

BARRIERS TO WIND DEVELOPMENT IN VIRGINIA: UNSTICKING A STUCK STATE

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Virginia Wind Energy Collaborative



OUTLINE

- Current status in Virginia
- *Case studies*: Efforts by county
- *Case study*: State grant and rebate programs
- *Case study*: Wind on federal lands
- *Case study*: Wind on state and federal waters
- Getting unstuck



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CURRENT STATUS IN VIRGINIA

- Virginia was designated approximately ten years ago by Wind Powering America a “high priority” state. While the wind resource in Virginia is appropriate for development and is exceptional offshore, and state policies have advanced in favor of wind, Virginia still lacks MW-scale commercial wind development. A recently passed “permit by rule” simplifies the state permitting process.
- The Virginia Energy Plan enacted in 2006 created the Virginia Coastal Energy Research Consortium which has been instrumental in advancing offshore wind. The Virginia Center for Wind Energy at James Madison University has hosted Virginia’s Wind Working Group since 2001. These organizations continue to be instrumental in terms of advancing wind in the Commonwealth. The Virginia Department of Mines, Minerals and Energy has been highly supportive of wind.



CURRENT STATUS IN VIRGINIA

- Former Governors Warner and Kaine, and current Governor McDonnell, have expressed support for wind energy, but the regulated environment and low costs for power in Virginia have proved to be barriers to development.
- The 20% Wind by 2030 report identifies Virginia as making a strong contribution toward the 2030 scenario with installed capacity both on land and offshore. Significant growth in terms of development activity and ordinance creation has been demonstrated during the past half decade. Virginia is one of the leading states in terms of advancing offshore wind and the recent call elicited eight responses.



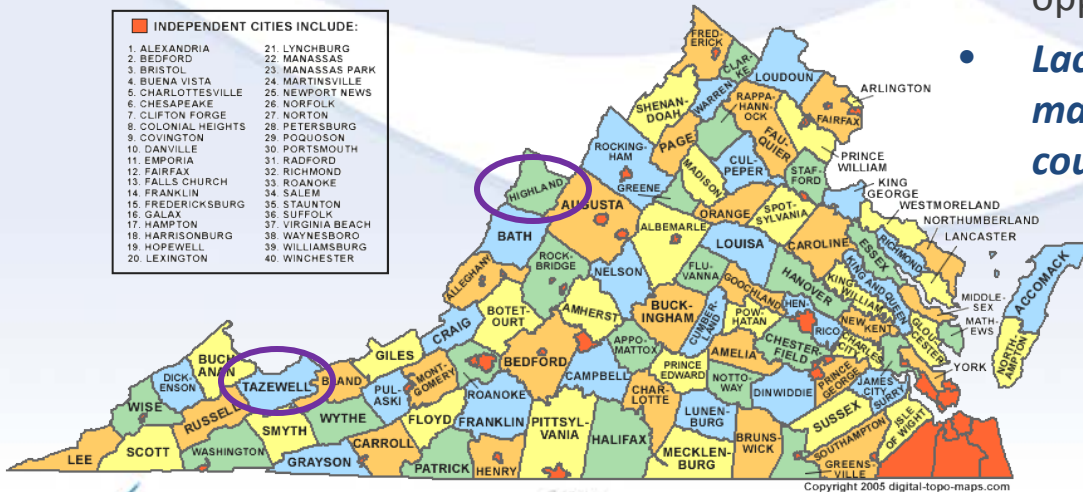
CASE STUDY #1: EFFORTS BY COUNTY

Tazewell County

- Population (2010): 45,078
- Median household income (2006-2010): \$35,215
- Dominion announced wind project
- ***Limited wind ordinance (Ridge law) passed which severely restricts wind development***

Highland County

- Population (2010): 2,321
- Median household income (2006-2010): \$25,690
- First (and so far only) large wind project permitted by the state
- More than \$ 500,000 in legal expenses to the county in response to actions from opponents.
- ***Lack of an ordinance has been cited as the main cause of legal actions against the county***



Population and income data sourced from
<http://quickfacts.census.gov/qfd/index.html>.



