



Status of Renewable Energy, Distributed Generation, and Legacy Net Metering in Michigan

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Executive Summary

This annual report combines and summarizes renewable energy activities related to the Renewable Energy Portfolio Standard (RPS) pursuant to Public Act 295 of 2008 (PA 295), as amended by Public Act 342 of 2016 (PA 342) and subsequently by Public Act 235 of 2023 (PA 235); Voluntary Green Pricing Programs (VGP); Integrated Resource Plans (IRP); Public Utility Regulatory Policies Act (PURPA); and the Distributed Generation and Legacy Net Metering Programs.¹

For 2021, electric providers were required to retire² the number of renewable energy credits (RECs)³ needed to meet the 15% RPS. 2021 was the final year of statutory renewable portfolio standard requirements until PA 235 was signed into law in 2023. PA 235 requires electric providers to maintain a renewable portfolio requirement of 15% through 2029, 50% from 2030 through 2034, and finally achieve a 60% renewable portfolio in 2035 and each year thereafter.

All of Michigan's electric providers⁴ subject to the renewable portfolio standard in 2021 met this requirement.

Going back to the first renewable portfolio standard in 2008, wind generation was the primary technology used to meet the standard and currently accounts for a majority of the RECs used for compliance, but favorable economics, differences between how wind and solar capacity are accredited by the regional transmission organizations, and siting concerns in the middle of the 2010s led to solar installations emerging as the primary new selected renewable energy resource for most of Michigan's electric providers. More recently, however, certain headwinds have created additional challenges for renewable energy deployment, including continuing challenges with project siting; ongoing supply chain issues, particularly in the solar industry; and challenges associated with the interconnection queues operated by the regional transmission organizations. Taken together, these challenges have increased both the time and cost of developing projects.

While electric providers retired enough RECs to achieve the 15% renewable portfolio standard using RECs generated from 2017 to 2021, it is useful to note that based on the number of RECs generated only in 2021, Michigan's 2021 renewable energy percentage was equal to 21.6%⁵ of retail sales. For 2022, Michigan's renewable energy percentage was equal to 23.3%⁶ of retail sales. In 2023, almost all electric providers

¹ Subject to Section 51 of Public Act 295, as amended, the MPSC was directed to prepare an annual report summarizing the Commission's activities related to PA 295 and electric provider's annual reports. Section 51 was repealed effective January 1, 2023. The final reports issued pursuant to Section 51 are available at the MPSC's website: <https://www.michigan.gov/mpsc/regulatory/reports/legislative>.

² Renewable energy credits are "retired" when used for compliance.

³ The term "renewable energy credit" includes renewable energy credits, Michigan incentive renewable energy credits, and energy waste reduction credits when substituted for renewable energy credits.

⁴ Through the 2021 compliance year there were 65 electric providers subject to the renewable energy standard including: 7 rate-regulated utilities, 10 cooperative utilities, 40 municipal utilities, and 8 AESs. Fifteen licensed AESs not currently serving customers are not included in this total.

⁵ MIRECS vintage 2021 RECs and 2020 retail sales data were used to calculate the percentage.

⁶ MIRECS vintage 2022 RECs and 2021 retail sales data were used to calculate the percentage.

voluntarily retired a total of 14,591,614 RECs for a total of 15% to meet the renewable portfolio standard. While all of the portfolio data has been submitted into the Michigan Renewable Energy Certification System (MIRECS), the total number of RECs created in 2023 is not yet finalized due to reporting lag. PA 342 extended the life for RECs generated after April 1, 2017, to five years from the previous three-year REC “banking” allowance and this continued with the amended PA 235.⁷ All RECs are tracked through MIRECS.⁸

While 2021 was the last statutorily mandated compliance year, PA 235 was amended in 2023 requiring compliance again going forward with the Commission’s approval of amended renewable energy plans (REPs). The Commission’s February 8, 2024, Order in Case No. U-21568 set forth a staggered REP filing schedule requiring DTE Electric Company to file no later than July 19, 2024; Consumers Energy Company to file no later than November 15, 2024; Alpena Power Company, Indiana Michigan Power Company, Northern States Power Company, Upper Michigan Energy Resources Corporation, and Upper Peninsula Power Company to file no later than January 17, 2025; and co-operatives, municipally owned utilities, and alternative electric suppliers to file no later than February 27, 2025. At this time, DTE Electric Company filed an amended REP on July 19, 2024, in Case No. U-21662, while Consumers Energy Company filed on November 15, 2024, in Case No. U-21816. The statute gives the Commission 300 days, from the date of filing, to issue a final order on each of the REPs.

By the end of 2023, Michigan’s rate-regulated electric providers had 5,882 MW of approved renewable energy projects within Michigan, as shown in the contract summary in **Appendix A**. It should be noted that the actual amount of renewable generation within the state will exceed this number as non-rate-regulated electric providers are not required to submit renewable energy contracts to the Commission for review. When factoring in rate-regulated electric provider projections in IRPs, it is expected that Michigan’s rate-regulated electric providers will have 8,387 MW of operational renewable energy by the end of 2026, a 42.6% increase in just three years.

In addition to increasing the RPS, voluntary green purchasing (VGP) programs offered by the utilities continue to attract significant customer interest, more than doubling from fewer than 40,000 customers enrolled in 2020 to more than 100,000 participating today.

PA 235 also included several changes to the Distributed Generation (DG) program. Most notably, the program cap increased from 1% of a utility’s average in-state peak load for the previous five years to 10% and also modified the internal categories that make up this overall percentage, creating more opportunities for residential and commercial project development. During 2023, the capacity of the generation participating in the DG program increased from 174,876 kW in 2022 to 189,879 MW in 2023, an 8.5% increase. Customer participation in these programs also continued to

⁷ RECs used to comply in 2021 were primarily from renewable energy generated in 2019 and 2020.

⁸ <https://mirecs.org/>

grow, increasing by 10.4% between 2022 and 2023, with 21,845 customers participating in DG programs at the end of 2023. In addition, there is also growing interest in pairing DG installations with battery storage, with 28.6 ME of distributed energy storage systems now installed by customers and interconnected with the utilities' distribution systems. Given the statutory increase in these DG programs, these trends are likely to continue moving forward.

Finally, like last year, this report also includes a high-level discussion of the Commission's ongoing efforts to implement the clean energy laws enacted at the end of 2023. This includes the clean energy standard, the establishment of a state-level siting process for certain wind, solar, and energy storage projects should they fail to win approval at the local level; and the work related to the statutory energy storage that utilities file plans to add 2500 MW of energy storage resources by 2030 and the Commission's ongoing study into long duration and multi-day energy storage opportunities.

Introduction

This report provides information on renewable energy activities involving the Michigan Public Service Commission (Commission or MPSC) through calendar year 2023 and summarizes data from electric provider 2023 annual reports and the contract summary as shown in **Appendix A**. Additionally, this report shows renewable energy projections through 2026 based on the renewable portfolio standard (RPS), voluntary green pricing programs (VGP), integrated resource plans (IRPs), public utility regulatory policies act (PURPA) resources, and the distributed generation and legacy net metering programs.⁹

Since the publication of this report last year, there have been significant legislative changes that will transform Michigan's electric generation portfolio in the coming years. Public Act 235 of 2023 (PA 235) requires electric providers to maintain a renewable portfolio requirement of 15% through 2029, 50% from 2030 through 2034, and finally achieve a 60% renewable portfolio in 2035 and each year thereafter. In addition, PA 235 increases the distributed generation program requirement for rate-regulated electric providers and alternative electric suppliers (AES) from 1% of average in-state peak load to 10%. Some rate-regulated electric providers had voluntarily increased their programs prior to this requirement, but none had reached 10% as is now legislatively required. PA 235 also established a clean energy standard for electric providers which will ultimately require 100% of the electric generation to come from resources that do not emit greenhouse gases or that capture and store carbon dioxide, along with a statewide energy storage target of 2,500 MW.

Finally, to help facilitate these new legislative requirements, Governor Whitmer signed Public Act 233 of 2023 (PA 233) into law which provides backstop siting authority to the Commission for utility scale wind, solar, and energy storage facilities.

While this report specifically focuses on renewable energy and distributed generation, the clean energy plan, storage requirements, and renewable energy and energy storage siting legislation will inevitably affect the future generation portfolio. Therefore, these requirements and the MPSC's related efforts are discussed in more detail in the subsequent section while the renewable energy portfolio requirements and distributed generation updates will be discussed throughout the report.

New Legislation

Clean Energy Plan

PA 235 established a clean energy standard of 80% by 2035 and 100% by 2040. The Commission will need to establish formats and guidelines for the clean energy plans by January 1, 2026. Electric providers will subsequently file these plans with the

⁹ Subject to Section 51 of Public Act 295, as amended, the MPSC was directed to prepare an annual report summarizing the Commission's activities related to PA 295 and electric provider's annual reports. Section 51 was repealed effective January 1, 2023. The final reports issued pursuant to Section 51 are available at the MPSC's website: <https://www.michigan.gov/mpsc/regulatory/reports/legislative>

Commission – in IRPs for investor-owned utilities, by January 1, 2028, for cooperative electric utilities and alternative electric suppliers, and by July 1, 2028, for municipal electric utilities.

On February 8, 2024, the Commission issued an Order in Case No. U-21570 that directed Staff to provide a straw proposal related to providing formats and guidelines for investor-owned utilities, municipal electric utilities, cooperative electric utilities, and alternative electric suppliers to submit a clean energy plan pursuant to the requirements of PA 235. In accordance with the Order, Staff's redline version was posted to the Commission's website on September 30, 2024. Staff is also directed to hold public engagement sessions to discuss formats and guidelines related to the clean energy plan. Staff held the first of these outreach sessions on October 17, 2024. These efforts can be followed on the Commission's clean energy plan web page.¹⁰

Statewide Energy Storage Target

PA 235 establishes a statewide energy storage target of 2,500 MW. By Dec. 31, 2029, rate-regulated utilities will need to file petitions for approvals related to the storage target as part of their integrated resource plans pursuant to MCL 460.6t, and alternative electric suppliers (AES) will need to file plans for how they will comply with the target followed by complying with their plans in demonstrations required under Public Act 341 of 2016, Section 6w(8)(b). Rate-regulated utilities are required to begin filing annual storage reports no later than December 31, 2024.

On February 8, 2024, the Commission issued an Order in Case No. U-21571 that directed Staff to propose a methodology for calculating the proportional share of the statewide storage target for each rate-regulated utility and AES and to hold at least one public meeting, and it provided a comment period for all interested persons through August 1, 2024. As such, Staff posted its proposed methodology to the docket on May 29, 2024. Following that, Staff held a public meeting on June 12, 2024. In its initial February 8th Order in this case, the Commission stated that it "will endeavor to provide guidance in reaction to the straw proposal and any comments before the end of 2024."

PA 235 Section (7) also directed the Commission to complete a study on long-term energy storage systems and multiday energy storage systems within one year after the effective date of the amendatory act (by February 24, 2025). Staff is presently working with the United States Department of Energy (US DOE) to complete this study. In addition, Staff and Commissioners have joined the Long Duration Energy Storage National Consortium to, among other things, develop an informed understanding of the available technology and best practices nationwide. More

¹⁰ <https://www.michigan.gov/mpsc/commission/workgroups/2023-energy-legislation/clean-energy-standard>

information is available on the Commission's Statewide Energy Storage Target web page.¹¹

Renewable Energy and Energy Storage Siting

On November 28, 2023, Governor Gretchen Whitmer signed House Bill 5120 (PA 233 of 2023) which provides siting authority to the Commission for utility-scale wind, solar, and energy storage facilities under specified conditions.

On February 8, 2024, the Commission issued an Order¹² in Case No. U-21547 directing the Staff to hold public meetings starting in March 2024 to engage with experts, local units of government, project developers, and other interested persons. The objective of the engagement meetings was to consider issues relating to application filing instructions or guidelines, the potential use of consultants and assessment of application fees, pre-application consultations, guidance for use in the development of compatible renewable energy ordinances, and any additional issues that may arise during the engagement process. As directed by the initial February 8th Order in this case, Staff filed its proposed application instructions and procedures for renewable energy and energy facility siting¹³ on June 21, 2024. Comments were filed by July 17, 2024, and reply comments by August 9, 2024. On October 10, 2024, the Commission issued an Order in Case No. U-21547 adopting application instructions and procedures. The MPSC created a renewable energy and energy storage web page to provide information about PA 233 implementation activities.¹⁴

Renewable Portfolio Standard

Public Act 295 of 2008 (PA 295) established Michigan's first renewable portfolio standard (RPS), requiring electric providers to meet an RPS of 10% by 2015, with interim targets beginning in 2012. Subsequently, Public Act 342 of 2016 (PA 342) increased the RPS to 12.5% in 2019 and 2020 and 15% in 2021, which was the final year of statutory RPS requirements until the amendments in PA 235. The RPS is applicable to Michigan's rate-regulated electric utilities, cooperative electric utilities, municipal electric utilities, and AESs. Electric providers filed initial REPs in 2009.¹⁵ The 74 initial REPs described how each electric provider intended to meet the RPS requirements. Prior to PA 235 and PA 342, PA 295 directed electric providers to file REPs biennially for Commission review. PA 342 directed the Commission to review each electric provider's REP within one year of the PA 342 effective date and eliminated the requirement for biennial REP filings or compliance after 2021.

¹¹ <https://www.michigan.gov/mpsc/commission/workgroups/2023-energy-legislation/statewide-energy-storage-target>

¹² <https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/0688y00000BubM7AAJ>

¹³ <https://mi-psc.my.site.com/sfc/servlet.shepherd/version/download/0688y00000E9g7hAAB>

¹⁴ <https://www.michigan.gov/mpsc/commission/workgroups/2023-energy-legislation/renewable-energy-and-energy-storage-facility-siting>

¹⁵ Through the 2021 compliance year, there were 65 electric providers subject to the renewable energy standard, including 7 rate-regulated utilities, 10 cooperative utilities, 40 municipal utilities, and 8 AESs. 15 licensed AESs not currently serving customers are not included in this total.

