

Distributed Generation Program Guide





What is Distributed Generation?

The Consumers Energy Distributed Generation program enables business and residential customers who generate renewable energy – most often from rooftop solar or wind installations – to earn credit for excess energy supplied to the electric grid.

You'll stay connected to the grid even though you generate electricity through your own renewable energy source, and the energy you generate will decrease the amount of electricity you purchase from us.

Distributed Generation is available to Consumers Energy customers with solar and other renewable energy systems capable of generating up to 150 kilowatts (kW) of electricity or methane digester systems that generate up to 550 kW.

Today, about 4,900 customers participate in our renewable generation programs statewide.

How Does Distributed Generation Work?

As a Distributed Generation customer, you'll use the energy you generate

first to meet your own energy needs. If you produce more electricity than you need over the course of the day, the excess generation is sent through an electric meter to the grid.

If you need more power than your eligible generator can produce, we'll supply the extra electricity.

In each period, if the energy you generate is greater than your overall energy consumption, the difference is credited on your electric bill to offset your energy costs. The credit rolls forward to subsequent months.

Distributed Generation Program

Guide for Potential Applicants

Revised July 2021

Consumers Energy is committed to building a clean energy future for Michigan.

Thanks for considering our Distributed Generation program.



Be a Force of Change

At Your Home

You are in control with tools to save money and power your home more efficiently.

- Rebates and energy assessments can reduce your energy use and lower your bill.
- Air conditioning efficiency programs and smart thermostats reward customers for using energy at the right times.
- Electric vehicle rebates and rate options make charging cheaper and more convenient.

At Your Business

Prepare for the future, take control, and get rewarded for smart energy use with our rebates and programs.

- Rebates and customized programs can reduce your energy use and lower your bill.
- Demand response programs tailored to your company reward you for using energy at the right times.
- Electric vehicle rebates and rate options can transform your fleet and offer options for customers and employees.

With Renewables

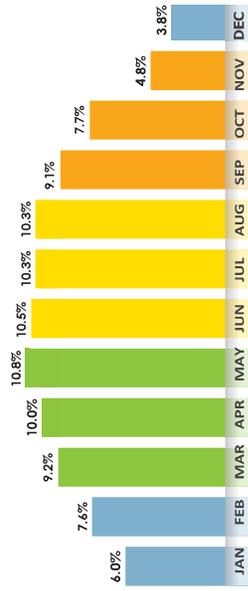
Wind and solar power are key parts of our plan.

Our Solar Gardens program lets homes and businesses tap solar benefits without a major investment.

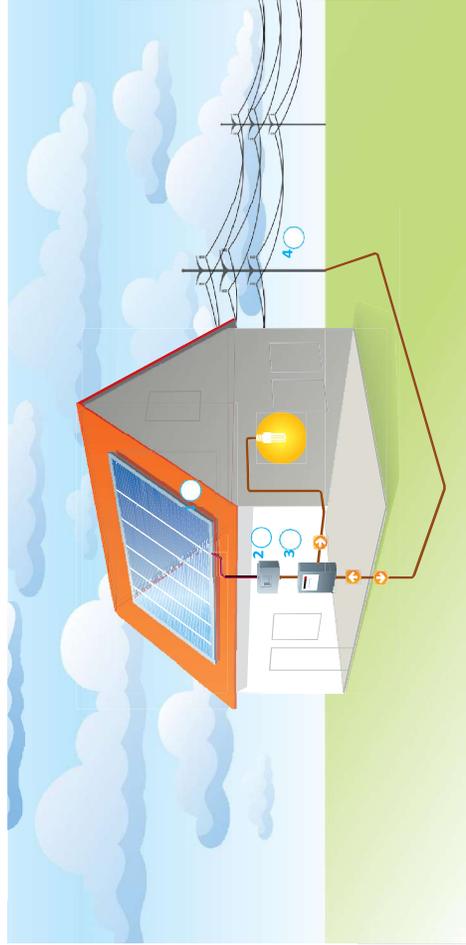
Quickly become a Clean Energy Partner by subscribing to a "block" of solar energy.

Monthly Distribution of Solar Generation

This chart shows an estimated percentage of a solar generator's annual energy output by month. Excess generation credits built up in summer can be used to offset net consumption in later months.



Percentage of Annual Solar Generation



What Does Distributed Generation Look Like?

- Solar photovoltaic panels:** Produce DC (direct current) electricity when photons of light from the sun strike the panel's surface.
- Inverter:** Converts the electricity your solar panels produce from DC to AC (alternating current), the type of current flow used on the grid and in your home.
- Bidirectional meter:** Measures the inflow and outflow of electricity to and from your home. Electricity produced by your system is first used to power your home or business, and excess electricity is then sent to the electric grid. Your upgraded electric meter already has this capability.
- Electric grid:** The electric infrastructure that transports electric power to and from your home or business.

