

MWCOG – CEEPC Meeting

Washington, D.C.

Wednesday September 28, 2016

Hayes Framme, Deputy Secretary of Commerce and Trade

- Virginia Energy Plan Outline
- Data points of note
 - Carbon Emissions Reduction
 - Solar
 - Energy Efficiency
 - Alternative Fuels

Strategic Growth in the Energy Sector

Best-in-class infrastructure

Alternative Fuels and Advanced Vehicle Technology

Talent Development in the Energy Sector

Executive Order 57

*“...I hereby direct the Secretary of Natural Resources to convene a Work Group, chaired by the Secretary, to study and recommend **methods to reduce carbon emissions from electric power generation facilities**. The Secretary shall receive input from interested stakeholders.*

*Such methods **shall align with the Virginia Air Pollution Control Board’s power to promulgate regulations abating, controlling and prohibiting air pollution** throughout or in any part of the Commonwealth...*

*In preparing their **recommendations**, the Secretary and the Work Group shall consider the following:*

- (1) the establishment of regulations for the reduction of carbon pollution from existing electric power generation facilities pursuant to **existing authority under Virginia Code § 10.1-1300 et seq.**;*
- (2) the carbon reduction requirements for existing electric power generation facilities established under § 111(d) of the federal Clean Air Act, which are currently stayed pending final disposition;*
- (3) the interaction between electric utilities and regional markets, including PJM Interconnection;*
- (4) the impact any reduction requirements place on the reliability of the electric system;*
- (5) the impact any reduction of carbon pollution may have on electric rates and electric bills;*
- (6) the impact of reducing carbon pollution on low income and vulnerable communities;*
- (7) the cost effectiveness of pollution reduction technologies that may be deployed;*
- (8) the economic development opportunities associated with deployment of new carbon reduction technologies;*
- (9) the implementation and administration of carbon reduction regulations; and*
- (10) flexibility in achieving the goals of any carbon reduction regulation.”*

Executive Order 57

- **Internal Working Group**
- **Multiple meetings from fall 2016 – spring 2017**
 - First meeting tentative August 31, 2016
- **Presentations from invited stakeholders related to the 10 considerations**
- **Some form of public comment**
- **Recommendations to Governor May 31, 2017**

