

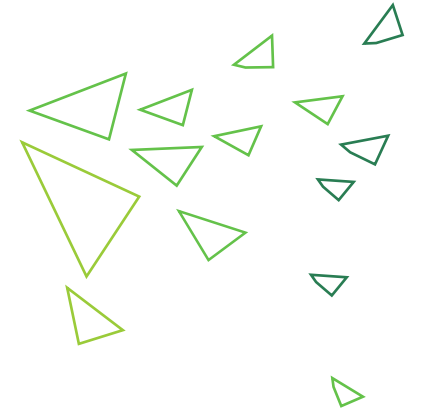


Utility-Scale Solar in VA

John Warren, Director

Department of Mines, Minerals & Energy

VACo Annual Meeting, Nov. 11, 2019

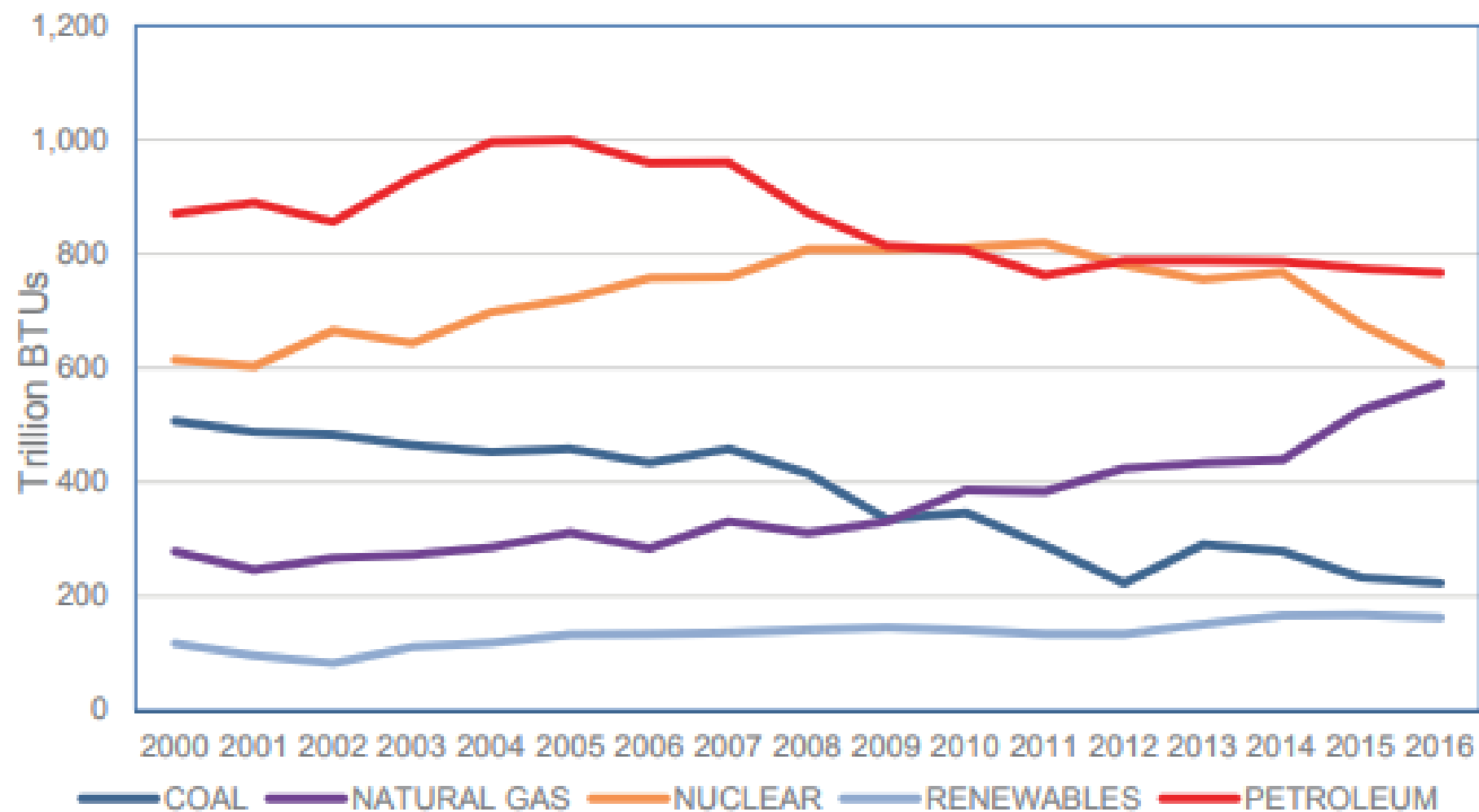


DMME Mission

Since 1985

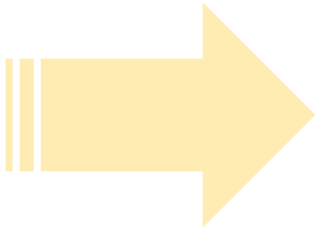
To enhance the **development** and **conservation** of **energy** and **mineral** **resources** in a **safe** and **environmentally** **sound** manner in order **to support** a more **productive economy** in Virginia.

