



May 2021

# **TVA Strategic Intent and Guiding Principles Executive Summary**

# Strategic Intent Purpose



**This document provides TVA's Strategic Intent and Guiding Principles, focused on energy supply and decarbonization initiatives.**

**This statement of Strategic Intent is to be used in accordance with all internal and external processes in providing the principle direction from TVA leadership in developing business strategies that provide reliable, resilient, low-cost and clean energy to the Tennessee Valley region in keeping with the TVA mission.**

## **Powerful Economic Advantages**

TVA, in partnership with local power companies, delivers unmatched value with low, stable rates and reliability of 99.999% since 2000. TVA's competitive service is sustained through disciplined financial management, reduced fuel and operating costs, and an increasingly clean energy supply, attracting and retaining new economic opportunities to the region.

We believe that maintaining balance between price, reliability, carbon reduction efforts and economy-wide electrification will deliver a sustainable economic advantage. Across the region, the availability of reliable, low-cost energy not only makes homes and businesses more comfortable and safe, it also powers economic development in the region.

During the past five years, TVA has helped the region attract or retain 341,000 jobs and more than \$45.4 billion in capital investment. Even during COVID-19 in 2020, TVA helped to attract or retain 67,000 jobs and \$8.6 billion in capital investment.

For a growing number of these businesses and industries, having a supply of carbon-free energy has joined cost and reliability as a key factor in determining where they locate or expand their operations.

TVA's ability to provide low-cost, increasingly clean, highly reliable energy is essential for powering the ambitious strategies and climate goals of these businesses. This ability creates a competitive advantage for our region in attracting innovative industries, jobs and investments and continuing to power the Valley's economic success.

Energy costs and reliability matter to our customers. Our delivered cost of energy is lower today than it was a decade ago, and we intend to keep rates stable through this decade. TVA rates are lower than rates at 70% of the top 100 U.S. utilities, and our industrial rates are lower than rates at 90% of the top utilities, based on available data.



# Decarbonizing Our Economy

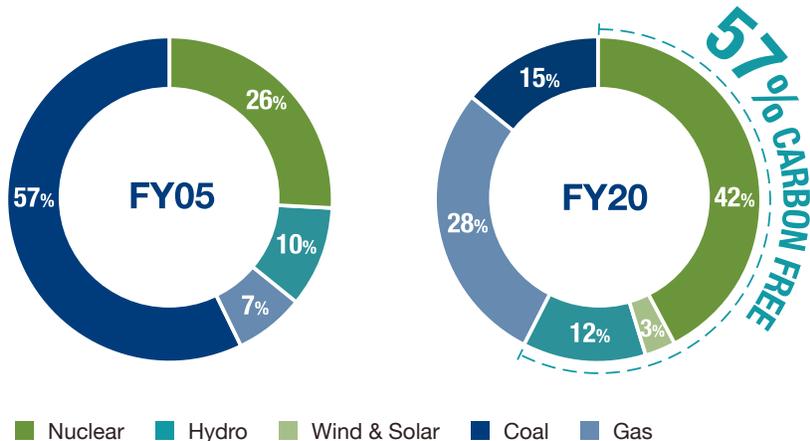
**The overarching challenge we face as a society is the need to decarbonize our economy in order to address the impacts of climate change. TVA stands ready to lead the way.**

TVA is national leader in reducing carbon emissions in our operations while also ensuring we maintain reliability and availability while keeping rates as low as possible as mandated by Congress in the TVA Act of 1933. Continuing on this path will allow TVA to meet its aspirational goal of achieving net-zero carbon emissions in our energy supply by 2050. More broadly, we are supporting electrification now, and working toward developing the emerging technologies that will be necessary to support decarbonization of the economy.

Already, our energy portfolio is diverse and robust—it’s about 60% carbon free today—and features nuclear, solar, wind and hydroelectric generation. Natural gas

generation is, an effective bridging strategy—a way to continue to add intermittent renewable energy to the grid while maintaining reliability and keeping rates low. Emerging technologies will complement this mix and make up the carbon gap.

Our nation has an opportunity to move forward with an energy supply that is reliable and resilient and supports long-term decarbonization goals. As one of the nation’s largest electricity providers, we are committed to being a part of the solution, and to working with others to meet this challenge. We will focus on our TVA’s Values and Strategic Priorities to lead the way.



\*Chart depicts both generated and purchased power within respective resource types. In addition to power supply sources included here, TVA offers energy efficiency programs that effectively reduced FY20 energy needs by about 2,300 GWh or 1.5%.

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# TVA Values

TVA's actions are guided by four core values that form our institutional guidelane. These values are foundational to everything we do at TVA:



## Safety

We are committed to the safety and well-being of all employees and the communities we serve



## Integrity

We are honest and straightforward in all that we do



## Inclusion

We treat everyone with dignity and respect, welcoming each person's individuality so we can all reach our full potential



## Service

We are privileged and proud to serve in the communities in which we live, work, and play

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# Strategic Priorities

TVA's strategic priorities provide a framework for our mission of service:



## People Advantage

The strength of TVA is its people. All that TVA accomplishes comes through the dedication and commitment of its 10,000 employees and our 12,000 contract partners, who are represented by a total of 17 labor unions.



