Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

MARYLAND RENEWABLE ENERGY PORTFOLIO STANDARD SUMMARY

A. SUMMARY: Maryland's Renewable Energy Portfolio Standard (RPS), originally signed into law on May 26, 2004, requires electric service providers to provide 20 percent of their sales in the state from renewable energy sources by 2022. The requirement is divided into three tiers. Tier 1 begins at 1 percent in 2006, and gradually increases to 18 percent in 2019 (and each year thereafter). The Tier 2 resource requirement remains stable at 2.5 percent from 2006 through 2018, and then sunsets. An April 2007 amendment to the RPS created a separate set-aside requirement for solar energy resources, which begins at 0.005 percent in 2008, and ramps up to 2 percent in 2022 (and each year thereafter). Compliance and verification is to be based on the acquisition of renewable energy credits, which are tracked and traded under the PJM Interconnection's Generation Attributes Tracking System. An April 2008 amendment to the RPS increased the annual Tier 1 targets (from 7.5 to 18 percent), tightened up an overly broad definition for the eligibility of out-of-state resources, and increased the cost cap.

B. APPLICABLE AUTHORIZING LEGISLATION/REGULATION

1. **Part of Broader Energy package?** No

2. **Legislative/Regulatory Intent:** It is the intent of the general assembly to recognize the economic, environmental, fuel diversity and security benefits of renewable energy resources, establish a market for electricity from these resources in Maryland and lower the cost to consumers of electricity produced from these resources. [statute]

   In addition, the general assembly found that: (1) the benefits of electricity from renewable energy resources, including long-term decreased emissions, a healthier environment, increased energy security, and decreased reliance on and vulnerability from imported energy sources, accrue to the public at large; and (2) electricity suppliers and consumers share an obligation to develop a minimum level of these resources in the electricity supply portfolio of the State. [statute]

3. **Applicable Legislation/Regulation:**
   5/04 – HB 1308, Renewable Energy Portfolio Standard and Credit Trading Act

   4/07 – HB 1016, An Act Concerning Electricity, Net Energy Metering, Renewable Energy Portfolio Standard, Solar Energy

   4/08 – SB 209, An Act Concerning Renewable Portfolio Standard Percentage Requirements – Acceleration

   RPS encoded as Code of Maryland § 7-701 et seq.

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4. Date Enacted: 5/26/04

5. Date Effective: 7/1/04

C. RULEMAKING

1. Implementing/rulemaking Authority: Maryland Public Service Commission (PSC)

2. Rulemaking Completed to Date:
10/05 – PSC COMAR 20-61, Final RPS implementation rules

D. TARGETS AND TIMETABLES

1. Brief Overview: The annual requirements are broken into two technology tiers, plus an additional set-aside requirement for solar energy. The targets become effective in 2006. Tier 1 resources ramp up over time to 7.5 percent of the eligible electricity sold in Maryland by 2019, and each year thereafter. Tier 2 begins at 2.5 percent, and remains there until it is phased out in 2019. The solar requirement begins at 0.005 percent in 2008, and ramps up to 2 percent by 2022, and each year thereafter. Retailers may begin accumulating renewable energy credits on or after January 1, 2004.

2. Schedule

Year	Percent Sales From Tier 1	Percent Sales From Tier 2	Percent Sales From Solar Energy	Total
2006	1%	2.5%		3.5%
2007	1%	2.5%		3.5%
2008	2%	2.5%	0.005%	4.505%
2009	2%	2.5%	0.01%	4.51%
2010	3%	2.5%	0.025%	5.525%
2011	4.96%	2.5%	0.04%	7.5%
2012	6.44%	2.5%	0.06%	9%
2013	8.1%	2.5%	0.1%	10.7%
2014	10.15%	2.5%	0.15%	12.8%
2015	10.25%	2.5%	0.25%	13%
2016	12.35%	2.5%	0.35%	15.2%
2017	12.55%	2.5%	0.55%	15.6%
2018	14.9%	2.5%	0.9%	18.3%
2019	16.2%	0%	1.2%	17.4%
2020	16.5%	0%	1.5%	18%
2021	16.85%	0%	1.85%	18.7%
2022, and thereafter	18%	0%	2%	20%

3. Treatment of Existing Capacity: For Tier 1 resources, generation from existing facilities is eligible for RPS compliance. For Tier 1 hydro resources (< 30 megawatts), only generation from dams that existed as of January 1, 2004 are RPS eligible, even if a system or facility that is capable of generating electricity did not exist on that date.