VA Historical Energy Consumption by Source, 2000-2016



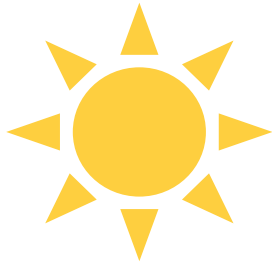
Source: U.S. Energy Information Administration

State Electricity Goals



30% by 2030

Produce 30 percent of
Virginia's electricity from
renewable energy sources
by 2030



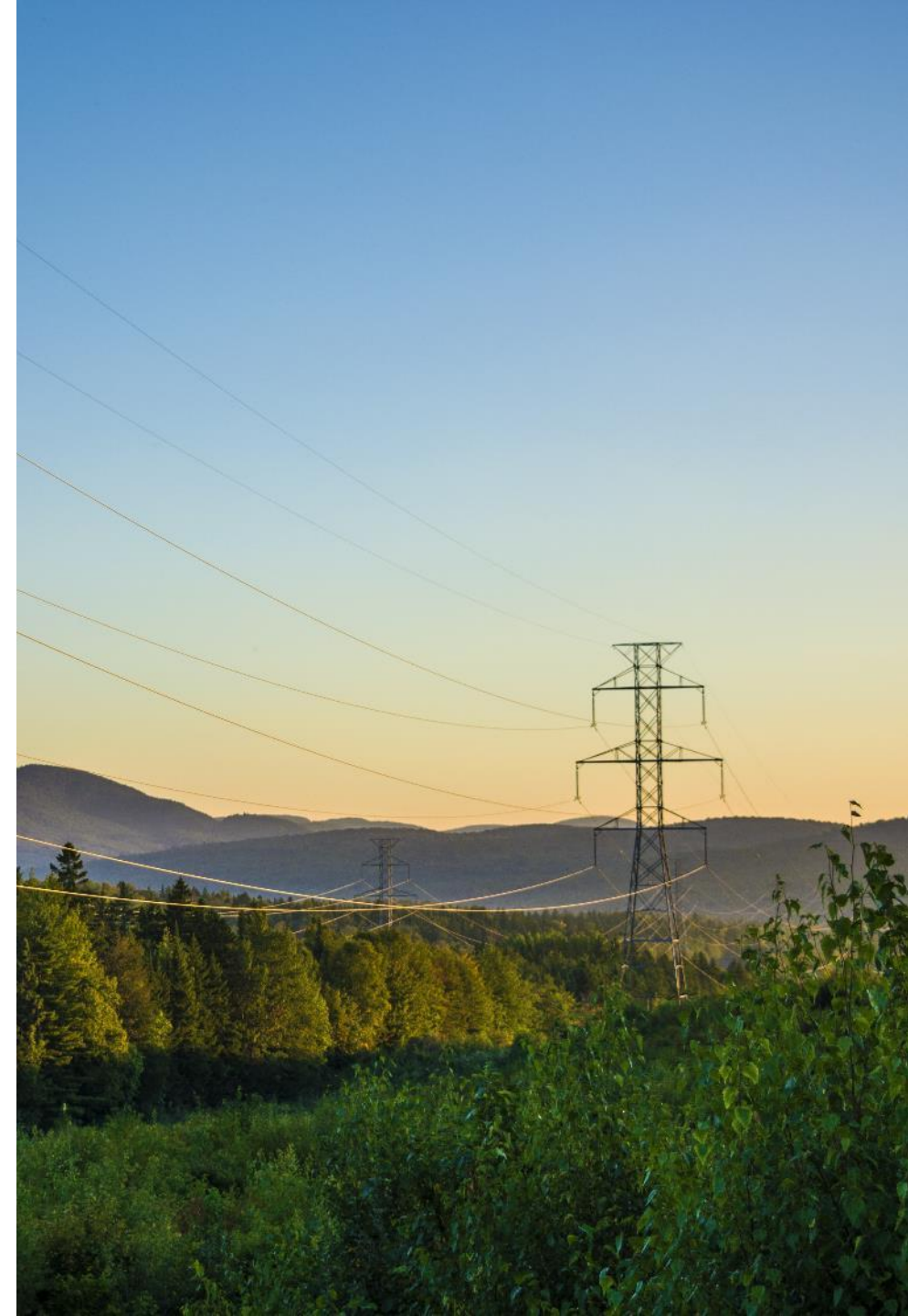
100% by 2050

Produce 100 percent of
Virginia's electricity from
carbon-free sources by
2050



Energy Equity

Achieve energy goals in a
just manner that advance
social, energy, and
environmental equity



