

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

July 29, 2013

FOR COMMISSION AGENDA

TO: The Commission

FROM: Robert Norcross, Administrator
Deborah Erwin, Renewable Energy Specialist
Andrew Kell, Program and Policy Analyst
Gas and Energy Division

RE: Electric Provider Renewable Portfolio Standard Compliance 5-GF-230
for CY2012

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 Gas and Energy Division to inform each electric provider of its compliance with the statute.

2012 RENEWABLE PORTFOLIO STANDARD COMPLIANCE REPORT

Compliance Summary

Background¹

Wisconsin Stat. § 196.378, establishing Wisconsin's Renewable Portfolio Standard (RPS), applies to all electric providers that serve retail customers in Wisconsin. These electric providers include all investor-owned utilities, municipal utilities, and electric cooperatives that serve residential and business customers in the state. The RPS requires Wisconsin retail electric providers to provide a minimum percentage of the electricity they supply at retail from renewable resources, and annually report renewable energy sales and activity to the Commission. Under Wis. Stat. § 196.378(2)(c), the Commission must inform each provider whether it is

¹ Similar background information and citations were provided in the 2011 compliance report.

complying with this minimum percentage. An electric provider's RPS requirement for each year is calculated by multiplying the applicable renewable percentage by the average of the provider's retail sales from the previous three years. For each calendar year (CY) 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. All Wisconsin electric providers met this baseline percentage through CY 2009. Beginning in CY 2010, electric providers were required to achieve a renewable energy percentage at 2.0 percent above their respective baselines. All Wisconsin electric providers complied with their CY 2010 and 2011 RPS requirements. For CY 2012 through 2014, electric providers are required to maintain a renewable energy percentage at 2.0 percent above their baselines. In order to comply with the RPS in 2015 and thereafter, electric providers will need to meet and sustain a level that is 6.0 percent above their respective baselines.

Electric providers achieve compliance with their RPS requirements by selling electricity to their retail customers from renewable resources and by using Renewable Resource Credits (RRC) created in previous years. An electric provider creates bankable RRCs when it sells electricity from renewable resources in excess of that year's RPS requirement. Bankable RRCs can be sold to other electric providers or banked for use in future years. Bankable RRCs may only be created in one of the following ways: (1) by a facility placed in service on or after January 1, 2004; (2) by an older facility that has been upgraded, thereby resulting in an increase in capacity that occurs on or after January 1, 2004; and (3) by a facility owned by a retail customer of the electric provider regardless of in-service date. *See Wis. Stat. § 196.378(3)(a)2.*

Electric providers use the Midwest Renewable Energy Tracking System (M-RETS), an electronic renewable energy tracking database, to track their renewable energy and to

demonstrate RPS compliance. One megawatt-hour (MWh) of renewable energy is tracked in M-RETS as one M-RETS Certificate. Each M-RETS Certificate indicates whether the renewable energy the Certificate represents is eligible for the RPS, and whether it is eligible to create a tradable, bankable RRC under Wisconsin law. M-RETS Certificates eligible to create tradable, bankable RRCs under Wisconsin law can be electronically “converted” into an RRC in M-RETS.² Wisconsin electric providers demonstrate compliance with the RPS by retiring M-RETS Certificates and RRCs representing the amount of eligible renewable energy required. Electric providers also use M-RETS to bank excess RRCs for use in future years, as allowed by statute.

RPS Compliance in 2012

RPS requirements for CY 2012 are based on the electric provider’s baseline renewable energy percentage plus 2.0 percent according to statutory requirements discussed above. This percentage is then multiplied by the electric provider’s previous three-year (2009-2011) total electric sales average to determine the amount of RPS-eligible Certificates the electric provider must retire in M-RETS to demonstrate compliance. The aggregate amount of Certificates needed for 2012 RPS compliance across all electric providers was 3,775,405 MWh, equivalent to 5.56 percent of the 2009-2011 annual electric sales average. After analyzing information from electric providers and M-RETS, Commission staff has verified that all Wisconsin electric providers retired their required amount of Certificates and achieved compliance for 2012.

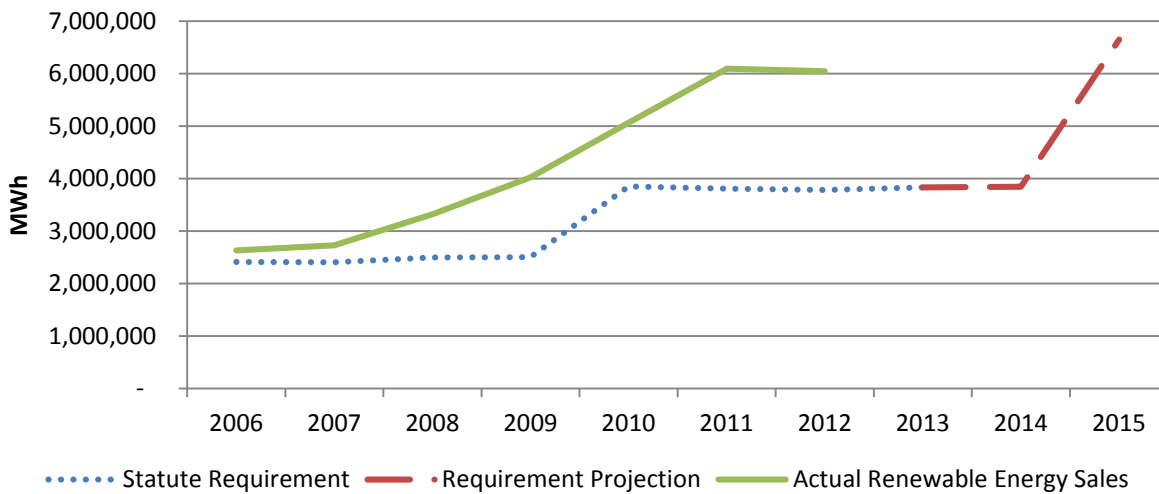
RPS Compliance through 2015 and Beyond

Beyond verification of retirement activity, Commission staff requested additional information from the electric providers in order to analyze their ability to meet future RPS

² An M-RETS Certificate that is eligible for the RPS, but is not eligible to create an RRC, represents generation from a facility that cannot be banked for use in future years.

compliance obligations, as well as to answer a multitude of renewable energy policy questions. To this end, Commission staff requested information regarding 2012 renewable resource generation being used to serve Wisconsin electric retail customers (renewable energy sales), as well as cumulative quantity of RRCs banked for compliance in future years. Figure 1 below presents historical, aggregated renewable energy sales that can be used to meet Wisconsin's RPS. These sales are contrasted against both statewide aggregated statutory requirements and requirement projections.³

Figure 1 Statewide RPS Renewable Energy Sales



Actual renewable energy sales in 2012 dipped slightly when compared to 2011; a seven-tenths of one percent decrease. Although new renewable resources came in service in 2012, with new renewable energy generation driven primarily by the Glacier Hills Wind Farm, this expansion was outweighed by a drop in hydroelectric generation and Purchase Power Agreement (PPA) energy purchases from wind facilities outside of Wisconsin. Due to the drought in 2012, reported actual hydroelectric generation decreased 24 percent from 2011, which was an average year for hydroelectric generation. According to Wis. Stat. § 196.378(2)(b)1.a,

³ Commission staff assumed 1 percent annual growth in total retail sales to project future requirements.

hydroelectric facilities owned and operated by Wisconsin electric providers that were part of their resource mix in the 2001-2003 baseline period are accredited with baseline average generation for the purposes of Wisconsin RPS compliance. This means that these hydroelectric facilities receive a credit for each RPS compliance year from their active owned or operated hydro facilities equivalent to the average generation that occurred during the baseline period of 2001-2003, regardless of actual generation. As a result, individual electric provider RPS compliance activities are not significantly affected by the fluctuation of actual hydroelectric generation from year to year. Due to this, despite a dip in actual renewable energy sales from last year, the aggregate amount of Certificates and RRCs created in 2012 and eligible for the Wisconsin RPS was higher than all previous years.

2012 actual renewable energy sales statewide were 6,049,427 MWh; 8.79 percent of statewide 2012 retail electric energy sales. Commission staff estimated that if 2012 actual hydroelectric generation would have been at the 2001-2003 baseline average, the amount of total retail sales from renewables in 2012 would have been about 9.4 percent. Based on electric provider responses to Commission staff questions, the only significant renewable resource that will be added in the near future is the 50 megawatt Rothschild Biomass Cogeneration Plant (Rothschild), owned by Wisconsin Electric Power Company (WEPCO) and scheduled to be in-service by the end of 2013. Unless electric providers complete additional large renewable resource construction projects or PPAs, the statewide renewable energy percentage will likely increase only slightly through 2015. At this point Commission staff cannot project whether the 10 percent statewide renewable energy goal contained in the RPS statute will be met in 2015. This will depend upon actual generation from hydroelectric facilities and PPA purchases, which both fluctuate from year to year.

