FROM CLIMATE LAGGARD TO CLIMATE LEADER

A Roadmap for the Tennessee Valley Authority’s Board Members to Drive the Nation’s Largest Public Power Provider to 100% Renewable Energy
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TVA gas plant photo by John Blair
Solar array photo by Argonne National Laboratory
President Biden has called for the U.S. electricity sector — the second largest carbon-emitting sector — to achieve zero carbon emissions by 2035. The Tennessee Valley Authority — the country’s largest public power provider and a federal agency — is wildly off this track. TVA is one of the country’s largest emitters, ranking in the top 10 amongst the 100 largest electric power producers and averaging 50 million tons of CO$_2$ emissions.\(^1\) Rather than immediately retire its coal fleet within this decade, and replace its fossil fuel generation with renewable energy, TVA is planning to build out new fossil gas capacity. In fact, the agency has the second largest planned gas capacity of all major utilities.\(^2\) At the same time, TVA is suppressing the region’s transition to renewable energy — a mere 3% of TVA’s overall generating mix.\(^3\) The direction TVA is taking has generated widespread outrage from local and national groups, spurring the creation of the Clean Up TVA coalition.\(^4\)

Recent global events serve as further proof that the United States must urgently transition off fossil fuels on a wartime footing. Russia’s war in Ukraine has major implications for global energy supply, contributing to rising oil and gas prices that put customers — like those in the TVA region who already experience some of the highest energy burdens in the country — in an even more energy insecure position. As we witness the downsides to persistent fossil fuel use, it is especially troubling that TVA is actively pursuing more dirty energy. TVA’s movements in the wrong direction seriously undermine the agency’s stated commitment to preserving low-cost energy and improving the quality of life of its 10 million customers. Russia’s invasion of Ukraine demonstrates that genuine energy security and independence lie in resilient, clean energy sources, not on volatile fossil fuels that drive the climate emergency and fuel war and conflict.\(^5\)

At the same time, TVA is fueling an energy affordability crisis that compounds the effects of the climate emergency. The TVA service territory is marked by significant racial and wealth inequality, with low-wealth communities, and especially Black and Brown households — which respectively make up 25 and 7 percent of the TVA territory\(^6\) — disproportionately burdened by rising electricity bills and fossil fuel pollution.\(^7\)

It’s not too late for TVA to lead the country in tackling the most pressing crisis of our time: the climate emergency. It is Biden’s responsibility to appoint competent climate justice leaders to the TVA board. With such leaders TVA can set the stage for an energy future that is good for our climate and will ensure all households have access to affordable, reliable, renewable, and wildlife-friendly electricity.
TVA is stuck in the dirty energy status quo, a perpetual cycle of fossil fuel dependence and environmental injustice.

Yet the board actively delays its necessary transition to renewable energy, evades climate action, and shirks its responsibility to serve the public interest rather than profits. Here are the greatest obstacles TVA is throwing up against a renewable, just energy transition.

1. TVA’s dirty energy plan violates President Biden’s clean energy mandate and defies climate science. According to its own projections TVA plans to generate at least 34 million tons of carbon emissions by 2038, the equivalent of 7.4 million cars. TVA’s carbon dioxide emissions reduction rate is at 3%, far too slow to accomplish Biden’s decarbonization goal, which requires a rate more than twice as fast. TVA consistently ranks near last among all major electric utilities’ decarbonization commitments. In 2019 TVA emitted more than 26 million tons of carbon from its five coal plants. Despite these high emissions, TVA is leisurely phasing out its coal fleet with a plan to delay complete retirement until 2035. A recent study says coal production must be eliminated by 2030 to have any chance of limiting global warming to 1.5 degrees Celsius.

TVA also plans to lock its customers into decades of dirty gas. Even though it may retire its coal plants by 2035, the agency is actively pursuing climate-polluting gas as a replacement energy source. TVA has the second-largest planned gas capacity of all major utilities, with 4 gigawatts of new dirty gas planned by 2030. TVA recently announced a $1 billion project for 1,500 megawatts of new fossil gas. To meet global climate targets, the U.N.

