

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

June 3, 2014

FOR COMMISSION AGENDA

TO: The Commission

FROM: Janet Wheeler, Administrator
Randel Pilo, Assistant Administrator
Andrew Kell, Program and Policy Analyst
Division of Regional Energy Markets

RE: Electric Provider Renewable Portfolio Standard Compliance 5-GF-243
for Calendar Year 2013

Suggested Minute: The Commission (accepted/did not accept) the reports of Wisconsin electric providers and aggregators as to their compliance with the requirements of Wis. Stat. § 196.378(2)(a)2. The Commission directed the Division of Regional Energy Markets to inform each electric provider of its compliance with the statute.

2013 Renewable Portfolio Standard Summary Report

Executive Summary

All of Wisconsin's electric providers continue to be in compliance with their Renewable Portfolio Standard (RPS) requirements. In 2013, 10 percent of total electricity use was provided from renewable resources for the first time. Electric providers have made significant progress in increasing their individual renewable energy percentages since the RPS was enacted in 2006, when the statewide renewable energy percentage observed was about 3.8 percent. Wind, both utility or independently-owned, and located in or out of state, has been the predominant resource developed to meet the RPS. Biomass resources have increased to a smaller extent, and hydroelectric resources have remained relatively constant since the RPS was enacted. Solar photovoltaic resources contribute relatively little to the RPS.

Electric providers also have plans to add renewable resources and build upon their bank of Renewable Energy Certificates (REC) that are eligible for use in future years. As a result, electric providers should have little or no difficulty reaching their elevated 2015 RPS requirements for the foreseeable future, and the statewide renewable energy percentage may increase to around 11.5 percent by 2016.

Background

2005 Wisconsin Act 141 (Act 141) established, among other things, the law for the state RPS in its current form.¹ A statewide goal of 10 percent of total Wisconsin retail sales of electricity from renewable resources by 2015 was set. Requirements were also established for all 118 electric distribution utilities, or electric providers as they are called in the state statute. Baseline percentages were established for electric provider requirements, based on their average renewable energy percentages observed over the 2001-2003 period. For the initial compliance years (2006-2009), electric providers had to maintain their baseline percentages. During the 2010-2014 period, they must increase their renewable percentages to 2 percent above baseline. In 2015 and thereafter, they are required to increase their renewable percentages to 6 percent above baseline. For more RPS legal and technical information, refer to Appendix A of this memorandum.

RPS Compliance in 2013

In terms of individual electric provider RPS compliance, all 118 Wisconsin electric providers have retired the appropriate amount of Wisconsin RPS-eligible RECs in the Midwest Renewable Energy Tracking System (M-RETS), and therefore are in compliance with the

¹ 1999 Wisconsin Act 9 created the first version of the Wisconsin RPS, but this only reached a maximum of a 2.2 renewable energy percentage. Act 141 modified and built upon this previous legislation.

RPS for calendar-year 2013. On an aggregate basis, just over 3.8 million RECs were retired for 2013 across the state. When the RPS statewide requirement level increases in 2015, an approximate 6.5 million RECs will need to be retired across all electric providers on an annual basis.

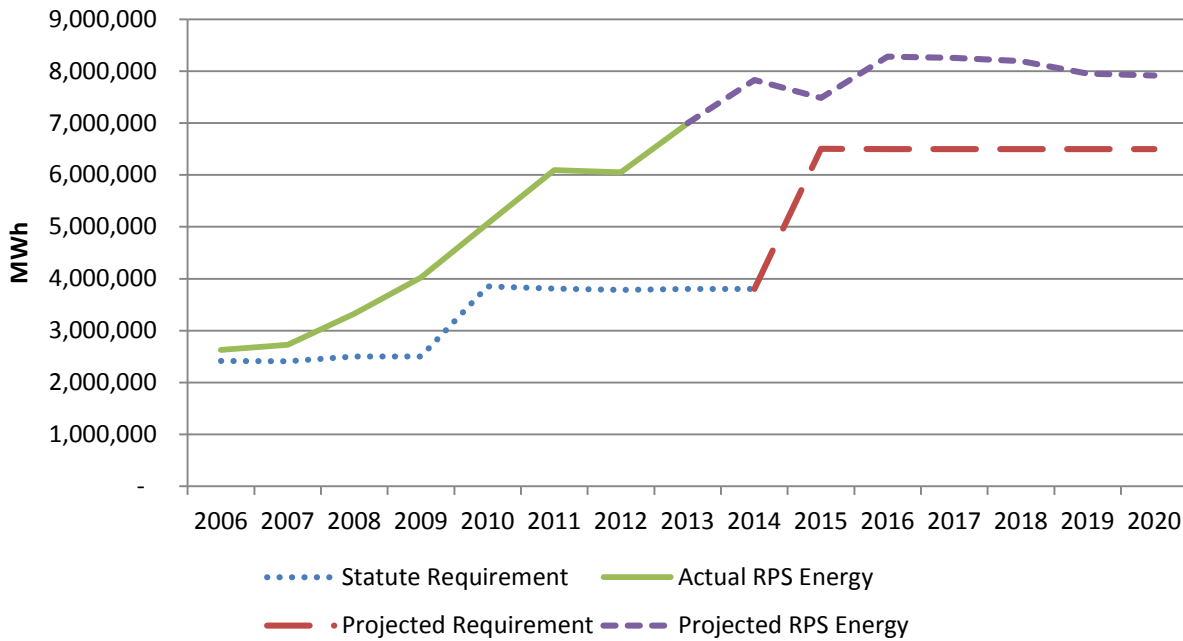
Calendar-year 2013 was the first year that the statewide RPS goal, 10 percent of total retail sales of electricity from renewable resources, has been met. Renewable energy generation used to serve Wisconsin load, and intended for the RPS, totaled nearly 7 million megawatt-hours (MWh) in 2013. This represents 10.17 percent of the electricity used by Wisconsin customers in 2013. When also including renewable generation intended for electric provider green pricing programs, the statewide percentage from renewable resources increases to 10.76 percent.

RPS Statewide Outlook through 2020

According to planning and forecast information provided to the Commission through their 2013 RPS compliance reports, electric providers continue to be well-positioned to meet their future RPS requirements. Figure 1 presents statewide aggregate RPS energy and requirement information. A statewide forecast² of RPS renewable energy through 2020 is also included.

² In order to project RPS requirements, a flat retail sales trend is assumed for Wisconsin's electric providers through 2020. This is in line with post-recession actual retail sales levels observed over the last few years. The statewide RPS energy forecast represents an aggregation of electric provider forecasts.

Figure 1: Statewide RPS Energy and RPS Requirements



Although the nearly 7 million MWh of RPS energy generated in 2013 was more than what will be required in 2015 and beyond, aggregated electric provider forecasts show that more resources will be added to Wisconsin's statewide RPS renewable portfolio. This may increase RPS generation to around 8 million MWh by 2016, and will likely remain flat thereafter. This annual amount of 8 million MWh would represent about 11.5 percent of Wisconsin's electricity use coming from renewable resources over the 2016-2020 time period.

The most likely variables that could swing future generation levels away from forecasts are the intermittent nature of wind and hydro resources, and the ability of electric providers to change their procurement plans. Although there are no major utility-owned renewable resource construction projects currently planned, electric providers continue to procure purchase power agreements (PPAs) with independent power producers (IPPs). These PPAs could be either long-term or short-term agreements, the latter of which allow electric providers flexibility to quickly increase or decrease the amount of renewable energy they purchase over the long-term

based on need and market conditions. Electric providers may also procure RECs associated with renewable energy used to serve Wisconsin load within the last few years.

The Wisconsin RPS Market for RECs

Wisconsin electric providers are allowed to bank and trade RECs that are Renewable Resource Credit (RRC) eligible.³ Banking allows them to plan ahead and procure resources before increases to their RPS requirements take effect. Trading also allows for a REC marketplace to be created. Electric providers that procure more RECs than necessary may realize value by selling their excess RECs to another electric provider in need. A REC transaction occurs like a bi-lateral agreement, and is subject to conditions set in the contract. Besides electric providers, there are other market participants, without RPS requirements, that are allowed to buy and sell RECs that are RRC eligible.

Commission staff requested REC transaction information from electric providers in order to describe for stakeholders the general parameters of market activity. During the 2013 compliance period, over 500,000 RECs were traded by Wisconsin electric providers. About 70 percent occurred between Wisconsin electric providers, and the rest were between Wisconsin electric providers and other market participants. The lowest priced transaction was below \$1/REC, and the highest was above \$20/REC. The average price for all transactions was \$7.79/REC. Limited to transactions between two Wisconsin electric providers, the average price was \$4.83/REC, and the average price between a Wisconsin electric provider and a market participant was \$14.79/REC. RECs that are RRC eligible are often also eligible for other RPS and voluntary programs, and the higher price for the latter transaction type may reflect a higher demand outside of the Wisconsin RPS marketplace. This could be due to higher RPS

³ More information on RPS rules and REC tracking, including banking and retirement, is available in Appendix A.

requirements in states like Minnesota and Illinois, which both have RPS goals of 25 percent from renewable resources by the year 2025.

From Figure 1, presented in the previous section, the gap between actual RPS energy and RPS requirements over the 2006-2013 time period represents an approximate cumulative statewide bank⁴ of excess RECs available for future retirement. Using electric provider RPS report responses and M-RETS data analysis, Commission staff estimate the total amount of RECs that are currently active, RRC eligible, and intended for the Wisconsin RPS to be between 10 to 15 million. Even with elevated RPS requirements in 2015 (about 6.5 million RECs statewide), this banked amount would cover all electric provider requirements for one to two years without any actual renewable energy production. Taking into consideration the aggregate electric provider forecast for increasing amounts of RPS energy as presented in Figure 1 above, this bank of RECs will continue to increase after 2015 unless RECs that have other program eligibilities are sold for purposes other than the Wisconsin RPS.

