

Power Plant Research Program Study of the Maryland Renewable Energy Portfolio Standard

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PPRAC Meeting

June 12, 2019

Agenda

- History of Maryland's RPS
- Current and Past Maryland RPS Requirements
- HB 1414
- Study Topics, and New Report Topics
- Maryland RPS Work Group
- Interim Report
- Next Steps
- Final Report Review
Process



History of Maryland's RPS



Definition:

Maryland's Renewable Energy Portfolio Standard (RPS) – requires Maryland electric utilities and retail suppliers to obtain renewable energy credits (RECs) equivalent to a percentage of their retail sales

- In 2004, the Maryland General Assembly enacted the Maryland Renewable Energy Portfolio Standard and Credit Trading Act (RPS Act)
- The Maryland General Assembly has modified the Maryland RPS several times since enactment

Maryland's RPS History



SB 859
3.5% by
2006,
increasing
to 9.5%
2018

SB 375
Tier 1 increased
to 20% by 2022,
including the 2%
solar carve-out. It
also changed the
geographic
eligibility of
facilities

SB 652 &
HB 1186
Added
geothermal
heating and
cooling
systems as
eligible
facilities

SB791 & HB 1187
Accelerated solar
carve-out of 2% to
2020 and
measurable solar
water-heating
energy production
qualified as a Tier
1 resource

SB 1004 &
HB 1339
Thermal
energy from
biomass
systems that
use animal
waste qualified
as a Tier 1
resource

**SB 516
Tier 1
increased to
50% by 2030,
including a
14.5% solar
carve-out and
1,200 MW of
"Phase II"
offshore wind**

2004

2007

2008

2010

2011

2012

2013

2017

2019

SB 595
2% from
eligible solar
facilities by
2022

SB 277
Increased solar
carve-out
requirements
between 2011
and 2016

SB 717
Solar
water-
heating
systems
qualify for
Tier 1 solar
carve-out

SB 690
Waste-to-
energy and
refuse-derived
fuel facilities
located in
Maryland
eligible Tier 1
resources

HB 226
Tier 1
Offshore
Wind carve-
out created
and offshore
wind is
defined

HB 1106
Tier 1
increased to
25% by 2020,
including a
2.5% solar
carve-out

Previous Maryland RPS Requirements



- By 2020, 25 percent of electric retail sales must be satisfied by renewable energy (22.5 percent Tier 1, 2.5 percent Tier 2)
- For Tier 1, 2.5 percent must be satisfied by solar resources, and up to 2.5 percent may come from offshore wind
- The Tier 2 renewable energy requirement expired at the end of 2018

HB1414



- In 2017, the General Assembly passed HB 1414, and the Governor enacted in the 2017 Acts of Maryland Ch 393: Power Plant Research Program “shall conduct a study of the [Renewable Portfolio Standard] RPS... The study shall be a comprehensive review of the history, implementation, overall costs and benefits and effectiveness of the RPS in relation to the energy policies of the state.”
- RPS Study deliverables to the Office of the Governor, the Senate Finance Committee and House Economic Matters Committee.

Final Report Requirements in HB 1414 passed in 2017.



- Ratepayer impacts from long-term contracts
- Role and effectiveness the RPS may have in reducing the carbon content of imported electricity
- Role of in-state clean energy in achieving greenhouse gas emission reductions
- Net environmental and fiscal impacts associated with long-term contracts with clean energy projects
- Industries that may grow, and to what extent, as a result of RPS incentives
- Local job growth opportunities resulting from the RPS
- Equitable distribution of public health and environmental benefits across environmental justice communities
- System flexibility requirements needed under future goals to handle peak and ramping capabilities
- Changes in solar renewable energy credit (SREC) prices over the 24 months preceding the Interim RPS Report
- The state's likelihood to meet existing goals and potential future goals with and without the inclusion of certain technology
- Energy storage technologies

Maryland RPS Study Work Group



- PPRP organized the Maryland RPS Study Work Group, which includes representatives from the following:
 - Federal, state, and county government agencies
 - Renewable energy companies
 - Industry trade associations
 - Electric utilities
 - Environmental groups
 - Consultants and members of the public
- Webinars held on April 26 and on Nov. 14, 2018
- In-person meetings were held on June 18 and Aug. 29, 2018

Maryland RPS Study Work Group

- Throughout the process PRRP will seek input and feedback from stakeholders.
- PRRP welcomes any data or studies stakeholders may have or would like to contribute.
- Webpage located at dnr.maryland.gov/pprp/Pages/RPS-WorkGroup.aspx



