

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

June 7, 2022

FOR COMMISSION AGENDA

TO: The Commission

FROM: Martin R. Day, Administrator
Tara N. Bachman, Deputy Administrator
Tanner Blair, Bureau Director
Joe Fontaine, Policy Advisor
Tyler Meulemans, Public Utility Rates Analyst–Senior
Division of Energy Regulation and Analysis

RE: Electric Provider Renewable Portfolio Standard Compliance for 2021 5-RF-2021

Suggested Minute: The Commission accepted (all/some but not all/none) of the reports of Wisconsin electric providers and aggregators regarding compliance with the Compliance Year 2021 requirements of Wis. Stat. § 196.378(2)(a)2. The Commission directed the Division of Energy Regulation and Analysis to inform each electric provider and aggregator of its (compliance/compliance or noncompliance/noncompliance) with the statute.

2021 Renewable Portfolio Standard Report

Executive Summary

Commission staff reviewed the 2021 Renewable Portfolio Standard (RPS) reports filed by all electric providers and aggregators, and confirmed that each electric provider and aggregator was in compliance with its 2021 RPS requirements. Electric providers and aggregators accomplished compliance by retiring the required amounts of renewable energy certificates (RECs) within the Midwest Renewable Energy Tracking System (M-RETS). M-RETS verifies that each REC represents one megawatt-hour (MWh) of renewable energy, and once retired for the RPS, the REC cannot be used for any other program. Commission staff confirmed the amount of RECs that each electric provider and aggregator needed for compliance,

and verified that the minimum Wisconsin RPS-eligible REC requirements were retired in M-RETS.

Commission staff also verified that Wisconsin met its RPS goal of 10 percent of retail sales of electricity from renewable resources. Approximately 13.22 percent of 2021 total retail sales of electricity came from renewable resources. If generation from electric providers' voluntary renewable programs, such as green pricing and community solar, is added to the total, 13.78 percent of retail sales came from renewable resources in 2021.

Background

2005 Wisconsin Act 141 (Act 141) set a statewide goal of 10 percent of total Wisconsin retail sales of electricity from renewable resources by 2015, and also established requirements for all 117 electric distribution utilities, or "electric providers" as they are legally defined. Act 141 set baseline percentages for electric provider requirements, based on their average renewable energy percentages observed over the 2001 to 2003 period. For the initial compliance years (2006 to 2009), electric providers had to maintain their baseline percentages. During the 2010 to 2014 period, they had to increase their renewable percentages to 2.0 percent above baseline. Since 2015, they have been required to increase their renewable percentages to 6.0 percent above baseline. In order to achieve compliance, electric providers retire RECs that represent renewable energy generation. For more RPS legal and technical information, refer to Appendix A of this Memorandum.

RPS Compliance for 2021

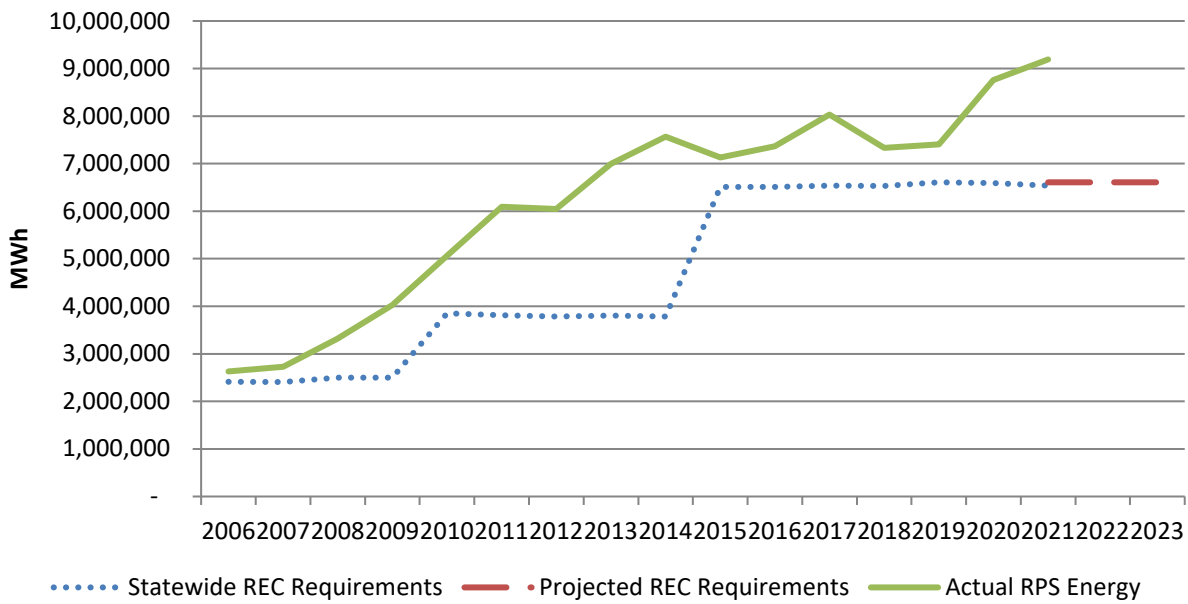
All electric providers and aggregators responded to Commission staff's data request on 2021 RPS compliance by filing reports in docket 5-RF-2021. Commission staff used this information to determine REC retirement requirements for compliance year 2021. Using

regulatory access to the M-RETS system, Commission staff then verified electric provider REC retirement activity and confirmed that each electric provider and aggregator retired at least the minimum amount of Wisconsin RPS-eligible RECs required for the Wisconsin RPS in 2021. Electric providers can meet their requirements by generating renewable energy in the compliance year and retiring the associated RECs within M-RETS, using banked (historical) RECs from prior years, or purchasing RECs from other electric providers. Using this verification process, Commission staff determined that all electric providers are in compliance with the RPS. In aggregate, 6,556,272 RECs were retired for compliance year 2021. Additional information on individual electric provider and aggregator requirements and REC retirements can be found in Appendix C of this Memorandum.