RPS Progress of Wisconsin's Largest Electric Providers

As mentioned above, on an aggregate level electric providers are well-positioned to meet their RPS requirements for the foreseeable future. Many of them have accumulated their own bank of RECs that are eligible for retirement in future years, and others in need have the ability to trade with those that have excess. Figures 2 through 8 below depict the progress of Wisconsin's seven largest electric providers of procuring renewable RPS energy during the 2006-2013 time period.

⁴ The approximate bank represented in Figure 1 does not apply to excess RECs that have expired or have been traded outside the Wisconsin RPS marketplace for retirement in another program. The figure also does not capture banked RECs that were acquired before 2006 under the previous version of the RPS.

Figure 2: Wisconsin Electric Power Company RPS Energy and RPS Requirements

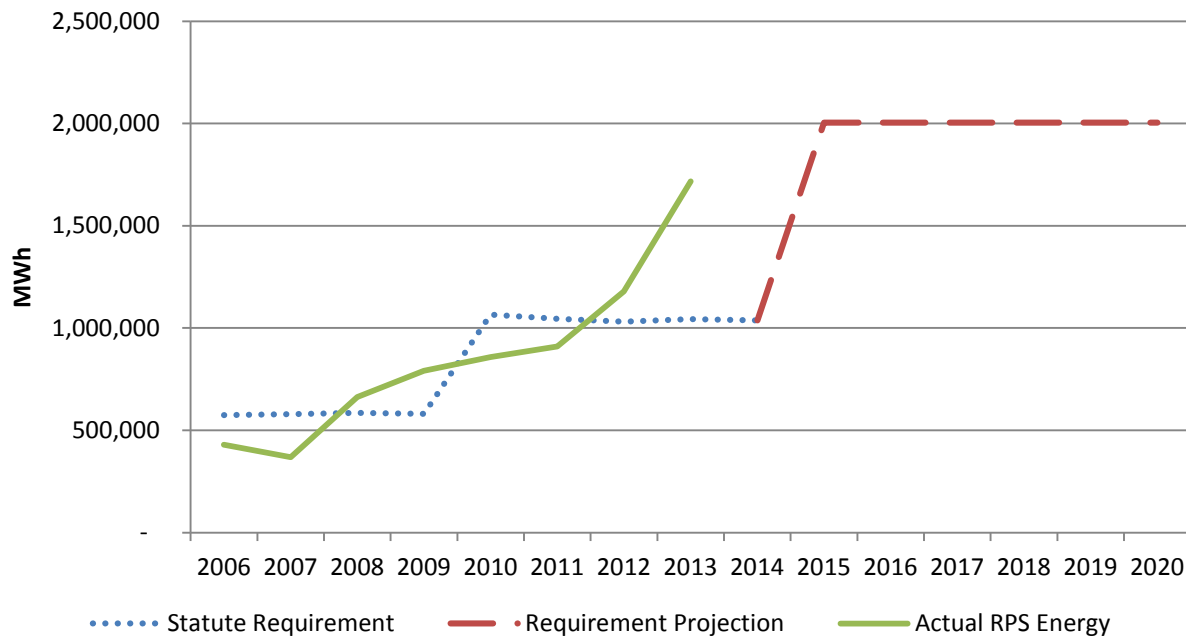


Figure 3: Wisconsin Public Service Corporation RPS Energy and RPS Requirements

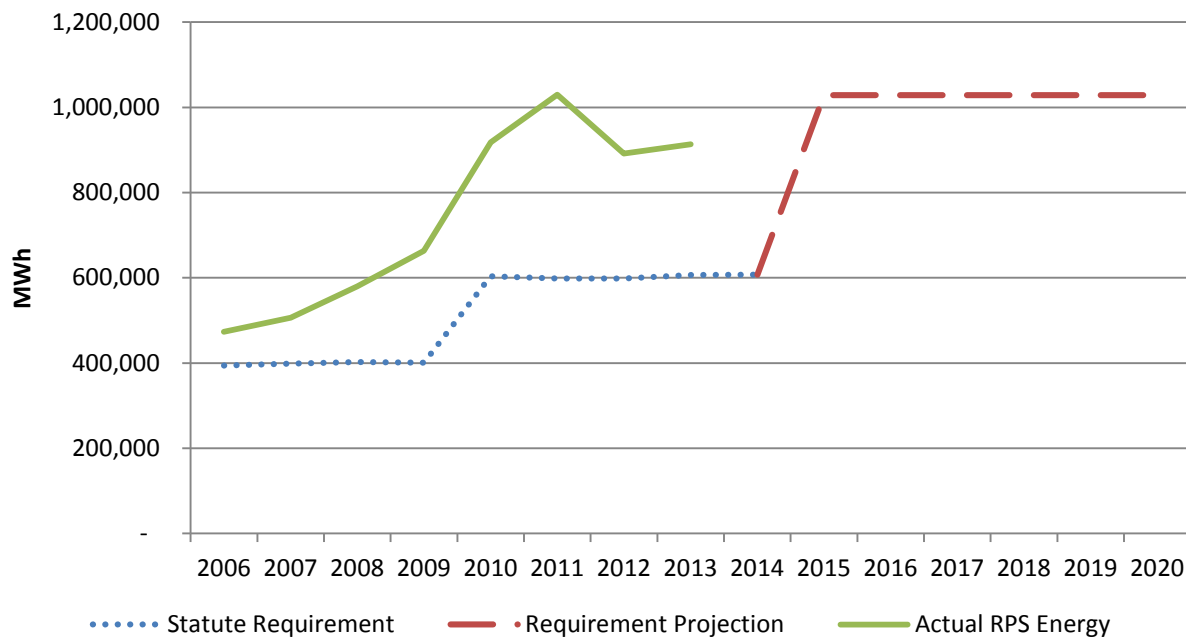


Figure 4: Wisconsin Power and Light Company RPS Energy and RPS Requirements

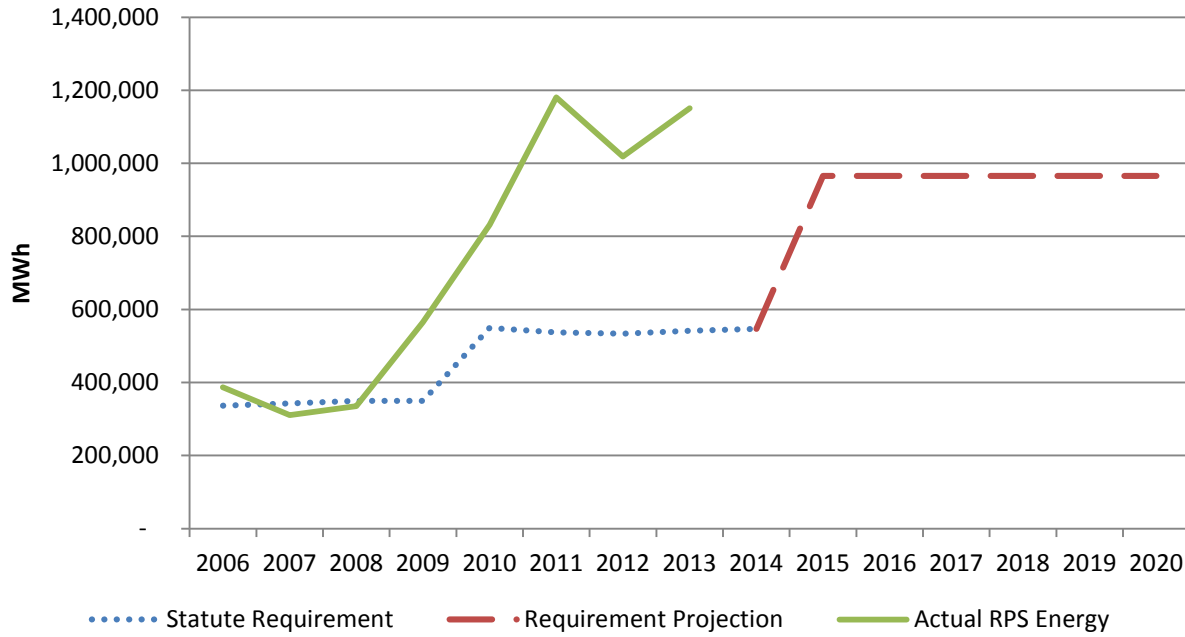


Figure 5: Northern States Power Company-Wisconsin RPS Energy and RPS Requirements