Intergovernmental Panel on Climate Change warns against “lock[ing] in carbon-emitting infrastructure, stranded assets, and reduced flexibility in future response options.”

2. TVA is blocking local power companies (LPCs) from obtaining renewable energy, spurring a defection movement away from TVA. TVA is preventing LPCs and other customers from making their own renewable energy investments. TVA’s continued dependence on fossil fuels has led several LPCs to seek permission from the Federal Energy Regulatory Commission to obtain power from non-TVA sources. In addition, TVA’s new long-term contracts keep local utility customers

TVA’s Record of Fossil Fuels and Environmental Injustice

<table>
<thead>
<tr>
<th>Fuel Type</th>
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<tbody>
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<tr>
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<tr>
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<td>11%</td>
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<tr>
<td>Wind and solar</td>
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<td>Energy efficiency programs</td>
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Today, TVA’s generation portfolio is 39% nuclear, 19% coal, 26% natural gas, 11% hydro, 3% wind and solar, and 1% energy efficiency programs with a total capacity of 33,727 megawatts.

Kingston Fossil Plant, photo by Gaby Sarri-Tobar
tethered to fossil fuels for decades to come. These contracts cap LPC’s self-generation — such as from rooftop and community solar — at 5%, severely hampering their flexibility to obtain clean energy.\textsuperscript{20}

These restrictive policies have pushed TVA’s largest customer, Memphis Light, Gas and Water, to consider defection. Memphis Light, Gas and Water is immersed in a bidding process with alternative power suppliers.\textsuperscript{21} There are many benefits to defection. The Memphis utility could produce cheaper renewable energy, save millions of dollars, and spur economic development. TVA’s failure to heed the demands of its customers is a recipe for mass defection from TVA’s centralized power supply.

3. **TVA is quashing rooftop solar and energy efficiency, hurting its customers.** TVA implemented a first-ever grid access charge to discourage businesses and homeowners from opting for cleaner, safer renewable energy sources like rooftop solar.\textsuperscript{22} A recent cut to TVA’s Green Power Providers program, which compensated residential solar customers for solar generation, has further limited households’ access to distributed energy.\textsuperscript{23} Within the past few years TVA has also slashed funding for its energy efficiency programs,\textsuperscript{24} which are key to reducing emissions and demand for fossil fuel energy and lowering utility bills. All that remains are educational workshops and some minor investment in low-income efficiency programs that require matching funds from local power companies.\textsuperscript{25}

TVA’s lack of investment in renewable energy has attracted the attention of the House Energy and Commerce Committee, which recently probed TVA on its business practices, including its plans to address high electricity bills with energy efficiency and distributed solar.\textsuperscript{26} TVA responded with misleading information, such as asserting building codes and appliance standards have made energy efficiency programs unnecessary. As for its discriminatory solar charges, TVA claimed distributed solar shifts costs to customers without solar, even though this argument has been disproven.\textsuperscript{27}

4. **TVA is fueling environmental and energy justice crises.** TVA’s continued reliance on coal and gas presents public health risks. TVA residents are still suffering the environmental and health impacts of the 2008 Kingston Coal Ash disaster.\textsuperscript{28} The utility misled hundreds of workers by refusing to provide proper protective equipment and withholding information about the toxicity of the coal ash.\textsuperscript{29} TVA dumped this toxic waste in the Black community of Uniontown, Alabama, leaving residents to suffer life-altering health problems. Even after a seven-year cleanup and the deaths of more than 50 workers, TVA has not taken proper precautions in handling and disposing of waste from its coal plants. Since November 2021 activists have been battling TVA’s coal ash disposal in a Memphis landfill.\textsuperscript{30}

TVA continues to dupe communities with the false promise of gas as a reliable fuel investment. Fossil gas is as environmentally racist and as dangerous to public health as coal. In the United States the proportion of Black residents living within three miles of a power plant is higher for gas than for coal (13.4% compared to 8.1%).\textsuperscript{31} These communities are also disproportionately exposed to harmful methane, particulate matter and other pollutants.

