

About Electrification

Overview

From swiftly expanding renewable energy and slashing emissions to developing innovative transportation alternatives, Dominion Energy is among the leaders in decarbonization across the country. We intend to reach net zero emissions across our gas and electric businesses by 2050. We believe in a balanced approach that achieves dramatic decarbonization while giving proper weight to cost, technology, and customer choice.

As we work to build a cleaner and more sustainable future, we are pursuing a comprehensive strategy to promote economy-wide decarbonization by encouraging the shift to least-cost, low- and zero- carbon energy sources. To that end, we are greening our own grid through investments in offshore wind, solar generation, nuclear relicensing, energy storage, hydrogen, energy efficiency, pipeline replacement, and carbon-beneficial renewable natural gas. (For more on those topics, see this report's sections on "[Investing in Infrastructure for Clean Energy](#)," "[Clean Energy Diversity and Security](#)," "[Carbon Reduction](#)," and "[Methane Emissions Reduction](#).") Through such efforts, we have cut carbon emissions 57 percent since 2005 and methane emissions 25 percent since 2010. We intend to reach net zero emissions across both our gas and electric businesses by 2050.

In addition, we are helping our customers and other sectors of the economy reduce their emissions. The optimal solutions and technologies will vary by climate, region, and over time, and are not predetermined. However, one way we are limiting our total contribution to climate change is by launching a suite of initiatives to reduce company and customer footprints — *i.e.*, Scope 3 emissions. Those initiatives include electrification of transportation and, where appropriate, the built environment (also known as building electrification).

We are also investing in complementary grid modernization projects to accommodate increased load associated with electrification efforts and facilitate the integration of distributed energy resources.

Our Approach

Electrification lowers overall emissions when electricity is generated by low- or zero-carbon sources. However, as illustrated in this report's "[Net Zero](#)" section, notwithstanding the significant efforts of Dominion Energy and others to resolve the technical and financial hurdles to decarbonization, a fully decarbonized grid is likely decades away. Until storage can be

deployed cost-effectively at utility scale and other technologies reach commercial maturity, natural gas remains a critical enabler of grid reliability.

Dominion Energy is committed to leading the clean-energy transition while maintaining both customer reliability and affordability. Accordingly, the company supports decarbonizing both the electric grid, as described in this section, and the natural gas delivery grid through the initiatives described in the [“Methane Emissions Reduction”](#) section of this report.

Electrification of the Built Environment

Most residential and commercial buildings run on fuel and electricity. They use electricity to power lights, refrigerators, and electronic devices, and they consume fuels such as natural gas or propane to power furnaces, boilers, and water heaters.

Building electrification involves shifting from fossil fuels to electricity for heating (primarily through heat pumps), cooking, and numerous industrial processes. In the company’s regulated electric service territory, there is already significant [heat pump deployment](#), along with some limited use of heating oil that electric solutions could beneficially replace.

To encourage customers to purchase Energy Star-qualified efficient heat pumps and other appliances, the company offers a variety of state commission-approved [rebate programs](#). However, Virginia law restricts utilities from operating promotional allowance programs that would have a significant effect on the sales of an alternative energy supplier. In addition, Dominion Energy South Carolina is substantially expanding demand-side management programs, currently in their 11th year of operation. Following approval in late 2019 by the Public Service Commission of South Carolina, from 2020-2024 the portfolio of programs was broadened to seven residential programs and three commercial and industrial programs.

At the same time, we recognize that building electrification does not meet the needs of every customer. In colder climates, such as our Utah service territory, electric heat pumps are far less effective than natural gas heaters. Further, independent analysis demonstrates that in areas where the electric utility has not transitioned (or is not transitioning) its generation fleet to less carbon-intensive fuel sources such as natural gas and renewables, building electrification results in *greater* carbon emissions than natural gas heat sources.

Nearly 180 million Americans use natural gas directly in their homes and businesses every day, and more than 600,000 Americans sign up for new natural gas service each year. Consumers choose natural gas because they like the affordability, reliability, and experience of gas space and water heating, gas cooking, gas fireplaces, and other household appliances. The total cost of aggressive residential electrification would be \$590 billion to \$1.2 trillion by 2035. Significant

increases in peak electric demand also would require major new investments in electric generation, transmission, and distribution, totaling \$155 billion to \$426 billion by 2035.

Given those realities, it is not surprising that policy-driven electrification is deeply unpopular. According to a July 2020 survey, Dominion Energy's natural gas utility customers in Utah, Ohio, and South Carolina strongly oppose policy-driven electrification: 74 percent oppose policies banning new natural gas connections or requiring customers to convert to all-electric appliances, and more than 60 percent of those who identify as environmentalists oppose such policies.

For these reasons, our decarbonization efforts include GreenTherm, a voluntary program that empowers customers to purchase RNG, as well as ThermWise and other energy-efficiency programs that encourage consumers to use less energy. (For more, see the section on "[Energy Value](#).") Other initiatives to decarbonize the gas delivery grid, including reducing or eliminating gas venting during planned maintenance and inspections, replacing targeted infrastructure and equipment with new, lower-emission equipment, and expanding leak detection and repair programs are described in "[Methane Emissions Reduction](#)" section of this report.

Electrification of Industry

Heavy industry accounts for more than a fifth of carbon-dioxide emissions. Much of those emissions come from the burning of fossil fuels, because many industrial processes — from steel production to incineration — require high temperatures for sustained periods, and carbon-based fuels often provide the heat source. Switching from coal and oil to natural gas could reduce emissions in some instances. Further reductions could be achieved through the use of hydrogen.

While electrification is not practical for some processes, it may be applicable in others. Dominion Energy is working with industrial customers to keep them connected to the grid, which can maximize emissions cuts through economies of scale.

Electrification of Transportation

While the decarbonization opportunities associated with building electrification are significant, the transportation sector offers the [greatest opportunity](#) to reduce emissions through electrification: In 2019, the transportation sector represented the largest source of carbon dioxide emissions in the United States. Accordingly, Dominion Energy is prioritizing transportation decarbonization through (1) investments in vehicle charging infrastructure (in Virginia, we have received approval of our Smart Charging Infrastructure Pilot Program and are

seeking approval of other EV-supportive programs); (2) support for the use of compressed natural gas in vehicles in North Carolina and Utah (for more on that, see this report's section on "[Natural Gas Diversity](#)"); (3) robust educational resources for customers; and (4) our electric school bus initiative and autonomous electric shuttle pilot (for more on those, see this report's section, "[Beyond Net Zero](#)").

Grid Transformation

Finally, the company is transforming the grid to enable the increased load associated with electrification and facilitate the integration of distributed energy resources. Our 2020 Virginia [Integrated Resource Plan](#) describes the foundational elements of the Grid Transformation Plan, including advanced metering infrastructure, deployment of intelligent grid devices, advanced control systems, and a robust and secure telecommunications network — all of which will support the increased load and distribution grid complexity associated with building electrification and electric vehicle adoption.

Time Frame

As noted above, the time frame for electrification of other economic sectors depends on numerous factors beyond the company's control. See the [Commitments](#) section of this SCR Report a comprehensive list of our sustainability targets and timelines.