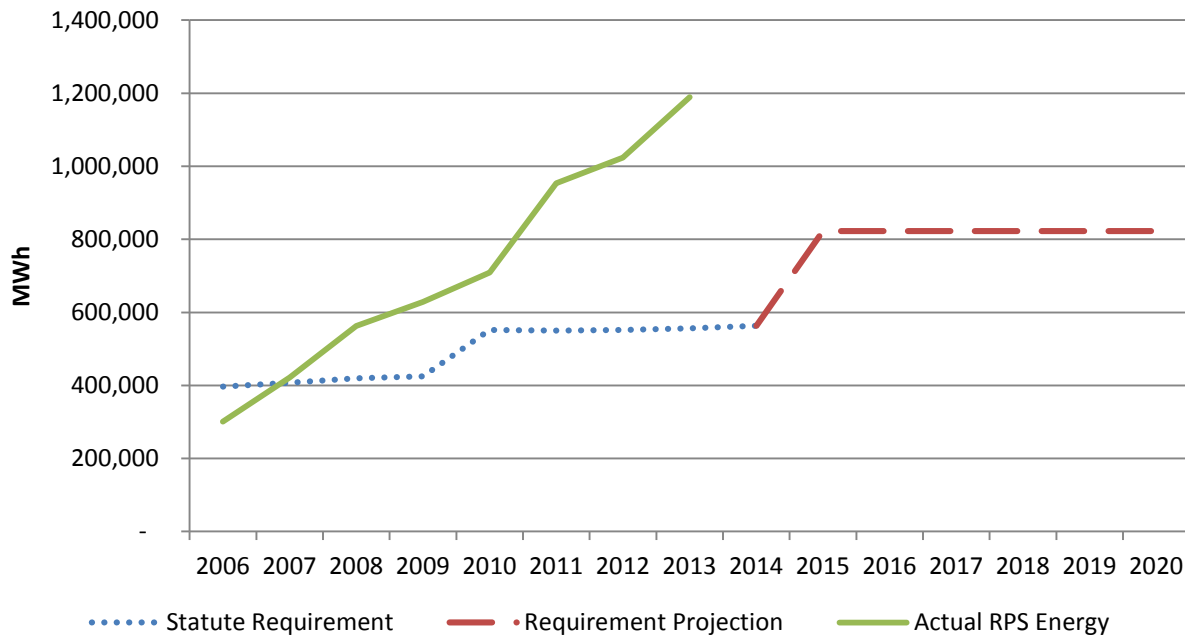


Figure 6: WPPI Energy RPS Energy and RPS Requirements

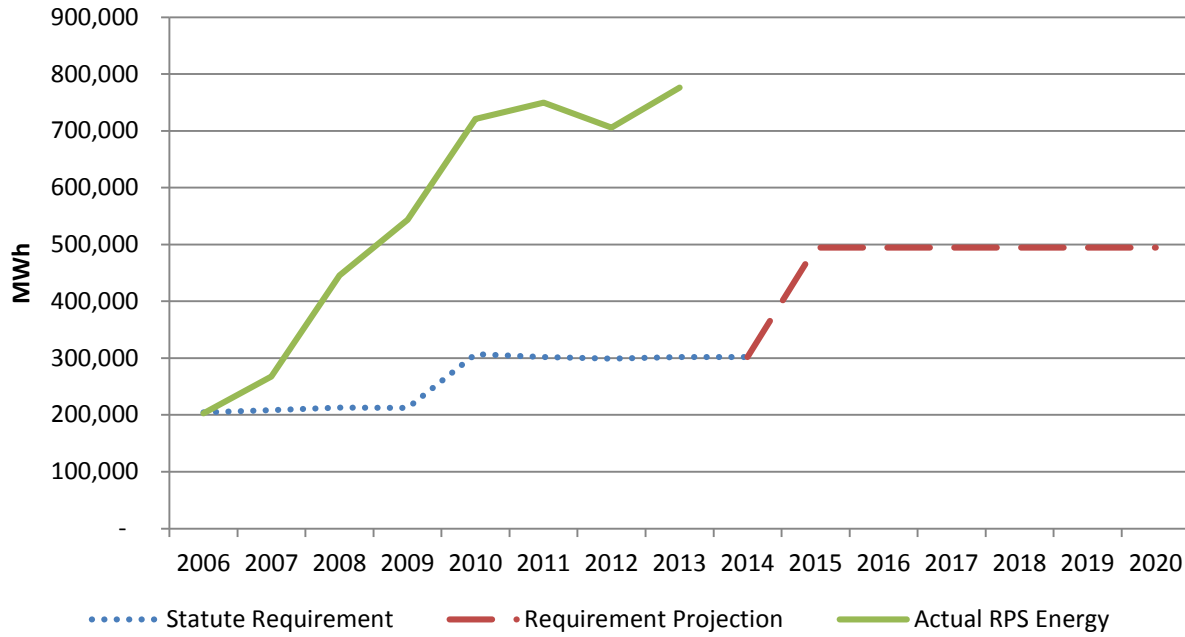


Figure 7: Madison Gas and Electric Company RPS Energy and RPS Requirements

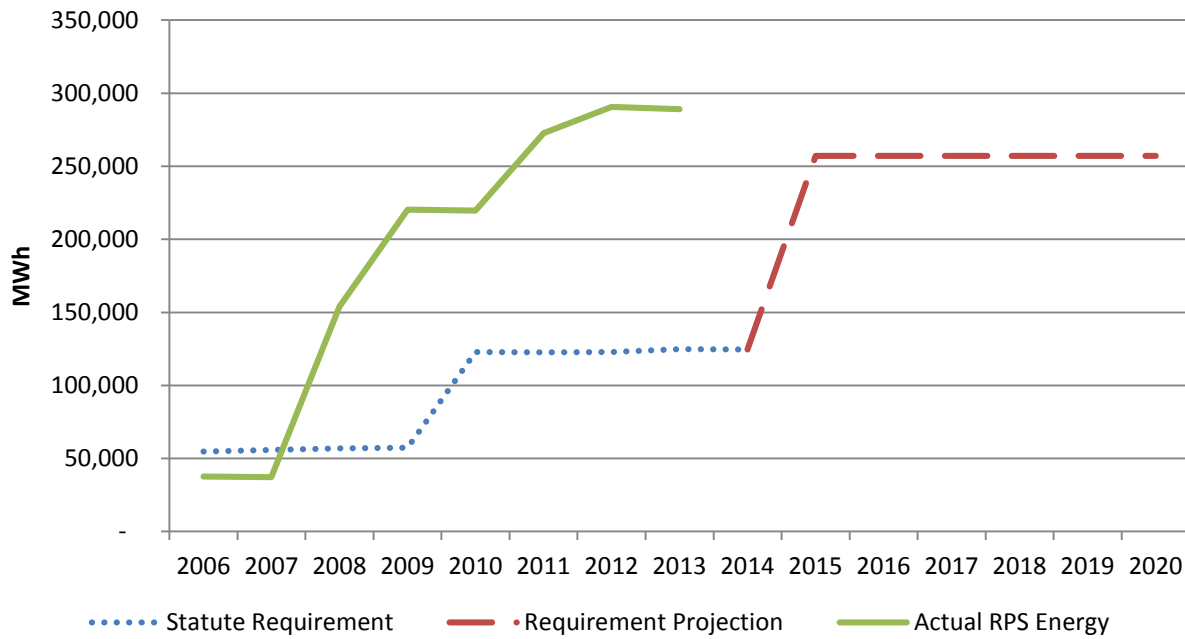
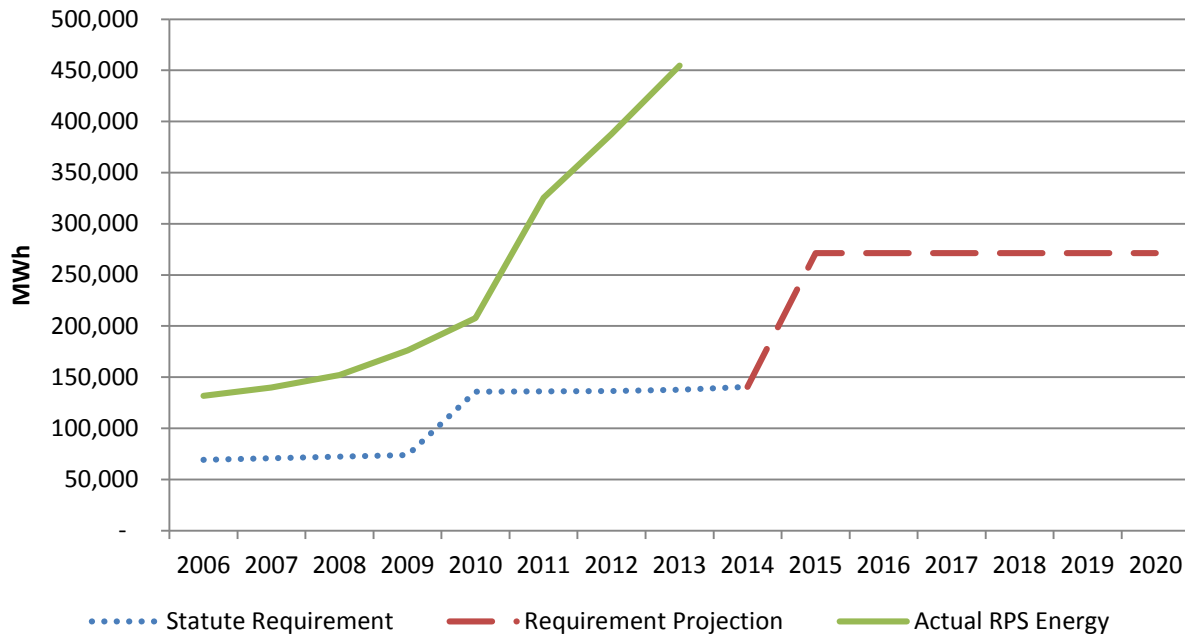


Figure 8: Dairyland Power Cooperative RPS Energy and RPS Requirements



Renewable Resources Used to Serve Wisconsin's Retail Electric Customers

Beyond the renewable energy that electric providers procure for purposes of the RPS, many electric providers have green pricing programs (GPP), in which their retail customers voluntarily pay a premium for additional renewable energy. In aggregate across the state, about 400,000 MWh of renewable energy was generated in 2013 for GPP programs. Taken together, renewable energy from RPS and GPP programs accounted for 10.76 percent of total retail electric sales in Wisconsin.

Similar to past years, about half of the renewable facilities generating energy to serve Wisconsin customers were located in Wisconsin. Wind was the dominant renewable resource in 2013, making up nearly two-thirds of the total renewable energy generated for Wisconsin's retail customers. Hydroelectric and biomass resources composed about 19 percent and 16 percent, respectively. Solar generation made up less than one-tenth of total renewable generation,

although this does not include solar generation used on-site by retail customers. Additional renewable energy statistics and figures can be found in Appendices B through F.

