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Public Service Commission

of the

District of Columbia

2012 Report on the Renewable Energy Portfolio Standard

March 29, 2012

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EXECUTIVE SUMMARY

On January 19, 2005, the Council of the District of Columbia enacted the Renewable Energy Portfolio Standard Act ("REPS Act"), which established a renewable energy portfolio standard ("RPS") through which a minimum percentage of District electric providers' supply must be derived from renewable energy sources beginning January 1, 2007, with an ultimate target of 11 percent by 2022. Eligible renewable energy sources are separated into two categories, Tier I and Tier II, with Tier I resources including solar energy, wind, biomass, methane, geothermal, ocean, and fuel cells, and Tier II resources including hydroelectric power other than pumped storage generation and waste-to-energy. In addition, a minimum requirement was carved out specifically for solar energy.

The REPS Act required that the Public Service Commission of the District of Columbia ("Commission") adopt regulations, or orders, governing the application and transfer of renewable energy credits and implementation of the REPS Act. The RPS rules became effective upon the publication of the Notice of Final Rulemaking in the *D.C. Register* on January 18, 2008. As part of its RPS rules, the Commission has established a process for certifying eligible generators. The certification process includes a streamlined application that the Commission developed. Renewable generators do not need to submit as much documentation for the streamlined application and the Commission is required to take action in a shorter period of time.

On October 22, 2008, the permanent version of the Clean and Affordable Energy Act of 2008 ("CAEA") became law. This legislation, among other things, amended the REPS Act and changed the definition of solar energy to provide eligibility for solar thermal applications that do not generate electricity, raised the RPS requirements to 20 percent by 2020, and increased certain alternative compliance fees. The Commission addressed the appropriate changes in a Notice of Final Rulemaking that appeared in the *D.C. Register* on October 2, 2009.

On August 1, 2011, Mayor Vincent C. Gray signed into law the Distributed Generation Emergency Amendment Act of 2011 ("DGAA").[1] The DGAA generally disallows most new solar energy systems located outside of the District from being certified by the Commission for the RPS program, after January 31, 2011—although solar energy systems located outside of the District that were certified prior to February 1, 2011 were "grandfathered" and remain eligible under the RPS program. In addition, among other things, this legislation increased the solar RPS requirement from 2011 through 2023 (up to 2.5 percent by 2023 as opposed to 0.4 percent by 2020), disallows the certification of solar energy systems larger than 5 megawatts ("MW") in capacity, amended the solar compliance fees for 2011 through 2023, and changed the eligibility requirements for solar thermal systems.

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[1] The permanent version of this legislation, the Distributed Generation Amendment Act of 2011, became law on October 20, 2011. *See* D.C. Law 19-0036

Pursuant to the DGAA, in Order No. 16528 (September 9, 2011), the Commission denied all applications of solar energy facilities seeking certification as eligible District of Columbia renewable energy standards generating facilities, which were not located within the District, nor in locations served by a distribution feeder serving the District, and pending before the Commission on August 1, 2011. Moreover, in Order No. 16529 (September 9, 2011), the Commission decertified 1,426 solar energy facilities not located within the District, or in locations served by a distribution feeder serving the District, and certified by the Commission between February 1, 2011, and the effective date of the Act, August 1, 2011, as well as any solar facilities with a capacity larger than 5 MW regardless of the date certified.

Pursuant to the Commission's RPS rules, each active electricity supplier with retail sales in 2010—a total of nineteen (19)—submitted a compliance report for that calendar year.[2] All the suppliers generally met the RPS requirements through acquiring renewable energy credits ("RECs"), with only one electricity supplier submitting a compliance payment.[3] Electricity suppliers generally provided sufficient solar RECs ("SRECs") to avoid paying a compliance fee for the solar requirement. Prior to the adoption of the DGAA legislation, electricity suppliers were required to "exhaust all opportunities" to acquire RECs from solar energy systems located within the District before going outside the jurisdiction.

The majority of the Tier I RECs used for compliance were from qualifying biomass resources, including black liquor and wood waste. Methane from landfill gas, wind, and solar energy resources accounted for the remaining Tier I RECs. Tier II RECs were primarily from hydroelectric facilities, with the remainder accounted for by municipal solid waste.

In terms of the PJM system fuel mix, the overall renewable resources in the PJM region represent about three percent of the available fuels. Wind power accounts for the largest share among renewable resources—a little more than one percent. Among other renewable sources, hydroelectric power represents the second largest resource, roughly one percent.

As of March 9, 2012, there are 2,796 renewable generators eligible for the District's RPS program. Of the facilities approved, 2,772 (about 99 percent) use Tier I resources (including biomass, methane from landfill gas, solar, and wind) and 24 (roughly 1 percent) use Tier II resources (including hydroelectric and municipal solid waste). Since these renewable generators may be certified in other states that have an RPS requirement as well, the renewable energy credits associated with the generating capacity are not necessarily fully available to meet the District's RPS. As a result of the DGAA legislation, the District has seen a significant decrease in the number of solar generator applications for the RPS program. In particular, the number of solar applications increased from 461 in 2009 to 2,034 in 2010, before falling to 1,846 in 2011.

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2 The compliance reports are due by May 1 of each year.

3 The compliance fee payments are deposited into the Renewable Energy Development Fund administered by the District Department of the Environment ("DDOE").

However, through March 9, 2012, the Commission has only received 34 applications—primarily solar applications. There are currently 2,706 solar energy systems (including both solar photovoltaic and solar thermal) eligible for the District's RPS, of which 469 are located within the District. The total reported capacity associated with the approved solar energy systems is about 23.1 MW, with about 4.2 MW in the District.

The Council of the District of Columbia is currently considering new legislation, the *Community Renewables Energy Act of 2012*, Bill 19-0715, which would allow for the creation of community energy generating facilities of up to 5 MW, among other things.

The Commission continues to address issues related to implementation of the RPS. Through its website, the Commission is making forms and the rules available, to help facilitate the certification and compliance process. In addition, a list of approved renewable generating facilities is posted on the Commission's website.

I. Introduction

The Council of the District of Columbia ("Council") enacted the Renewable Energy Portfolio Standard Act ("REPS Act") on January 19, 2005 and established a renewable energy portfolio standard ("RPS"), through which a minimum percentage of District electric providers' supply must be derived from renewable energy resources beginning January 1, 2007. The RPS minimum requirements, among other things, were amended by the Clean and Affordable Energy Act ("CAEA") of 2008.[4]

Renewable energy resources are divided into two categories, Tier I and Tier II, with Tier I resources including solar energy, wind, biomass, methane, geothermal, ocean, and fuel cells, and Tier II resources including hydroelectric power other than pumped storage generation and waste-to-energy. Although minimum percentage requirements are specified for Tier I and Tier II resources, Tier I resources can be used to comply with the Tier II standard. In addition, a minimum requirement is carved out specifically for solar energy. The REPS Act allows an electricity supplier to begin receiving and accumulating renewable energy credits as of January 1, 2006.

The REPS Act required that the Public Service Commission of the District of Colubmia ("Commission") adopt regulations, or orders, governing the application and transfer of renewable energy credits ("RECs") and implementation of the REPS Act. The Commission was also tasked with establishing standards to account for customer generation from eligible renewable resources. The RPS rules became effective upon the publication of the Notice of Final Rulemaking in the *D.C. Register* on January 18, 2008.

The Commission must also provide a report to the Council, on or before April 1 of each year, on the status of implementation of the Act, including the availability of Tier I renewable sources, certification of the number of credits generated by the utilities meeting the requirements of D.C. Official Code § 34-1432—which outlines the minimum percentages to be derived from certain renewable resources—and any other such information as the Council shall consider necessary. This annual report fulfills the reporting requirement outlined in the REPS Act.

In Section II, we provide a summary of the steps that the Commission has taken to implement the RPS in the District. Section III reviews the RPS compliance reports submitted for the 2010 compliance year. In Section IV, we present some information on the current availability of renewable resources. Finally, Section V summarizes other ongoing actions to implement the RPS in the District and next steps. In addition, we include Attachment 1, which provides a national perspective on what other states are doing with respect to the implementation of a renewable portfolio standard. Attachment 2 contains a list of selected orders that the Commission has issued to implement the RPS. Lastly, Attachment 3 includes a map of the certified solar energy systems in the District of Columbia.

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[4] D.C. Official Code § 34-1432(c) (2011 Supp.).

II. Summary of the Implementation of the Renewable Energy Portfolio Standard

This section provides a brief description of the history of actions that the Commission has undertaken to implement the RPS.[5] In order to establish a record and to begin implementation of the REPS Act, the Commission issued Order No. 13566 on April 29, 2005, inviting interested parties to submit their views on twelve (12) RPS-related issues. The twelve issues addressed:

- the process and timeline that the Commission should adopt to implement the Act;
- the procedure to apply for, verify, and transfer renewable energy credits;
- the type(s) of renewable energy projects that are feasible within the District;
- the process for certifying the eligibility of generating facilities;
- the standards that should apply to customer generators;
- the information that should be submitted in an electricity supplier's annual compliance report;
- the appropriate procedures for cost recovery by Pepco;
- the standards that the Commission should employ for determining whether the compliance costs claimed by Pepco were prudently incurred;
- the verification of an electricity supplier's compliance with the RPS;
- the imposition of an administrative fee;
- the data and confidentiality concerns of stakeholders; and
- the states that qualify as being within or adjacent to the PJM Interconnection Region.

