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How to Track and Benchmark Onsite Solar Energy

This guide is intended for representatives of buildings with onsite solar who need to comply with an annual benchmarking requirement.

Why Track Renewable Energy

Tracking your renewable energy will allow you to adequately benchmark your renewable energy production and evaluate your building's energy performance. It is also required for compliance with the Fort Collins' Benchmarking Ordinance (referred to as BEWS).

We are here to help you learn how to track your renewable energy and are ready to answer any questions you may have along the way!

Do I have Onsite Renewable Energy?

If you have solar photovoltaic panels installed at your property, then you have Onsite Green Power.

**If you are receiving this notice and you do not have onsite solar, please reach out to the Help Center at BuildingScoring@fcgov.com or 970-416-2733.*

How to Track Onsite Renewable Energy

The Fort Collins' Benchmarking Ordinance (BEWS) requires annual reporting of your building's energy use. To remain compliant, you will need to report:

- The electricity that is provided to you by Fort Collins Utilities.
- The gas that is provided to you by your gas utility.
- The amount of electricity that is produced and used onsite.

You will use your ENERGY STAR Portfolio Manager (ESPM)[™] account to track your renewable energy.

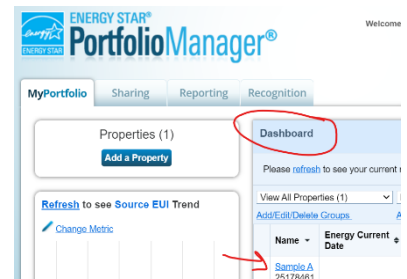
- Your ESPM account will need at least two separate Electric Meters under your property's Energy tab.
- Once signed in, you can confirm which meters you have already created for this property.

Step 1. Check to see if you have an Electric Solar Meter

1. Log in to ENERGY STAR Portfolio Manager at portfoliomanager.energystar.gov/pm/login
2. Select your property from the Dashboard and visit the Energy tab.
3. Under 'Meters', view which meters you already have created.

- If you have already reported for BEWS, you have an *Electric Meter*, which is the power you purchase from the grid. *Please note: the MyData platform is unable to automatically transfer usage data for buildings with solar. The City will provide you with a spreadsheet containing your delivered and received data for you to input into Portfolio Manager.*

4. Ensure you have an Electric Solar Meter listed, which represents the energy generated from onsite solar panels.



- If you already have an Electric Solar Meter listed, skip to Step 3, otherwise continue to Step 2.

Meter Name Portfolio Manager Meter ID	Energy Type
Electric Grid Meter [REDACTED]	Electric - Grid
Electric Solar Meter [REDACTED]	Electric - Solar

Step 2. No Electric Meter Listed? Follow the Instructions Below:

If you do not have an Onsite Solar Electric Meter in your account but you do have Onsite Solar, you will need to create a meter by following these instructions.

1. **Navigate to the Energy tab and use the *Add a Meter* button to create a meter.** Add A Meter
 - Select *Electric*, then *generated from onsite solar panels*, and input 1 meter.
 - Scroll to the bottom and click *Get Started!*

Electric

purchased from the grid

generated from onsite solar panels

How Many Meters?

generated from onsite wind turbines

Get Started!

2. **Select kWh for your units, enter a meter start date of at least one year prior, and ensure the check box for *In Use* is selected. Click *Create Meters*.**

Units	Date Meter became Active	In Use?
kWh (thousand) ▼	<input style="width: 80%;" type="text" value="01/01/2023"/>	<input checked="" type="checkbox"/>

Create Meters

Step 3. Enter your solar data into Portfolio Manager

1. **Prepare your data.** To input the amount of solar produced and used onsite at your property, you will need to look at your generation meter (if you have one), or your inverter.
 - Write down the kWh produced and used at your property each month for the year(s) that you are reporting.
 - NOTE: Solar inverter displays vary depending on the model and size, so if you're having trouble viewing this data, please contact the BEWS Help Desk at BuildingScoring@fgov.com or 970-416-2733.
2. **Select *Click to Add Entry* to enter your month-by-month solar data or use the spreadsheet template along with the *upload tool* to upload data in bulk for this meter.**
 1. **Please note:** The City will provide you with your energy purchased from the City (*Delivered Energy, used on site*) and purchased by the City (*Energy Exported to the Grid*) in two separate bulk single-meter spreadsheets. Please respond to this email to confirm that **To learn more, watch EPA's How to Track Onsite Renewable Energy in Portfolio Manager® Tutorial at:** <https://www.youtube.com/watch?v=L9pvzTeruZM&t=284s>

we can share these with you via email or to provide a different contact.

Start Date	End Date	Usage kWh (thousand V
Click to add an entry		

Upload data in bulk for this meter:

- Use this [single-meter spreadsheet](#) to:
- Upload the completed file below
 - [Copy and Paste the data into the table above](#)

No file chosen

2. Your **Energy Used Onsite** is your total monthly generation minus the monthly energy exported offsite (to the grid—in other words, sold to the City).



1. Total monthly generation comes from your inverter or solar generation meter.
2. See following section of this guide for a Technical Reference to Understanding Your Bill.
3. Fort Collins Utilities can assist you with this information if you do not have it. Please contact the Help Center at BuildingScoring@fgov.com or 970-416-2733.

3. **After completing your data upload, click ‘Save Bills’.**

4. **That’s it!**

You have now added your solar generation to your Benchmarking report. If you need assistance submitting your annual benchmarking report, please see our “[How to Guide](#)” online at fcgov.com/BEWS.

