

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

July 1, 2021

FOR COMMISSION AGENDA

TO: The Commission

FROM: Martin R. Day, Administrator
Tara N. Bachman, Deputy Administrator
Tyler Meulemans, Public Utility Rates Analyst
Division of Energy Regulation and Analysis

RE: Electric Provider Renewable Portfolio Standard Compliance for 2020 5-RF-2020

Suggested Minute: The Commission (accepted/did not accept) the reports of Wisconsin electric providers and aggregators regarding compliance with the Compliance Year 2020 requirements of Wis. Stat. § 196.378(2)(a)2. The Commission directed the Division of Energy Regulation and Analysis to inform each electric provider of its (compliance/noncompliance) with the statute.

2020 Renewable Portfolio Standard Report

Executive Summary

Commission staff reviewed the 2020 Renewable Portfolio Standard (RPS) reports filed by all electric providers, and confirms that each electric provider is in compliance with its 2020 RPS requirements. Electric providers accomplished compliance by retiring the required amounts of renewable energy certificates (REC) 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 needed for compliance, and verified that the minimum Wisconsin RPS-eligible REC requirements were retired in M-RETS.

Wisconsin also met its RPS goal of 10 percent of retail sales of electricity from renewable resources. Approximately 12.98 percent of 2020 total retail sales of electricity came from renewable resources due to the RPS. If generation from electric providers' voluntary renewable programs, such as green pricing and community solar, is added to the total, 13.56 percent of retail sales came from renewable resources in 2020.

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. In 2015 and thereafter, 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 2020

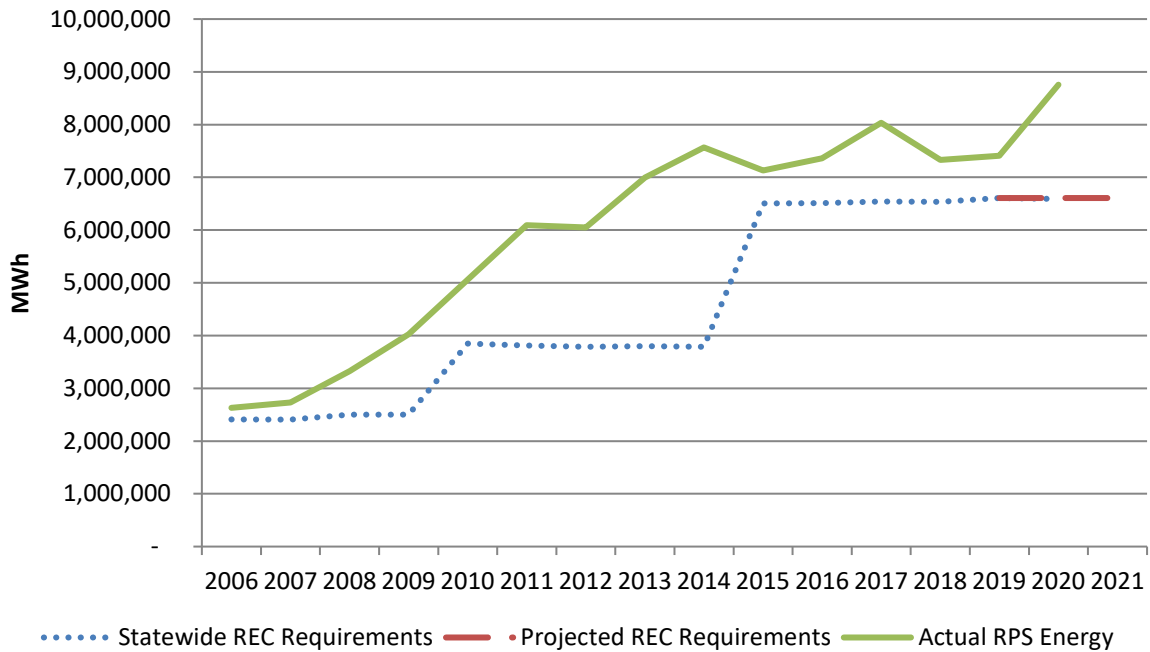
All electric providers responded to Commission staff's data request on 2020 RPS compliance by filing reports in docket 5-RF-2020. Commission staff used this information to determine REC retirement requirements for compliance year 2020. Using regulatory access, Commission staff then verified electric provider REC retirement activity within M-RETS and confirmed that each electric provider retired at least the minimum amount of Wisconsin

RPS-eligible RECs required for the Wisconsin RPS in 2020. 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, 6,777,798 RECs were retired for compliance year 2020. Additional information on individual electric provider requirements and REC retirements can be found in Appendix C of this Memorandum.

10 Percent Statewide Goal in 2020

In order to determine the statewide renewable energy percentage, Commission staff asked electric providers to submit statistical information about actual renewable energy, by resource type, generated in the previous year. In 2020, over 8.75 million MWh of RPS renewable energy was generated. This number divided by the total retail sales of Wisconsin electric providers yields a 2020 RPS renewable energy percentage of 12.98 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 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.

388,012 MWh were generated for these voluntary programs in 2020. Added together with the RPS energy noted above, the statewide renewable energy percentage was 13.56 percent in 2020.