A screenshot of the Maryland Department of Natural Resources website. The header includes navigation links for "Maryland.gov", "Phone Directory", "State Agencies", "Online Services", and "Translate". The main navigation bar lists "HOME", "BOATING", "CAMPING", "FISHING", "HUNTING", "PARKS", and "WILDLIFE". The page content is divided into two columns. The left column is titled "Power Plant Research Program" and contains a list of links: "Power Plant Home", "Power Plant Research Advisory Committee", "Renewable Portfolio Standard Work Group", "Energy Storage Work Group", "Power Plants in Maryland", "Power Plant Licensing", "Other Program Activities", "Projects Under Review", "Request for Proposals", "Smart Siting", and "Contact the Program". The right column is titled "Maryland Renewable Portfolio Standard (RPS) Study Work Group" and contains a paragraph of text: "The Maryland General Assembly passed legislation (HR1414) during the 2017 legislative session that directs Power Plant Research Program to conduct a study addressing the Renewable Portfolio Standard. Specifically, Power Plant Research Program is directed to conduct a comprehensive review of the history, implementation, overall costs and benefits, and effectiveness of the Maryland Renewable Portfolio Standard in relation to the energy policies of the State of Maryland, including the availability of all clean energy sources at reasonable and affordable rates, and including in-state and out-of-state renewable energy options." Below the text are four expandable sections: "Work Group Members", "Study Status", "Meeting Schedules/Agendas/Presentations/Minutes", and "Contact Information and Public Comments". The footer includes links for "Contact Us", "Privacy", "Accessibility", "Website Feedback", and "Register to Vote", along with social media icons and contact information: "580 Taylor Ave, Annapolis MD 21401" and "(377-620-8DNR) (8367)".

Interim RPS Report



- The purpose of the Interim RPS Report was to update the General Assembly on the focus of PPRP's efforts to date and to document the steps for completing the final report
- The following Agencies reviewed the Draft Interim Report and provided feedback:
 - Department of Natural Resources Power Plant Research Program
 - Maryland Energy Administration
 - Maryland Public Service Commission
 - Maryland Office of People's Counsel
 - PJM Interconnection, Inc.
- PPRP presented the Final Interim RPS Report to the House Economic Matters Committee in February 2019.

RPS Study - Next Steps



- Work to be completed for the final RPS report will include, but is not limited to the following:
 - Input-output modeling to estimate direct and indirect economic impacts of the Maryland RPS
 - Analysis of long-term contracts for renewable energy generation in other states and potential impacts on ratepayers in Maryland
 - Assessment of other regulation and market-based policies, such as tax credits, loans and grants, that can further the legislative intent of the Maryland RPS
 - Discussion of the role of energy storage and other flexibility resources in promoting renewable energy and Maryland’s energy policies
 - Assessment of the performance of the Maryland RPS and the advantages and disadvantages of various options for changing the Maryland RPS

Clean Energy Jobs Act of 2019



- Raises the Maryland RPS to 50 percent by 2030
 - Solar carve-out of 14.5% by 2028
 - Offshore wind carve-out to be determined by PSC but must not be less than 1,200 MW of new offshore wind
- Tier 2 extended - expires at the end of 2020



Three New RPS Additions within the Clean Energy Jobs Act



- The impact of [in-state clean energy] on ratepayers with respect to the requirement of in-state clean energy generation as an increasing percentage of the standard.
- The impact of all energy sources that qualify under the standard with respect to the requirement of in-state clean energy generation as an increasing percentage of the standard.
- An assessment of the costs, benefits, and any legal or other implications of allowing the location anywhere in or off the coast of the contiguous United States of Tier 1 renewable sources that are currently required to be located in the PJM region, or in a control area that is adjacent to the PJM region, if the electricity is delivered into the PJM region.

Final Report Review Process



- Potential future webinars of the Maryland RPS Study Work Group will be scheduled to discuss draft results from:
 - Input/output modeling
 - Environmental Justice
 - Long term contracts (PPAs)
- Details to be announced
- Due to General Assembly by December 1, 2019

“Supplemental” RPS Study from the Clean Energy Jobs Act



- Assess the overall cost and benefits of increasing the RPS to 100% by 2040
- Incorporates all requirements from current RPS study.
- Requires the study of the impact of a 100% RPS on industries and communities as well as a plan to provide a transition for impacted workers and communities
- Due to the General Assembly by January 1, 2024

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