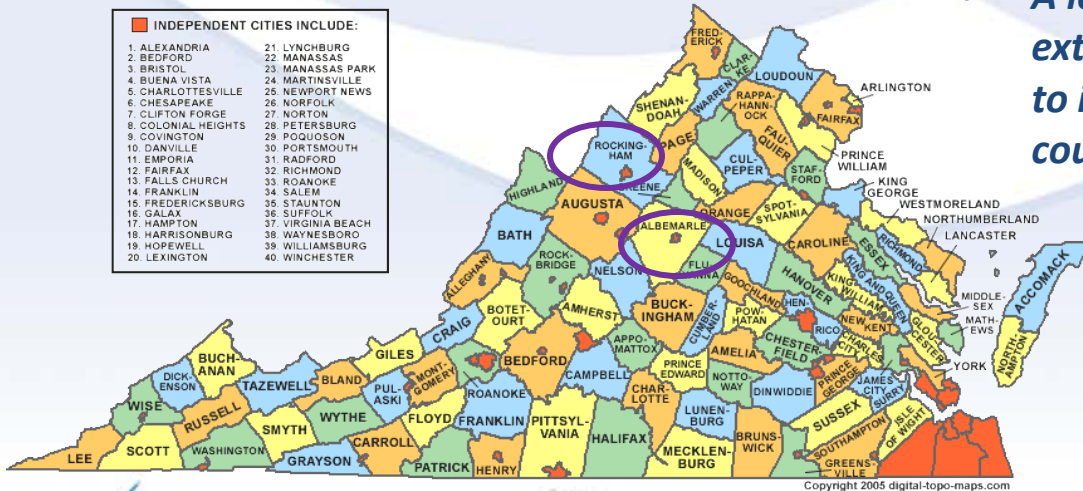
CASE STUDY #1: EFFORTS BY COUNTY

Rockingham County

- Population (2010): 76,314
- Median household income (2006-2010): \$49,930
- Developed an appropriate and comprehensive ordinance in process that engaged all key stakeholders
- ***Projects are stalled by market uncertainty and unclear intentions of the utility/developer***

Albemarle County

- Population (2010): 98,970
- Median household income (2006-2010): \$64,847
- The wind resource here is insufficient for large wind, still the Board of Supervisors passed a highly restrictive ordinance severely limiting small wind.
- ***A local middle school was required to make extraordinary efforts to gain an exemption to install a 2.4-kW system at 45 ft, the county-wide limit is 35 ft.***



Population and income data sourced from
<http://quickfacts.census.gov/qfd/index.html>.



CASE STUDY #2: STATE GRANT AND REBATE PROGRAMS

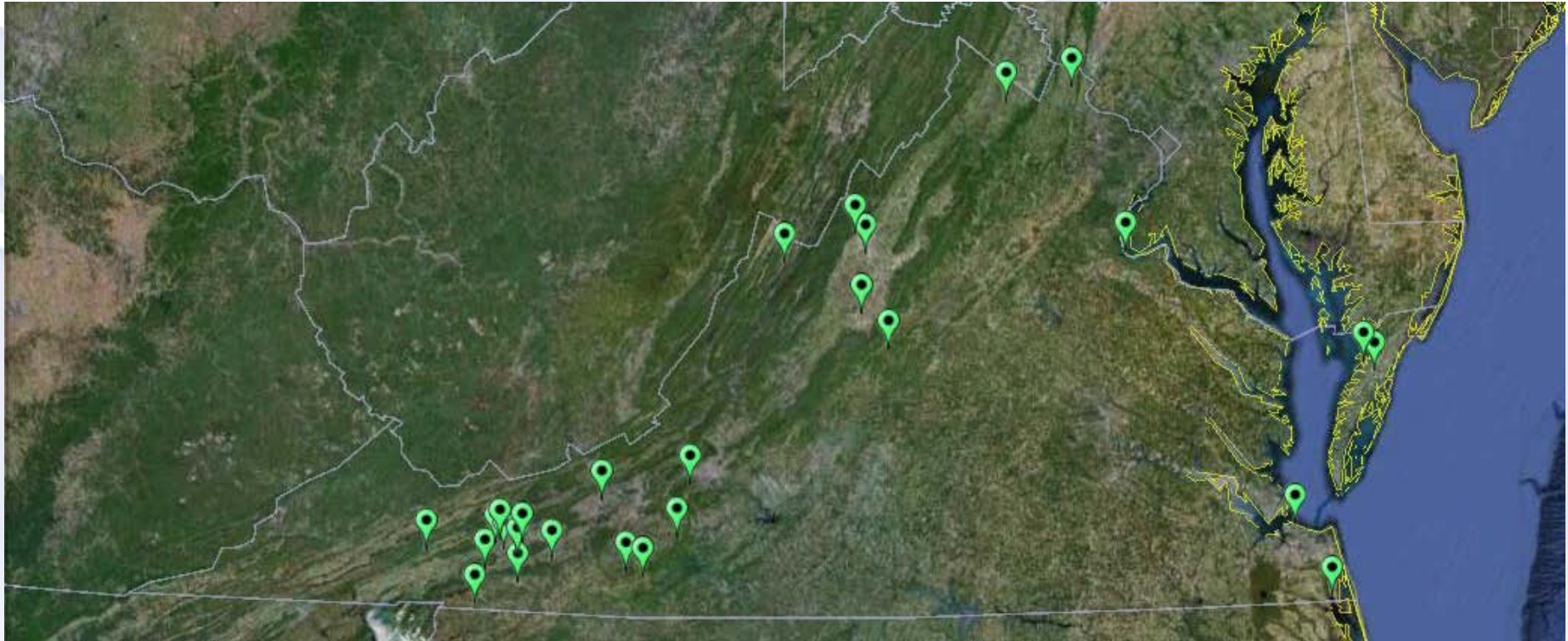
- ARRA-funded small wind grant and rebate programs initiated in 2009
- Small wind projects on public properties, at schools, and commercial and residential applications
- **78** rebate projects awarded, only **27** projects built. Only **6** grant projects built
- Barriers identified:
 - ***Siting*** (Chateau Morrisette)
 - ***Lack of ordinance*** (McCallum)
 - ***Conflicting guidance from FAA/DOAv, DOE/NEPA*** (Tangier Island)
 - ***Lack of installer base***