At the same time, TVA is fueling an energy affordability crisis that compounds the effects of the climate emergency. The TVA service territory is marked by significant racial and wealth inequality, with low-wealth communities, and especially Black households, disproportionately burdened by rising electricity bills and fossil fuel pollution.\textsuperscript{32} TVA customers experience overwhelmingly high energy burdens — defined as the percentage of income spent on electricity bills, with 6% being considered high. Some households have energy bills as high as 40% of their income.\textsuperscript{33}

Households in this region — a quarter of which are Black\textsuperscript{34} — have some of the highest electricity bills in the country, as high as $200/month in some states where TVA supplies electricity.\textsuperscript{35} Alabama households pay more monthly for electricity than any other state, with Tennessee, Mississippi and Georgia not far behind.\textsuperscript{36} Rooftop and community solar have been shown to lower energy bills and help alleviate this energy burden.\textsuperscript{37} However, TVA has implemented policies that discourage residents from more affordable renewable energy, such as regressive rate hikes targeting solar energy users. Shortly after the pandemic hit, organizations in the Tennessee Valley called on TVA to address utility shutoffs, disproportionate energy burdens and lack of access to renewable energy by Black, Brown and low-wealth communities.\textsuperscript{38} The board has failed to address these concerns.
5. **TVA is thwarting a transparent and public input process.** Despite being a public utility, TVA has ignored calls for bolder energy planning and public hearings about the impact of its policies on the communities it serves. The agency has a statutory mandate for public hearings, yet TVA has never held such hearings. Although the agency has resumed public listening sessions in connection with Board meetings, combined with standard practice of accepting written comments, it does not provide for meaningful public participation from organizations, ratepayers, and other community members. TVA has prevented the public from participating in committee meetings where most decision-making happens.

6. **TVA's future is muddled by fossil fuel and corporate interests.** Like other federal agencies, TVA has a conflict-of-interest policy to help ensure transparency and hold employees accountable for relationships that may personally benefit them at the expense of the agency. However, the agency does not publicly disclose this information. This is especially concerning given that TVA's current leadership, including CEO Jeff Lyash, boasts strong ties to the fossil fuel industry and corporations that have been significant drivers of the climate emergency, environmental destruction, public health crisis and energy injustice.

**TVA Can Become the Climate Leader for Power Utilities**

Decades ago TVA was pioneering clean energy technology to bring affordable electricity to rural communities throughout Tennessee and beyond. Former TVA Chair Dave Freeman spearheaded this work and set a model for the leadership future board members must embrace. From 1977 to 1984, Freeman helped actualize TVA's mission of environmental stewardship by accelerating the agency's transition from polluting centralized power to renewable and distributed energy. Today TVA and the world face a new reality. Russia's war of aggression in Ukraine and rising oil and gas prices have given us a hard look at our energy future. Plagued by violence, pollution, and energy insecurity, our continued reliance on fossil fuels will worsen energy injustice and severely limit our chances at preserving a livable planet by limiting global warming to 1.5 degrees Celsius.

Fossil fuels are the most significant driver of the climate emergency — a crisis we cannot afford to put on the back burner. The climate emergency is ravaging the country and globe, with the United States experiencing unprecedented hurricanes, floods, wildfires, and heat domes. Particularly in TVA's territory, this crisis is manifesting in more pronounced storms, like the tragic Kentucky tornado and Memphis ice storm that left many without power and extensive flooding over the summer that decimated homes. The president even declared a disaster under the Stafford Act for the state of Tennessee as a result of the winter ice storm. The damage we're seeing today is a sign of what's to come. Climate science demands rapid emissions reduction and complete divestment from coal, oil, and gas.

The Biden administration has called on the entire federal government, which includes TVA, to address the climate emergency in full force. In January 2021 the president called all agencies to reach carbon-free electricity by 2035, and in a December 2021 executive order he instructed the entire federal government to meet a series of ambitious climate goals. These include powering TVA and all federal agencies with carbon pollution-free resources by 2030 and orienting procurement and operations toward climate resiliency, sustainability and environmental justice and equity.

**New TVA board members should seize this opportunity to align the agency with Biden’s climate and energy vision and return TVA to its pioneering renewable energy roots.**

TVA can be a national laboratory for developing the just energy system necessary to addressing the legacy of social, economic and environmental injustice exacerbated by our current energy system. This requires distributed renewable technologies like rooftop solar, microgrids and energy efficiency, which can complement responsibly sited utility-scale renewable energy.