Division of Energy

The Division of Energy develops and implements the Virginia Energy Plan and Policy, and associated legislative and executive initiatives, such as the 2018 Grid Transformation and Security Act and the 2019 Executive Order 43

Staff covers four areas:

- VEMP
- Solar and Wind
- Financing
- Transportation
- *(Utility/Regulatory primarily DA)*



*Rocky Forge simulated
wind project (75 MW) and
Virginia Public Safety
Training Center solar
array*



Division of Energy

Solar and Wind

Division programs to deploy or advance renewable generation include:

- Support EO 43, including 420 MW renewable energy contract (solar + wind)
- Annual PPA RFP for 10 MW
- Locality support for solar citing, policy, financing and procurement
- DMME 12 MW offshore wind research lease
- Dominion 2,600 MW offshore wind (2026)
- State LBE project funding
 - 5 state agencies, 1.2 MW solar PV
- Solar-enhanced ESPC
 - \$3 million for buy downs



Ground mounted solar array at Haynesville Corrections Center. Roof mount at DOF HQ in Charlottesville



VIRGINIA

Virginia emerges as a 'hotbed' for solar as rural counties welcome projects

WRITTEN BY



Mason Adams



Governor Northam Announces Largest State Renewable Energy Contract in the Nation

New agreement to purchase 420 megawatts of solar and wind energy follows historic month for clean energy in Virginia