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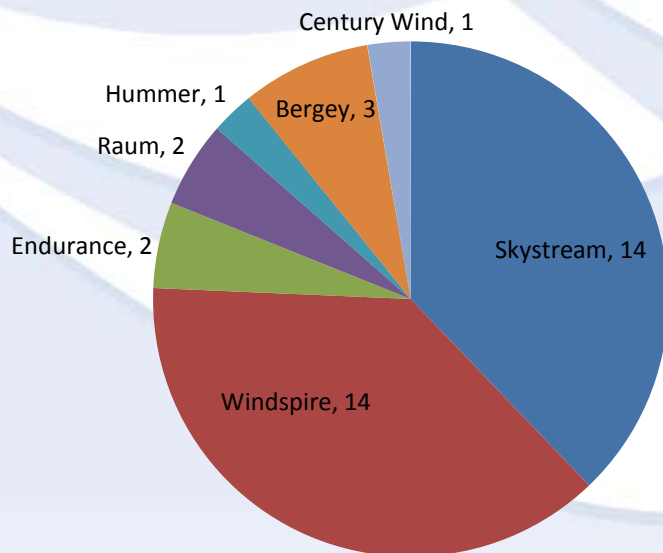
CASE STUDY #2: STATE GRANT AND REBATE PROGRAMS



Locations of projects constructed under ARRA-funded projects.



CASE STUDY #2: STATE GRANT AND REBATE PROGRAMS



Installer Name	Number of Rebate Program Installs
Sunrise Solar and Wind	2
Mountainview Solar and Wind	1
East Coast Garage Concepts	1
Shenandoah Tower Service	1
Owner/students	10
Genesis Energy Solutions	2
EcoLogical	3
Matney Plumbing and Electrical	1
DirectConnect Solar	1
BWK Enterprises	2
Central Virginia Wind Energy	1
Skyline Turbines	1
Baker Renewable Energy	3
Kellam Mechanical	1
Renewable Engineered Systems	1
Quesenberry's Incorporated	1
James River Wind	1
TOTAL	33



CASE STUDY #3: WIND ON FEDERAL LANDS

- FreedomWorks, LLC engaged with the U.S. Forest Service five years ago as they considered two large wind projects on public lands in the George Washington National Forest. They envisioned installing 215 MW on Shenandoah Mountain.
- FreedomWorks was prepared to move forward with an Environmental Impact Statement (EIS) to ensure that the project would be environmentally sound. Federal siting guidelines had already been developed.

