

Disclosure Form Instructions: How to Estimate the Percentage of Electricity Used DIRECTLY Onsite

When the Customer Rate Type for a Residential Solar or Non-Profit and Public Facilities Disclosure Form is “Custom,” the Approved Vendor must enter an estimate of the “Percentage of electricity (energy) used DIRECTLY on site.” This is an estimate of the amount of energy generated and used onsite, and not exported to the grid. Below is guidance on creating this value.

- (1) For residential customers, you may use standard assumptions. These are the same assumptions that are applied by the portal if the customer is in the service territory of ComEd, Ameren, or MidAmerican and you use the “Standard Blended Rate” option. Reference the chart below, which uses the inputs of (a) whether the project includes a battery, and (b) the “offset percentage” (year 1 estimated generation divided by year 1 estimated customer usage) to determine the assumed percentage of electricity used directly onsite.

Percentage of Annual Electricity Usage Offset by Solar Project	Battery	Assumed % of Electricity Used Directly Onsite
Calculated by dividing first-year production by annual usage	Will the solar project include a battery?	Determined based on the first two columns
>=80%	No	55%
<80%	No	75%
>=80%	Yes	75%
<80%	Yes	95%

- (2) If you believe a residential customer’s usage is not reasonably consistent with the above assumptions, you may estimate a custom value for the percentage of electricity used directly onsite. A custom estimate of this value is **required** for Non-Profit and Public Facilities projects.

The estimate of the percentage of electricity used directly onsite should be developed using the customer’s usage/load pattern, ideally hourly. On an hourly basis, you will determine the project’s generation and the customer’s usage. Energy modeling software can be used to develop the customer’s hourly usage pattern, and the annual total should match the customer’s annual usage on the disclosure form. The hourly estimate of the energy generated by the project can be determined using modeling software such as PVWatts.

You will then be able to estimate the amount of energy exported to the grid each hour by subtracting the hourly usage from the hourly generation. For every hour where the amount of energy generated by the project minus the customer’s hourly usage equals a positive number, this represents electricity sent back to the grid. These positive values should be totaled over a 12-month period. (Whenever the energy generation minus the onsite usage is a negative number, this means that all generation was used directly onsite and the customer had to purchase additional electricity from the grid to meet their demand. Do not include these values when adding up values over the 12-month period).

Once you have a total of the kWh sent back to the grid over a 12-month period, subtract that number from the total annual generation, which will give you the number of kWh used onsite (not sent back to the grid). Divide the number of kWh used onsite by the total annual generation, which will give you the **percentage of electricity used DIRECTLY onsite**.

These steps are summarized below:

Step	
1	Estimate both the solar project generation and the customer usage for each hour over a 12-month period.
2	Subtract the customer usage from the solar project generation for each hourly period. Take all the <i>positive</i> values and sum them for a 12-month period. This gives you the total electricity sent back to the grid over one year.
3	Subtract the total electricity sent back to the grid from the total generation in one year. This gives you the amount (kWh) of electricity used directly onsite.
4	Divide the amount (kWh) of electricity used directly onsite in one year by the total solar project generation in one year. This will give you the percentage of electricity used directly onsite.

If an hourly estimate of usage is not able to be determined (and reasons need to be given why), at a minimum, daytime and nighttime usage needs to be estimated and totaled annually. All project generation would be considered daytime and would be compared to the customer's daytime usage. Then a similar calculation as above would be used to determine the percentage of electricity used onsite. That is, instead of comparing project generation to customer usage on an hourly basis, you would estimate solar project generation and customer usage for each daytime period. You would subtract usage from generation, and sum all positive values for the year. This would be an estimate of the generation sent back to the grid. Subtract this value from the total annual generation to determine onsite usage. Divide that onsite usage by total generation to estimate the percentage of electricity used onsite.

If you still have questions after reviewing this guidance, please reach out to your AV Manager for additional assistance.