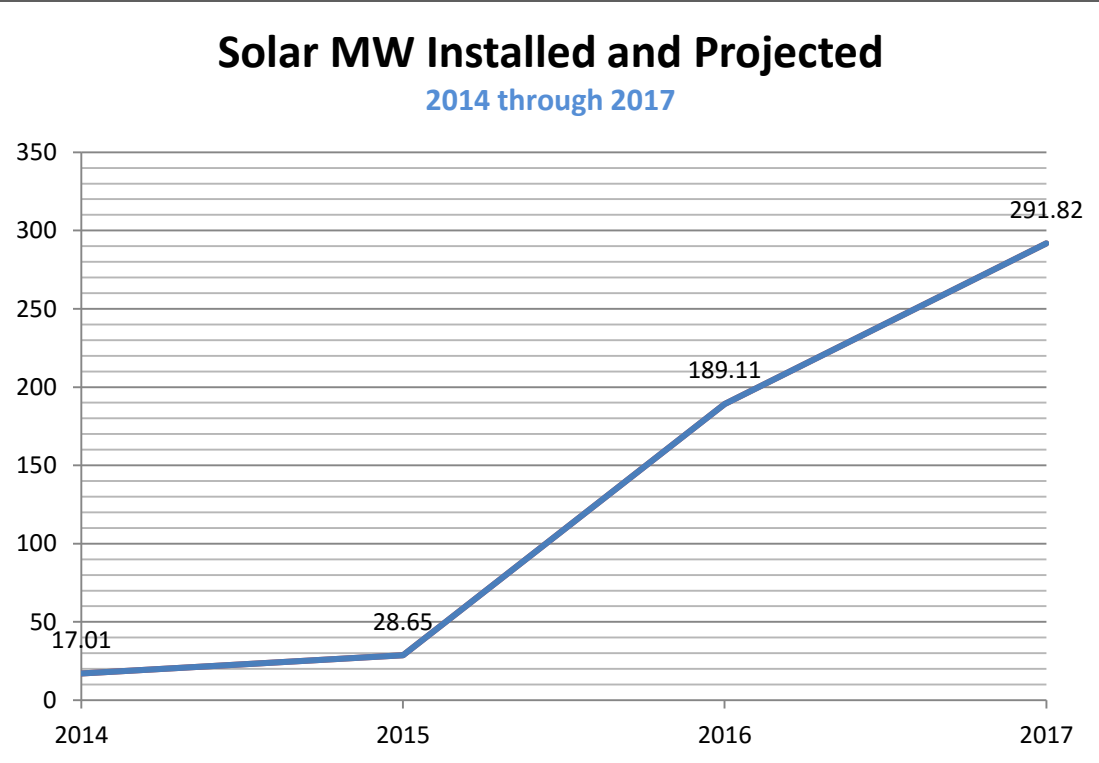
Solar

- Net Metering has increased **50%** since 2013 compared to the previous 14 years.
- At least **288MW** of utility-scale solar is expected to be installed by the end of 2017
- **778.6MW** currently in the PBR que
- **80MW** project in Accomack Co. to be completed by mid-October
- **100MW** project approved by Southampton County Board of Supervisors on Monday

Data Points - Solar Deployment 2014 – 2017

Item #3b

Project Type	Project Name	Town/County	Size
PBR	Amazon Solar US East	Accomack	80.00
Utility -ODEC	Hecate Clarke County LLC	Berryville - Clarke	20.00
PBR	Firestone Solar LLC	Buckingham	20.00
Utility - Dominion	DOM - Whitehouse	Louisa	20.00
Utility -ODEC	Hecate Cherrydale LLC	Northampton	20.00
Utility - Dominion	Remington	Remington	20.00
Utility - Dominion	DOM - Woodland	Isle of Wight	19.00
Utility - PBR	Sun Energy1	Chesapeake	18.00
Utility - Dominion	Oceana	Virginia Beach	18.00
Utility - Dominion	DOM - Scott	Powhattan	17.00
Utility - CVEC	CVEC-Goochland	Goochland	5.00
Utility - CVEC	CVEC-I-64 corridor	Unknown	5.00
DOM Solar Partner	Philip Morris Park 500	Chester	2.00
Miscellaneous	Navy	Norfolk	2.00
DOM Solar Partner	Merck	Elkton	1.51
DOM Solar Partner	Western Branch High School	Chesapeake	0.81
DOM Solar Partner	Prologis Concorde Center	Sterling	0.75
Utility - BARC	BARC Community Solar	Rockbridge	0.55
DOM Solar Partner	Capital One	Richmond	0.50
NEM		Woodbridge	0.50
DOM Solar Partner	Canon		0.50
Total:			271.11