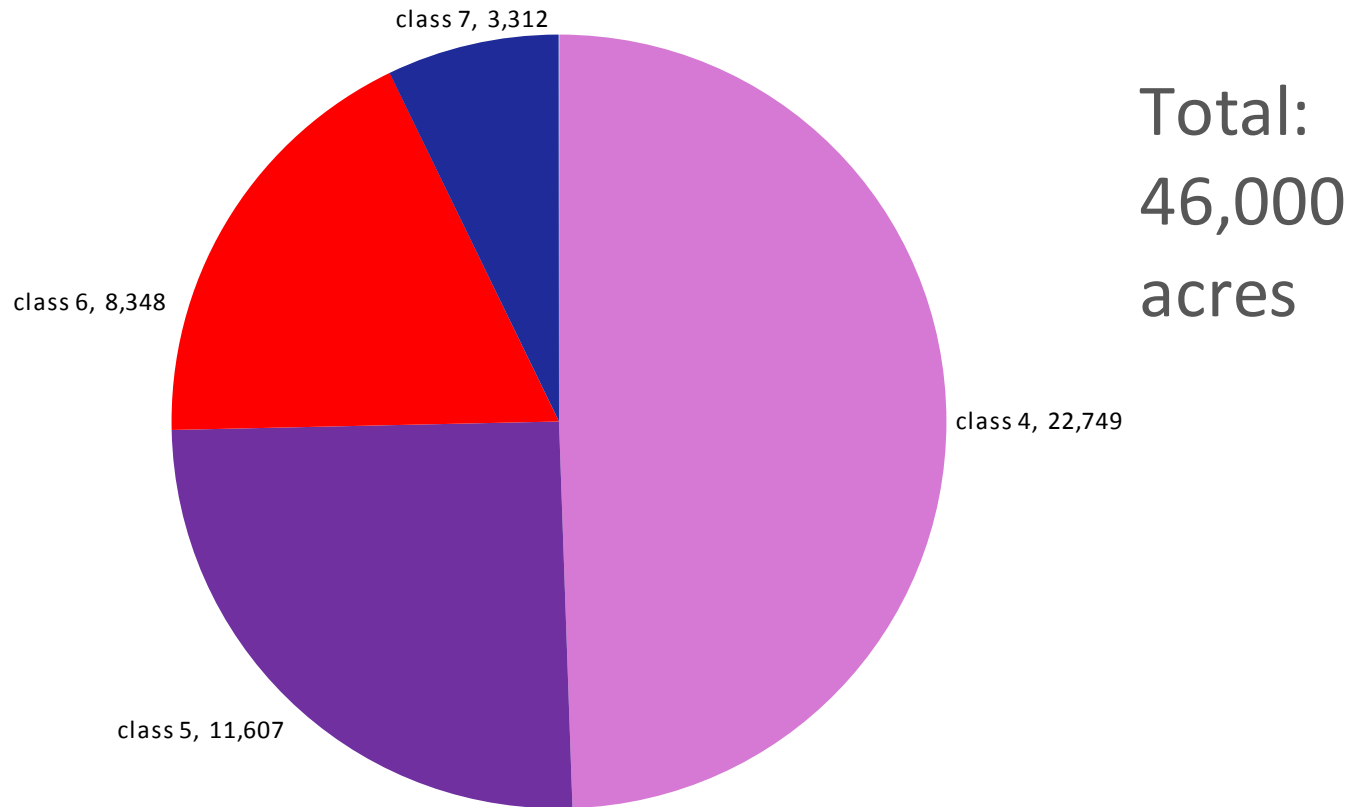


CASE STUDY #3: WIND ON FEDERAL LANDS

- The Virginia Wind Energy Collaborative (VWEC) released its Landscape Classification System (LCS) in 2005 for determining which Forest Service lands within Virginia would be feasible for wind development.
- FreedomWorks was denied a testing permit by the USFS to install a meteorological tower and special use permits to facilitate avian and bat mist net studies. The project was abandoned.

