




LPEA's Guide to Optimizing your Enphase Battery System

Overview: This guide is intended to support LPEA members who own Enphase battery systems and want to operate the system to maximize their financial savings. *These recommendations are specific to LPEA's General Service residential rate. If you are on a Time-Of-Use rate or other rate, please reach out to communitypower@lpea.coop for personalized guidance.*

The required settings for the [LPEA Battery Rebate](#) are explicitly shown in this guide with a  icon. If proof of the setting is required in the Battery Rebate application, you will see a  icon. Additionally, there are several steps in this guide that have a  icon. This icon identifies situations where you need to decide how to operate the system based on your goals.

If you are also applying for the [LPEA Bonus Battery Rebate](#) you will skip **STEP 5** and instead follow **STEP 6**.

Step-by-Step Instructions

STEP 1. Log into the Enphase User Portal

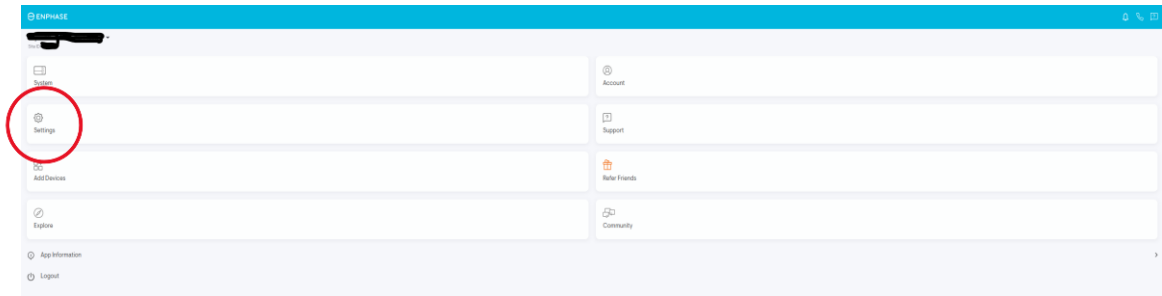
1. Open a web browser and navigate to the Enphase user portal.

STEP 2. Select System Profile

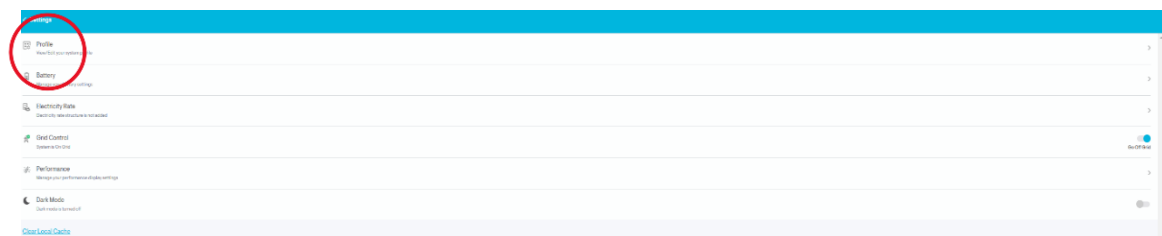
1. Once logged in, click on the **"Menu"** icon in the bottom right-hand corner.





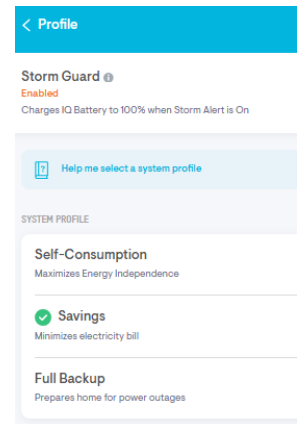
2. Select **"Settings"** from the Menu options.



3. Select **"Profile"** from the list.



4. ? On the Profile screen you will need to decide which System Profile best achieves your goals. To edit your System Profile, click on the **"Edit"** button on the right side of the screen. To receive LPEA's Battery Rebate you must choose the **Savings** profile.  