The year-to-year difference between renewable energy sales and the statute requirement in Figure 1 above represents an approximate statewide bank of RRCs available for future compliance. Electric providers that still must acquire resources to meet their 2015 RPS requirements and do not wish to purchase additional energy from renewable resources may instead purchase active RRCs and retire them for their own RPS requirements. Assuming statewide renewable sales remain relatively constant, and an efficient RRC market is established among the electric providers, this current aggregate bank of RRCs eligible for the Wisconsin RPS is large enough to ensure compliance for all electric providers beyond 2015.

RPS Compliance and Outlook by Largest Electric Providers

The figures in this section present historical renewable energy sales of Wisconsin's largest electric providers and aggregators, along with their individual RPS requirements through 2015. Most electric providers already have achieved renewable energy sales levels at or near their 2015 requirements. WEPCO plans to reach its 2015 RPS requirements through increased renewable energy sales generated from Rothschild, renewable energy PPAs, and from eligible RRC purchases. As noted previously in this memorandum, entities that experienced a drop in renewable energy levels from 2011 to 2012 have relayed to Commission staff that these decreases were due to below average hydroelectric generation, and in some cases a reduction in PPA energy purchases from out-of-state wind facilities.

Figure 2 WEPCO RPS Renewable Energy Sales

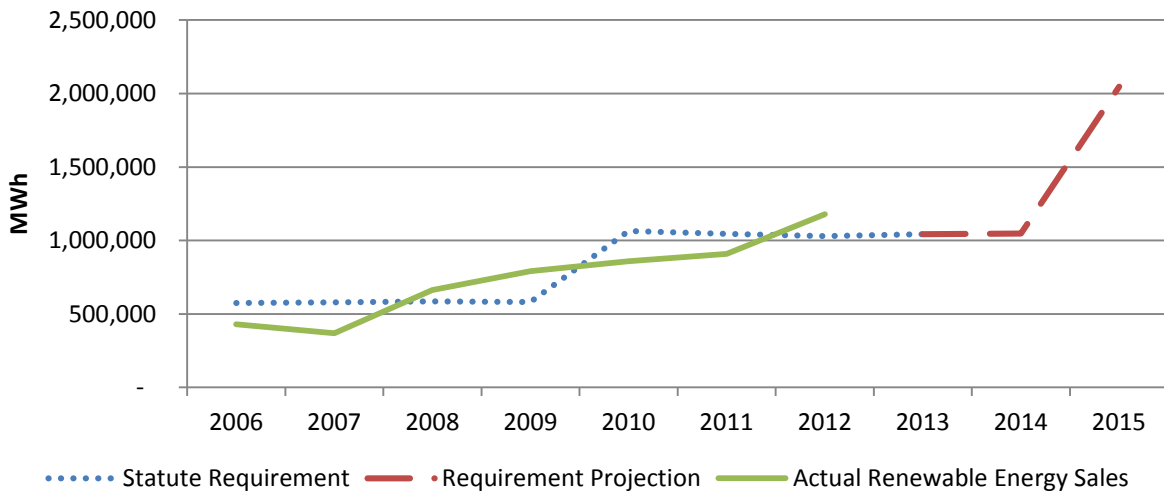


Figure 3 Wisconsin Public Service Corporation RPS Renewable Energy Sales