PA 235 was signed into law in 2023. PA 235 requires electric providers to meet and maintain a renewable portfolio requirement of 15% through 2029 that increases to 50% from 2030 through 2034, and finally achieves a 60% renewable¹⁶ portfolio in 2035 and each year thereafter. In addition, PA 235 reinstated the requirement for biennial REP plan filings and a new 20-year planning period ending in 2045.

All seven of Michigan's rate-regulated electric providers continued to maintain a 15% renewable energy credit¹⁷ (REC) portfolio from 2021 through the end of the 20-year plan period in 2029 under PA 342 REPs. In addition to the portfolio standard, many of Michigan's providers had planned for additional renewable generation growth as part of their IRPs prior to PA 235 in 2023.

To date, only DTE Electric Company and Consumers Energy Company have filed amended REPs under PA 235. DTE Electric Company filed on July 19, 2024, in Case No. U-21662,¹⁸ while Consumers Energy Company filed on November 15, 2024 in Case No. U-21816¹⁹. The Commission's February 8, 2024, Order in Case No. U-21568 sets forth a staggered REP filing schedule with Alpena Power Company, Indiana Michigan Power Company, Northern States Power Company, Upper Michigan Energy Resources Corporation, and Upper Peninsula Power Company filing no later than January 17, 2025; and cooperatives, municipally owned utilities, and alternative electric suppliers filing no later than February 27, 2025. PA 235 Section 28(5) requires that electric providers meet the portfolio requirements by generating renewable electricity, purchasing the renewable energy and capacity, or purchasing renewable credits within the regional transmission organization, but the provider is limited to 5% of its total renewable portfolio from this last option, subject to certain exceptions. Combined with the locational requirements contained within PA 235 Section 29(1), the amended RPS will result in a significant amount of new renewable energy resources within Michigan in the coming years.

Per PA 235 Section 49(1), seven rate-regulated electric providers filed annual renewable energy cost reconciliation cases for 2022. Commission staff examined the pertinent revenues and expenses, determined the electric provider's compliance with its filed REP, and assessed whether the provider met its compliance targets.²⁰

Electric providers were directed by Section 51(1) of PA 295 to file annual reports for each plan year beginning with 2009. While this section is repealed, the Commission

¹⁶ <https://mi-psc.my.site.com/s/case/500cs00000FaAmdAAF/in-the-matter-of-consumers-energy-companys-application-for-the-regulatory-reviews-revisions-determinations-andor-approvals-necessary-to-fully-comply-with-public-act-295-of-2008-as-amended-by-public-act-235-of-2023>

¹⁷ The term "renewable energy credit" includes renewable energy credits, Michigan incentive renewable energy credits, and energy waste reduction credits when substituted for renewable energy credits.

¹⁸ <https://mi-psc.my.site.com/s/case/5008y00000B4iG7AAJ/in-the-matter-of-dte-electric-companys-application-for-the-regulatory-reviews-revisions-determinations-andor-approvals-necessary-to-fully-comply-with-public-act-295-of-2008-as-amended>

¹⁹ <https://mi-psc.my.site.com/s/case/500cs00000FaAmdAAF/in-the-matter-of-consumers-energy-companys-application-for-the-regulatory-reviews-revisions-determinations-andor-approvals-necessary-to-fully-comply-with-public-act-295-of-2008-as-amended-by-public-act-235-of-2023>

²⁰ Link to electric provider reconciliation filings: https://www.michigan.gov/mpsc/0,9535,7-395-93308_93325_93423_93502_94989-506587--00.html

issued several Orders in Case No. U-15825 *et al* on July 27, 2022, requesting that non-rate-regulated electric providers continue to submit annual reports voluntarily through the end of the 20-year plan period in 2029. Rate-regulated electric providers will continue to provide annual reports as part of their renewable energy cost reconciliation cases. Michigan electric provider annual reports for 2009 through 2021 are available on the Commission's website.²¹

Voluntary Green Pricing Programs

Section 61 of PA 342 requires each electric provider to “offer its customers the opportunity to participate in a voluntary green pricing program.” These programs provide customers the option to match up to 100% of their electric usage sourced from renewable energy, and, in recent years, VGP programs have become a major driver of new renewable energy growth in Michigan. Electric providers whose rates are regulated by the Commission have developed these programs and the Commission has approved the rates paid by participating customers for renewable energy. After the initial utility VGP case filings were conducted in 2017 and 2018, the Commission established a biennial review timeframe for these cases.

Although VGP is intended to provide additionality outside of the RPS and is funded through subscribing participants, both Consumers Energy and DTE Electric have requested and received Commission approval to utilize the PA 295 renewable energy cost recovery mechanism for any unsubscribed portion of the VGP program renewable energy supply. This cost recovery mechanism has several advantages over traditional utility cost recovery for these programs, including:

- Under the renewable energy plan cost recovery mechanism, utility cost recovery begins when the project achieves commercial operation.
- The cost recovery mechanism allows the utility to recover costs according to traditional utility revenue requirement and depreciation accounting methods while the participating customer pays for renewable energy on a levelized cost basis for the life of the project. Under a traditional generation asset cost recovery methodology, the utility revenue requirement is higher than the project's levelized cost in the first half of the project life and lower in the last half.

With the amendments to PA 342 in PA 235, VGP participation can now offset the proportional load when calculating the electric providers' RPS requirement. Any RECs associated with a customer's participation in a VGP program may not be used for the electric provider's RPS compliance, because, as previously mentioned, the program is intended to promote additionality.

²¹ Link to 2023 electric provider annual reports:
<https://www.michigan.gov/mpsc/regulatory/electricity/renewable-energy/renewable-energy-filings/2023-renewable-energy-annual-reports>

VGP programs in Michigan continue to experience strong growth, particularly from commercial and industrial customers. The demand for VGP program supply is significantly contributing to renewable energy growth, as evidenced in **Figure 1**.²²

Figure 1: Total VGP Customer Participation*



*Customer participation data are available through October 2024

Utility Integrated Resource Plans

As shown in **Figure 5**, renewable energy costs in Michigan have declined since the first PA 295 renewable energy supply contracts in 2009 and are competitive when compared to non-renewable resources. These economic factors and environmental benefits related to renewable generation are key contributors to the selection of renewable energy projects as a supply resource in capacity planning efforts outside of the RPS.

Public Act 341 of 2016 (PA 341), Section 6t, requires utilities to file IRPs every five years that look at anticipated customer electricity needs over the next 5, 10, and 15 years (although many plan out to 20 years and beyond), as well as the appropriate mix of resources to serve those needs, including base load generation, renewable energy, energy waste reduction, demand response, energy storage, and customer-owned resources. The first rounds of IRPs have concluded with updates coming in 2025 and 2026. Renewable energy, particularly solar, continues to be a key resource in the future supply mix to meet customer electricity needs.

Table 1 summarizes the most recent IRPs and planned renewable energy additions included in utilities' preferred course of action.

²² This graph shows data from the most recently filed annual VGP filings.

**Table 1: Integrated Resource Plans – Preferred Course of Action
Renewable Energy Additions**

Utility	MPSC Case Number	Renewable Energy Approved for the Initial 3-Years	Renewable Energy in Current Preferred Course of Action throughout IRP Planning Horizon
Alpena Power	U-20300	None	Provided through future REC contracts*
Consumers Energy	U-21090	250 MW solar	4,500 MW of solar by 2030 and 6,000 MW by 2040
DTE Electric	U-21193	400 MW solar	6,500 MW solar and 8,900 MW wind
Indiana Michigan**	U-21189	800 MW wind, 500 MW solar	2,200 MW solar and 1,600 MW wind
Northern States Power Wisconsin Xcel**	U-20599	None	5,200 MW (4,000 MW solar, 1,200 MW wind)
Upper Michigan Energy Resource Corporation	U-21081	None	100 MW solar
Upper Peninsula Power Company	U-20350	20 MW solar	62.5 MW PPA and 62.5 MW of company-owned solar
<p>*Explained in Renewable Energy Reconciliation Case No. U-21351²³</p> <p>**Data provided for Indiana Michigan Power Company and Northern States Power Wisconsin (Xcel) is representative of the Companies' multi-state service territories.</p> <p>Renewable energy quantities are subject to change according to actual contracting results and adjustments to the preferred course of action in future IRP cases.</p>			

PURPA Purchases

In 1978, Congress passed the Public Utility Regulatory Policies Act, commonly referred to as PURPA. PURPA requires that electric utilities interconnect with qualifying facilities (QF), purchase energy and capacity at the utility's avoided cost, and sell supplemental, backup, maintenance, and interruptible power to the QF on a non-discriminatory basis. Michigan has seen considerable growth in the number of QFs that have projects, or are planning projects, with investor-owned utilities.

During 2019 and 2020, Consumers Energy had a significant increase in the number of executed PURPA QF Power Purchase Agreements (PPAs) resulting in the vast majority of new PURPA resources within the state. The surge was the result of a settlement agreement approved in the September 11, 2019 Order in Case No. U-20615.²⁴ In this Order, Consumers Energy agreed to award 170 MW to PURPA QFs of 20 MW or smaller that were in its interconnection queue as of a chosen cutoff date.

²³ <https://mi-psc.my.site.com/s/case/5008y000006erhDAAQ/in-the-matter-of-the-application-of-alpena-power-company-to-commence-a-renewable-energy-cost-reconciliation-proceeding-for-the-12month-period-ended-december-31-2022>

²⁴ <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t0000005XvMxAAK>

Consumers Energy also agreed to award 414 additional MW to PURPA QFs of 20 MW or smaller that were in Consumer Energy's interconnection queue as of a second chosen cutoff date. **Appendix B** includes project sizes and locations for PURPA projects under Michigan Utility Scale Solar Farms.

In 2020, the Federal Energy Regulatory Commission (FERC) issued Order No. 872, reducing the rebuttable presumption for nondiscriminatory access to power markets from 20 MW down to five MWs for small power production facilities, which includes solar and wind.²⁵ Since this time, FERC has allowed Consumers Energy, DTE, Indiana Michigan Power Company, Northern States Power Company, Upper Peninsula Power Company, and Upper Michigan Energy Resources Corporation to terminate the requirement under section 292.303(a) of PURPA to enter into new contracts or obligations to purchase electric energy and capacity from any small power production qualifying facility (QF) with a net capacity greater than five megawatts. This has resulted in a significant slowdown of PURPA related contracts being filed with the Commission for approval.

Renewable Energy Data

2021 Compliance

PA 342 required providers to meet the 15% renewable portfolio standard through 2021. Section 28 of the Act was rescinded therefore eliminating the statutory requirement. After 2021, all rate-regulated electric providers planned to maintain a 15% standard. Additionally, most of the non-rate-regulated electric providers had intended to continue to meet the 15% standard voluntarily prior to the requirements set forth in PA 235. The number of RECs required for 2021 compliance was calculated by multiplying the applicable electric provider retail sales figure by the 15% compliance percentage. All of Michigan's electric providers subject to the standard in 2021 met the standard and retired²⁶ a total of 14,545,315 RECs. **Figure 2** shows the different renewable energy technologies used to generate RECs for the 2021 compliance by all electric providers compared to 2023. The compliance chart in **Figure 2** shows wind as the primary sources of RECs used for compliance due to electric providers using a first in–first out methodology from their REC bank as RECs have a five-year life. The Compliance RECs chart show what was retired to meet the 2021 requirement, while the Portfolio RECs chart shows what was voluntarily retired in 2023 as the statute no longer required compliance after 2021.

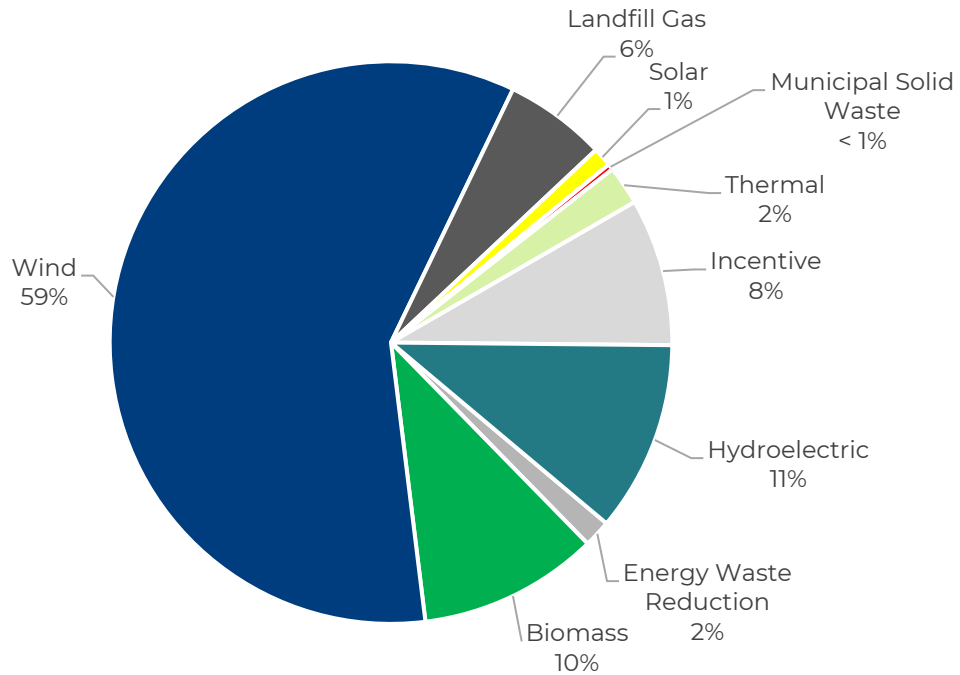
²⁵ <https://www.ferc.gov/sites/default/files/2020-07/07-2020-E-1.pdf>

²⁶ RECs are “retired” when used for compliance.

