

THE ENERGY TO POWER FAMILIES, JOBS AND INVESTMENT PLAN

An All-of-the-Above Approach
to Energy in Virginia





Virginians needs energy leadership to ensure we provide affordable, reliable energy to help grow our economy. As governor, I will take an all-of-the-above approach to improve our energy infrastructure and grid security, ensure affordable energy, and advance clean energy and innovation.

A white handwritten signature of Ed Gillespie, written in a cursive style, positioned in the bottom right corner of the image.

SUMMARY

The prosperity of all Virginians depends on securing abundant energy resources and competitive energy prices that protect citizens from high energy costs, and attract the businesses that provide new jobs.

The challenge for Virginia's next governor will be to balance responsible stewardship of our environment with Virginians' economic needs and access to reliable, secure and affordable energy. Significant changes occurring worldwide make now a critical opportunity to advance Virginia's energy independence and competitiveness. Ed Gillespie will pursue energy policies that strengthen Virginia's energy resource mix, improve grid security, reliability and infrastructure, while creating jobs and raising take-home pay. Working with the General Assembly, Ed will focus on three essential energy goals:

-  **IMPROVE OUR INFRASTRUCTURE AND GRID SECURITY**
-  **ENSURE AFFORDABLE, RELIABLE ENERGY**
-  **ADVANCE CLEAN ENERGY AND INNOVATION**

ENERGY INFRASTRUCTURE AND GRID SECURITY

ATLANTIC COAST AND MOUNTAIN VALLEY PIPELINES

The construction of the Atlantic Coast Pipeline (ACP) and Mountain Valley Pipeline (MVP) will provide Virginians access to affordable, reliable natural gas. By expanding the availability of that important energy resource, the ACP and MVP will attract many new jobs, capital investment and economic development opportunities in manufacturing and other growth sectors. Ed will continue to support the ACP and MVP and will leverage reliable and affordable natural gas to attract and expand manufacturing and other industries into Virginia. Natural gas is essential feed stock in the production of tires, plastics, chemicals, fertilizer, metals and power generation. Ed will work with relevant state and federal agencies to ensure that the pipeline is built in an environmentally responsible manner while also working to mitigate the impact on property owners.

ADVANCE GRID MODERNIZATION

As recommended by Advanced Energy Economy (AEE), Ed will create a Smart Grid Task Force composed of key stakeholders to evaluate and recommend direct actions to modernize, strengthen and improve the electric grid in Virginia. One of the most significant needs for a truly “smart-grid” that allows for two-way communication is smart meters and their accompanying infrastructure. Intelligent grid devices work to prevent outages, communicate restoration times and add to grid resiliency.

Building the most robust electric grid system possible will allow for the increased integration of renewable energy (like solar and wind), enhance the customer experience, and improve resiliency and grid security.

Virginia will need an electric grid capable of handling the increasing demands of a growing economy that will result from Ed’s economic policies, the changing way in which electricity is generated and used and to protect against the cyber security threats to the grid.

STUDY PERFORMANCE-BASED REGULATION FOR UTILITIES

The Brookings Institute has concluded that the U.S. electric utility industry is undergoing a dramatic transformation. Three major interrelated factors are converging to drive the change: policy, technology, and customer engagement.¹ With Ed’s leadership, Virginia can harness these three factors for economic growth. Given this transformation, it makes sense to examine performance-based regulation of our utilities as a response. As governor, Ed will direct his Secretary of Commerce and Trade to convene stakeholders, including industry and General Assembly leadership, to investigate and consider performance-based regulation with the goal of maintaining stable, affordable and competitive electric utility rates critical to keeping and attracting business and protecting family budgets.

1: <https://www.brookings.edu/blog/planetpolicy/2015/12/03/why-performance-based-regulation-is-important-for-the-electric-utility-transformation/>

SAFE, RELIABLE AND AFFORDABLE ENERGY

REPEAL THE MCAULIFFE-NORTHAM CAP AND TRADE PLAN FOR VIRGINIA

In the midst of the “Race to the Left” in the Democratic Primary, Lt. Governor Ralph Northam joined Governor McAuliffe in imposing a Clean Power Plan on Virginia. Virginia has some of the lowest energy rates on the East Coast, and these regulations could result in drastically higher rates for Virginia consumers and businesses, potentially chasing economic development out of Virginia. Governor McAuliffe’s Executive Directive requires the Virginia Department of Environmental Quality (DEQ) to develop regulations to abate, control or limit carbon dioxide emissions from electric power facilities and to ensure that Virginia’s energy markets are “trading-ready” by December 31, 2017.² The Executive Directive is a cap-and-trade plan. As governor, Ed will repeal the Executive Directive and halt the development of these regulations that threaten Virginia’s economic development and our low energy prices, while at the same time identifying opportunities to further reduce emissions from power generation.