The **Savings** profile will likely be the most financially beneficial to you and LPEA because it prioritizes using energy from the battery during times when energy from the grid is more expensive.



The **Self-Consumption** profile will minimize your reliance on the grid and maximize the onsite consumption of self-generated solar energy. You can also maximize your consumption of self-generated solar energy in the **Savings** profile by enabling "Use battery after peak hours".

The **Full Backup** profile will only discharge the battery during an outage. This provides the maximum possible backup power, but it minimizes your ability to reduce your electricity bill and minimizes onsite consumption of self-generated solar energy.

STEP 3. Set Reserve (aka State of Charge) Percent

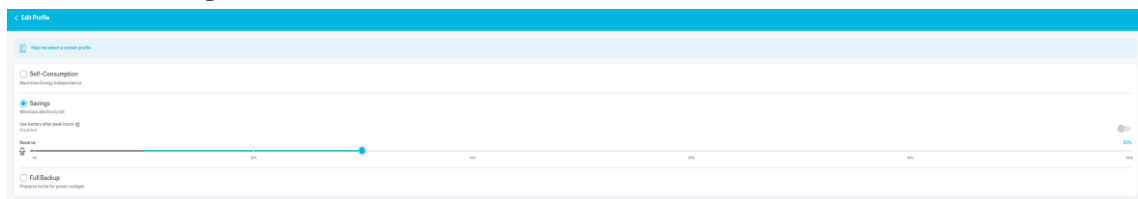
1.  After selecting the **Savings** profile, you will have the option to set a **Reserve** percent. This is the battery charge that you maintain all the time in case of an unexpected outage. The lower the reserve, the more you can reduce your electric bill and power your home from self-generated solar energy, but the less back-up power you are guaranteed to have.

*This concern can be somewhat mitigated by enabling the **Storm Guard** feature described in STEP 4. To be eligible for LPEA's Battery Rebate your **Reserve** must be*


30% or less.  

**If you want to continue discharging your battery to its reserve capacity after Peak Demand hours (4-9 PM), enable "Use battery after peak hours". This will maximize your onsite use of self-generated solar energy.*

Once all settings have been selected, click "**Apply**" to confirm System Profile and Reserve settings.



STEP 4. Select Storm Guard mode status


1.  Decide whether to enable **Storm Guard**.

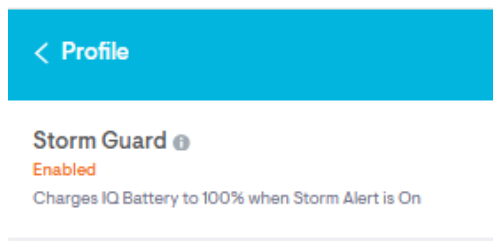
When Storm Guard is enabled, the battery system will automatically charge to 100% and stay fully charged if a National Weather Service alert is issued for your area. Read more [here](#). With Storm Guard enabled you

have maximum back-up power at times when outages are more common and may feel more comfortable with a lower Reserve the rest of the time.

However, it may cause you to charge from the grid during Peak Demand hours or have a higher Peak Demand charge because your battery didn't discharge to serve home load during Peak Demand hours. You do have the ability to opt-out of active events in the App and/or adjust your settings seasonally.

LPEA does require Storm Guard to be enabled or disabled, but we would like to be able to track member preferences and know Storm Guard status when reviewing

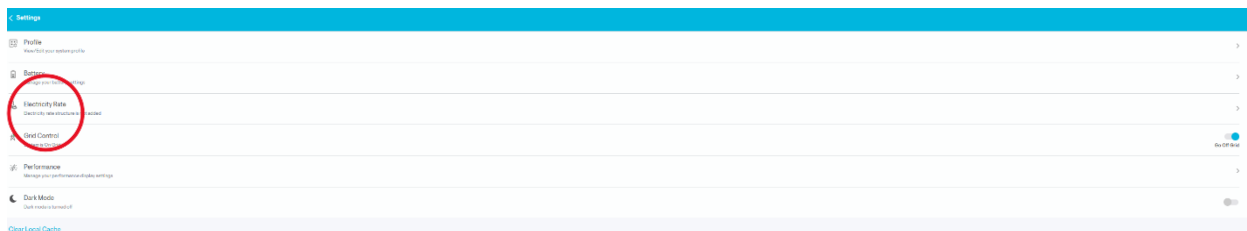
battery performance data so we ask for a picture of your settings. 