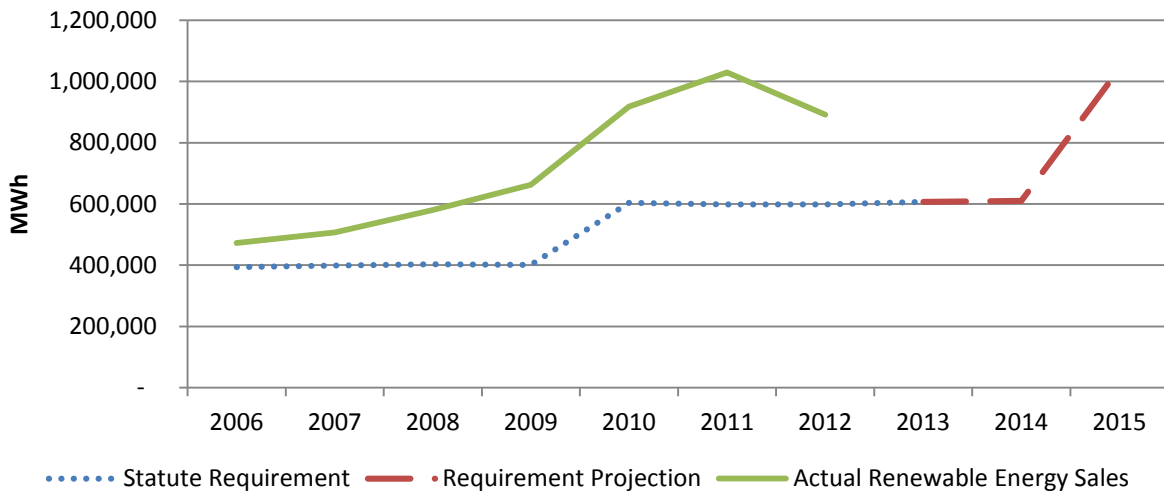


Figure 4 Wisconsin Power and Light Company RPS Renewable Energy Sales

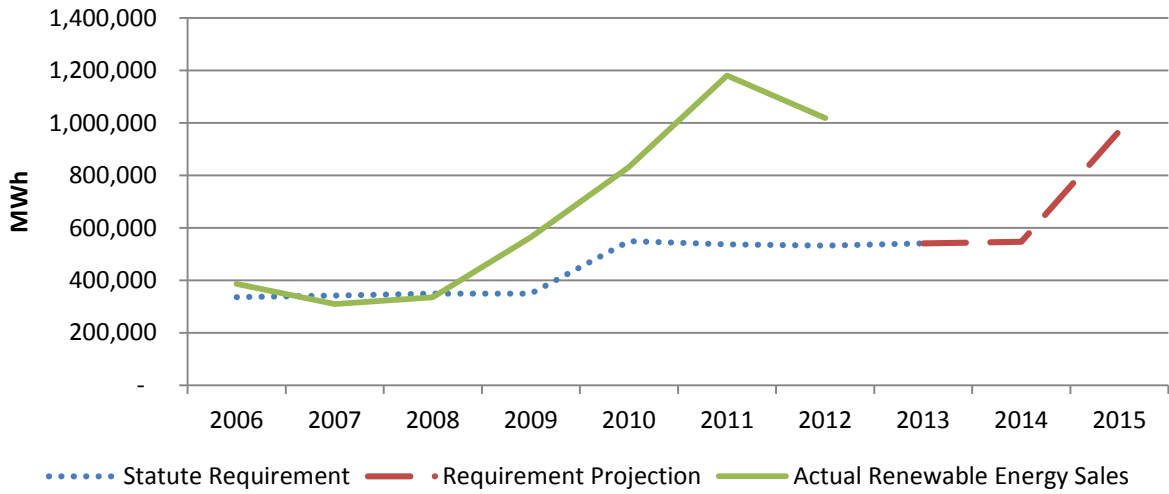


Figure 5 Northern States Power Company–Wisconsin RPS Renewable Energy Sales

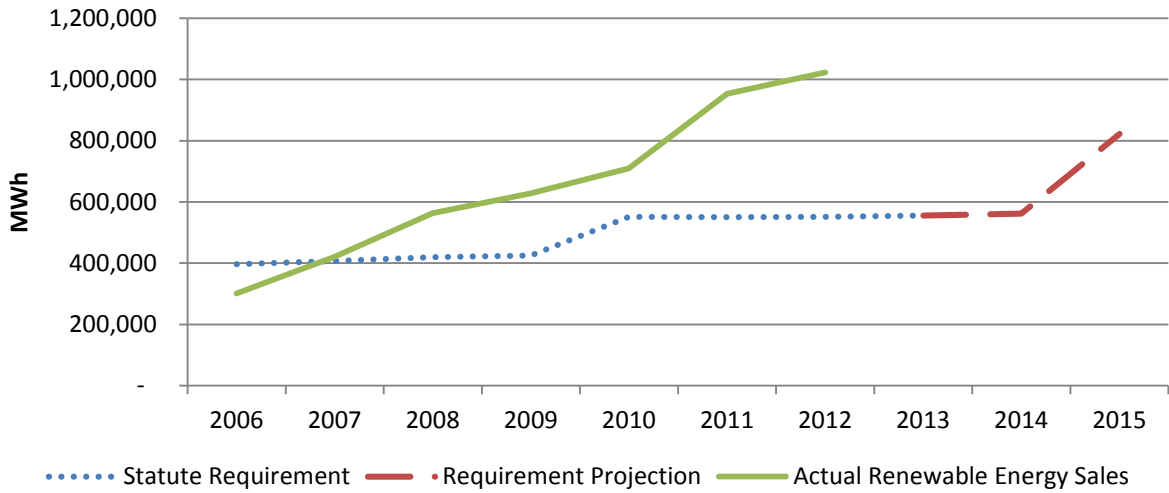


Figure 6 WPPI Energy RPS Renewable Energy Sales

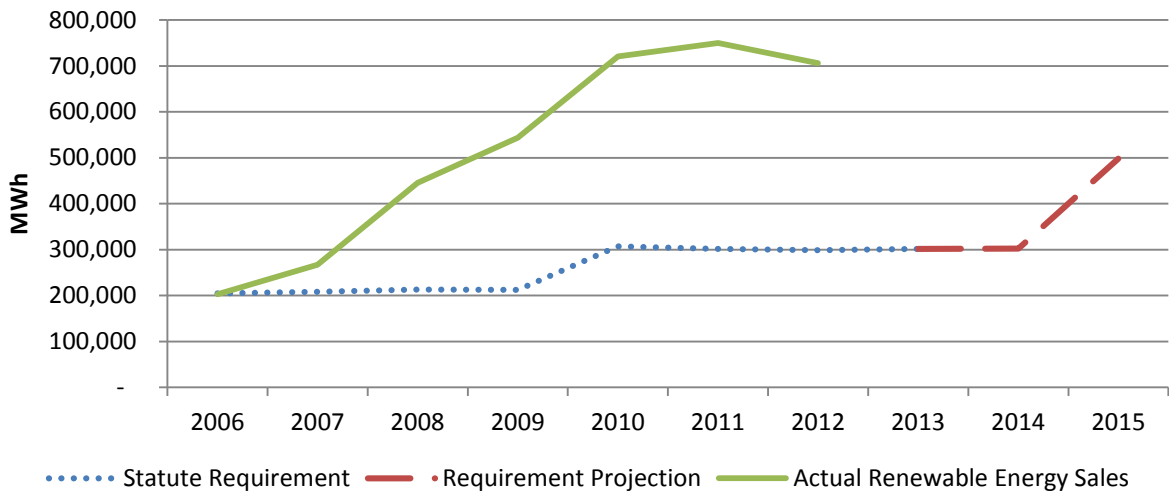


Figure 7 Madison Gas and Electric Company RPS Renewable Energy Sales

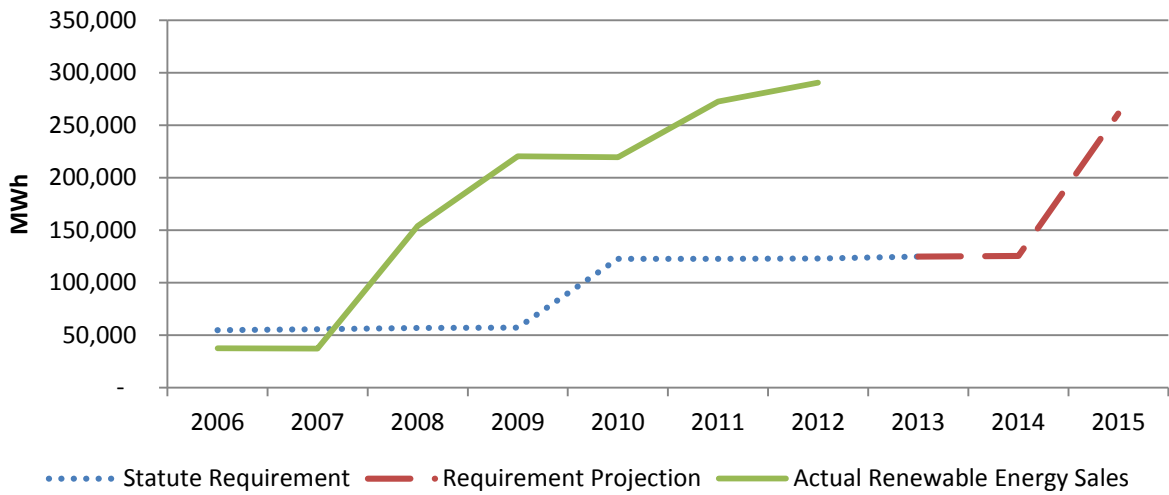
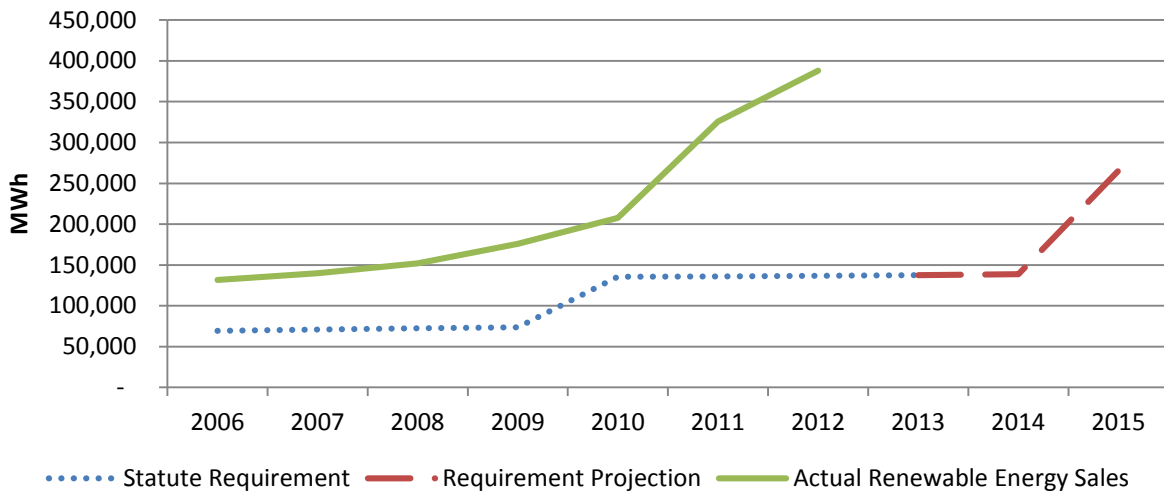


Figure 8 Dairyland Power Cooperative RPS Renewable Energy Sales



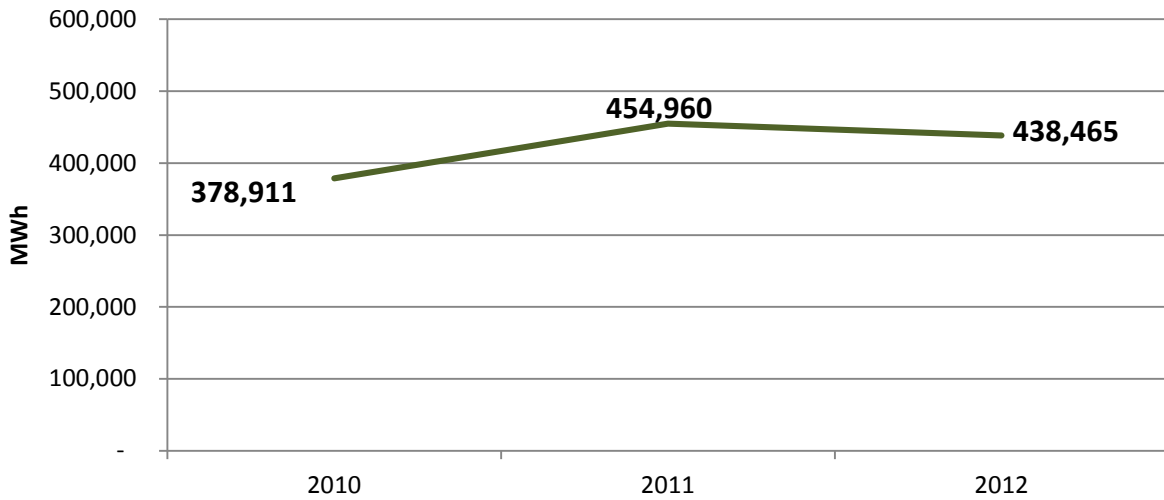
Total Renewable Resources – RPS and Green Pricing

For a number of years, Wisconsin electric providers have offered opt-in voluntary programs, known as “green pricing programs,” to their retail customers. These programs drive the electric providers to acquire additional renewable resources beyond what is required by the RPS law. Customers that value renewable resources pay a premium on their electric bill. This premium is often equivalent to the incremental cost of renewable resources applied to a portion or the full amount of electricity the customer uses each month. All large and a few smaller electric providers currently offer this option to their business and residential retail customers in Wisconsin. Each electric provider creates a mix of renewable resources to supply customer demand—usually wind, solar, and/or one or more types of biomass, such as biogas. Commission staff has verified that all retirements for 2012 RPS compliance were used for the Wisconsin RPS alone, and were not counted for any such voluntary green pricing programs.

