RENEWABLE BATTERY CONNECT

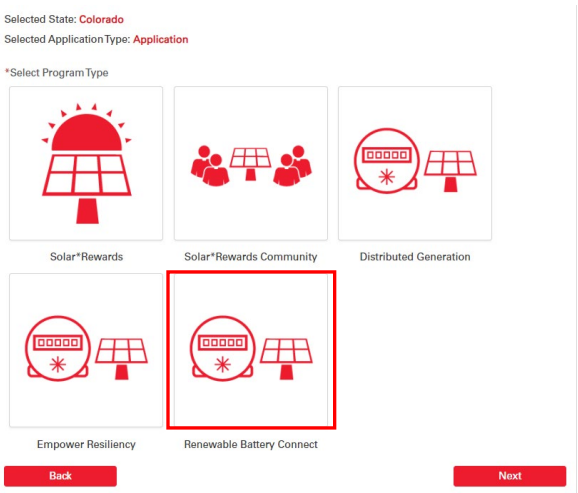
Solar Battery Installer Q & A

GENERAL PROGRAM DESCRIPTION:

Renewable Battery Connect will continue to evaluate how residential and small commercial batteries can integrate with the electric grid and leverage solar energy as Xcel Energy works toward being carbon-free by 2050. When our customers install a new qualifying solar-charged battery and enroll in Renewable Battery Connect, Xcel Energy will automatically manage their solar-charged battery during periods of peak demand up to 60 times per year. Utilizing the battery during control events reduces energy use, which in turn reduces demand and helps stabilize the electric grid when it is stressed. Participants receive an upfront incentive per qualifying battery of $500 per kW of the energy storage installed capped at 50% of the retail battery cost, excluding any tax and installation costs. Participants who qualify as Income Qualified or located in a Disproportionately Impacted Community receive an increased incentive of $800 per kW of energy storage installed capped at 75% of the retail battery cost. In addition, there is a $100 annual payment per address for the program term of five years. There is no limit on the number of batteries, however, the incentive may be capped if it is greater than the percent cap of the product as mentioned above.
Learn more at Battery Connect | Renewable Energy | Xcel Energy

- Eligible Battery Equipment (PDF)
- Customer Information Sheet (PDF)
- Renewable Battery Connect Agreement (sample)
- Renewable Battery Connect Installer Guide for Interconnection Requests

How does a customer get enrolled in Renewable Battery Connect?
Enrollment in Renewable Battery Connect is through an interconnection application request for the 'Renewable Battery Connect' program within the interconnection portal after June 20th, 2023, when the program launched. The eligible battery must be **new equipment and paired with a new or existing solar system**. The solar battery provider manages the interconnection application on behalf of the customer and is responsible for making any changes to the application based upon conversations with the customer and their preferences. This includes the ability of the installer to withdraw a current application and start a new one for Renewable Battery Connect to enable participation. Applications cannot be transferred to Renewable Battery Connect during the interconnection process or after Permission to Operate has been given. ***Please make sure customer requests to participate in the program match what is submitted in the interconnection portal.***



What are the different product types for Renewable Battery Connect and associated fees?
There are five different Product Types for Renewable Battery Connect. Please be sure to select the product that matches the customer project from the dropdown when starting an interconnection application in the Xcel Energy portal. (IQ/DIC refers to Income Qualified/Disproportionately Impacted Community)