In Order No. 13766, released on September 23, 2005, the Commission addressed the various issues based on the record developed in response to Order No. 13566. Among other things, the Commission directed interested parties to form a RPS Working Group to examine in more detail certain issues related to the implementation of the REPS Act, and to propose a timeline and recommendations for a two-phased approach to resolving those issues.[6] The Commission also indicated that the PJM Environmental Information Services ("PJM-EIS") Generation Attribute Tracking System ("GATS") would be used in the implementation of the Act. In addition, the Commission indicated its intent to establish regulations to govern the application and transfer of RECs, on an interim basis, prior to January 1, 2006.

RPS Rules

Based on input from the Working Group, the Commission established interim RPS rules in Order No. 13840 (December 28, 2005). These rules were subsequently amended in Order No. 13899 (March 27, 2006) and Order No. 14225 (March 2, 2007). The Commission eventually established a formal rulemaking process and on November 2, 2007, a Notice of Proposed Rulemaking ("NOPR") appeared in the *D.C. Register* requesting comments on revised RPS rules that were based, in part, on the interim RPS rules. After receiving and reviewing comments on the NOPR, the Commission issued Order No. 14697 (January 10, 2008) and adopted Chapter 29 of Title 15 District of Columbia Municipal Regulations ("Final Rules"). The Final Rules became

[5] Attachment 2 of this Report contains a list of selected Commission Orders and Notices addressing the implementation of the RPS program.

[6] In Attachment A of Order No. 13766, the Working Group was asked to address 23 issues.

effective upon the publication of the Notice of Final Rulemaking ("NOFR") in the *D.C. Register* on January 18, 2008.

The rules establish definitions for various terms consistent with the REPS Act, compliance requirements for electricity suppliers, certification of renewable generators, policies regarding the creation and tracking of RECs, and directives concerning the recovery of fees and costs.

Compliance Requirements for Electricity Suppliers

The RPS rules include compliance requirements for electricity suppliers beginning in 2007. Suppliers are to file annual reports that include the following components: (1) the quantity of annual District retail electricity sales; (2) the quantity of any exempt retail electricity sales to a customer with a Renewable On-Site Generator; (3) a calculation of the annual quantity of required Tier I, Tier II, and Solar Energy Credits; (4) the quantity of Tier I, Tier II, and Solar Energy Credits purchased and evidence of those purchases; (5) the quantity of Tier I, Tier II, and Solar Energy Credits transferred to the electricity supplier by a Renewable On-Site Generator; (6) a calculation of any compliance fees owed by the energy supplier; (7) certification of the accuracy and veracity of the report; (8) all documentation supporting the data in the annual compliance report; (9) a list of all RECS used to comply with the RPS; (10) a summary report of RECs retired during the reporting period; and (11) the total price paid for Tier I, Tier II, and Solar Energy Credits. Suppliers that purchase RECs solely via bundled products are exempt from including the total price paid for Tier I, Tier II, and Solar Energy Credits in their annual compliance report. The Commission allows the information in item (11) to be filed confidentially. An electricity supplier that fails to meet its RPS requirements must submit an annual Compliance Fee to the District of Columbia Renewable Energy Development Fund administered by the District Department of the Environment's Energy Office ("DDOE") by May 1 of the calendar year following the year of compliance.

To facilitate the compliance reporting, the Commission issued Order No. 14782 on April 10, 2008 and adopted a 2007 Compliance Report form for the District's RPS Program, along with the associated filing instructions. This material was made available on the Commission's website. Electricity suppliers used the form to submit the 2007 compliance reports due May 1, 2008. A revised compliance reporting form was included in a January 2, 2009 NOPR, to reflect changes mandated by the CAEA. The revised compliance reporting form was adopted in Order No. 15233 (April 7, 2009) and became effective upon publication of the NOFR in the *D.C. Register* on April 10, 2009. The compliance reporting form was revised again in order to address the DGAA legislation, with a NOPR appearing in the *D.C. Register* on January 13, 2012. The revised compliance reporting form was adopted in Order No. 16738 (March 15, 2012) and became effective upon publication of the NOFR in the *D.C. Register* on March 23, 2012.

Certification of Renewable Generators

The RPS rules outline the process for certifying renewable generating facilities within a certain period of time. Renewable generators, including behind-the-meter ("BTM") generators, must be certified as a qualified Tier I or Tier II resource through the completion of an application

form approved by the Commission.[7] In situations where the applicant has obtained certification as a renewable energy resource by another PJM state where the Commission determines certification to be comparable to the RPS requirements in the District, the applicant may submit a "streamlined" application that requires less documentation to be filed. The Commission assigns a unique certification number to each eligible renewable generator that is approved. Renewable generators may be decertified by the Commission if they are determined to no longer be an eligible renewable resource due to a material change in the nature of the resource, or fraud. Before being decertified, a renewable generator will be given thirty (30) days' written notice and an opportunity to show cause why it should not be decertified.

In Order No. 14809, issued May 12, 2008, the Commission directed the RPS Working Group to comply with the RPS rules and submit an update for the Tier I and Tier II eligibility matrices. The matrices allow an applicant that has already been certified by another PJM state to use the streamlined process for certification, provided that the Commission determines that the certification by the other PJM state is comparable to the RPS requirements in the District. The Working Group responded on October 31, 2008 that no update was required. Subsequently, the Commission issued Order No. 15192 on February 18, 2009, directing the RPS Working Group to again comply with the rules and submit an update for the Tier I and Tier II eligibility matrices within 60 days of the date of the Order. The Commission noted in that Order that since 2007, four (4) additional states that are part of the PJM Interconnection region—Illinois, Michigan, North Carolina, and Ohio—have adopted renewable energy portfolio standards and/or begun certifying renewable energy generators. In Order No. 15707 (February 25, 2010), the Commission granted the Potomac Electric Power Company ("Pepco"), filing on behalf of the RPS Working Group, a Motion for Enlargement of Time to file the annual update of the eligibility matrices by March 1, 2010.[8] The RPS Working Group filed its latest report on February 2, 2011.

On October 3, 2008, a NOPR appeared in the *D.C. Register* that contained revisions to the RPS rules that would, among other things, allow an applicant seeking to certify a renewable generator for the District's RPS program to provide a self-certified Affidavit of Environmental Compliance. This Affidavit helps provide documentation that the renewable generating facility complies with all applicable state and federal environmental requirements. On January 2, 2009, the Commission issued an amended NOPR that superseded the October 3 NOPR. OPC filed comments on February 11, 2009. Subsequently, in Order No. 15233 (April 7, 2009), the Commission adopted the amendments to Chapter 29. The amendments to the RPS rules became effective upon publication of a Notice of Final Rulemaking in the *D.C. Register* on April 10, 2009.

Creation and Tracking of Renewable Energy Credits ("RECs")

The RPS rules specify that RECs shall be created and tracked through PJM-EIS's GATS beginning January 1, 2006. Through the GATS process, PJM-EIS collects generation data from

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[7] A behind-the-meter generator is defined as a renewable on-site generator that is located behind a retail customer meter such that no utility-owned transmission or distribution facilities are used to deliver the energy from the generating unit to the on-site generator's load.

[8] The RPS Working Group submitted the update on March 2, 2010.

facilities certified for RPS programs in various states. Upon issuance of a District-specific RPS certification number, a facility may open a GATS account for use with the District's RPS program. Facilities often are eligible for participation in several state RPS programs and, thus, will be certified with multiple states and receive multiple state certification numbers. GATS creates RECs at the end of each month—one REC represents one megawatt-hour of electricity from a renewable resource. The number of RECs created reflects the amount of electricity associated with renewable resources. Each REC tracked has a unique serial number that aids in ensuring against the double counting of RECs and helps distinguish between RECs that are created by a certain facility and by fuel type, in a given month.

According to the RPS rules, RECs are valid for a three-year period from the date of generation beginning January 1, 2006. A REC shall be retired after it is used to comply with any state's RPS requirement. The accumulation of retroactive RECs created before January 1, 2006 is not allowed. In Order No. 13804, the Commission noted that the intent of the REPS Act is to encourage the production and siting of renewable resources prospectively, so as to reduce the need for the use of retroactive RECs.

With respect to BTM generators, the RPS rules require an authorized representative of the renewable on-site generator to file a BTM generator report with the Commission. RECs created by BTM generators must be recorded in GATS at least once each calendar year, in order to be eligible for compliance. The BTM generator report will contain, at a minimum, the following information: (a) a certification that the RECs attributable to the on-site generation have not expired, been retired, been transferred, or been redeemed; and (b) a report or statement indicating the quantity of electricity generated as determined by an engineering estimate (if appropriate) or revenue-quality meter.

To ensure that all BTM generators were in compliance with the Commission's rules, Order No. 14798 (issued April 29, 2008) directed BTM generators certified for the District's RPS program to submit a BTM generation report by May 20, 2008. In addition, as part of the approval of 20 solar generators in Order No. 15185 (issued February 9, 2009), the Commission pointed out that these generators must provide BTM generation reports consistent with the RPS rules. However, PJM-EIS makes available BTM generation information through its website, reducing the necessity of the BTM generator report.