Despite opposition, Matoaca solar farm project moves forward

SEPTEMBER 25, 2019

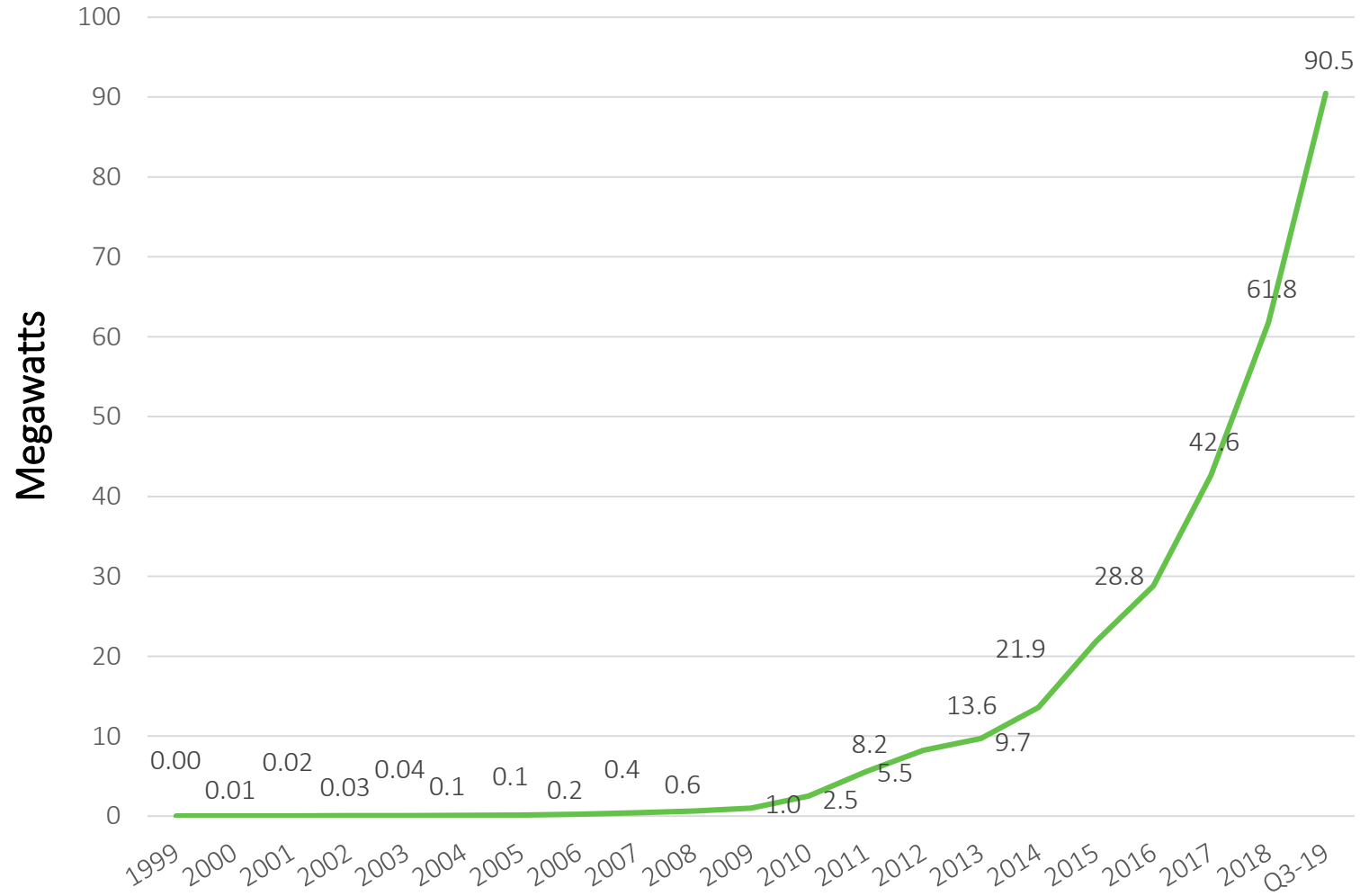
BY JIM MCCONNELL SENIOR WRITER



Culpeper mulls more rules for big solar projects