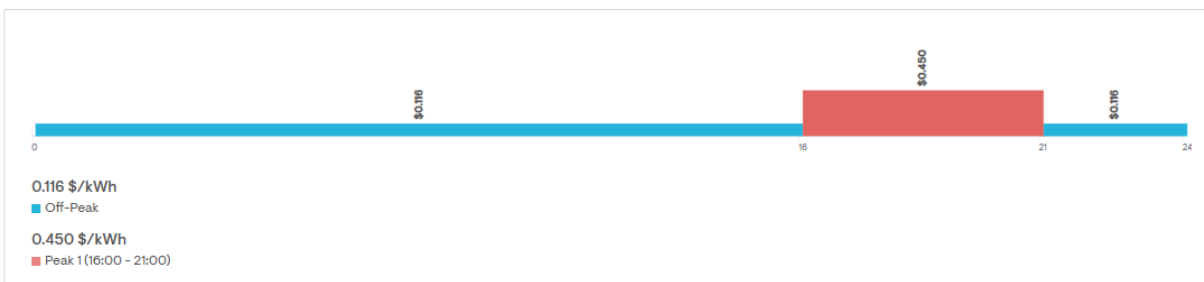
STEP 5. Set Electricity Rate (standard Battery Rebate Only)

If you are in an [Interconnection Limited Zone \(Orange or Red area\)](#) and are applying for the [Bonus Rebate](#) skip to STEP 6.

1. Return to the Settings menu and select "**Electricity Rate**" from the list.



2. On the next screen, select “**Add Electricity Import Rate**”. Then on the following screen select “**Manual**” and then when asked, “Your electricity rate has peak and off-peak charges?” select “**Yes**”.
3. On the next screen, when asked “Does your electricity rate vary seasonally?” and “Does your electricity rate vary on weekends?”, select “**No**” for both.
4. On the Electricity Rate Structure: Time of Use screen input the following values:
 1. Off-Peak Rate: **0.1156** *This is the cost for each kWh of electricity on LPEA’s General Service rate.*
 2. Peak -1 From **4:00 PM** To **9:00 PM** *These are the Peak Demand hours on LPEA’s General Service rate.*
 3. Peak – 1 Rate: **0.45** *\$ 0.45 is an arbitrary value. What matters is that this value is significantly higher than the Off-Peak Rate. The purpose of this higher Peak Rate is to direct your battery system to discharge to meet home load during this time and avoid pulling electricity from the grid if possible. LPEA’s Peak Demand charge is \$5.73/kW for the one hour a month, between 4-9 PM, when you use the most electricity from the grid.*
 4. Click “**Save**”. When complete, your screen should look like the one below.

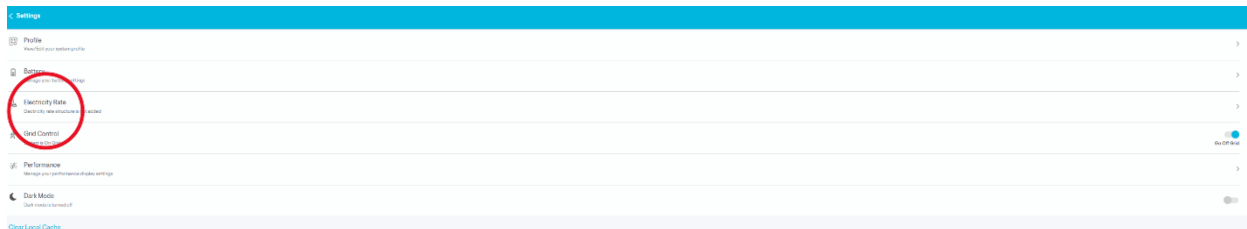


5. Select **“Add Electricity Export Rate”**. On the following screen select **“NEM (Net Energy Metering)”** and the select **“Confirm & Save”** when prompted.