Commission Alternatives

Alternative One: Accept the reports of Wisconsin electric providers and aggregators as to their compliance with the requirements of Wis. Stat. § 196.378(2)(a)2. The Division of Regional Energy Markets is directed to inform each electric provider of its compliance with the statute.

Alternative Two: Do not accept the reports of Wisconsin electric providers and aggregators as to their compliance with the requirements of Wis. Stat. § 196.378(2)(a)2. and provide further instruction to Commission staff or the providers and aggregators.

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Attachments: Appendices A ([DL: 927685](#)) B through F ([DL: 927577](#))

Appendix A: Wisconsin RPS Legal and Technical Information

Wisconsin Stat. § 196.378 establishes the Wisconsin Renewable Portfolio Standard (RPS) and applies to all 118 electric providers that serve retail customers in Wisconsin. These electric providers are local electric distribution companies, and include all investor-owned utilities, municipal utilities, and electric cooperatives that serve residential and business customers in the state.

The RPS Goal

The RPS has two components: a statewide goal of 10 percent of total retail electric sales from renewable resources by 2015, and individual electric provider requirements. The 10 percent statewide goal is not, in and of itself, a mandate. However, individual electric provider requirements drive the procurement of renewable resources to serve Wisconsin customers, either in the form of electric provider-owned generation, or purchase power agreements. This leads to renewable resource generation, the quantity for which can be measured and used to establish an annual statewide renewable energy percentage.

2013 was the first year that the 10 percent goal was achieved; two years ahead of schedule. Individual electric provider RPS requirements will continue indefinitely, and based on electric provider planning information, it is likely that the 10 percent goal will be met each year in the foreseeable future.

Electric Provider RPS Requirements

Wisconsin electric providers must provide a minimum percentage of the electricity they supply at retail from renewable resources, and annually report renewable energy generation and planning activities to the Commission. For each calendar year from 2006 through 2009, electric

providers were required to meet a baseline percentage equal to the average of the electric provider's renewable energy percentage for the years 2001 through 2003. An electric provider's requirements were determined during the 2006-2009 period by multiplying the electric provider's baseline percentage by the electric provider's total retail sales average. The sales average is taken from the previous three years, as established in the statute so that electric providers know what their requirements will be in the upcoming year.

All Wisconsin electric providers met their baseline percentage requirements through 2009. Beginning in 2010, electric providers were required to achieve a renewable energy percentage at 2 percent above their respective baselines. All Wisconsin electric providers complied with their elevated RPS requirements through 2013, and must maintain a renewable energy percentage at 2 percent above their baselines in 2014.

In order to comply with the RPS in 2015 and thereafter, electric providers will need to meet and sustain a level that is 6 percent above their respective baselines. 2013 Wisconsin Act 290 exempts certain electric providers, with baseline renewable energy percentages that were above 12 percent, from meeting the 2015 elevated level of 6 percent above baseline. This will allow four electric providers (Centuria Municipal Electric Utility, Consolidated Water Power Company, North Central Power Company, Inc., and Northwestern Wisconsin Electric Cooperative) to sustain renewable percentage levels that are 2 percent above baseline in 2015 and thereafter.

Renewable Facility Certification

Electric providers achieve compliance with their RPS requirements by generating or purchasing electricity from renewable resources to serve the load of their retail customers. An electric provider must register a renewable facility that it uses to serve its retail customers with

the Commission. If the facility meets criteria in Wis. Admin. Code §§ PSC 118.03(1) and 118.05, the Commission will certify that the facility as eligible for the RPS. For purposes of verification, and tracking generation from these certified facilities, electric providers are allowed to create one Renewable Energy Certificate (REC) for each megawatt-hour of renewable energy. The RECs associated with the renewable energy generated from these certified facilities are then deemed eligible for the RPS.

According to Wis. Stat. § 196.378(3)(a)2, if a Wisconsin RPS-certified renewable facility was placed in service on or after January 1, 2004, or is owned by a retail customer of an electric provider regardless of age, the facility is also eligible to create RECs that are Renewable Resource Credits (RRC) eligible. Incremental additions to capacity of facilities with in-service dates before 2004 are also RRC eligible. A Wisconsin RRC carries with it the additional value of being bankable and tradable for a four-year period for purposes of the Wisconsin RPS. A renewable facility put in service after 2003, and used by a Wisconsin electric provider, would likely be both Wisconsin RPS and RRC eligible. One REC may have multiple program eligibilities, as a facility may also seek certification with other state RPS compliance and/or voluntary programs. The Wisconsin Commission only has the authority to provide certification for Wisconsin RPS and Wisconsin RRC eligibilities.

Tracking Renewable Energy and Demonstrating RPS Compliance

Electric providers are required to use the Midwest Renewable Energy Tracking System (M-RETS), an electronic renewable energy tracking database, to track their RPS renewable energy and to demonstrate RPS compliance. Besides Wisconsin, other states that participate in M-RETS include Illinois, Iowa, Minnesota, North Dakota, South Dakota, Montana, as well as the Canadian province of Manitoba. M-RETS uses a stakeholder approved set of Operating

Procedures to gather, verify, and track generation data from renewable facilities and award RECs to the account holder of the facility within M-RETS. Each M-RETS REC carries with it one or more program eligibilities based on certifications it has received. However, a REC may only be used, or “retired,” once for one program, and then is no longer eligible for any other program.

Wisconsin electric providers demonstrate RPS compliance within M-RETS by retiring RECs that are eligible for the Wisconsin RPS. If a REC is not eligible to create an RRC, it must be retired for the Wisconsin RPS in the compliance year associated with the calendar-year generation vintage. For example, an older RPS-eligible hydroelectric facility that generates RECs in calendar year 2013 must have its RECs retired in compliance year 2013, or its Wisconsin RPS eligibility will expire. Since April 15 is the statutory deadline for electric providers to make retirements for the previous year’s RPS requirements, the compliance year for 2013 runs from April 16, 2013, through April 15, 2014. As a result, a REC from the older hydro facility discussed above with a generation vintage of January 2013 will have its Wisconsin RPS eligibility expire on April 16, 2014. If the facility has other program eligibilities, the REC may still be eligible for a different program, such as another state RPS.

If a facility is RRC eligible, four additional years of Wisconsin RPS eligibility are allowed before the REC expires for purposes of the Wisconsin RPS. For example, a REC with a January 2013 vintage, that is RRC eligible, will not expire for the Wisconsin RPS until April 16, 2018 (through the 2017 compliance-year period). During this time, the RRC-eligible REC may be banked by the electric provider for future retirement, or traded to another entity. All the eligibilities, expiration dates, and associated program rules and limitations will be tied to the REC within M-RETS regardless of who owns it. M-RETS also has agreements with other tracking systems, and RECs may be imported or exported if agreements are established between

the two systems. Regardless, according to Wis. Stat. §§ 196.378(1)(o)1 and 2, only renewable energy used to serve Wisconsin load may be eligible for the Wisconsin RPS.

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Appendix B: Electric Provider List in Order of 2013 RPS Renewable Energy as a Percent of 2015 RPS Requirements			
Electric Provider or Aggregator*	2013 RPS Renewable Energy as Percent of 2013 Total Retail Energy Sales	2015 RPS Percent Requirement	Percent of 2015 RPS Requirement Achieved in 2013
Dairyland Power Cooperative*	13.93%	8.44%	165%
WPPI Energy*	16.04%	10.24%	157%
Princeton Mun Wtr & Elec Util	12.07%	8.21%	147%
Northern States Power Co WI	18.53%	12.89%	144%
Sheboygan Falls Utilities	12.01%	8.77%	137%
Benton Mun Elec & Water Util	12.01%	8.86%	136%
Pardeeville (Village of) Elec Util	11.30%	8.44%	134%
Wonewoc Electric & Water Util	11.58%	8.69%	133%
Pioneer Power & Light Co	11.58%	8.71%	133%
Hazel Green Municipal Utility	11.71%	8.87%	132%
Central Wisconsin Elec Coop	11.59%	8.94%	130%
Mazomanie Electric Utility	10.94%	8.45%	129%
Westfield Milling & Elec Co	11.39%	8.81%	129%
Adams-Columbia Electric Coop	11.36%	8.92%	127%
Belmont Mun Water & Elect Util	11.14%	8.76%	127%
Shullsburg Electric Utility	11.18%	8.82%	127%
Wisconsin Dells Mun Elec Util	11.25%	8.89%	127%
Shawano Municipal Utilities	9.24%	7.34%	126%
Sauk City Mun Wtr & Light Util	11.04%	8.82%	125%
Clintonville Water & Electric Utility	9.24%	7.44%	124%
Rock Energy Coop	10.93%	8.93%	122%
Black Earth Electric Utility	11.07%	9.23%	120%
Wisconsin Power & Light	11.03%	9.28%	119%
Oconto Electric Coop	12.54%	10.71%	117%
Elkhorn Light & Water	11.04%	9.43%	117%
Gresham Mun Light & Pwr Util	9.67%	8.43%	115%
Washington Island Cooperative	10.67%	9.35%	114%
Madison Gas & Electric Co	8.71%	7.73%	113%
Wisconsin Rapids WW & Light	9.24%	8.73%	106%
Stratford Mun Wtr & Elec Utility	9.78%	9.31%	105%
Kiel (City of) Utilities	9.24%	9.07%	102%
Wisconsin Public Service Corp	8.66%	9.74%	89%
Wisconsin Electric Power Co	7.12%	8.27%	86%
Marshfield Elec & Water Dept	7.31%	8.91%	82%
Consolidated Water Power Company	14.27%	18.47%	77%
North Central Power Co Inc	26.77%	35.11%	76%
Manitowoc Public Utilities	5.42%	9.19%	59%
Superior Wtr Light & Pwr Co	4.38%	8.53%	51%
East Central Energy	2.46%	6.64%	37%
Northwestern WI Elec Co	5.13%	14.48%	35%
Dahlberg Light & Power Co	1.02%	7.37%	14%
Barron Light & Water Utility	0.25%	12.85%	2%
Bangor Municipal Utility	0.00%	12.62%	0%
Bloomer Electric Utility	0.00%	12.47%	0%
Cadott Light & Water Mun Util	0.00%	12.72%	0%
Centuria Municipal Electric Util	0.00%	14.37%	0%
Cornell Mun Water & Elec Util	0.00%	12.65%	0%
Medford Electric Utility	0.00%	12.41%	0%
Rice Lake Mun Wtr & Elec Util	0.00%	12.53%	0%
Spooner Municipal Utilities	0.00%	12.55%	0%
Trempealeau Mun Elc & Wtr Util	0.00%	12.78%	0%
WISCONSIN TOTAL	10.17%	N/A	N/A
Note: Largest electric providers described in the narrative of this memorandum are in bold. "WISCONSIN TOTAL" represents aggregated RPS renewable energy of all Wisconsin electric providers. All electric providers are in compliance for 2013. If an electric provider has a percentage below its 2013 RPS requirement, it has used banked RECs and/or purchased RECs from another provider.			