For Tier 2 hydro and MSW resources, generation from a system or facility that existed and was operational as of January 1, 2004 is RPS eligible, even if the facility or system was not capable of generating electricity on that date. For Tier 2 poultry litter resources, generation is RPS eligible regardless of when the generating system was placed in service as long as the existing and operating entity is sited on the Delmarva Peninsula and that, as of July 1, 2004, processes and pasteurizes chicken litter as fertilizer.

4. **Sunset Provision:** The requirement for Tier 2 resources effectively sunsets (set at 0 percent) in 2019. However, there is no sunset for the Tier 1 or solar energy resource requirements.

E. DEFINITION OF ELIGIBLE RESOURCES AND TECHNOLOGIES

1. **Eligible Resources:** Tier 1 renewable sources may be used to meet Tier 1 or Tier 2 requirements and include:

- Solar;
- Wind;
- Qualifying biomass (credit in proportion to amount of biomass, if used in co-firing), defined as
  1) a non-hazardous, organic material that is available on a renewable or recurring basis, and is: (i) waste material that is segregated from inorganic waste material and is derived from sources including: 1. Except for old growth timber, any of the following forest-related resources: A. mill residue, except sawdust and wood shavings; B. precommercial soft wood thinning; C. slash; D. brush; or E. yard waste; 2. a pallet, crate, or dunnage; 3. agricultural and silvicultural sources, including tree crops, vineyard materials, grain, legumes, sugar, and other crop by-products or residues; or 4. gas produced from the anaerobic decomposition of animal waste or poultry waste; or (ii) a plant that is cultivated exclusively for purposes of being used at a Tier 1 renewable source or a Tier 2 renewable source to produce electricity.
  "Qualifying biomass" does not include: (i) un-segregated solid waste or post-consumer wastepaper; or (ii) an invasive exotic plant species.
- Methane from the anaerobic decomposition of organic materials in a landfill or wastewater treatment plant;
- Geothermal;
- Ocean, including energy from waves, tides, currents, and thermal differences;
- A fuel cell that produces electricity from a tier 1 renewable source;
- A small hydroelectric power plant of less than 30 megawatts in capacity that is licensed or exempt from licensing by the federal energy regulatory commission and generated at a dam that was in existence as of January 1, 2004.

Tier 2 resources may not be used to meet Tier 1 requirements and include:

- Hydroelectric power other than pump storage from facilities in existence as of January 1, 2004;
- Incineration of poultry litter, if the Maryland energy administration and the Maryland department of agriculture determine that there is a sufficient quantity of poultry litter available for the economic viability of any existing and operating entity that is sited on the Delmarva Peninsula and that, as of July 1, 2004, processes and pasteurizes chicken litter as fertilizer; and
- Waste-to-energy (at least 80 percent of the solid waste incinerated at a facility shall be collected from areas in Maryland with jurisdictions that achieve the recycling rates required under §9-505 of the Environment Article; and from other states with jurisdictions for which the electricity supplier demonstrates recycling substantially comparable to that required under § 9-505 of the Environment Article)

In order to be eligible for RPS compliance, a Tier 1 or Tier 2 renewable source must substantially comply with all applicable environmental and administrative requirements, including air quality, water quality, solid waste, and right-to-know provisions, permit conditions, and administrative orders.

2. **Special Incentives:** The RPS includes a solar energy set-aside requirement that ramps up to 2 percent by 2022.