REINSTATE THE COAL TAX CREDITS

The McAuliffe-Northam Administration politicized Virginia’s coal tax credit, attempting to trade it for their political priorities.³ Ed recognizes that the Coal Tax Credit is an important part of ensuring Virginia’s coal industry is able to retain critical jobs and attract investment in Virginia, particularly in Southwest Virginia where economic opportunities are desperately needed. The Virginia City Hybrid Energy Center has 40+ years remaining on its generation lifespan, and as governor Ed will ensure that our existing generation facilities are using Virginia coal. He will reinstate Virginia’s coal tax credits.

SUPPORT OIL AND GAS EXPLORATION OFF OF VIRGINIA’S DEEP-SEA COAST

Virginia’s deep sea coast is potentially rich with oil and gas. More domestic energy production in the Commonwealth will help us diversify our economy, create more good-paying jobs, and increase our nation’s energy independence. Now, with an Administration in Washington committed to achieving these goals, Virginia could benefit from development of our deep sea coast. This would have positive impacts all across our Commonwealth, and lead to more good paying jobs created in our state. Given the shale revolution and the affordability of developing natural gas on land, the development of oil and gas offshore is not likely to be an economically attractive investment, according to industry analysts. But should that change in the future, energy exploration and development off our deep sea coast should be an option for Virginia.

2: <http://governor.virginia.gov/media/9155/ed-11-reducing-carbon-dioxide-emissions-from-electric-power-facilities-and-growing-virginias-clean-energy-economy.pdf>

3: https://www.washingtonpost.com/local/virginia-politics/senator-mcauliffe-offered-to-trade-coal-tax-credit-to-save-va-supreme-court-pick/2016/03/11/af2dfd8c-e7ce-11e5-b0fd-073d5930a7b7_story.html?utm_term=.c9f848eb29c1

ADVANCE CLEAN ENERGY AND INNOVATION

Thanks to technological advancements, clean energy is becoming increasingly available, reliable and affordable. These developments create economic opportunities and the promise of a cleaner environment. Virginia is poised to be on the forefront of this innovation. In order to succeed, Virginia must ensure that government regulation does not stand in the way of clean energy innovation. Ed supports a plan that boosts Virginia as a leader in the growing American clean energy economy, investing in our scientists and engineers, to support advances to make clean energy affordable to all Virginians.

To ensure continued investment in Virginia's clean energy future, Ed will promote a regulatory framework that allows and encourages utilities to invest in renewable generation and the upgrades to the electric grid needed to support it. Virginia needs a regulatory framework that encourages the efficiency of its regulated utilities and promotes investment in job and revenue generating clean energy and "smart grid" options. As governor, Ed will advance:

INNOVATION

We must get government regulation out of the way of clean energy innovation. American scientists are the world's energy pioneers, from the light bulb to the car, and Virginia's scientists at the University of Virginia, Virginia Tech and Jefferson Lab are working toward energy research breakthroughs and bringing hundreds of millions of research dollars into our state. Yet just two percent of our federal R&D is spent on energy. We need bigger goals and fewer roadblocks: cleaner power plants, new technologies, more efficient homes and cars—Virginia can be a leader in this future.

ADVANCE CLEAN ENERGY AND INNOVATION



CARBON CAPTURE

New carbon-capture technology can reduce the pollution from our existing coal and gas plants. It captures carbon emissions before they're released into the air. Luna Innovations in Roanoke is developing advanced materials for carbon capture. Virginia Tech is testing how carbon can be stored while producing extra natural gas from Buchanan County coal beds. Successful carbon capture would allow us to access more gas and extend the life of existing power plants with cleaner emissions, saving jobs while reducing pollution. Virginia companies can then sell this technology to other countries, like China and India, reducing their emissions and boosting America's economy.



NATURAL GAS

Natural gas is the fuel for nearly 40 percent of Virginia's electricity production.⁴ It's plentiful and less expensive than other energy sources. Harnessed responsibly, natural gas is a win-win for America's economy and environment.



SOLAR, WIND AND FORMS OF RENEWABLE ENERGY

Renewable energy options ranging from solar photovoltaic generation to landfill gas to wind are a way for Virginia to create clean energy jobs right here in Virginia. Virginia needs to be a leader in this field and in so doing we will strengthen our economy and attract businesses. With the development of a modernized and strengthened grid, Virginia will have the power it needs for the twenty-first century.



HYDROPOWER

Hydropower is a way to produce electricity by harnessing the energy that flows through America's rivers through pumped hydropower. Virginia's 832 megawatts of hydropower⁵ already powers thousands of Virginia homes, and we can expand hydropower at existing dams by modernizing our equipment. This is one of our cheapest clean energy sources, and we can produce more.

4: <http://vaperforms.virginia.gov/indicators/naturalResources/energy.php>

5: <https://www.eia.gov/state/search/#?1=104&2=226>

ADVANCE CLEAN ENERGY AND INNOVATION

→ ENERGY STORAGE

One of the most important technologies to clean energy development is energy storage technology. There are a variety of technologies that we can use to store large amounts of energy including batteries, thermal storage, and hydro pumped storage, and they are on the verge of becoming much more economically viable. Southwest Virginia is leading the way in establishing next generation energy solutions through the use of pumped storage. The region is establishing a regional revenue sharing plan and enhancing collaboration. Pumped storage could support the growth of clean energy and other technology industry growth in the region.

