Energy Resilience and Efficiency Working Group (EREWG) Proposed Recommendations

As of August 23, 2024 – for discussion on September 10, 2024
Edited due to feedback from August 23, 2024 Meeting

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Proposed recommendations for discussion on 9/10

The recent statement from PJM that Maryland "did not have enough supply to meet its demand and is transmission constrained" highlights Maryland's constraints and the resultant impact on capacity pricing. Implementing targeted measures to enhance affordability and grid reliability without compromising our commitment to clean energy must be prioritized. In this context, the Energy Resilience and Efficiency Working Group (EREWG) proposes the following recommendations:

1) [*Passed conceptually 8/23*] **Maryland must take short term actions to address energy capacity constraints**, specifically the state should:
    a. Establish a process for the PSC to order utilities to purchase and install battery storage and other demand response systems on the distribution grid, provided that they are cost effective in adding reliability to the grid and avoiding or delaying (a) other capacity cost increases and/or transmission upgrades.
    b. Shift the utility-scale solar program from a REC based subsidy model to a competitive bid similar to NJ, NY, and IL. PSC would consider and award bids at fixed prices. Rate-payers would pay the difference between the energy revenue and the fixed guaranteed price (as the variable priced "REC"). This would also allow the PSC to incorporate locational value of generation as well as incorporate storage in some bids as appropriate.

2) [*Discuss Sept 10 first order*] **In the longer term, the state needs a regular process for more holistic energy system assessments**. This could be something akin to an integrated resource plan and would provide some direction on achieving clean, affordable, and reliable energy in the future. The plan must include reasonable projections for energy demand and strategies for meeting those demands in a regional context with associated impacts on greenhouse gas emissions, ratepayer impacts and affordability, equity considerations, and reliability and resiliency. The structure must ensure actionable outcomes and include annual or biennial updating of solution sets. The Energy Resilience and Efficiency Working Group shall propose a framework for such a planning mechanism by January 2025.

3) [*Passed conceptually 8/23*] **In support of the state energy planning framework, Maryland must invest in a user-friendly, transparent model for state-wide planning to inform policy and administrative decisions.** The model should enable cost benefit analysis of power prices by resources, be detailed enough to enable location value planning and support the transition to a clean energy workforce. The model should also consider time horizons for commercialization of energy technologies and when those technologies may appear in the market.

4) **The State should conduct the following immediate study needs** in parallel to the extent possible, in order to support long-term energy system assessments and energy planning:

   a. Study on reconductoring opportunities in the State;
   b. Feasibility studies for the placement of SMRs on former fossil-fueled electricity generator sites;
   c. Analysis to determine if Maryland's Offshore Wind (OSW) projects could be interconnected with Salisbury substations and the feasibility of building in-state transmission from the OSW interconnects to Maryland load centers;
   d. Study on the viability of energy storage-as-a-transmission-asset;
   ~~a.~~e. Analysis of land in the State to identify land suitable for solar energy development.

Original recommendation language for studies (shortened to 4a-4e, above)

5) [*Passed, no amendments 8/13*] **The State shall, with the support of NREL, conduct a study on reconductoring opportunities in the State**. The State, in partnership with a research institution such as the National Renewable Energy Laboratory ("NREL"), proposes to study the opportunity for transmission expansion in Maryland using methods such as retrofitting lines with advanced conductors in existing rights-of-way or grid enhancing technologies ("GETs"). Reconductoring replaces old conductors with new ones that have higher capacity for electrical current, while GETs optimize electricity flow and increase the throughput of existing grid infrastructure. Using Dynamic Line Rating (a type of GET) or reconductoring existing transmission lines could enable transmission system operators to make better use of the full carrying capacity of existing transmission infrastructure in addition to new traditional transmission lines to meet the identified needs. The recommended study would examine the transmission capacity expansion potential of alternative transmission solutions in Maryland.

6) [*Passed with amendments 8/13*] **MEA shall conduct feasibility studies for the placement of SMRs on former fossil-fueled electricity generator sites**. A Maryland coal-fired electric generating facility was evaluated for its potential to be repurposed using a small modular nuclear reactor (SMR). The study presents a viable, comprehensive, and powerful business case for further development toward a project optimization of repurposing a coal generation facility to an advanced small modular reactor electric generation facility. Similar studies in Maryland may reveal the same and prevent transmission assets at former fossil-fueled generator sites from becoming stranded. This in turn may limit the need for future investments in transmission and the economic and other associated challenges in siting and constructing those assets.

7) [*Tabled, suggestions added 8/13*] **The State, such as through the Public Service Commission, should conduct an analysis to determine if Maryland's Offshore Wind (OSW) projects could be interconnected with Salisbury substations and the feasibility of building in-state transmission from the OSW interconnects to Maryland load centers**. This analysis should determine if this would be cost-effective compared to other options, such as a separate OSW interconnection with a new transmission line from Pennsylvania, which may be required in the near future.

   Any solutions proposed from this analysis should:

   a) Avoid impacts to the established interconnection plans of certain earlier offshore wind projects, including OCS-A (US Wind) and OCS-A 0519 (Skipjack);

   b) Use an open-access collector transmission system to allow for the interconnection of multiple qualified offshore wind projects at a single substation;

   c) Avoid significant outage of any part of the transmission system;

   d) Reduce permitting ricks, impacts on communities, and unnecessary high costs; and

   e) Leverage existing infrastructure.

8) **The State shall conduct a study on the viability of energy storage-as-a-transmission-asset and develop a strategy to invest in energy storage.** Storage-as-a transmission-asset ("SATA") is an approach that can alleviate transmission congestion while avoiding some of the most challenging aspects of transmission buildouts, siting and expense. The use of SATA within the footprint of other regional transmission organizations has been found to provide similar or equal transmission network benefits at significantly lower costs. Similarly, SATA in Maryland may avoid costs for ratepayers while limiting or eliminating landowner opposition to greenfield buildouts of new transmission lines.