Figure 2: Compliance REC Breakdown

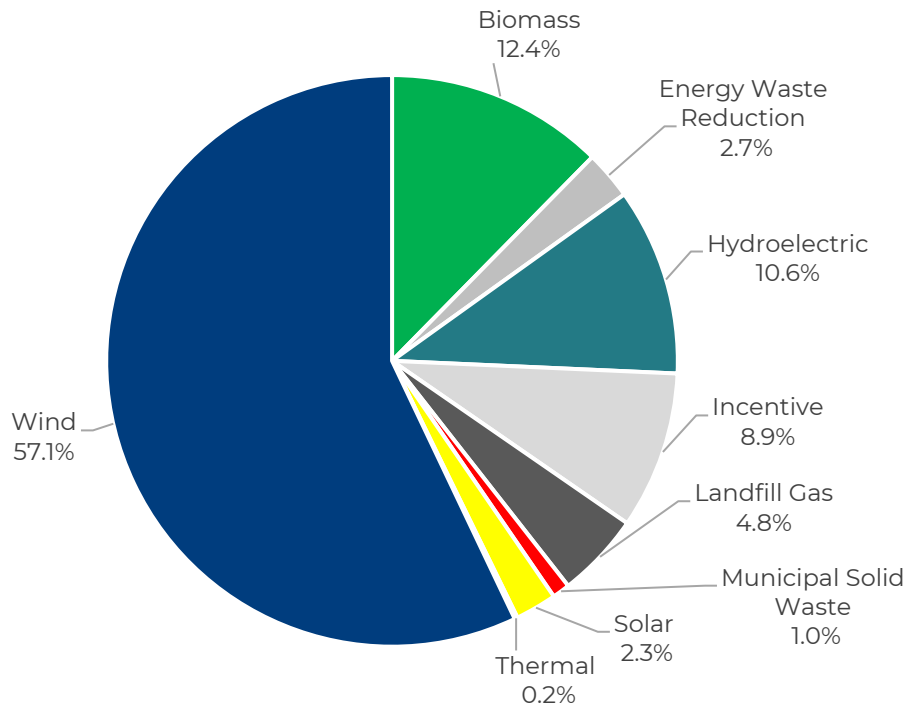
All Electric Providers – 2021 Compliance RECs

14,545,315 Total RECs



All Electric Providers- 2023 Portfolio RECs

14,591,614 Total RECs



Section 29 of PA 342 includes provisions for determining whether the location of a renewable energy project is eligible for Michigan's renewable portfolio standard. Nearly 97% of the RECs used for 2021 compliance were from renewable energy generated in Michigan. Indiana was the source of 1.5%, Wisconsin was 1.4%, and a small number of RECs came from renewable energy generated in Iowa and Minnesota.

2023 Voluntary Compliance

A total of 14,591,614 RECs were voluntarily retired in 2023 with banked RECs and incentive RECs (and in the case of Consumers Energy and DTE Electric, substituting a limited quantity of energy waste reduction credits for RECs). These REC retirements were calculated by multiplying the applicable electric provider retail sales figure by the 15% compliance percentage. Over 98% of the RECs used for the 2023 voluntary retirement portfolio were from renewable energy generated in Michigan. Wisconsin was the source of 1.2%, and a small number of RECs came from Iowa, Minnesota, and Indiana.

Figure 3 shows the growth of renewable capacity based on contracts filed for approval with the Commission as shown in **Appendix A**. Renewable projects developed by non-rate-regulated electric providers, where contracts are not filed for approval with the MPSC, are not reflected in **Figure 3**.²⁷

²⁷ Nearly all AESs are purchasing unbundled renewable energy credits to meet the renewable energy credit portfolio requirements. The terms and conditions of these purchases are unknown.

Figure 3: Cumulative Commission-Approved Renewable Energy Portfolio Capacity

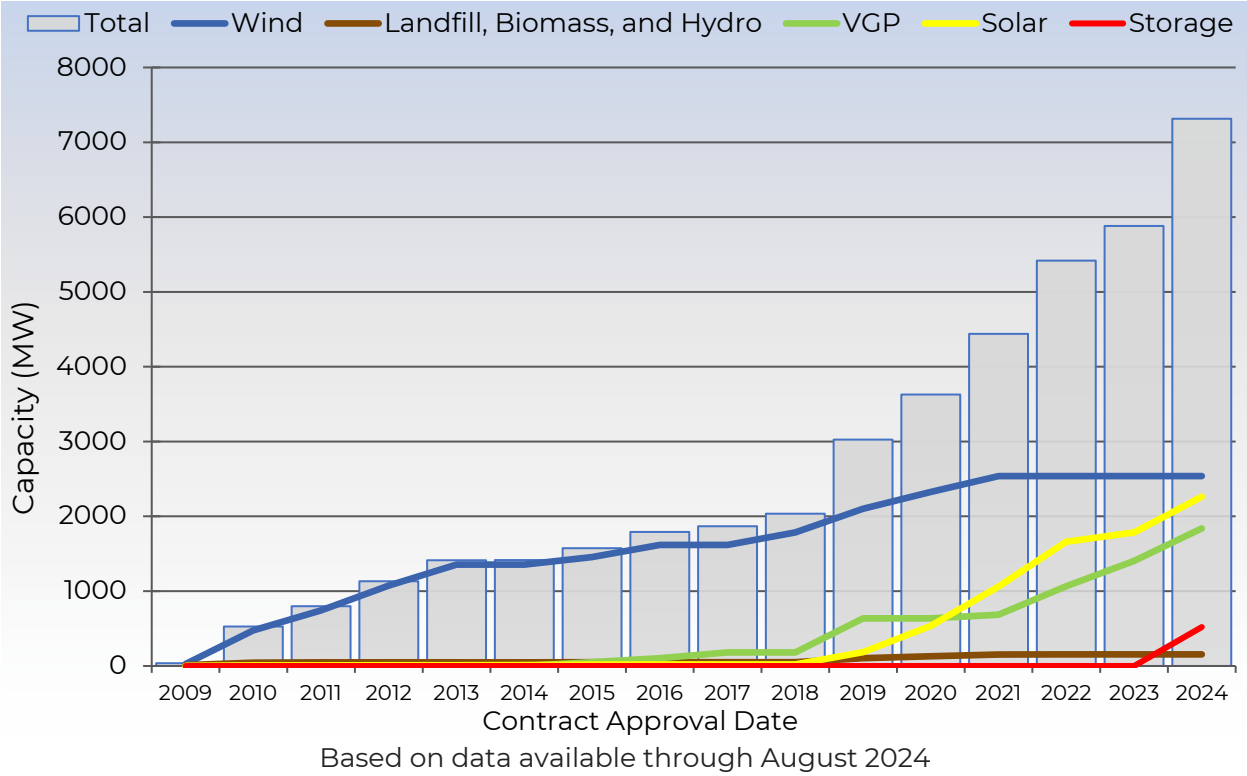
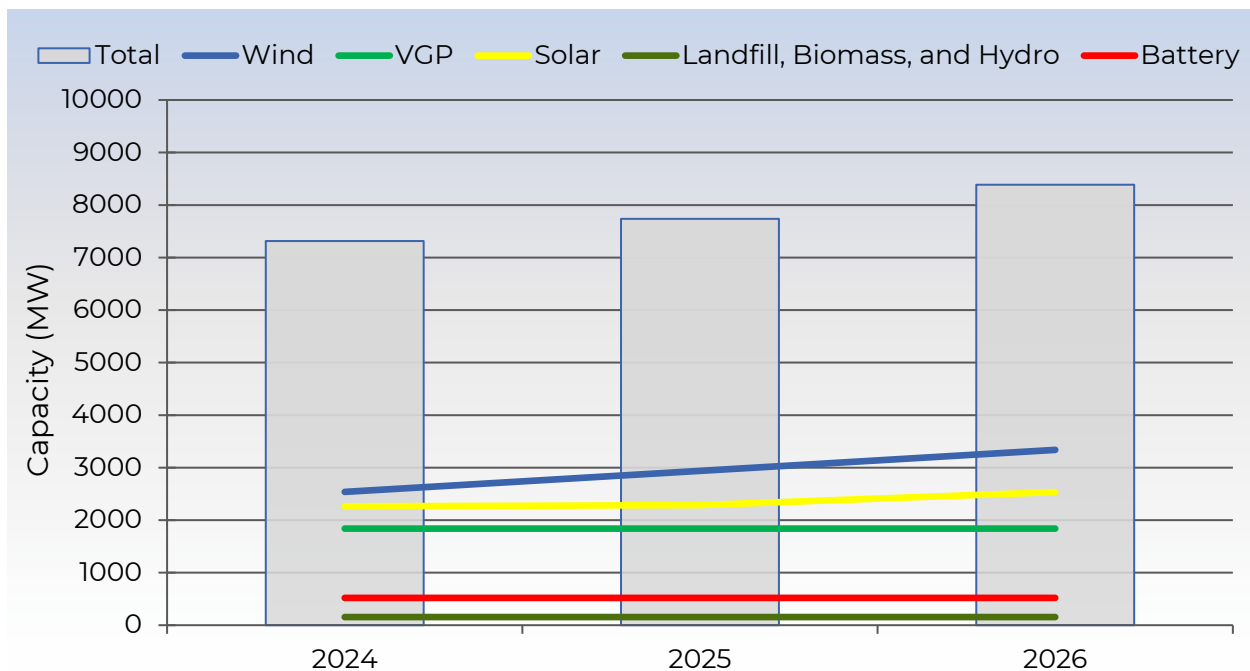


Figure 4 shows anticipated capacity additions based on IRP projections (including IRP modeled PURPA) as currently approved by the Commission. It is expected that Michigan will have over 8,000 MW of renewable energy capacity operating by the end of 2026.²⁸ While the planning period for IRPs is 20 years, the figure shows the three-year pre-approved capacity additions from the most recently filed IRPs.

²⁸ This number is based on projects that have been approved or will be reviewed by the Commission. This does not include projects from electric providers that are not subject to rate-regulation or renewable generation that existed prior to PA 295.

Figure 4: Commission-Approved Projected Cumulative Renewable Energy Capacity



Renewable Energy Cost

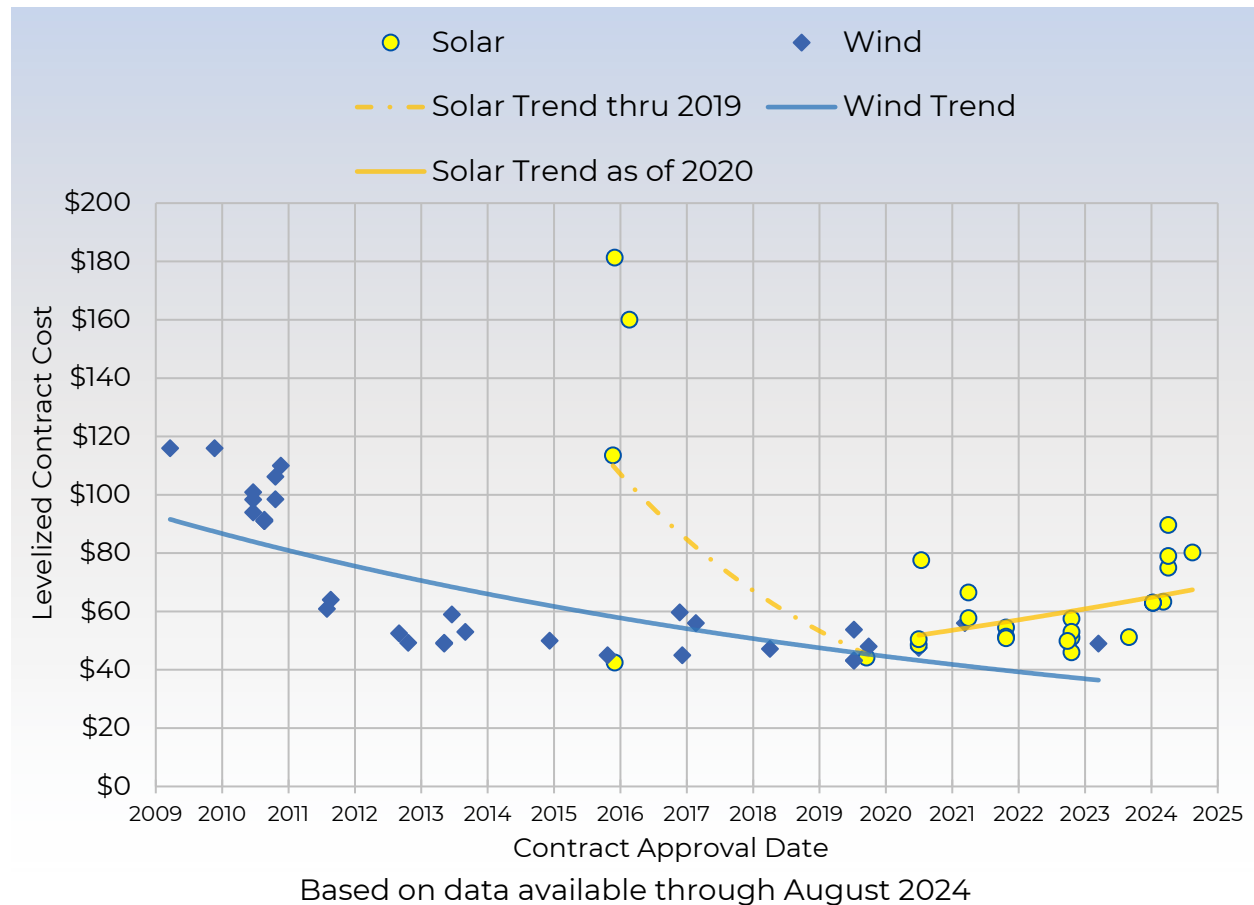
While wind generation was the prominent new renewable energy resource to meet the RPS for many years after the passage of PA 295 in 2008, the rapid decrease in solar costs and continuing siting concerns for wind contributed to a transition toward solar starting around the mid-2010s. Solar has become one of the fastest growing resources, not only in Michigan, but throughout the country.

However, challenges relating to the Midcontinent Independent System Operator (MISO) queue process, difficulties in obtaining local siting approval, and disruptions within the solar supply chain have resulted in slower-than-expected project development.

Michigan electric providers have cited these issues as factors forcing both the extension of commercial operation dates and pricing increases for solar resources in Michigan, which are further compounded by overall inflation. The renewable energy contracts submitted to the Commission since PA 295 took effect in 2008 had historically shown significant cost reductions, but the effects of these economic events began appearing as an upward solar pricing trend in approved contracts after 2019. In addition, due to commercial operation date delays and pricing updates, several contracts submitted to the Commission have required pricing amendments, timeline extensions, or have been terminated altogether. It is hoped that PA 233 will help to mitigate some of the siting issues going forward as Michigan transitions its

generation fleet toward a more carbon free future. However, as shown in **Figure 5**²⁹, these issues have resulted in solar pricing increases beginning in the early 2020s.