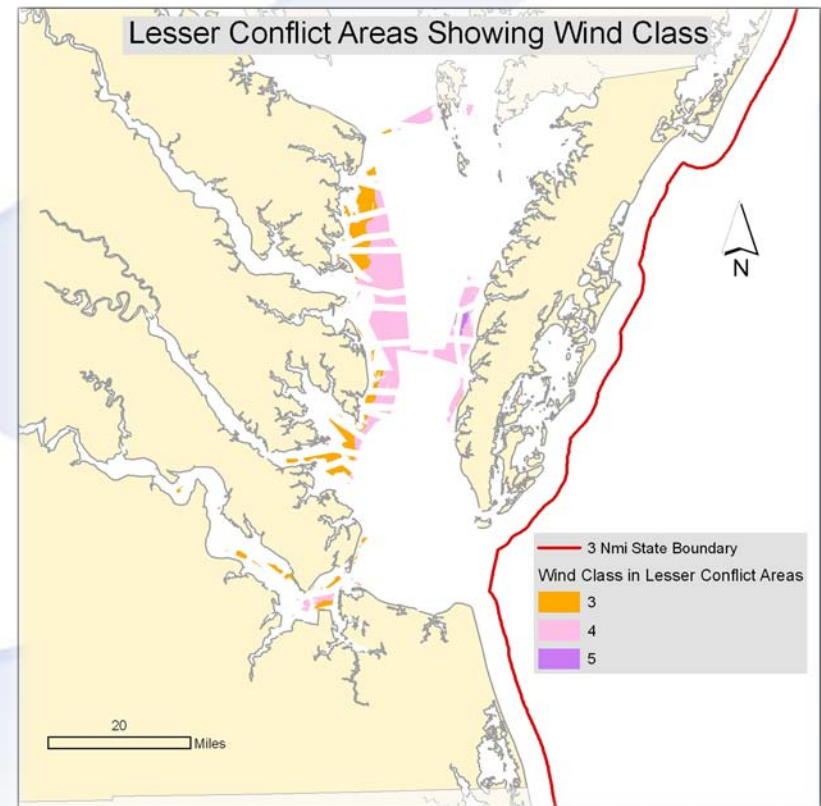


ACRES OF GWNF LAND BY WIND CLASS IN VIRGINIA



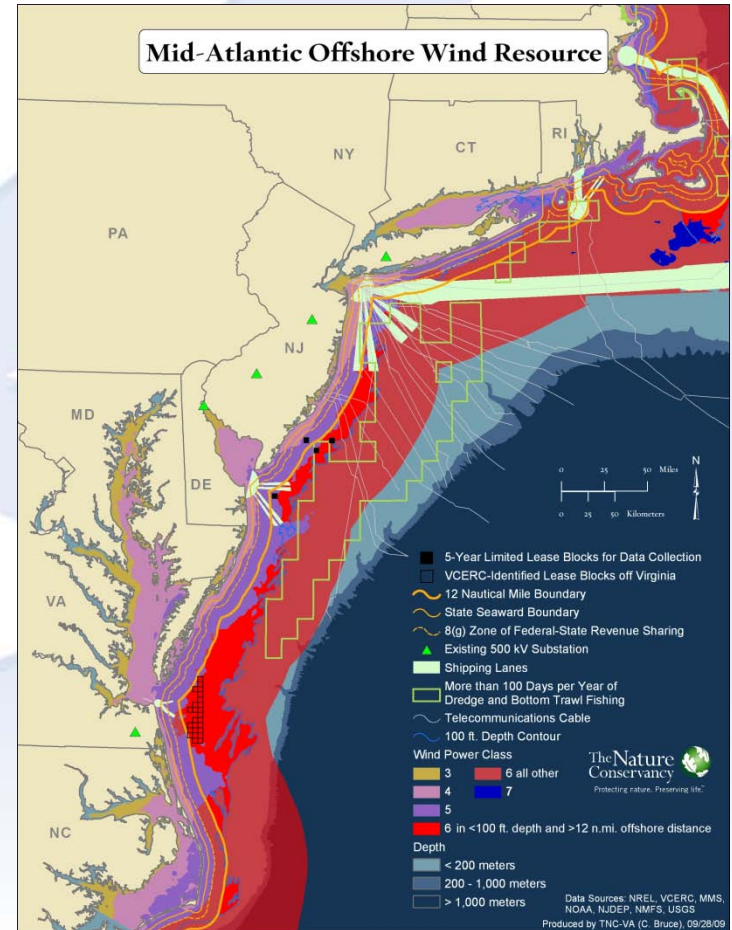
CASE STUDY #4: WIND ON STATE AND FEDERAL WATERS

- The 2006 Energy plan and formation of VCERC provided the stimulus to advance offshore wind in Virginia
- The development of a permit by rule in Virginia examined and considers the sensitivities of wind development on state waters
- Virginia researchers have been active participants in terms of commenting to DOE and engaging with the DOI task force



CASE STUDY #4: WIND ON STATE AND FEDERAL WATERS

- With funding from ARRA and support of the state energy office, JMU is completing a \$1.1M effort to examine potential host sites for an advanced technology demonstration project
- Eight companies responded to the recent call for interest from DOI.