   Furthermore, to address future reliability issues, an approach similar to the one proposed in HB 1112 (Public Service Commission – Energy Storage Devices – Acquisition and Deployment), a bill proposed in 2024, may be used. This approach uses money going to the RMR process to instead invest in energy storage.

9) **The State should establish a solar technical assistance program to overcome issues with siting utility and community solar, in coordination with the Department of the Environment, the Department of Natural Resources, and the Department of Planning.** Solar installations must ramp up rapidly to meet Maryland's climate goals. Along with the interconnection backlog, permitting and siting has become an issue for deploying utility and community solar because they have the potential to consume significant amounts of farmland and forest land. Removing siting barriers to the deployment of utility and community solar will allow for accelerated progress towards the State's solar goal under the Renewable Portfolio Standard (RPS). The solar technical assistance program should include:

   a) Analysis of land in the State to identify land suitable for solar energy development;

   b) Establishment of a goal for the amount of state land to be used for solar energy generation to meet the State's RPS;

   c) Database, sorted by county, identifying and recommending state land suitable for solar energy development, such as brownfields, landfills, parking lots, and garages;

   d) Estimates of potential clean energy generation stimulated by the leasing of state land for energy generation and power purchase agreements.

Longer term considerations (e.g. for white paper)

5) [*Passed with amendments 8/13*] **Maryland expands RMR to include Maryland climate goals.** This working group supports the Maryland Public Service Commission (PSC), PJM Interconnection (PJM), and other related parties in their long-term planning and clean efforts. There should be a consideration of expanding the scope of alternatives when a generator is scheduled to be deactivated, including when a Reliability Must Run (RMR) is evaluated, to include all energy solutions that help meet the State's climate goals. This would include renewables, distributed energy resources, non-GHG emitting resources, energy storage, and demand-side solutions.

   This working group recommends developing a prioritized list of currently stalled clean energy projects within Maryland. Identifying which projects are most needed to advance clean energy production can help inform the state on where to start transmission upgrades and/or additions. This may be accomplished by developing a clean energy tracking system akin to the solar energy and energy storage tracking system described in the Brighter Tomorrow Act. *See* 2024 Md. SB 783. After the data has been collected, it can be supported by areas of priority/viability and shared with the PSC and PJM.

6) [*Tabled*] **Maryland supports in-state clean firm generation.** Maryland joins a chorus of states and countries looking to tackle climate challenges and decarbonize the economy. As Maryland develops our climate solutions, we should look to policies that value clean firm generation, in addition to renewables. Examples of "clean firm" energy include geothermal, hydrogen combustion, nuclear, and natural gas with carbon capture and sequestration. Clean firm technologies can complement renewable energy to ensure reliability while keeping whole system costs low.

   The State could establish a Clean Energy Standard or expand the State's current Renewable Portfolio Standard (RPS) to include sources of energy that have zero-carbon emissions, such as nuclear or hydrogen. For example, currently, while the State's Renewable Portfolio Standard does include geothermal energy, it does not include nuclear power generation. This recommendation could include provisions similar to the Clean and Renewable Energy Standard (CARES) Act, a bill proposed in 2021.

7) [*Tabled*] **Maryland's economy requires the enactment of a comprehensive energy plan (CEP) to analyze energy scenarios and policy options for achieving a clean, affordable, reliable energy future.**

   The State's CEP should include multiple energy scenarios based on various combinations of energy generation, grid modernization, storage, and demand-side management, ensuring to include load forecasting for additional load expected from data center growth, building decarbonization, and transportation electrification in Maryland over the next 15 years. The modeling scenarios could then be built to include multiple inputs to identify the optimal mix of ground-source and air-source heat pumps, distributed energy resources, virtual power plants, and other energy considerations. The CEP should also:

a) Determine grid vulnerabilities in Maryland, identifying critical facilities, as well as potential solutions that can address these vulnerabilities;

b) Assess the associated impacts on GHG emissions, affordability, reliability and resiliency for each scenario;

c) Incorporate existing energy frameworks and studies (EmPOWER, Climate Pathways, Storage Goals, Renewable Portfolio Standards, etc.) into the CEP for a comprehensive analysis;

d) Create a user-friendly operational model that can be updated regularly based on the rapidly changing regulatory, technology, and policy landscape of the energy sector, to inform administrative and legislative decisions;

e) Facilitate economic development and support the transition to a clean energy workforce.

Having growth models and different scenarios for data centers, buildings, and transportation load growth in the CEP would be beneficial for future policy making and energy planning decisions. In order to plan for the various transitions that will happen, forecasting is important.

8) [*Tabled*] **The State, with Attorney General legal adequacy approval, should determine if the Public Service Commission (PSC) can mandate the installation of Generation, Energy Transfer, and Storage (GETS) and Transmission on interstate lines within Maryland as a condition of a Certificate of Public Convenience and Necessity (CPCN).** The PSC has the authority in the CPCN to minimize environmental impact, and so **requiring GETS and Storage on new lines has the ability to prevent future lines from being needed, thus minimizing environmental impact.**

9) **The State should establish a more proactive relationship with PJM and other states within PJM's region to facilitate bringing projects online and connected to the grid.** PJM announced that annual capacity auction prices were significantly higher due to decreased electricity supply caused by generator retirements, increased electricity demand, and market reforms. At the end of 2023, PJM had 3,309 projects – mostly solar and battery storage – waiting to connect to the grid and provide cheaper power to the region. To protect Maryland ratepayers from rising electricity costs, the State must take a proactive role in advancing these projects online, which requires the State to engage in periodic communication and coordination with PJM and other states within the region.