Several electric providers that offer green pricing programs experienced a small decrease in renewable energy used to serve these voluntary programs in 2012, which created a slight statewide drop from 2011 as depicted in Figure 9 below. Commission staff did not request

information from electric providers to determine an explanation for this drop, but will track the issue and provide more information in future reports.⁴

Figure 9 Statewide Renewable Energy Sales Dedicated to Green Pricing Programs



Renewable Resource Statistics

As with previous years, Commission staff has analyzed electric provider information and created additional figures and tables for the attached appendices. Appendix A is a list of all Wisconsin electric providers and aggregators, listed in order of 2012 renewable energy sales percentages in relation to their respective 2015 percentage requirements. Appendix B has electric provider compliance activity, and renewable energy sales and percentage information. Appendix C breaks down electric provider 2012 renewable energy sales by resource and state of origin. Appendix D contains tables of Wisconsin statewide renewable energy statistics, and Appendix E contains figures that present these statistics and historical trends where applicable.

⁴ Commission staff became aware of the green pricing program sales drop only after all the electric providers submitted their RPS compliance information for 2012. The Commission may direct staff to seek additional information on this topic.

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.

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.

RDN:DEE:AMK:jlt:DL:00728250

Attachments Appendices A through E ([DL: 793205](#))

Appendix A: Electric Providers in Order of Attaining 2015 RPS Percentage

Electric Provider or Aggregator*	2012 RPS Renewable Energy Sales as Percent of 2012 Total Retail Energy Sales	2015 RPS Percent Requirement	Percent of 2015 RPS Requirement Achieved in 2012
Dairyland Power Cooperative*	12.47%	8.44%	148%
WPPI Energy*	14.65%	10.24%	143%
Princeton Mun Wtr & Elec Util	10.54%	8.21%	128%
Cornell Mun Water & Elec Util	16.00%	12.65%	127%
Northern States Power Co WI	16.21%	12.89%	126%
Bangor Municipal Utility	15.69%	12.62%	124%
Trempealeau Mun Elc & Wtr Util	15.64%	12.78%	122%
Bloomer Electric Utility	15.21%	12.47%	122%
Westfield Milling & Elec Co	10.71%	8.81%	122%
Rice Lake Mun Wtr & Elec Util	15.11%	12.53%	121%
Pioneer Power & Light Co	10.48%	8.71%	120%
Wonewoc Electric & Water Util	10.44%	8.69%	120%
Mazomanie Electric Utility	10.12%	8.45%	120%
Hazel Green Municipal Utility	10.07%	8.47%	119%
Pardeeville (Village of) Elec Util	10.02%	8.44%	119%
Barron Light & Water Utility	15.23%	12.85%	119%
Spooner Municipal Utilities	14.84%	12.55%	118%
Benton Mun Elec & Water Util	10.47%	8.86%	118%
Cadott Light & Water Mun Util	14.91%	12.72%	117%
Sheboygan Falls Utilities	10.20%	8.77%	116%
Central Wisconsin Elec Coop	10.38%	8.94%	116%
Shullsburg Electric Utility	10.16%	8.82%	115%
Adams-Columbia Electric Coop	10.23%	8.92%	115%
Belmont Mun Water & Elect Util	10.01%	8.76%	114%
Wisconsin Dells Mun Elec Util	10.15%	8.89%	114%
Oconto Electric Coop	12.14%	10.71%	113%
Madison Gas & Electric Co	8.68%	7.73%	112%
Sauk City Mun Wtr & Light Util	9.79%	8.82%	111%
Rock Energy Coop	9.85%	8.93%	110%
Black Earth Electric Utility	10.10%	9.23%	109%
Washington Island Cooperative	10.15%	9.35%	109%
Gresham Mun Light & Pwr Util	9.05%	8.43%	107%
Wisconsin Power & Light	9.84%	9.28%	106%
Elkhorn Light & Water	9.89%	9.43%	105%
Shawano Municipal Utilities	7.47%	7.34%	102%
Stratford Mun Wtr & Elec Utility	9.36%	9.31%	100%
Clintonville Water & Electric Utility	7.47%	7.44%	100%
Wisconsin Public Service Corp	8.42%	9.74%	86%
Wisconsin Rapids WW & Light	7.51%	8.73%	86%
Kiel (City of) Utilities	7.47%	9.07%	82%
Marshfield Elec & Water Dept	6.91%	8.91%	78%
Consolidated Water Power Co	17.31%	22.47%	77%
North Central Power Co Inc	24.18%	39.11%	62%
Manitowoc Public Utilities	5.42%	9.19%	59%
Wisconsin Electric Power Co	4.81%	8.27%	58%
Superior Wtr Light & Pwr Co	4.38%	8.53%	51%
East Central Energy	2.69%	6.64%	41%
Northwestern WI Elec Co	4.95%	18.48%	27%
Dahlberg Light & Power Co	1.41%	7.37%	19%
Centuria Municipal Electric Util	0.00%	18.37%	0%
Medford Electric Utility	0.00%	12.41%	0%
WISCONSIN TOTAL	8.79%	N/A	N/A

Note: Largest electric providers described in the narrative of this memorandum are in bold. "WISCONSIN TOTAL" represents aggregated sales of all Wisconsin electric providers.

All electric providers are in compliance for 2012. If an electric provider has a percentage below its 2012 RPS requirement, it has used banked RRCs and/or purchased RRCs from another provider.

Appendix B: 2012 Total Retail Energy Sales & Renewable Energy Sales by Wisconsin Electric Provider

COLUMN KEY FOR TABLE BELOW

Columns 7-9, 13, 14, and 16 highlight CY 2012 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 2012 total retail sales per electric provider (from all generators) as reported to the Commission.
3. CY 2009-2011 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. 2009-2011 average total retail energy sales (Col. 3) multiplied by utility's 2012 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 2012. If Col. 5 is greater or equal to Co. 4 then "YES" in compliance, otherwise "NO".
7. Electric sales to Wisconsin retail customers in 2012, 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 2012).
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 aggregate percentage requirement updated based on current information.
12. Percentage required for years 2015 and beyond; equal to baseline % +6%; per Wis. Stat. § 196.378(2)(a)2. Wisconsin aggregate percentage requirement projected based on current information.
13. 2012 Electric sales to Wisconsin retail customers, which were generated by a renewable resource and part of utility's voluntary green pricing program, as reported to the Commission.
14. 2012 Total renewable sales that include RPS eligible and green pricing sales (Col. 7 plus Col. 13).
15. 2012 Green pricing sales as a percent of total 2012 RPS eligible and green pricing renewable sales (Col. 14 divided by Col. 13).
16. All renewable energy sales (Green Pricing and RPS Energy) divided by 2012 total retail energy sales (Col. 14 divided by Col. 2).

* Indicates Aggregator.