**TVA should foster the kind of innovation that can make the agency carbon-free, grow union jobs, and reduce energy burdens.**

TVA would also set the example for all private and public utilities across the country as they pursue decarbonization plans.

**Eight Steps the TVA Board Can Take to Transform From Climate Laggard to Climate Leader**

Tennessee Valley communities are living with the climate emergency and the dangers of reliance on fossil fuels, with devastating tornadoes, flooding, persistent power shutoffs, and skyrocketing electricity costs.

Climate change in the Southeast has led to higher temperatures and greater demand for water that will strain the region's water resources; extreme weather, increased temperatures and flooding that will likely affect human health, infrastructure and agriculture; and sea-level rise that is expected to contribute to increased hurricane activity and storm surge. Just within the past year, more pronounced storms like the tragic Kentucky tornado, Memphis ice storm, and summer flooding ravaged the region, leaving many without power and homes.

Black, Brown, Indigenous and other communities of color and low-wealth communities have borne the brunt of TVA's fossil fuel dependence and climate disasters.
As a mega-polluter and federal agency, TVA has a significant role to play in tackling this crisis by urgently lowering emissions and improving the quality of life for Tennessee Valley residents by prioritizing energy and environmental justice.

Congress charged TVA with the obligation to “reduce[e] environmental impacts on the Valley’s natural resources . . . [by] reducing carbon intensity and air emissions, minimizing waste, and protecting water resources.” The TVA board is responsible for establishing the agency’s goals and developing long-range plans to guide TVA toward these statutory objectives. This includes “integrat[ing] environmental considerations and science-based decision making into strategy, design, construction, and operational impacts to mitigate environmental impacts.”

Given these legal duties, TVA board members should take the following actions:

1. **Retire all remaining coal plants by 2030.**
   TVA has announced plans to retire its remaining coal plants by 2035, but this timeline is insufficient to meet Biden’s clean energy mandate and climate science demands. These coal plants have been the source of tremendous coal ash pollution that have contaminated the surrounding environment, particularly waterways. TVA should retire all coal plants by 2030, with the most protective standards for coal ash disposal in place.

2. **Cease development of new dirty gas and phase out existing fossil fuel plants.**
   Fossil fuels make up nearly half of TVA’s generating mix and are responsible for a legacy of pollution and environmental destruction. Though TVA is beginning to retire coal plants, the agency plans to build out new fossil gas facilities and costly gas pipelines that will lock the region into fossil fuel use for decades. TVA has not expressed plans to phase out its gas plants, and instead envisions unproven and expensive carbon capture and storage as key to the agency’s future energy development.

   The agency should not resort to dangerous and costly techno-fixes but instead employ the proven and affordable solar, wind and storage already on the market.

   The board should immediately cease all new gas development and shift existing gas facilities to proven renewable technologies, including distributed energy.

3. **Lift restrictions on renewables and distributed energy.**
   TVA’s local power companies, businesses and residential customers want to take advantage of renewable energy, like rooftop solar, and make homes and buildings more energy efficient, lowering costs and reducing carbon emissions. Yet TVA has pursued policies designed to discourage these initiatives to preserve its stranglehold on power generation.

   The TVA board can advance energy justice, create a level playing field for competing energy technologies and allow customers to benefit from technologies that are changing the energy landscape across the country.
a. **Make substantial investments in energy efficiency.** TVA once envisioned leading the Southeast in energy efficiency and in 2011 invested $135 million in these programs to achieve 3.5% of sales in efficiency savings by 2015. It has since slashed many of these programs, including rebates and low-interest loans, dropping overall efficiency savings to 0.02% of retail sales. Low-wealth households that already experience high energy burdens have been disproportionately affected. Meanwhile other Southeast utilities have seen their efficiency savings rise. Duke Energy’s savings have risen to 40 times higher than that of TVA. TVA should reinvest in its energy efficiency programs and build out low-income weatherization programs, which are central to reducing energy burdens and ensuring real energy savings.