Figure 5: Renewable Energy Pricing Trends



Pursuant to the former PA 295 Section 37, amended by PA 235 Section 28, renewable energy power purchase and REC-only agreements entered into by any electric provider whose rates are regulated by the Commission must be submitted to the Commission for approval. **Appendix A** has been expanded to include PURPA, VGP, and utility IRP contracts in addition to PA 295 renewable energy REP contracts approved by the MPSC.

Commission staff continues to review competitive bidding activities through process audits for all contracts submitted to the Commission for approval. The purpose and design of the audits are to ensure that the utilities followed the processes and procedures previously outlined in the Commission's December 4, 2008, Temporary Order in MPSC Case No. U-15800, Attachment D³⁰ and pursuant to the former

²⁹ These levelized costs do not include PURPA contracts as those are mostly based on variable MISO market rates.

³⁰ <https://mi-psc.force.com/s/filing/a00t00000005pa5hAAA/u158000001>

Section 33 of PA 295. On August 20, 2020, the Commission opened a docket in Case No. U-20852 and directed Staff to convene a competitive bidding collaborative, referred to as the Competitive Procurement Workgroup. Rate-regulated utilities and other interested parties participated in the Competitive Procurement Workgroup to develop recommended competitive bidding guidance that aligns with the comprehensive planning processes being developed through the MI Power Grid collaborative.³¹ The Commission's objective for the Competitive Procurement Workgroup was to ensure strong, technology-neutral market response and value for ratepayers through transparency, non-discriminatory access, certainty, and fairness in bidding processes. On September 9, 2021, the Commission adopted new Competitive Procurement Guidelines for rate-regulated electric utilities in Case No. U-20852.³² These new guidelines have been implemented for all contracts approved by the Commission since their adoption. In keeping with the spirit of the Temporary Order in U-15800, the new guidelines continue the Staff audit process.

Distributed Generation and Legacy Net Metering

The Distributed Generation (DG) and Legacy Net Metering programs (collectively DG program) enable Michigan's electric provider and AES customers to install on-site renewable energy electric generation projects to meet some or all of their electric energy needs and reduce their electric bills.

In addition to increasing the RPS, PA 235 included several key changes to the DG program. These changes include the following:

1. Section 173(2) increases the eligible participant generation capacity from 100% of the customer's electricity consumption for the previous 12 months to 110%.
2. Section 173(3) increases the program cap from 1% of a utility's average in-state peak load for the previous five years to 10%. Additionally, the 10% limit under this subsection is to be allocated as follows: (a) Not less than 50% for customers with an eligible electric generator capable of generating 20 kilowatts or less; (b) Not more than 50% for customers with an eligible electric generator capable of generating more than 20 kilowatts but not more than 550 kilowatts.
3. Section 173 removes the generation meter requirement for DG projects.
4. Section 177(2) allows the outflow credit to offset the total bill rather than being limited to only power supply charges.³³

Project size is limited to 550 kW such that the annual generation does not exceed 110% of the customer's annual electricity consumption. Customers reduce electricity

³¹ <https://www.michigan.gov/mpsc/commission/workgroups/mi-power-grid/competitive-procurement>

³² <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t000000TTDJAA5>

³³ <https://www.legislature.mi.gov/documents/2023-2024/publicact/pdf/2023-PA-0235.pdf>

purchases from the utility by using their generated electricity “behind the meter” and receive a credit for excess generation.

DG program for projects 20 kW and smaller (certified equipment)

The 20 kW and under DG program is available to any customer meeting the generator size requirements and using an Underwriters Laboratory (UL) 1741 certified inverter. Typically, residential customers would fit within this size level.

Program features:

- Billing based on an inflow and outflow mechanism for customers of utilities with the new DG tariff in place.³⁴ Inflow represents kWh delivered by the utility and is billed at the full retail rate. Outflow represents kWh generated by the customer but not used on-site. To date, the outflow credit has been equal to the power supply component of the full retail rate and may have transmission costs subtracted.
- A generator meter is available at cost, if requested by the customer. (The generator meter allows the customer to monitor the amount of generation. Utilities are not obligated to read a customer’s generator meter.)
- A maximum program and interconnection application processing fee of \$50. Customers pay all interconnection costs.
- Not less than 50% of a utility’s program capacity of 10% based on peak load for the previous 5 years is for customers with an eligible electric generator capable of generating 20 kilowatts or less.

DG program for projects over 20 kW and as large as 550 kW

This DG program for larger generators is available to any customer meeting the generator size requirements. Typically, these customers would be commercial, small industrial, or institutional customers.

Program features:

- Billing based on an inflow and outflow mechanism. Inflow represents kWh delivered by the utility and is billed at the full retail rate. Outflow represents kWh generated by the customer but not used on-site. To date, the outflow credit has been equal to the power supply component of the full retail rate and may have transmission costs subtracted.
- A maximum program and interconnection application processing fee of \$50. Customers pay all interconnection costs.

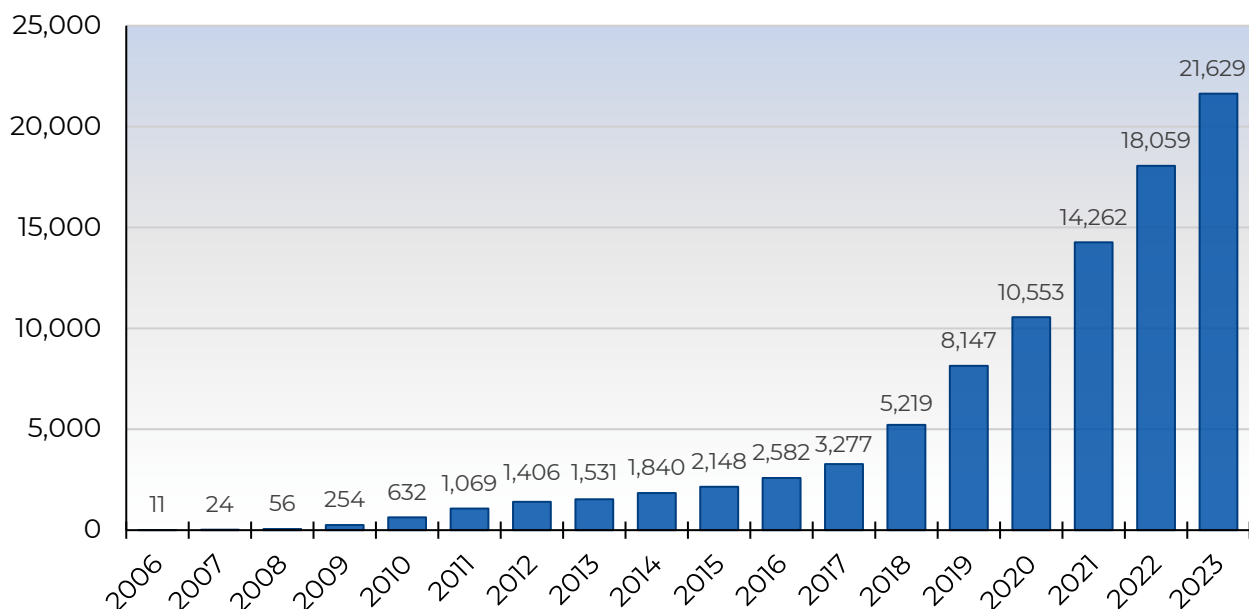
³⁴ For the legacy net metering program, the billing is based on net usage with the credit for excess generation equal to the full retail rate.

- Not more than 50% of a utility's program capacity of 10% based on peak load for the previous 5 years is for customers with an eligible electric generator capable of generating more than 20 kilowatts but not more than 550 kilowatts.

Distributed Generation Program Data

Customer participation in the DG program increased from 18,0591 customers at the end of 2022 to 21,629 through 2023, a 10.4% annual increase. Similarly, installations grew from 19,778 installations in 2022 to 21,845 installations in 2023. A complete list of projects by electric provider, ZIP code, type and size is available on the Commission's website.³⁵ As of the release of this report, the total capacity of DG program installations was approximately 189,680 kW, an increase of 14,804 kW, or 8.5%, from the 174,876 kW capacity installed at the end the previous year.³⁶ As shown in **Figure 6**, program participation continues to increase each year.

Figure 6: Total Distributed Generation Program Customers



Source: 2023 Electric Provider Annual Program Reports, Cases No. U-15787³⁷ and U-20890³⁸ and updated Staff surveys.

³⁵ <https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/regulatory/electric/renewable-energy/2023-DG-Program-Data.xlsx>

³⁶ <https://www.michigan.gov/mpsc/-/media/Project/Websites/mpsc/regulatory/reports/RE-DG/2023-Renewable-Energy-Distributed-Generation-Legacy-Net-Metering-Report.pdf>

³⁷ <https://mi-psc.force.com/s/case/500t0000008efMtAAI/in-the-matter-on-the-commissions-own-motion-to-promulgate-rules-governing-interconnection-and-net-metering>

³⁸ <https://mi-psc.my.site.com/s/case/500t000000qsg3uAAA/in-the-matter-on-the-commissions-own-motion-to-promulgate-rules-governing-electric-interconnection-and-distributed-generation-and-to-rescind-legacy-interconnection-and-net-metering-rules>

PA 235 allows utilities to cap participation of DG programs at 10% of average annual peak load, with not less than 5% for customers with an eligible electric generator capable of generating 20 kilowatts or less and not more than 5% for customers with an eligible electric generator capable of generating more than 20 kilowatts but not more than 550 kilowatts. In Case No. U-18383, the Commission ordered the implementation of inflow/outflow tariffs for utilities in any rate case filed after June 1, 2018. UMER, the final utility to file its first rate since that order, received approval for its DG program as part of a settlement agreement approved by the Commission on October 10, 2024. A summary of activities related to the DG tariff expansion is provided in **Table 2**.

Table 2: Summary of Distributed Generation Program Tariff Implementation

Utility	Beginning DG Program Enrollment Date	Case Number approving DG program Cap
Alpena Power	January 1, 2022	U-21045
Consumers Energy	January 1, 2021	U-21124
DTE Electric	May 9, 2019	U-21193
Indiana Michigan	February 1, 2020	U-20359
NSP	January 1, 2023	U-21097
UMER	January 1, 2025	U-21541
UPPCO	May 24, 2019	U-20995

Table 3: Distributed Generation Program Data

Company	20 kW and Less Nameplate Capacity (kW)	>20 kW to 550 kW Nameplate Capacity (kW)
Rate-Regulated Utilities (Act 235 Statewide DG Program)		
Alpena	151	
Consumers Energy	70,994	29,194
DTE Electric	60,130	11,165
Indiana Michigan	4,498	1,201
UMERC	580	142
UPPCO	2,340	61
Xcel	57	
Sub Total	138,750	41,763
Member-Regulated Cooperative Utilities with Programs for Small Scale Distributed Generation		
Alger Delta	155	90
Cherryland	94	
Cloverland	270	417
Great Lakes Energy	3,575	525
Homeworks Tri-County	1,483	93
Midwest	1,792	
Ontonagon	206	
Presque Isle	143	
Thumb	290	40
Sub Total	8,008	1,165
Total	146,758	42,928

All rate-regulated utility data through 2023. All other data is through 2022.

Member-regulated cooperatives are not required to offer the statewide DG program. Data provided reflects voluntary programs. Alger Delta, Cherryland, Ontonagon, Presque Isle, and Thumb data is from previous reporting years.

Alternative electric supplier program data is included in utility reporting.

Source: 2023 Electric Provider Annual Program Reports, Cases No. U-15787³⁹ and U-20890,⁴⁰ and updated Staff surveys

³⁹ <https://mi-psc.force.com/s/case/500t0000008efMtAAI/in-the-matter-on-the-commissions-own-motion-to-promulgate-rules-governing-interconnection-and-net-metering>

⁴⁰ <https://mi-psc.my.site.com/s/case/500t0000000qsg3uAAA/in-the-matter-on-the-commissions-own-motion-to-promulgate-rules-governing-electric-interconnection-and-distributed-generation-and-to-rescind-legacy-interconnection-and-net-metering-rules>

Table 4: Distributed Generation Cap Space Remaining

Company	20 kW and Less Allocated Amount (kW)	Current 20 kW and Less Capacity (kW)	20 kW and Less Remaining Space (kW)	>20 kW to 550 kW Allocated Amount (kW)	Current >20 kW to 550 kW Capacity (kW)	>20 kW to 550 kW Remaining Space (kW)
Rate-Regulated Utilities (Act 235 Statewide DG Program)						
Alpena	3,170	151	95%	3170	0	100%
Consumers	375,680	70,994	81%	375,680	29,194	92.2%
DTE Electric	435,704	60,130	86%	435,704	11,165	97.4%
I&M	32,440	4,498	86%	32,440	1,201	96.3%
UMERC	14,610	580	96%	14,610	142	99%
UPPCO	7,290	2,340	68%	7,290	61	99.2%
Xcel	1,263	57	96%	1,263	0	100%

Table 3 summarizes DG program capacity and category cap by electric provider for all program sizes. Pursuant to PA 235, DG programs are allocated into two size categories. Projects up to 20 kW are available to new customers until the program size reaches at least 5% of the electric provider's average in-state peak load for the preceding five calendar years or the voluntarily increased program size offered by the electric provider. DG projects greater than 20 kW and 550kW are available to new customers until the program size reaches up to 5% of the electric provider's average in-state peak load for the preceding five calendar years or the voluntarily increased program size offered by the electric provider. **Table 4** shows the remaining capacity in both DG categories for each regulated utility updated to the 10% cap established in PA235. To date the only AESs with customers participating in the DG program are Constellation New Energy and Direct Energy, with a combined total of 23 customers. AES DG program customers are included in utility reporting and are not shown separately on **Table 3**.

Michigan's cooperative electric providers are not required to offer the statewide DG program pursuant to statute. However, many of these electric providers have established programs for customer distributed generation and voluntarily provide annual reporting data to the MPSC Staff for inclusion in this report.