10 Percent Statewide Goal in 2021

In order to determine the statewide renewable energy percentage, Commission staff asked electric providers and aggregators to submit statistical information about actual renewable energy, by resource type, generated in the previous year. In 2021, over 9.19 million MWh of RPS-eligible energy was generated. This number divided by the total retail sales of Wisconsin electric providers yields a 2021 RPS renewable energy percentage of 13.22 percent, which exceeds the 10 percent statewide renewable energy goal. Wisconsin first met the 10 percent statewide renewable energy goal in 2013, and has met it every year since. Figure 1 illustrates the statewide REC requirements as compared to the actual RPS renewable energy generated in each applicable compliance year.

Figure 1 Wisconsin Statewide REC Requirements and Actual RPS Energy



Beyond compliance program requirements, electric providers and aggregators procure renewable energy for their other renewable energy programs, such as green pricing programs and community solar, for which some of their retail customers voluntarily pay an adder for renewable energy. 390,208 MWh were generated for these voluntary programs in 2021. Added together with the RPS energy noted above, the statewide renewable energy percentage was 13.78 percent in 2021.

Commission Alternatives

Alternative One: Accept all or some of the reports of Wisconsin electric providers and aggregators regarding compliance with the requirements of Wis. Stat. § 196.378(2)(a)2. The Division of Energy Regulation and Analysis is directed to inform each electric provider and aggregator of its compliance with the statute.

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

MRD:TCM:dsa:jlt:DL: 01870439

Attachments

Appendix A: Wisconsin RPS Legal and Technical Information

Appendix B: Electric Provider List

Appendix C: 2021 Total Retail Energy Sales and Renewable Energy by Wisconsin Electric Provider

Appendix D: 2021 Renewable Energy by State and Resource

Appendix E: 2021 Statistics Generated by Electric Provider Data

Appendix F: Figures of Statistics Generated from Electric Provider Data

Appendix A: Wisconsin RPS Legal and Technical Information

Wisconsin Stat. § 196.378 establishes the Wisconsin Renewable Portfolio Standard (RPS) and applies to all 117 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: (1) a statewide goal of 10 percent of total retail electric sales from renewable resources by 2015, and (2) 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 of 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. The statewide goal has been met every year since 2013 as well. 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. 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 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 eligible to create RECs that qualify as Renewable Resource Credits (RRCs). Incremental additions to capacity of facilities with in-service dates before 2004 also create RECs that qualify as RRCs. A Wisconsin RRC carries with it the value of being bankable 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 thus likely be eligible for the Wisconsin RPS and create RECs that qualify as RRCs. One REC may have multiple program eligibilities, as a facility may also seek certification with other state RPS compliance and/or voluntary programs. The Commission only has the authority to certify renewable facilities for the Wisconsin RPS and certify RECs as RRCs.

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 does not qualify as 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 creates RECs that qualify as RRCs, 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 qualifies as an RRC will not expire for the Wisconsin RPS until April 16, 2018 (through the 2017 compliance-year period). During this time, the electric provider may bank the RRC qualifying REC for future retirement, or trade it 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.

Appendix B: Electric Provider List			
in Order of 2021 RPS Renewable Energy as a Percent of 2021 RPS Requirements			
Electric Provider or Aggregator*	2021 RPS Renewable Energy as Percent of 2021 Total Retail Energy Sales	2021 RPS Percent Requirement	Percent of 2021 RPS Requirement Achieved in 2021
East Central Energy	25.00%	6.64%	377%
Northern States Power Co WI	34.66%	12.89%	269%
Pardeeville (Village of) Elec Util	20.60%	8.44%	244%
Princeton Mun Wtr & Elec Util	19.34%	8.21%	236%
Pioneer Power & Light Co	20.39%	8.71%	234%
Westfield Milling & Elec Co	20.54%	8.81%	233%
Adams-Columbia Electric Coop	20.61%	8.92%	231%
Belmont Mun Water & Elect Util	20.12%	8.76%	230%
Gresham Mun Light & Pwr Util	19.34%	8.43%	229%
Mazomanie Electric Utility	19.34%	8.45%	229%
Wonewoc Electric & Water Util	19.34%	8.69%	223%
Sheboygan Falls Utilities	19.34%	8.77%	221%
Shullsburg Electric Utility	19.34%	8.82%	219%
Sauk City Mun Wtr & Light Util	19.34%	8.82%	219%
Benton Mun Elec & Water Util	19.35%	8.86%	218%
Hazel Green Municipal Utility	19.34%	8.87%	218%
Wisconsin Dells Mun Elec Util	19.34%	8.89%	218%
Central Wisconsin Elec Coop	19.34%	8.94%	216%
Rock Energy Coop	19.12%	8.93%	214%
Wisconsin Power & Light	19.84%	9.28%	214%
Dairyland Power Cooperative*	17.89%	8.44%	212%
Black Earth Electric Utility	19.34%	9.23%	210%
Elkhorn Light & Water	19.34%	9.43%	205%
Madison Gas & Electric Co	14.23%	7.73%	184%
Clintonville Water & Electric Utility	12.28%	7.44%	165%
Shawano Municipal Utilities	12.09%	7.34%	165%
Wisconsin Rapids WW & Light	12.43%	8.73%	142%
Kiel (City of) Utilities	12.38%	9.07%	136%
Manitowoc Public Utilities	12.21%	9.19%	133%
Rice Lake Mun Wtr & Elec Util	16.26%	12.53%	130%
Consolidated Water Power Company	23.46%	18.47%	127%
Barron Light & Water Utility	15.99%	12.85%	124%
Bangor Municipal Utility	15.40%	12.62%	122%
Cornell Mun Water & Elec Util	14.99%	12.65%	119%
Medford Electric Utility	14.69%	12.41%	118%
Northwestern WI Elec Co	16.89%	14.48%	117%
North Central Power Co Inc	40.65%	35.11%	116%
Trempealeau Mun Elc & Wtr Util	13.70%	12.78%	107%
Spoooner Municipal Utilities	12.89%	12.55%	103%
Cadott Light & Water Mun Util	12.54%	12.72%	99%
Superior Wtr Light & Pwr Co	8.33%	8.53%	98%
Oconto Electric Coop	10.34%	10.71%	97%
Washington Island Cooperative	8.97%	9.35%	96%
WPPI Energy*	9.74%	10.24%	95%
Bloomer Electric Utilty	11.75%	12.47%	94%
Stratford Mun Wtr & Elec Utility	8.25%	9.31%	89%
Wisconsin Public Service Corp	8.08%	9.74%	83%
Marshfield Elec & Water Dept	6.55%	8.91%	73%
Wisconsin Electric Power Co	5.76%	8.27%	70%
Dahlberg Light & Power Co	1.20%	7.37%	16%
WISCONSIN TOTAL	13.22%	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. If an electric provider has a percentage below its RPS requirement, it has used banked RECs and/or purchased RECs from another provider.