Data Points – PBR Que

Item #3b

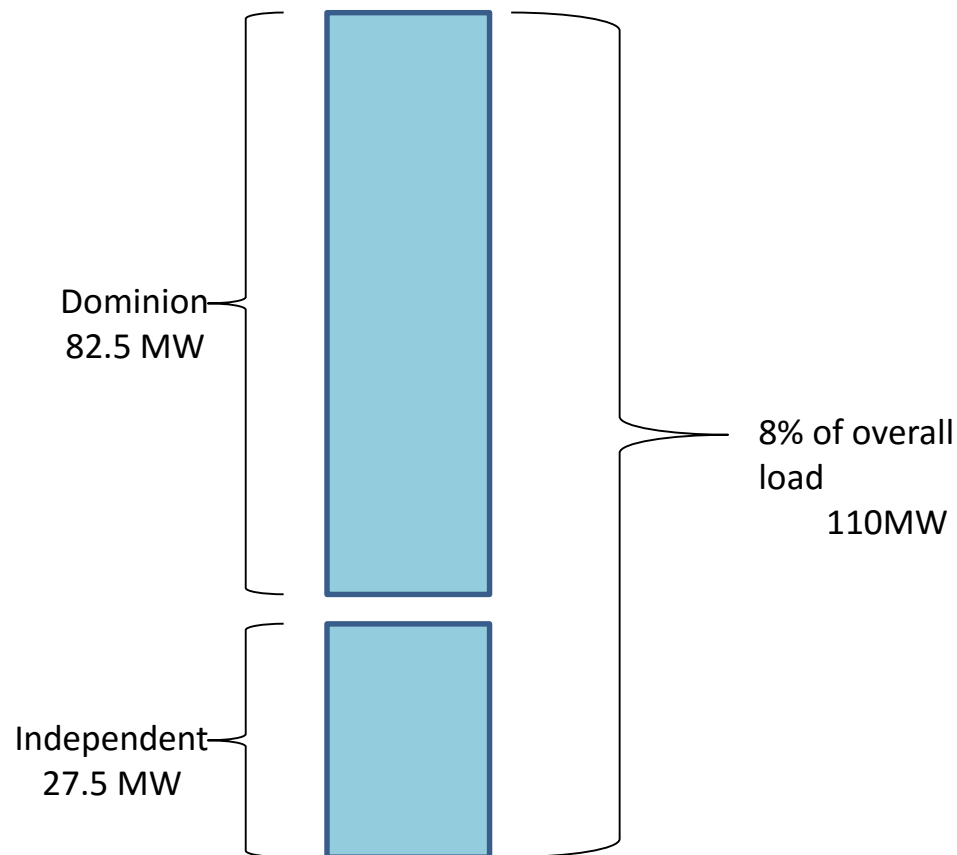
Project Name	Location	Acres	Capacity (MW - AC)	Developer/Out of	PBR Status
Eastern Shore Solar LLC	Accomack County	1000	80	Community Energy/Radnor, PA	Permitted
Rocky Forge Wind	Botetourt County		80	Apex Clean Energy/Charlottesville	Application Submitted
Brink Solar	Greensville	467	60	SolUnesco/Virginia	Notice of Intent
Hecate Clarke County LLC	Berryville - Clarke County	235	20	Hecate Energy/Nashville	Permitted
Hecate Cherrydale LLC	Northampton	236	20	Hecate Energy/Nashville	Public Comments
Smithfield PV1	Isle of Wight	122	14	Ecoplexus, Inc./San Francisco	Notice of Intent
Sun Energy1	Chesapeake	250	20	SunEnergy1/Mooresville, NC	Public Comments
TWE Chesapeake Solar LLC	Chesapeake	75	20	Tradewind Energy/ Lenexa, Kansas	Notice of Intent
TWE Myrtle Solar LLC	Suffolk	125	15	Tradewind Energy/ Lenexa, Kansas	Notice of Intent
TWE Centerville Pike Solar LLC	Chesapeake	245	15	Tradewind Energy/ Lenexa, Kansas	Notice of Intent
Firestone Solar LLC	Buckingham	200	20	Virginia Solar / Virginia	Permitted
Essex Solar Center, LLC	Dunnsville	275	20	Coronal Development/Virginia	Notice of Intent
Southampton Solar	Southampton	1,200	100	Community Energy/Radnor, PA	Notice of Intent
SunTech proposal	Accomack County	500	80	SunTech Solar Solutions / New	Notice of Intent
Bluestone Farm Solar	Chase City	330	50	Carolina Solar, LLC / Durham, NC	Notice of Intent
Turning Point Energy proposal	Danville	577	6	TurningPoint Energy/Denver, CO	Notice of Intent
Scott-II Solar LLC	Powhattan	720	20	Virginia Solar / Virginia	Notice of Intent
Sappony Solar LLC	Sussex	371	20	Sappony Solar	Notice of Intent
Twittys Creek Solar LLC	Charlotte		15	Holocene	Notice of Intent
Correctional Solar LLC	New Kent	429	20	Virginia Solar / Virginia	Public Comments
Stevensburg Solar	Culpepper	210	20	Solar Access/ Virginia	Notice of Intent
		TOTAL:	715		