1	Total Retail Energy Sales Information		CY 2012 Compliance Activity			2012 RPS Renewable Energy Sales Information			Provider RPS Requirements			Green Pricing Sales (GPS) Information			RPS + GPS
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2012 Retail Sales (MWh)	2009-2011 Ave. Retail Sales (MWh)	2012 RPS Required (MWh)	2012 M-RETS Certificates Retired	In Compliance?	Actual 2012 RPS Energy (MWh)	Actual 2012 RPS Energy as % of Ave. Sales	2012 RPS Energy as % of 2012 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2012 GPS Sales (MWh)	2012 GPS + RPS Sales (MWh)	GPS as % of Total Renewable Sales	Total Renewable Sales as % of 2012 Retail Sales
Adams-Columbia Electric Coop	491,088	465,945	22,925	22,925	YES	50,246	10.78%	10.23%	2.92%	4.92%	8.92%	323	50,569	0.64%	10.30%
Bangor Municipal Utility	26,201	27,509	2,371	2,371	YES	4,111	14.94%	15.69%	6.62%	8.62%	12.62%	-	4,111	N/A	15.69%
Barron Light & Water Utility	82,564	81,382	7,206	7,206	YES	12,578	15.46%	15.23%	6.85%	8.85%	12.85%	-	12,578	N/A	15.23%
Belmont Mun Water & Elect Util	21,759	20,294	966	966	YES	2,179	10.74%	10.01%	2.76%	4.76%	8.76%	-	2,179	N/A	10.01%
Benton Mun Elec & Water Util	5,138	5,527	269	269	YES	538	9.73%	10.47%	2.86%	4.86%	8.86%	-	538	N/A	10.47%
Black Earth Electric Utility	16,432	16,630	870	870	YES	1,659	9.98%	10.10%	3.23%	5.23%	9.23%	-	1,659	N/A	10.10%
Bloomer Electric Utility	49,410	48,663	4,120	4,121	YES	7,514	15.44%	15.21%	6.47%	8.47%	12.47%	-	7,514	N/A	15.21%
Cadott Light & Water Mun Util	13,590	13,265	1,156	1,157	YES	2,026	15.27%	14.91%	6.72%	8.72%	12.72%	-	2,026	N/A	14.91%
Central Wisconsin Elec Coop	96,326	95,200	4,703	4,703	YES	9,996	10.50%	10.38%	2.94%	4.94%	8.94%	-	9,996	N/A	10.38%
Centuria Municipal Electric Util	5,697	5,491	789	790	YES	0	0.00%	0.00%	12.37%	14.37%	18.37%	-	-	N/A	0.00%
Clintonville Water & Electric Utility	108,792	100,185	3,446	3,446	YES	8,123	8.11%	7.47%	1.44%	3.44%	7.44%	-	8,123	N/A	7.47%
Consolidated Water Power Company	1,012,810	1,296,026	239,376	239,388	YES	175,306	13.53%	17.31%	16.47%	18.47%	22.47%	-	175,306	N/A	17.31%
Cornell Mun Water & Elec Util	12,409	12,790	1,106	1,107	YES	1,986	15.53%	16.00%	6.65%	8.65%	12.65%	-	1,986	N/A	16.00%
Dahlberg Light & Power Co	101,557	102,001	3,437	3,438	YES	1,428	1.40%	1.41%	1.37%	3.37%	7.37%	-	1,428	N/A	1.41%
Dairyland Power Cooperative*	3,110,850	3,075,929	136,571	136,592	YES	387,809	12.61%	12.47%	2.44%	4.44%	8.44%	8,355	396,164	2.11%	12.73%
East Central Energy	48,662	49,647	1,311	1,311	YES	1,311	2.64%	2.69%	0.64%	2.64%	6.64%	370	1,681	22.01%	3.45%
Elkhorn Light & Water	115,368	110,816	6,017	6,017	YES	11,410	10.30%	9.89%	3.43%	5.43%	9.43%	-	11,410	N/A	9.89%
Gresham Mun Light & Pwr Util	23,626	23,451	1,039	1,039	YES	2,138	9.12%	9.05%	2.43%	4.43%	8.43%	-	2,138	N/A	9.05%
Hazel Green Municipal Utility	8,274	8,180	398	398	YES	833	10.18%	10.07%	2.87%	4.87%	8.87%	-	833	N/A	10.07%

1	Total Retail Energy Sales Information		CY 2012 Compliance Activity			2012 RPS Renewable Energy Sales Information			Provider RPS Requirements			Green Pricing Sales (GPS) Information			RPS + GPS
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2012 Retail Sales (MWh)	2009-2011 Ave. Retail Sales (MWh)	2012 RPS Required (MWh)	2012 M-RETS Certificates Retired	In Compliance?	Actual 2012 RPS Energy (MWh)	Actual 2012 RPS Energy as % of Ave. Sales	2012 RPS Energy as % of 2012 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2012 GPS Sales (MWh)	2012 GPS + RPS Sales (MWh)	GPS as % of Total Renewable Sales	Total Renewable Sales as % of 2012 Retail Sales
Kiel (City of) Utilities	81,747	80,436	4,078	4,078	YES	6,104	7.59%	7.47%	3.07%	5.07%	9.07%	-	6,104	N/A	7.47%
Madison Gas & Electric Co	3,346,342	3,296,569	122,962	122,963	YES	290,526	8.81%	8.68%	1.73%	3.73%	7.73%	135,424	425,950	31.79%	12.73%
Manitowoc Public Utilities	515,156	509,872	26,462	26,462	YES	27,910	5.47%	5.42%	3.19%	5.19%	9.19%	197	28,107	0.70%	5.46%
Marshfield Elec & Water Dept	369,605	363,494	17,848	17,848	YES	25,536	7.03%	6.91%	2.91%	4.91%	8.91%	-	25,536	N/A	6.91%
Mazomanie Electric Utility	28,338	26,662	1,186	1,186	YES	2,869	10.76%	10.12%	2.45%	4.45%	8.45%	-	2,869	N/A	10.12%
Medford Electric Utility	123,137	125,971	10,594	10,594	YES	0	0.00%	0.00%	6.41%	8.41%	12.41%	-	-	N/A	0.00%
North Central Power Co Inc	32,218	32,353	11,359	11,360	YES	7,789	24.07%	24.18%	33.11%	35.11%	39.11%	-	7,789	N/A	24.18%
Northern States Power Co WI	6,316,425	6,204,474	551,570	551,571	YES	1,023,699	16.50%	16.21%	6.89%	8.89%	12.89%	8,848	1,032,547	0.86%	16.35%
Northwestern WI Elec Co	168,469	166,558	24,118	24,118	YES	8,335	5.00%	4.95%	12.48%	14.48%	18.48%	-	8,335	N/A	4.95%
Oconto Electric Coop	107,070	106,127	7,121	8,155	YES	12,994	12.24%	12.14%	4.71%	6.71%	10.71%	-	12,994	N/A	12.14%
Pardeeville (Village of) Elec Util	19,442	20,440	908	948	YES	1,949	9.54%	10.02%	2.44%	4.44%	8.44%	-	1,949	N/A	10.02%
Pioneer Power & Light Co	16,791	16,923	797	797	YES	1,760	10.40%	10.48%	2.71%	4.71%	8.71%	-	1,760	N/A	10.48%
Princeton Mun Wtr & Elec Util	10,696	10,645	448	448	YES	1,127	10.59%	10.54%	2.21%	4.21%	8.21%	-	1,127	N/A	10.54%
Rice Lake Mun Wtr & Elec Util	155,463	157,623	13,448	13,448	YES	23,493	14.90%	15.11%	6.53%	8.53%	12.53%	-	23,493	N/A	15.11%