With the change from the legacy net metering program, which credited excess generation at the full retail rate, to the DG program, which credits outflow generation at a rate less than the full retail rate, it is becoming increasingly advantageous for customers to utilize as much of the energy they produce on-site as possible. Given the reduced outflow credit value and the declining costs of battery storage, participants are increasingly interested in pairing their generation with battery storage. The scope of the annual reporting form was expanded in 2021 to gather data about whether customers were participating in the legacy net metering or DG programs and to collect customer battery storage information. Through 2023,

electric providers reported 3,879 DG program customers with battery storage for a total battery storage capacity of 28,560 kW. A summary of battery storage capacity by utility is provided in **Table 5**.

Table 5: Michigan Distributed Generation Program Customers with Battery Storage

Company	No. of Customers	Battery Storage Capacity (kW)
Consumers Energy	1,394	14,036
DTE Electric	2,383	13,882
Indiana Michigan	102	642
Total	3,879	28,560

The Commission continues to see significant interest in the DG program in contested cases. Staff and the Commission will continue to participate actively in efforts to craft the future of DG programs in Michigan.

Conclusion

The Commission is pleased to note that all electric providers were able to achieve the renewable portfolio standard for 2021, and work is underway to implement the updated renewable energy standards established under PA 235. To date, Consumers Energy and DTE have filed their REPs, with the other electric providers set to file their plans early in 2025. The combined efforts of the electric providers, renewable energy project developers, landowners and communities hosting renewable energy projects, renewable energy advocates, and many others have contributed to the effective implementation of Michigan's RPS. The RPS can be credited with the development and planned development of over 6,000 MW of new renewable energy projects through 2023 and has paved the way for utilities to continue developing and contracting for renewable energy well into the future.

There has been extensive renewable energy and DG growth as a result of PA 295. This law was the keystone for providers to gain experience with these resources and allowed for the continued development of renewable energy and DG in Michigan electric providers' forward planning processes and PA 235 requirements.

DG programs have allowed Michigan customers a means to offset a portion of their electric bills and helped to reduce electric providers' need to provide energy resources during the times that customers' DG resources are generating. We continue to see significant interest and growth in these programs and will continue to monitor utility program sizes with the ten-fold increase in authorized participation in utility DG programs under PA 235.

The Commission looks forward to working with electric providers, interested parties, and the public as we continue to implement the new legislative requirements.

Appendices

Utility	Seller (Link goes to application requesting contract approval and includes the contract.)	County	Quantity MW	Contract Type	Price	Price Description	Term	Renewable Energy Type	Request for Proposal	Commission Approval (Date links to Order)	Amendment 1	Amendment 2	Current Commercial Operation Date	Previous Commercial Operation Date
UMERC	Renegade Solar Energy, LLC	Delta	100	PSA	\$89.67/MWh	LCOE	Company Owned	Solar	No formal RFP	4/11/2024			12/31/2026	
DTE	Coldwater River Solar, LLC	Branch	150	PPA	\$75/MWh	LCOE	30	Solar	3/17/2023	4/11/2024			3/31/2026	
DTE	White Pine Grove Solar, LLC	Calhoun	100	PPA	\$79/MWh	LCOE	25	Solar	3/17/2023	4/11/2024			3/31/2026	
Consumers	Tibbits Energy Storage, LLC	Branch	100	PPA	\$200,085/ZRC	LCOC	20	Storage	9/29/2022	4/11/2024			5/31/2025	
DTE	Trenton Channel Energy Center	Wayne	220	PCA	TBD	LCOC	Company Owned	Battery	2/13/2023	3/15/2024			TBD 2025	
Consumers	Freshwater Solar, LLC	Montcalm	300	PPA	\$63.29/MWh	LCOE	20	Solar	12/8/2022	3/15/2024			6/1/2027	
DTE	Fish Creek Solar	Montcalm	132	VGP	\$63/MWh	LCOE	Company Owned	Solar	3/17/2023	1/18/2024			9/30/2025	
DTE	Little Trout Solar	Presque Isle	150	VGP	\$63/MWh	LCOE	Company Owned	Solar	3/17/2023	1/18/2024			12/31/2025	
DTE	Mission Road Co-Location Solar	Isabella	153	VGP	\$63/MWh	LCOE	Company Owned	Solar	3/17/2023	1/18/2024			12/31/2025	
Consumers	Sunfish Solar 2 Project	Calhoun	309	VGP	\$51.21/MWh	LCOE	BTA	Solar	3/17/2022	9/28/2023				
I&M	Elkhart County Solar Project, LLC	Elkhart, Indiana	100	PPA	Redacted	LCOE	30 Years	Solar	3/10/2022	8/30/2023			12/31/2025	
I&M	Mayapple Solar Holdings, LLC	Pulaski, Indiana	224	PSA	Redacted	LCOE	Company Owned	Solar	3/10/2022	8/30/2023			5/31/2026	
I&M	Sculpin Solar, LLC	DeKalb, Indiana	180	PPA	Redacted	LCOE	30 years	Solar	3/10/2022	8/30/2023			12/31/2025	
DTE	Big Turtle 2 Wind Park	Huron	29.4	VGP	\$48-\$50/MWh	LCOE	Company- owned	Wind	Unsolicited	3/24/2023			4/1/2023	
Consumers	Addle Solar	Hillsdale	20	PURPA	see contract		20 Years	Solar		10/27/2022			7/4/2024	
Consumers	Copenhagen Solar	Saginaw	20	PURPA	see contract		20 Years	Solar		10/27/2022			7/4/2024	
Consumers	Holly Solar	Oakland	20	PURPA	see contract		20 Years	Solar		10/27/2022			4/5/2025	
Consumers	Olivier Solar	Lenawee	20	PURPA	see contract		20 Years	Solar		10/27/2022			4/5/2025	
Consumers	Puck Solar	Ionia	20	PURPA	see contract		20 Years	Solar		10/27/2022			7/4/2024	
Consumers	Shoreline Solar	St. Joseph	20	PURPA	see contract		20 Years	Solar		10/27/2022			4/5/2025	
Consumers	Sunbelievable Solar	Clinton	12	PURPA	see contract		20 Years	Solar		10/27/2022			7/4/2024	
DTE	Gratiot Co-Location Solar Park	Gratoit	50	VGP	\$59-63/MWh	LCOE	Company- owned	Solar	4/1/2022	10/27/2022			12/31/2023	
DTE	Pine River Co-Location Solar Park	Gratiot	80	VGP	\$52-54/MWh	LCOE	Company- owned	Solar	4/1/2022	10/27/2022			12/31/2023	
DTE	Polaris Co-Location Solar Park	Gratiot	100	VGP	\$56-59/MWh	LCOE	Company- owned	Solar	4/1/2022	10/27/2022			12/31/2023	
DTE	Sauk Solar	Branch	150	VGP	\$45-47/MWh	LCOE	Company- owned	Solar	4/1/2022	10/27/2022			12/31/2023	
Consumers	Blue Elk Solar II Plant	Ingham	20	PURPA	see contract	negotited rates based on avoided cost	20 Years	Solar		10/5/2022			9/15/2023	
Consumers	Confluence Solar	Genesee & Saginaw	150	IRP	\$49.85 MWh	LCOE	25-Years	Solar	9/24/2021	10/5/2022			12/31/2024	
Consumers	Heartwood Solar	Hillsdale	150	IRP	\$49.85 MWh	LCOE	25-Years	Solar	9/24/2021	10/5/2022			12/31/2024	
Consumers	Morrow Plant	Kalamazoo	0.88	PURPA	see contract	Full avoided cost	5 years	Hydroelectric		4/25/2022				
Alpena	Eagle Creek Development Holdings, LLC	Various	"Bulk of RECs needed to meet the RPS"	REP	Redacted	REC pricing	3 Years	Misc.	2021	1/20/2022			12/9/2021	
Consumers	MAP Plant	Kent	0.375	PURPA	see contract	LMP energy rates, PRA capacity rates	10 years	Solar		1/20/2022			12/16/2019	
Consumers	Cereal City Solar	Calhoun	100	IRP	\$51.38/MWh; \$47.99 w/o FCM	Average Cost	25 years	Solar	2020 RFP	11/18/2021			5/31/2023	
Consumers	Jackson County Solar	Jackson	125	IRP	\$54.89/MWh	LCOE	20 years	Solar	2020 RFP	11/18/2021	1/19/2023	12/21/2023	11/30/2025	12/31/2023

Consumers	SCHS Solar	Kent	0.55	PURPA	see contract	LMP energy rates, PRA capacity rates	10 years	Solar		11/18/2021		10/1/2021
Consumers	Washtenaw Solar	Washtenaw	150	IRP	\$54.46/MWh	Average Cost	Company Owned	Solar	2020 RFP	11/18/2021		12/31/2023
Consumers	DSC Corp Center Solar Plant	Bay	0.0313	PURPA	see contract	Full avoided cost	10 years	Solar		11/4/2021		9/4/2021
Consumers	Heathlands Solar	Manistee	30	IRP	\$41.72/MWh; \$39.41 w/o FCM	Average Cost	20 years	Solar	2020 RFP	9/9/2021		12/31/2022
Alpena	Four Mile	Alpena	2.08	PURPA	see contract		3 years +	Hydroelectric	Unsolicited	7/2/2021		12/1/1913
Alpena	Hillman	Montmorency	0.25	PURPA	see contract		3 years +	Hydroelectric	Unsolicited	7/2/2021		12/1/1944
Alpena	Ninth Street	Alpena	1.2	PURPA	see contract		3 years +	Hydroelectric	Unsolicited	7/2/2021		12/1/1910
Alpena	Norway Point	Alpena	4	PURPA	see contract		3 years +	Hydroelectric	Unsolicited	7/2/2021		12/1/1924
DTE	Calhoun County Solar	Calhoun	100	VGP	\$52.46/MWh	LCOE	25 years	Solar		6/9/2021		Cancelled 12/31/2022
DTE	Freshwater Solar	Montcalm	200	VGP	\$48-51/MWh	LCOE	Company- owned	Solar		6/9/2021		Cancelled 12/31/2022
DTE	Whitetail Solar	Washtenaw	120	VGP	\$51-54/MWh	LCOE	Company- owned	Solar		6/9/2021		Cancelled 12/31/2022
Consumers	Calhoun Solar Energy	Calhoun	140	IRP	\$57.73/MWh; \$54.53 w/o FCM	Average Cost	25 years	Solar	2019 RFP	4/8/2021		Delayed 5/31/2022
Consumers	Mustang Mile	Lenawee	150	IRP	\$66.51/MWh	Average Cost	Company Owned	Solar	2019 RFP	4/8/2021		12/31/2022
Consumers	Heartland Farms Wind Project	Gratiot	200	REP	\$56/MWh	LCOE	Company owned	Wind	2018 RFP	3/19/2021		12/31/2022
Consumers	MCV Plant	Midland	1240	PURPA	see contract		10 years	Cogeneration		3/4/2021		3/4/2021
Consumers	Byron Center Plant	Kent	3	PURPA	see contract		20 years	Landfill Gas		2/4/2021		6/1/2019
Consumers	Coopersville Plant	Ottawa	6.1	PURPA	see contract		20 years	Landfill Gas		2/4/2021		6/1/2019
Consumers	Grand Blanc Plant	Genesee	3.8	PURPA	see contract		20 years	Landfill Gas		2/4/2021		6/1/2019
Consumers	Michigan Wind 1 Amendment	Huron	12	REP			7 years	Wind	Amendment	2/4/2021		
Consumers	Pinconning Plant	Bay	3	PURPA	see contract		20 years	Landfill Gas		2/4/2021		6/1/2019
Consumers	Alverno Hydro Plant	Cheboygan	1.2	PURPA	see contract		20 years	Hydroelectric		7/23/2020		6/1/2019
Consumers	Bellevue Gothic Mill Plant	Eaton	0.045	PURPA	see contract		20 years	Hydroelectric		7/23/2020		6/1/2019
Consumers	Cascade Hydro Plant	Kent	1.4	PURPA	see contract		20 years	Hydroelectric		7/23/2020		1/1/2019
Consumers	City of Beaverton Hydro Plant	Gladwin	0.5	PURPA	see contract		20 years	Hydroelectric		7/23/2020		6/1/2019
Consumers	Elk Rapids Hydro Plant	Antrim	0.7	PURPA	see contract		20 years	Hydroelectric		7/23/2020		10/13/2019
Consumers	Fallasburg Hydro Plant	Kent	0.85	PURPA	see contract		20 years	Hydroelectric		7/23/2020		6/1/2019
Consumers	Kleber Hydro Plant	Cheboygan	1.2	PURPA	see contract		20 years	Hydroelectric		7/23/2020		1/1/2020
Consumers	Mass Burn Incinerator Plant	Kent	18.2	PURPA	see contract		20 years	Incinerator		7/23/2020		6/1/2019
Consumers	Tower Hydro Plant	Cheboygan	0.56	PURPA	see contract		20 years	Hydroelectric		7/23/2020		1/1/2020
Consumers	White's Bridge Hydro Plant	Ionia	0.817	PURPA	see contract		20 years	Hydroelectric		7/23/2020		6/1/2019
I&M	South Bend Solar Project	St. Joseph County, Indiana	20 MW (3 MW MI Jurisdictional)	REP	\$77.58/MWh	LCOE	30 Years	Solar	Competitive Solicitation	7/23/2020		4/1/2021
DTE	Assembly Solar	Shiawassee	79	REP	\$47-50/MWh	LCOE	25 Years	Solar	9/1/2019	7/9/2020		Year 2022
DTE	Meridian Wind Farm	Saginaw	224.9	REP	\$46-49/MWh	LCOE	Company- owned	Wind	9/1/2019	7/9/2020		4/18/2023
DTE	Riverfork Solar II	Calhoun	49	REP	\$49-52/MWh	LCOE	25 Years	Solar	9/1/2019	7/9/2020	1/27/2022	12/31/2023 12/31/2022
Consumers	Allegheny, LLC	Saginaw	10.699	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	7/29/2024
Consumers	Aluminum Solar, LLC	Calhoun	8	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	11/28/2024
Consumers	Arthur Solar Farm, LLC Plant	Midland	1.827	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		1/1/2021
Consumers	Blue Elk Solar I, LLC	Lenawee	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/5/2022	5/1/2024

