



Appalachian Voices

Protecting the Central and Southern Appalachian Mountain Region

Executive Order 57

Recommendations of Appalachian Voices

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- Environmental non-profit committed to protecting the land, air and water of the central and southern Appalachian region
- Focused on reducing coal's impact on the region and advancing a cleaner energy future
- Many of our supporters live in VA's coal country
- A clean energy economy must emerge, and communities who traditionally provided our energy deserve opportunity in it



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Thank You!

- McAuliffe Administration has lead the way:
 - Created Virginia Solar Energy Development Authority
 - Created Governor's Executive Committee on EE
 - \$500k grant to BARC community solar project
- BUT, there's more we can accomplish in 2017¹
 - 10% retail energy savings by 2020
 - Current 25% achievement of goal
 - 15% Commonwealth energy savings by end 2017
 - Current 38% achievement of goal

1. Energy in the New Virginia Economy: Update to the 2014 Virginia Energy Plan



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States Now Lead on Climate

- New White House expected not to defend Clean Power Plan in court or implement even if upheld
 - Businesses LIKE the CPP and were preparing
 - Industry leaders (Google) are decarbonizing anyway
- **McAuliffe Administration's Climate Legacy:**
Aggressive Action on EO57 will determine it



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EO57's Mandate

- “...to study and recommend **methods to reduce carbon emissions from electric power generation facilities.**”
- “...methods shall align with the Virginia Air Pollution Control Board's power to promulgate regulations...”



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Two Methods to Reduce CO₂ from Power Plants

1. Produce less power...i.e., Reduce demand for electricity via **Energy Efficiency** measures
2. Rely increasingly on **Renewable Energy** to meet that demand (wind and solar)



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Energy Efficiency: Benefits

#1 Reduce demand via Energy Efficiency (EE)

- Energy Efficiency is the least-cost method of CO2 reductions – low-hanging fruit
- Helps low-income residents, who tend to spend higher % of income on utility bills
- Weatherization increases comfort, may increase property values
- Creates local jobs in energy audits/upgrades



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Energy Efficiency: Recommendations

#1 Reduce demand via Energy Efficiency (EE)

Remember: 10% Reduction by 2020 is only 25% achieved!

- Strengthen Uniform Statewide Building Codes
- Direct utilities to spend more on EE programs
 - E.g., introduce legislation to find 2% IOU revenues invested in EE as “in the public interest”
- Expand Low-Income Home Energy Assistance Program (LIHEAP)
 - Remove DOE restrictions to allow EE update flexibility
- EO57, GEC, DMME, DHCD should coordinate on EE
- Promote Combined Heat & Power (CHP)
- Create energy use disclosure policy for govt. and commercial buildings

Renewable Energy: Benefits

#2 Increase reliance on Renewable Energy

- Take advantage of Market
 - Costs of wind and solar lower than ever and falling
- Health benefits
 - No SO₂, NO_x, PM – benefit ALL, but especially EJ
- Solar creates jobs¹
 - 208,859 in U.S
 - 5,950 in NC
 - 1,963 in VA
- Economic diversification in SW
 - RE development in SW = jobs & economic boost

1. Solar Foundation, 2015 Solar Jobs Census

Costs of Electricity Production

- Levelized Cost of Electricity (LCOE) for new generation entering service in 2022:¹
 - Nat-Gas Conventional CC = \$56.4/MWh
 - Nat-Gas Advanced CC = \$55.8/MWh
 - Wind (land-based) = \$50.9/MWh
 - Solar Photovoltaic = \$58.2/MWh
- **Wind is currently the cheapest** energy resource for new generation
- Solar is competitive with gas, and its costs have plummeted in recent years

1. EIA - https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf



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Renewable Energy: Recommendations

#2 Increase reliance on Renewable Energy

- Switching from coal to gas alone insufficient¹
 - Natural Gas lifecycle arguably as GHG-intensive as burning coal
 - Continued investments in gas will lock VA into 40+ years of fossil burning, missing GHG targets or stranded assets

1. LORNE STOCKMAN, A BRIDGE TOO FAR: HOW APPALACHIAN BASIN GAS PIPELINE EXPANSION WILL UNDERMINE U.S. CLIMATE GOALS 23 (2016), *available at* <http://priceofoil.org/2016/07/22/a-bridge-too-far-report/>

- **Recommendation:** Cap GHGs from power plants at current levels (2015)



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Incentives Matter

- We don't have a mandatory RPS in Virginia to drive development of renewables
- By helping to internalize the true cost of fossil power, **an enforceable cap on power facilities' GHG emissions** will make renewable generation even more cost-competitive with fossils



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Example: Dominion 2016 IRP

- All plans would add 500 MW solar and 1,585 MW gas-fired capacity (Greensville station)
 - Plan A: **No CPP – No additional solar.** All gas.
- **With CPP:**
 - Plan B: 1,100 MW additional solar
 - Plan C: 3,400 MW additional solar
 - Plan D: 2,400 MW additional solar
 - Plan E: 7,000 MW additional solar
- Capping CO₂ is an effective incentive to build RE



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Authority to Regulate GHGs

- VA Code § 10.1-1308

“The Board...shall have the power to promulgate regulations...abating, controlling and prohibiting air pollution throughout or in any part of the Commonwealth...”

- 9 Va. Admin. Code § 5-85-55 Actuals Plantwide Applicability Limits (Pals).

“The board may approve the use of an actuals PAL for GHGs on either a mass basis or a CO₂e basis for any existing major stationary source or any existing GHG-only source if the PAL meets the requirements of this section.”



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Regulation: 30 x 30

- Cap GHGs from power plants at current levels (2015)
- Reduce the cap 2% each year for 15 years
- Result \approx 30% reduction in emissions by 2030
- Mass-based cap should produce actual net reductions
- Cap should cover both new and existing generators



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Regulation: 30 x 30

- Results similar to where CPP would have gotten us:
 - **CPP** – 27.8 million tons reduced
 - **30 x 30** – 26.7 million tons reduced
- RE targets are achievable – 10,340 MW solar 2030
 - Need to add about 9,175 MW solar by 2030
 - Dominion Plan E would add 7,500 MW solar
- EE targets are achievable
 - Existing EE goals in line with 30 x 30



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Conclusion

- Best methods to reduce CO₂ emissions from power plants are EE and RE.
- Existing EE goals simply need execution
- Regulation reducing CO₂ emissions 30% by 2030 can incentivize significant increases in RE