these contracted volumes are included within the incremental capacity additions identified in the IRP portfolios through 2040, or are they additive to those figures?
Yes, these contracted values are included in the incremental capacity numbers.

Wind additions are suspended, "given cost and portfolio fit challenges." Please explain the details around both of those reasons for eliminating wind from the resource mix.
Wind was available for selection in all studied cases. From a cost standpoint, the accelerated tax credit phase-out for wind under the One Big Beautiful Bill Act has increased the effective cost for new wind over the long-term. Given TVA's geographic region, wind must either be procured from off-system (which incurs additional transmission wheeling charges) or sourced using newer, high-hub height wind turbine technologies. Additionally, wind's contribution to providing dependable capacity at the time of the summer and winter peaks is relatively low, so it must primarily compete on energy price alone with little capacity value. Based on these factors, wind does not fare as well when compared to other resource options, such as gas, storage, and solar.

How were the avoided costs of generation, transmission, and distribution from energy efficiency and demand response assessed in the IRP planning?
TVA's IRP models EE and DR programs as selectable resources and treats them on an equal playing field with traditional supply-side generators. Inputs for these programs include forecasted program costs, expected firm capacity contributions, for both summer and winter, and an expected energy reduction profile, or shape, in the case of EE programs. The model is then able to optimize the overall portfolio to combine supply- and demand-side resources which lower overall total system costs.

All of this to say, the model accounts for avoided generation costs, both capacity and energy. As the IRP study is at the system level, and not location specific, it is not possible to include avoided transmission and distribution costs.

How do you plan to meet the growing demand without greatly increasing energy prices that are already skyrocketing while people struggle to make ends meet?
Future rate actions are outside of the scope of the IRP. That said, the goal of the IRP is to produce a resource portfolio that provides reliable service at the lowest cost. Therefore,

maintaining low costs, which lead to low rates for our customers, is a primary component of what the IRP is looking to do.

Please discuss any plans to upgrade/expand the TVA transmission system, and any plans to allow LPCs to contract for energy outside of TVA or target specific IPP generation sources through alternative contracting pathways.
The IRP's Strategic Portfolio Direction includes a recommended action to "pursue transmission system enhancements to deliver low-cost generation resources." The IRP study is primarily a generation resource study, so specific transmission upgrade recommendations are outside of the scope of the IRP.

The IRP does not make specific programmatic or contractual recommendations. However, new or expanded programs could be used as a mechanism to facilitate future resource deployment during implementation of the IRP.

What are the plans to include fusion power production for long term plan?
TVA is currently collaborating with Type One Energy on Project Infinity to potentially deploy a pilot stellarator fusion power plant, named Infinity Two, at TVA's former Bull Run Fossil site. While the potential for nuclear fusion is promising, its technology readiness remains too low to be included in the IRP study at this time. TVA will continue collaborating with industry partners to advance the development of next-generation nuclear technologies, including Generation IV reactors and fusion energy systems.

How many MW of each technology (solar, coal, gas) are we targeting to acquire?
The IRP does not prescribe specific MW targets or approve specific projects. Rather, it will provide both overall strategic guidance, as well as guardrails (or ranges) for future asset additions of each type and more general recommended actions to take over the next five to ten years. As seen in the results, TVA could see a need for 7 to 26 GW of gas, 1 to 8 GW of nameplate storage, up to 5 GW of nuclear, 3 to 12 GW of nameplate renewables, primarily solar, and 2 to 3 GW of EE and DR between now and 2040.

What value(s) are you ascribing to battery storage in the calculations you're using, including locational value, transmission deferments, capacity, etc? What $/MWh are you using for non-ITC solar? Please describe the firm gas supply available to power the proposed gas plants. Are pipeline expansions necessary to access firm supply? What will TVA do if those pipeline expansions fail to materialize?
IRP modeling considers a number of economic and operational characteristics for all resources. For storage, this includes construction costs, ongoing annual fixed costs, capacity (generating and charging), and round-trip efficiency. Modeling also ascribes a flexibility benefit for storage, based on its ability to provide intra-hour flexibility to the system. When creating a least-cost portfolio, the model understands the ability to use storage to capture excess energy from intermittent or baseload resources during periods of low demand and then deploy that energy during periods of high demand. As the IRP is not site-specific, specific locational value is not assigned.

For resource cost assumptions, please see Appendix E of Volume 1.

There are seven major interstate natural gas pipelines which cross the Tennessee Valley, with major sources of supply available from both the north and south. The cost of obtaining firm natural gas supply is included in the ongoing fixed costs for new natural gas combined cycle plants. When siting potential future gas-fired facilities, locational proximity to natural gas supply is a major consideration. However, the IRP is not site-specific.

How is the transmission being planned to accommodate the new generation and load? How will affected systems planning be done with MISO and other neighbors?
Transmission planning is outside the scope of the IRP.

Given the likely large expenses for maintenance and capital projects needed for the extension of the aging coal plants in the fleet, how will these projects be funded? Given the statutory debt limits, which projects in the fleet were differed or cancelled to account for these projects? What new gas generation projects are being considered to meet load growth needs?
Funding sources and site-specific project approvals are outside of the scope of the IRP.

How does TVA intend to mitigate the risks associated with its decision-making process, which some argue is increasingly insulated from public input?
Stakeholder engagement is extremely important to TVA. TVA offers many avenues for engagement, such as the July 2 public informational briefing, Board listening sessions, public comment periods for major asset decisions, federal advisory councils, and we continue to explore opportunities to collaborate and gain feedback from all our stakeholder sectors.

Transmission seems to be holding TVA back from adding new generation. How will TVA examine transmission issues and the ability to modify existing lags in its IRP? What specific steps will TVA take to initiate studies that can inform the IRP on this?
While transmission planning is outside the scope of the IRP, TVA is developing the Strategic Transmission Expansion Plan (STEP) to proactively deploy transmission investments across a long-term planning horizon. These investments not only better position the transmission system for implementation of generation, but will also increase flexibility, ensure reliability, enable capacity for economic development, and position the region to meet rising energy demand. STEP will shift transmission planning from a discrete, project-by-project approach to a coordinated regional portfolio approach, including foundation reliability, multi-value, extra-high-voltage backbone, and targeted growth investments.

What growth projections is TVA now assuming (since the draft IRP included a high growth scenario that we're unlikely to exceed) and what happens to ratepayers if TVA overbuilds based on such overly-aggressive load growth assumptions?
Please see section 2.4.2 of the Preliminary Final IRP where the electric load forecasts studied in the IRP can be found. TVA's Reference scenario, which represents our current expectations, includes an energy growth rate of around 0.9% now through 2050.

Between IRP cycles, TVA will continue to monitor key signposts, including electricity demand, and alter plans as necessary to incorporate the latest forecasts. For more information on key signposts and implications, see Section 4.4 of Volume 1.

What environmental compliance costs for continuing coal operations are assumed in the updated IRP?
The IRP analysis includes the costs to comply with all applicable regulations, in the time period we expect to incur those costs.

Why is TVA not investing more in clean, renewable, and free energy sources like wind, solar, and geothermal to help offset the wild swings we have seen in the cost of fossil fuel of late? It seems using a fuel source that is free could help lower overall costs to your customers.
IRP modeling seeks to produce resource portfolios which minimize total system costs while maintaining reliability requirements. This modeling incorporates all costs associated with construction and ongoing operation of these facilities, while also considering each resources ability to contribute to our peak load requirements in the summer and winter. Fuel volatility risk is considered in the risk informed metrics of the IRP.