By ALLISON BROPHY CHAMPION CULPEPER STAR-EXPONENT Sep 14, 2019

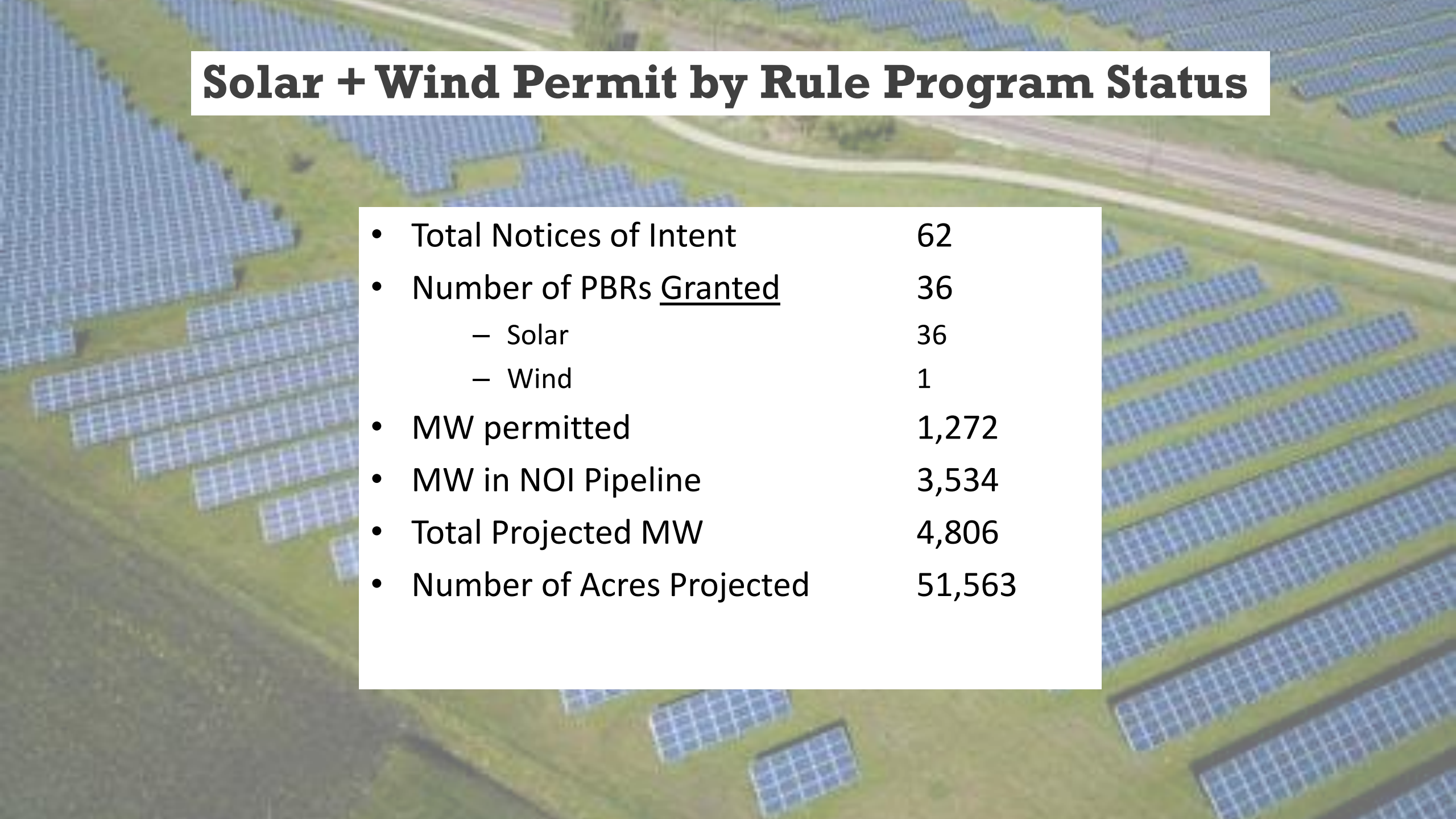
Customer-Owned Solar Growth Net Metering Since 1999



