

Note: This report was written to consolidate the discussion held during the small group meeting on the date and time below as part of Dominion Energy's 2024 Virginia and North Carolina IRP stakeholder process. It does not necessarily represent consensus viewpoints or unanimously held positions of all participating organizations.

Summary Report Small Group Meeting

5/10/2024

9:00 – 11:00 am

Initial Questions or Follow-Ups:

- Is Dominion Energy including a 25-year projection?
- How do we get to net-zero carbon faster than 20 years from now?
- Who will bear the cost for stranded generation and transmission if data centers shut down/disappear?

Initial Feedback Received:

- Load Forecast
 - Transparency around data center demand.
- Modeling
 - All scenarios should be designed to achieve zero carbon by 2045 or earlier.
 - Assume falling prices for solar, wind and storage.
 - Include social cost of carbon.
 - Include pollution resulting from curtailed load and data centers using diesel.
- Reliability
 - Cannot support reliability through new fossil fuel generation.
 - Coal should be retired as soon as possible.
 - Increase solar and storage to offset increasing demand.
 - Distributed resources to balance grid.
 - Demand side management.
- Affordability
 - Prioritize distributed resources and cheaper forms of energy like solar.
 - Reduce stranded costs.
 - Factor in social cost of carbon.
 - Reform rate structure.
- Technologies / Programs
 - Renewables: solar, wind, geothermal, and hydrogen
 - Emphasis on storage solutions, including long duration storage.
 - Parking lot and rooftop solar.
 - Utility scale solar in partnership with agriculture.
 - Microgrids
 - Reconductoring.
 - Incentivize energy efficiency, such as heat pumps.
 - Waste-Heat Management.

- Transmission build out along highway corridors to support electric trucks.

Post-Meeting Feedback Received by One or More Stakeholders

- Why are there only 2 individuals in this IRP small group discussion? Was it to isolate two individuals with critical views from participating with other respondents?
- Why did Dominion's first draft of this small group discussion whitewash Burbank's and Penniman's comments? Dominion's draft was unrecognizable as a summary of the comments made by Penniman and Burbank. Is this a part of a larger Dominion policy to emasculate the IRP public input process?
- Why did Dominion's outline for discussion with small groups COMPLETELY OMIT REFERENCE TO EXPLOSIVE DATA CENTER DEMAND GROWTH? Dominion has publicly stated that DCs currently represent 21% of Dominion's rate base – and that Dominion expects DC load to QUADRUPLE. This will have an extraordinary impact on IRP planning – and yet Dominion provides nothing in the outline for discussion that mentions this elephant in the room.
- Is Dominion Energy including a 25-year projection? A 25-year forecast is critical to understanding how Dominion will meet the 2045 net-zero target in an orderly manner. 2045 is 21 years from now.
- How will Dominion get to net-zero carbon by 2045 and half way there in 10 years?? Delaying zero-carbon resources, including storage, will raise overall costs.
- Who will bear the cost for stranded generation and transmission if some of the new data centers shut down due to overbuilding or market changes?
- Since data center (DC) demand is the dominant driver of load growth, Dominion must be transparent and detailed in making public all its data on expected data center demand. Be specific, by YEAR and LOCATION, as to load from (a) currently operational DCs, (b) DCs under construction, (c) DCs approved but not yet under construction; (d) other DCs that have contacted Dominion about plans for data center construction; (e) estimates of additional data center growth. Provide specific load demand based on each of the above categories and cumulative DC load, by year, for the 20 year horizon.
- Further, provide information on the extent to which AI will drive up electricity use in EXISTING DCs as well as in DCs that are in the pipeline. (Note: Some estimates are that AI energy demand may be 4-10 times as high as non-AI energy demand, which could have an enormous impact on future electricity load.) For cost analysis and ratemaking purposes, provide specific information on the DC electric load by year and by jurisdiction – and the annual DC rate payments to Dominion.
- For cost analysis and ratemaking purposes, provide specific information on costs associated with DC load growth, including transmission lines, substations, and power generation costs – and show options for ensuring all DC costs are covered by DC rate payments.
- Achieving Reliability and VA Clean Economy Act (CEA) targets are NOT POSSIBLE in the face of the explosive data center load growth. VA needs to change its legislative and regulatory policies to rein in DC load growth. Postulate scenarios to do so, including rate strategies based on DC energy efficiency, and pauses in hooking up new DCs – especially in regions where DC energy demand exceeds transmission capacity.
- Dominion already indicates that 21% of its rate revenue is from DCs. Aaron Ruby of Dominion has further indicated that DC load growth is expected to QUADRUPLE.

Show a scenario where DC load growth quadruples AND reliability is maintained AND VA meets its VA CEA targets. Show how many new transmission lines, how many new substations, how much new clean energy generation is needed for such a scenario – AND AT WHAT COST TO RATEPAYERS.