b. **Revise LPC power supply contracts to allow unlimited renewable energy.** TVA’s new LPC power supply contracts severely limit LPC’s ability to self-generate renewable energy to an arbitrary 5%. TVA should lift all constraints on the ability of LPCs to obtain cheaper, renewable energy sources and work with LPCs to bolster distributed energy resources in the region.

c. **Eliminate grid access charge designed to discourage rooftop solar.** In 2018 TVA imposed its first grid access charge for rooftop solar, substituting a portion of volumetric rates with fixed charges on the grounds that the prior rate structure was unfair to other customers. TVA should reverse its 2018 rate changes, which unfairly discourage businesses and homeowners from rooftop solar projects.

d. **Reinstate full retail net metering for solar systems.** Net energy metering allows solar customers to receive credits for the surplus energy they generate off their rooftops, and is a key driver for equitable solar development. TVA recently eliminated its Green Power Providers program and has authorized LPCs to put solar customers in a different rate class to further discourage these projects. TVA should reinstate a solar program that fairly recognizes the myriad benefits of rooftop solar projects and stops discouraging their development.

4. **Update Integrated Resource Plan to map out 100% renewable power and zero emissions within the next decade.** Through its Integrated Resource Plan, TVA evaluates how it will meet future electricity demand over the next two decades. TVA’s current plan review process is not expected to begin for another year, with finalization expected in 2023. Given the climate emergency and the harm to Tennessee Valley residents from TVA’s high-carbon emissions, the utility must begin a comprehensive review of its energy generation now to align with Biden’s goal of zero-carbon emission electricity by 2035.

5. **Work with the Department of Energy to expand renewable and distributed energy.** The Department of Energy and its national laboratories are investing in groundbreaking renewable and distributed energy systems, including microgrids and community-based energy, that would accelerate TVA’s transition to renewable energy. The TVA board should leverage this opportunity to partner with DOE and its national laboratories to engineer a 100% renewable and distributed energy system that propels TVA toward bolder carbon emissions reduction targets.

6. **Integrate risk management as central components of energy choice and climate risk analyses.** Continued investments in fossil fuel infrastructure expose TVA and its customers to financial climate risk, including: financial losses from stranded carbon-emitting assets and cost-of-capital implications; climate disaster-induced damages to centralized fossil generation plants, grids and transmission lines; lost profit from lucrative opportunities for renewable energy development; and reputational damage that may drive...
costly political reactions\textsuperscript{77} and limit access to insurance.\textsuperscript{78} The Securities Exchange Commission is proposing amendments to its rules that would require utilities to disclose such climate risk to utility investors.\textsuperscript{79} The TVA board does not publicly employ a climate risk matrix to evaluate the agency’s decisions and how it aligns with the agency’s environmental mandates. The board should immediately adopt a legal risk matrix that factors associated climate risk into all decisions, especially the agency’s energy planning.

7. **Restructure TVA’s decision-making process to facilitate meaningful public participation.**

TVA is required to “encourage meaningful public participation in and awareness of its proposed actions and decisions,”\textsuperscript{80} but it fails to do so. The agency has a statutory mandate for public hearings to address “the economic, environmental, social, or physical well-being of the people” it serves, but it has never held such hearings.\textsuperscript{81} It recently resumed public “listening sessions” during board meetings, but the public is excluded from committee meetings where most of the board’s decisions are actually formulated. Another barrier to public participation and transparency is the board’s delegation of authority to the CEO to retire the Kingston and Cumberland Fossil Plants,\textsuperscript{82} preventing public input and oversight of one of the most consequential decisions in TVA’s energy future.

The Federal Energy Regulatory Commission’s new Office of Public Participation should serve as a model for how TVA can facilitate public participation from a wide swath of affected customers.\textsuperscript{83} To advance transparency the board should hold public evidentiary hearings on key issues and make itself directly accessible to the public through regular stakeholder meetings, such as open assemblies for citizen participation. To ensure the board hears directly from the public on key decisions, the board must make committee meetings public and rescind delegation of the Kingston and Cumberland coal plant retirements to the CEO.