Select One Product from Dropdown:	Description:	Fees:
1. CO - 2024 Renewable Battery Connect (Battery Only)	**New battery with existing solar**	**Application Deposit: $50/kW of Charge Rate (Max Continuous) Engineering fee: $100**
2. CO – 2024 Renewable Battery Connect IQ/DIC (Battery Only)	**New battery IQ/DIC with existing solar**	**Application Deposit: N/A Engineering fee: $100**
3. CO - 2024 Renewable Battery Connect + Solar DER	**New battery with new solar**	**Application Deposit: $50/kW of Charge Rate (Max Continuous) Engineering fee: solar kW AC size**
4. CO - 2024 Renewable Battery Connect IQ/DIC + Solar Residential IQ/DIC	**New battery IQ/DIC with new solar IQ/DIC with Solar*Rewards *(receive an additional incentive of $1 per watt of installed solar, up to 7 kW)***	**Application Deposit: N/A Engineering fee: solar kW AC size**
5. CO - 2024 Renewable Battery Connect IQ/DIC + Solar DER	**New battery IQ/DIC with new solar**	**Application Deposit: N/A Engineering fee: solar kW AC size**

How does a customer qualify as Income Qualified or being located in a Disproportionately Impacted Community and receive the additional upfront incentive?
Please review the CO IQ-DIC Developer Guidelines 2023.pdf (xcelenergy.com) for information on how to determine if the customer meets the income qualified criteria to receive an additional incentive of $1 per watt of installed solar, up to 7 kilowatts (KW). Installers will need to submit the signed verification form as part of the interconnection application submission in addition to other requested information. For IQ/DIC questions please contact iqdicsolarprogramco@xcelenergy.com.

What customer rate types qualify to participate in Renewable Battery Connect?
Xcel Energy Colorado electric residential and small business customers qualify for participation. Note that small business refers to small commercial service (C rates) which do not have a demand charge associated with the rate.

What are commonly missed items that must be listed on the Line Diagrams?
Diagrams must show the battery configuration and set up along with the new or existing solar system. Existing equipment must be properly documented on the one-line diagram - this includes the PV Production meter and the Utility AC Disconnect. PV Production meter require notes that are mentioned in the PSCo Completeness Review Requirements and Assumptions document. The Utility AC Disconnect should be labelled as Utility AC Disconnect on the one-line diagram and include the placard for the Utility AC Disconnect**.** The kW AC size should be properly documented on the one-line diagram and application if there are existing inverters. For Battery Only applications, please document existing or replacement inverters on the one-line and populate the Inverter Real Power, Max Continuous (kW)" field within the "New Storage Equipment" section in Battery Details.

How long does the program run for?
Xcel Energy will offer the program through 2025 or until incentive funds are exhausted. The program could be extended under the next Renewable Energy Plan but is not guaranteed. You may reach out to solarprogramco@xcelenergy.com for updates on the remaining program budget and can also receive Installer Update emails every 4-6 weeks to stay informed on all solar programs: Sign Up Here

What happens at the end of the five-year program term?
The battery energy storage system will be removed from vendor software, so the system is not called on to take part in load control events.

Are there fees for unenrolling in Renewable Battery Connect?
There are no fees or claw back of the upfront incentive for unenrolling, however, the customer will lose the $100 per year for the five-year program term ($500 value). The expectation is that the customer participates for the full five years, and it is important to explain that the main objective of the program is to reduce grid usage via solar generation during periods of peak demand to help stabilize the grid. Based on survey results, customers said that they did not notice when a load control event was taking place – the batteries typically charge and discharge daily regardless of intervention from Xcel Energy. It is also important to note that the program will only call up to 60 events per year for up to a 3-hour duration per event, on the other **305** days of the year the battery will operate based on the customer settings i.e., solar self-consumption, backup-only, time of day etc. If the customer wishes to unenroll, send an email to BatteryConnect@xcelenergy.com and the team will perform manual steps to remove the battery energy storage system from the vendor software so the system is not called to participate in dispatch events.

What batteries are eligible to participate?
All Powerwall models (including Powerwall 3) or a SolarEdge Home Battery with a SolarEdge Home Hub Inverter are eligible to participate. The RBC_Approved Battery Equipment List_v3.pdf (xcelenergy.com).