1	Total Retail Energy Sales Information		CY 2012 Compliance Activity			2012 RPS Renewable Energy Sales Information			Provider RPS Requirements			Green Pricing Sales (GPS) Information			RPS + GPS
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2012 Retail Sales (MWh)	2009-2011 Ave. Retail Sales (MWh)	2012 RPS Required (MWh)	2012 M-RETS Certificates Retired	In Compliance?	Actual 2012 RPS Energy (MWh)	Actual 2012 RPS Energy as % of Ave. Sales	2012 RPS Energy as % of 2012 Retail Sales	Baseline RPS (%)	2010 RPS (%)	2015 RPS (%)	2012 GPS Sales (MWh)	2012 GPS + RPS Sales (MWh)	GPS as % of Total Renewable Sales	Total Renewable Sales as % of 2012 Retail Sales
Rock Energy Coop	275,480	255,790	12,610	12,610	YES	27,132	10.61%	9.85%	2.93%	4.93%	8.93%	-	27,132	N/A	9.85%
Sauk City Mun Wtr & Light Util	32,702	32,377	1,561	1,561	YES	3,200	9.88%	9.79%	2.82%	4.82%	8.82%	-	3,200	N/A	9.79%
Shawano Municipal Utilities	292,898	271,995	9,085	9,085	YES	21,870	8.04%	7.47%	1.34%	3.34%	7.34%	-	21,870	N/A	7.47%
Sheboygan Falls Utilities	179,274	174,338	8,316	8,316	YES	18,283	10.49%	10.20%	2.77%	4.77%	8.77%	-	18,283	N/A	10.20%
Shullsburg Electric Utility	10,859	10,463	504	504	YES	1,103	10.54%	10.16%	2.82%	4.82%	8.82%	-	1,103	N/A	10.16%
Spooner Municipal Utilities	32,870	33,253	2,844	2,844	YES	4,878	14.67%	14.84%	6.55%	8.55%	12.55%	-	4,878	N/A	14.84%
Stratford Mun Wtr & Elec Utility	17,316	17,605	935	935	YES	1,620	9.20%	9.36%	3.31%	5.31%	9.31%	-	1,620	N/A	9.36%
Superior Wtr Light & Pwr Co	682,951	659,863	29,892	29,892	YES	29,892	4.53%	4.38%	2.53%	4.53%	8.53%	-	29,892	N/A	4.38%
Trempealeau Mun Elc & Wtr Util	13,947	13,228	1,161	1,162	YES	2,181	16.49%	15.64%	6.78%	8.78%	12.78%	-	2,181	N/A	15.64%
Washington Island Cooperative	8,629	9,047	484	484	YES	876	9.68%	10.15%	3.35%	5.35%	9.35%	-	876	N/A	10.15%
Westfield Milling & Elec Co	13,225	12,953	623	623	YES	1,417	10.94%	10.71%	2.81%	4.81%	8.81%	-	1,417	N/A	10.71%
Wisconsin Dells Mun Elec Util	55,817	56,657	2,771	2,771	YES	5,666	10.00%	10.15%	2.89%	4.89%	8.89%	-	5,666	N/A	10.15%
Wisconsin Rapids WW & Light	268,817	270,628	12,801	12,801	YES	20,178	7.46%	7.51%	2.73%	4.73%	8.73%	-	20,178	N/A	7.51%
Wisconsin Electric Power Co	24,493,668	24,130,495	1,030,372	1,030,372	YES	1,179,123	4.89%	4.81%	2.27%	4.27%	8.27%	156,919	1,336,042	11.75%	5.45%
Wisconsin Power & Light	10,348,912	10,096,978	533,120	533,120	YES	1,018,285	10.09%	9.84%	3.28%	5.28%	9.28%	32,252	1,050,537	3.07%	10.15%
WPPI Energy*	4,817,103	4,790,119	298,903	298,904	YES	705,929	14.74%	14.65%	4.24%	6.24%	10.24%	84,673	790,602	10.71%	16.41%
Wisconsin Public Service Corp	10,596,146	10,421,815	598,212	598,213	YES	892,009	8.56%	8.42%	3.74%	5.74%	9.74%	11,104	903,113	1.23%	8.52%
Wonewoc Electric & Water Util	4,818	5,006	235	235	YES	503	10.05%	10.44%	2.69%	4.69%	8.69%	-	503	N/A	10.44%
WISCONSIN TOTAL	68,786,885	67,939,689	3,775,405	3,776,519	N/A	6,049,427	8.90%	8.79%	3.56%	5.56%	9.56%	438,465	6,487,892	6.76%	9.43%

Appendix C: 2012 Renewable Energy Sales by State and Resource (MWh)

Includes both RPS Renewable Energy Sales and Green Pricing Sales

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 - Other	Non WI - Solar	Non WI - Other	Non WI - Subtotal	Grand Total
Adams-Columbia Electric Coop	7,346		9,685	1,464	459	-	-	-	238	-	19,192	-	31,377	-	-	-	-	-	-	-	-	-	31,377	50,569
Bangor Municipal Utility	129	-	-	-	-	-	817	-	-	-	946	258	2,545	41	-	-	-	-	-	-	321	-	3,165	4,111
Barron Light & Water Utility	584	-	-	-	-	-	2,459	-	-	-	3,043	776	7,667	124	-	-	-	-	-	-	968	-	9,535	12,578
Belmont Mun Water & Elect Util	328	413	49	25	-	-	-	-	-	-	815	-	1,364	-	-	-	-	-	-	-	-	-	1,364	2,179
Benton Mun Elec & Water Util	60	117	25	-	-	-	-	-	-	-	202	-	336	-	-	-	-	-	-	-	-	-	336	538
Black Earth Electric Utility	251	300	50	19	-	-	-	-	-	-	620	-	1,039	-	-	-	-	-	-	-	-	-	1,039	1,659
Bloomer Electric Utility	237	-	-	-	-	-	1,492	-	-	-	1,729	471	4,652	75	-	-	-	-	-	-	587	-	5,785	7,514
Cadott Light & Water Mun Util	63	-	-	-	-	-	403	-	-	-	466	127	1,255	20	-	-	-	-	-	-	158	-	1,560	2,026
Central Wisconsin Elec Coop	1,445	1,919	291	96	-	-	-	-	-	-	3,751	-	6,245	-	-	-	-	-	-	-	-	-	6,245	9,996
Centuria Municipal Electric Util	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clintonville	903	2,249	902	27	-	-	-	2,446	-	-	6,527	204	1,392	-	-	-	-	-	-	-	-	-	1,596	8,123
Consolidated Water Power Co	175,306	-	-	-	-	-	-	-	-	-	175,306	-	-	-	-	-	-	-	-	-	-	-	-	175,306
Cornell Mun Water & Elec Util	63	-	-	-	-	-	394	-	-	-	457	124	1,229	20	-	-	-	-	-	-	156	-	1,529	1,986
Dahlberg Light & Power Co	1,428	-	-	-	-	-	-	-	-	-	1,428	-	-	-	-	-	-	-	-	-	-	-	-	1,428
Dairyland Power Cooperative	27,024	5,068	20,225	7,058	-	-	181,010	-	61	-	240,446	-	131,240	23,113	1,365	-	-	-	-	-	-	-	155,718	396,164
East Central Energy	-	-	-	-	-	-	-	-	-	-	-	-	1,681	-	-	-	-	-	-	-	-	-	1,681	1,681

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 - Wood	Non-WI Biomass - Other	Non WI - Solar	Non WI - Other	Non WI - Subtotal	Grand Total
Elkhorn Light & Water	1,671	2,176	344	101	-	-	-	-	-	-	4,292	-	7,118	-	-	-	-	-	-	-	-	-	7,118	11,410
Gresham Mun Light & Pwr Util	319	410	47	25	-	-	-	-	-	-	801	-	1,337	-	-	-	-	-	-	-	-	-	1,337	2,138
Hazel Green Municipal Utility	106	171	37	-	-	-	-	-	-	-	314	-	519	-	-	-	-	-	-	-	-	-	519	833
Kiel	679	1,690	677	20	-	-	1,839	-	-	-	4,905	153	1,046	-	-	-	-	-	-	-	-	-	1,199	6,104
Madison Gas & Electric Co	278	68,746	975	32,248	-	-	-	1,333	-	-	103,581	1,683	320,686	-	-	-	-	-	-	-	-	-	322,369	425,950
Manitowoc Public Utilities	3,072	7,932	3,066	91	-	-	8,320	200	-	-	22,681	694	4,732	-	-	-	-	-	-	-	-	-	5,426	28,107
Marshfield Elec & Water Dept	4,956	13,188	6,612	-	-	-	-	-	-	-	24,756	780	-	-	-	-	-	-	-	-	-	-	780	25,536
Mazomanie Electric Utility	438	527	77	28	-	-	-	-	-	-	1,070	-	1,799	-	-	-	-	-	-	-	-	-	1,799	2,869
Medford Electric Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
North Central Power Co Inc	7,789	-	-	-	-	-	-	-	-	-	7,789	-	-	-	-	-	-	-	-	-	-	-	-	7,789
Northern States Power Co WI	94,919	-	-	-	1,888	168,168	-	-	-	-	264,975	2,313	639,217	10,575	-	32,978	-	82,489	-	-	-	-	767,572	1,032,547
Northwestern WI Elec Co	8,335	-	-	-	-	-	-	-	-	-	8,335	-	-	-	-	-	-	-	-	-	-	-	-	8,335
Oconto Electric Coop	5,794	4,608	2,316	-	-	-	-	-	-	-	12,718	276	-	-	-	-	-	-	-	-	-	-	276	12,994
Pardeeville (Village of) Elec Util	264	386	56	20	-	-	-	-	-	-	726	-	1,223	-	-	-	-	-	-	-	-	-	1,223	1,949
Pioneer Power & Light Co	273	320	61	14	-	-	-	-	-	-	668	-	1,092	-	-	-	-	-	-	-	-	-	1,092	1,760
Princeton Mun Wtr & Elec Util	153	226	29	15	-	-	-	-	-	-	423	-	704	-	-	-	-	-	-	-	-	-	704	1,127
Rice Lake Mun Wtr & Elec Util	741	-	-	-	-	4,665	-	-	-	-	5,406	1,472	14,544	235	-	-	-	-	-	1,836	-	-	18,087	23,493
Rock Energy Coop	3,977	5,173	777	251	-	-	-	-	-	-	10,178	-	16,954	-	-	-	-	-	-	-	-	-	16,954	27,132