8. **Strictly enforce TVA’s conflict-of-interest policy.**

The agency’s conflict-of-interest policy prohibits all TVA employees, including the CEO, from holding any financial interest in “any entity engaged primarily in the wholesale or retail generation, transmission, or sale of electricity.” The policy also applies to entities that “may reasonably be perceived as likely to be adversely affected by the success of TVA as a producer or transmitter of electric power.”\textsuperscript{84} It is the board’s responsibility to take the CEO’s financial relationships seriously, especially if they infringe on TVA’s ability to provide reliable, clean, affordable electricity to all ratepayers and lower emissions to tackle the climate emergency. If the board finds that the CEO’s actions violate the conflict-of-interest policy,\textsuperscript{85} it must replace the CEO with an individual who will lead on TVA’s mission rather than obstruct it.

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**CONCLUSION**

Years ago former TVA Board Chair Dave Freeman understood that TVA could accelerate the country’s clean and renewable energy buildout, but the agency now bears no resemblance to the leadership force he envisioned.\textsuperscript{86}

The climate emergency and the health and futures of communities in the Tennessee Valley demand that TVA revolutionize our broken, racist energy system.

Under the board’s leadership, TVA can be the climate leader the country and Valley residents need for a renewable, equitable, democratic and accountable public power future.


4 See About Us, Clean Up TVA, available at https://cleanuptva.org/about-us/.


6 U.S. Census Bureau, QuickFacts: Kentucky; Virginia; Alabama; Mississippi; Tennessee; Georgia, (accessed on April 11, 2022), available at https://www.census.gov/quickfacts/fact/table/KY,VA,AL,MS,TN,GA/PST045221.

7 Chandra Farley, John Howat, Jenifer Bosco, Nidhi Thakar, Jake Wise, and Jean Su, Advancing Equity in Utility Regulation, LAWRENCE BERKELEY NATIONAL LABORATORY, (November 2021), https://escholarship.org/content/qt1mr715sx/qt1mr715sx.pdf.


29 Id.


32 Id.


34 U.S. Census Bureau, QuickFacts: Kentucky; Virginia; Alabama; Mississippi; Tennessee; Georgia, (accessed on April 11, 2022), available at https://www.census.gov/quickfacts/fact/table/KY,VA,AL,MS,TN,GA/PST045221.


36 Id.


39 Id.

40 16 USC 831a(g)(1)(K)


44 Joanne Omang, TVA's Electrifying Change, WASHINGTON POST, (June 1, 1980), https://www.washingtonpost.com/archive/politics/1980/06/01/tvas-electrifying-change/10ce7dd7-6350-4015-be8a-01d44d6aa53d/.


55 See Environmental Policy, TENNESSEE VALLEY AUTHORITY, (available at https://www.tva.com/environment/environmental-stewardship/environmental-policy/.)

56 16 UCS Section 831a(g)(A) and (B)

57 16 UCS Sec 831(g)(1)(B)


61 Estimated capital costs for proposed Cumberland pipeline about $135 million, and for Kingston pipeline about $520 million. This is based on reported mileage, pipeline diameter, and region for the pipeline build. See Cumberland Project – Project Overview, Kinder Morgan, at https://www.kindermorgan.com/Operations/Projects/cumberland-project. See also Ridgeline Expansion Opportunity, Enbridge, at https://www.enbridge.com/projects-and-infrastructure/projects/ridgeline-expansion-project.


William Driscoll, Lawsuit challenges TVA's anti-solar “never-ending contracts” with its utility customers, PV MAGAZINE, (Aug. 21, 2020), available at https://pv-magazine-usa.com/2020/08/21/lawsuit-challenges-tvas-anti-solar-never-ending-contracts-with-its-utility-customers/ (explaining that the contracts severely constrain the amount of power the LPCS “can procure from non-TVA sources such as solar”).


18 CFR Sect 1318.500(a)
81 16 USC 831a(g)(1)(K)


85 16 USCS Sec 831a(h)

86 Joanne Omang, TVA's Electrifying Change, WASHINGTON POST, (June 1, 1980), https://www.washingtonpost.com/archive/politics/1980/06/01/tvas-electrifying-change/10ce7dd7-6350-4015-be8a-01d44daaa53d/.