Renewable Procurement Target

Item #3b

*Derive **8% (110MW)** of the Commonwealth's electricity usage from renewable energy within the next three years.*

- Addendum to existing contract with Dominion
- Each project is an exhibit to Addendum
- Power Purchase Agreements
- Two Buckets
 - 75% Utility-scale (Dom)
 - 25% Distributed Generation (IND)



Microsoft P3

20MW solar facility in Fauquier County

State offtakes 100% of electricity

Microsoft purchases and retires RECs

State achieves nominal savings over life of deal

Oceana Solar

18MW solar facility on Naval Station Oceana in Virginia Beach

First project in state procurement goal

16% of overall goal

Offtake 100% of electricity

Retire RECs

State pays nominally more over life of deal

CICV Solar Pathways

The Council of Independent Colleges in Virginia (CICV) has been awarded more than \$807,000 in federal funding from the U.S. Department of Energy SunShot Initiative to help 15 member colleges develop comprehensive plans for implementing solar power on their campuses.

Goals include: 30MW of solar deployed, reduce cost of installation by combining purchasing power, engage and educate students and stakeholders.

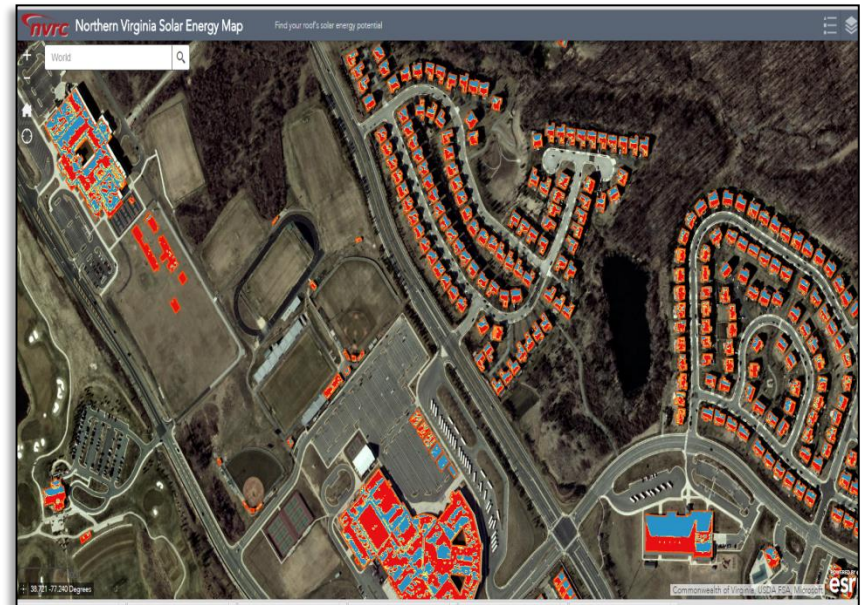
RFP process wrapping up with preferred vendor announcement imminent.

Construction estimated to begin in Fall '16 and conclude in Spring '17.

NOVA Solar Map

This map has been created by the Northern Virginia Regional Commission to demonstrate to homeowners and business owners how much solar energy can be generated by the rooftop of their home and/or business.

<http://www.novasolarmap.com/>



Energy Efficiency

- Total QECB allocation by the end of the year estimated to be \$39.4 million
 - QECB projects by the numbers (estimated):
 - Total annual kwh saved = **10,782,070**
 - Total annual gallons of water saved = **21,804,000**
 - Total annual metric tons of CO2 emissions avoided = **4,309**
 - Average energy consumption reduction per project = **20.66%**
 - Total direct/indirect jobs created = **546**
- IOU Weatherization pilots by the numbers (actual):
 - **840** veterans helped
 - **7,030** homes weatherized (**6,130 multi-family**)
 - Over **\$57 million** investment over 5 years