- Load Forecast
 - Transparency is needed around load forecasts, including data center demand, electrification (e.g, EVs, equipment), and energy efficiency improvements.
 - Data center growth has been and will be explosive and needs to be spelled out in detail, along with how data center load will be served. This should include types and costs of generation, transmission and storage, GHG impacts and rate impacts to residential and other customer classes.
- Modeling
 - A 25-year forecast is essential to show how Dominion plans to achieve zero carbon by 2045, which is only 21 years away. A 15-year forecast is inadequate.
 - All scenarios should be designed to achieve zero carbon by 2045 or earlier and get at least half way there in 10 years. Back-end loading of zero-GHG solutions would raise costs and diminish likelihood of meeting goals.
 - All cases should shut down coal as soon as possible without costly investment to extend plant lives.
 - Assume falling prices for solar, wind and storage, as have been projected by multiple organizations, including IEA, NREL. Also assume improvements in availability of longer duration storage as has generally been projected based upon known and evolving technologies.
 - Include EPA's latest estimates of the social cost of carbon in analysis of total cost impacts to customers and Virginians generally. EPA estimates a mid-point of \$190/ton emitted in 2020 (with estimated \$340/ton at the high end), rising by approximately \$40/ton emitted by 2030 and another \$40/ton each 10 years thereafter. The harms from the emissions will last for centuries and must be considered in resource planning in order to protect the public interest.
 - Include pollution resulting from curtailed load and data centers using diesel.
 - The SCC should hire the Regulatory Assistance Project or Rocky Mountain Institute, two experienced and independent consulting firms, to help it plan and implement the transition to zero carbon electricity and to evaluate utilities' IRPs.
- Reliability
 - Reliable, year-round service can be achieved with aggressive construction and purchase of renewable energy and storage, smarter distribution of generating and storage resources—including customer-owned storage and solar—, more aggressive DSM, smarter transmission expansion and reconducting, with less focus of growth for the sake of profits.
 - Not in the public interest to build out new fossil fuel generation, which will increase emissions and lead to stranded costs.
 - Coal should be retired as soon as possible without investments to extend the lives of coal plants.
 - Increasing distributed solar and wind generation and storage is needed to meet increasing demand while reducing harmful emissions.

- Small modular nuclear reactors are unproven technologies and some have been abandoned due to high costs. The costs may be even higher per MWH than the recently completed but long-delayed \$35 billion Plant Vogtle project. Let others prove the viability of SMRs, while Dominion builds out much cheaper renewable energy and storage facilities.
- Distributed resources are needed to balance grid. Storage must be located in or near market areas to reliably serve loads while minimizing costs of generation and transmission. Pilot projects are not needed since storage has been widely deployed in Texas, California, and elsewhere. Solar and other generation should also be distributed. Rooftop, parking lot and solar/farm projects can distribute resources closer to markets while making better use of agricultural and developed sites.
- Demand side management must be more aggressively developed to avoid peak costs and to create virtual power plants. It should include incentivizing customers to install solar and storage that Dominion can call upon, as has been done by Green Mountain Power and others.
- **Affordability**
 - Affordability is too narrow a focus. Affordability to whom? Affordability is just a part of the cost / rate analysis.
 - You cannot address affordability without providing detailed and objective analysis of (a) current cost burdens BY RATE CLASS; and (b) detailed and objective analysis of the increase in cost burden BY RATE CLASS – and especially for the dominant driver of load growth and increased costs – DATA CENTERS.
 - Prioritize distributed resources and cheaper forms of energy like solar, not more fossil fuels or SMRs. Affordability will be enhanced by accelerating construction of zero-carbon renewable energy and storage which have essentially no energy costs. Renewable energy is cheap and getting cheaper. Storage is getting cheaper and more capable of longer durations. Both renewable energy and storage are experiencing and foreseen to experience falling prices. Other states are far ahead on renewable energy and storage.
 - Affordability will also be enhanced by supporting and encouraging improved customer energy efficiency and customer-owned or shared solar and storage. Other utilities have gone far beyond Dominion in these areas.
 - Reduce stranded costs by not building more fossil fuel generation or investing to extend the lives of coal plants or building yet-unproven SMRs.
 - Affordability involves more than electricity prices given the harmful externalities from electricity generation. Virginians and other Americans are already experiencing severe and worsening climate impacts. The IRP and SCC need to factor in social cost of carbon, as estimated by EPA, with respect to all planning, investment and operational decisions. This is needed to show full cost impacts to customers from utility choices and operations.
 - Purchasing resources and clean energy from others can save costs for customers. Dominion doesn't need to build/own everything.
 - The buildout and operating costs to serve data center growth will raise costs to other classes of customers, including residential customers. These cost and rate impacts need to be documented in IRP.

- Reform rate structure to prevent traditional loads from subsidizing buildout for data centers and to reward energy efficiency. Data centers and other large loads should be expected to provide renewable energy or RECs and to maximize energy efficiency.
- Technologies / Programs
 - Renewables: solar, wind, geothermal, and hydrogen
 - Emphasis on storage solutions, including long duration storage.
 - Parking lot and rooftop solar are important to mitigate pressures on undeveloped land.
 - Utility scale solar in partnership with agriculture can also mitigate local opposition.
 - Dominion should incentivize customers to install solar and storage. Properly done, it can call upon the resources.
 - Microgrids should be encouraged.
 - Reconductoring transmission lines should be prioritized as it is cheaper, less impactful and less objectionable than building new transmission lines.
 - Do more to incentivize energy efficiency, such as heat pumps for all heating and cooling, better insulated buildings, and net zero and net-zero ready construction. Such technologies will reduce demand for generation, transmission and distribution, lowering costs and GHG emissions. Highly insulated buildings will also enhance customers' resilience to outages, as will promotion of on-site storage.
 - Because data centers are energy hogs and highly energy inefficient, and because data centers are the dominant driver of load growth, Dominion needs to work with the SCC to develop powerful requirements and incentives for data centers to incorporate energy efficiency at the highest possible level.
 - Work with the SCC to consider rate changes for data centers which are based on energy efficiency levels and PUE. Higher rates would be charged to data centers which exceed a specified level of energy efficiency and/or a specified PUE.
 - Waste-Heat RECOVERY AT DATA CENTERS should be REQUIRED.
 - Transmission and storage build out is needed along highway corridors to support electric trucks and other EVs.
 - Strengthening grid ties to other utilities is needed to enhance reliability and access to zero-carbon generation outside Virginia.
 - Dominion does not need to build and operate everything. Contracting for energy and capacity from others can save money for customers while enhancing reliability.