→ NUCLEAR

We must ensure we continue to use our nuclear power plants to produce safe and clean electricity. Nuclear brings more than \$1 billion dollars into Virginia economy. Our business sell materials and services to the whole American nuclear industry. Nuclear already produces 32 percent of Virginia's electricity today⁶, emitting zero air pollution and employing thousands of Virginians.

As governor, Ed will advance safe, reliable, and affordable energy. One market in which we should not be is the production of uranium. After listening closely to leaders in Southern Virginia, Hampton Roads, and across the Commonwealth, Ed has concluded that uranium mining is not worth the risk to Virginia. Senator Frank Ruff, Delegate Danny Marshall, and others representing the region with uranium deposits would do anything possible to advance economic growth in Southern Virginia. The fact that they, and others, oppose uranium mining, combined with ample evidence and data, confirm that uranium mining is not right for Virginia. As governor, Ed would support the ongoing moratorium on uranium mining in Virginia.

→ ADVANCED NUCLEAR

Advanced technology will make nuclear safer and more practical, and can actually reduce nuclear waste. Top engineers at Virginia Tech are working on advanced plant designs and Lightbridge in McLean is developing better fuel for use at nuclear facilities. This leadership has great potential to produce both good economic results for Virginia but also good environmental results.

6: <http://vaperforms.virginia.gov/indicators/naturalResources/energy.php>

ADVANCE CLEAN ENERGY AND INNOVATION

ESTABLISH LARGE-SCALE RENEWABLE ENERGY PURCHASE OPTIONS

Renewable energy purchasing options should be flexible to meet the needs of a range of businesses, each with varying requirements for project size, contract length, risk, flexibility, resource type, and effort or expertise required. Program pricing should be cost-competitive, reflecting actual market pricing. Programs should charge customers according to actual resource, administrative, and other system costs to serve their load under the program, whether that be a net premium or net savings for customers. To meet customer needs, programs must enable development of net new renewable energy in Virginia.

As governor, Ed will proactively work with utilities to craft large-scale renewable energy purchasing options for companies with operations in Virginia. He will encourage additional partnerships between advanced energy providers, utilities, and large energy users within the Commonwealth. As Advanced Energy Economy suggested, companies should have access to viable renewable energy options regardless of what utility territory they are in.

ADVANCE POWER PURCHASE AGREEMENTS (PPAS)

As governor, Ed will work to expand existing pilot programs to make Power Purchase Agreements (PPAs) more viable in Virginia. There is currently a study underway, including mediation of convened stakeholders, to develop strategies to enhance PPAs to benefit consumers. Ed will work with stakeholders to responsibly advance Power Purchase Agreements and make them more available in Virginia.

DEVELOP AN ENERGY EFFICIENCY STRATEGY AND ESTABLISH EM&V PROTOCOLS

The Commonwealth established a goal of reducing retail electricity consumption by 10 percent by the year 2020. The McAuliffe-Northam Administration established the Governor's Executive Committee on Energy Efficiency but produced little more than marketing recommendations.

As governor, Ed will work jointly with the legislature and stakeholders to articulate an agreed-upon energy efficiency strategy. Further, Ed will support legislation to establish Evaluation, Measurement and Verification (EM&V) protocols for Virginia utilities to enable them to develop energy efficiency programs with a data-driven, customer-friendly orientation. EM&V is the "collection of methods and processes used to assess the performance of energy efficiency activities so that planned results can be achieved with greater certainty and future activities can be more effective."⁷ EM&V protocols should guarantee that customers benefit from energy efficiency improvements.

7: https://energy.gov/sites/prod/files/2014/05/f16/what_is_emv.pdf

ADVANCE CLEAN ENERGY AND INNOVATION

ENERGY PERFORMANCE CONTRACTING AND PARTNERSHIPS TO SAVE MONEY

As governor, Ed will advance energy performance contracting in state government to make affordable investments to improve efficiency. Further, Ed will work to build partnerships to help save money and reduce waste. For example, LED street lights use 75 percent less power than incandescent bulbs, the bulbs last eight times longer and the state or local government can save hundreds of thousands of dollars per year. Budget language directs the Department of General Services to work with the Department of Transportation to, “maximize the use of light-emitting diodes (LEDs) instead of traditional incandescent light bulbs when any state agency installs new outdoor lighting fixtures or replaces nonfunctioning light bulbs on existing outdoor lighting fixtures as long as the LEDs lights are determined to be cost effective.”⁸

RESEARCH AND COMMERCIALIZATION TO IMPROVE ENERGY STORAGE

In many cases pressure can be taken off aging infrastructure and peak demands can be met with energy storage solutions. By conducting a strategic review of how energy storage could solve outage problems, reliability can be improved and Virginia can establish itself as a leader in a part of the clean energy industry that is positioned to grow substantially in the next few years. Energy storage technology can help make energy more abundant, affordable and clean by facilitating full integration of renewable energy resources that are intermittent and unpredictable.

8: <https://budget.lis.virginia.gov/item/2017/1/HB1500/Chapter/1/80/>