Stopping Climate Change in Virginia
100 percent renewable energy by 2035

Rising global temperatures risk irreversible worldwide ecological and climatic changes, with widespread impacts on human health and ecosystems. The threats include more violent storms, droughts, floods, acidifying and rapidly warming oceans, and altered growing seasons. In Virginia, increasing temperatures and rising sea levels due to climate change have resulted in saltwater intrusion, disappearing beaches and more intense storms and floods. We must transition away from dirty fossil fuels like coal, oil and natural gas to clean, renewable energy as soon as possible to prevent the worst effects of a warming planet. Virginia must — and can — shift to 100 percent renewable energy by 2035.

The Urgent Need to Act Now on Climate
The warming of the planet is already causing significant damage that is expected to get worse. U.S. temperatures have increased dramatically over the past century, and this warming has only accelerated over the past few decades. Since 1970, average Virginia temperatures have increased by more than 2 degrees Fahrenheit (about 1 degree Celsius). Warmed oceans and sinking land have caused sea levels in Virginia to rise one or two inches every decade, which is one of the highest rates in the country. The U.S. Geological Survey estimates that sea-level rise will “very likely” contribute to the loss of Virginia’s barrier islands. Multiple highly populated Virginia communities will face chronic inundation of seawater by the end of the century.

Increasing temperatures contribute to more frequent and stronger extreme weather events. Heavy storm precipitation has increased by 27 percent in the southeastern United States over the past five decades and is expected to keep rising. In 2003, the storm surge from Hurricane Isabel caused severe flooding in Virginia’s Fairfax County as well as flash flooding of the South and Shenandoah rivers, costing the state over $925 million. Sea-level rise contributed to Hurricane Isabel’s higher proportional impact than previous and more powerful storms.
Climate change impacts will be expensive. In addition to the pricey effects of Hurricane Isabel, losses from hurricanes are likely to increase significantly by the middle of the century. Rising sea levels and more storms may increase flood and homeowner insurance rates in the state. Certain Virginia industries will also be impacted. The $1.5 billion sport fishing industry and the $27 billion agricultural industry may be harmed with economic losses due to rising water acidification and salinity, extreme heat and droughts.

Detrimental public health impacts on local communities are expected to worsen with rising temperatures. In Virginia, climate change will increase the frequency of extreme heat days, as well as the associated risk of heart and lung disease, with disproportionate impacts on elderly residents. Climate change will also worsen air quality and raise water temperatures that increase the risk of vector-borne diseases like Lyme disease and West Nile virus. The most vulnerable residents — including lower-income populations and communities of color, who already suffer from disparate environmental exposures and illness — will experience the brunt of these impacts.

Virginia's Electricity Mix Needs to Rapidly Shift to Clean, Renewable Energy

Currently, much of Virginia’s power comes from greenhouse gas-emitting fossil fuels. In 2017, nearly two-thirds of the state’s electricity came from fossil fuels like natural gas (50 percent) and coal (12 percent). A mere 0.4 percent of Virginia’s electricity came from clean renewables like wind, solar, tidal or geothermal energy.

Fossil fuel use has significant human health and environmental impacts. Virginia’s largest utility company — Dominion Energy — stored nearly 30 million tons of coal ash, a waste byproduct from coal-fired power plants, in ponds across Virginia. Environmental testing has found that Dominion’s coal ash ponds have leaked potentially toxic coal residues into nearby water bodies.

Natural gas is no climate solution: gas-fired power plants emit greenhouse gases, and natural gas infrastructure like pipelines and power plants leaks the potent greenhouse gas methane that warms the climate. There are currently two proposed and controversial Virginia gas pipelines — the Atlantic Coast Pipeline and the Mountain Valley pipeline — that would lock the Commonwealth into a fossil-fueled future for decades. Constructing these pipelines would threaten wetlands and water systems, disrupt vulnerable geologic areas and imperil efforts to protect endangered and threatened species.