Commission Alternatives

Alternative One: Accept 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 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:TNB:TCM:cmb:jlt:DL: 01805224

Attachments

Appendix A: Wisconsin RPS Legal and Technical Information

Appendix B: Electric Provider List

Appendix C: 2020 Total Retail Energy Sales and Renewable Energy by Wisconsin Electric Provider

Appendix D: 2020 Renewable Energy by State and Resource

Appendix E: 2020 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 2020 RPS Renewable Energy as a Percent of 2020 RPS Requirements			
Electric Provider or Aggregator*	2020 RPS Renewable Energy as Percent of 2020 Total Retail Energy Sales	2020 RPS Percent Requirement	Percent of 2020 RPS Requirement Achieved in 2020
East Central Energy	25.00%	6.64%	377%
Princeton Mun Wtr & Elec Util	23.20%	8.21%	283%
Northern States Power Co WI	32.54%	12.89%	252%
Sheboygan Falls Utilities	22.12%	8.77%	252%
Westfield Milling & Elec Co	22.21%	8.81%	252%
Pardeeville (Village of) Elec Util	21.19%	8.44%	251%
Mazomanie Electric Utility	21.06%	8.45%	249%
Wonewoc Electric & Water Util	21.58%	8.69%	248%
Pioneer Power & Light Co	21.47%	8.71%	246%
Central Wisconsin Elec Coop	21.92%	8.94%	245%
Benton Mun Elec & Water Util	21.71%	8.86%	245%
Shullsburg Electric Utility	21.60%	8.82%	245%
Sauk City Mun Wtr & Light Util	21.34%	8.82%	242%
Belmont Mun Water & Elect Util	21.19%	8.76%	242%
Adams-Columbia Electric Coop	21.35%	8.92%	239%
Black Earth Electric Utility	22.02%	9.23%	239%
Wisconsin Dells Mun Elec Util	20.87%	8.89%	235%
Rock Energy Coop	20.37%	8.93%	228%
Hazel Green Municipal Utility	20.16%	8.87%	227%
Wisconsin Power & Light	20.67%	9.28%	223%
Elkhorn Light & Water	20.83%	9.43%	221%
Dairyland Power Cooperative*	18.43%	8.44%	218%
Gresham Mun Light & Pwr Util	17.36%	8.43%	206%
North Central Power Co Inc	54.13%	35.11%	154%
Madison Gas & Electric Co	11.68%	7.73%	151%
Northwestern WI Elec Co	20.73%	14.48%	143%
Rice Lake Mun Wtr & Elec Util	17.64%	12.53%	141%
Clintonville Water & Electric Utility	10.36%	7.44%	139%
Shawano Municipal Utilities	10.14%	7.34%	138%
Consolidated Water Power Company	24.71%	18.47%	134%
Bangor Municipal Utility	16.58%	12.62%	131%
Barron Light & Water Utility	16.69%	12.85%	130%
Cornell Mun Water & Elec Util	16.00%	12.65%	126%
Medford Electric Utility	15.34%	12.41%	124%
Wisconsin Rapids WW & Light	10.41%	8.73%	119%
Trempealeau Mun Elc & Wtr Util	14.61%	12.78%	114%
Spooner Municipal Utilities	14.13%	12.55%	113%
Manitowoc Public Utilities	10.28%	9.19%	112%
Kiel (City of) Utilities	10.01%	9.07%	110%
Cadott Light & Water Mun Util	13.90%	12.72%	109%
Superior Wtr Light & Pwr Co	9.28%	8.53%	109%
Bloomer Electric Utility	13.26%	12.47%	106%
WPPI Energy*	10.88%	10.24%	106%
Oconto Electric Coop	10.15%	10.71%	95%
Stratford Mun Wtr & Elec Utility	7.03%	9.31%	76%
Washington Island Cooperative	6.79%	9.35%	73%
Wisconsin Public Service Corp	6.94%	9.74%	71%
Wisconsin Electric Power Co	5.74%	8.27%	69%
Marshfield Elec & Water Dept	6.12%	8.91%	69%
Dahlberg Light & Power Co	2.05%	7.37%	28%
WISCONSIN TOTAL	12.98%	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: 2020 Total Retail Energy Sales & Renewable Energy by Wisconsin Electric Provider

COLUMN KEY FOR TABLE BELOW

Columns 7-9, 13, 14, and 16 highlight 2020 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. 2020 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 2020 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 2020. If Col. 5 is greater or equal to Co. 4 then "YES" in compliance, otherwise "NO".
7. Electricity generated by a renewable resource in 2020 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. 2020 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. 2020 Total renewable energy that include RPS eligible and other renewabl programs (Column 7 plus Column 13).
15. 2020 Other electric provider renewable program energy as a percent of total 2020 RPS eligible and other renewable energy (Column 14 divided by Column 13).
16. All 2020 renewable energy (RPS and Other) divided by 2020 total retail sales of electricity (Column 14 divided by Column 2).