Co-op Utility Net-Metered Solar VS. 1% Cap

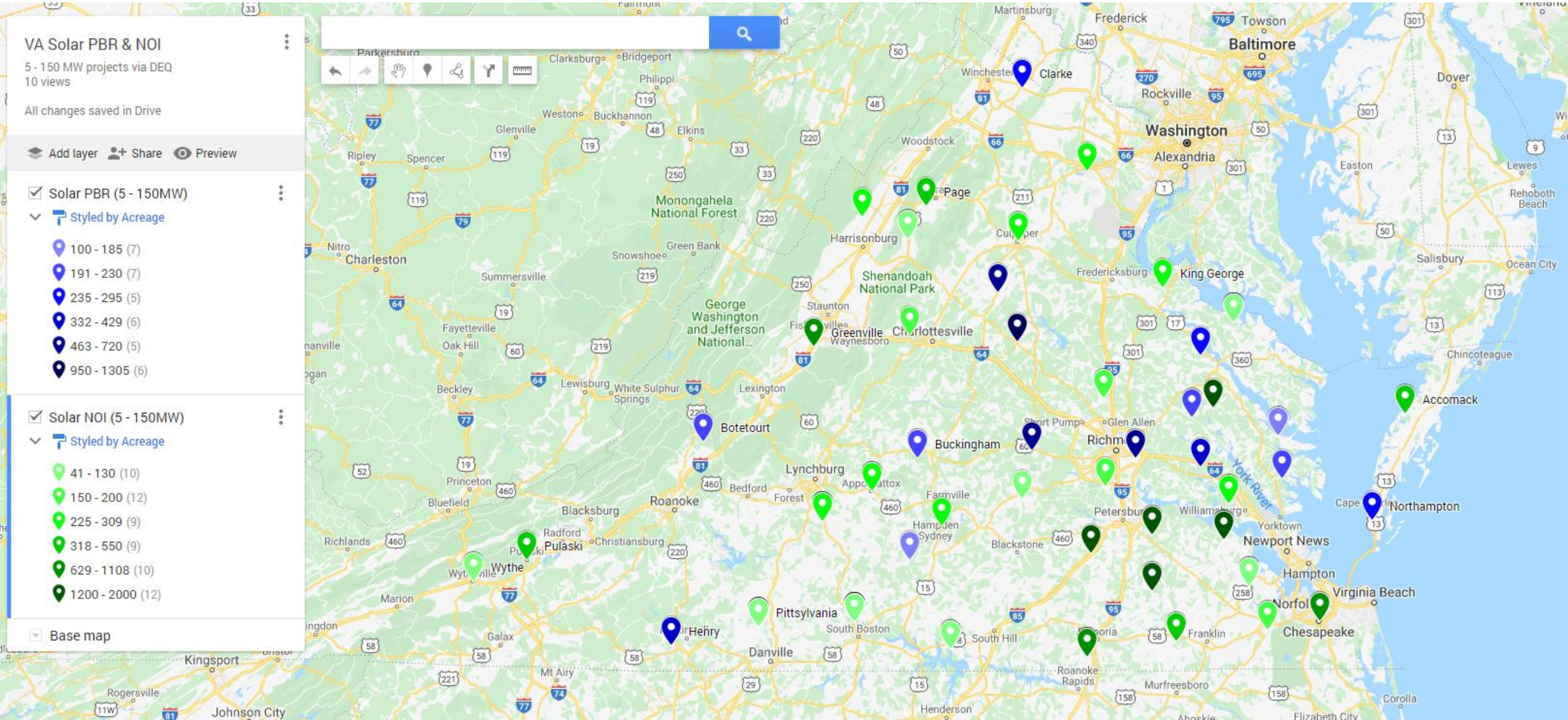
Cooperative	Cumulative Total	1% Cap	% of Cap Filled
A&N	0.51 MW	1.67 MW	30%
BARC	0.53 MW	0.53 MW	100%
Central Virginia	2.26 MW	2.59 MW	87%
Community	0.14 MW	0.65 MW	22%
Craig-Botetourt	0.23 MW	0.28 MW	81%
Mecklenburg	0.68 MW	1.39 MW	49%
Northern Neck	0.41 MW	0.95 MW	43%
NOVEC	3.91 MW	11.5 MW	33%
Prince George	0.12 MW	0.75 MW	16%
Rappahannock	7.83 MW	11.71 MW	67%
Shenandoah Valley	5.46 MW	5.46 MW	100%
Southside	1.44 MW	3.21 MW	45%