   For generating facilities that are placed in service on or after January 1, 2004, the RPS provides retailers 120 percent credit for wind generation before December 31, 2005; 110 percent from wind generation after December 31, 2005 and before December 31, 2008; and 110 percent credit for electricity generated from methane on or before December 31, 2008.

3. **Exclusions:** Qualifying biomass does not include: old-growth timber, un-segregated solid waste or post-consumer wastepaper, or invasive exotic plant species.

4. **Treatment of Self-Generation:** A customer (industrial electric customer that is not on standard offer service or a renewable on-site generator) may independently generate renewable energy credits.

5. **Rules governing Location of Generating Facilities:** Through December 31, 2010, renewable energy generation may be located in the PJM region or in a state that is adjacent to the PJM region; or in a control area that is adjacent to the PJM region, if the electricity is delivered into the PJM region. Beginning January 1, 2011, renewable energy generation must be located in the PJM region only; or in a control area that is adjacent to the PJM region, if the electricity is delivered into the PJM region.

   Solar energy sources have a more strict geographic eligibility. Beginning in 2012, solar energy is only eligible if it is connected with the electric distribution grid serving Maryland (e.g. PJM). Prior to 2012, solar energy outside of the PJM region is eligible only "if offers for solar credits from Maryland grid sources are not made to the electricity supplier that would satisfy requirements under the standard and only to the extent that such offers are not made."

6. **Eligibility of Green Pricing Programs:** Renewable energy sold as part of a green pricing program may not be double counted to meet the electric supplier's RPS requirements. However, electric suppliers must exclude voluntary green power program sales from the baseline of electric sales to which the RPS is applied. This exclusion expires after 2019.

F. COVERED UTILITIES

1. **Classes of retailers covered:** The RPS applies to all retail electricity sales in the state by electricity suppliers.

2. **Share of state sales/capacity/delivered power covered:** ~ 50 percent of total state electric sales in 2005. By 2010, as residential customer rate freezes are lifted, the RPS will cover about ~ 73 percent of total state electric sales.

3. **Apportionment of obligation among utilities:** The RPS requirements are applied separately to each affected utility.

4. **Provisions for leaving/joining covered group:** NA

5. **Any exemptions by customer class?** The RPS may not apply to (1) electricity sales at retail by any electricity supplier in excess of 300,000,000 kilowatt-hours of industrial process load to a single customer in a year; (2) to residential customers in a region of the state in which electricity prices for residential customers are subject to a freeze or cap contained in a settlement agreement entered into under§ 7-505 of the statute until the freeze or cap has expired; (3) to a customer served by an electric cooperative under an electricity supplier purchase agreement that existed on October 1, 2004, until the expiration of the agreement.

G. COST PROVISIONS

1. **Cost Cap for Retailers:** The alternative compliance fee mechanism is intended to serve as a de facto cost cap for consumers. [See below.]

   In addition, an electricity supplier may request a delay in the annual solar energy set-aside requirement, if the actual or projected dollar-for-dollar cost incurred or to be incurred by an electricity supplier solely for the purchase of solar RECs in any one year is greater than or equal to, or is anticipated to be greater than or equal to, one percent of the electricity supplier's total annual electricity sales revenues in Maryland.

   The April 2008 amendment to the RPS adopted a similar cost provision for non-solar Tier 1 resources. Effective January 1, 2011 (and terminating December 31, 2018), an electricity supplier may request a delay in the annual Tier 1 requirement if the actual or projected dollar-for-dollar cost incurred or to be incurred solely for the purchase of Tier 1 RECs other than solar credits in any one year is greater than or equal to the greater of the applicable Tier 1 percentage or 10 percent of the electricity supplier’s annual electricity sales revenues in Maryland.