Recovery of Fees and Costs

The RPS rules state that the local electric distribution company may recover prudently incurred RPS compliance costs, including REC purchases and any compliance fees. The rules also state that the electric distribution company's compliance costs for Standard Offer Service ("SOS") shall be considered prudent if SOS energy suppliers are selected through a competitive bid process and the cost of complying with the RPS is included in the supplier's bid prices. With respect to the distribution company's compliance costs for Market Price Service ("MPS"), recovery shall be through the MPS Procurement Rate Schedule.[9] Any cost recovery approved by the Commission may be in the form of a nonbypassable surcharge to current applicable customers and shall be disclosed on their bills. The RPS rules also indicate that no electric

[9] Market Price Service refers to a variable price service option where the rates change hourly.

supplier shall recover any compliance fee levied pursuant to D.C. Official Code § 34-1434 from its customers without receiving prior approval from the Commission.

Clean and Affordable Energy Act of 2008

On October 22, 2008, the permanent version of the CAEA became law. This legislation amended the REPS Act and the amendments are discussed briefly below. The Commission addressed these amendments, as appropriate, in a NOPR issued on April 3, 2009. After reviewing the comments to the NOPR, the Commission adopted the NOPR in Order No. 15561 (September 28, 2009). The amendments to the RPS rules became effective upon publication in the *D.C. Register* on October 2, 2009.

Solar Energy Definition

The RPS Rules originally defined "solar energy" to mean radiant energy, direct, diffuse, or reflected, received from the sun at wavelengths suitable for conversion into thermal, chemical, or electrical energy. The CAEA now defines "solar energy" to mean (new language in bold):

> "...radiant energy, direct, diffuse, or reflected, received from the sun at wavelengths suitable for conversion into thermal, chemical, or electrical energy, **that is collected, generated, or stored for use at a later time**."

Solar System Ratings

The CAEA allowed solar thermal energy as follows:

> "For nonresidential solar heating, cooling, or process heat property systems producing or displacing greater than 10,000 kilowatt hours per year, the solar systems shall be rated and certified by the SRCC [Solar Rating and Certification Corporation] and the energy output shall be determined by an onsite energy meter that meets performance standards established by OIML [International Organization of Legal Metrology]."

> "For nonresidential solar heating, cooling, or process heat property systems producing or displacing 10,000 or less than 10,000 kilowatt hours per year, the solar systems shall be rated and certified by the SRCC and the energy output shall be determined by the SRCC OG-300 annual system performance rating protocol applicable to the property, by the SRCC OG-100 solar collector rating protocol, or by an onsite energy meter that meets performance standards established by OIML;" and

> "For residential solar thermal systems, the system shall be certified by the SRCC and the energy output shall be determined by the SRCC OG-300 annual rating protocol or by an onsite energy meter that meets performance standards established by OIML."

RPS Requirements

The CAEA amended the requirements for the RPS. In particular, beginning in 2011, the RPS requirements increase. By 2020, the CAEA requires 20 percent from Tier I renewable resources only and not less than 0.4 percent from solar energy. Previously, the RPS requirement called for 8.5 percent from Tier I resources only by 2020 and 0.329 percent from solar energy.[10]

Solar Requirement

The CAEA required that:

> "...an electricity supplier shall meet the solar requirement by obtaining the equivalent amount of renewable energy credits from solar energy systems interconnected to the distribution grid serving the District of Columbia. Only after an electricity supplier exhausts all opportunity to meet this requirement that the solar energy systems be connected to the grid within the District of Columbia, can that supplier obtain renewable energy credits from jurisdictions outside the District of Columbia."

Compliance Fees

The CAEA increased the compliance fees for Tier I and solar energy requirements. In particular, the Tier I fee is raised from 2.5 cents per kilowatt-hour to 5 cents per kilowatt-hour of shortfall. For solar energy resources, the compliance fee is raised from 30 cents to 50 cents in 2009 until 2018 for each kilowatt-hour of shortfall.[11]

Distributed Generation Amendment Act of 2011

On October 20, 2011, the permanent version of the DGAA legislation became law. The legislation amended D.C. Official Code Sections 34-1431 through 1439[12] of the Renewable Energy Portfolio Standard. These amendments to the statute are discussed briefly below. The Commission addressed these statutory revisions, as appropriate, in a NOPR amending the RPS rules issued on January 13, 2012. No comments were received on the NOPR and the Commission adopted the proposed amendments to the RPS rules in Order No. 16738 (March 15, 2012). The amendments to the RPS rules became effective upon publication in the *D.C. Register* on March 23, 2012.

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[10] Previously, the RPS stated that in 2022 and later, the RPS requirement would be 11 percent from Tier I resources, 0 percent from Tier II resources, and not less than 0.386 percent from solar energy. The CAEA did not explicitly state that the RPS obligation is to continue after 2020.

[11] In the January 2, 2009 NOPR, the solar energy compliance fee was indicated to be $300 for the 2008 compliance year.

[12] D.C. Official Code §§ 34-1431 through 1439 (2010 Repl. & 2011 Supp.)

Solar Thermal Systems

The DGAA legislation amended the requirements for eligible solar thermal energy systems to remove the requirement that all such systems have a certification from the Solar Rating and Certification Corporation ("SRCC"):

> "For nonresidential solar heating, cooling, or process heat property systems producing or displacing greater than 10,000 kilowatt hours per year, the solar collectors used shall be SRCC OG-100 certified and the energy output shall be determined by an onsite energy meter that meets performance standards established by OIML."
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> "For nonresidential solar heating, cooling, or process heat property systems producing or displacing 10,000 or less than 10,000 kilowatt hours per year, the solar collectors used shall be SRCC OG-100 certified and the energy output shall be determined by the SRCC OG-300 annual system performance rating protocol or the solar collectors used shall be SRCC OG-100 certified and the energy output shall be determined by an onsite energy meter that meets performance standards established by OIML."
>
> "For residential solar thermal systems, the systems shall be SRCC OG-300 system certified and the energy output shall be determined by the SRCC OG-300 annual rating protocol or the solar collectors used shall be SRCC OG-100 certified and the energy output shall be determined by an onsite energy meter that meets performance standards established by OIML."

These changes also make it easier for large nonresidential solar thermal systems to participate in the RPS program as these larger systems are able to meet the requirements for the certification of solar collectors under SRCC OG-100, but not the system certification under SRCC OG-300.

RPS Solar Requirements

The DGAA legislation amended the requirements for the RPS. In particular, beginning in 2011, the RPS solar requirements increase through 2023. By 2023, the DGAA requires 2.5 percent from solar energy resources. Previously, the RPS requirement called for 0.4 percent from solar energy resources by 2020.[13] In addition, the DGAA legislation restricted the location of eligible solar energy resources:

> "...an electricity supplier shall meet the solar requirement by obtaining the equivalent amount of renewable energy credits from solar energy systems no larger than 5 MW [megawatts] in capacity located within the District or in locations served by a distribution feeder serving the District."

Moreover, the DGAA includes a "grandfathering" provision that exempt electricity supply contracts, signed prior to the effective date of the legislation, from the increased solar RPS requirements.

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[13] The DGAA legislation also clarifies that the RPS obligation is to continue after 2023.

The table below provides a comparison of the estimated MW of solar capacity needed to meet the increased solar requirement under the DGAA. As of March 9, 2012, the total capacity associated with the solar energy systems certified for the District's RPS program is about 23.1 MW, of which 18.9 MW is grandfathered solar capacity outside the District.[14] The table also indicates the additional capacity required to meet the solar requirement in subsequent years.

	Percentage of Solar Requirement		Estimate of Solar MW Required		Incremental MW Capacity Required
Year	CAEA	DGAA	CAEA	DGAA	DGAA
2011	0.04	0.400	3.6	36.4	
2012	0.07	0.500	6.6	47.4	11.0
2013	0.10	0.500	9.5	47.7	0.3
2014	0.13	0.600	12.6	58.1	10.4
2015	0.17	0.700	16.7	68.7	10.7
2016	0.21	0.825	20.9	82.2	13.5
2017	0.25	0.980	25.1	98.2	16.0
2018	0.30	1.150	30.3	116.2	18.0
2019	0.35	1.350	35.6	137.4	21.3
2020	0.40	1.580	41.2	162.7	25.2
2021		1.850		191.8	29.1
2022		2.175		227.3	35.5
2023		2.500		263.1	35.9

Generation Certification

The DGAA also amended the requirements for certification:

"After January 31, 2011, the Commission shall not certify any tier one renewable source solar energy system larger than 5 MW in capacity or any tier one renewable source solar energy system not located within the District or in locations served by a distribution feeder serving the District."

"Any tier one renewable source solar energy system larger than 5 MW in capacity shall be decertified by the Commission. Any tier one renewable source solar energy system not located within the District or in locations served by a distribution feeder serving the District, first certified by the Commission between February 1, 2011, and the applicability date of the Distributed Generation Amendment Act of 2011, passed on 2nd

[14] The estimated solar capacity figures under the DGAA do not take into account the "grandfather" provision for electricity supply contracts, which can reduce the solar capacity needed.

reading on July 12, 2011 (Enrolled version of Bill 19-10), shall be decertified by the Commission."