Consumers	Blue Elk Solar III, LLC	Lenawee	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		5/5/2023
Consumers	Blue Elk Solar IV, LLC	Lenawee	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		5/5/2023
Consumers	Blue Elk Solar VII, LLC	Genesee	12.331	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		5/5/2023
Consumers	Byrne Solar, LLC	Genesee	5	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	5/1/2023
Consumers	Golden Solar Farm, LLC Plant	Livingston	1.828	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		1/1/2021
Consumers	Greenstone Solar, LLC	Branch	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		5/5/2023
Consumers	Hogan Solar, LLC	Livingston	12	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	11/28/2024
Consumers	Johnsfield Solar, LLC	Midland	10	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	7/29/2024
Consumers	Lightfoot Solar, LLC	Oscada	10	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	6/1/2023
Consumers	Lyons Road Solar Farm, LLC	Shiawassee	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		9/1/2021
Consumers	Midcontinent Solar, LLC	Shiawassee	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		5/5/2023
Consumers	Robert Swift Solar Farm, LLC Plant	Branch	1.828	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar		4/15/2020		1/1/2021
Consumers	Shipsterns Solar, LLC	Calhoun	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	7/1/2023
Consumers	Surbrook Solar, LLC	Jackson	10	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	1/30/2024
Consumers	TART Solar, LLC	Grand Tranverse	8.49	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	6/23/2021	7/1/2022
Consumers	Topanga Solar, LLC	Arenac	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	1/30/2024
Consumers	Willford Solar, LLC	Gladwin	20	PURPA	see contract	Avoided energy rates, PRA capacity rates	20 years	Solar	Amendment	4/15/2020	10/27/2022	12/1/2023
Consumers	Cement City Solar, LLC	Jackson	20	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/19/2019	1/20/2022	7/1/2022
Consumers	Letts Creek Solar, LLC	Jackson	15	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/19/2019	1/20/2022	8/1/2022
Consumers	Pullman Solar, LLC	Allegan	20	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/19/2019	1/20/2022	7/1/2022
Consumers	Thorn Lake Solar, LLC	Washtenaw	20	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/19/2019	1/20/2022	9/15/2024
Consumers	13 Mile Solar, LLC	Calhoun	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/18/2020
Consumers	Angola Solar, LLC	Branch	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/18/2020
Consumers	Bingham Solar, LLC	Clinton	20	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		11/30/2020

Consumers	Bullhead Solar, LLC	Hillsdale	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	7/9/2020	10/15/2020	
Consumers	Captain Solar, LLC	Genesee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/3/2020	
Consumers	Coldwater Solar, LLC	Genesee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/3/2020	
Consumers	Crescent Wind	Hillsdale	166	REP	\$48/MWh	LCOE	Company Owned	Wind	6/1/2018	12/6/2019	10/7/2019	2/15/2021	12/31/2020
Consumers	Geddes 1 Solar, LLC	Saginaw	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	7/9/2020	10/15/2020	
Consumers	Geddes 2 Solar, LLC	Saginaw	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	7/9/2020	10/15/2020	
Consumers	Good Fruit Storage, LLC	Ottawa	0.179	PURPA	see contract	LMP energy rates, PRA capacity rates	10 years	Solar	Amendment	12/6/2019	2/18/2021	9/30/2020	
Consumers	Hazel Solar, LLC	Montcalm	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/18/2020	
Consumers	Hendershot Solar, LLC	Lenawee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/18/2020	
Consumers	Interchange Solar, LLC	Genesee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/18/2020	
Consumers	Jack Francis Solar, LLC	Genesee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/3/2020	
Consumers	Lake City Solar	Missaukee	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	10/29/2020	10/5/2022	9/30/2023
Consumers	Macbeth Solar, LLC	Muskegon	20	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		12/24/2021	
Consumers	May Shannon Solar, LLC	Genesee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		8/3/2020	
Consumers	Morey Road Solar	Missaukee	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	10/29/2020	10/5/2022	9/30/2023
Consumers	Stoneheart Solar, LLC	Saginaw	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		12/8/2020	
Consumers	Surrey Road Solar	Clare	2	PURPA	see contract	Full avoided cost	20 years	Solar	Amendment	12/6/2019	10/29/2020	10/5/2022	9/30/2023
Consumers	Temperance Solar, LLC	Monroe	20	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		11/30/2020	
Consumers	Woodley Solar, LLC	Branch	0.821	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		12/8/2020	
Consumers	Workman Road Solar	Missaukee	2	PURPA	see contract	Full avoided cost	20 years	Solar		12/6/2019		9/30/2020	
Consumers	Belding Plant	Ionia	0.3	PURPA	see contract		20 years	Hydroelectric		11/14/2019		1/1/2019	
Consumers	Mackinaw City Plant	Emmet	1.8	PURPA	see contract		2 years	Wind	Amendment	11/14/2019	9/9/2021	6/1/2019	
Consumers	LaBarge Hydro Plant	Kent	0.8	PURPA	see contract		20 years	Hydroelectric		9/26/2019		9/26/2019	
Consumers	Rathbun Plant	Saginaw	1.6	PURPA	see contract		20 years	Landfill Gas		9/26/2019		9/26/2019	
Consumers	River Fork Solar	Calhoun	100	REP	\$44.16/MWh	LCOE	20 years	Solar	Amendment	9/26/2019	10/29/2019	3/31/2022 - 11/30/2022; 3/31/2022	5/31/2021
DTE	Fairbanks Wind Park	Delta	72.45	VGP	\$53.78/MWh***	LCOE	Company Owned	Wind	5/59/2018	7/18/2019		1/7/2022	
DTE	Isabella I Wind Farm	Isabella	197	VGP	\$43.20/MWh***	LCOE	Company Owned	Wind	5/29/2018	7/18/2019		6/1/2021	
DTE	Isabella II Wind Farm	Isabella	186	VGP	\$43.20/MWh***	LCOE	Company Owned	Wind	5/29/2018	7/18/2019		6/1/2021	
Consumers	Hillman	Montmorency	16.3	PURPA	see contract		3 years	Biomass		7/2/2019		7/2/2019	
Consumers	Lincoln Plant	Alcona	18	PURPA	see contract		8 years	Biomass		4/18/2019		4/18/2019	
Consumers	McBain Plant	Missaukee	18	PURPA	see contract		8 years	Biomass		4/18/2019		4/18/2019	
Consumers	Gratiot Farms	Gratiot	150	REP	\$46/MWh	LCOE	Company Owned	Wind	7/1/2017	2/7/2019		12/1/2020	
DTE	Polaris Wind Park	Gratiot	168	REP	\$47.18/MWh***	LCOE	Company Owned "Polaris "	Wind	6/19/2017	4/12/2018		4/23/2020	
Consumers	Ada Hydroplant	Kent	1.4	PURPA	see contract		5 years	Hydroelectric	Amendment	7/31/2017	10/5/2022	7/31/2017	
Consumers	Cross Winds III	Tuscola	76	VGP	\$46/MWh	LCOE	Company Owned	Wind	12/1/2016	3/10/2017		12/31/2019	
Consumers	Cross Winds II	Tuscola	44	VGP	\$45/MWh	LCOE	Company Owned	Wind	10/2/2012	12/20/2016		12/31/2017	
DTE	Pine River Wind Energy, LLC	Gratiot & Isabella	161.3	REP	\$59.67/MWh***	LCOE	Company Owned "Pine River"	Wind	5/20/2016	12/20/2016	6/9/2021	12/31/2018	
Consumers	Solar Gardens	Various	10	VGP	\$160.00/MWh	LCOE	Company Owned	Solar		3/29/2016		Starting with 4/18/2016	
Consumers	Experimental Advanced Renewable Program Phases 26-35	Various	2.2	REP	\$0.199-\$0.243/kWh	Tariffed Program	Up to 15 years	Solar	Unsolicited	2/11/2016		Varies	
DTE	Innovatus (DTE Solar)		50.28	VGP	\$54.75/MWh	LCOE	Company Owned	Solar	6/24/2015	12/11/2015		10/31/2016	

DTE	Pinnebog Wind	Huron	50	VGP	\$54.75/MWh	LCOE	Company Owned	Wind	6/20/2014	12/11/2015	12/9/2016
I&M	Clean Energy Solar Pilot Project (CESPP)	Various	15.7 MW (4.6 MW in MI)	REP	\$42.48/MWh	LCOE	20 Years	Solar	Competitive Solicitation	12/11/2015	10/1/2016
Consumers	Geronimo Huron Wind, LLC (Apple Blossom)	Huron	100	REP	Less than \$45/MWh	LCOE	Up to 15 years	Wind	Unsolicited	11/19/2015	2017
Consumers	Experimental Advanced Renewable Program Anaerobic Digester	Various	2.6	REP	\$86/MWh or \$76.39/MWh-106.39/MWh	Tariffed Program	20 years	Anaerobic	Unsolicited	4/23/2015	Varies
Consumers	Experimental Advanced Renewable Program Phases 16-21	Various	1.4	REP	\$0.199-\$0.243	Tariffed Program	Up to 15 Years	Solar	Unsolicited	4/23/2015	Varies
DTE	Inovateus Solar, LLC. (SolarCurrents)	Wayne	0.504	REP	\$3,741/kW	Average cost	Company Owned	Solar	9/28/2012	7/8/2014	4/1/2015
DTE	Rudolf Libbe, Inc	Wayne	0.75	REP	\$3,741/kW	Average cost	Company Owned	Solar	9/28/2012	7/8/2014	
Consumers	Experimental Advanced Renewable Program Phases 10-15	Various	1.2	REP	Non-Residential \$0.199-0.209/kWh Residential \$0.243-0.249/kWh	Tariffed Program	Up to 15 Years	Solar	Unsolicited	5/2/2014	Varies
UMERC	Cadillac Renewable Energy. LLC	Various	REC-Only Redacted	REP	Redacted		Redacted	Biomass	Competitive Solicitation	1/23/2014	Redacted
Consumers	Cross Winds	Tuscola	111	REP	\$59.00/MWh	LCOE	Company Owned	Solar		9/24/2013	12/31/2014
DTE	Big Turtle Wind Farm, LLC	Huron	20	REP	\$53/MWh	LCOE	20 Years	Wind	Unsolicited	9/24/2013	Expected 2014
Consumers	ABB Transformers							Wind	2/27/2013	9/10/2013	
Consumers	Barton Malow Company							Wind	4/25/2013	9/10/2013	
Consumers	General Electric Company							Wind	10/2/2012	6/28/2013	
DTE	Pheasant Run Wind II, LLC	Huron	74.8	REP	Up to \$49.25/MWh	LCOE	Company Owned “Brookfield”	Wind	Unsolicited	5/17/2013	12/31/2014
DTE	Pheasant Run Wind, LLC	Huron	74.8	REP	Up to \$49.25/MWh	LCOE	20 Years	Wind	Unsolicited	5/17/2013	12/31/2014
DTE	SolarCurrents Phase II	Various	2	REP	\$0.13/W \$0.02/kWh- \$0.20/W \$0.03/kWh	Tariffed Program	Through 8/31/2029	Solar	Unsolicited	11/16/2012	Varies
DTE	Tuscola Wind II, LLC	Tuscola & Bay	100	REP	\$49.25/MWh***	LCOE	20 Years	Wind	5/3/2012	10/31/2012	12/31/2013
DTE	Echo Wind	Huron	110	REP	\$52.50/MWh	Staff estimate	Company Owned	Wind	4/17/2012	9/11/2012	12/31/2013
Consumers	Heritage Stoney Corners Wind Farm I (Phase 3)	Missaukee & Osceola	8.35	REP	\$106.20/MWh	LCOE	20 Years	Wind	Result of Amendment	1/26/2012	1/1/2012
DTE	Michigan Waste Energy, Inc	Wayne	Up to 65,000 RECs/Year	REP	\$7.00/REC	REC pricing	13 Years	Incinerator	Unsolicited	12/6/2011	1991
DTE	SolarCurrents	Various	12	REP	Up to \$48 Million	Tariffed Program	Company Owned	Solar	3/24/2011	11/10/2011	12/31/2015
DTE	Thumb Wind (McKinley, Minden, and Sig	Huron & Sanilac	110.4	REP	\$61-\$64/MWh	LCOE	Company Owned	Wind	5/6/2011	9/13/2011	12/31/2010
DTE	L’Anse Warden Electric Company	Baraga	110,374 RECs	REP	\$11.98 (Average of 4 REC/ACEC Contracts)	REC pricing	Amendment Acquiring Vintage RECs	Biomass	8/18/2009	8/25/2011	7/1/2010
DTE	Tuscola Bay Wind. LLC	Tuscola, Bay, & Saginaw	120	REP	Up to \$60.90/MWh	LCOE	20 Years	Wind	11/18/2010	8/25/2011	12/31/2013
I&M	Wildcat I Wind Farm, LLC	Madison and Tipton Counties, Indiana	100 MW (60MW for MI)	REP	Redacted		20 years	Wind	Competitive Solicitation	8/25/2011	12/31/2012