2. **Cost Cap for Customers:** Not applicable

3. **Cost Recovery Mechanisms:** The PSC allows electricity suppliers to recover actual dollar-for-dollar costs incurred, including alternative compliance fees, in complying with the RPS. An electricity supplier may recover an alternative compliance fee if (1) the payment of a compliance fee is the least-cost measure of compliance to customers; (2) there are insufficient Tier 1 renewable sources available for the electricity supplier to comply with the RPS; or (3) a wholesale electricity supplier defaults or otherwise fails to deliver RECs under a supply contract approved by the PSC. Any cost recovery under this section may be in the form of a generation surcharge payable by all current electricity supply customers, except as otherwise provided. Cost recovery may not include the costs for a PURPA QF power purchase contract contemplated in rates or restructuring proceedings.

4. **Supply Contract Requirements:** If an electricity supplier purchases solar renewable energy credits directly from a renewable on-site generator to meet the solar set-aside requirement, the duration of the contract term for the solar RECs may not be less than 15 years. In addition, an electricity supplier that purchases solar RECs from a renewable on-site generator with a capacity not exceeding 10 kilowatts shall purchase the RECs with a single initial payment representing the full estimated production of the system for the life of the contract.

5. **Special Funds:** The Maryland Strategic Energy Investment Fund supports the Maryland Strategic Energy Investment Program which has the purpose of decreasing energy demand and increasing energy supply to promote affordable, reliable, and clean energy to fuel Maryland’s future prosperity. Up to 10.5 percent of the money received each year by the fund shall be allocated to renewable and clean energy programs and initiatives. Revenues from alternative compliance payments (ACP) are to be paid into this fund. As long as it remains within the 10.5 percent limit, all money from the Tier 1 ACP is to be used exclusively to make loans and grants to support the creation of new Tier 1 renewable energy sources in the state, with monies collected from the solar ACP being used only for the creation of new solar energy sources in Maryland. The Maryland Energy Administration is responsible for administering the fund.

H. COMPLIANCE AND ENFORCEMENT

1. **Certification, tracking, and trading mechanism[s].** The PSC has established a system of tradable renewable energy credits (REC) that may be used by a provider to comply with the RPS. The PJM Interconnection's Generation Attributes Tracking System (GATS) will serve as the primary tracking and verification system for the

RPS. The PSC has also established a certification and administration process to cover renewable energy generated in areas outside of the PJM region.

A renewable energy credit is defined under the statute as a credit equal to the generation attributes of 1 megawatt-hour of electricity that is derived from a Tier 1 renewable source or a Tier 2 renewable source. The term "generation attribute" is not specifically defined under statute or the PSC regulations. However, it has been interpreted by the PSC to include all renewable and environmental attributes (including avoided emissions).

RECs produced by a renewable energy generator are the possession of the facility owner, including on-site generators. However, if the owner of a solar generating system located in Maryland chooses to sell the solar RECs from that system, the owner must first offer the RECs for sale to an electricity supplier or electric company that may need them for RPS compliance.

2. **Flexibility Mechanisms:** Banking – A REC exists for 3 years from the date created.

   Alternative Compliance Payment Mechanism – Electricity suppliers have the option to make an alternative compliance payment into the Maryland Strategic Energy Investment Fund at the following rates: 2 cents for each kilowatt-hour (¢/kWh) of shortfall from required Tier 1 (non-solar) renewable sources; and 1.5 ¢/kWh of shortfall from required Tier 2 renewable sources. Beginning January 1, 2011, the ACP for Tier 1 (non-solar) resources will increase to 4 ¢/kWh.

   For industrial process loads, the ACP for each kWh of shortfall from required Tier 1 renewable sources is 0.8¢ in 2006, 2007, and 2008; 0.5¢ in 2009 and 2010; 0.4¢ in 2011 and 2012; 0.3¢ in 2013 and 2014; 0.25¢ in 2015 and 2016; 0.2¢ in 2017 and later; and 0 ¢/kWh of shortfall from required Tier 2 renewable sources.

   For solar energy resources, the ACP begins at 45 ¢/kWh in 2008, declines over time by the following schedule: 40¢/kWh in 2009 and 2010; 35¢/kWh in 2011 and 2012; 30¢/kWh in 2013 and 2014; 25¢/kWh in 2015 and 2016; 20¢/kWh in 2017 and 2018; 15¢/kWh in 2019 and 2020; 10¢/kWh in 2021 and 2022; and 5¢/kWh in 2023 and later.