Solar + Wind Permit by Rule Program Status



• Total Notices of Intent	62
• Number of PBRs <u>Granted</u>	36
— Solar	36
— Wind	1
• MW permitted	1,272
• MW in NOI Pipeline	3,534
• Total Projected MW	4,806
• Number of Acres Projected	51,563

Permit by Rule & NOI Distribution



Dominion Energy Solar Projects



A pyramid diagram with three horizontal sections, each containing a text box. The pyramid is composed of blue solar panels. The top section is a light blue triangle. The middle section is a blue rectangle. The bottom section is a blue rectangle. The text boxes are white with green borders. The text in the boxes is as follows:

Section	Projects Under Development	Capacity in Operation	Capacity in Operation & Under Development
Top	30	476 MW	1,439 MW
Middle			
Bottom			

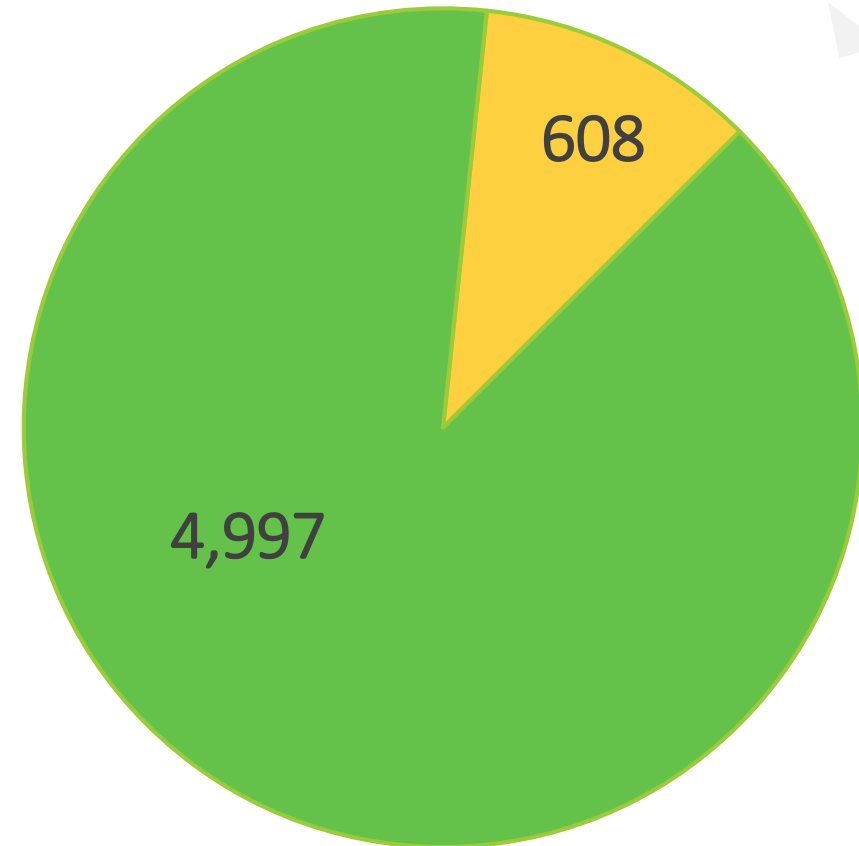
30 Projects Under Development

476 MW
Capacity in Operation

1,439 MW
Capacity in Operation
& Under Development

**PJM Queue:
221 projects
19,120 MW**