Appendix C: 2021 Total Retail Energy Sales & Renewable Energy by Wisconsin Electric Provider

COLUMN KEY FOR TABLE BELOW

Columns 7-9, 13, 14, and 16 highlight 2021 RPS and other electric provider programs' renewable energy and percentages. Other columns show compliance activity and information used in calculations. See below for description of each column.

1. List of Wisconsin electric providers or wholesale aggregators 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. 2021 total retail sales of electricity per electric provider as reported to the Commission.
3. 2016-2018 average annual total retail sales of electricity, as reported to the Commission. Each year's RPS requirement % is applied to the average of the previous three years of annual retail sales.
4. Column 3 multiplied by electric provider's 2021 RPS percent requirement (Col. 11) equals "Renewable Energy Certificates" (RECs) needed.
5. Electric provider REC retirements for the RPS, as reported to PSCW and verified by Commission staff through M-RETS database.
6. Assessment of electric provider's compliance activity for CY 2021. If Col. 5 is greater or equal to Co. 4 then "YES" in compliance, otherwise "NO".
7. Electricity generated by a renewable resource in 2021 and eligible for RPS, as reported by electric provider. This column does not include renewable energy from other electric provider renewable programs.
8. Column 7 divided by Column 3
9. Column 7 divided by Column 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 wholesale aggregator 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 3 electric providers that are an exception this due to 2013 Wisconsin Act 290: requirements for 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. 2021 renewable energy generated and part of utility's other renewable energy programs, such as Green Pricing Program, Community Solar, or Renewable Rider, as reported to the Commission.
14. 2021 Total renewable energy that include RPS eligible and other renewabl programs (Column 7 plus Column 13).
15. 2021 Other electric provider renewable program energy as a percent of total 2021 RPS eligible and other renewable energy (Column 14 divided by Column 13).
16. All 2021 renewable energy (RPS and Other) divided by 2021 total retail sales of electricity (Column 14 divided by Column 2).

* Indicates Wholesale Aggregator

1	Total Retail Energy Sales Information		CY 2021 Compliance Activity			2021 RPS Renewable Energy Information			Provider RPS Requirements			Other Renewable Energy Program Information			RPS + GPP
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2021 Retail Sales (MWh)	2018-2020 Ave. Retail Sales (MWh)	2021 RECs Required	2021 RECs Retired	In Compliance?	Actual 2021 RPS Energy (MWh)	Actual 2021 RPS Energy as % of Ave. Sales	Actual 2021 RPS Energy as % of 2021 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2021 Other Renew Energy (MWh)	2021 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2021 Retail Sales
Adams-Columbia Electric Coop	556,612	525,857	46,906	46,906	YES	114,727	21.82%	20.61%	2.92%	4.92%	8.92%	-	114,727	0.00%	20.61%
Bangor Municipal Utility	25,351	26,461	3,339	3,339	YES	3,905	14.76%	15.40%	6.62%	8.62%	12.62%	-	3,905	0.00%	15.40%
Barron Light & Water Utility	78,666	80,157	10,300	10,300	YES	12,582	15.70%	15.99%	6.85%	8.85%	12.85%	-	12,582	0.00%	15.99%
Belmont Mun Water & Elect Util	22,905	23,207	2,033	2,033	YES	4,609	19.86%	20.12%	2.76%	4.76%	8.76%	-	4,609	0.00%	20.12%
Benton Mun Elec & Water Util	6,269	5,475	485	485	YES	1,213	22.15%	19.35%	2.86%	4.86%	8.86%	-	1,213	0.00%	19.35%
Black Earth Electric Utility	16,551	15,959	1,473	1,473	YES	3,201	20.06%	19.34%	3.23%	5.23%	9.23%	-	3,201	0.00%	19.34%
Bloomer Electric Utility	58,485	56,816	7,085	7,085	YES	6,874	12.10%	11.75%	6.47%	8.47%	12.47%	-	6,874	0.00%	11.75%
Cadott Light & Water Mun Util	12,960	12,765	1,624	1,624	YES	1,625	12.73%	12.54%	6.72%	8.72%	12.72%	-	1,625	0.00%	12.54%
Central Wisconsin Elec Coop	109,929	102,034	9,122	9,122	YES	21,259	20.84%	19.34%	2.94%	4.94%	8.94%	-	21,259	0.00%	19.34%
Clintonville Water & Electric Utility	109,134	113,971	8,479	8,479	YES	13,399	11.76%	12.28%	1.44%	3.44%	7.44%	-	13,399	0.00%	12.28%
Consolidated Water Power Company	793,133	963,979	178,047	186,089	YES	186,089	19.30%	23.46%	12.47%	14.47%	18.47%	-	186,089	0.00%	23.46%
Cornell Mun Water & Elec Util	12,498	12,704	1,607	1,607	YES	1,874	14.75%	14.99%	6.65%	8.65%	12.65%	-	1,874	0.00%	14.99%
Dahlberg Light & Power Co	109,072	106,602	7,857	7,857	YES	1,314	1.23%	1.20%	1.37%	3.37%	7.37%	-	1,314	0.00%	1.20%
Dairyland Power Cooperative*	3,432,998	3,408,550	287,682	287,682	YES	614,232	18.02%	17.89%	2.44%	4.44%	8.44%	5,634	619,866	0.91%	18.06%
East Central Energy	54,780	53,823	3,574	13,901	YES	13,695	25.44%	25.00%	0.64%	2.64%	6.64%	206	13,901	1.48%	25.38%
Elkhorn Light & Water	125,641	118,074	11,134	11,134	YES	24,298	20.58%	19.34%	3.43%	5.43%	9.43%	-	24,298	0.00%	19.34%
Gresham Mun Light & Pwr Util	21,522	23,610	1,990	1,990	YES	4,163	17.63%	19.34%	2.43%	4.43%	8.43%	-	4,163	0.00%	19.34%