Compliance Fees

The DGAA legislation altered the compliance fees for solar energy. In particular, for each kilowatt-hour of shortfall from required solar energy sources, the compliance payment is 50 cents in 2011 through 2016; 35 cents in 2017; 30 cents in 2018; 20 cents in 2019 through 2020; 15 cents in 2021 through 2022; and 5 cents in 2023 and thereafter.

III. RPS Compliance Reports for 2010[15]

Pursuant to the Commission's RPS rules, all active electricity suppliers with retail sales in 2010—a total of nineteen (19)—submitted a compliance report for that calendar year: including American PowerNet Management; BlueStar Energy Solutions; Consolidated Edison Solutions; Constellation NewEnergy; Devonshire Energy; Direct Energy Services; NextEra Energy Services; Glacial Energy; Hess Corporation; Horizon Power and Light; Integrys Energy Services; Liberty Power; MidAmerican Energy; Pepco; Pepco Energy Services; Noble Americas Energy Solutions; GDF Suez Energy Resources; UGI Energy Services; and Washington Gas Energy Services.[16] All the suppliers met the RPS requirements generally through acquiring RECs.

Renewable Energy Credits ("RECs") and Compliance Payments

Electricity suppliers generally did not have to pay a compliance fee in order to meet the Tier I or Tier II requirements. In meeting the Tier I requirement, suppliers generally did not count their SRECs toward their overall Tier I REC purchases. Electricity suppliers also generally provided sufficient solar RECs ("SRECs")—with the exception of one supplier—to avoid paying a compliance fee for the solar requirement.[17] Based on the available information, the total amount of money raised from compliance payments was $55,850—compared to $429,320 generated in 2009.[18] The decrease in the compliance fees, compared to 2009, is due to the substantial increase in the number of approved solar energy systems during 2010. The compliance fees are sent directly to DDOE for deposit into the Renewable Energy Development Fund.[19]

Some suppliers used Tier I RECs to meet their Tier II requirement based on § 34-1433(a)(2) of the D.C. Official Code, which indicates that energy from a Tier I resource may be

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[15] Compliance reports are due on May 1 following the calendar year of compliance. Thus, the results for the 2011 compliance year are not available at this time.

[16] As the provider of Standard Offer Service, Pepco compiles a report based on the compliance of its wholesale electricity suppliers.

[17] Prior to the adoption of the DGAA legislation, electricity suppliers were required to "exhaust all opportunities" to acquire RECs from solar energy systems located within the District before going outside the jurisdiction.

[18] The compliance payments are sent directly to the District Department of the Environment's Energy Office ("DDOE"). The funds are to be deposited into the Renewable Energy Development Fund.

[19] The Renewable Energy Development Fund was established by the REPS Act.

applied to the percentage RPS requirements for either Tier I or Tier II renewable sources.[20] The majority of the Tier I RECs used for compliance were from qualifying biomass resources, including black liquor and wood waste. Methane from landfill gas, wind, and solar energy resources accounted for the remaining Tier I RECs. Tier II RECs were primarily from hydroelectric facilities, with the remainder accounted for by municipal solid waste. A breakdown of the number of RECs submitted by fuel type is provided in the table below:

Renewable Energy Credits

	No. of RECs	Share of Tier
Tier I Resource		
Black Liquor	276,089	70.2%
Methane from Landfill Gas	10,806	2.7%
Wind	9,878	2.5%
Wood Waste	93,040	23.7%
Solar	3,429	0.9%
Tier II Resource		
Hydroelectric	293,540	95.7%
Municipal Solid Waste	13,315	4.3%

Electricity suppliers submitted RECs from 2007 through 2011.[21] Only 23 of the RECs used for compliance were generated in 2007 and only 5 RECs were generated in 2011. Of the remaining RECs, 50 percent (353,265) were generated in 2008, 36 percent (255,104) were generated in 2009, and 13 percent (91,700) were generated in 2010. Section 2903.2 of the RPS Rules indicates that RECs shall be valid for a three-year period from the date of generation, beginning January 1, 2006, except where precluded by statute.

Most suppliers provided the REC prices for all their resources, with the exception of one supplier—in which information was generally reported only for solar RECs, not the other Tier I and Tier II resources. The weighted average of the reported REC prices, by fuel type, is provided in the table below:[22]

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[20] In particular, seven (7) of the suppliers used Tier I RECs to meet the Tier II requirement, with six (6) out of the 7 suppliers using only Tier I RECs.

[21] Two suppliers used SRECs—a total of five (5) SRECs—generated in January 2011 to meet the solar requirement. It does not appear that the statutes or the Commission rules prohibit the use of RECs generated after the compliance period from satisfying the RPS requirement.

[22] A REC represents one megawatt-hour of electricity attributable to a particular renewable resource. Information on current SREC prices associated with solar energy systems can be obtained at the following links: http://markets.flettexchange.com/washington-dc-srec/ and http://www.srectrade.com/dc_srec.php

REC Pricing Per REC

	Avg. Price
Tier I Resource	
Black Liquor	$0.90
Methane from Landfill Gas	$1.51
Wind	NA
Wood Waste	$0.67
Solar	$351.80
Tier II Resource	
Hydroelectric	$0.41
Municipal Solid Waste	$0.78

IV. The Availability of Renewable Resources

This section discusses the availability of Tier I renewable sources, as required in the REPS Act. The issue of available resources is affected by geographic restrictions in the RPS. The REPS Act indicated that a:

> "Renewable energy credit" or "credit" means a credit representing one megawatt-hour of electricity consumed within the PJM Interconnection Region that is derived from a Tier I renewable source or a Tier II renewable source that is located:
>
> 1. In the PJM Interconnection region or in a state that is adjacent to the PJM Interconnection Region; or
> 2. Outside the area described in subparagraph (1) of this paragraph but in a control area that is adjacent to the PJM Interconnection region, if the electricity is delivered into the PJM Interconnection Region.

The REPS Act did not provide a definition for adjacent states or an adjacent control area. In its third report, the Working Group was not able to reach a consensus on the definition of "adjacent" states and, thus, presented two different interpretations. Ultimately, the Commission adopted the broader definition of "adjacent" and determined that states "adjacent" to the PJM Interconnection Region should help lessen the cost that ratepayers will have to pay for the renewable portion of their fuel mix.[23] In particular, the following states are currently deemed adjacent to PJM: Alabama, Arkansas, Georgia, Iowa, Mississippi, Missouri, New York, South Carolina, and Wisconsin. Thus, from the outset, the District's RPS program allowed a relatively broad geographic participation.

Subsequently, the *Fiscal Year 2011 Budget Support Act of 2010* amended the definition of a REC to read as follows:

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[23] The RPS rules indicate that states within the PJM Interconnection Region are currently defined to include: Delaware, the District of Columbia, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia.

"Renewable energy credit" or "REC" means a credit representing one megawatt-hour of energy produced by a tier one or tier two renewable source located within the PJM Interconnection region or within a state that is adjacent to the PJM Interconnection region.[24]

The change in the definition of a REC actually made it easier for the Commission to approve renewable energy systems located in states adjacent to the PJM Interconnection Region. That is, the previous definition's reference to "electricity consumed within the PJM Interconnection Region" suggested that at least the potential to deliver electricity was required in order for a renewable energy system to be approved for the District's RPS program. As a result, prior to the change in the REC definition, the Commission denied several applications from solar generator systems located in New York. In its decisions, the Commission generally indicated that the applicant did not provide sufficient information to demonstrate or document the amount of energy that can be delivered into the PJM Interconnection Region for consumption.[25] However, the new definition removed the requirement suggesting the delivery of electricity and referred only to where the energy is produced, not consumed. As a result of the revised statutory REC definition, the Commission began approving solar generator applications from states such as New York and Wisconsin in 2010. However, under the DGAA legislation, out-of-state solar energy systems are now generally disallowed.

The table below provides a measure of some of the renewable resources available in the PJM region for 2011. The following information provides a perspective on the renewable resources in the PJM region associated with the generation of electricity. Based on the table below, the overall renewable resources in the PJM Interconnection Region represents more than three percent of the available fuels. Wind power accounts for the largest share among renewable resources, over one percent. Among other renewable sources, hydroelectric power represents the second largest resource—at one percent—followed by municipal solid waste—less than one percent. Both hydroelectric and municipal solid waste would be counted as Tier II resources under the District's renewable portfolio standard. Methane gas and biomass-related fuels are approximately 0.3 to 0.1 percent, respectively.[26] Taken together, Tier I related resources represent a very small share of the current fuel mix in the PJM system—less than 2 percent.

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[24] D.C. Official Code § 34-1431 (10) (2011 Supp.).

[25] See Order No. 15699 (released February 23, 2010), Order No. 15775 (released April 20, 2010), and Order No. 15812 (released May 18, 2010).

[26] Coal mine methane gas is not generally eligible under most RPS policies.