* Indicates Wholesale Aggregator

1	Total Retail Energy Sales Information		CY 2020 Compliance Activity			2020 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*	2020 Retail Sales (MWh)	2017-2019 Ave. Retail Sales (MWh)	2020 RECs Required	2020 RECs Retired	In Compliance?	Actual 2020 RPS Energy (MWh)	Actual 2020 RPS Energy as % of Ave. Sales	Actual 2020 RPS Energy as % of 2020 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2020 Other Renew Energy (MWh)	2020 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2020 Retail Sales
Adams-Columbia Electric Coop	531,779	513,022	45,762	45,762	YES	113,528	22.13%	21.35%	2.92%	4.92%	8.92%		113,528	0.00%	21.35%
Bangor Municipal Utility	24,865	26,583	3,355	3,355	YES	4,123	15.51%	16.58%	6.62%	8.62%	12.62%		4,123	0.00%	16.58%
Barron Light & Water Utility	80,352	79,174	10,174	10,174	YES	13,411	16.94%	16.69%	6.85%	8.85%	12.85%		13,411	0.00%	16.69%
Belmont Mun Water & Elect Util	22,315	23,874	2,091	2,091	YES	4,728	19.80%	21.19%	2.76%	4.76%	8.76%		4,728	0.00%	21.19%
Benton Mun Elec & Water Util	5,496	5,311	471	472	YES	1,193	22.46%	21.71%	2.86%	4.86%	8.86%		1,193	0.00%	21.71%
Black Earth Electric Utility	15,076	16,193	1,495	1,496	YES	3,320	20.50%	22.02%	3.23%	5.23%	9.23%		3,320	0.00%	22.02%
Bloomer Electric Utility	54,728	56,339	7,025	7,025	YES	7,258	12.88%	13.26%	6.47%	8.47%	12.47%		7,258	0.00%	13.26%
Cadott Light & Water Mun Util	12,445	12,880	1,638	1,638	YES	1,730	13.43%	13.90%	6.72%	8.72%	12.72%		1,730	0.00%	13.90%
Central Wisconsin Elec Coop	100,148	100,732	9,005	9,005	YES	21,949	21.79%	21.92%	2.94%	4.94%	8.94%		21,949	0.00%	21.92%
Clintonville Water & Electric Utility	99,688	119,446	8,887	8,887	YES	10,325	8.64%	10.36%	1.44%	3.44%	7.44%		10,325	0.00%	10.36%
Consolidated Water Power Company	831,097	1,049,227	193,792	193,806	YES	205,365	19.57%	24.71%	16.47%	18.47%	18.47%		205,365	0.00%	24.71%
Cornell Mun Water & Elec Util	12,372	12,609	1,595	1,595	YES	1,979	15.70%	16.00%	6.65%	8.65%	12.65%		1,979	0.00%	16.00%
Dahlberg Light & Power Co	106,697	104,512	7,703	7,703	YES	2,190	2.10%	2.05%	1.37%	3.37%	7.37%		2,190	0.00%	2.05%
Dairyland Power Cooperative*	3,326,264	3,377,788	285,085	285,091	YES	613,044	18.15%	18.43%	2.44%	4.44%	8.44%		613,044	0.00%	18.43%
East Central Energy	54,259	52,454	3,483	13,794	YES	13,565	25.86%	25.00%	0.64%	2.64%	6.64%	229	13,794	1.66%	25.42%
Elkhorn Light & Water	115,734	118,812	11,204	11,204	YES	24,105	20.29%	20.83%	3.43%	5.43%	9.43%		24,105	0.00%	20.83%
Gresham Mun Light & Pwr Util	23,087	23,433	1,975	1,975	YES	4,007	17.10%	17.36%	2.43%	4.43%	8.43%		4,007	0.00%	17.36%

1	Total Retail Energy Sales Information		CY 2020 Compliance Activity			2020 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*	2020 Retail Sales (MWh)	2017-2019 Ave. Retail Sales (MWh)	2020 RECs Required	2020 RECs Retired	In Compliance?	Actual 2020 RPS Energy (MWh)	Actual 2020 RPS Energy as % of Ave. Sales	Actual 2020 RPS Energy as % of 2020 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2020 Other Renew Energy (MWh)	2020 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2020 Retail Sales
Hazel Green Municipal Utility	7,577	7,924	703	704	YES	1,680	21.20%	22.17%	2.87%	4.87%	8.87%		1,680	0.00%	22.17%
Kiel (City of) Utilities	100,417	92,264	8,368	8,368	YES	10,047	10.89%	10.01%	3.07%	5.07%	9.07%		10,047	0.00%	10.01%
Madison Gas & Electric Co	3,103,765	3,250,217	251,242	319,369	YES	362,539	11.15%	11.68%	1.73%	3.73%	7.73%	118,566	481,105	24.64%	15.50%
Manitowoc Public Utilities	504,541	526,983	48,430	48,430	YES	51,866	9.84%	10.28%	3.19%	5.19%	9.19%	192	52,058	0.37%	10.32%
Marshfield Elec & Water Dept	358,232	368,932	32,872	32,872	YES	21,925	5.94%	6.12%	2.91%	4.91%	8.91%		21,925	0.00%	6.12%
Mazomanie Electric Utility	42,597	41,324	3,492	3,492	YES	8,972	21.71%	21.06%	2.45%	4.45%	8.45%		8,972	0.00%	21.06%
Medford Electric Utility	121,517	123,657	15,346	15,346	YES	18,638	15.07%	15.34%	6.41%	8.41%	12.41%		18,638	0.00%	15.34%
North Central Power Co Inc	35,637	34,601	12,148	12,148	YES	19,289	55.75%	54.13%	33.11%	35.11%	35.11%		19,289	0.00%	54.13%
Northern States Power Co WI	6,476,347	6,693,799	862,823	862,823	YES	2,107,634	31.49%	32.54%	6.89%	8.89%	12.89%	26,241	2,133,875	1.23%	32.95%
Northwestern WI Elec Co	173,826	174,501	25,268	25,268	YES	36,028	20.65%	20.73%	12.48%	14.48%	14.48%		36,028	0.00%	20.73%
Oconto Electric Coop	118,753	112,584	12,058	12,058	YES	12,058	10.71%	10.15%	4.71%	6.71%	10.71%		12,058	0.00%	10.15%
Pardeeville (Village of) Elec Util	19,861	19,257	1,625	1,625	YES	4,209	21.86%	21.19%	2.44%	4.44%	8.44%		4,209	0.00%	21.19%
Pioneer Power & Light Co	17,845	17,028	1,483	1,483	YES	3,831	22.50%	21.47%	2.71%	4.71%	8.71%		3,831	0.00%	21.47%
Princeton Mun Wtr & Elec Util	9,937	10,104	830	830	YES	2,305	22.81%	23.20%	2.21%	4.21%	8.21%		2,305	0.00%	23.20%
Rice Lake Mun Wtr & Elec Util	151,273	161,456	20,230	20,230	YES	26,685	16.53%	17.64%	6.53%	8.53%	12.53%		26,685	0.00%	17.64%
Rock Energy Coop	299,114	294,876	26,332	26,333	YES	60,938	20.67%	20.37%	2.93%	4.93%	8.93%		60,938	0.00%	20.37%