1	Total Retail Energy Sales Information		CY 2021 Compliance Activity			2021 RPS Renewable Energy Information			Provider RPS Requirements			Other Renewable Energy Program Information			RPS + GPP
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2021 Retail Sales (MWh)	2018-2020 Ave. Retail Sales (MWh)	2021 RECs Required	2021 RECs Retired	In Compliance?	Actual 2021 RPS Energy (MWh)	Actual 2021 RPS Energy as % of Ave. Sales	Actual 2021 RPS Energy as % of 2021 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2021 Other Renew Energy (MWh)	2021 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2021 Retail Sales
Hazel Green Municipal Utility	8,571	7,928	703	703	YES	1,658	20.91%	19.34%	2.87%	4.87%	8.87%	-	1,658	0.00%	19.34%
Kiel (City of) Utilities	106,245	96,598	8,761	8,761	YES	13,150	13.61%	12.38%	3.07%	5.07%	9.07%	-	13,150	0.00%	12.38%
Madison Gas & Electric Co	3,200,753	3,204,518	247,709	247,710	YES	455,402	14.21%	14.23%	1.73%	3.73%	7.73%	124,843	580,245	21.52%	18.13%
Manitowoc Public Utilities	532,692	520,260	47,812	47,812	YES	65,024	12.50%	12.21%	3.19%	5.19%	9.19%	213	65,237	0.33%	12.25%
Marshfield Elec & Water Dept	360,408	366,699	32,673	32,673	YES	23,595	6.43%	6.55%	2.91%	4.91%	8.91%	-	23,595	0.00%	6.55%
Mazomanie Electric Utility	56,154	42,137	3,561	3,561	YES	10,860	25.77%	19.34%	2.45%	4.45%	8.45%	-	10,860	0.00%	19.34%
Medford Electric Utility	120,161	123,112	15,278	15,278	YES	17,651	14.34%	14.69%	6.41%	8.41%	12.41%	-	17,651	0.00%	14.69%
North Central Power Co Inc	36,388	35,247	12,375	12,375	YES	14,793	41.97%	40.65%	29.11%	31.11%	35.11%	-	14,793	0.00%	40.65%
Northern States Power Co WI	6,648,445	6,656,628	858,032	858,032	YES	2,304,485	34.62%	34.66%	6.89%	8.89%	12.89%	31,353	2,335,838	1.34%	35.13%
Northwestern WI Elec Co	181,796	177,058	25,638	25,638	YES	30,701	17.34%	16.89%	8.48%	10.48%	14.48%	-	30,701	0.00%	16.89%
Oconto Electric Coop	120,140	115,965	12,420	13,417	YES	12,420	10.71%	10.34%	4.71%	6.71%	10.71%	-	12,420	0.00%	10.34%
Pardeeville (Village of) Elec Util	19,762	19,509	1,647	1,647	YES	4,070	20.86%	20.60%	2.44%	4.44%	8.44%	-	4,070	0.00%	20.60%
Pioneer Power & Light Co	18,539	17,639	1,536	1,536	YES	3,781	21.44%	20.39%	2.71%	4.71%	8.71%	-	3,781	0.00%	20.39%
Princeton Mun Wtr & Elec Util	11,742	10,143	833	833	YES	2,271	22.39%	19.34%	2.21%	4.21%	8.21%	-	2,271	0.00%	19.34%
Rice Lake Mun Wtr & Elec Util	153,947	158,375	19,844	19,844	YES	25,035	15.81%	16.26%	6.53%	8.53%	12.53%	-	25,035	0.00%	16.26%
Rock Energy Coop	321,150	296,020	26,435	26,435	YES	61,419	20.75%	19.12%	2.93%	4.93%	8.93%	-	61,419	0.00%	19.12%

1	Total Retail Energy Sales Information		CY 2021 Compliance Activity			2021 RPS Renewable Energy Information			Provider RPS Requirements			Other Renewable Energy Program Information			RPS + GPP
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Electric Provider or Aggregator*	2021 Retail Sales (MWh)	2018-2020 Ave. Retail Sales (MWh)	2021 RECs Required	2021 RECs Retired	In Compliance?	Actual 2021 RPS Energy (MWh)	Actual 2021 RPS Energy as % of Ave. Sales	Actual 2021 RPS Energy as % of 2021 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2021 Other Renew Energy (MWh)	2021 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2021 Retail Sales
Sauk City Mun Wtr & Light Util	32,535	31,745	2,800	2,800	YES	6,292	19.82%	19.34%	2.82%	4.82%	8.82%	-	6,292	0.00%	19.34%
Shawano Municipal Utilities	273,192	284,979	20,917	20,917	YES	33,023	11.59%	12.09%	1.34%	3.34%	7.34%	-	33,023	0.00%	12.09%
Sheboygan Falls Utilities	186,567	177,368	15,555	15,555	YES	36,080	20.34%	19.34%	2.77%	4.77%	8.77%	-	36,080	0.00%	19.34%
Shullsburg Electric Utility	12,000	11,072	977	977	YES	2,321	20.96%	19.34%	2.82%	4.82%	8.82%	-	2,321	0.00%	19.34%
Spooner Municipal Utilities	30,464	30,881	3,876	3,876	YES	3,927	12.72%	12.89%	6.55%	8.55%	12.55%	-	3,927	0.00%	12.89%
Stratford Mun Wtr & Elec Utility	16,346	17,236	1,605	1,605	YES	1,348	7.82%	8.25%	3.31%	5.31%	9.31%	-	1,348	0.00%	8.25%
Superior Wtr Light & Pwr Co	795,136	776,663	66,249	66,249	YES	66,249	8.53%	8.33%	2.53%	4.53%	8.53%	-	66,249	0.00%	8.33%
Trempealeau Mun Elc & Wtr Util	14,830	15,182	1,940	1,940	YES	2,031	13.38%	13.70%	6.78%	8.78%	12.78%	-	2,031	0.00%	13.70%
Washington Island Cooperative	9,240	9,654	903	903	YES	829	8.59%	8.97%	3.35%	5.35%	9.35%	-	829	0.00%	8.97%
Westfield Milling & Elec Co	12,886	12,692	1,118	1,118	YES	2,647	20.86%	20.54%	2.81%	4.81%	8.81%	-	2,647	0.00%	20.54%
Wisconsin Dells Mun Elec Util	71,386	67,124	5,967	5,967	YES	13,806	20.57%	19.34%	2.89%	4.89%	8.89%	-	13,806	0.00%	19.34%
Wisconsin Electric Power Co	23,573,061	23,620,568	1,953,421	1,953,421	YES	1,356,970	5.74%	5.76%	2.27%	4.27%	8.27%	95,884	1,452,854	6.60%	6.16%
Wisconsin Power & Light	11,185,441	10,943,837	1,015,588	1,015,588	YES	2,219,494	20.28%	19.84%	3.28%	5.28%	9.28%	42,978	2,262,472	1.90%	20.23%
Wisconsin Public Service Corp	11,043,566	10,811,209	1,053,012	1,053,012	YES	892,335	8.25%	8.08%	3.74%	5.74%	9.74%	7,847	900,182	0.87%	8.15%
Wisconsin Rapids WW & Light	258,487	260,921	22,778	22,778	YES	32,128	12.31%	12.43%	2.73%	4.73%	8.73%	139	32,267	0.43%	12.48%
Wonewoc Electric & Water Util	4,829	4,602	400	400	YES	934	20.29%	19.34%	2.69%	4.69%	8.69%	-	934	0.00%	19.34%
WPPI Energy*	4,573,711	4,607,449	471,803	471,804	YES	445,342	9.67%	9.74%	4.24%	6.24%	10.24%	81,111	526,453	15.41%	11.51%
WISCONSIN TOTAL	69,537,075	69,181,062	6,536,903	6,556,272	N/A	9,191,130	13.29%	13.22%	N/A	N/A	N/A	390,208	9,581,338	4.07%	13.78%