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 - Wood & Wood	Non WI - Solar	Non WI - Other	Non WI - Subtotal	Grand Total
Sauk City Mun Wtr & Light Util	443	624	98	34	-	-	-	-	-	-	1,199	-	2,001	-	-	-	-	-	-	-	-	2,001	3,200
Shawano	2,432	6,055	2,427	72	-	-	6,587	1	-	-	17,574	550	3,746	-	-	-	-	-	-	-	-	4,296	21,870
Sheboygan Falls Utilities	2,679	3,494	536	162	-	-	-	-	-	-	6,871	-	11,412	-	-	-	-	-	-	-	-	11,412	18,283
Shullsburg Electric Utility	176	200	24	13	-	-	-	-	-	-	413	-	690	-	-	-	-	-	-	-	-	690	1,103
Spooner Municipal Utilities	153	-	-	-	-	969	-	-	-	-	1,122	306	3,019	49	-	-	-	-	-	382	-	3,756	4,878
Stratford Mun Wtr & Elec Utility	444	756	372	-	-	-	-	-	-	-	1,572	48	-	-	-	-	-	-	-	-	-	48	1,620
Superior Wtr Light & Pwr Co	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29,892	-	-	29,892	29,892
Trempealeau Mun Elc & Wtr Util	69	-	-	-	-	433	-	-	-	-	502	137	1,350	22	-	-	-	-	-	170	-	1,679	2,181
Washington Island Cooperative	240	408	204	-	-	-	-	-	-	-	852	24	-	-	-	-	-	-	-	-	-	24	876
Westfield Milling & Elec Co	184	282	46	7	-	-	-	-	-	-	519	-	898	-	-	-	-	-	-	-	-	898	1,417
Wisconsin Dells Mun Elec Util	841	1,066	170	57	-	-	-	-	-	-	2,134	-	3,532	-	-	-	-	-	-	-	-	3,532	5,666
Wisconsin Rapids	2,338	5,853	2,403	63	-	-	5,741	-	-	-	16,398	515	3,265	-	-	-	-	-	-	-	-	3,780	20,178
Wisconsin Electric Power Co	40,569	654,714	225,042	12,033	-	-	-	1,498	-	-	933,856	175,126	227,060	-	-	-	-	-	-	-	-	402,186	1,336,042
Wisconsin Power & Light	149,785	218,587	29,992	11,168	-	-	-	1,093	-	-	410,625	-	639,912	-	-	-	-	-	-	-	-	639,912	1,050,537
WPPI Energy	210,412	232,945	29,438	7,337	-	6,001	-	521	-	-	486,653	11,562	292,387	-	-	-	-	-	-	-	-	303,949	790,602
Wisconsin Public Service Corp	165,220	93,901	96,752	56,028	-	76,810	-	-	-	-	488,711	39,004	375,398	-	-	-	-	-	-	-	-	414,402	903,113
Wonewoc Electric & Water Util	88	80	-	-	-	5	-	-	-	-	173	-	422	-	-	-	-	-	-	-	-	422	595
TOTAL per State and Resource	925,004	1,344,270	425,584	127,470	1,888	443,626	24,933	4,945	-	-	3,297,720	236,603	2,768,085	34,274	1,365	32,978	29,892	87,067	-	-	-	3,190,264	6,487,984
% of Total 2012 Renewables	14.3%	20.7%	6.6%	2.0%	0.0%	6.8%	0.4%	0.1%	0.0%	0.0%	50.8%	3.6%	42.7%	0.5%	0.0%	0.5%	0.5%	1.3%	0.0%	0.0%	0.0%	49.2%	100.0%

Appendix D: 2012 Statistics Generated from Electric Provider Data

Includes both RPS Renewable Energy Sales and Green Pricing Sales

2012 Total Energy Sales to Wisconsin Retail Customers (renewable and nonrenewable)

	(MWh)	% of Total Energy Sales
2012 Total Wisconsin Retail Energy Sales	68,786,885	100.0%

Renewable Energy Sales by State

State	(MWh)	% of Total Energy Sales	% of Renewable Energy Sales
TOTAL Renewable Energy Sales from Wisconsin	3,297,720	4.8%	50.8%
TOTAL Renewable Energy Sales from Other States	3,190,264	4.6%	49.2%
TOTAL Renewable Energy Sales from ALL STATES	6,487,984	9.4%	100.0%

Renewable Energy Sales by Renewable Resource

Renewable Energy Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy Sales
Wind	4,112,355	6.0%	63.4%
Hydro	1,161,606	1.7%	17.9%
Biomass	1,209,077	1.8%	18.6%
Solar	4,945	0.0%	0.1%
TOTAL Renewable Energy Sales from ALL RESOURCES	6,487,984	9.4%	100.0%

Biomass Energy Sales Broken Down

Biomass Type	(MWh)	% of Total Sales	% of Renewable Sales
Refused-derived	34,866	0.1%	0.5%
Other*	112,000	0.2%	1.7%
Biogas	128,835	0.2%	2.0%
Wood or wood waste	473,518	0.7%	7.3%
Landfill gas	459,858	0.7%	7.1%
TOTAL from Biomass	1,209,077	1.8%	18.6%

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

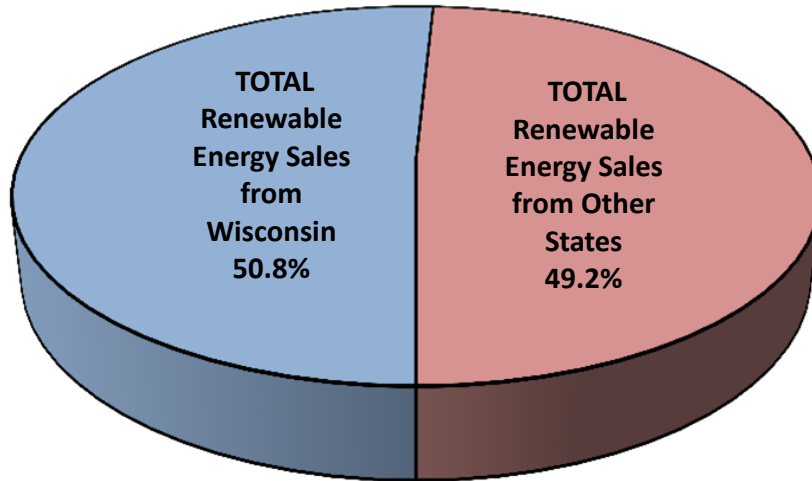
Renewable Energy Sales by State and Renewable Resource

State / Renewable Resource	(MWh)	% of Total Energy Sales	Energy Sales among WI Resources	% of Renewable Energy Sales among Non WI Resources	Energy Sales among ALL STATE Resources	% of Renewable Energy Sales among ALL STATE Resources
WI Wind	1,344,270	2.0%	40.8%			20.7%
WI Hydro	925,004	1.3%	28.0%			14.3%
WI Biomass	1,023,501	1.5%	31.0%			15.8%
WI Solar	4,945	0.0%	0.1%			0.1%
Non WI Wind	2,768,085	4.0%		86.8%		42.7%
Non WI Hydro	236,603	0.3%		7.4%		3.6%
Non WI Biomass	185,576	0.3%		5.8%		2.9%
Non WI Solar	-	0.0%		0.0%		0.0%
TOTAL Renewable Energy Sales from ALL STATES AND RESOURCES	6,487,984	9.4%				100.0%

