

# Smart Tech

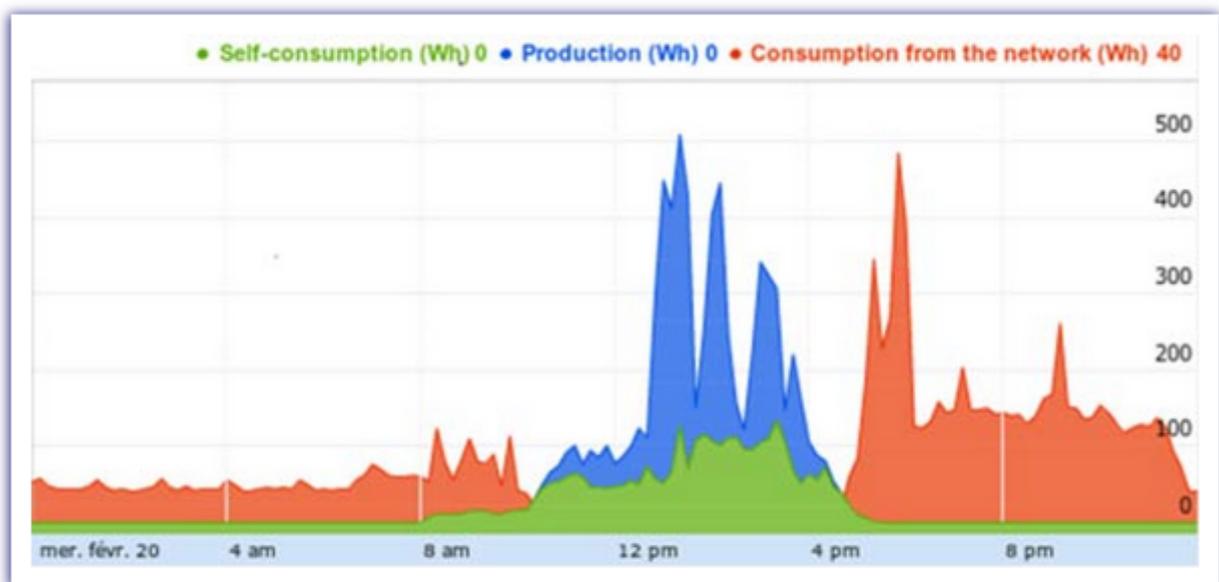
## Hot water diversion

If you heat your water with electricity, then you already have a large 'battery' waiting to store your excess solar power. Depending on its size, a hot water cylinder can store between 10-18 kWh of energy. You can take advantage of this resource if a smart hot water diverter is added to your solar electric system. This is how it works:

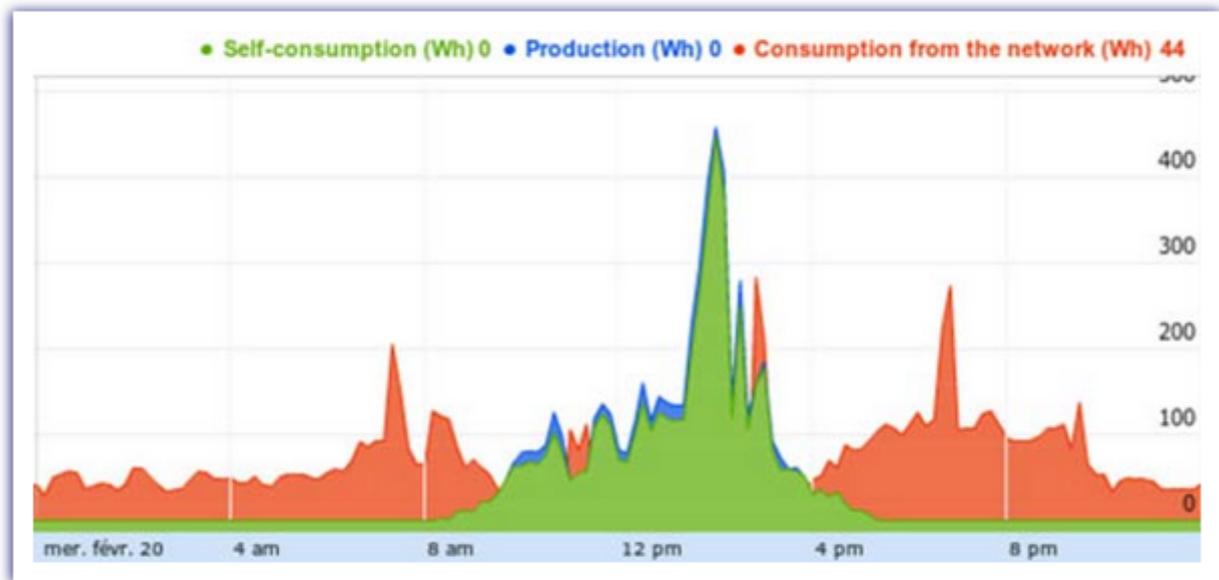
A diverter is an intelligent device that detects when your house is exporting power and proportionally sends any excess solar generated energy to the hot water cylinder. The diverter measures power flowing to and from the grid. When you would be exporting power, the unit instead 'diverts' this by sending pulses of power to your hot water cylinder in proportion to the amount of power that would be exported. In this way it can virtually eliminate all export each day until your cylinder is hot. So, power gets stored for use later when you need energy in the form of hot water.



Here is a graph that shows a typical day without a diverter installed:



You can see that there is a large amount of solar power (shown in blue) that is not being used and so is exported at a miserly 8c/kWh. When a diverter is installed the typical day would look like this:



You can see that more of the house load (i.e. the hot water cylinder) is shifted into the middle of the day and it uses exactly the solar power available that would otherwise be wasted as export, thus less power (in red) is taken from the grid. The diverter provides a dramatic increase in self-consumption of your solar generation.