How is the upfront incentive calculated and how is it paid to the customer?
The incentive amount calculates based on a logic within the interconnection portal application. Installers are responsible for populating the "Final Battery Cost" field in the application which should be the equipment cost of the battery (including inverter if not an integrated system) and not to include labor or deduct any other state or federal incentives. The incentive check will be issued to the system owner as named in the application within 60 days after receiving Permission to Operate (PTO) from Xcel Energy.

Initial upfront incentive calculations based on battery max continuous power (kW):

Standard: $500 per kW not to exceed 50% of battery cost.
Tesla Powerwall + = 5.0 kW x $500 = $2,500
SolarEdge Home Battery = 5.0 kW x $500 = $2,500
Tesla Powerwall 3 = 11.5 kW x $500 = $5,750

Income Qualified/Disproportionately Impacted Communities: $800 per kW not to exceed 75% of battery cost.

Tesla Powerwall 2.0 = 5.0 kW x $800 = $4,000
SolarEdge Home Battery = 5.0 kW x $800 = $4,000
Tesla Powerwall 3 = 11.5 kW x $800 = $9,200

EXAMPLES OF UPFRONT INCENTIVE LOGIC BASED ON THE PRODUCT SELECTED:
Product: CO - 2024 Renewable Battery Connect + Solar DER
Upfront Rebate Incentive LESS than 50% of Final Battery Cost = Final Upfront Rebate Incentive is equal to Upfront Rebate Incentive

- Charge Rate, Max Continuous (kW) = 5kW
- Number of Units = 1
- Final Battery Cost: 11,500
- 50% of Final Battery Cost: 5,750
- Upfront Rebate Incentive: $2,500
- Final Upfront Rebate Incentive: $2,500

Product: CO - 2024 Renewable Battery Connect (Battery Only)
Upfront Rebate Incentive GREATER than 50% of Final Battery Cost = Final Upfront Rebate Incentive is equal to 50% of the Final Battery Cost

- Charge Rate, Max Continuous (kW) = 5kW
- Number of Units = 1
- Final Battery Cost: 2,000
- 50% of Final Battery Cost: 1,000
- Upfront Rebate Incentive: $2,500
- Final Upfront Rebate Incentive: $1,000

Product: CO - 2024 Renewable Battery Connect - IQ/DIC (Battery Only)

Upfront Rebate Incentive LESS than 75% of Final Battery Cost = Final Upfront Rebate Incentive is equal to Upfront Rebate Incentive

- Charge Rate, Max Continuous (kW) = 5kW
- Number of Units = 1
- Final Battery Cost' = 11,500
- 75% of Final Battery Cost: 8,625
- Upfront Rebate Incentive: 4,000
- Final Upfront Rebate Incentive: 4,000

Product: C0 - 2024 Renewable Battery Connect IQ/DIC + Solar DER

Upfront Rebate Incentive GREATER than 75% of Final Battery Cost = Final Upfront Rebate Incentive is equal to 75% of Final Battery Cost

- Charge Rate, Max Continuous (kW) = 10 kW
- Number of Units = 1
- Final Battery Cost' = 5,000
- 75% of Final Battery Cost: 3,750
- Upfront Rebate Incentive: 8,000
- Final Upfront Rebate Incentive: 3,750

Is the upfront incentive exempt from income tax?

Xcel Energy cannot provide tax advice. Please consult with a tax expert to confirm whether the upfront incentive from Xcel Energy would be exempt from income taxes.

When is the $100 annual payment sent to customers and is it guaranteed?

The $100 annual payment is paid once per year in October (for the program term of five years) for all battery energy storage systems active in the program by September 1st. If a customer requests to be removed from the program prior to September 1st, they will not receive that year's annual payment and no further payments will be made to that customer. If the customer requests to be removed from the program after September 1st, they will receive that year's annual payment and no further payments will be made to that customer. The payment is sent to the system owner in the form of a check, and it is one check per address (this payment is not per battery).

What is the Renewable Battery Connect Agreement?