Appendix C: 2013 Total Retail Energy Sales & Renewable Energy by Wisconsin Electric Provider

COLUMN KEY FOR TABLE BELOW

Columns 7-9, 13, 14, and 16 highlight CY 2013 RPS and Green Pricing renewable sales and percentages. Other columns show compliance activity and information used in calculations. See below for description of each column.

1. Wisconsin electric provider or aggregator that must meet RPS requirements. These entities represent all electric providers of retail electric services in the state of Wisconsin (investor-owned, municipal, and cooperative).
2. CY 2013 total retail sales per electric provider (from all generators) as reported to the Commission.
3. CY 2010-2012 average annual total retail energy sales, as reported to the Commission. Each year's RPS requirement % is applied to the average of the previous three years of retail sales.
4. 2010-2012 average total retail energy sales (Col. 3) multiplied by utility's 2013 RPS percent requirement (Col. 11).
5. Electric provider compliance retirements, as reported to PSCW and verified by Commission staff through M-RETS database.
6. Assessment of electric provider's compliance activity for CY 2013. If Col. 5 is greater or equal to Col. 4 then "YES" in compliance, otherwise "NO".
7. Electric sales to Wisconsin retail customers in 2013, which were generated by a renewable resource and eligible for RPS activity, as reported by electric provider. This column does not include green pricing sales; see Col. 13-15 for green pricing information.
8. Col. 7 divided by Col. 3 (if Col. 8 > Col. 11 the utility essentially banks excess credits, if Col. 8 < Col. 11 the utility must use other credits to comply in 2013).
9. Col. 7 divided by Col. 2 (for informational purposes only; this percentage is not applicable to compliance).
10. Percentage required for years 2006-2009, equal to mean percentage renewables from years 2001-2003; per Wis. Stat. § 196.378(2)(a)2. Wisconsin aggregate baseline percentage has been updated based on current information.
11. Percentage required for years 2010-2014, equal to baseline % +2% per Wis. Stat. § 196.378(2)(a)2. Wisconsin total percentage is based on current information and is not a statewide requirement; it is an aggregation of electric provider-specific requirements.
12. Percentage required for years 2015 and beyond, equal to baseline % +6% per Wis. Stat. § 196.378(2)(a)2. There are 4 electric providers that are an exception this due to 2013 Wisconsin Act 290: requirements for Centuria Municipal Electric Utility, Consolidated Water Power Company, North Central Power Company, Inc, and Northwestern Wisconsin Electric Cooperative are set at baseline% +2% for 2015 and beyond. Wisconsin total percentage is based on current information and is not a statewide requirement; it is an aggregation of electric provider-specific requirements.
13. 2013 Electric sales to Wisconsin retail customers, which were generated by a renewable resource and part of a utility's voluntary green pricing program, as reported to the Commission.
14. 2013 Total renewable that include RPS eligible and green pricing programs (Col. 7 plus Col. 13).
15. 2013 Green pricing program energy as a percent of total 2013 RPS eligible and green pricing renewable energy (Col. 14 divided by Col. 13).
16. All renewable energy (Green Pricing and RPS Energy) divided by 2013 total retail energy sales (Col. 14 divided by Col. 2).

* Indicates Aggregator.

	Total Retail Energy Sales Information		CY 2013 Compliance Activity			2013 RPS Renewable Energy Information			Provider RPS Requirements			Green Pricing Program (GPP) Energy Information			RPS + GPP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2013 Retail Sales (MWh)	2010-2012 Ave. Retail Sales (MWh)	2013 RPS Required (MWh)	2013 M-RETS Certificates Retired	In Compliance?	Actual 2013 RPS Energy (MWh)	Actual 2013 RPS Energy as % of Ave. Sales	2013 RPS Energy as % of 2013 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2013 GPP Energy (MWh)	2013 GPP + RPS Energy (MWh)	GPP as % of Total Renewable Energy	Total Renewable Energy as % of 2013 Retail Sales
Adams-Columbia Electric Coop	497,150	473,699	23,306	23,306	YES	56,501	11.93%	11.36%	2.92%	4.92%	8.92%	311	56,812	0.55%	11.43%
Bangor Municipal Utility	27,055	26,583	2,291	2,291	YES	0	0.00%	0.00%	6.62%	8.62%	12.62%	-	-	N/A	0.00%
Barron Light & Water Utility	83,434	81,218	7,188	7,188	YES	206	0.25%	0.25%	6.85%	8.85%	12.85%	-	206	0.00%	0.25%
Belmont Mun Water & Elect Util	22,155	21,081	1,003	1,003	YES	2,467	11.70%	11.14%	2.76%	4.76%	8.76%	-	2,467	0.00%	11.14%
Benton Mun Elec & Water Util	5,144	5,369	261	261	YES	618	11.51%	12.01%	2.86%	4.86%	8.86%	-	618	0.00%	12.01%
Black Earth Electric Utility	16,629	16,567	866	866	YES	1,841	11.11%	11.07%	3.23%	5.23%	9.23%	-	1,841	0.00%	11.07%
Bloomer Electric Utility	52,650	49,337	4,179	4,179	YES	0	0.00%	0.00%	6.47%	8.47%	12.47%	-	-	N/A	0.00%
Cadott Light & Water Mun Util	13,314	13,000	1,134	1,134	YES	0	0.00%	0.00%	6.72%	8.72%	12.72%	-	-	N/A	0.00%
Central Wisconsin Elec Coop	98,122	95,589	4,722	4,722	YES	11,369	11.89%	11.59%	2.94%	4.94%	8.94%	-	11,369	0.00%	11.59%
Centuria Municipal Electric Util	5,870	5,590	803	804	YES	0	0.00%	0.00%	12.37%	14.37%	14.37%	-	-	N/A	0.00%
Clintonville Water & Electric Utility	111,178	108,333	3,727	3,727	YES	10,277	9.49%	9.24%	1.44%	3.44%	7.44%	-	10,277	0.00%	9.24%
Consolidated Water Power Company	1,052,487	1,201,243	221,870	221,892	YES	150,223	12.51%	14.27%	16.47%	18.47%	18.47%	-	150,223	0.00%	14.27%
Cornell Mun Water & Elec Util	12,917	12,685	1,097	1,097	YES	0	0.00%	0.00%	6.65%	8.65%	12.65%	-	-	N/A	0.00%
Dahlberg Light & Power Co	104,384	101,815	3,431	3,432	YES	1,061	1.04%	1.02%	1.37%	3.37%	7.37%	-	1,061	0.00%	1.02%
Dairyland Power Cooperative*	3,264,411	3,101,287	137,697	137,786	YES	454,685	14.66%	13.93%	2.44%	4.44%	8.44%	13,703	468,388	2.93%	14.35%
East Central Energy	52,654	48,977	1,293	1,649	YES	1,293	2.64%	2.46%	0.64%	2.64%	6.64%	356	1,649	21.59%	3.13%
Elkhorn Light & Water	110,984	114,229	6,203	6,203	YES	12,252	10.73%	11.04%	3.43%	5.43%	9.43%	-	12,252	0.00%	11.04%
Gresham Mun Light & Pwr Util	23,551	23,515	1,042	1,042	YES	2,278	9.69%	9.67%	2.43%	4.43%	8.43%	-	2,278	0.00%	9.67%
Hazel Green Municipal Utility	8,274	8,327	406	406	YES	969	11.64%	11.71%	2.87%	4.87%	8.87%	-	969	0.00%	11.71%