1	Total Retail Energy Sales Information		CY 2020 Compliance Activity			2020 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*	2020 Retail Sales (MWh)	2017-2019 Ave. Retail Sales (MWh)	2020 RECs Required	2020 RECs Retired	In Compliance?	Actual 2020 RPS Energy (MWh)	Actual 2020 RPS Energy as % of Ave. Sales	Actual 2020 RPS Energy as % of 2020 Retail	Baseline RPS (%)	2010-2014 RPS (%)	2015 and beyond RPS (%)	2020 Other Renew Energy (MWh)	2020 RPS + Other Energy (MWh)	Other as % of Total Renewable Energy	Total Renewable Energy as % of 2020 Retail Sales
Sauk City Mun Wtr & Light Util	30,573	32,415	2,859	2,859	YES	6,523	20.12%	21.34%	2.82%	4.82%	8.82%		6,523	0.00%	21.34%
Shawano Municipal Utilities	273,457	283,545	20,812	20,812	YES	27,727	9.78%	10.14%	1.34%	3.34%	7.34%		27,727	0.00%	10.14%
Sheboygan Falls Utilities	174,628	179,640	15,754	15,755	YES	38,625	21.50%	22.12%	2.77%	4.77%	8.77%		38,625	0.00%	22.12%
Shullsburg Electric Utility	10,733	11,095	979	980	YES	2,318	20.89%	21.60%	2.82%	4.82%	8.82%		2,318	0.00%	21.60%
Spooner Municipal Utilities	29,559	31,044	3,896	3,896	YES	4,178	13.46%	14.13%	6.55%	8.55%	12.55%		4,178	0.00%	14.13%
Stratford Mun Wtr & Elec Utility	16,462	17,528	1,632	1,632	YES	1,158	6.60%	7.03%	3.31%	5.31%	9.31%		1,158	0.00%	7.03%
Superior Wtr Light & Pwr Co	745,315	811,216	69,197	69,197	YES	69,197	8.53%	9.28%	2.53%	4.53%	8.53%		69,197	0.00%	9.28%
Trempealeau Mun Elc & Wtr Util	14,672	15,092	1,929	1,929	YES	2,144	14.21%	14.61%	6.78%	8.78%	12.78%		2,144	0.00%	14.61%
Washington Island Cooperative	10,144	9,252	865	865	YES	689	7.45%	6.79%	3.35%	5.35%	9.35%		689	0.00%	6.79%
Westfield Milling & Elec Co	12,492	12,663	1,116	1,117	YES	2,775	21.92%	22.21%	2.81%	4.81%	8.81%		2,775	0.00%	22.21%
Wisconsin Dells Mun Elec Util	61,056	69,315	6,162	6,163	YES	12,744	18.39%	20.87%	2.89%	4.89%	8.89%		12,744	0.00%	20.87%
Wisconsin Electric Power Co	23,012,230	23,835,024	1,971,157	2,070,896	YES	1,321,581	5.54%	5.74%	2.27%	4.27%	8.27%	99,903	1,421,484	7.03%	6.18%
Wisconsin Power & Light	10,741,683	10,960,358	1,017,121	1,017,122	YES	2,219,803	20.25%	20.67%	3.28%	5.28%	9.28%	63,951	2,283,754	2.80%	21.26%
Wisconsin Public Service Corp	10,613,569	10,865,417	1,058,292	1,066,377	YES	736,623	6.78%	6.94%	3.74%	5.74%	9.74%	8,081	744,704	1.09%	7.02%
Wisconsin Rapids WW & Light	253,760	261,368	22,817	22,817	YES	26,413	10.11%	10.41%	2.73%	4.73%	8.73%	137	26,550	0.52%	10.46%
Wonewoc Electric & Water Util	4,503	4,626	402	402	YES	972	21.01%	21.58%	2.69%	4.69%	8.69%		972	0.00%	21.58%
WPPI Energy*	4,485,417	4,673,109	478,526	478,527	YES	487,927	10.44%	10.88%	4.24%	6.24%	10.24%	70,712	558,639	12.66%	12.45%
WISCONSIN TOTAL	67,447,893	69,694,599	6,591,506	6,777,798	N/A	8,755,861	12.56%	12.98%	N/A	N/A	N/A	388,012	9,143,873	4.24%	13.56%