Appendix D: 2021 Renewable Energy by State and Resource (MWh)

Includes both Wisconsin Renewable Portfolio Standard and Other Electric Provider Renewable Energy Program Energy

Electric Provider/Aggregator*	WI Hydro	WI Wind	Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - Waste	WI Biomass - Wood & 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 - Other	Non WI - Solar	Non WI - Other	Subtotal	Non WI - Subtotal	Grand Total
Adams-Columbia Electric Coop	13,643	10,048	1,056	-	-	-	-	-	-	-	24,747	-	-	89,980	-	-	-	-	-	-	-	-	-	89,980	114,727
Bangor Municipal Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	3,905	-	-	-	-	-	-	-	-	-	3,905	3,905
Barron Light & Water Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	12,582	-	-	-	-	-	-	-	-	-	12,582	12,582
Belmont Mun Water & Elect Util	548	404	42	-	-	-	-	-	-	-	994	-	-	3,615	-	-	-	-	-	-	-	-	-	3,615	4,609
Benton Mun Elec & Water Util	144	106	11	-	-	-	-	-	-	-	261	-	-	952	-	-	-	-	-	-	-	-	-	952	1,213
Black Earth Electric Utility	381	280	29	-	-	-	-	-	-	-	690	-	-	2,511	-	-	-	-	-	-	-	-	-	2,511	3,201
Bloomer Electric Utilty	-	-	-	-	-	-	-	-	-	-	-	-	-	6,874	-	-	-	-	-	-	-	-	-	6,874	6,874
Cadott Light & Water Mun Util	-	-	-	-	-	-	-	-	-	-	-	-	-	1,625	-	-	-	-	-	-	-	-	-	1,625	1,625
Central Wisconsin Elec Coop	2,528	1,862	196	-	-	-	-	-	-	-	4,586	-	-	16,673	-	-	-	-	-	-	-	-	-	16,673	21,259
Clintonville Consolidated Water Power Co	980	862	244	94	5	119	5,937	514	-	-	8,755	411	-	4,233	-	-	-	-	-	-	-	-	-	4,644	13,399
Cornell Mun Water & Elec Util	186,089	-	-	-	-	-	-	-	-	-	186,089	-	-	-	-	-	-	-	-	-	-	-	-	-	186,089
Dahlberg Light & Power Co	-	-	-	-	-	-	-	-	-	-	-	-	-	1,874	-	-	-	-	-	-	-	-	-	1,874	1,874
Dairyland Power Cooperative	1,314	-	-	-	-	-	-	-	-	-	1,314	-	-	-	-	-	-	-	-	-	-	-	-	-	1,314
Dairyland Power Cooperative	43,905	233,166	11,727	4,324	-	-	-	-	24,208	-	313,872	13,647	-	271,112	8,375	-	-	-	-	-	-	9,402	-	302,536	616,408
East Central Energy	-	-	-	-	-	-	-	-	-	-	-	-	-	13,901	-	-	-	-	-	-	-	-	-	13,901	13,901