PJM System Fuel Mix
2011

Fuel	Share
Coal	47.44%
Nuclear	34.84%
Natural Gas	13.85%
Oil	0.38%
Hydroelectric	1.09%
Other Renewable	2.40%
Captured Methane Gas (Landfill or Coal Mine)	0.26%
Geothermal	0.00%
Solar	0.01%
Municipal Solid Waste	0.53%
Wind	1.46%
Wood, other biomass	0.14%
Total Renewable Resources	3.49%
Total	100.00%

Source: PJM-EIS GATS

Through the Reliable Energy Trust Fund, DDOE previously administered the Renewable Energy Demonstration Project ("REDP"), approved by the Commission in Order No. 12778 (issued on July 9, 2003). The objective of the REDP was to increase the awareness and use of renewable energy grid-connected technologies by District ratepayers. Through the REDP, DDOE awarded grants to help finance renewable energy projects in the District. The CAEA replaced the REDP with the Renewable Energy Incentive Program ("REIP").[27]

As of March 9, 2012, there are 2,796 renewable generators eligible for the District's RPS program.[28] Of these facilities, 2,772 (roughly 99 percent) use Tier I resources (including biomass, methane from landfill gas, solar, and wind) and 24 (roughly one percent) use Tier II resources (including hydroelectric and municipal solid waste). Since these renewable generators may be certified in other states that have a RPS as well, the RECs associated with the generating capacity are not necessarily fully available to meet the District's RPS requirement.

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[27] As part of its Renewable Energy Incentive Program, DDOE mentioned that system installers and REC aggregators can assist in helping applicants obtain generator status in PJM-EIS GATS, as well as maintain an accurate accounting of the RECs produced by an apparatus that benefits from the program (see the "Guide to DC Photovoltaic Incentives," available at the following link: http://green.dc.gov/green/lib/green/pdfs/REIP_-_Guide_to_DC_Photovoltaic_Incentives-July_2009.pdf .

[28] In addition, the table below provides a breakdown of the renewable generators by fuel type and location.

Renewable Generators by Fuel Type and Location

Location	Biomass	Methane from Landfill Gas	Solar PV	Solar Thermal	Wind	Hydroelectric	Municipal Solid Waste	Total
District of Columbia			447	22				469
Delaware		2	149	1				152
Illinois		7	7		7	1		22
Indiana		13	42		6			61
Kentucky		6	55	1				62
Maryland	1		177	10		1	1	190
Michigan	1	3	6					10
North Carolina		1	78	77				156
New Jersey			8					8
New York			28	1		1		30
Ohio	2		128	4				134
Pennsylvania		3	913	16	1	4		937
Virginia	5	5	373	121		9	1	514
Wisconsin			11			1		12
West Virginia			24	7	3	5		39
Total	9	40	2,446	260	17	22	2	2,796

Note: Biomass includes black liquor and wood/ wood waste.

The District has also made significant progress in certifying solar energy facilities for the RPS program. Currently, as of March 9, 2012, 2,706 solar energy systems—including solar photovoltaic and solar thermal—are eligible to participate in the District's RPS program. Within the District, there are currently 447 approved solar photovoltaic ("PV") systems and 22 solar thermal systems. Outside of the District, there are six states with more than 100 eligible solar energy systems including Pennsylvania (929), Virginia (494), Maryland (187), North Carolina (155), Delaware (150), and Ohio (132). These six (6) states account for roughly 92 percent of the non-DC solar energy systems approved for the District's RPS program.

The total capacity associated with these solar energy systems is about 23.1 megawatts (MW), with about 4.2 MW located in the District—as of March 9, 2012. The current solar capacity is less than the estimated solar capacity necessary to meet the new RPS requirement of 0.40 percent in 2011 and 0.50 percent in 2012.[29] As noted above, many of these solar energy systems are certified in more than one jurisdiction, so it is difficult to determine the resources fully available to meet the District's RPS requirement. In addition, the "grandfather" provision for electricity supply contracts means that a portion of the electricity sales will not be subject to the new RPS requirements. The results of the 2011 annual compliance reports, due May 1, 2012, should help provide additional insight on the electricity suppliers' ability to meet the solar requirement.

[29] Roughly 36 MW of solar capacity would be needed to satisfy the new RPS requirement in 2011 and about 47 MW of solar capacity would be needed to meet the current 2012 RPS requirement. These estimated solar capacity figures do not take into account the "grandfather" provision for electricity supply contracts.

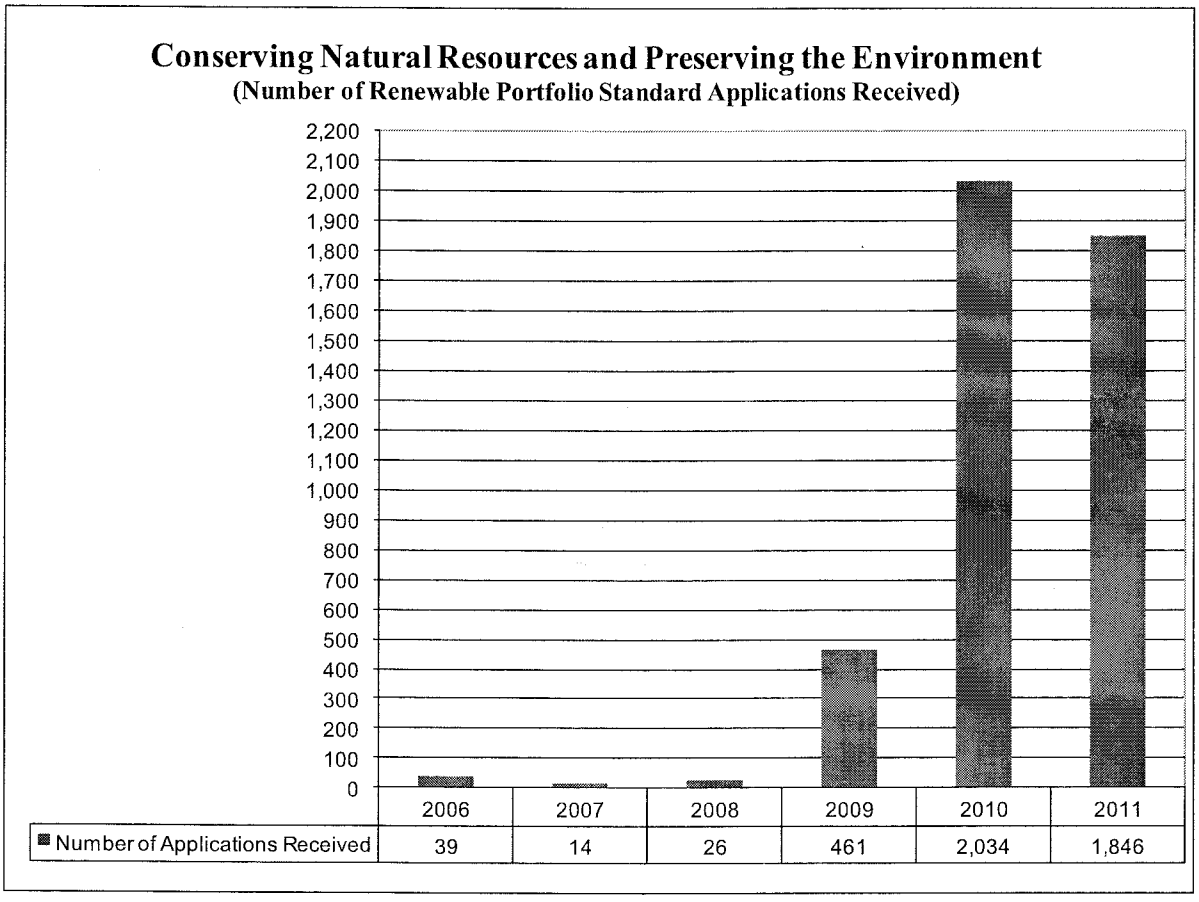
Renewable Generators by Capacity and Location
(Capacity in Megawatts)

Location	Biomass	Methane from Landfill Gas	Solar PV	Solar Thermal	Wind	Hydroelectric	Municipal Solid Waste	Total
District of Columbia			3.1	1.0				4.2
Delaware		7.4	1.2	0.0				8.6
Illinois		39.7	0.3		946.5	3.0		989.5
Indiana		40.8	0.2		799.4			840.4
Kentucky		16.8	0.1	0.0				16.9
Maryland	65.0		1.3	0.0		20.0	55.0	141.4
Michigan	103.0	33.0	0.0					136.0
North Carolina		5.0	1.7	0.2				6.9
New Jersey			0.2					0.2
New York			0.4	0.0		34.8		35.2
Ohio	109.3		1.1	0.0				110.4
Pennsylvania		35.8	9.3	0.0	80.0	467.5		592.7
Virginia	309.7	16.1	2.0	0.4		147.2	60.0	535.4
Wisconsin			0.1			9.1		9.2
West Virginia			0.1	0.0	462.1	152.6		614.8
Total	587.0	194.6	21.3	1.8	2,288.0	834.2	115.0	4,041.9

Note: Biomass includes black liquor and wood/ wood waste.