Appendix D: 2020 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	WI Biomass - Landfill gas	WI Biomass - Biogas	WI Biomass - fuel	WI Biomass - Refuse-derived	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 - fuel	Non WI Biomass - Refuse-derived	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	15,132		11,617	1,150	168	-	-	-	-	-	-	28,067			85,461										85,461	113,528	
Bangor Municipal Utility												-			4,123											4,123	4,123
Barron Light & Water Utility												-			13,411											13,411	13,411
Belmont Mun Water & Elect Util	630		484	48	7	-	-	-	-	-	-	1,169			3,559											3,559	4,728
Benton Mun Elec & Water Util	159		122	12	2							295			898											898	1,193
Black Earth Electric Utility	443		340	34	5							822			2,498											2,498	3,320
Bloomer Electric Utility												-			7,258											7,258	7,258
Cadott Light & Water Mun Util												-			1,730											1,730	1,730
Central Wisconsin Elec Coop	2,925		2,246	222	32							5,425			16,524											16,524	21,949
Clintonville Consolidated Water Power Co	875		798	288	109	-	-	3,828	30	-	-	5,928	314		4,083											4,397	10,325
Cornell Mun Water & Elec Util												-			1,979											1,979	1,979
Dahlberg Light & Power Co	2,190											2,190														-	2,190
Dairyland Power Cooperative	60,119		235,064	5,288	12,146	-	-	-	24,101			336,718	23,518		240,452	-	8,853	-	-	-	-	-	-	8,785	-	281,608	618,326
East Central Energy												-			13,794											13,794	13,794

Electric Provider/Aggregator*	WI Hydro	WI Wind	WI Biomass - Landfill gas	WI Biomass - Biogas	WI Biomass - fuel	WI Biomass - Refuse-derived	Waste - Wood & Wood	WI Biomass - Wood & Wood	Biomass - Other	WI Solar	WI - Other	WI Subtotal	Non WI Hydro	Non WI Wind	Non WI Landfill gas	Non WI Biomass - Biogas	Non WI Biomass - fuel	Non WI Biomass - Refuse-derived	Waste - Wood & Wood	Non WI Biomass - Wood & Wood	Other	Non-WI Biomass - Other	Non-WI Biomass -	Non WI - Solar	Non WI - Other	Non WI - Subtotal	Grand Total	
Elkhorn Light & Water		3,213	2,466	244	36							5,959			18,146											18,146	24,105	
Gresham Mun Light & Pwr Util		534	410	41	6							991			3,016												3,016	4,007
Hazel Green Municipal Utility		224	172	17	2							415			1,265												1,265	1,680
Kiel		851	776	281	106	-	-	3,725	29	-		5,768	306		3,973												4,279	10,047
Madison Gas & Electric Co		566	68,437	2,853	9,372	72	-	-	13,656	4,647		99,603	5,087		376,415												381,502	481,105
Manitowoc Public Utilities		4,395	4,008	1,449	550	-	-	19,422	149	-		29,973	1,577		20,508	-	-	-	-	-	-	-	-	-	-	-	22,085	52,058
Marshfield Elec & Water Dept		11,382	3,381	-	2,176							16,939			4,986												4,986	21,925
Mazomanie Electric Utility		1,196	918	91	13							2,218			6,754												6,754	8,972
Medford Electric Utility												-			18,638												18,638	18,638
North Central Power Co Inc		12,690										12,690			6,599												6,599	19,289
Northern States Power Co WI		191,718	-	-	745	5,462	32,256	-	3,150	-		233,331	18,312		1,718,904	1,487	-	42,600	35,870	-	83,371	-				1,900,544	2,133,875	
Northwestern WI Elec Co		11,285										11,285			24,743												24,743	36,028
Oconto Electric Coop		5,283	2,220	-	-	805						8,308			3,750												3,750	12,058
Pardeeville (Village of) Elec Util		561	431	43	6							1,041			3,168												3,168	4,209
Pioneer Power & Light Co		511	392	39	6							948			2,883												2,883	3,831
Princeton Mun Wtr & Elec Util		307	236	23	3							569			1,736												1,736	2,305
Rice Lake Mun Wtr & Elec Util												-			26,685												26,685	26,685
Rock Energy Coop		8,122	6,235	617	90							15,064			45,874												45,874	60,938