Each participant must have a Renewable Battery Connect Agreement with Public Service that contains the terms and conditions of the program that include the upfront incentive payment and automatic participation in demand response events called by the Company. The system owner electronically signs the Renewable Battery Connect Agreement along with the Interconnection Agreement during the interconnection application process in Xcel Energy's portal.

What if the customer has an existing energy storage system, can they participate in Renewable Battery Connect?

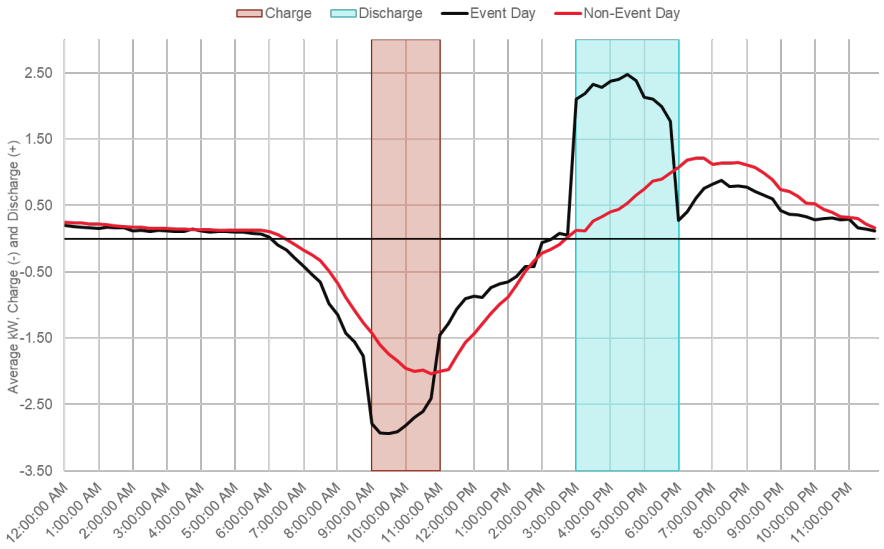
If the customer were to add another battery to their solar and battery system through a new interconnection request for Renewable Battery Connect, the new battery will receive the incentives. Furthermore, if the customer was already participating in Renewable Battery Connect and wanted to add another battery, they could do so through a new interconnection application for Renewable Battery Connect for the additional battery and receive the upfront incentive, however, the customer would not receive another annual payment because the annual payment is per address and not per battery.

For Renewable Battery Connect load control events called by Xcel Energy, a signal is sent to the Tesla Gateway device or SolarEdge inverter and will control all batteries connected to it and could not differentiate between the battery submitted in the program versus not, therefore, energy would be utilized from all batteries during the event. Once the event begins, the batteries will be set at a 40% State of Charge, so once the use of the battery begins to back up the home and send any excess solar energy back to the grid will stop at 40% of the battery capacity. For example, a Powerwall 2.0 has 13.5 kWh of storage capacity which means that there will always be 5.4 kWh (or 40%) power remaining in the battery after the load control event has ended.

Are customers notified of when a load control event will take place?
No. Xcel Energy schedules a control event based on high demand periods (normally during the hottest days of the year during the afternoon and evening), which includes the charge and discharge of the battery. These events will be called year-round to have the batteries support the energy grid. Customers will not receive advanced notice for when an event has been scheduled. During a control event, the customer will be able to see how the battery is being used by logging into the vendor mobile app.

How does a load control event work?
Load control events scheduled by Xcel Energy will instruct the battery to charge from solar and discharge from the battery at specific time which causes the battery to do those activities at a higher rate. In other words, the batteries supply more energy than the set operating mode when dispatched whether charging or discharging, even if the batteries are already engaged in those activities. The battery could also be scheduled to do nothing until a later time to provide the most grid benefit over the entire day. The Demand Management team will decide when to schedule load control events based on irradiance, temperature, and alert levels, and will not schedule events ahead of forecasted sever weather.