STEP 6. Set Electricity Rate (Bonus Battery Rebate Only)



If you are in an [Interconnection Limited Zone \(Orange or Red area\)](#) and are applying for the [Bonus Rebate](#) follow these instructions.

1. Return to the Settings menu and select "**Electricity Rate**" from the list.

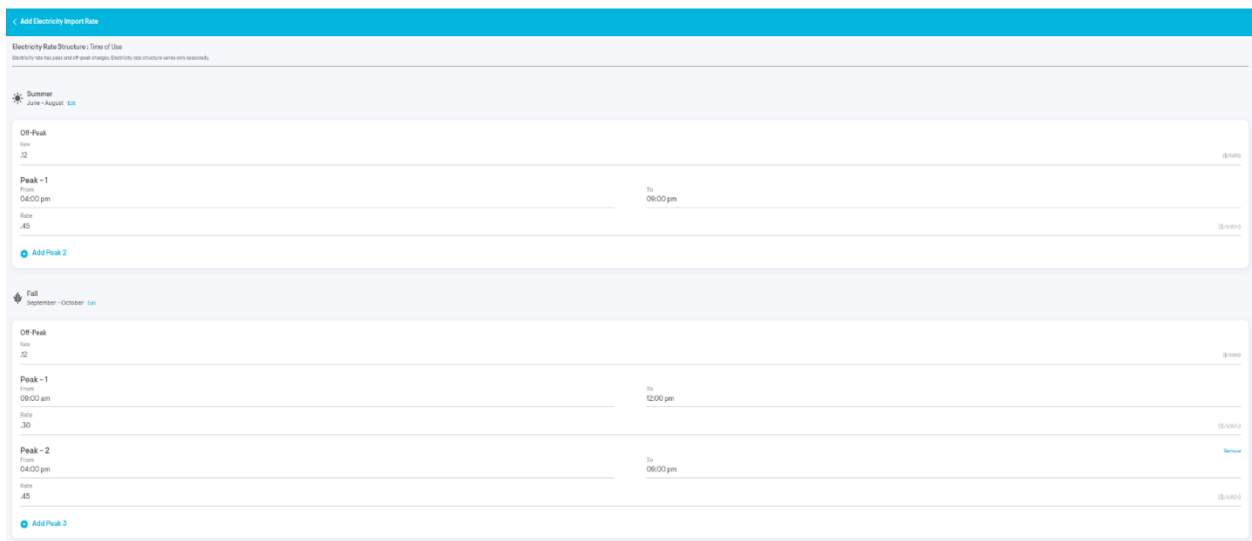


2. On the next screen, select “**Add Electricity Import Rate**”. Then on the following screen select “**Manual**” and then when asked, “*Your electricity rate has peak and off-peak charges?*” select “**Yes**”.
3. On the next screen, when asked “*Does your electricity rate vary seasonally?*” select “**Yes**” and when asked “*Does your electricity rate vary on weekends?*”, select “**No**”.
4. On the Electricity Rate Structure: Time of Use screen, create 4 seasons:
 1. **Summer:** June-August
 2. **Fall:** September-October
 3. **Winter:** November-March
 4. **Spring:** April-May
5. For Summer and Winter set your schedule using the following inputs:
 1. Off-Peak Rate: **0.1156** *This is the cost for each kWh of electricity on LPEA’s General Service rate.*
 2. Peak -1 From **4:00 PM** To **9:00 PM** *These are the Peak Demand hours on LPEA’s General Service rate.*
 3. Peak – 1 Rate: **0.45** *\$ 0.45 is an arbitrary value. What matters is that this value is significantly higher than the Off-Peak Rate. The purpose of this higher Peak Rate is to direct your battery system to discharge to meet home load during this time and avoid pulling electricity from the grid if possible. LPEA’s Peak Demand charge is \$5.73/kW for the one hour a month, between 4-9 PM, when you use the most electricity from the grid.*