## Operational Excellence

Building on TVA's best-in-class reputation and performance in supplying reliable, low-cost, and clean energy for the people of the Tennessee Valley.



## Financial Strength

Ensuring TVA's ability to continue to carry out our mission of service as we invest in the future.



## Powerful Partnerships

TVA's opportunity to serve the people of the Tennessee Valley and the nation comes to life through our Powerful Partnerships with customers, the communities we serve, and other stakeholders.



## Igniting Innovation

Innovation is in TVA's DNA, and innovation is critical as we build the energy system of the future and address climate challenges.



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## Carbon Reduction Leadership

Based on TVA's progress in diversifying our power system, and on the status of our system assets, we are working to achieve deep carbon reductions without compromising the low rates and high reliability that customers and communities expect and deserve.

We intend to follow this trajectory as we move toward achieving net-zero carbon by 2050:

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## TVA's Carbon Reduction Leadership

**63%**

*Results Accomplished*

**70%**

Plan by 2030

**~80%**

Path by 2035

**Net-Zero**

Aspiration by 2050

## Results Delivered

We have achieved a 63% reduction in mass carbon emissions in our energy supply from calendar year 2005 to 2020, primarily by diversifying our generation portfolio we have :

- Added about 1,600 megawatts of new, carbon-free nuclear generation with the commercial operation of Watts Bar Nuclear Plant Unit 2 and extended power uprates at all three units at Browns Ferry Nuclear Plant
- Added renewable energy, with over 400 megawatts of solar and 1,200 megawatts of wind
- Retired approximately 8,600 megawatts of coal generation in recent years, including Bull Run Fossil Plant's announced retirement of 865 megawatts by December 2023. This amounts to about 60% of our coal generation, and we are evaluating the impact of retiring the balance of the coal-fired fleet by 2035
- Added about 5,200 megawatts of new flexible and efficient gas generation
- Invested over \$400 million in energy efficiency programs since 2011

## Developing a path to approximately 80% carbon reduction by 2035

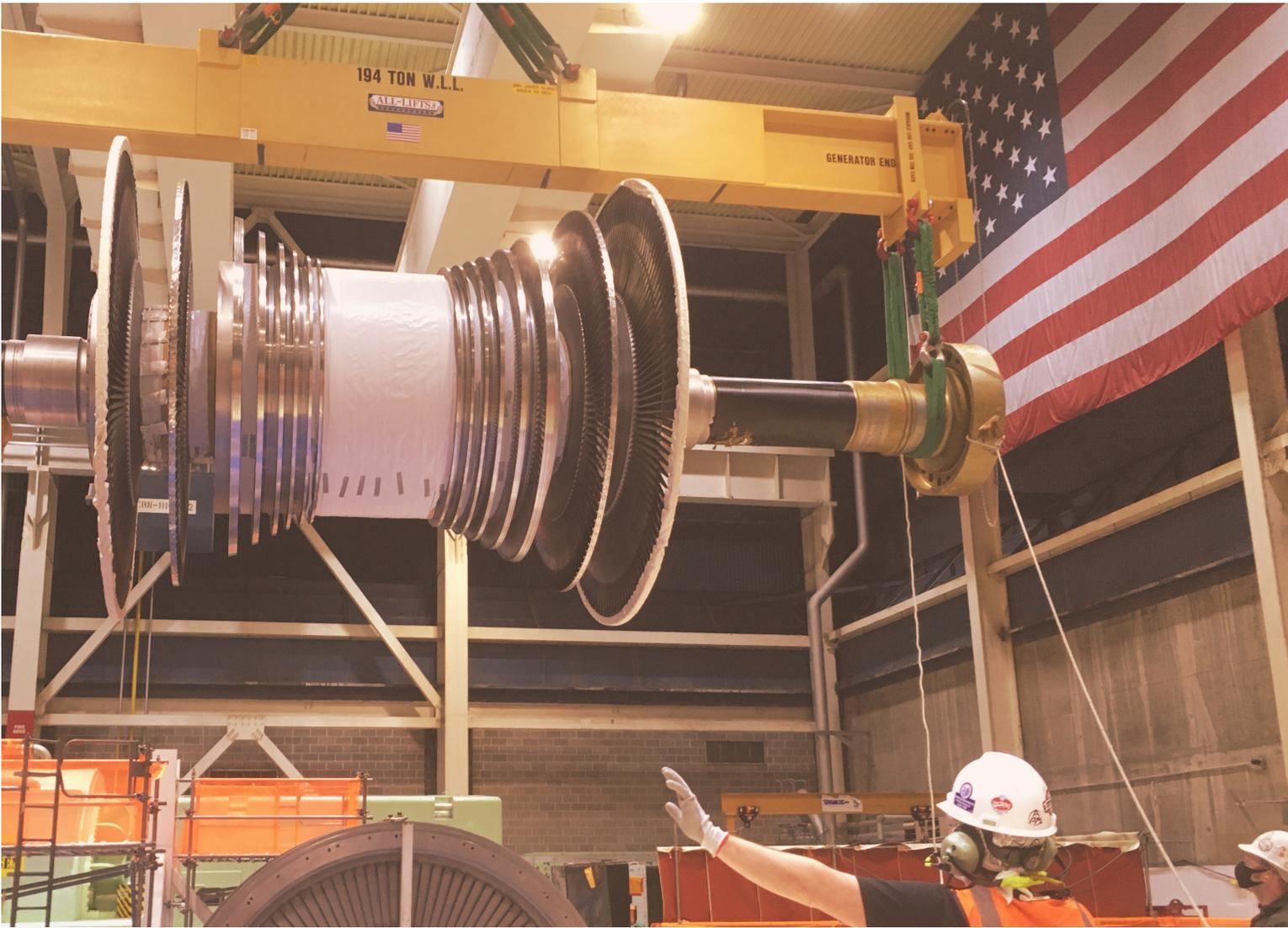
- We see a path to an approximate 80% carbon reduction by 2035, primarily leveraging existing, cost-effective technologies and using innovations and federal support for early steps toward small modular reactors and longer-duration storage to allow us to maintain low-cost and reliable power
- This includes continuing to invest to extend the life of our current nuclear and hydro fleets, further expanding our renewable portfolio to include a total of 10,000 megawatts of solar power by 2035, evaluating coal plants as they reach end of life, and collaborating with our local power company partners to further integrate our planning and leverage demand-side solutions. Evaluation of the coal plants includes environmental review, public input, and Board approval.
- We are investing in research and development of new carbon-free technologies, such as small modular reactors, long-duration storage, and carbon capture, to enable their potential deployment in 2030 to 2040 and beyond