Electric Provider/Aggregator*	WI Hydro	WI Wind	WI Biomass - Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - Waste	WI Biomass - Wood & 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	Subtotal	Non WI -	Grand Total
Elkhorn Light & Water	2,889	2,128	224	-	-	-	-	-	-	-	5,241	-	-	19,057	-	-	-	-	-	-	-	-	-	19,057	24,298
Gresham Mun Light & Pwr Util	495	365	38	-	-	-	-	-	-	-	898	-	-	3,265	-	-	-	-	-	-	-	-	-	3,265	4,163
Hazel Green Municipal Utility	197	145	15	-	-	-	-	-	-	-	357	-	-	1,301	-	-	-	-	-	-	-	-	-	1,301	1,658
Kiel	962	846	240	92	5	117	5,826	505	-	-	8,593	403	-	4,154	-	-	-	-	-	-	-	-	-	4,557	13,150
Madison Gas & Electric Co	549	60,139	4,890	8,536	80	-	-	-	105,385	48,278	227,857	4,881	-	347,507	-	-	-	-	-	-	-	-	-	352,388	580,245
Manitowoc Public Utilities	4,757	4,184	1,185	456	23	578	29,021	2,495	-	-	42,699	1,995	-	20,543	-	-	-	-	-	-	-	-	-	22,538	65,237
Marshfield Elec & Water Dept	9,267	2,871	-	1,510	-	-	-	-	4,580	-	18,228	-	-	5,367	-	-	-	-	-	-	-	-	-	5,367	23,595
Mazomanie Electric Utility	1,291	951	100	-	-	-	-	-	-	-	2,342	-	-	8,518	-	-	-	-	-	-	-	-	-	8,518	10,860
Medford Electric Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	17,651	-	-	-	-	-	-	-	-	-	17,651	17,651
North Central Power Co Inc	8,546	-	-	-	-	-	-	-	-	-	8,546	-	-	6,247	-	-	-	-	-	-	-	-	-	6,247	14,793
Northern States Power Co WI	130,911	-	-	728	6,103	34,710	-	3,355	-	-	175,807	14,095	-	2,002,504	-	-	37,614	20,725	-	85,094	-	-	-	2,160,031	2,335,838
Northwestern WI Elec Co	7,269	-	-	-	-	-	-	-	-	-	7,269	-	-	23,432	-	-	-	-	-	-	-	-	-	23,432	30,701
Oconto Electric Coop	4,331	1,002	298	16	357	-	208	-	-	-	6,212	-	-	6,208	-	-	-	-	-	-	-	-	-	6,208	12,420
Pardeeville (Village of) Elec Util	484	356	37	-	-	-	-	-	-	-	877	-	-	3,193	-	-	-	-	-	-	-	-	-	3,193	4,070
Pioneer Power & Light Co	450	331	35	-	-	-	-	-	-	-	816	-	-	2,965	-	-	-	-	-	-	-	-	-	2,965	3,781
Princeton Mun Wtr & Elec Util	270	199	21	-	-	-	-	-	-	-	490	-	-	1,781	-	-	-	-	-	-	-	-	-	1,781	2,271
Rice Lake Mun Wtr & Elec Util	-	-	-	-	-	-	-	-	-	-	-	-	-	25,035	-	-	-	-	-	-	-	-	-	25,035	25,035
Rock Energy Coop	7,304	5,379	565	-	-	-	-	-	-	-	13,248	-	-	48,171	-	-	-	-	-	-	-	-	-	48,171	61,419

Electric Provider/Aggregator*	WI Hydro	WI Wind	WI Biomass - Landfill gas	WI Biomass - Biogas	WI Biomass - Refuse-derived fuel	WI Biomass - Waste	WI Biomass - Wood & 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	Subtotal	Non WI - Grand Total	
Sauk City Mun Wtr & Light Util		748	551	58	-	-	-	-	-	-	-	1,357	-	4,935	-	-	-	-	-	-	-	-	-	4,935	6,292
Shawano		2,416	2,125	602	231	12	294	14,630	1,267	-	21,577	1,013	10,433	-	-	-	-	-	-	-	-	-	-	11,446	33,023
Sheboygan Falls Utilities		4,290	3,160	332	-	-	-	-	-	-	7,782	-	28,298	-	-	-	-	-	-	-	-	-	-	28,298	36,080
Shullsburg Electric Utility		276	203	21	-	-	-	-	-	-	500	-	1,821	-	-	-	-	-	-	-	-	-	-	1,821	2,321
Spooner Municipal Utilities											-		3,927											3,927	3,927
Stratford Mun Wtr & Elec Utility		474	168	34	45	-	4	-	267	-	992	42	314	-	-	-	-	-	-	-	-	-	-	356	1,348
Superior Wtr Light & Pwr Co		-	-	-	-	-	-	-	-	-	-	-	66,249	-	-	-	-	-	-	-	-	-	-	66,249	66,249
Trempealeau Mun Eic & Wtr Util											-		2,031											2,031	2,031
Washington Island Cooperative		297	103	18	29	-	-	-	165	-	612	26	191	-	-	-	-	-	-	-	-	-	-	217	829
Westfield Milling & Elec Co		315	232	24	-	-	-	-	-	-	571	-	2,076	-	-	-	-	-	-	-	-	-	-	2,076	2,647
Wisconsin Dells Mun Elec Util		1,642	1,209	127	-	-	-	-	-	-	2,978	-	10,828	-	-	-	-	-	-	-	-	-	-	10,828	13,806
Wisconsin Electric Power Co		41,871	668,702	176,712	3,552	6,249	128,088	-	5,947	-	1,031,121	336,016	85,717	-	-	-	-	-	-	-	-	-	-	421,733	1,452,854
Wisconsin Power & Light		263,937	194,389	20,423	-	-	-	-	-	-	478,749	-	1,783,723	-	-	-	-	-	-	-	-	-	-	1,783,723	2,262,472
Wisconsin Public Service Corp		308,213	109,212	9,883	36,056	13,584	-	-	193,656	-	670,604	32,279	197,299	-	-	-	-	-	-	-	-	-	-	229,578	900,182
Wisconsin Rapids		2,350	2,067	586	225	11	286	14,373	1,233	-	21,131	986	10,150	-	-	-	-	-	-	-	-	-	-	11,136	32,267
Wonewoc Electric & Water Util		111	83	10	-	-	-	-	-	-	204	-	730	-	-	-	-	-	-	-	-	-	-	730	934
WPPI Energy		199,212	194,024	10,986	10,512	-	578	-	20,705	-	436,017	4,203	86,233	-	-	-	-	-	-	-	-	-	-	90,436	526,453
TOTAL per State and Resource		1,255,656	1,501,852	240,769	66,406	26,429	164,774	69,995	364,283	48,278	3,738,441	409,997	5,271,691	8,375	-	37,614	20,725	-	94,495	-	-	-	5,842,897	9,577,880	
% of Total Renewables		13.1%	15.7%	2.5%	0.7%	0.3%	1.7%	0.7%	3.8%	0.5%	39.0%	4.3%	55.0%	0.1%	0.0%	0.4%	0.2%	0.0%	1.0%	0.0%	-	-	61.0%	100.0%	

Appendix E: 2021 Statistics Generated from Electric Provider Data

Includes both RPS and Green Pricing Program Renewable Energy

2021 Total Electric Energy Sales to Wisconsin Retail Customers (from renewable and nonrenewable resources)

	(MWh)	% of Total Energy Sales
2021 Total Wisconsin Retail Energy Sales	69,537,075	100.0%