6. For Spring and Fall set your schedule using the same inputs for Summer and Winter and then click on “**Add Peak 2**” and add the following inputs

1. Peak -2 From **9:00 AM** To **12:00 PM**
2. Peak – 2 Rate: **0.30** *\$ 0.30 is an arbitrary value. What matters is that this value is higher than the Off-Peak Rate and less than the Peak 1 rate to establish priority. When complete, your screen should look like the following two images.*   Click “**Save**”.

We are asking you to enter an artificial peak time with an artificially inflated rate so that the system wants to send power back to the grid when it thinks electricity is more valuable to export to the grid and charge the battery later in the day when electricity is less valuable. By delaying the charging of your battery and exporting excess power in the morning instead of the afternoon, you are helping balance generation and load in your region of the grid.



The screenshot shows the 'Add Electricity Input Rate' form. It has a blue header bar with the title 'Add Electricity Input Rate'. Below the header, there's a section for 'Electricity Rate Structures: Time of Use' with a sub-note: 'Electricity rate has peak and off-peak charges. Electricity rate structure varies with seasonality.' The form is divided into two main sections: 'Summer' (June - August) and 'Fall' (September - October). Each section contains an 'Off-Peak' rate (rate: .22, \$/kWh) and a 'Peak - 1' rate (From: 04:00 pm, To: 06:00 pm, rate: .45, \$/kWh). In the 'Fall' section, there is an 'Add Peak 2' button and a 'Peak - 2' rate (From: 04:00 pm, To: 06:00 pm, rate: .45, \$/kWh) which is currently disabled. The 'Add Peak 2' button is highlighted with a blue circle and a plus icon.

Season	Rate Type	From	To	Rate	\$/kWh
Summer (June - August)	Off-Peak			.22	0.22
	Peak - 1	04:00 pm	06:00 pm	.45	0.45
Fall (September - October)	Off-Peak			.22	0.22
	Peak - 1	09:00 am	12:00 pm	.30	0.30
	Peak - 2	04:00 pm	06:00 pm	.45	0.45

Add Electricity Import Rate

04:00 pm
06:00 pm

Rate
.45

Add Peak 3

Winter
November - March

Off-Peak
Rate
.32

Peak - 1
From
04:00 pm
To
06:00 pm
Rate
.45

Add Peak 2

Spring
April - May

Off-Peak
Rate
.32

Peak - 1
From
09:00 am
To
12:00 pm
Rate
.30

Peak - 2
From
04:00 pm
To
06:00 pm
Rate
.45

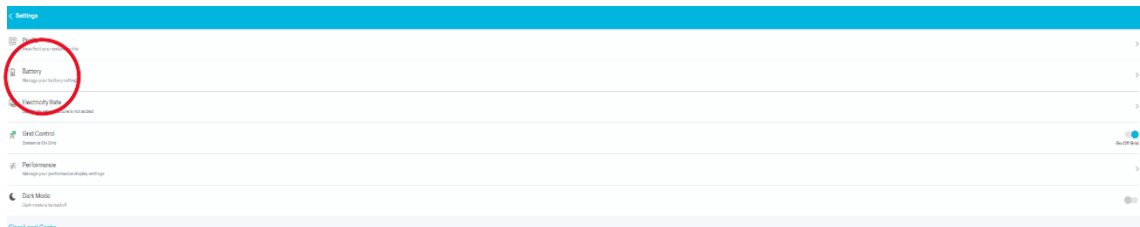
Add Peak 3

7. Select **“Add Electricity Export Rate”**. On the following screen select **“NEM (Net Energy Metering)”** and the select **“Confirm & Save”** when prompted.