Alternative Fuels and Advanced Vehicle Technology

- Virginia has achieved **68% (271)** of the goal of installing 400 new fueling stations in Virginia during the Governor's term
- State Government and Localities have purchased/converted **215** vehicles to alternative fuels since the beginning of the administration. This is **72%** of the goal of converting 300 public sector vehicles
- Use of CMAQ funds by the numbers:
 - **97** vehicles converted (school buses, sedans, refuse trucks, utility vehicles)
 - Annual pounds of CO2 reduced = **227,464**
 - Total cost savings = **\$86, 574**
- **25 DC fast charging stations** have been installed outside of Northern Virginia since 2014

Data Points – Alternative Fuels

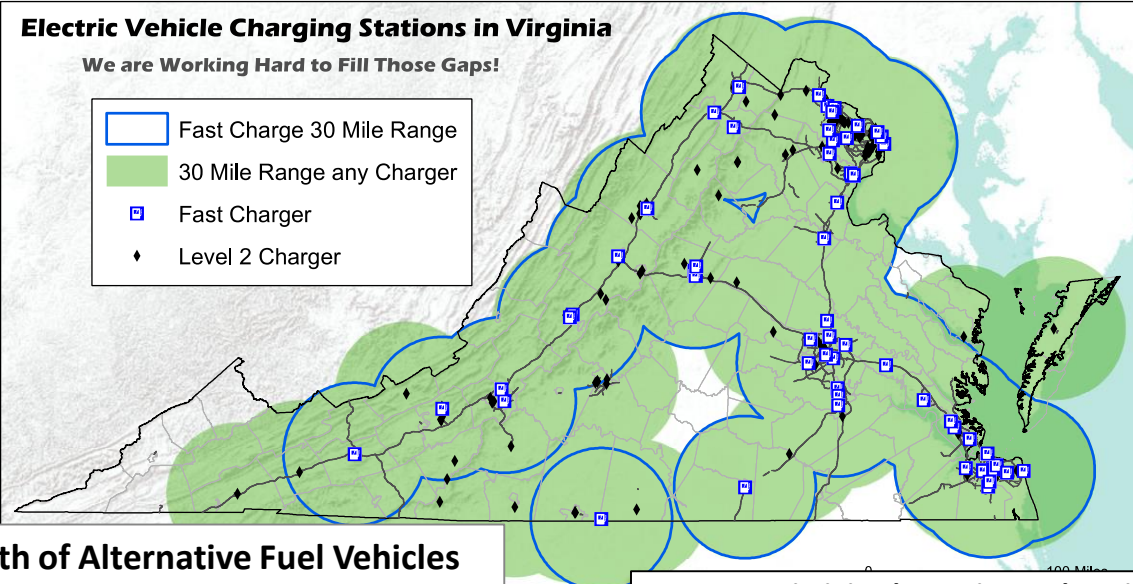
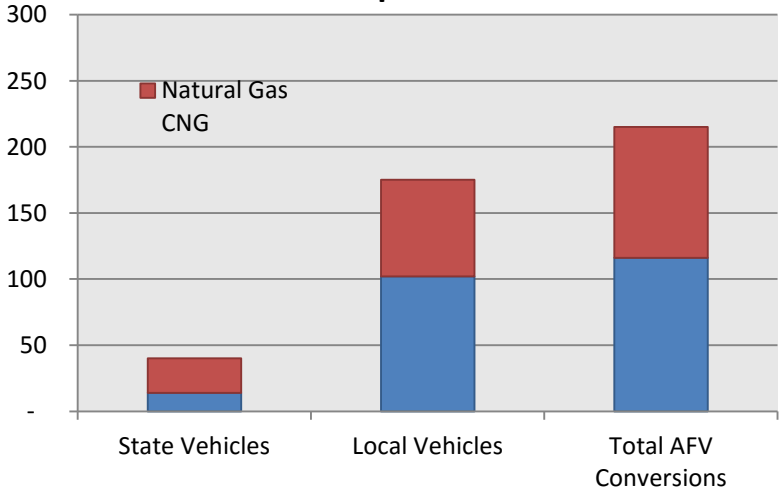


Chart 7- Growth of Alternative Fuel Vehicles of September 2016



Virginia Alternative Fuel Stations by Fuel Type September 2016