Renewable Energy by State

State	(MWh)	% of Total Energy Sales	% of Renewable Energy
TOTAL Renewable Energy from Wisconsin	3,738,441	5.4%	39.0%
TOTAL Renewable Energy from Other States	5,842,897	8.4%	61.0%
TOTAL Renewable Energy from ALL STATES	9,581,338	13.8%	100.0%

Renewable Energy by Renewable Resource

Renewable Energy Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy
Wind	6,773,543	9.7%	70.7%
Hydro	1,665,653	2.4%	17.4%
Biomass	635,087	0.9%	6.6%
Solar	458,778	0.7%	4.8%
Other	48,278	0.1%	0.5%
TOTAL Renewable Energy from ALL RESOURCES	9,581,338	13.8%	100.0%

Biomass Energy Broken Down

Biomass Type	(MWh)	% of Total Sales	% of Renewable Energy
Refuse-derived	64,043	0.1%	0.7%
Other*	69,995	0.1%	0.7%
Biogas	66,406	0.1%	0.7%
Landfill gas	249,144	0.4%	2.6%
Wood or wood waste	185,499	0.3%	1.9%
TOTAL from Biomass	635,087	0.9%	6.6%

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

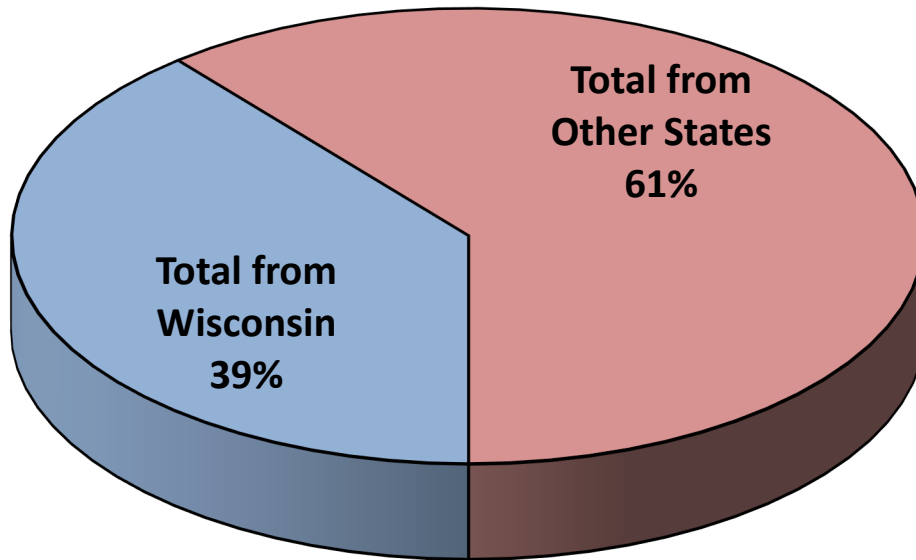
Renewable Energy by State and Renewable Resource

State and Renewable Resource	(MWh)	% of Total Energy Sales	Renewable Energy % of
WI Wind	1,501,852	2.2%	15.7%
WI Hydro	1,255,656	1.8%	13.1%
WI Biomass	568,373	0.8%	5.9%
WI Solar	364,283	0.5%	3.8%
WI Other	48,278	0.1%	0.5%
Non WI Wind	5,271,691	7.6%	55.0%
Non WI Hydro	409,997	0.6%	4.3%
Non WI Biomass	66,714	0.1%	0.7%
Non WI Solar	94,495	0.1%	1.0%
TOTAL Renewable Energy from ALL STATES AND RESOURCES	9,581,338	13.8%	100.0%

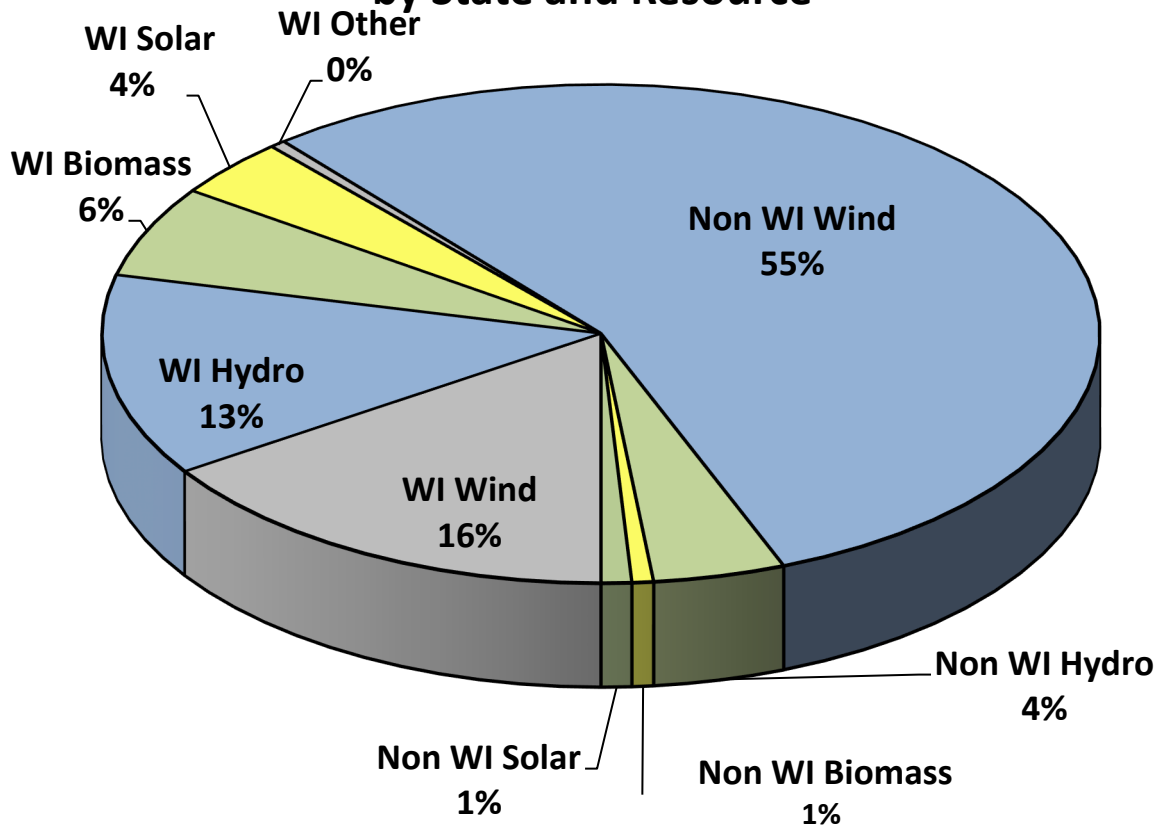
Appendix F: 2021 Figures of Statistics Generated from Electric Provider Data