In 2011, the Commission received 1,846 renewable generator applications—primarily involving the certification of solar generators for the RPS program. As of March 9, 2012, the Commission has received only 34 applications—mainly involving solar energy. The Commission continues to approve solar energy applications based on the existing laws and regulations.[30]

[30] A blog on the Renewable Energy World's website suggests that the District of Columbia is leading in solar density—as measured by installed solar capacity (kilowatts) per square mile. A link to the blog follows: http://www.renewableenergyworld.com/rea/blog/post/2012/02/d-c-leading-in-solar-density



Lastly, according to a March 6, 2012 press release from Pepco Energy Services ("PES")—a subsidiary of Pepco Holdings, Inc.—the Company has entered into an agreement with the District of Columbia Water and Sewer Authority ("DC Water") to design, build and operate a combined heat and power ("CHP") plant at DC Water's Blue Plains Advanced Wastewater Treatment Plant ("AWTP"). The CHP project will produce at least 14 MW of electric power that will supply the Blue Plains facility with nearly 30 percent of the AWTP's average power demand. The new CHP plant will be an integral part of DC Water's new thermal hydrolysis and anaerobic digestion project, which will reportedly be the largest thermal hydrolysis plant in the world.[31] Construction is expected to begin in August 2012 and is due to be completed in December 2014.

V. Recent Activity and Next Steps

As discussed above, the Commission amended the RPS rules, consistent with the DGAA legislation, by Order No. 16738 issued on March 15, 2012. The amendments to the RPS rules

[31] The thermal hydrolysis process uses high-pressure steam from the CHP plant to increase the rate of biogas production and neutralize contaminants in waste streams. A facility generating electricity using methane from the anaerobic decomposition of organic material in a wastewater treatment plant should be eligible for the District's RPS program.

became effective upon the publication of a Notice of Final Rulemaking in the *D.C. Register* on March 23, 2012.

The Council of the District of Columbia is currently considering new legislation, the *Community Renewables Energy Act of 2012*, Bill 19-0715, which would allow for the creation of community energy generating facilities of up to 5 MW—allowing two or more "subscribers" to share the electricity produced by a single system—among other things.

As needed, the Commission will continue to adopt regulations or orders governing the implementation of the RPS. Moreover, the Commission will continue to certify generating facilities and update information on approved generators on the Commission's website. Additional program information will also be made available as deemed appropriate.

Attachment 1

Renewable Portfolio Standards in Other States

Renewable Portfolio Standards in Other States[1]

According to the Database of State Incentives for Renewable Energy ("DSIRE"), 30 states and the District of Columbia have adopted RPS policies or mandates. In addition, eight states have renewable energy goals (see Figure 1). The 30 states include Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Iowa, Kansas, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Washington, West Virginia, and Wisconsin. Kansas and West Virginia were the most recent states to enact a renewable portfolio standard in 2009. Colorado and Delaware increased their renewable energy requirements in 2010.

The 30 states include Pennsylvania's Alternative Energy Portfolio Standard, which allows non-renewable resources that the state considers to be "environmentally beneficial," such as waste coal.[2] Ohio also adopted an alternative energy—renewable and advanced—resource standard with an overall target of 25 percent by 2025.[3] However, the state has renewable resource benchmarks that begin in 2009 and increase annually towards an eventual target of 12.5% of retail electricity sales by 2024 and thereafter.[4] More recently, West Virginia also adopted an alternative and renewable energy portfolio standard that is unique to the state. Specifically, West Virginia's standard does not appear to require a minimum contribution from renewable energy resources, and it is feasible that the standard could be met using only alternative resources and no renewable resources (as defined in the law). Thus, the renewable portion of the standard may function more like a non-binding goal. Another distinguishing characteristic of West Virginia's standard is the use of the term "alternative energy resources," which is defined more broadly than definitions of alternative energy in other states. In particular, West Virginia's "alternative energy resources" include advanced coal technology, coal bed methane, natural gas, fuel produced by a coal gasification or liquefaction facility, synthetic gas, integrated gasification combined cycle technologies, waste coal, tire-derived fuel, pumped storage hydroelectric projects, and recycled energy.[5] Lastly,

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1 This section draws from material available at www.dsireusa.org (Database of State Incentives for Renewable Energy) and various state agency websites.

2 The 8% in Figure 1 applies only to the Tier I resources under Pennsylvania's Alternative Energy Portfolio Standard. However, eligible Tier I resources also includes coal mine methane gas, which is not eligible under most RPS policies. Pennsylvania also has a Tier II that includes some nonrenewable resources such as waste coal and also takes into account integrated combined coal gasification technology. The Tier II requirement is 10%, yielding an 18% total from alternative sources.

3 Eligible renewable resources are defined to include the following technologies: solar photovoltaics (PV), solar thermal technologies used to produce electricity, wind, geothermal, biomass, biologically derived methane gas, landfill gas, certain non-treated waste biomass products, solid waste (as long as the process to convert it to electricity does not include combustion), fuel cells that generate electricity, certain storage facilities, and qualified hydroelectric facilities. Generally, advanced energy resources are defined as any process or technology that increases the generation output of an electric generating facility without additional carbon dioxide emissions. The definition of advanced energy resources explicitly includes clean coal, generation III advanced nuclear power, distributed combined heat and power (CHP), fuel cells that generate electricity, certain solid waste conversion technologies, and demand side management or energy efficiency improvements.

4 Only the renewable resource portion of Ohio's requirement is reflected in Figure 1 below.

5 Recycled energy means useful thermal, mechanical or electrical energy produced from: (i) exhaust heat from any commercial or industrial process; (ii) waste gas, waste fuel or other forms of energy that would otherwise be flared, incinerated, disposed of or vented; and (iii) electricity or equivalent mechanical energy

while the portfolio standards of most other states are based on retail electric sales (kilowatt-hours), Kansas' standard is based on generating capacity (kilowatts).

In addition, seven states—Alaska, Indiana, Oklahoma, North Dakota, South Dakota, Vermont, and Virginia—have non-binding renewable energy goals. Indiana was the latest state to establish a goal in 2011. Utah also enacted legislation in March 2008 that contains some provisions similar to those found in renewable portfolio standards adopted by other states. However, certain provisions in the legislation may be more accurately described as a renewable portfolio goal.[6] Specifically, the legislation requires that utilities only need to pursue renewable energy to the extent that it is "cost-effective." The guidelines for determining the cost-effectiveness of acquiring an energy source include an assessment of whether acquisition of the resource will result in the delivery of electricity at the lowest reasonable cost, as well as an assessment of long-term and short-term impacts, risks, reliability, financial impacts on the affected utility, and other factors determined by the Utah Public Service Commission. To the extent that it is cost-effective to do so, investor-owned utilities, municipal utilities and cooperative utilities must use eligible renewable resources to account for 20% of their 2025 adjusted retail electric sales. In addition, the first year of compliance is 2025 with no interim targets, but utilities must file progress reports during the interim period at specified times. The progress reports are supposed to indicate the actual and projected amount of qualifying electricity the utility has acquired, the source of the electricity, an estimate of the cost for the utility to achieve their target, and recommendations for a legislative or program change.

The following compares the District's RPS requirement to nearby states:[7]

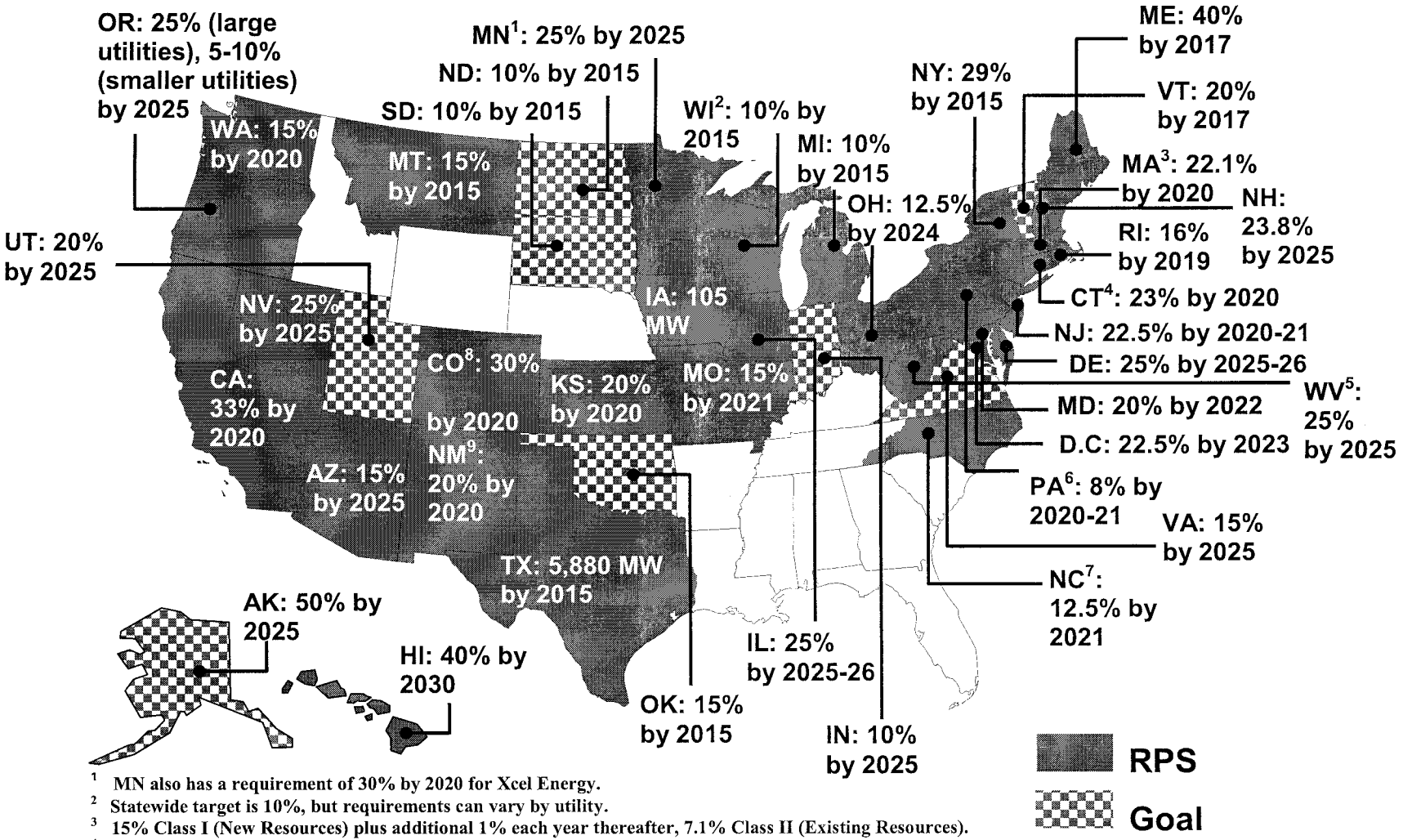
- District – 22.5% by 2023
- Delaware – 25% by 2025-26
- Maryland – 20% by 2022
- New Jersey – 22.5% by 2020-21
- North Carolina – 12.5% by 2021
- Pennsylvania – 8% by 2020-21
- Virginia – 15% by 2025