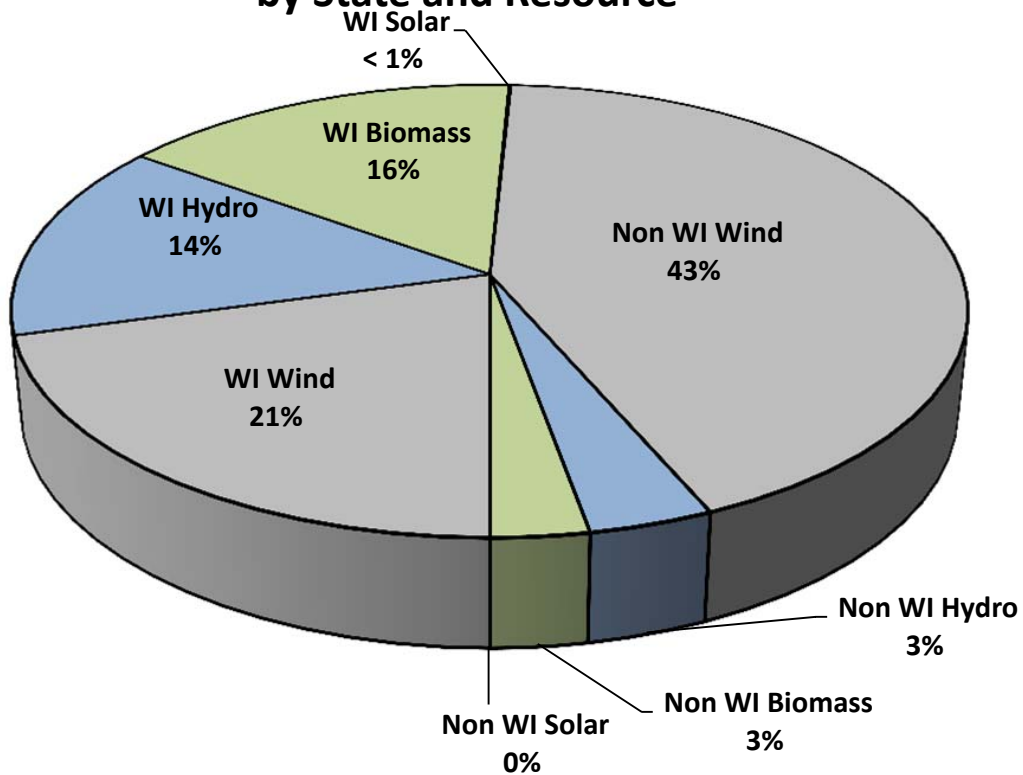
Appendix E: 2012 Figures of Statistics Generated from Electric Provider Data

Includes both RPS Renewable Energy Sales and Green Pricing Sales

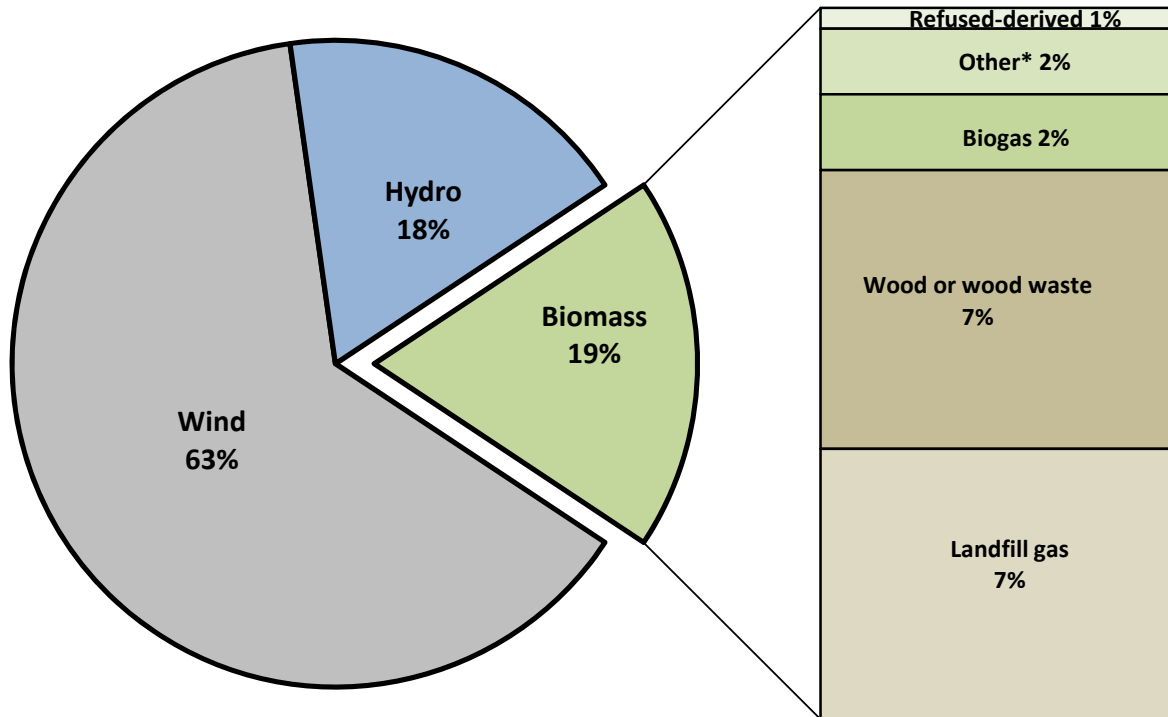
2012 Renewable Energy Sales by State



2012 Renewable Energy Sales by State and Resource

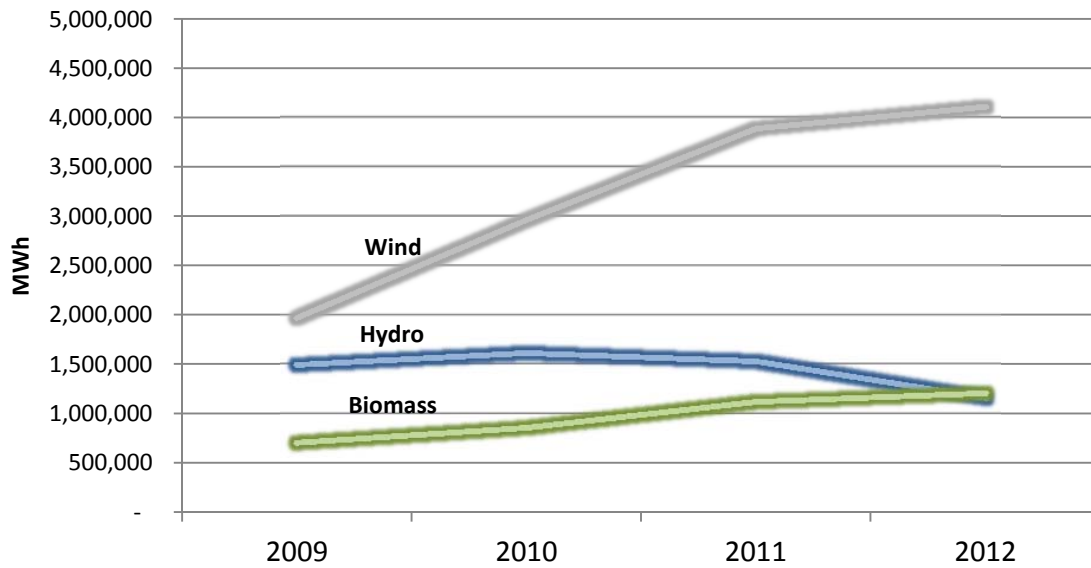


2012 Renewable Energy Sales by Resource

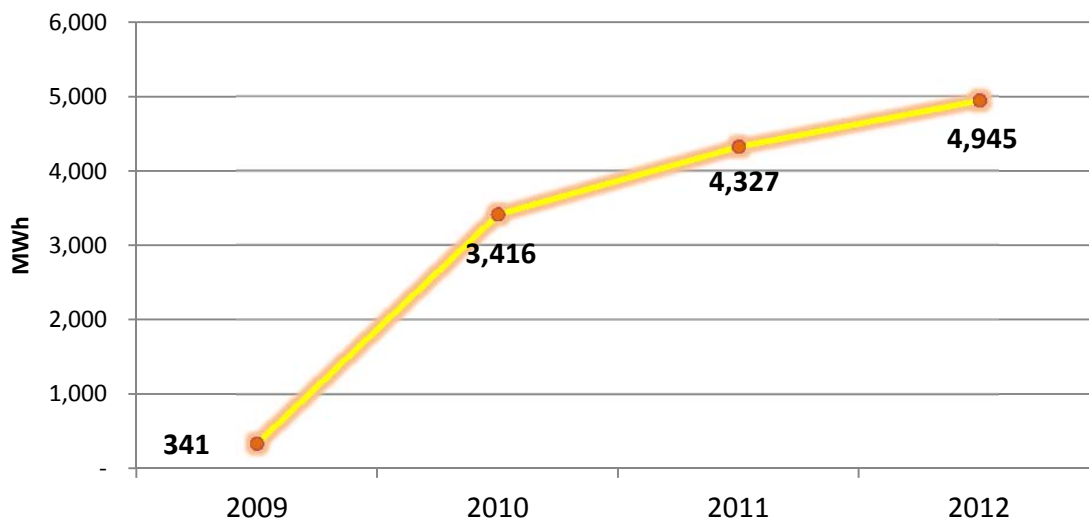


*Other biomass represents waste from paper products, processed plant materials, agriculture products, and animal waste

Renewable Energy Sales by Renewable Resource (2009-2012)



Renewable Energy Sales from Solar Photovoltaic (2009-2012)



*2009 data do not contain all renewable energy sales that fall under green pricing programs. None of these data include distributed generation that was used directly on site without being sold by a Wisconsin electric provider.