Dominion Energy®

PJM Interconnection Process Workshop 2

Dominion Energy Virginia Comments | December 11, 2020

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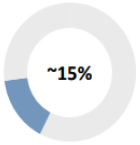
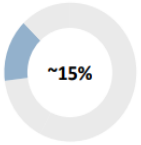
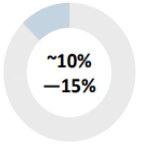
Dominion Energy
Company Overview

Dominion Energy®

- Narrowed **focus** on **regulated** and **regulated-like** businesses
- Premier **state-regulated** utility operations
- Industry-leading **clean energy** profile
- Long-term earnings and dividend growth

	State-regulated utility operations			Regulated-like
	Dominion Energy Virginia	Gas Distribution	Dominion Energy South Carolina	Contracted Assets *(formerly Contracted Generation)*
States of operation				
Pro forma operating earnings contribution				
Description	Electric distribution, transmission & generation	Gas distribution & Renewable natural gas (RNG)	Electric distribution, transmission, generation & gas distribution	Cove Point (50%) and long-term contracted zero-carbon generation

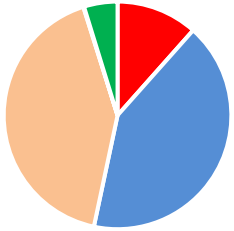
Aggressively pursuing vision to be the most sustainable energy company in the country

Transformational Change Coming to Virginia

VA Clean Economy Act: Significant Changes to our Electric System Expected

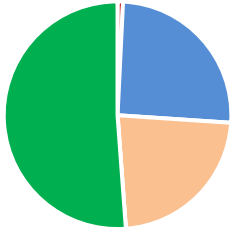
- **VCEA to accelerate renewable energy growth in Virginia**
  - Establishes a mandatory Renewable Portfolio Standard (RPS) that provides a framework for 100% zero-carbon generation by the end of 2045 with critical customer protections for reliability
  - 75% of RECs must come from Virginia facilities starting in 2025
- **Includes the following requirements of Dominion Energy Virginia:**
  - Solar/Onshore Wind: **16.1 GW** including **1.1 GW** of small scale in public interest (not to exceed 3MW) (~65% utility-owned, 35% power purchase agreements). We must petition the VA State Corporation Commission at least:
    - 3,000 MW by end of 2024
    - 6,000 MW by end of 2027 (cumulative value)
    - 10,000 MW by end of 2030 (cumulative value)
    - 16,100 MW by end of 2035 (cumulative value)
  - Offshore Wind: **5.2 GW** utility-owned/purchased in public interest, including up to **3 GW** by 2028
  - *Energy Storage*: **2.7 GW** including **800 MW** pumped storage in public interest; at least 35% from non-utilities