extracted from a pressure drop in any gas, excluding any pressure drop to a condenser that subsequently vents the resulting heat.

[6] For purposes of preparing Figure 1 below, Utah's RPS program was considered to be a voluntary goal.

[7] This does not account for differences in eligible resources, specific resource requirements, and other factors. West Virginia was not included in the comparison given the lack of specificity about the actual percentage of renewable resources required to meet the standard. The 22.5% for the District reflects the sum of the 20% requirement for Tier I resources and the 2.5% requirement for solar resources.

Figure 1: Renewable Portfolio Standards



1 MN also has a requirement of 30% by 2020 for Xcel Energy.
2 Statewide target is 10%, but requirements can vary by utility.
3 15% Class I (New Resources) plus additional 1% each year thereafter, 7.1% Class II (Existing Resources).
4 The 23% refers to Class I and II resources.
5 Includes alternative (such as coal gasification or waste coal) and renewable energy resources.
6 The 8.5% is for Tier I resources. PA also has a 10% requirement for Tier II resources that includes some nonrenewable resources.
7 The 12.5% is for investor-owned utilities. Co-ops and municipals must meet 10% by 2018.
8 The 30% is for investor-owned utilities. Co-ops and municipals must meet 10% by 2020.
9 The 20% is for investor-owned utilities. Co-ops must meet 10% by 2020.

Sources: Database of State Incentives for Renewable Energy and various state agency websites

Attachment 2

List of Selected Commission Orders and Notices on the Implementation of the Renewable Energy Portfolio Standard

List of Selected Commission Orders and Notices on the Implementation of the Renewable Energy Portfolio Standard

Order No. 13566 (April 29, 2005): Invited interested parties to submit their views on twelve (12) RPS-related issues.

Order No. 13766 (September 23, 2005): Addressed various issues based on the comments filed in response to Order No. 13566. With respect to the process for implementing the Act, the Commission directed interested parties to form a RPS Working Group to examine in more detail certain issues related to the implementation of the REPS Act, and to develop a timeline and recommendations with respect to a two-phased approach to resolving those issues. The Commission also indicated that the PJM Environmental Information Service ("PJM-EIS") Generation Attribute Tracking System ("GATS") would be used in the implementation of the Act.

Order No. 13795 (October 24, 2005): Adopted the RPS Working Group's proposed procedural schedule recommended in the Working Group Report (submitted October 11, 2005), including a timeline and designation of items, for addressing Phase I and Phase II issues—raised in Order No. 13766.

Order No. 13804 (November 10, 2005): Accepted in part and rejected in part comments filed by the parties in the Working Group Report submitted on October 25, 2005. The Commission generally approved the method for certifying individual generators. The Commission directed the Working Group to develop a list of comparable state certificates that would meet the District's RPS. The resulting list would help identify which facilities are in compliance with the District's RPS requirements. However, the Commission rejected the accrual of retroactive RECs created before January 1, 2006. The Commission noted that the intent of the REPS Act is to encourage the production and siting of renewable resources going forward, rather than looking back, which reduces the need for the use of retroactive RECs.

Order No. 13840 (December 28, 2005): Approved, in part, various rules addressing Phase I issues recommended in the Working Group's third report (submitted November 23, 2005). Attachment A of the Order contains the interim rules that the Commission adopted. The interim rules, in part, established definitions for various terms consistent with the REPS Act, compliance requirements for electricity suppliers, generator eligibility, rules regarding the creation and tracking of RECs, and rules concerning the recovery of fees and costs.

Order No. 13860 (January 26, 2006): Generally accepted the recommendations presented in the Working Group's report (submitted December 22, 2005) on comparable state certificates and related issues. The Commission pointed out that the use of the Tier I and Tier II eligibility matrices promotes a streamlined and simple process for the certification of renewable resources located outside of the District, consistent with Order No. 13766.

Order No. 13899 (March 27, 2006): Responded to Applications and/or Motions for Reconsideration and Clarification of Order No. 13840 filed by the Meadwestvaco Corporation, the Potomac Electric Power Company on behalf of the RPS Working Group, and jointly by Pepco Energy Services, Mirant Corporation, Washington Gas Energy Services, Inc., District of Columbia Energy Office, and Constellation. This Order, in part, amended the interim rules to indicate that retroactively created RECs must be tracked through GATS. In addition, with respect to the information to be included in the annual compliance report, the Commission amended the interim rules to indicate that suppliers purchasing RECs solely via bundled products are exempt from including the total price paid for Tier I, Tier II, and Solar Energy Credits in their report.

Order No. 14005 (July 24, 2006): Accepted in part and rejected in part, recommendations contained in the Working Group report addressing Phase II issues, submitted on March 24, 2006. This Order further accepted in part and rejected in part recommendations contained in supplemental comments filed by the Office of the People's Counsel and in reply comments filed jointly by the Potomac Electric Power Company, Pepco Energy Services, Inc., and the District of Columbia Energy Office.

Order No. 14085 (October 13, 2006): Denied the Application for Reconsideration of Order No. 14005 filed by the MD-DC-VA Solar Energy Industries Association.

Order No. 14114 (November 13, 2006): Accepted in part and rejected in part, recommendations contained in the Working Group report (September 15, 2006) regarding: (1) the use of engineering estimates to measure the output of small solar installations; (2) the District of Columbia's adoption of Behind-the-Meter rules and regulations used in other Mid-Atlantic States; and (3) the Working Group's response to a hypothetical question involving renewable energy credit creation that was set forth in Order No. 13766.

Order No. 14225 (March 2, 2007): Accepted in part and rejected in part recommendations contained in the Working Group report, addressing issues identified in Order No. 14114, submitted on December 13, 2006. In particular, the Commission amended the interim rules to address certain issues regarding behind-the-meter generation.

Order No. 14697 (January 10, 2008): Adopted Chapter 29 of Title 15 District of Columbia Municipal Regulations ("Final Rules"). The Final Rules became effective upon the publication of the Notice of Final Rulemaking in the *D.C. Register* on January 18, 2008.

Order No. 14782 (April 10, 2008): Adopted the Electricity Supplier 2007 Compliance Report Form and associated filing instructions for the District's RPS Program. Electricity suppliers were directed to use the form for the 2007 Compliance Reports due May 1, 2008.

Order No. 14798 (April 29, 2008): Directed on-site or behind-the-meter ("BTM") generators, certified by the Commission as eligible renewable generating facilities and required to file on-site or BTM generation reports under the Commission's rules, to file their reports with the Commission.

Order No. 14809 (May 12, 2008): Directed the RPS Working Group to file, consistent with the Commission's rules, an annual update to the Tier I and Tier II eligibility matrices.

Order No. 14885 (August 11, 2008): Directed certain electricity suppliers to file evidence with the Commission that each established Generation Attribute Tracking System accounts and that the renewable energy credits reported in their compliance reports have been properly retired.

Order No. 15077 (October 1, 2008): Denied Washington Gas Energy Services, Inc.'s request for a waiver of the 2007 compliance fee for solar renewable energy credits and directed the Company to file proof of payment of the 2007 compliance fee for solar renewable energy credits.

Order No. 15192 (February 18, 2009): Directed the RPS Working Group to review the available information regarding certain states and, if the Working Group identifies any Tier I or Tier II renewable energy resources whose certification requirements may be comparable to the District's RPS program, to file an annual update. In identifying new resources, the Order noted that the Working Group should be mindful of the fact that the Clean and Affordable Energy Act of 2008 has added additional certification requirements for certain solar energy facilities.