Electric Provider/Aggregator*	WI Hydro	WI Wind	Landfill gas	WI Biomass - Biogas	WI Biomass - fuel	Refuse-derived	WI Biomass - Waste	Wood & Wood	WI Biomass - Other	WI Solar	WI - Other	WI Subtotal	Non WI Hydro	Non WI Wind	Landfill gas	Non WI Biomass - Biogas	Non WI Biomass - fuel	Refuse-derived	Non WI Biomass - Waste	Wood & Wood	Other	Non-WI Biomass - Other	Non-WI Biomass -	Non WI - Solar	Non WI - Other	Non WI - Subtotal	Grand Total
Sauk City Mun Wtr & Light Util	869	667	66	10								1,612			4,911											4,911	6,523
Shawano	2,350	2,142	774	294	-	-	10,280	80	-	-	-	15,920	843	10,964												11,807	27,727
Sheboygan Falls Utilities	5,148	3,952	391	57								9,548		29,077												29,077	38,625
Shullsburg Electric Utility	309	237	23	3								572		1,746												1,746	2,318
Spooner Municipal Utilities												-		4,178												4,178	4,178
Stratford Mun Wtr & Elec Utility	540	200	64	49	-	-	9	-	-	-	-	862		296												296	1,158
Superior Wtr Light & Pwr Co												-		69,197												69,197	69,197
Trempealeau Mun Elc & Wtr Util												-		2,144												2,144	2,144
Washington Island Cooperative	291	120	39	31	-	-	-	-	-	-	-	481	30	178												208	689
Westfield Milling & Elec Co	370	284	28	4								686		2,089												2,089	2,775
Wisconsin Dells Mun Elec Util	1,699	1,304	129	19								3,151		9,593												9,593	12,744
Wisconsin Electric Power Co	41,917	742,067	196,819	7,394	7,840	81,871	-	7,461	-	1,085,369	336,116	-	-	-	-	-	-	-	-	-	-	-	-	-	-	336,116	1,421,484
Wisconsin Power & Light	295,880	227,144	22,480	3,288	-	-	-	25	-	548,817	-	-	1,734,937	-	-	-	-	-	-	-	-	-	-	-	-	1,734,937	2,283,754
Wisconsin Public Service Corp	301,963	120,518	10,369	41,263	30,520	-	-	24,875	-	529,508	31,518	183,678	-	-	-	-	-	-	-	-	-	-	-	-	-	215,196	744,704
Wisconsin Rapids	2,238	2,041	738	280	-	-	9,930	76	-	15,303	803	10,444														11,247	26,550
Wonewoc Electric & Water Util	129	100	10	3								242		730												730	972
WPPI Energy	201,455	161,543	13,482	3,693	-	836	-	2,646	-	383,654	6,299	168,686	-	-	-	-	-	-	-	-	-	-	-	-	-	174,985	558,639
TOTAL per State and Resource	1,395,833	1,603,072	258,152	81,967	44,699	114,972	47,185	76,278	4,647	3,626,805	424,723	4,916,660	1,487	8,853	42,600	35,870	-	92,156	-	-	-	-	-	-	-	5,522,349	9,149,155
% of Total Renewables	15.3%	17.5%	2.8%	0.9%	0.5%	1.3%	0.5%	0.8%	0.1%	39.6%	4.6%	53.7%	0.0%	0.1%	0.5%	0.4%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	60.4%	100.0%

Appendix E: 2020 Statistics Generated from Electric Provider Data

Includes both RPS and Green Pricing Program Renewable Energy

2020 Total Electric Energy Sales to Wisconsin Retail Customers (from renewable and nonrenewable resources)

	(MWh)	% of Total Energy Sales
2020 Total Wisconsin Retail Energy Sales	67,447,893	100.0%

Renewable Energy by State

State	(MWh)	% of Total Energy Sales	% of Renewable Energy
TOTAL Renewable Energy from Wisconsin	3,626,805	5.4%	39.6%
TOTAL Renewable Energy from Other States	5,522,349	8.2%	60.4%
TOTAL Renewable Energy from ALL STATES	9,149,155	13.6%	100.0%

Renewable Energy by Renewable Resource

Renewable Energy Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy
Wind	6,519,733	9.7%	71.3%
Hydro	1,820,556	2.7%	19.9%
Biomass	635,785	0.9%	6.9%
Solar	168,434	0.2%	1.8%
Other	4,647	0.0%	0.1%
TOTAL Renewable Energy from ALL RESOURCES	9,149,155	13.6%	100.0%

Biomass Energy Broken Down

Biomass Type	(MWh)	% of Total Sales	% of Renewable Energy
Refuse-derived	87,299	0.1%	1.0%
Other*	47,185	0.1%	0.5%
Biogas	90,820	0.1%	1.0%
Landfill gas	259,639	0.4%	2.8%
Wood or wood waste	150,842	0.2%	1.6%
TOTAL from Biomass	635,785	0.9%	6.9%