Consumers	Experimental Advanced Renewable Program	Various	0.9877	REP	Commercial \$0.375/KWh Residential \$0.525/KWh	Tariffed Program	12 Years	Solar	Unsolicited	5/10/2011		Varies
DTE	Gratiot County Wind (Amendment)	Gratiot	12.8	REP	Unchanged from original contract		Company Owned	Wind	Amendment	5/10/2011		12/31/2012
DTE	Blue Water Renewables - Smiths Creek Landfill	St. Clair	3.2	REP	\$99.00/MWh	LCOE	20 Years	Landfill Gas	Unsolicited	1/20/2011		12/31/2011
Consumers	Experimental Advanced Renewable Program	Various	1	REP	Commercial \$0.45/KWh Residential \$0.65/KWh	Tariffed Program	12 Years	Solar	Unsolicited	12/21/2010		5/1/2010
DTE	Nova Consultants (SolarCurrents)	Various		RE	Unchanged from original contract		Company Owned	Solar	Extension	12/21/2010		12/31/2011
Consumers	Lake Winds Energy Park U-15805 edocket files #251-256	Mason	100.8	REP	\$110.00/MWh	LCOE	Company Owned	Wind	1/15/2010	12/2/2010		12/31/2012
Consumers	Heritage Garden Wind Farm I	Delta	20	REP	\$106.20/MWh	LCOE	20 Years	Wind	Amendment	11/19/2010	1/26/2012	12/31/2012 1/1/2012
Consumers	Heritage Stoney Corners Wind Farm II	Missaukee & Osceola	12.3	REP	\$98.50/MWh	LCOE	20 Years	Wind	Amendment	11/19/2010	1/26/2012	1/1/2012
DTE	Gratiot County Wind	Gratiot	89.6	REP	\$94.43/MWh	LCOE	20 Years	Wind	8/18/2009	9/14/2010		5/1/2012
DTE	L'Anse Warden Electric Company	Baraga	17	REP	\$98.94/MWh		20 years	Biomass	8/18/2009	8/10/2010		7/1/2010
DTE	WM Renewable Energy - Eagle Valley Landfill	Oakland	3.2	REP	Combined average of	LCOE	20 years	Landfill Gas	8/18/2009	8/10/2010		6/1/2011
Consumers	Blissfield Wind (Beebe Wind)	Gratiot	81	REP	\$100.88/MWh	LCOE	20 Years	Wind	Amendment	7/27/2010	1/26/2012	12/31/2012 2013
Consumers	Harvest II Wind	Huron	59.4	REP	\$98.38/MWh	LCOE	20 Years	Wind	5/7/2009	7/27/2010		12/31/2012
Consumers	Michigan Wind 2	Sanilac	90	REP	\$94.00/MWh	LCOE	20 Years	Wind	5/7/2009	7/27/2010		6/30/2012
Consumers	WM Renewable Energy - Pine Tree Acres	Macomb	12.8	REP	\$98.75/MWh	LCOE	20 Years	Landfill Gas	5/7/2009	7/27/2010		6/30/2012
DTE	Boyce Hydro**	Various	Firm 210,000 RECs w/additional 112,000 RECs dependent on generation	REP	\$7.75/ REC	REC pricing	7 Years	Hydroelectric	12/23/2009	4/27/2010		3/16/2010
DTE	Nova Consultants (SolarCurrents)	Various	3	REP	Up to \$18 Million		Company Owned	Solar	11/23/2009	3/2/2010		12/31/2010
DTE	Heritage Sustainable Energy Stoney Corners Wind Farm	Missaukee & Osceola	12.2	REP	Unchanged from original contract		20 Years	Wind	Unsolicited	12/1/2009		1/1/2011
DTE	Sterling Planet**	Various	Firm 2,500,000 RECs	REP	of \$12.46/REC	REC pricing	10 Years	Misc.	12/23/2009	12/1/2009		10/1/2009
DTE	UPPCO**	Various	Firm 500,000 RECs	REP	Combined average price	REC pricing	7 Years	Hydroelectric	12/23/2009	12/1/2009		10/1/2009
Consumers	Elk Rapids Hydro Electric** 1	Antrim	0.7	REP	\$121.31/MWh	LCOE	10 Years	Hydroelectric	1/29/2009	10/13/2009		7/11/2009
Consumers	Freemont Community Digester	Newaygo	3.1	REP	\$139.35/MWh	LCOE	20 Years	Anaerobic	1/29/2009	10/13/2009		11/11/2012
Consumers	NANR – Lennon	Shiawassee	1.6	REP	\$137.27/MWh	LCOE	20 Years	Landfill Gas	1/29/2009	10/13/2009		12/31/2010
Consumers	Scenic View Dairy**	Allegan		REP	\$138.17/MWh	LCOE	7 Years	Anaerobic	1/29/2009	10/13/2009	10/26/2010	7/11/2009
Consumers	WM Renewable Energy - Northern Oaks Landfill	Clare	1.6	REP	\$122.39/MWh	LCOE	20 Years	Landfill Gas	1/29/2009	10/13/2009		11/11/2010
Consumers	Zeeland**	Ottawa	1.6	REP	\$122.20/MWh	LCOE	7 Years	Landfill Gas	1/29/2009	10/13/2009		7/11/2009
Alpena	Consumers Energy	Various	"Bulk of RECs needed to meet the RPS"	REP	Consumers Energy Company's Average Cost of RECs	REC pricing	20 Years	Misc.	Unsolicited	9/15/2009		8/4/2009
I&M	Fowler Ridge Wind Farm II	Benton County, Indiana	50 MW (7.5MW for MI)	REP	Redacted		20 Years	Wind	Unsolicited	9/15/2009		2/15/2010
DTE	Heritage Sustainable Energy Stoney Corners Wind Farm	Missaukee & Osceola	14	REP	\$116.00/MWh	LCOE	20 Years	Wind	Unsolicited	4/30/2009		12/21/2009

Appendix B Solar Farm Summary

	Project Name	County	Capacity (MW)	Owner/Power Purchaser	Type	Commercial Operation Date
1	13 Mile Solar, LLC	Calhoun	2	Consumers Energy	PURPA	August 2020
2	Addle Solar	Hillsdale	20	Consumers Energy	PURPA	July 2024
3	Allegheny, LLC	Saginaw	10.699	Consumers Energy	PURPA	July 2024
4	Aluminum Solar, LLC	Calhoun	8	Consumers Energy	PURPA	November 2024
5	Angola Solar, LLC	Branch	2	Consumers Energy	PURPA	August 2020
6	Arthur Solar Farm, LLC Plant	Midland	1.827	Consumers Energy	PURPA	January 2021
7	Assembly Solar	Shiawassee	50			December 2020
8	Assembly Solar II	Shiawassee	110	MPPA/BWL		December 2021
9	Assembly Solar III	Shiawassee	79	DTE Electric	REP	2022
10	Bingham Solar, LLC	Clinton	20	Consumers Energy	PURPA	November 2020
11	Blue Elk Solar I, LLC	Lenawee	20	Consumers Energy	PURPA	May 2024
12	Blue Elk Solar II Plant	Ingham	20	Consumers Energy	PURPA	September 2023
13	Blue Elk Solar III, LLC	Lenawee	20	Consumers Energy	PURPA	May 2023
14	Blue Elk Solar IV, LLC	Lenawee	20	Consumers Energy	PURPA	May 2023
15	Blue Elk Solar VII, LLC	Genesee	12.331	Consumers Energy	PURPA	May 2023
16	Bullhead Solar, LLC	Hillsdale	2	Consumers Energy	PURPA	October 2020
17	Byrne Solar, LLC	Genesee	5	Consumers Energy	PURPA	May 2023
19	Calhoun Solar Energy	Calhoun	140	Consumers Energy	IRP	Delayed
20	Captain Solar, LLC	Genesee	2	Consumers Energy	PURPA	August 2020
92	Cedar Fields Solar Park	Clare & Gladwin	138	DTE Electric	IRP	June 2027
21	Cement City Solar, LLC	Jackson	20	Consumers Energy	PURPA	July 2022
22	Cereal City	Calhoun	100	Consumers Enegy	IRP	May 2023
23	Clean Energy Solar Pilot	Berrien	4.6	I&M	REP	October 2016
84	Coldwater River Solar	Branch	150	DTE Electric	PPA	March 2026
24	Coldwater Solar, LLC	Genesee	2	Consumers Energy	PURPA	August 2020
25	Confluence Solar	Genesee & Sagniaw	150	DTE Electric	IRP	December 2024
26	Copenhagen Solar	Saginaw	20	Consumers Energy	PURPA	July 2024
27	Demile Solar	Lapeer	28.56	DTE Electric	VGP	May 2017
28	DSC Corp Center Solar Plant	Bay	0.0313	Consumers Energy	PURPA	September 2021
85	Fish Creek Solar	Montcalm	132	DTE Electric	VGP	September 2025
93	Freshwater Solar, LLC	Montcalm	200	Consumers Energy	PPA	June 2027
30	Geddes 1 Solar, LLC	Saginaw	2	Consumers Enegy	PURPA	October 2020
31	Geddes 2 Solar, LLC	Saginaw	2	Consumers Enegy	PURPA	October 2020
32	Golden Solar Farm, LLC Plant	Livingston	1.828	Consumers Enegy	PURPA	January 2021
33	Good Fruit Storage, LLC	Ottawa	0.179	Consumers Enegy	PURPA	September 2020
34	Gratiot Co-Location Solar Park	Gratiot	50	DTE Electric	VGP	December 2023
35	Greenstone Solar, LLC	Branch	20	Consumers Enegy	PURPA	May 2023

Appendix B Solar Farm Summary

	Project Name	County	Capacity (MW)	Owner/Power Purchaser	Type	Commercial Operation Date
86	Groveland Mine Solar	Dickinson	62.5	UPPCO	IRP	December 2028
36	Hazel Solar, LLC	Montcalm	2	Consumers Enegy	PURPA	August 2020
38	Heartwood Solar	Hillsdale	150	DTE Electric	IRP	December 2024
39	Hendershot Solar, LLC	Lenawee	2	Consumers Enegy	PURPA	August 2020
40	Hogan Solar, LLC	Livingston	12	Consumers Enegy	PURPA	November 2024
41	Holly Solar	Oakland	20	Consumers Enegy	PURPA	April 2025
42	Interchange Solar, LLC	Genesee	2	Consumers Enegy	PURPA	August 2020
43	Jack Francis Solar, LLC	Genesee	2	Consumers Enegy	PURPA	August 2020
44	Jackson County Solar	Jackson	125	Consumers Enegy	IRP	November 2025
45	Johnsfield Solar, LLC	Midland	10	Consumers Enegy	PURPA	July 2024
94	Kay L. Brainerd Solar	Missaukee	0.25	DTE Electric	PURPA	2024
46	Lake City Solar	Missaukee	2	Consumers Enegy	PURPA	September 2023
47	Letts Creek Solar, LLC	Jackson	15	Consumers Enegy	PURPA	August 2022
48	Lightfoot Solar, LLC	Oscada	10	Consumers Enegy	PURPA	June 2023
87	Little Trout Solar	Presque Isle	150	DTE Electric	VGP	December 2025
49	Lyons Road Solar Farm, LLC	Shiawassee	20	Consumers Enegy	PURPA	September 2021
50	Macbeth Solar, LLC	Muskegon	20	Consumers Enegy	PURPA	December 2021
51	MAP Plant	Kent	0.375	Consumers Enegy	PURPA	Decemer 2019
52	May Shannon Solar, LLC	Genesee	2	Consumers Enegy	PURPA	August 2020
53	Midcontinent Solar, LLC	Shiawassee	20	Consumers Enegy	PURPA	May 2023
88	Mission Road Co-Location Solar	Isabella	153	DTE Electric	VGP	December 2025
54	Morey Road Solar	Missaukee	2	Consumers Enegy	PURPA	September 2023
55	Mustang Mile	Lenawee	150	Consumers Enegy	IRP	December 2022
56	Olivier Solar	Lenawee	20	Consumers Enegy	PURPA	April 2025
57	O'Shea Solar Park	Wayne	2	DTE Electric	VGP	August 2017
58	Pine River Co-Location Solar Park	Gratiot	80	DTE Electric	VGP	December 2023
59	Polaris Co-Location Solar Park	Gratiot	100	DTE Electric	VGP	December 2023
60	Puck Solar	Ionia	20	Consumers Enegy	PURPA	July 2024
61	Pullman Solar, LLC	Allegan	20	Consumers Enegy	PURPA	July 2022
89	Renegade Solar Energy, LLC	Delta	100	UMERC	PSA	December 2026
62	River Fork Solar	Calhoun	100	Consumers Enegy	REP	November 2022
63	River Fork Solar II	Calhoun	49	DTE Electric	REP	December 2023
64	Robert Swift Solar Farm, LLC Plant	Branch	1.828	Consumers Enegy	PURPA	January 2021
65	Sauk Solar	Branch	150	DTE Electric	VGP	December 2023
66	SCHS Solar	Kent	0.55	Consumers Enegy	PURPA	October 2021
67	Shipsterns Solar, LLC	Calhoun	20	Consumers Enegy	PURPA	July 2023
68	Shoreline Solar	St. Joseph	20	Consumers Enegy	PURPA	April 2025


Appendix B Solar Farm Summary

	Project Name	County	Capacity (MW)	Owner/Power Purchaser	Type	Commercial Operation Date
69	Solar Gardens, 3 sites	Ottawa, Kalamazoo, Wexford	28	Consumers Enegy	VGP	April 2016
70	Stoneheart Solar, LLC	Saginaw	2	Consumers Enegy	PURPA	December 2020
71	Sunbelievable Solar	Clinton	12	Consumers Enegy	PURPA	July 2024
90	Sunfish Solar 2 Project	Calhoun	309	Consumers Energy	VGP	December 2025
72	Surbrook Solar, LLC	Jackson	10	Consumers Enegy	PURPA	January 2024
73	Surrey Road Solar	Clare	2	Consumers Enegy	PURPA	September 2023
74	TART Solar, LLC	Grand Tranverse	8.49	Consumers Enegy	PURPA	July 2022
75	Temperance Solar, LLC	Monroe	20	Consumers Enegy	PURPA	November 2020
76	Thorn Lake Solar, LLC	Washtenaw	20	Consumers Enegy	PURPA	September 2024
77	Topanga Solar, LLC	Arenac	20	Consumers Enegy	PURPA	January 2024
78	Turrill Solar	Lapeer	19.72	DTE Electric	VGP	May 2019
79	Washtenaw Solar	Washtenaw	150	Consumers Energy	IRP	December 2023
91	White Pine Grove Solar, LLC	Calhoun	100	DTE Energy	PPA	March 2026
81	Willford Solar, LLC	Gladwin	20	Consumers Enegy	PURPA	December 2023
82	Woodley Solar, LLC	Branch	0.821	Consumers Enegy	PURPA	December 2020
83	Workman Road Solar	Missaukee	2	Consumers Enegy	PURPA	September 2020
	Totals		3,906			
	Operational Totals		1,746			