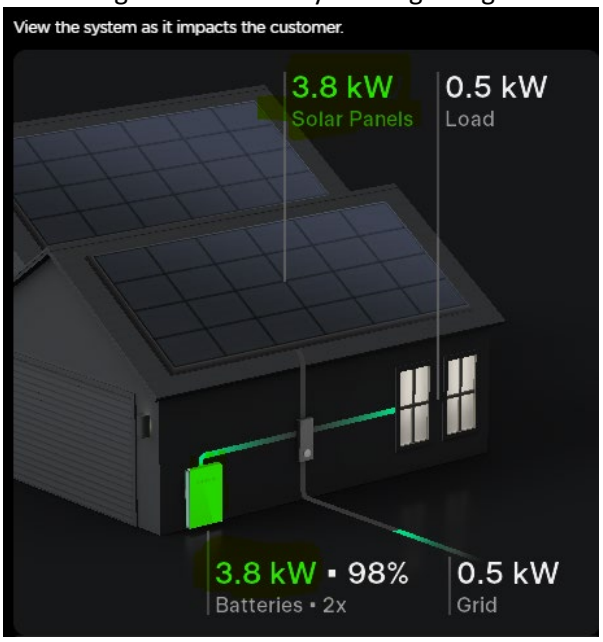
The main goal of the program is to reduce grid usage via solar generation during periods of peak demand. The Battery Connect pilot data showed that events do not drastically change what the battery is already set up to do which is back up the home when prices are high during peak demand times. The graph below illustrates the difference between an Event Day (black line) and Non-Event Day (red line) showing how the battery supplies more energy on event days.



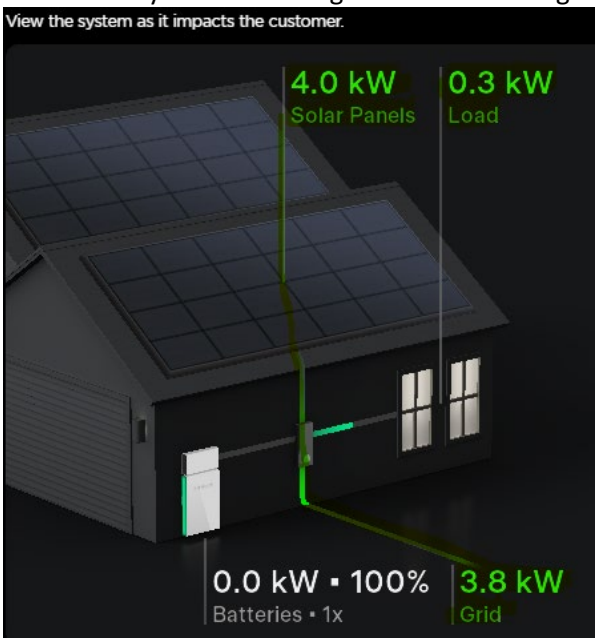
Any excess solar generation during the load control event period will be sent to the grid as net metering. Usually this will be during peak energy times and the Xcel Energy account holder will be credited the on peak rate (~18 cents) for each kWh that is sent to the grid and added to the 'solar bank' to offset the next month's electric charges. This will be the case anytime solar stored energy is sent back to the grid under the Time-of-Use rate regardless of whether it was during a load control event or not.

CHARGE Event from solar

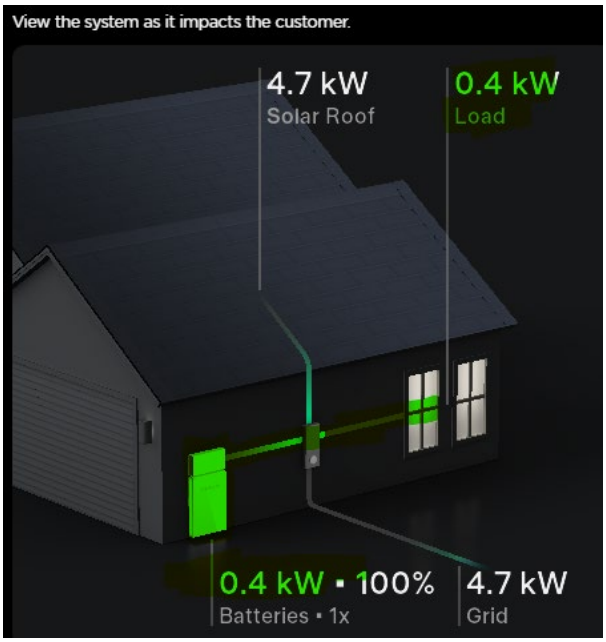
Group is set to charge the battery from solar for a specified time period. Home load will be provided from the grid while battery is being charged from solar.