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

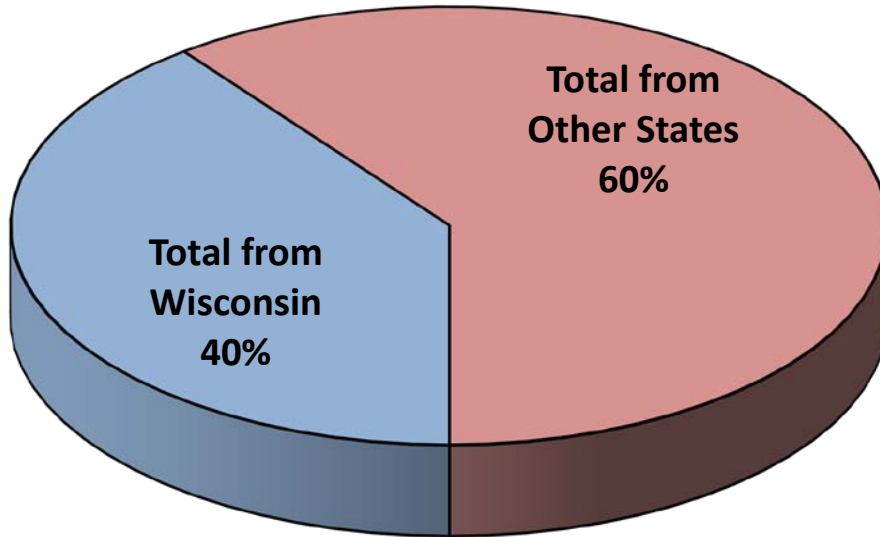
Renewable Energy by State and Renewable Resource

State and Renewable Resource	(MWh)	% of Total Energy Sales	% of Renewable Energy
WI Wind	1,603,072	2.4%	17.5%
WI Hydro	1,395,833	2.1%	15.3%
WI Biomass	546,975	0.8%	6.0%
WI Solar	76,278	0.1%	0.8%
WI Other	4,647	0.0%	0.1%
Non WI Wind	4,916,660	7.3%	53.7%
Non WI Hydro	424,723	0.6%	4.6%
Non WI Biomass	88,810	0.1%	1.0%
Non WI Solar	92,156	0.1%	1.0%
TOTAL Renewable Energy from ALL STATES AND RESOURCES	9,149,155	13.6%	100.0%

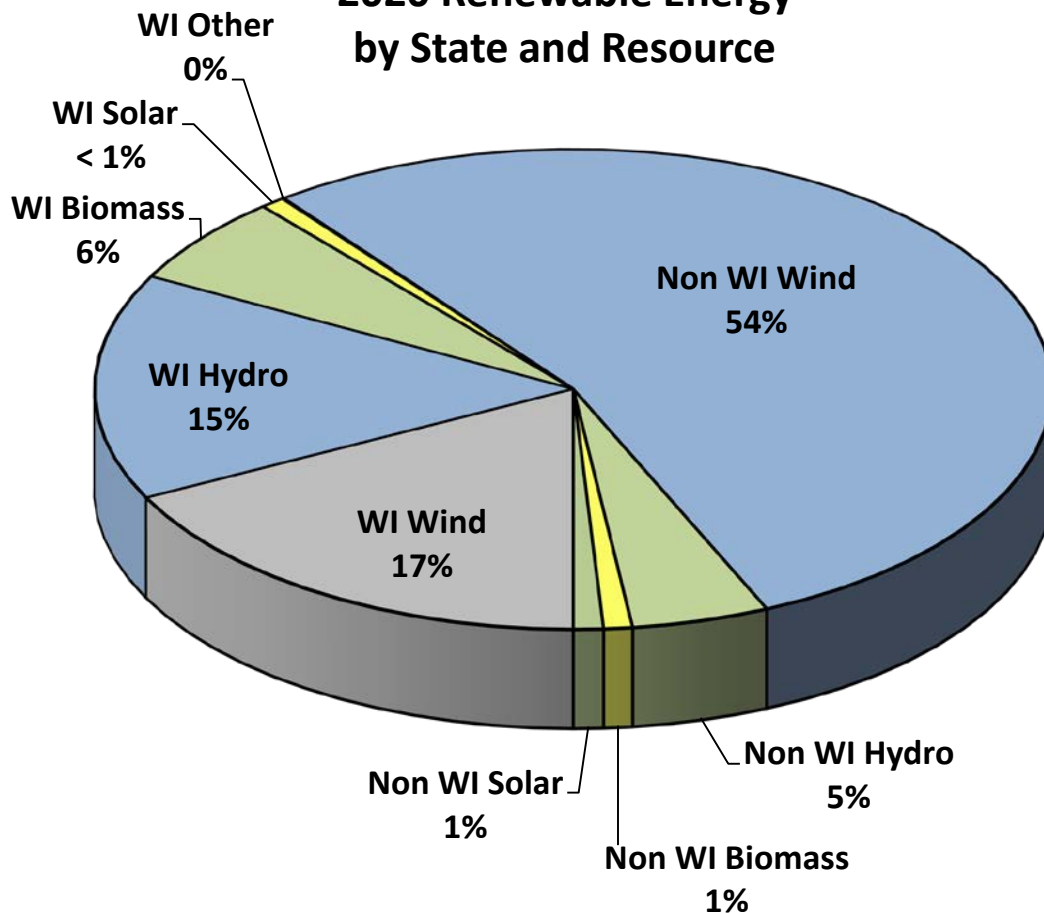
Appendix F: 2020 Figures of Statistics Generated from Electric Provider Data