2019 DEV Generation Electric Output



Coal	12%
Nuclear	42%
Natural Gas	42%
Biomass, Hydro, Solar, Wind, Storage	5%

Expected 2035 DEV Generation Electric Output

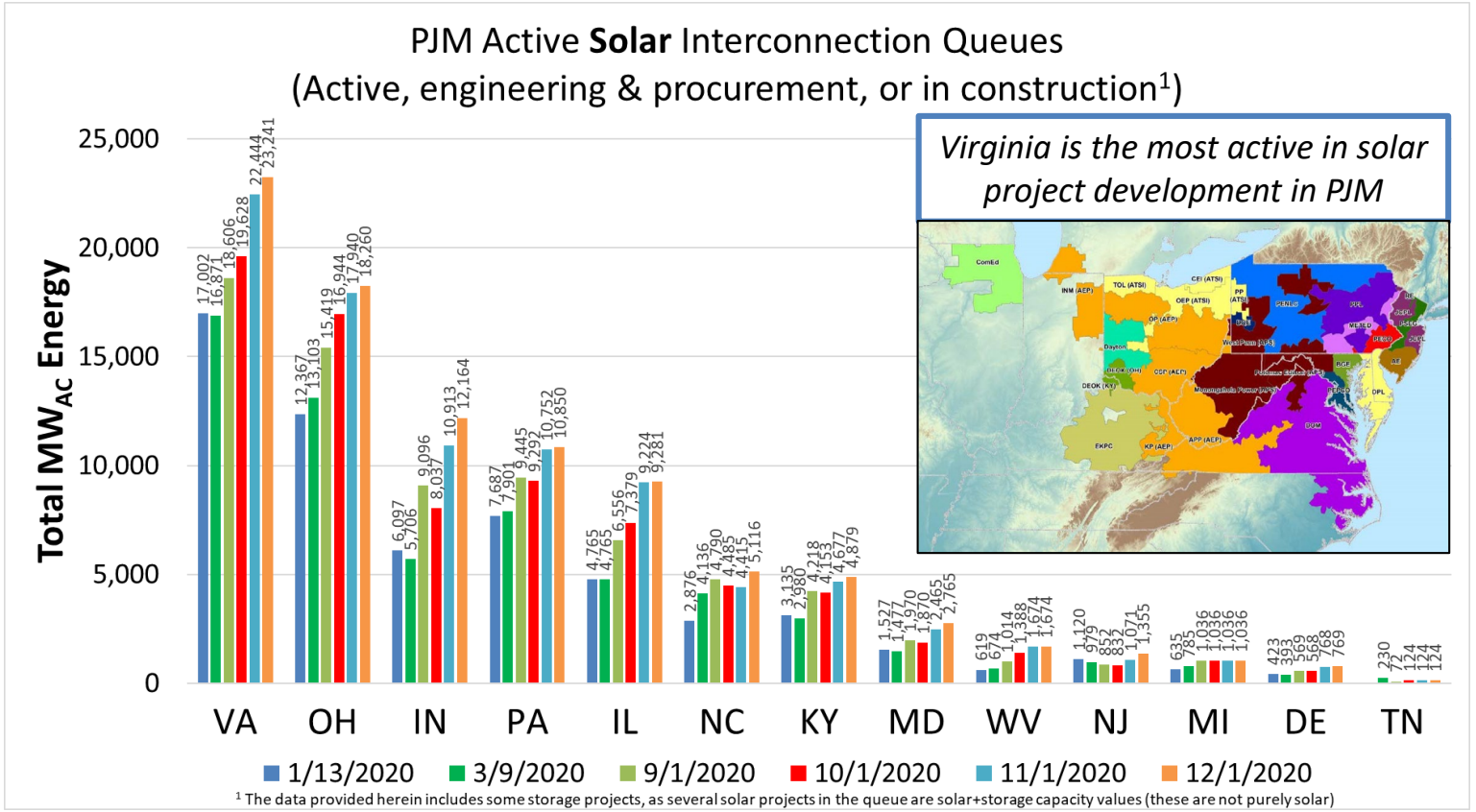


Coal	1%
Nuclear	25%
Natural Gas	23%
Solar, Wind, Storage, Hydro	51%

Critical Infrastructure Needed to Maintain Grid Reliability

PJM Utility Scale Development

Active Solar Interconnection Queues



[1] The data provided herein includes some storage projects, as several solar projects in the queue are solar+storage capacity values (these are not purely solar)

Transformative Grid Planning

Renewable Investments Driving Future Grid Needs

CONTEXT

- **Virginia Clean Economy Act mandates renewable generation investments and energy storage on the power grid in Virginia by 2035 and 2045 to comply with RPS requirements.**
- **Projects able to provide generation supply solutions for RPS compliance face development challenges due to grid limitations and assigned upgrade costs.**
- **Need to identify future electric transmission solutions to meet the VCEA goals most cost effective to our customers**

OPPORTUNITIES

1. **Begin identifying what the future transmission system would look like in 2035 and 2045 based on where solar, storage and offshore wind injections are expected to occur.**
2. **Develop recommendations to meet future grid needs.**
3. **Develop a holistic programmatic grid upgrade approach that delivers cost effective and operationally efficient solutions.**
4. **Consider building transmission capacity ahead of where new renewable generation will materialize, to minimize upgrade effort and maximize operational efficiency.**

Transformative Grid Planning

Planning for the Needs of the 2045 Power Grid

Objective | Create Strategic Grid Planning Processes with a Forward View of 2045 Needs

Current PJM Interconnection Queue Process

Key Aspects

- Looks ahead in six-month increments
- Incremental project-by-project analysis
- Process implemented and improved upon over several years

Pros

- Robust, repeatable and understandable process

Cons

- Is a reactive process
- Too many projects in the queue will slow the process
- Limits the long-term view & direction/trend
- Projects remain in the queue for extended periods of time, impacting other projects

Programmatic Approach to Grid Planning

Key Aspects

- Start with the end in mind: 2045
- Consideration of optimal mix of transmission voltages, capacities & technologies
- Coordination of transmission planning with expected renewable development regions

Pros

- Could result in improved customer cost and transmission operational efficiencies
- Create new & clear transmission zones for solar and storage development, with local approvals

Cons

- Will require a new stakeholder process and rules to consider this new approach

Transformative Grid Planning

Other Suggestions

Objective	Consider Eliminating Burdensome Processes

- **Eliminate the ability to place generation queue positions in suspension**
  - This is tending to clog the queue and required upgrades/planning
  - If you reach the ISA/ICSA process and the timing is not right to enter an agreement and begin the upgrade work, a generator should be required to exit the queue

- **Eliminate the ability to enter two or more queue positions at the same project location / time**
  - Evaluate how many current discrete queue positions would be eliminated if this was implemented, before considering
  - While beneficial for generators in assessing where network upgrades are triggered, if it is slowing the process, it may be worth considering this