Virginia Must and Can Shift to Clean Renewables

Virginia’s continued reliance on fossil fuels only perpetuates a dirty energy future that threatens our climate. The Virginia Off Fossil Fuels Act (OFF Act) is the strongest climate bill in history and charts a path for Virginia to achieve 100 percent renewable energy by 2035. The bill curbs climate change and removes dirty energy from the state renewable program and calls for a complete and rapid overhaul of the current energy system — a daunting task, but we can and must do it. As President John F. Kennedy said about the Apollo mission to put a man on the moon, we do it “because that challenge is one that we are willing to accept, one that we are unwilling to postpone, and one which we intend to win.”

The Virginia OFF Act is our best chance at tackling climate change, and the most necessary. It promotes a clean energy system based on wind, solar and other clean sources of renewable energy, energy storage and continued improvements in energy efficiency. We have no time to lose.

Virginia’s Untapped Reservoir of Clean Energy

Virginia has the ability to tap into large potentials of clean energy. While renewable energy makes up only a sliver of the state’s total energy consumption, Virginia solar power generation is increasing steadily. The state now has over 630 megawatts of installed solar capacity, powering 69,000 homes as of 2018. And solar is expected to keep growing significantly over the coming years. According to the Solar Energy Industries Association, solar capacity could increase by 2,206 megawatts over the next five years in Virginia, while the U.S. Department of Energy (DOE) found that Virginia’s solar capacity could reach 8,700 megawatts by 2030, over 22 times the 2017 solar capacity.

While there are currently no wind energy farms in Virginia, the state has immense wind energy potential waiting to be utilized. According to the DOE, Virginia has over 89,000 megawatts of potential wind power capacity. And although no wind technologies are installed at present, a number of projects are in the development pipeline. For example, a Charlottesville developer has plans to build Virginia’s first commercial wind farm, although construc-
tion was delayed as of late 2017. Virginia is already moving toward increasing battery storage technology to integrate its renewable power resources into a reliable and resilient electricity system.

Even conservative estimates suggest that current and emerging renewable technologies could fulfill a significant share of Virginia’s electricity requirements. Renewable technology costs are dropping rapidly and are being deployed at unprecedented rates, achieving goals years in advance and exceeding expectations many times over. A more rapid shift to genuine renewables under the 100% Clean Renewable Energy and Equity Act would supercharge this shift.

**Benefits of Clean and Efficient Power**

These changes will protect the planet and strengthen the economy. Increased solar and wind energy will substantially reduce greenhouse gas emissions, lower overall energy costs and improve electric power grid reliability. Renewable energy will also add jobs to the economy. The nascent solar industry already provides Virginians with over 3,000 jobs statewide, and this number is expected to nearly double over the next decade. Utilizing even a fraction of Virginia’s wind energy potential could generate nearly 4,000 to 12,000 jobs.

Energy efficiency is another key component to reducing consumption and dependence on dirty fuels and is an incredibly cost-effective way to reduce greenhouse gas emissions and toxic pollutants. In 2007, Virginia set an energy efficiency goal of a 10 percent reduction in electricity consumption by 2022, and in 2014 Governor McAuliffe issued an executive order directing all agencies and departments to pursue energy efficiency measures. Since 2013, these energy efficiency initiatives in Virginia have supported more than 75,000 jobs and produced $1.5 billion in economic revenue.

**Take Action**

The Virginia OFF Act charts the strongest path to tackle climate change by pushing for a 100 percent clean energy economy. Virginia has the potential to achieve this transition and reap the substantial economic benefits. Tell your members of the Virginia legislature to support the Virginia OFF Act today: [fwwat.ch/VA100Renew](http://fwwat.ch/VA100Renew)
Endnotes


4 EPA (2016) at 1 and 2.


6 Ibid. at 5.


9 Spanger-Siegfried, Erika et al. Union of Concerned Scientists. “When Rising Seas Hit Home: Hard Choices Ahead for Hundreds of U.S. Coastal Communities.” July 2017 at 1, 25 and Figure 11.


18 EPA (2016) at 2; Repetto (2012) at 7 to 8.


20 Smith et al. (2014) at 717 to 718, 734 and 742.


22 Ibid.


26 Food & Water Watch analysis of EIA data for “Net solar generation for all sectors, Virginia.” Total change takes into account both small- and utility-scale solar for all sectors.


39 VEEC (2017) at 2, 3 and 6.