Includes both Wisconsin RPS and Green Pricing Program Renewable Energy

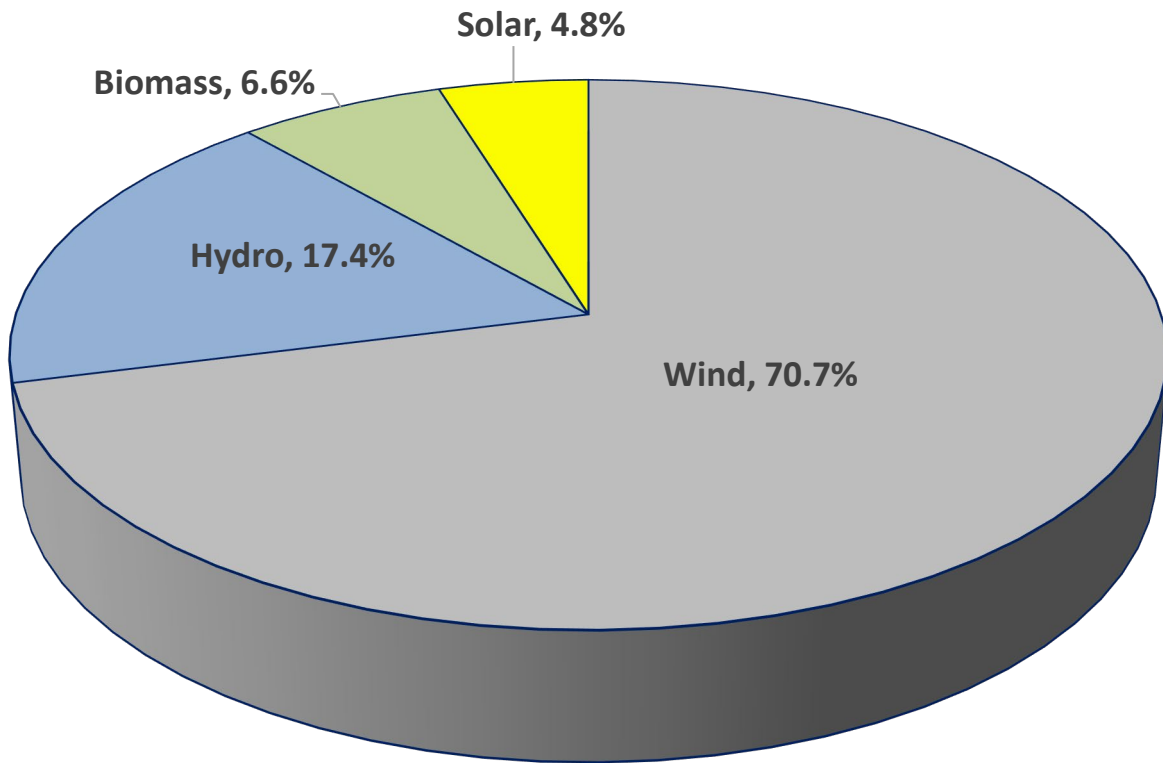
2021 Renewable Energy by State



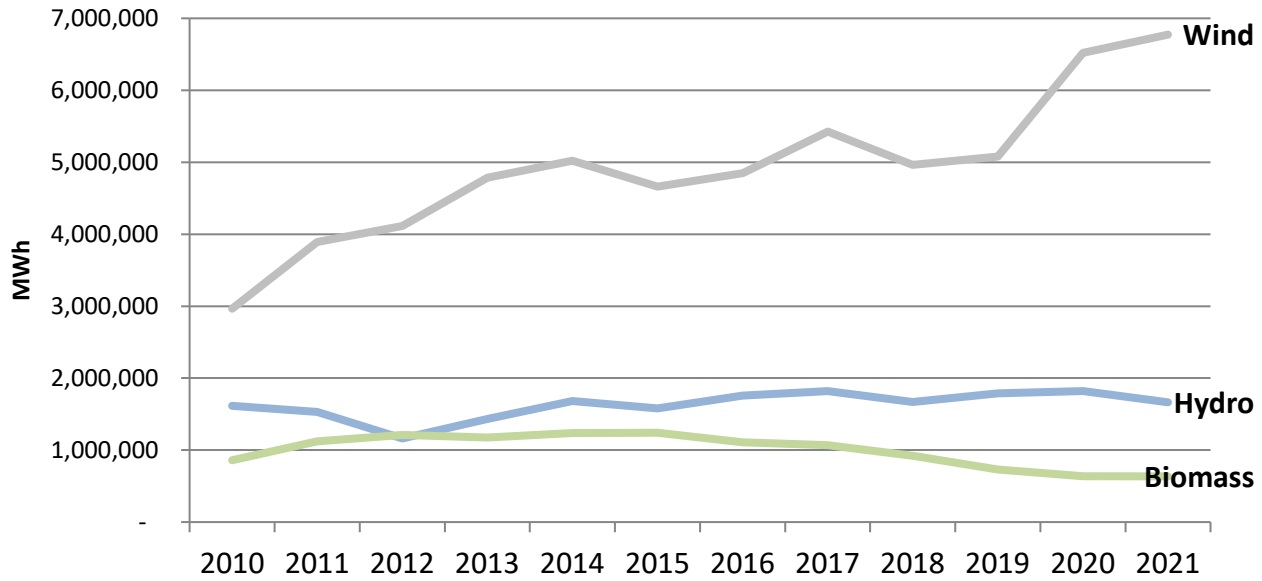
2021 Renewable Energy by State and Resource



2021 Total Renewable Energy by Resource



Renewable Energy by Renewable Resource (2010-2021)



Renewable Energy from Solar Photovoltaic (2010-2021)