- 1 13 Mile Solar, LLC, 2 MW
- 2 Addle Solar, 20 MW
- 3 Allegheny, LLC, 10.699 MW
- 4 Aluminum Solar, LLC, 8 MW
- 5 Angola Solar, LLC, 2 MW
- 6 Arthur Solar Farm, LLC Plant, 1.827 MW
- 7 Assembly Solar, 79 MW
- 8 Assembly Solar II, 110 MW
- 9 Assembly Solar III, 79 MW
- 10 Bingham Solar, LLC, 20 MW
- 11 Blue Elk Solar I, LLC, 20 MW
- 12 Blue Elk Solar II Plant, 20 MW
- 13 Blue Elk Solar III, LLC, 20 MW
- 14 Blue Elk Solar IV, LLC, 20 MW
- 15 Blue Elk Solar VII, LLC, 12.331 MW
- 16 Bullhead Solar, LLC, 2 MW
- 17 Byrne Solar, LLC, 5 MW
- 19 Calhoun Solar Energy, 50 out of 140 MW
- 20 Captain Solar, LLC, 2 MW
- 92 Cedar Fields, 138 MW
- 21 Cement City Solar, LLC, 20 MW
- 22 Cereal City Solar, 100 MW
- 23 Clean Energy Solar Pilot Project (CESPP), 4.6 MW
- 84 Coldwater River Solar, 150 MW
- 24 Coldwater Solar, LLC, 2 MW
- 25 Confluence Solar, 150 MW
- 26 Copenhagen Solar, 20 MW
- 27 Demille Solar, 28.56 MW
- 28 DSC Corp Center Solar Plant, 0.0313 MW
- 85 Fish Creek Solar, 132 MW
- 93 Freshwater Solar, 200 MW
- 30 Geddes 1 Solar, LLC, 2 MW
- 31 Geddes 2 Solar, LLC, 2 MW
- 32 Golden Solar Farm, LLC Plant, 1.828 MW

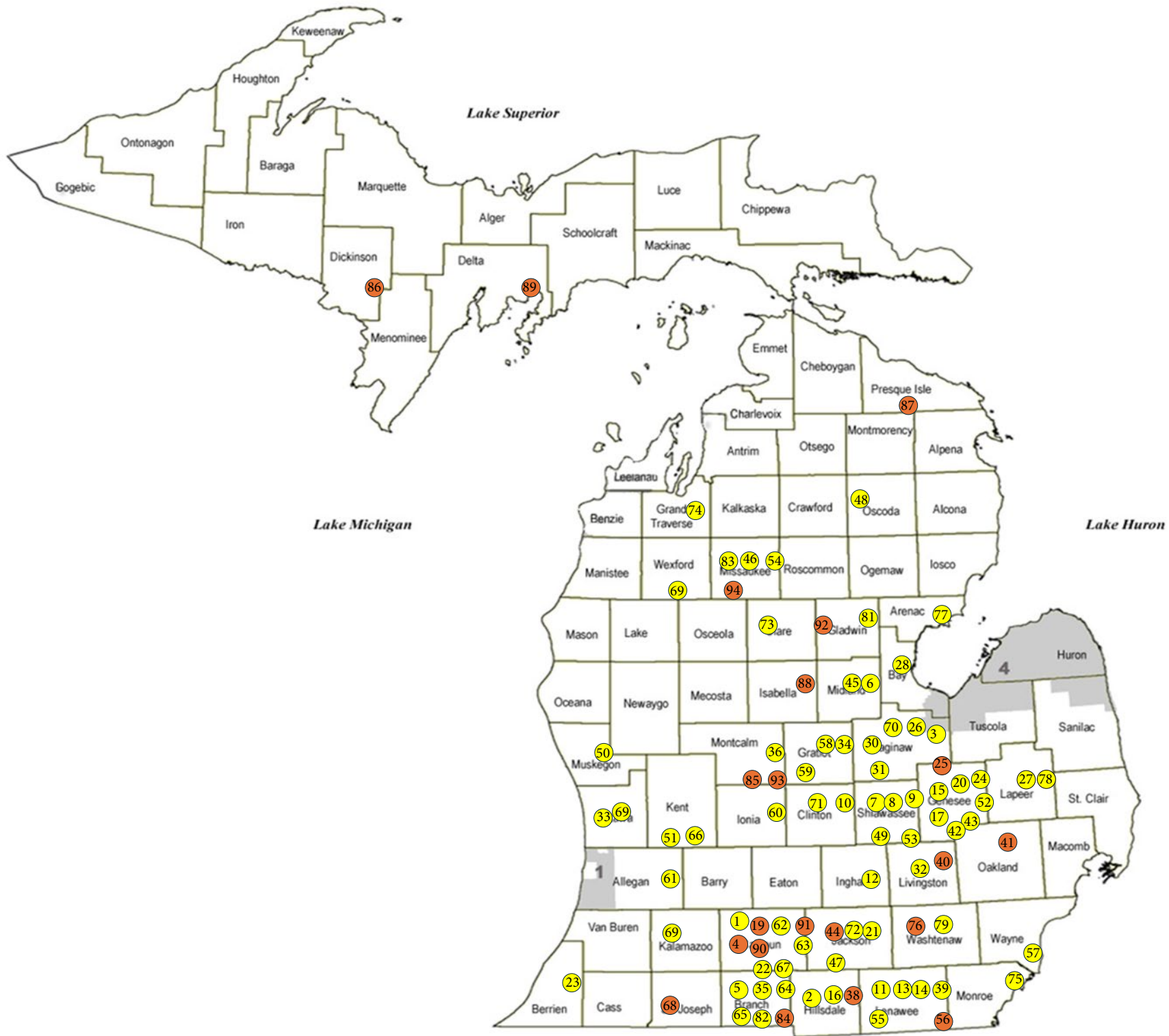
- 33 Good Fruit Storage, LLC, 0.179 MW
- 34 Gratiot Co-Location Solar Park, 50 MW
- 35 Greenstone Solar, LLC, 20 MW
- 86 Groveland Mine Solar, 62.5 MW
- 36 Hazel Solar, LLC, 2 MW
- 38 Heartwood Solar, 150 MW
- 39 Hendershot Solar, LLC, 2 MW
- 40 Hogan Solar, LLC, 12 MW
- 41 Holly Solar, 20 MW
- 42 Interchange Solar, LLC, 2 MW
- 43 Jack Francis Solar, LLC, 2 MW
- 44 Jackson County Solar, 125 MW
- 45 Johnsfeld Solar, LLC, 10 MW
- 94 Kay L. Brainerd Solar, .25 MW
- 46 Lake City Solar, 2 MW
- 47 Letts Creek Solar, LLC, 15 MW
- 48 Lightfoot Solar, LLC, 10 MW
- 87 Little Trout Solar, 150 MW
- 49 Lyons Road Solar Farm, LLC, 20 MW
- 50 Macbeth Solar, LLC, 20 MW
- 51 MAP Plant, 0.375 MW
- 52 May Shannon Solar, LLC, 2 MW
- 53 Midcontinent Solar, LLC, 20 MW
- 88 Mission Road Co-Location Solar Park, 153 MW
- 54 Morey Road Solar, 2 MW
- 55 Mustang Mile, 150 MW
- 56 Olivier Solar, 20 MW
- 57 O'Shea Solar, 2 MW
- 58 Pine River Co-Location Solar Park, 80 MW
- 59 Polaris Co-Location Solar Park, 100 MW
- 60 Puck Solar, 20 MW
- 61 Pullman Solar, LLC, 20 MW
- 89 Renegade Solar Energy, LLC, 100 MW
- 62 River Fork Solar, 100 MW

- 63 River Fork Solar II, 49 MW
- 64 Robert Swift Solar Farm, LLC Plant, 1.828 MW
- 65 Sauk Solar, 150 MW
- 66 SCHS Solar, 0.55 MW
- 67 Shipsterns Solar, LLC, 20 MW
- 68 Shoreline Solar, 20 MW
- 69 Solar Gardens, 28 MW
- 70 Stoneheart Solar, LLC, 2 MW
- 71 Sunbelievable Solar, 12 MW
- 90 Sunfish Solar 2 Project, 309 MW
- 72 Surbrook Solar, LLC, 10 MW
- 73 Surrey Road Solar, 2 MW
- 74 TART Solar, 8.49 MW
- 75 Temperance Solar, LLC, 20 MW
- 76 Thorn Lake Solar, LLC, 20 MW
- 77 Topanga Solar, LLC, 20 MW
- 78 Turrill Solar, 19.72 MW
- 79 Washtenaw Solar, 150 MW
- 91 White Pine Grove Solar, LLC 100 MW
- 81 Willford Solar, LLC, 20 MW
- 82 Woodley Solar, LLC, 0.821 MW
- 83 Workman Road Solar, 2 MW

 Currently Operational

 Under Development

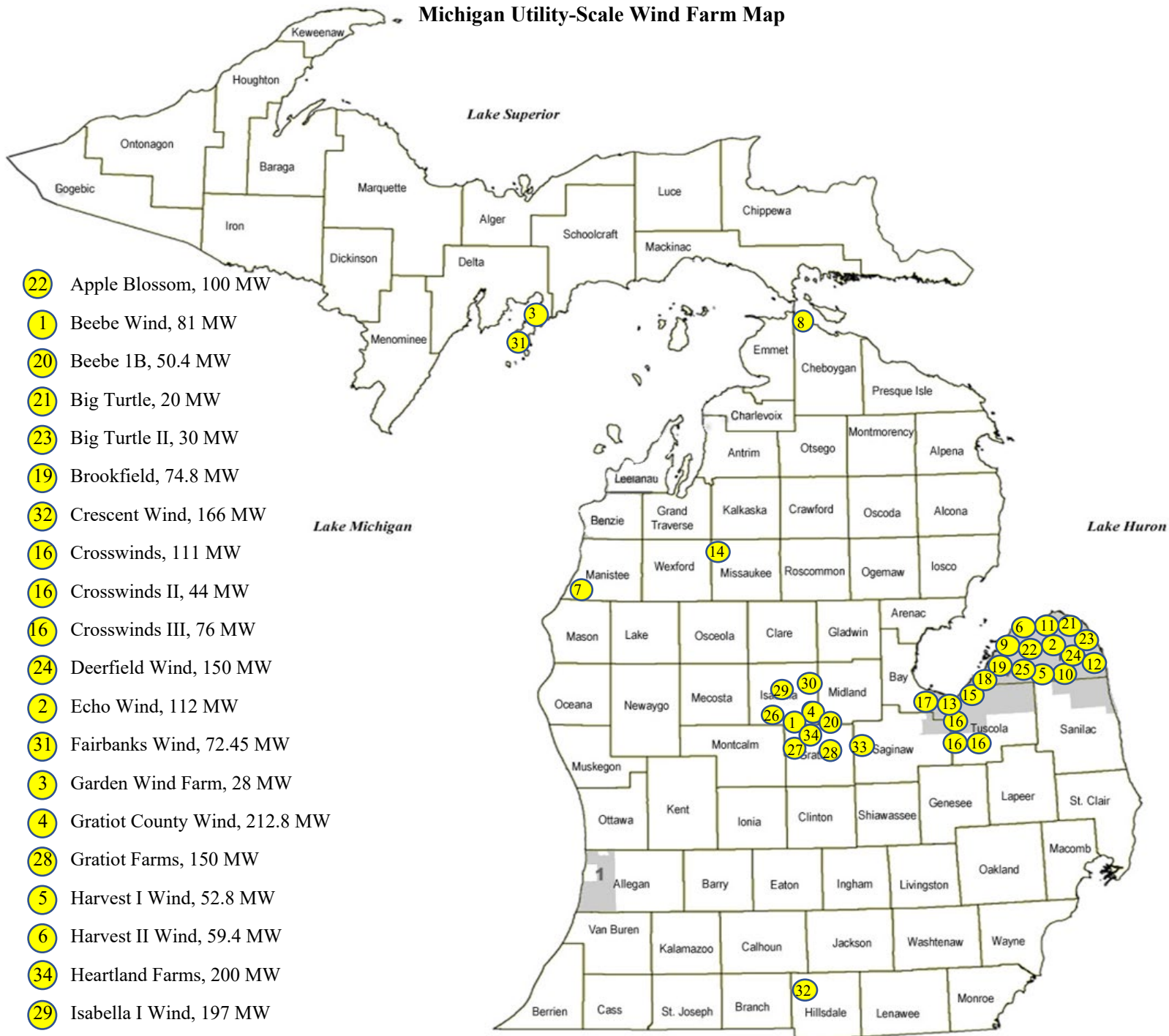
1,746 MW Total Operational



Appendix B- Wind Farm Summary

[illegible]

Michigan Utility-Scale Wind Farm Map



22 Apple Blossom, 100 MW

1 Beebe Wind, 81 MW

20 Beebe 1B, 50.4 MW

21 Big Turtle, 20 MW

23 Big Turtle II, 30 MW

19 Brookfield, 74.8 MW

32 Crescent Wind, 166 MW

16 Crosswinds, 111 MW

16 Crosswinds II, 44 MW

16 Crosswinds III, 76 MW

24 Deerfield Wind, 150 MW

2 Echo Wind, 112 MW

31 Fairbanks Wind, 72.45 MW

3 Garden Wind Farm, 28 MW

4 Gratiot County Wind, 212.8 MW

28 Gratiot Farms, 150 MW

5 Harvest I Wind, 52.8 MW

6 Harvest II Wind, 59.4 MW

34 Heartland Farms, 200 MW

29 Isabella I Wind, 197 MW

30 Isabella II Wind, 186 MW

7 Lake Winds Energy Park, 100.8 MW

8 Mackinaw City, 1.8 MW

9 McKinley, 14.4 MW

33 Meridian Wind, 224.9 MW

10 Michigan Wind I, 69 MW

11 Michigan Wind II, 90 MW

12 Minden, 32 MW

18 Pheasant Run Wind, 74.8 MW

26 Pine River Wind, 161.3 MW

25 Pinnebog, 51 MW

27 Polaris Wind, 168 MW

15 Sigel, 64 MW

14 Stoney Corners, 81 MW

13 Tuscola Bay Wind, 120 MW

17 Tuscola Bay Wind II, 100.3 MW

Currently Operational

Under Development

3,382 MW Total Operational