1	Total Retail Energy Sales Information		CY 2013 Compliance Activity			2013 RPS Renewable Energy Information			Provider RPS Requirements			Green Pricing Program (GPP) Energy Information			RPS + GPP
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2013 Retail Sales (MWh)	2010-2012 Ave. Retail Sales (MWh)	2013 RPS Required (MWh)	2013 M-RETS Certificates Retired	In Compliance?	Actual 2013 RPS Energy (MWh)	Actual 2013 RPS Energy as % of Ave. Sales	2013 RPS Energy as % of 2013 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2013 GPP Energy (MWh)	2013 GPP + RPS Energy (MWh)	GPP as % of Total Renewable Energy	Total Renewable Energy as % of 2013 Retail Sales
Kiel (City of) Utilities	79,657	81,341	4,124	4,124	YES	7,363	9.05%	9.24%	3.07%	5.07%	9.07%	-	7,363	0.00%	9.24%
Madison Gas & Electric Co	3,318,069	3,345,230	124,777	124,777	YES	289,023	8.64%	8.71%	1.73%	3.73%	7.73%	120,019	409,042	29.34%	12.33%
Manitowoc Public Utilities	520,364	513,804	26,666	26,666	YES	28,210	5.49%	5.42%	3.19%	5.19%	9.19%	183	28,393	0.64%	5.46%
Marshfield Elec & Water Dept	372,382	365,698	17,956	17,956	YES	27,232	7.45%	7.31%	2.91%	4.91%	8.91%	-	27,232	0.00%	7.31%
Mazomanie Electric Utility	30,022	28,220	1,256	1,257	YES	3,283	11.63%	10.94%	2.45%	4.45%	8.45%	-	3,283	0.00%	10.94%
Medford Electric Utility	127,390	125,961	10,593	10,593	YES	0	0.00%	0.00%	6.41%	8.41%	12.41%	-	-	N/A	0.00%
North Central Power Co Inc	33,127	32,401	11,376	11,376	YES	8,867	27.37%	26.77%	33.11%	35.11%	35.11%	-	8,867	0.00%	26.77%
Northern States Power Co WI	6,419,144	6,253,727	555,949	555,953	YES	1,189,453	19.02%	18.53%	6.89%	8.89%	12.89%	10,826	1,200,279	0.90%	18.70%
Northwestern WI Elec Co	171,931	168,282	24,367	24,368	YES	8,817	5.24%	5.13%	12.48%	14.48%	14.48%	-	8,817	0.00%	5.13%
Oconto Electric Coop	112,182	106,995	7,179	7,179	YES	14,072	13.15%	12.54%	4.71%	6.71%	10.71%	-	14,072	0.00%	12.54%
Pardeeville (Village of) Elec Util	19,332	20,189	896	896	YES	2,185	10.82%	11.30%	2.44%	4.44%	8.44%	-	2,185	0.00%	11.30%
Pioneer Power & Light Co	16,457	16,911	797	797	YES	1,905	11.26%	11.58%	2.71%	4.71%	8.71%	-	1,905	0.00%	11.58%
Princeton Mun Wtr & Elec Util	10,221	10,668	449	449	YES	1,234	11.57%	12.07%	2.21%	4.21%	8.21%	-	1,234	0.00%	12.07%
Rice Lake Mun Wtr & Elec Util	157,885	156,310	13,333	13,333	YES	0	0.00%	0.00%	6.53%	8.53%	12.53%	-	-	N/A	0.00%

	Total Retail Energy Sales Information		CY 2013 Compliance Activity			2013 RPS Renewable Energy Information			Provider RPS Requirements			Green Pricing Program (GPP) Energy Information			RPS + GPP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2013 Retail Sales (MWh)	2010-2012 Ave. Retail Sales (MWh)	2013 RPS Required (MWh)	2013 M-RETS Certificates Retired	In Compliance?	Actual 2013 RPS Energy (MWh)	Actual 2013 RPS Energy as % of Ave. Sales	2013 RPS Energy as % of 2013 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2013 GPP Energy (MWh)	2013 GPP + RPS Energy (MWh)	GPP as % of Total Renewable Energy	Total Renewable Energy as % of 2013 Retail Sales
Rock Energy Coop	278,694	275,022	13,559	13,559	YES	30,475	11.08%	10.93%	2.93%	4.93%	8.93%	-	30,475	0.00%	10.93%
Sauk City Mun Wtr & Light Util	33,293	32,614	1,572	1,572	YES	3,677	11.27%	11.04%	2.82%	4.82%	8.82%	-	3,677	0.00%	11.04%
Shawano Municipal Utilities	283,955	284,972	9,518	9,518	YES	26,249	9.21%	9.24%	1.34%	3.34%	7.34%	-	26,249	0.00%	9.24%
Sheboygan Falls Utilities	179,516	178,467	8,513	8,513	YES	21,555	12.08%	12.01%	2.77%	4.77%	8.77%	-	21,555	0.00%	12.01%
Shullsburg Electric Utility	10,962	10,774	519	519	YES	1,226	11.38%	11.18%	2.82%	4.82%	8.82%	-	1,226	0.00%	11.18%
Spooner Municipal Utilities	32,037	32,871	2,810	2,810	YES	0	0.00%	0.00%	6.55%	8.55%	12.55%	-	-	N/A	0.00%
Stratford Mun Wtr & Elec Utility	17,665	17,581	934	935	YES	1,727	9.82%	9.78%	3.31%	5.31%	9.31%	-	1,727	0.00%	9.78%
Superior Wtr Light & Pwr Co	687,209	673,483	30,509	30,509	YES	30,066	4.46%	4.38%	2.53%	4.53%	8.53%	-	30,066	0.00%	4.38%
Trempealeau Mun Eic & Wtr Util	15,217	13,628	1,197	1,197	YES	0	0.00%	0.00%	6.78%	8.78%	12.78%	-	-	N/A	0.00%
Washington Island Cooperative	9,224	8,800	471	472	YES	984	11.18%	10.67%	3.35%	5.35%	9.35%	-	984	0.00%	10.67%
Westfield Milling & Elec Co	13,463	13,129	632	632	YES	1,533	11.68%	11.39%	2.81%	4.81%	8.81%	-	1,533	0.00%	11.39%
Wisconsin Dells Mun Elec Util	56,708	56,369	2,756	2,756	YES	6,380	11.32%	11.25%	2.89%	4.89%	8.89%	-	6,380	0.00%	11.25%
Wisconsin Rapids WW & Light	270,906	272,277	12,879	12,879	YES	25,026	9.19%	9.24%	2.73%	4.73%	8.73%	89	25,115	0.35%	9.27%
Wisconsin Electric Power Co	24,114,805	24,437,105	1,043,464	1,043,464	YES	1,717,453	7.03%	7.12%	2.27%	4.27%	8.27%	139,283	1,856,736	7.50%	7.70%
Wisconsin Power & Light	10,430,167	10,260,567	541,758	541,758	YES	1,150,806	11.22%	11.03%	3.28%	5.28%	9.28%	22,639	1,173,445	1.93%	11.25%
WPPI Energy*	4,837,926	4,836,000	301,766	301,766	YES	776,021	16.05%	16.04%	4.24%	6.24%	10.24%	83,519	859,540	9.72%	17.77%
Wisconsin Public Service Corp	10,541,535	10,571,645	606,812	606,812	YES	913,314	8.64%	8.66%	3.74%	5.74%	9.74%	10,608	923,922	1.15%	8.76%
Wonewoc Electric & Water Util	4,872	4,957	232	232	YES	564	11.38%	11.58%	2.69%	4.69%	8.69%	-	564	0.00%	11.58%
WISCONSIN TOTAL	68,768,680	68,714,442	3,802,139	3,802,614	N/A	6,994,740	10.18%	10.17%	3.56%	5.53%	9.45%	401,536	7,396,276	5.43%	10.76%

Appendix D: 2013 Renewable Energy by State and Resource (MWh)

Includes both Wisconsin Renewable Portfolio Standard and Green Pricing Program Renewable Energy

Electric Provider/Aggregator*	WI Hydro	WI Wind	Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - & Wood Waste	Biomass - Wood	Biomass - Other	WI Solar	WI - Other	WI Subtotal	Non WI Hydro	Non WI Wind	Landfill gas	Non WI Biomass - Biogas	Non WI Biomass - Refuse-derived fuel	Waste	Wood & Wood	Other	Non-WI Biomass - Wood & Wood	Non WI - Solar	Non WI - Other	Subtotal	Non WI - Grand Total	
Adams-Columbia Electric Coop	10,321		9,628	1,038	564	-	-	-	245	-	21,796	-		35,016	-	-	-	-	-	-	-	-	35,016	56,812	
Bangor Municipal Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Barron Light & Water Utility	206		-	-	-	-	-	-	-	-	206	-		-	-	-	-	-	-	-	-	-	-	206	
Belmont Mun Water & Elect Util	455		420	30	28	-	-	-	-	-	933	-		1,534	-	-	-	-	-	-	-	-	-	1,534	2,467
Benton Mun Elec & Water Util	100		117	20	-	-	-	-	-	-	237	-		381	-	-	-	-	-	-	-	-	-	381	618
Black Earth Electric Utility	348		295	28	23	-	-	-	-	-	694	-		1,147	-	-	-	-	-	-	-	-	-	1,147	1,841
Bloomer Electric Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cadott Light & Water Mun Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Central Wisconsin Elec Coop	2,066		1,935	209	118	-	-	-	-	-	4,328	-		7,041	-	-	-	-	-	-	-	-	-	7,041	11,369
Centuria Municipal Electric Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Clintonville	815		1,489	553	134	-	9	4,974	-	-	7,974	234		2,069	-	-	-	-	-	-	-	-	-	2,303	10,277
Consolidated Water Power Co	150,223		-	-	-	-	-	-	-	-	150,223	-		-	-	-	-	-	-	-	-	-	-	-	150,223
Cornell Mun Water & Elec Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dahlberg Light & Power Co	1,061		-	-	-	-	-	-	-	-	1,061	-		-	-	-	-	-	-	-	-	-	-	-	1,061
Dairyland Power Cooperative	65,870		10,068	15,922	5,713	-	195,031	-	54	-	292,658	-		152,679	20,643	2,408	-	-	-	-	-	-	-	175,730	468,388
East Central Energy	-	-	-	-	-	-	-	-	-	-	-	-	-	1,649	-	-	-	-	-	-	-	-	-	1,649	1,649

