

May 15, 2021

Feature Request for the Tesla Powerwall App:

EV Battery use to avoid sending power to the grid.

The feature request can be seen in the adjacent Powerwall app screen shot.

Here is the goal:

When the Powerwall is full at 100%, regular house demand is fully met, and solar production exceeds regular house demand, I want the excess solar energy to go into my Model 3 or Y rather than to the grid.

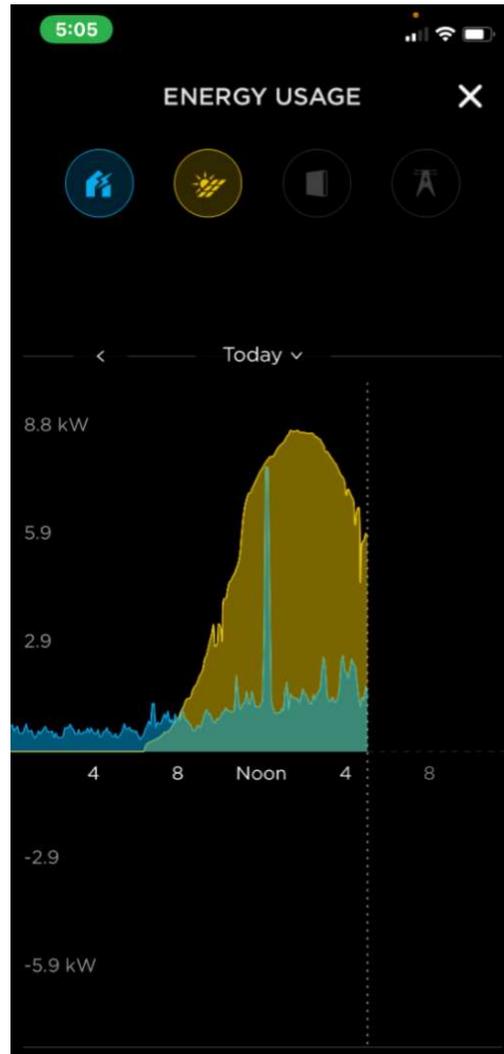
Discussion:

In the picture, the Powerwall was full and solar energy was WAY over house demand. As you can see by the spike in home use, a little after noon, I plugged in my car at the normal 32 amps. This produced a total house demand over solar production (not shown in picture), so the grid kicked in to cover. To shut down grid use I carefully lowered the amp setting in the car to cut house + car demand. I was able to tune the car charging amps down to get a balance: grid usage = 0 and all the solar went into the car + house. See spike in picture at the same level as solar production.

I then unplugged the car and went to a meeting.

This procedure needs to be made automatic— MUCH LIKE THE APP ALREADY DOES AS A “GRID DOWN” FEATURE that automatically turns down the car charging amps to conform to Powerwall limitations. I am proposing extending the Powerwall’s capability to limit car charging amps as an added “grid connected” function.

The key objective is to pull power from the grid only in off peak times and never to send energy to the grid unless unavoidable. I would much rather “store” energy in my car batteries, than send it off the the grid (with 2 Powerwalls + a Model 3 + a Model Y, I have 2*13.5+ 2*75 kWhs of batteries in the garage.). At 177 kWh of storage capacity,



there is a ton of room to avoid sending energy to the grid. This energy could then be used to power transportation and reduces the need to charge the cars at night during off peak hours—partially charging the cars from solar at no cost is even cheaper! To protect the car batteries, full charging would be limited to below the “Trip” setting. Actual car storage would be less than the full 150 kWh, but still WAY higher than just the Powerwall units alone.

This issue WILL soon become important. A current bill in the CA State legislator calls for cancelling new and even existing Net Metering Agreements for the major utilities and permitting the utilities to purchase energy I send to the grid for 4 cents/kWh rather than the 44 cents at peak rates. Without Net Metering the only defense I have is to send nothing to the grid and to store my own solar energy as the alternative. Storing it in my cars is the perfect solution, but doing it manually requires constant attention to keep solar energy exactly balanced with house + car demand. This problem can be solved by automatically adjusting car charging amps. Making this an app choice/automated process should not be a big deal.

LET'S DO THIS THING!

And while we are at this, it is time to set the cars so that their car batteries can be used in reverse: enable them through the app to return energy to the Powerwall for house use. In a grid outage this feature would have a huge impact on living without the grid for more extensive times when solar may not be producing. This idea is not new—it's just time to actually do it.

Thank you for your consideration.

Fred Forster

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Total Teslas bought: 4 (S,X, 3, Y—currently own the last 2)

Solar system: 8.9 kW—had solar for 12 years.

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