SWOT analysis of 50% RPS

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SWOT analysis is used to identify internal and external factors that are important to achieving an objective. For the purposes of the RPS study, we have defined the key terms of SWOT as follows:

- *Objectives*
  - *RE development (ideally in-State) with minimal cost impacts to ratepayers*
  - *In-State economic development (jobs, spending)*
  - *In-State environmental improvements (GHG reductions, public health)*
- *Internal factors*
  - *Strengths – expected positive impacts of a 50% RPS, given current conditions*
  - *Weaknesses – expected negative impacts of a 50% RPS, given current conditions*
- *External factors*
  - *Opportunities – external factors that could make a 50% RPS more successful*
  - *Threats – external factors that could make a 50% less successful*

Statistics in this SWOT table are based on the results of the Very High Maryland RPS Scenario in PPRP's most recent Long-Term Electricity Report for Maryland (LTER). These statistics provide comparisons to the LTER's Reference Case, which reflects Maryland and federal law as of December 2016.

The Very High Maryland RPS Scenario had the following assumptions:

- *50% RPS by 2035, including a 5% solar carve-out; no changes to RPS policies in other states. Therefore, the recent increase in the New Jersey RPS to 50 percent is not modeled.*
- *RPS is fulfilled with actual generation, not alternative compliance payments.*
- *New wind capacity used to fulfill all new (non-solar) RPS requirements; this new capacity is built in a PJM zone that contains Maryland (PJM-SW, PJM-Mid-E or PJM-APS)*
- *Load growth in Maryland follows the trends forecasted in the PSC's Ten-Year Plan (2015-2023), released in August 2014, and thereafter is assumed to be 0.70 CAGR from 2023-2035.*
- *Load growth in the remaining PJM states is based on the July 2016 edition of a Lawrence Berkeley National Laboratory report on RPS demand, which projects retail electricity sales by "applying regional growth rates from the most-recent edition of the Energy Information Administration's Annual Energy Outlook (Reference Case forecast) to the most-recent available state-level retail sales data.*

	Strengths	Weaknesses
Ratepayer Impacts	• Maryland has experience administering and raising the RPS; very little additional administrative burden or cost associated with raising the RPS	• Additional costs to ratepayers stemming from REC purchases required to fulfill the higher RPS • Potential additional costs if: (a) off-shore wind is relied upon and receives different cost-recovery treatment than other Tier 1 resources; (b) suppliers comply with ACPs
RE Development	• 1,146 MW of additional in-State PV development by 2035. Solar development may be higher, since previous statutory attempts to raise the Maryland RPS to 50% included a solar carve-out of 14.5% • 6,681 MW of additional wind capacity in PJM by 2035 • 1 GW less natural gas capacity added in PJM-MidE by 2035	• Other than solar, no assurance of renewable energy development in Maryland, absent statutory changes
Gen/ Emissions	• 6% more RE generated in MD by 2035; net electricity imports about 25,600 GWh lower by 2035	• No impact on MD emissions, because in-State coal and natural gas plants continue to generate electricity for the PJM-wide market
Land Use		• Potential loss of agricultural land due to wind and solar development
Jobs/ Econ. Dev	• TBD-impacts based on forthcoming Input/Output modeling	

	Opportunities	Threats
Tech/Fuel Costs	• The costs of wind, PV, and/or energy storage technologies may decline more rapidly than expected, lowering the cost of RPS compliance	• Small changes in the future cost of natural gas relative to the costs of wind or PV will have a large impact on their cost-competitiveness with each other
Federal and Other State Policies	• If other states besides Maryland increase the targets in their RPS policies, LBNL and NREL have estimated that the dollar value of air-pollution health benefits and climate damage reductions would outweigh the cost of RPS policies	• If other states lower their RPS goals, Maryland could become less attractive to businesses that focus on electricity costs. • **I**f other states increase their RPS goals, then Tier 1 REC and SREC prices would likely increase, due to increased competition for RPS-eligible resources • Gradual expiration of federal tax incentives may affect wind or solar development costs • Trump's solar tariffs may affect solar development costs
Other		• Additional transmission may be needed in Maryland and/or PJM to support additional utility-scale renewable energy development