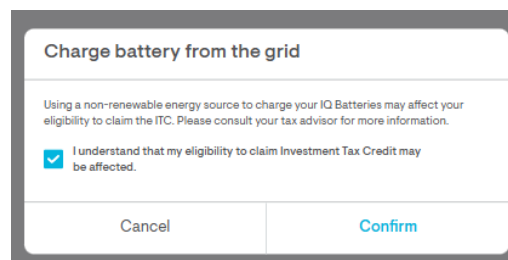
STEP 7. Enable Grid Charge

This is an optional but recommended step. If you want to minimize your potential Peak Demand charges and support the grid you can complete this step. However, if you want to minimize your reliance on the grid you can omit this step.

1. Return to the Settings menu and select "**Battery**" from the list.

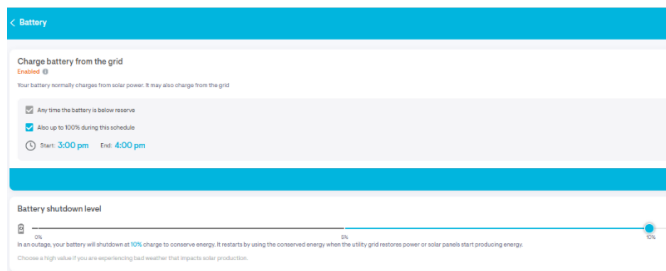



2. Enable "**Charge Battery from Grid**". You will receive the prompt to the right. Here is a link to the [IRS webpage describing this tax credit](#). Please reach out your installer or communitypower@lpea.coop with questions.



3. If you select "**Confirm**", you will have the ability to click on "Also up to 100% during this schedule."

1. To minimize potential Peak Demand charges and provide maximum grid support, you will want to set your schedule to Start at **2:45 pm** and End at **4pm**. This will ensure that your battery is fully charged before the Peak Demand hours of 4-9pm, even on days when it's cloudy or the panels are covered in snow. Once you have entered these settings, select "**Apply**".



-  *If your goal is to maximize the amount of time your battery is fully charged to be prepared for unexpected outages at night, you may want to enable grid charging from 10 pm-12am instead. Enphase currently allows only one window of time for grid charging. Although this better protects you in the case of outages it has the downsides of:*
- i. *not guaranteeing you enter the Peak Demand window with a full charge*
 - ii. *not allowing you to charge your batteries from your solar panels unless you add a second "On-Peak" time in the morning to discharge your batteries*
 - iii. *cycling your batteries ~2x per day which is in excess of [Enphase's 10-yr, 4000-cycle warranty](#).*

STEP 8. Enable Data Sharing with LPEA

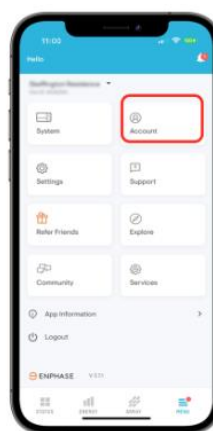
To receive a Battery Rebate from LPEA you are required to provide information about your experience with this program and your battery system's performance to LPEA so that LPEA can evaluate the value and effectiveness of this rebate program.

The easiest way to share battery system performance data is to add communitypower@lpea.coop as an additional user on your account. Follow the steps described [here](#) or shown below to add LPEA as an additional user. This will give LPEA the ability to access system data but will not give LPEA the ability to make any changes to your system.

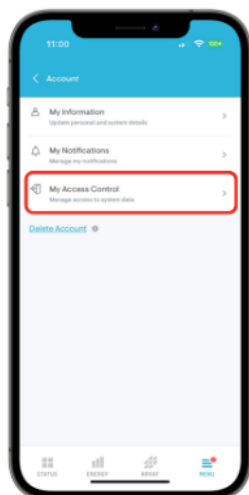
1. Log in to the Enphase App, and select **MENU**.



2. Select **Account**.



3. Select **My Access Control**.



4. Scroll down to the **User Access Settings** section, enter the user's email address you want to grant access to and tap **Grant Access**.