Electric Provider/Aggregator*	WI Hydro	WI Wind	Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - & Wood Waste	WI Biomass - Wood	Biomass - Other	WI Solar	WI - Other	WI Subtotal	Non WI Hydro	Non WI Wind	Landfill gas	Non WI Biomass - Biogas	Non WI Biomass - Refuse-derived fuel	Non WI Biomass - Waste	Non WI Biomass - Wood & Wood	Other	Non-WI Biomass -	Non WI - Solar	Non WI - Other	Subtotal	Non WI -	Grand Total
Elkhorn Light & Water	2,234	2,079	231	117	-	-	-	-	-	-	4,661	-	7,591	-	-	-	-	-	-	-	-	-	7,591	12,252	
Gresham Mun Light & Pwr Util	428	375	25	26	-	-	-	-	-	-	854	-	1,424	-	-	-	-	-	-	-	-	-	1,424	2,278	
Hazel Green Municipal Utility	151	179	33	2	-	-	-	-	-	-	365	-	604	-	-	-	-	-	-	-	-	-	604	969	
Kiel	584	1,067	396	96	-	7	3,563	-	-	-	5,713	168	1,482	-	-	-	-	-	-	-	-	-	1,650	7,363	
Madison Gas & Electric Co	473	68,945	-	30,254	3	2,107	-	1,230	-	-	103,012	2,877	303,153	-	-	-	-	-	-	-	-	-	306,030	409,042	
Manitowoc Public Utilities	2,206	4,316	1,497	362	1	25	13,461	294	-	-	22,162	633	5,598	-	-	-	-	-	-	-	-	-	6,231	28,393	
Marshfield Elec & Water Dept	6,244	13,188	7,104	-	-	-	-	-	-	-	26,536	696	-	-	-	-	-	-	-	-	-	-	696	27,232	
Mazomanie Electric Utility	612	543	69	32	-	-	-	-	-	-	1,256	-	2,027	-	-	-	-	-	-	-	-	-	2,027	3,283	
Medford Electric Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
North Central Power Co Inc	8,867	-	-	-	-	-	-	-	-	-	8,867	-	-	-	-	-	-	-	-	-	-	-	-	8,867	
Northern States Power Co WI	122,931	-	-	-	-	2,987	167,001	-	-	-	292,919	11,867	794,467	11,319	-	-	33,831	55,876	-	-	-	-	907,360	1,200,279	
Northwestern WI Elec Co	8,817	-	-	-	-	-	-	-	-	-	8,817	-	-	-	-	-	-	-	-	-	-	-	-	8,817	
Oconto Electric Coop	6,656	4,656	-	-	-	2,508	-	-	-	-	13,820	252	-	-	-	-	-	-	-	-	-	-	252	14,072	
Pardeeville (Village of) Elec Util	406	374	24	25	-	-	-	-	-	-	829	-	1,356	-	-	-	-	-	-	-	-	-	1,356	2,185	
Pioneer Power & Light Co	337	334	45	12	-	-	-	-	-	-	728	-	1,177	-	-	-	-	-	-	-	-	-	1,177	1,905	
Princeton Mun Wtr & Elec Util	241	193	12	19	-	-	-	-	-	-	465	-	769	-	-	-	-	-	-	-	-	-	769	1,234	
Rice Lake Mun Wtr & Elec Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rock Energy Coop	5,581	5,145	559	309	-	-	-	-	-	-	11,594	-	18,881	-	-	-	-	-	-	-	-	-	18,881	30,475	

Electric Provider/Aggregator*	WI Hydro	WI Wind	WI Biomass - Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - & Wood Waste	WI Biomass - Wood	Biomass - Other	WI Solar	WI - Other	WI Subtotal	Non WI Hydro	Non WI Wind	Non WI Biomass - Landfill gas	Non WI Biomass - Biogas	Non WI Biomass - Refuse-derived fuel	Non WI Biomass - Waste	Non WI Biomass - Wood & Wood	Other Non WI Biomass -	Non-WI Biomass -	Non WI - Solar	Non WI - Other	Subtotal	Non WI -	Grand Total
Sauk City Mun Wtr & Light Util	660	635	57	43	-	-	-	-	-	-	1,395	-	2,282	-	-	-	-	-	-	-	-	-	2,282	3,677	
Shawano	2,082	3,802	1,412	342	-	23	12,706	-	-	-	20,367	598	5,284	-	-	-	-	-	-	-	-	-	5,882	26,249	
Sheboygan Falls Utilities	3,936	3,656	396	212	-	-	-	-	-	-	8,200	-	13,355	-	-	-	-	-	-	-	-	-	13,355	21,555	
Shullsburg Electric Utility	240	197	12	16	-	-	-	-	-	-	465	-	761	-	-	-	-	-	-	-	-	-	761	1,226	
Spooner Municipal Utilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Stratford Mun Wtr & Elec Utility	426	857	408	-	-	-	-	-	-	-	1,691	36	-	-	-	-	-	-	-	-	-	-	36	1,727	
Superior Wtr Light & Pwr Co	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30,066	-	-	-	30,066	30,066	
Trempealeau Mun Elc & Wtr Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Washington Island Cooperative	300	432	228	-	-	-	-	-	-	-	960	24	-	-	-	-	-	-	-	-	-	-	24	984	
Westfield Milling & Elec Co	258	273	29	13	-	-	-	-	-	-	573	-	960	-	-	-	-	-	-	-	-	-	960	1,533	
Wisconsin Dells Mun Elec Util	1,181	1,062	121	69	-	-	-	-	-	-	2,433	-	3,947	-	-	-	-	-	-	-	-	-	3,947	6,380	
Wisconsin Rapids	2,070	3,909	1,460	319	-	22	11,841	-	-	-	19,621	569	4,925	-	-	-	-	-	-	-	-	-	5,494	25,115	
Wisconsin Electric Power Co	29,982	680,951	218,480	11,491	-	10,976	-	1,277	-	-	953,157	251,696	651,883	-	-	-	-	-	-	-	-	-	903,579	1,856,736	
Wisconsin Power & Light	210,185	203,410	27,756	11,883	-	-	-	986	-	-	454,221	-	719,218	-	-	-	-	-	-	-	7	-	719,225	1,173,445	
WPPI Energy	208,724	270,687	40,885	19,965	-	131	-	582	-	-	540,973	14,379	304,187	-	-	-	-	-	-	-	-	-	318,567	859,540	
Wisconsin Public Service Corp	251,695	93,952	90,350	65,226	-	36,506	-	-	-	-	537,729	38,794	347,399	-	-	-	-	-	-	-	-	-	386,193	923,922	
Wonevot Electric & Water Util	79	112	3	10	-	-	-	-	-	-	204	-	360	-	-	-	-	-	-	-	-	-	360	564	
TOTAL per State and Resource	1,110,050	1,389,281	409,392	147,423	5,499	411,838	46,545	4,668	-	-	3,524,697	322,823	3,394,606	31,962	2,408	-	63,897	55,876	7	-	-	3,871,579	7,396,276		
% of Total 2013 Renewables	15.0%	18.8%	5.5%	2.0%	0.1%	5.6%	0.6%	0.1%	0.0%	-	47.7%	4.4%	45.9%	0.4%	0.0%	0.0%	0.9%	0.8%	0.0%	0.0%	-	52.3%	100.0%		

Appendix E: 2013 Statistics Generated from Electric Provider Data

Includes both RPS and Green Pricing Program Renewable Energy

2013 Total Electric Energy Sales to Wisconsin Retail Customers (renewable and nonrenewable)

	(MWh)	% of Total Energy Sales
2013 Total Wisconsin Retail Energy Sales	68,768,680	100.0%

Renewable Energy by State

State	(MWh)	% of Total Energy Sales	% of Renewable Energy
TOTAL Renewable Energy from Wisconsin	3,524,697	5.1%	47.7%
TOTAL Renewable Energy from Other States	3,871,579	5.6%	52.3%
TOTAL Renewable Energy from ALL STATES	7,396,276	10.8%	100.0%

Renewable Energy by Renewable Resource

Renewable Energy Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy
Wind	4,783,887	7.0%	64.7%
Hydro	1,432,874	2.1%	19.4%
Biomass	1,174,840	1.7%	15.9%
Solar	4,675	0.0%	0.1%
TOTAL Renewable Energy from ALL RESOURCES	7,396,276	10.8%	100.0%

Biomass Energy Broken Down

Biomass Type	(MWh)	% of Total Sales	% of Renewable Energy
Refused-derived	5,499	0.0%	0.1%
Other*	102,421	0.1%	1.4%
Biogas	149,831	0.2%	2.0%
Landfill gas	441,354	0.6%	6.0%
Wood or wood waste	475,735	0.7%	6.4%
TOTAL from Biomass	1,174,840	1.7%	15.9%

*Other biomass represents waste from paper products, processed plant materials, agriculture products, and animal waste

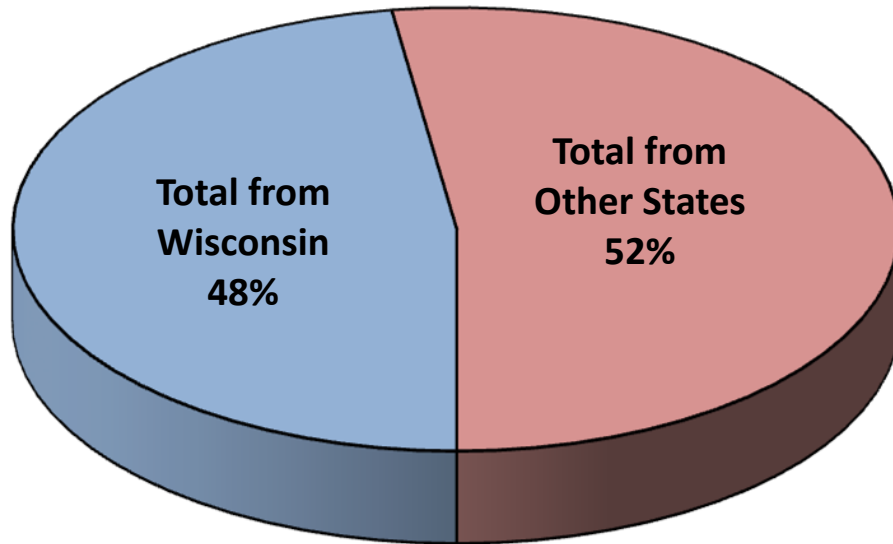
Renewable Energy by State and Renewable Resource