Total Solar Megawatts in Virginia

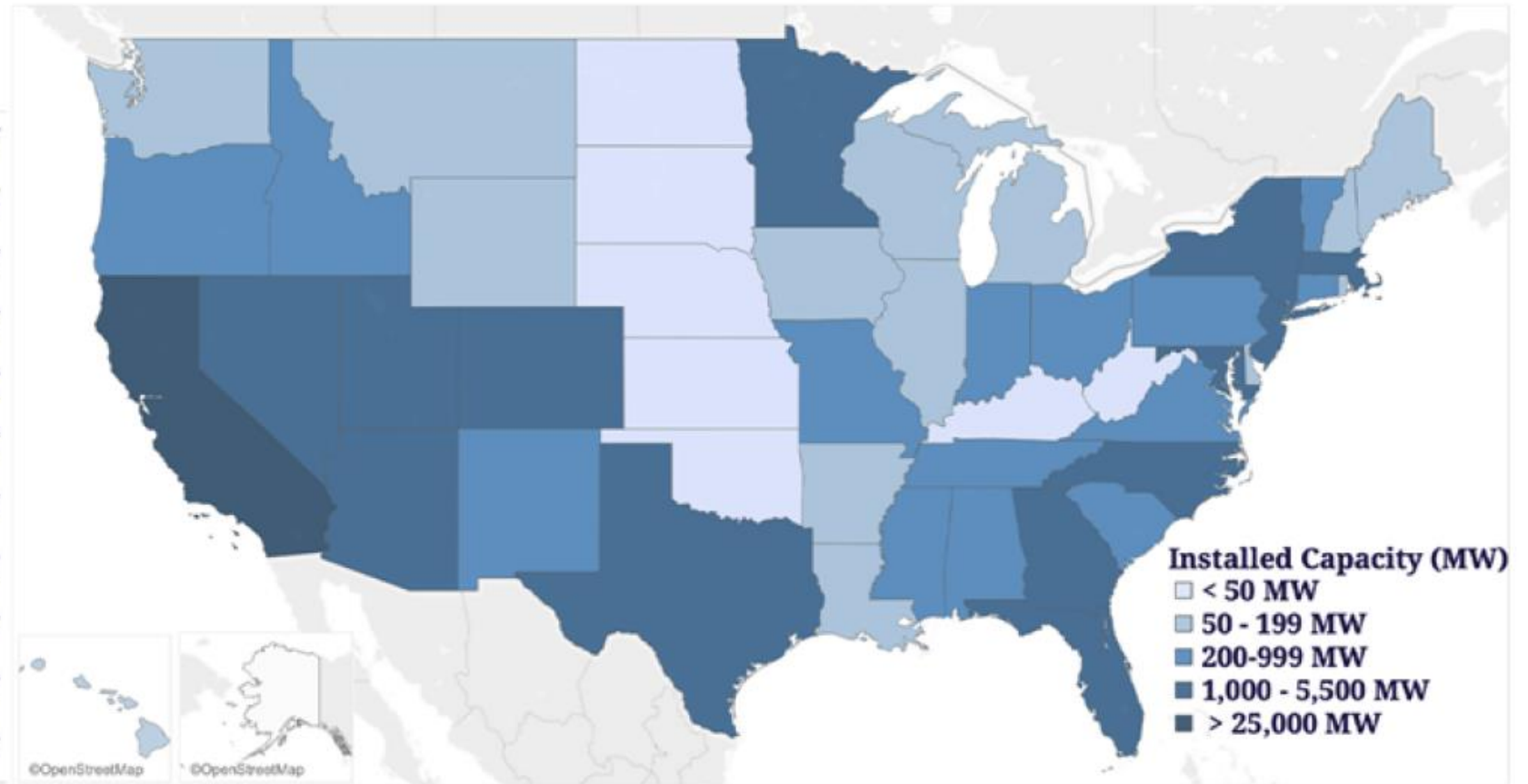


■ MW Installed ■ MW Under Development

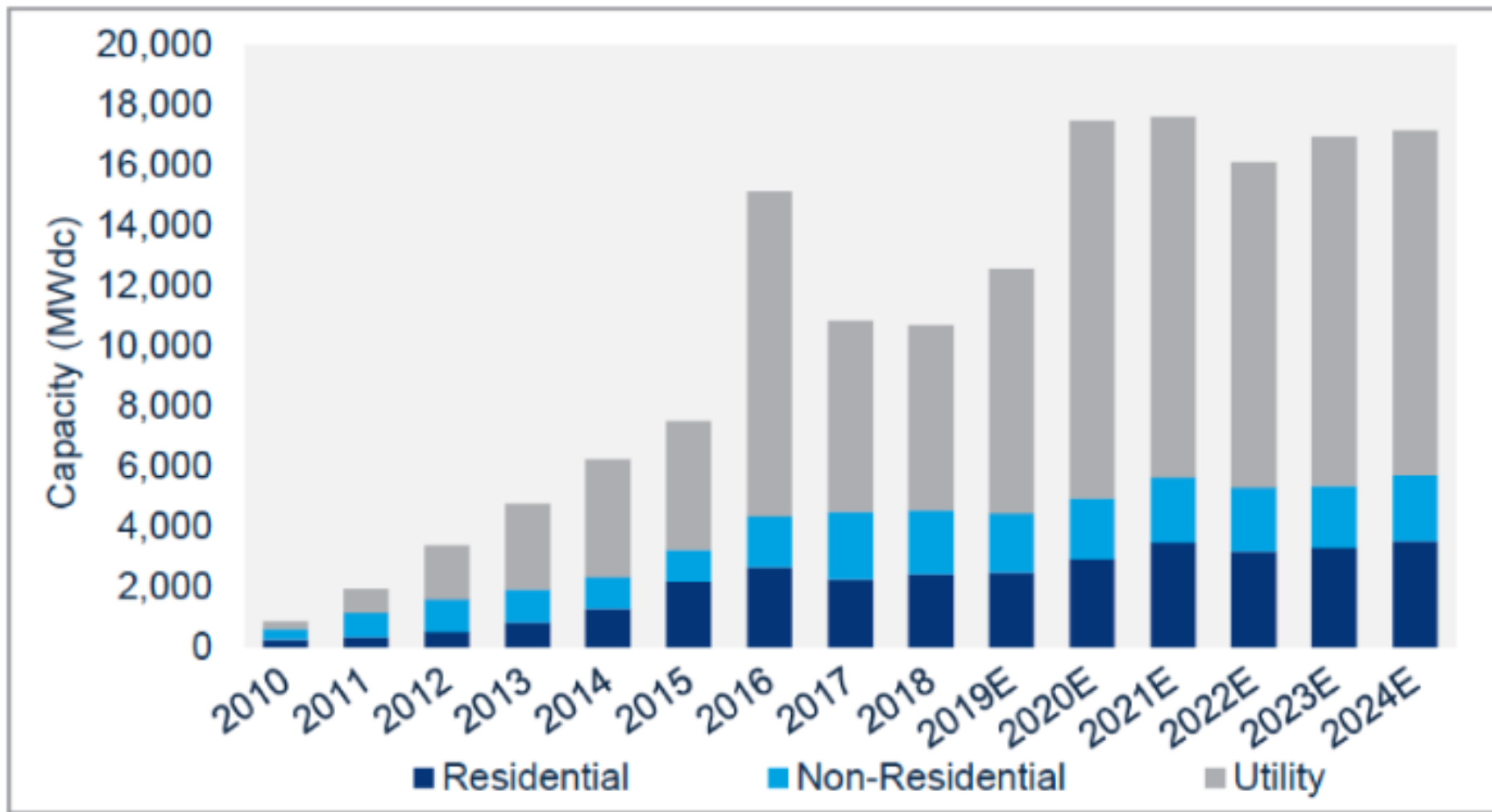
Utility Solar Capacity in US, 2019 (Source: SEIA)

Top 10 States

California	25,016 MW
North Carolina	5,467 MW
Arizona	3,788 MW
Nevada	3,452 MW
Florida	3,156 MW
Texas	2,957 MW
New Jersey	2,829 MW
Massachusetts	2,535 MW
New York	1,718 MW
Utah	1,661 MW
Georgia	1,572 MW



U.S. PV Installation Forecast, 2010 – 2024e



Source: Wood Mackenzie Power & Renewables

Land-Use Considerations for Development

- Future Land Use
- Agriculture, Forestry
- Residential Use
- Industrial Zone Land
- Location (Location, Location)
- Visual Impacts
- Decommissioning
- Wildlife Corridors
- Stormwater, Erosion, Sediment
- Cultural, Env. Resources
- Financial Incentives
- Employment (Short/Long-Term)
- Fiscal Impacts
- Property Values

Thank You



Questions?

Contact:

Carrie Hearne

Solar Program Coordinator

804-692-3234

Carrie.Hearne@DMME.Virginia.gov