Includes both Wisconsin RPS and Green Pricing Program Renewable Energy

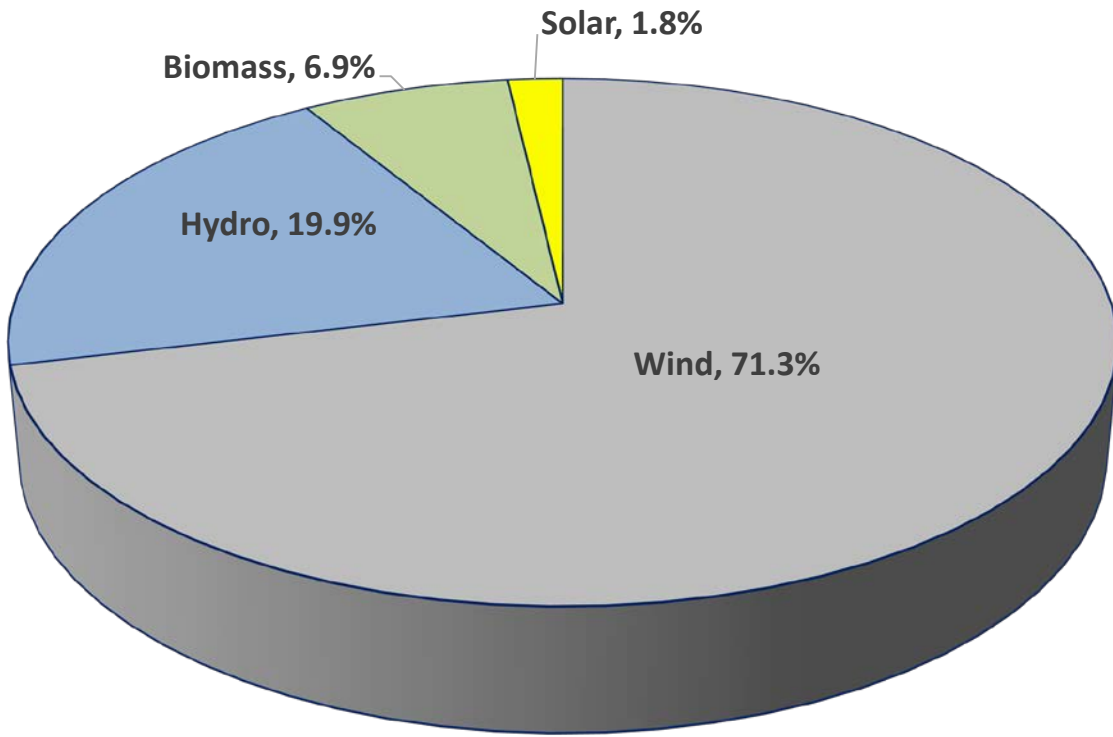
2020 Renewable Energy by State



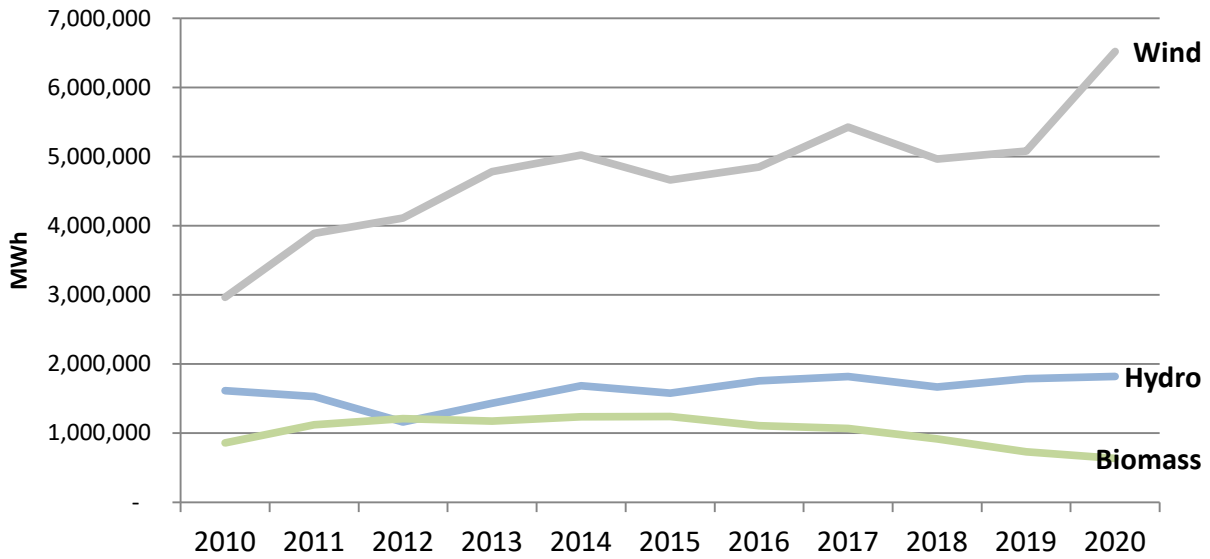
2020 Renewable Energy by State and Resource



2020 Total Renewable Energy by Resource



Renewable Energy by Renewable Resource (2010-2020)



Renewable Energy from Solar Photovoltaic (2010-2020)