GETTING UNSTUCK

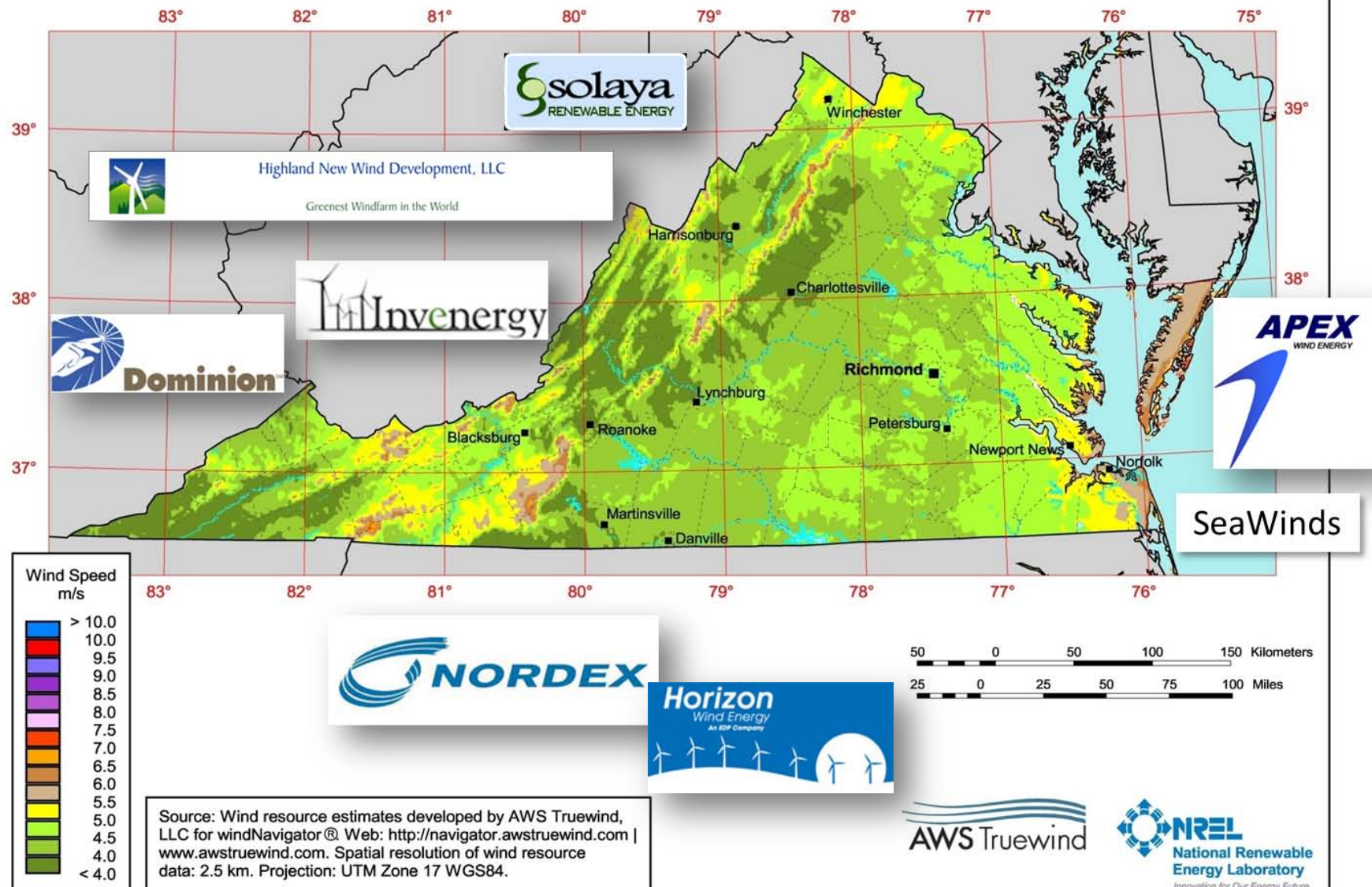
- Successes:
 - *Localities are better informed and more engaged than ever*
 - *More progressive state policies to facilitate wind development are implemented each year*
 - *A critical mass of active and engaged stakeholders is working to advance wind energy in Virginia*
 - *A growing number of developers are actively seek to build utility- and community-scale projects throughout the state*
- Examples:
 - *Rockingham County – permitting done right*
 - *Ordinances in more counties*
 - *State model ordinance*
 - *Permit by Rule*



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Virginia - Annual Average Wind Speed at 80 m





THANK YOU!



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