3. **Penalties, Procedures, Powers, and Sanctions:** In addition to having to pay the ACP for any shortfall in compliance, a supplier that violates a provision of this subtitle or a provision of the Public Utility Companies Article of the Annotated Code of Maryland may be subject to a fine or civil penalty.

4. **Treatment of emission allowance or reduction credits:** Not specified.

5. **Escape clauses/force majeure provisions:** The PSC may waive the ACP on a supplier sale to an industrial or non-retail commercial customer if it finds that the supplier is under going an extreme economic hardship. The PSC may find extreme

economic hardship based on, but not limited to, bankruptcy, a poor credit rating, or a state or federal extreme financial hardship designation.

For the solar energy set-aside, an electricity supplier may request that the PSC delay by 1 year the annual requirement, or maintain the current solar energy requirement in the following year, if the actual or projected dollar-for-dollar cost incurred or to be incurred by an electricity supplier solely for the purchase of solar RECs in any 1 year is greater than or equal to, or is anticipated to be greater than or equal to, 1 percent of the electricity supplier's total annual electricity sales revenues in Maryland. In making its determination, the PSC must consider the actual or projected dollar-for-dollar compliance costs of other electricity suppliers.

An April 2008 RPS amendment adopted a similar delay for non-solar Tier 1 resources. Effective January 1, 2011 (and terminating December 31, 2018), **a**n electricity supplier may request a delay in the annual Tier 1 requirement if the actual or projected dollar-for-dollar cost incurred or to be incurred solely for the purchase of Tier 1 RECs other than solar credits in any one year is greater than or equal to the greater of the applicable Tier 1 percentage or 10 percent of the electricity supplier’s annual electricity sales revenues in Maryland.

If the PSC allows a delay, either the Tier 1 target or the solar energy target applicable to the electricity supplier under the delay continues for each subsequent consecutive year that the cost cap is met, but increases to the next scheduled percentage level in any year that the actual or projected dollar-for-dollar costs incurred, or to be incurred, falls below the cost cap.

I. ADMINISTRATION

1. **Administering Entities, Duties, Powers, and Contact Information:** Program administration is under the authority of the Maryland Public Service Commission. The Maryland Energy Administration is in charge of administering the state renewable energy fund. The PSC may impose an administrative fee on a REC transaction, but the amount of the fee may not exceed the PSC's actual direct cost of processing the transaction.

2. **Contact information:**

   Maryland Public Service Commission
   6 St. Paul Street
   Baltimore, MD 21202
   Web site: http://www.psc.state.md.us/psc/index.htm

   Maryland Energy Administration
   1623 Forest Drive, Suite 300
   Annapolis, MD 21403
   Web site: http://www.energy.state.md.us/

I. REPORTING REQUIREMENTS and PROGRAM STATUS

1. Reporting Requirements:

a. **Retailers**: Beginning June 1, 2007, and on or before June 1 of each year after that, each supplier shall file with the PSC an RPS report covering all retail electricity sales in Maryland during the preceding calendar year.

b. **Administrative Entities:**

i) On or before February 1 of each year the PSC shall report to the General Assembly on the status of the RPS, including the availability of tier 1 renewable sources, projects supported by the fund, and other pertinent information. Four annual reports to the General Assembly have been released thus far: 2008, 2007, 2006, and 2005.

ii) In addition, as part of its annual report due February 1, 2014, the PSC shall report its findings and recommendations for modification, if any, to the RPS provisions based on a thorough study of the implementation of the RPS requirements since 2006.

iii) On or before January 1 of each year the Maryland Energy Administration shall report to the Governor and the General Assembly on the uses and expenditures of the Maryland Strategic Energy Investment Fund.

2. Cost Information: No comprehensive study on the actual costs of the RPS has been completed.