Installing a hot water cylinder diverter only adds a small premium to the price of a solar electric system. It costs only a fraction of what it would cost for a battery, yet it can store just as much energy. If you have an electric hot water cylinder we highly recommend a smart diverter. You get the benefit of 'free' hot water and it reduces the payback time for your solar electric system considerably.

## Online monitoring

If you have Enphase micro inverters and the Envoy-S Communications Gateway your solar electric system is smart.

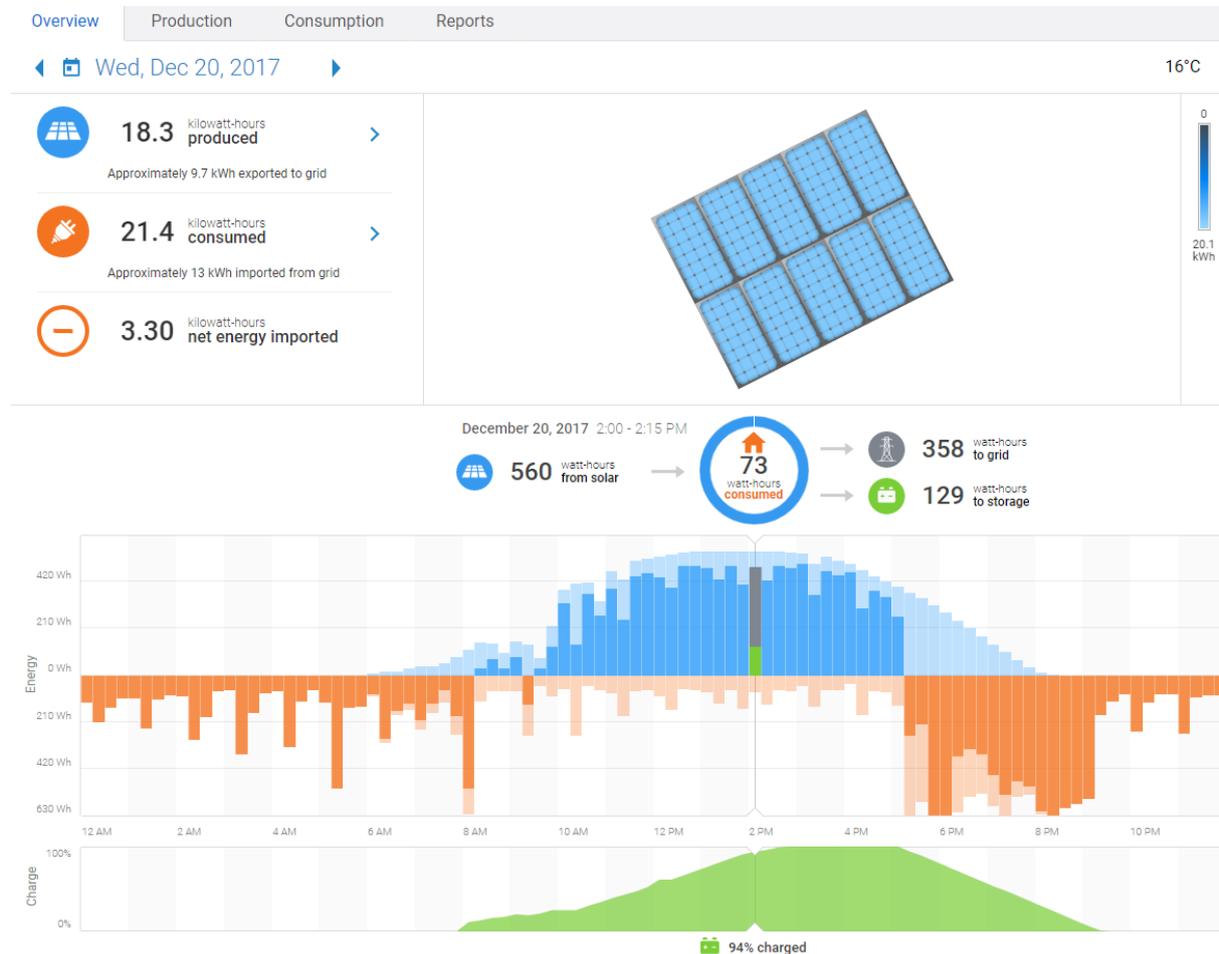
The Envoy-S is the brains of your system, collecting data from your microinverters and delivering it to the Enphase MyEnlighten software. It communicates in the other direction too, letting McNae Electrical Solutions as your installer pinpoint any issues remotely. It also delivers updates to your microinverters remotely—just like getting updates for your mobile or desktop device.



Envoy-S Metered

Why it's great: The Envoy-S is a meter that collects energy production data from your microinverter system, and tracks your electricity consumption

The Enphase MyEnlighten app displays how much electricity your solar system is producing and how much of it is consumed during the day.



With MyEnlighten monitoring, you can view how much electricity your solar system is producing and how much is consumed during the day. Plus, MyEnlighten helps you understand how factors like the weather and the seasons affect the energy output.

Monitoring your system's performance can help you decide whether you need storage down the track and how much capacity to plan for.

It makes more sense to store any excess electricity, instead of feeding it back to the grid for either a very low export rate or none at all. MyEnlighten ties directly with the Enphase Envoy-S – the brain of the Enphase Home – to deliver in-depth visibility. Understand when you use the most power, identifying activities that can be run at non-peak times, and saving energy to a battery for use later all work to maximise the benefits of your solar system.

My Enlighten is available in your browser or as an Android or Apple app.