Is Distributed Generation Right for Me?

Distributed Generation enables you to take control of your energy needs by generating your own electricity and reducing your monthly electric bill. As a clean energy leader, Consumers Energy offers several clean and renewable energy programs designed to save energy and money.



Renewable Energy Programs at Consumers Energy

	Distributed Generation	Energy Only	Solar Gardens
Who Owns the System?	Customer	Customer	Consumers Energy
How Does It Work?	Customers offset use and receive credit for excess generation	Buy-all electricity used, sell-all electricity generated or offset use and receive credit for excess generation.	Subscription to portion of utility-owned solar array
Cost to Customer	Equipment and Installation costs plus application fees	Equipment and Installation costs plus application fees	Flexible financing options for each 1/2 kW of capacity subscribed
Price Paid	Category 1, 2 and 3: Power Supply Rate (which exclude transmission costs)	Wholesale Market Price	Market Based Bill Credit
Renewable Energy Credits	Customer Owned	Customer Owned	None

Frequently Asked Questions

Where can I apply?

Please apply online at ConsumersEnergy.PowerClerk.com.

To start a new application, first create an account and log in. Then click on "New Interconnection Application" on the top left corner of the page.

Customers without internet access can contact us directly at 517-788-2119.

Why shouldn't I go off the grid completely?

Going off the grid with a renewable generator in Michigan is difficult. Many renewable energy technologies are intermittent power sources, meaning that no energy is generated when the sun isn't shining, and the wind isn't blowing. The Distributed Generation program enables you to adopt new renewable energy technology and become more self-reliant in satisfying your energy needs without sacrificing reliability.

How much electricity can I produce?

The answer depends on your electricity needs. Distributed Generation is intended only to offset your annual electric use, so your renewable energy system's annual generation cannot exceed your annual electric consumption. You can estimate your annual electricity use by totaling the previous 12 months of electricity use on your electric bills.

For Current Applicants

Several grant programs are available. For more information, visit the Database of State Incentives for Renewables & Efficiency at dsireusa.org. Customer Checklist

1

2

3

4

5

Apply for Distributed Generation

Construct Your System

Perform a Commissioning Test

Sign Interconnection Agreement

You are now enrolled in Distributed Generation

Customer Checklist

You and/or your installer are responsible for coordinating design, installation, operation, and maintenance of any distributed generation system you install. Customers interested in the Distributed Generation program should also be prepared to:

1. Complete an initial interconnection application that includes your contact information, generation type, system size and annual energy use and mail the application fee.
2. Construct the generating system in accordance with approved specifications submitted in the application.
3. Perform a commissioning test on the newly installed system to ensure the generator can safely connect to the grid. A sample commissioning test form is shown on the next page.
4. Sign the generator interconnection and operating agreement (GIOA) after confirming all information on the form is accurate. This document will be emailed to you via DocuSign for electronic signature or via U.S. mail for customers who opt to submit a hardcopy application. Keep in mind that if you plan on making changes to your system in the future, you must notify Consumers Energy beforehand.

Once these steps are complete, you will be authorized to turn on your system and enjoy the benefits of Consumers Energy's Distributed Generation program

Safety First

Consumers Energy requires a GIOA to be in place for every generator attached to our distribution system. The GIOA affirms you have installed the agreed-upon system and will operate it accordingly. The agreement also informs Consumers Energy that you have a system that can supply excess electricity to our electric grid.

Understanding My Bill

Your new bill will look much the same as your current bill with additional line items showing your monthly net electric use and any excess generation you have sent back to the grid. When applicable, your net excess credit will appear on your regular electric bill and be applied toward your Consumers Energy electric consumption charges. Outflow credit, or excess generation credits, are based on the rate code selected. Residential and business customers are

initially assigned the Summer On-Peak Basic Rate and General Service rates respectively. See our electric service rate book for eligible Distributed Generation program rates. If you have questions about your bill or understanding your rate code, please contact Consumers Energy's special ledger department at 800-541-2341, option 4.

Account Information

Bill Month: June 2021
 Billing Period: 06/01/2021 - 06/21/2021
 Days Billed: 32
Programs:
 Auto Pay
 Distributed Generation
 Selected Due Date: 06/21/2021
 Need to talk to us? Visit ConsumerEnergy.com or call 800-477-5959

Programs:
 Distributed Generation
 Auto Pay
 Selected Due Date: 06/21/2021
 Need to talk to us? Visit ConsumerEnergy.com or call 800-477-5959

Rate Information

Electric Residential Service
 Billing Period: 06/01/2021 - 06/21/2021
 Your next scheduled meter read date is on or around 07/31/2021

Meter Information

Meter Number: Smart Meter
 Meter ID: 1001
 Your next scheduled meter read date is on or around 07/31/2021

Electric Service: Smart Meter

POD Number: 1001
 Beginning Meter Date: 06-21
 Beginning Meter Date: 06-21
 Ending Meter Date: 06/20/21
 Usage: 1241.20778 kWh (Actual)
 Energy Consumed: 1241.20778 kWh
 Total Generated Interval Usage: 867.280 kWh
 Net Energy Consumed: 374.92778 kWh
 The bill is the total of all hourly intervals, rounded during peak billing period.