## Executing a plan to 70% carbon reduction by 2030

- Bringing additional solar capacity online as part of TVA's total projected solar capacity of about 10,000 megawatts by 2035, including solar commitments to date of over 2,300 megawatts expected to come online by 2023, pending environmental reviews, largely driven by customer demand
- Further reducing our reliance on coal as additional plants approach end of life
- Modernizing our gas fleet to support year-round reliability and integration of intermittent renewable generation
- Expanding our storage portfolio by adding lithium-ion batteries as costs decline
- Working with local power companies on customer-centric options
- Investing in our existing carbon-free nuclear and hydroelectric fleets
- Investing in our transmission system to enable the integrated grid of the future

## Aspiration to achieve net-zero carbon emissions by 2050

- TVA's approach to climate change and managing our carbon footprint is grounded in our statutory mission of service
- TVA believes that moving toward a net-zero carbon future is in the best interest of public well-being and the continued economic expansion of the Tennessee Valley, but must be balanced by TVA's statutory mission to provide electricity at rates as low as feasible
- Low rates and reliability are critical to achieving economy-wide deep decarbonization, because they enable and encourage the massive electrification required for net-zero carbon
- Federal support to incentivize the development of clean energy technologies will be crucial to finding a pathway to net-zero that is economical and reliable
- As we seek to go beyond 80% carbon reduction, new, cost-effective technologies must be developed. We are a founding member of the Electric Power Research Institute's (EPRI) Low Carbon Research Initiative and participating with the National Carbon Capture Center. The availability of viable, affordable, scalable new technology earlier can accelerate the transition



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## Advanced nuclear solutions

**Of particular interest as an essential component of TVA's—and the nation's—decarbonization efforts.**

Efforts to achieve net-zero carbon will require the preservation and extension of our existing nuclear fleet and the development of new technologies. TVA has long been a leader in nuclear energy, and we are engaged today in developing new nuclear options for tomorrow.

Small modular reactors (SMRs) are ready for demonstration now—with the first commercial operation by 2030 possible; throughout the 2030s, we could see multiple deployments. TVA is ready to lead and to partner with others in the federal government and in our industry as we preserve and enhance the value of our Clinch River site, which holds the nation's first Early Site Permit for building nuclear technologies from the Nuclear Regulatory Commission.

Together we have an opportunity to move forward with an energy supply that is reliable and safe and supports long-term decarbonization goals for the region and the country.

### **ABOUT TVA**

TVA was founded by Congress in 1933 to develop technological solutions to the economic and environmental challenges facing Tennessee Valley residents during the Great Depression. Since that time, TVA has become not only one of the nation's leading electric utilities; it has served as a living laboratory, sharing solutions across the country and the world. That past will illuminate our path as we pursue innovative solutions to ensure a clean energy future.