State and Renewable Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy
WI Wind	1,389,281	2.0%	18.8%
WI Hydro	1,110,050	1.6%	15.0%
WI Biomass	1,020,697	1.5%	13.8%
WI Solar	4,668	0.0%	0.1%
Non WI Wind	3,394,606	4.9%	45.9%
Non WI Hydro	322,823	0.5%	4.4%
Non WI Biomass	154,143	0.2%	2.1%
Non WI Solar	7	0.0%	0.0%
TOTAL Renewable Energy from ALL STATES AND RESOURCES	7,396,276	10.8%	100.0%

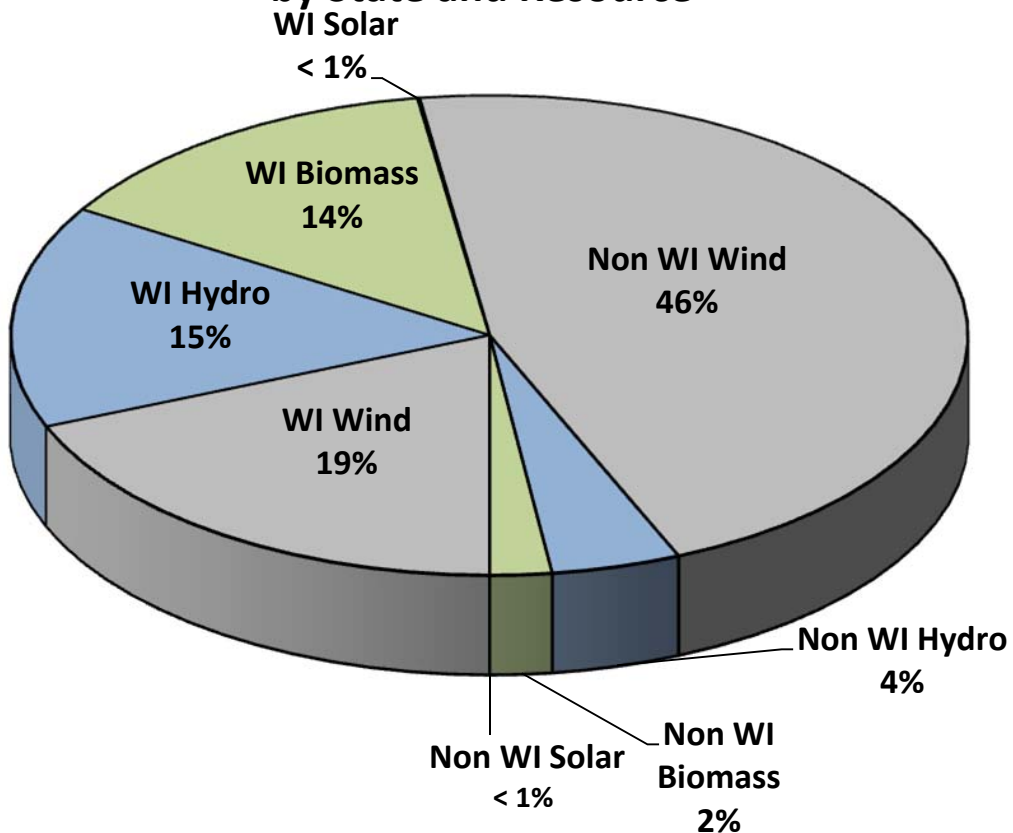
Appendix F: 2013 Figures of Statistics Generated from Electric Provider Data

Includes both Wisconsin RPS and Green Pricing Program Renewable Energy

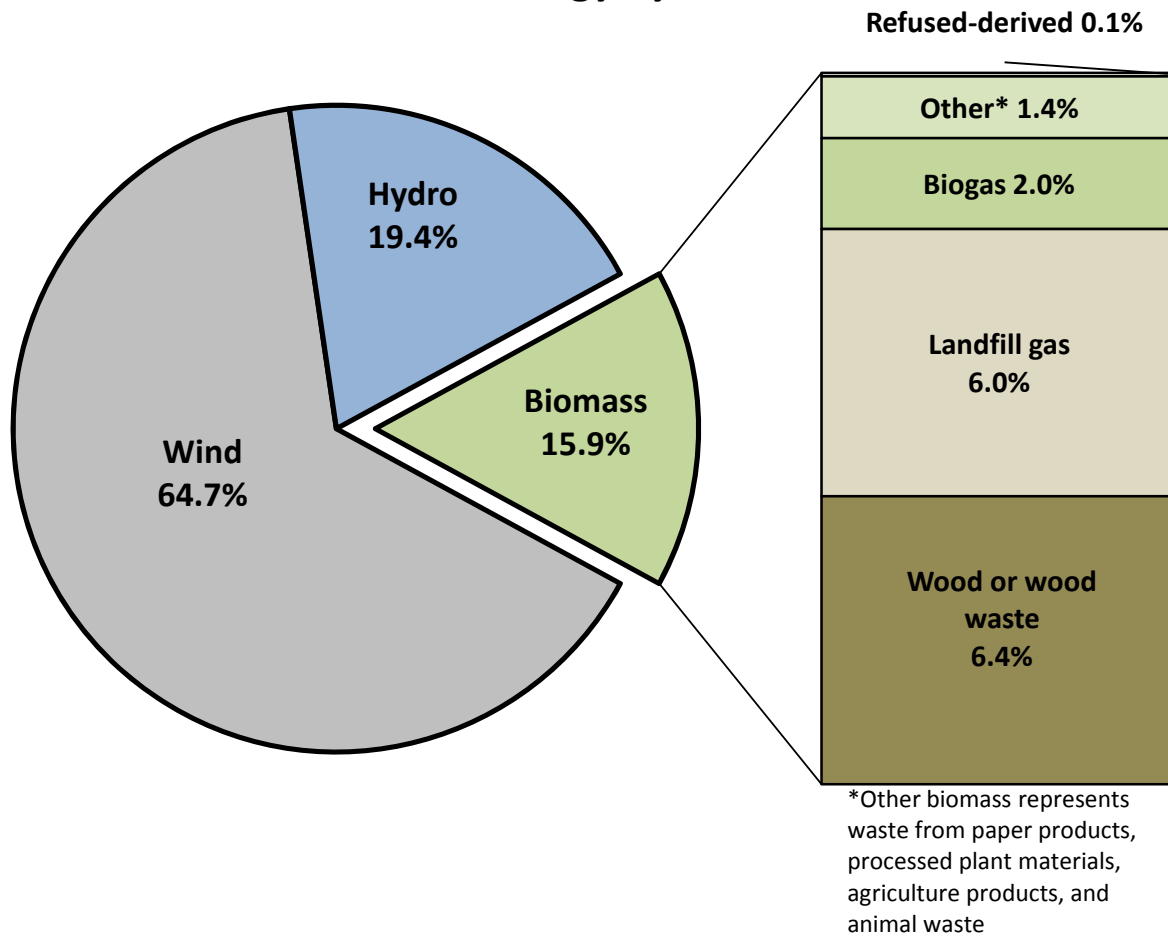
2013 Renewable Energy by State



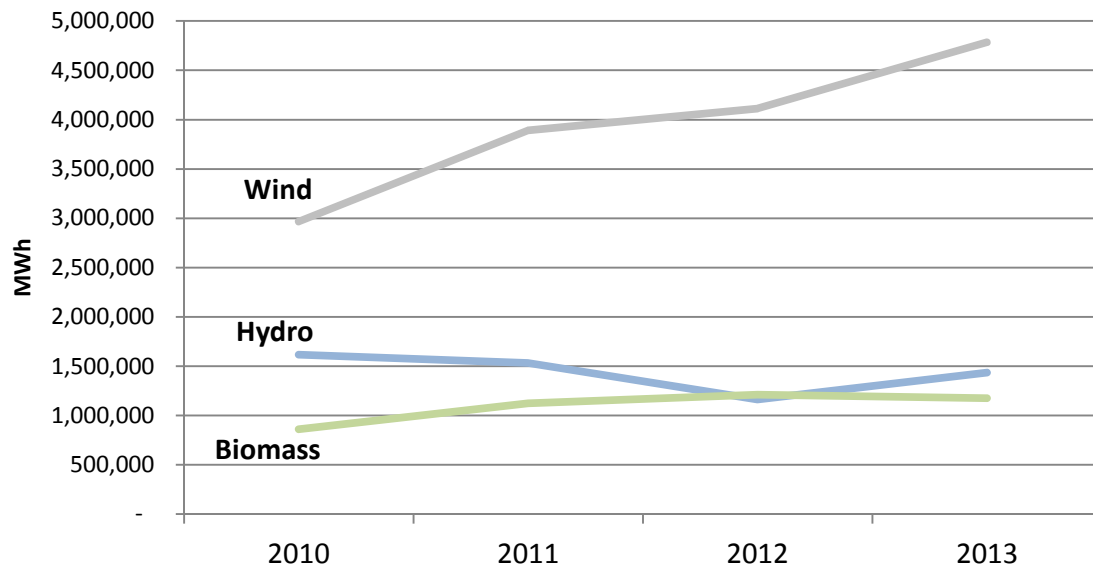
2013 Renewable Energy by State and Resource



2013 Renewable Energy by Resource



Renewable Energy by Renewable Resource (2010-2013)



Renewable Energy from Solar Photovoltaic (2010-2013)