Order No. 15233 (April 7, 2009): Adopted amendments to the RPS rules, an Affidavit of Environmental Compliance, and a revised Electricity Supplier Annual Compliance Report Form.

Order No. 15561 (September 28, 2009): Adopted amendments to RPS rules consistent with the applicable sections of the Clean and Affordable Energy Act of 2008. In particular, the Commission added a new subsection detailing the requirements for meeting the solar portion of the RPS requirement. In addition, the amendments raised the compliance fees for tier one and solar energy Renewable Energy Credit ("SREC") shortfalls as well as change the definition of solar energy. The amendments also required additional documentation for applications for certification of solar thermal systems as District of Columbia renewable energy facilities.

Order No. 15581 (October 21, 2009): Denied Sol System's request to increase the derate factor used in estimating the output of a solar photovoltaic ("PV") system. The derate factor accounts for the inefficiencies inherent in converting direct current ("DC'") produced by a solar PV system to alternating current ("AC") used in homes or businesses. Specifically, the derate factor accounts for the inefficiency of the solar panels and inverter, as well as losses due to connections and wiring, among other factors.

Pursuant to the Commission's rules, solar RECs are created and tracked through the PJM Environmental Information Services, Inc.'s Generation Attribute Tracking System ("PJM-EIS GATS"). PJM-EIS GATS applies a certain default derate factor utilizing PVWATTS, a performance calculator for PV systems developed by the National Renewable Energy Laboratory, which estimates the AC electricity produced by these PV systems. These estimates in turn are used to determine how many solar RECs individual photovoltaic systems generate. Sol Systems offered no technical information of merit in support of its request.

Notice Regarding the Submission of Electricity Supplier Annual Compliance Report for the District of Columbia's Renewable Energy Portfolio Standard (March 23, 2010): Reminded electricity suppliers that they may not use the incineration of solid waste to meet more than 20 percent of the standard for tier two renewable sources. In addition, starting January 1, 2013, suppliers are prohibited from using RECs derived from solid waste incineration to meet any part of the tier two standard.

Notice Regarding the Submission of Electricity Supplier Annual Compliance Report for the District of Columbia's Renewable Energy Portfolio Standard (March 18, 2011): Reminded electricity suppliers that they are obligated to submit their annual renewable energy portfolio standard compliance reports for calendar year 2010 by May 2, 2011[39] and that electricity suppliers shall meet the solar requirement by first exhausting all opportunity to purchase D.C. SRECs before purchasing non-D.C. SRECs.

Order No. 16528 (September 9, 2011): Denied all applications for certification of solar energy facilities that were not located within the District, nor in locations served by a distribution feeder serving the District, pending before the Commission on August 1, 2011.

Order No. 16529 (September 9, 2011): Decertified all solar energy facilities not located within the District or in locations served by a distribution feeder serving the District, and certified by the Commission between February 1 and August 1, 2011, as well as any solar facilities with a capacity larger than 5 MW regardless of the date certified. In addition, the clarified that any solar renewable energy credits generated by solar energy facilities decertified pursuant to this Order cannot be used to satisfy the solar portion of the District's RPS program for the 2011 compliance year nor any future compliance year.

Order No. 16680 (January 12, 2012): Denied SolTherm Energy, LLC's applications for recertification of 15 facilities, arguing that the applicability section of the permanent version of the legislation, the Distributed Generation Amendment Act of 2011 ("DGAA" or the "Act"), exempts contracts for the purchase and sale of solar renewable energy credits ("SRECs") from the decertification provision of the Act. In its Order, the Commission indicated that rather than grandfathering-in SRECs and/or SREC contracts, the DGAA effectively voided them after January 31, 2011. The Order mentions that the Council clarified the Act in both its emergency and permanent versions and expressly

[39] As May 1 fell on a Sunday, annual compliance reports were due the next business day, Monday, May 2, 2011.

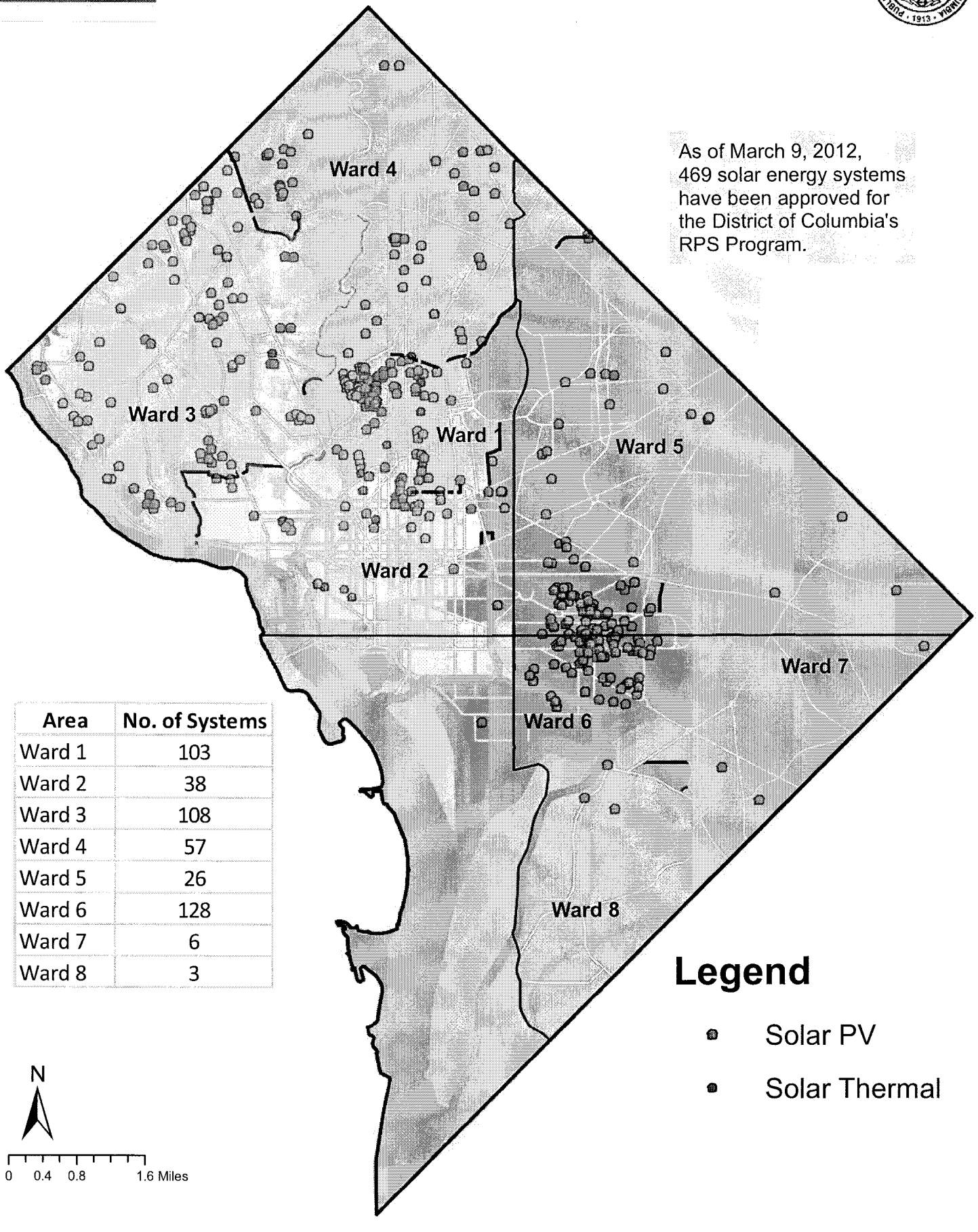
required the Commission to decertify any non-compliant facility certified between February 1, 2011 and the effective date of the Emergency Act, August 1, 2011. The Commission determined that SolTherm's interpretation of the Act would frustrate the Council's intent to render SRECs from non-D.C. facilities unmarketable—as SolTherm's facilities are located outside the District and are not in locations served by a distribution feeder serving the District. Therefore, the Commission concluded that it is statutorily precluded from recertifying them. In addition, SRECs extinguished by operation of law when the Commission decertified the SolTherm facilities cannot be rekindled under a provision clearly intended to apply only to energy supply contracts.

Order No. 16738 (March 15, 2012): Adopted the amended rules and revised annual compliance report form published in the January 13, 2012 Notice of Proposed Rulemaking. The proposed amendments to the RPS rules include, among other things, changes pursuant to the Distributed Generation Amendment Act of 2011.

Attachment 3

Map of the Certified Solar Energy Systems in the District of Columbia

DC Solar Energy Systems



As of March 9, 2012, 469 solar energy systems have been approved for the District of Columbia's RPS Program.

Area	No. of Systems
Ward 1	103
Ward 2	38
Ward 3	108
Ward 4	57
Ward 5	26
Ward 6	128
Ward 7	6
Ward 8	3

Legend

- Solar PV
- Solar Thermal

Information contained in this may was provided by but not limited to DDOT, the Office of Planning, OCTO, and the Public Service Commission of the District of Columbia