Energy sent back to the grid

Estimated net kWh being supplied to the grid for information purposes only. Please visit Energy Use Details at ConsumerEnergy.com to view your energy use data.

June Energy Bill

Account Summary

Last Month's Account Balance \$1727
 Payment June 17, 2021 -\$1727
 Balance Forward \$0.00

Self Generated Outflow

Payments applied after Jan 22, 2021 are not included.

Oil Peak Energy - Summer 321.48
 Oil Peak Energy - Winter 179.8666 C119653
 Energy Billing - Summer 322.87
 Energy Billing - Winter 209.7918 C088175
 Total Generation Credit 979.59
 Previous Credit Balance 50.00
Generation Credit Applied 979.59
Generation Credit 979.59

Electric Charges

Basic Service (Billed 05/21/2021 - 06/21/2021) 544.26
 On-Peak Energy (Billed 06/01/2021 - 06/21/2021) 58.32
 On-Peak Energy (2am-7pm) 37.05
 Other Charges 1.24120778 C007050
 PQR 58.75
 System Access 50.00
 Distribution 1241.20778 C000033
 Distribution 1241.20778 C000010
 Power Plant Securitization 1241.20778 C000110
 Low-Income Asset Fund 51.54
Total Credits 979.59
Total Energy Charges 3147.45

Amount Due \$147.45
 By July 15, 2021
 Payment after this date, a late payment charge will be added to your next bill.

Electric Charges - Total Generation Credit Applied - Amount Due

Common Terms and Definitions

Bidirectional meter: An electric meter installed by Consumers Energy for customers with grid-tied generation. Consumers Energy can measure a customer's net electricity use by netting the two registers found on a bidirectional meter – one that measures the energy provided by Consumers Energy, and one that measures excess generation brought onto the grid. Upgraded electric meters have bidirectional capability.

Capacity factor: The ratio of a generating system's actual output over time and its potential output if to the system could operate at full nameplate capacity continuously over the same period of time. Example: Consumers Energy assumes a capacity factor of 12.74 percent when determining the eligibility of a solar system for the Distributed Generation program.

Categories: Renewable generator systems are classified into three categories:

Category 1: Eligible electric generators with aggregate generation up to 20 kilowatts (kWAC). Category 1 systems are typically owned by residential or small business customers.

Category 2: Eligible electric generators with aggregate generation greater than 20 kW and up to 150 kWAC. Category 2 systems are typically owned by large business and industrial customers.

Category 3: Methane digesters with aggregate generation greater than 150 kW and up to 550 kWAC. Category 3 systems are almost exclusively owned by agricultural customers.

Commissioning test: A test Distributed Generation customers complete after a generator is installed, but before the GIOA is signed, that proves the system is up to code, performs to specifications and is ready to be safely connected to the grid.

Credits: You'll receive credit for excess energy supplied to the electric grid amounting to power supply less transmission costs.

Eligible generator types: A renewable energy system (solar, wind, hydroelectric, geothermal or biomass) with up to 150 kW of capacity, or a methane digester with up to 550 kW of capacity. Eligible electric generators cannot produce output exceeding a customer's annual electric use.

Generator interconnection and operating agreement (GIOA): A contractual agreement between Consumers Energy and its customer designating the size of a generator being connected to the grid and the generator's location.

Kilowatt (kW): The instantaneous rate at which energy is being generated or used.

Kilowatt-hour (kWh): The result of producing power over a sustained period. For example, if a one-kilowatt generator produced electricity at full power for one hour, one kilowatt-hour would be produced.

Nameplate capacity: The fully rated output of an electric generation system during ideal conditions. Since renewable energy power sources are intermittent, most renewable systems operate far below nameplate capacity most of the time, so the system's capacity factor must be considered. As an example, a 6-kW solar generation system can offset an average home's electric use.

Outflow credit: A full-service customer's rate per kilowatt-hour (kWh) for excess generation.

Net excess generation credit: The line item on a customer's monthly electric bill showing the aggregate credit built up for use in future billing cycles because of excess generation.

Renewable energy credits (RECs): Tradeable, non-tangible energy commodities in the United States representing proof that one megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource (renewable electricity), used by Consumers Energy to meet regulated portfolio standards.

Renewable energy resource: A resource that replenishes naturally over time and is ultimately derived from solar, wind or hydroelectric energy.