When the battery is 100% charged, the power generated from the solar system will offset home load and send any excess to the grid as net metering.



DISCHARGE Event from battery to home and grid
Group is set to discharge the solar energy stored in the battery to offset the home and any solar generation will pass to the grid as net metering. Each battery will only discharge down to 40% capacity over the entire event, which is a Renewable Battery Connect program limit. Once the event is over, the battery will return to the customer settings.



Will load control events occur before or during an outage?
No. The Company will refrain from scheduling any events at least 48 hours in advance of a projected severe weather event to minimize the chance of discharging prior to a storm where the customer may lose power.

What if a customer has an existing Solar*Rewards system, how does that affect incentives?
If a customer has an existing solar system that is in the Solar*Rewards program, the customer will continue to receive payment for the kWh production from the solar system for the remaining term of the Solar*Rewards REC (Renewable Energy Credit) Purchase Contract. The customer will also continue to receive excess generation credits stored in their virtual solar bank for sending kWh energy back to the grid as net metering.

What happens if the customer sells the house where the battery energy storage system is located?
If the customer moves then the Renewable Battery Connect Agreement can be transferred to the new owner through an Assignment of Contract and receive the $100 per year for the remaining years of the program term. All customers completing an Assignment of Contract will need to complete the Assignment of Contract Initiation Webform.

How can more battery energy storage systems be included as approved solar battery equipment in Renewable Battery Connect?
Xcel Energy intends to expand the battery manufacture vendor pool for the Renewable Battery Connect program once the Company has attained a Distributed Energy Resource Management System (DERMS) software. The Company released a request for proposal for a DERMS provider in March 2024. This

provider will form the foundation of an Enterprise DERMS and Integration Framework, managing all DER types and integrating to the Company's ADMS. The first program to be operational in the DERMS is going to be Renewable Battery Connect with a target launch by summer 2025, at which time battery manufacturers may integrate with the chosen DERMS provider and offer RBC demand response participation and associated incentives to customers.

In the meantime, battery energy storage equipment may be approved for interconnection through a Distributed Generation interconnection application in the Xcel Energy portal and could be included in the Renewable Battery Connect program after integrating with the chosen DERMS provider.

When will existing batteries be eligible to participate?
As our storage programs evolve there may be other opportunities for customers to earn incentives with existing battery energy storage systems by allowing Xcel Energy to control when stored energy from the battery can be utilized during peak demand times to help alleviate stress on the electric grid. Please feel free to reach out to BatteryConnect@xcelenergy.com for updates on those opportunities as new programs are filed or modified with the Colorado Public Utilities Commission.

Is Renewable Battery Connect available in the Xcel Energy Minnesota territory?
The Renewable Battery Connect program is currently only available in the Xcel Energy Colorado territory, however, a battery grant program and energy storage demand response program were filed with the MN Department of Commerce and are awaiting final approval. The battery grant will provide a one-time up-front incentive for any new battery that is interconnected to the MN electric grid up to 50kWh of storage capacity and must be paired with on-site solar, and the demand response offering will be additional incentives for customers who install eligible battery equipment and agree to Xcel Energy automatically controlling the battery for load control during peak demand periods up to 60 times per year. These offerings are expected to be available in fall 2024.