Technical Reference to Understanding Your Bill

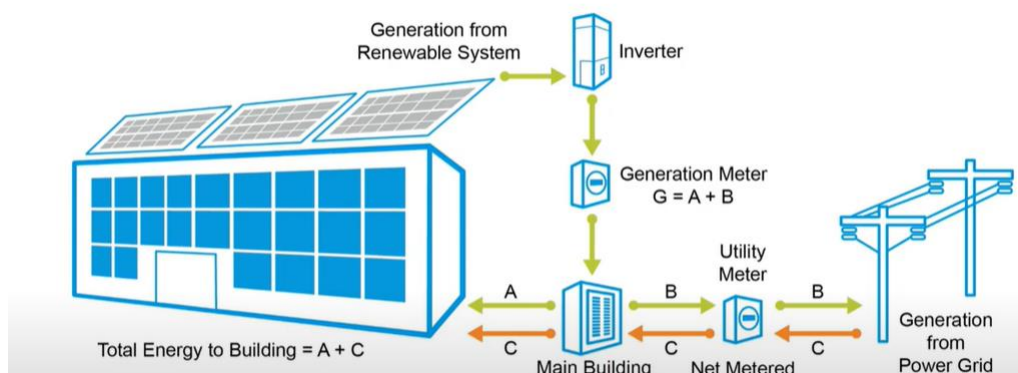


Figure 1

In portfolio manager you will create one meter dedicated to the electricity provided by the grid [**‘delivered’ electricity, labeled C in Figure 1**]. A separate second meter will be dedicated to the energy provided by your renewable source [**labeled G ‘Generation from Renewable System’ in Figure 1**].

You will need to know:

1. The total amount of energy generated [**G in Figure 1**] from your renewable system.
 - a. This includes the energy that is used on-site [**A in Figure 1**] and the excess energy that is exported to the grid [**B in Figure 1**].
 - b. Fort Collins Utilities can provide you with the *Energy Exported to the Grid*. However, unless you have your solar generation metered, Fort Collins Utilities does not have the total amount of *Energy Generated Onsite* and you will need to pull this from your inverter.
2. The amount of delivered electricity (the energy that you purchase from the City) [**C in figure 1**]
 - a. **Note:** this amount should not exclude the energy that is pushed back to the grid (the excess energy that you generate and sell to the City). When the energy pushed back to the grid is subtracted from your delivered data, the result is termed ‘Net Metering:’
 - i. Net metering is related to billing and does **not** provide complete insight to actual energy consumption required to operate a building.
 - ii. To benchmark your building, you will need to calculate total consumption, not just net value.
 - iii. Entering net-metered value will under-account for the building’s total grid electricity consumption.

To see how the values [**C, G, A, B, N in Figure 1**] are represented you will need a copy of your utility bill (Fort Collins example pictured below). These values may vary but typically calculations are as follows:

- **Current Usage** [*‘Electric Energy’* on your FC bill]= electricity provided by the grid [**C in Figure 1**]
- **Excess Generation** [*‘Electric Net Returned’* on your FC bill]=excess energy that is exported to the grid [**B in Figure 1**]
- **Net Usage Billed** [not on your FC bill]= net consumption Value N (**C minus B in Figure 1**). For some utilities, this is the only number provided.

Service	Rate Code	Service Date		Days	Meter Readings		Multiplier	Usage	Charge
		From	To		Previous	Present			
Electric Energy	E220	04-30-20	05-31-20	31	90914	92902	1	1988 KWH	\$201.08
Electric Net Returned	E220	04-30-20	05-31-20	31	15675	16560	1	885 KWH	-\$36.64
Stormwater	H225	04-30-20	05-31-20	31					\$24.35
Water	W520	04-30-20	05-31-20	31	57010	58392	10	13820 GAL	\$54.33
Sub-total									\$243.12
City Sales Tax									\$7.30
State Sales Tax									\$5.83
County Sales Tax									\$1.61
Total charges this billing period									\$257.86

Values	Description	Figure 1
Current Usage [Electric Energy]	Electricity provided by the grid (purchased from the City).	C
Excess Generation [Electric Net Returned]	Excess energy that is exported to the grid (sold back to the City).	B
Net Usage Billed <i>*sometimes the only number provided, but not included on Fort Collins bills</i>	Net consumption Value N (purchased energy minus the energy you sold back to the City).	C minus B

The energy that is produced and used onsite [**A in Figure 1**] is not tracked on your utility bill and you will need to get this value from your onsite generation meter or inverter.

- The monthly values on your inverter log= total amount of energy generated [**G in Figure 1**]
- To calculate the energy that is used onsite [**A in Figure 1**]:
 - Total amount of energy generated (G in Figure 1) **minus** generation exported to the grid (B in Figure 1). Also expressed as **G-B=A**.
 - Generation exported to the grid is provided on your utility bill_or can be obtained from Fort Collins Utilities; contact the Help Desk at BuildingScoring@fcgov.com or 970-416-2733.



All steps in the benchmarking and reporting process are explained at fcgov.com/BEWS. If you have any questions regarding how to bring your building into compliance, please reach out to us at BuildingScoring@fcgov.com or 970-416-2733.

To learn more, watch EPA's How to Track Onsite Renewable Energy in Portfolio Manager® Tutorial at: <https://www.youtube.com/watch?v=L9pvzTeruZM&t=284s>