



enova
COMMUNITY ENERGY

Getting the most out of the solar you generate

LOAD SHIFTING EXPLAINED

TIPS FROM OUR ENERGY EXPERTS

GETTING THE MOST OUT OF YOUR INVESTMENT

The relationship between your energy use, your solar generation and your feed-in tariff may not be what you think!

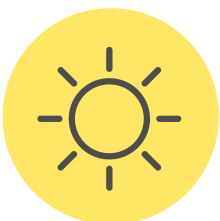
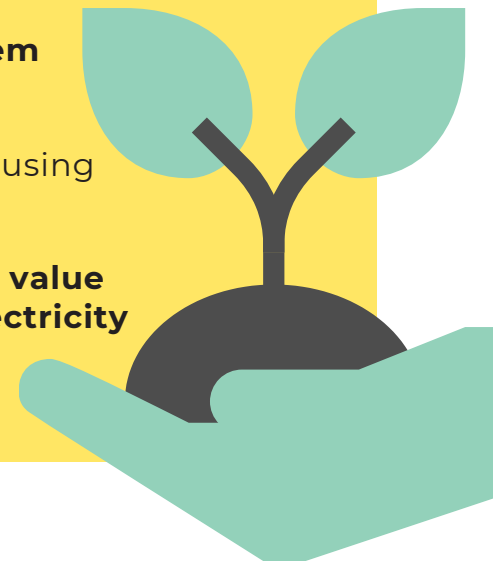
The reason for this, is that when you're more focussed on your feed-in tariff, you actually sell your solar back to the grid for less than what you pay to buy energy from the grid at night.

So, if you're not maximising your day-time solar use, you may be missing out financially.

We've worked with Enova Energy Coaches to create this guide, to help you get the best financial return from your solar system investment. The best way to do this, is to **shift the energy use to the times your rooftop solar system produces as much as possible.**

You'll benefit from lower bills by ensuring you are using your solar system while it is working at its best.

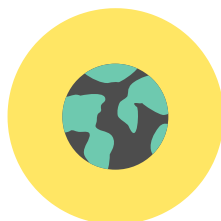
There are lots of clever ways you **can get the best value from your solar by increasing the amount of electricity you're NOT buying from the grid.**



1. Load shifting explained



2. Better news for your hip pocket



3. A positive impact on the environment



4. Hacking your daily routine



5. A solar-use case study from Enova's Head Energy Coach

1. LOAD SHIFTING EXPLAINED

Having your own system is all about using the solar energy it generates - and this may mean turning the way you think about, and use your solar, on its head.

You can get the best value from your solar by increasing the amount of electricity you're NOT buying from the grid.

The best way to do this is to use as much of the energy your solar panels generate as possible during the day.

Load shifting your solar energy means taking more control over your energy use, by using your appliances when your solar system is generating energy. For example, run your dishwasher and washing machine during the day.

After all, it's free to use, it's clean, you'll make your money back on your investment more quickly, and... it's yours!



2. BETTER NEWS FOR YOUR HIP POCKET

Your hip pocket will definitely benefit from using the solar you generate. Now is the perfect time to learn how to get more financially from your solar.



What's in your Electricity Bill?

Your bill is made up of a few different components that need to consider when it comes to energy charges and rates.

1. **Daily Supply Charges** – These are the fixed charges on your account, charged per day. This charge pays for the poles and wires owned by the electricity network, which delivers the energy to your house. It may also include service fees from your retailer.
2. **Usage Charges** – These are the various rates and charges associated with the energy you use with appliances, heating and cooling and in many cases a hot water system (this can be called Controlled Load on your account)
3. **Solar Feed-in Charges** – This is the rate you receive when your rooftop solar system has generated solar energy and you have fed any excess back into the grid.

By doing the most you can to control your day-time energy use, you can get the most out of your system.

We have shared a case study from an Enova Energy Coach at the end of this guide, on how he controls his day-time use.



What energy you use and when you use it makes a big difference!

Your feed-in tariff is a great way to benefit from your solar panels if you cannot use the solar you generate, because you're out during the day.

But, every time you shift your energy use to the daytime when your solar system is producing, you'll save money.

When you sell your solar energy back to the grid for your feed-in tariff price, and then buy electricity to power your appliances at night, you're actually paying more for that grid-sourced energy. More than what you make with your FiT in fact!

Working example:

If you put your dishwasher on at 7:30pm after dinner, you will be charged energy usage rates. Depending on your energy tariff that could range from 26 cents per kWh (Flat rate) up to more like 41 cents (peak rate, time of use tariff).

Putting the dishwasher on at 10am instead, when you are generating solar energy, will save you spending the 26-41 cents per kWh, and at best only cost you what you may have received as a Feed-in Tariff (FiT) from your energy retailer.

Simply put, every time you shift your energy use to the daytime when your solar system is producing, you'll save money.





Keep electricity bills low with energy efficiency

You can further boost the energy efficiency in your home to reduce bills and carbon emissions.

It's great to offset your energy costs by using as much of the solar your system generates as possible. But of course, you'll be using energy at night too. So energy efficiency remains really important here to keep your drawing energy from the grid, low.

Here are some useful energy efficiency resources we've prepared for you:

- Enova's top energy efficiency tips: <https://enovaenergy.com.au/your-home/energy-efficiency/>
- Home appliances that don't cost the earth - Free eBook: <https://enovaenergy.com.au/home-appliances-that-dont-cost-earth-ebook/>



3. A POSITIVE IMPACT ON THE ENVIRONMENT

As solar technology becomes cheaper, cleaner, smarter and more reliable, we have a great opportunity in Australia to transition to renewable energy. Every kilowatt hour of your own solar that you generate, contributes to this transition by preventing carbon emissions and slowing climate change.

It's kilowatt hour for kilowatt hour!

Every kilowatt hour (kWh) of solar energy you generate equates to one less kilowatt hour of coal-fired generation that gets burned and therefore the prevention of carbon emissions.

The equation is that simple.

Your rooftop solar system is absolutely having an impact by preventing carbon emissions – kilowatt hour for kilowatt hour – and contributing to the transition to renewable energy.

With 450,000 rooftop solar systems in NSW alone in 2019, that's a lot of carbon we didn't release into the environment in order to power our homes.

New energy systems that generate, store and share renewable energy locally are coming soon. Your solar system could mean so much more to you, by being part of new initiatives that store and share excess renewable energy locally, further reducing the impact of fossil-fuel-based power.

Learn more about Enova's Shared Community Battery project here: <https://enovaenergy.com.au/shared-community-battery>.

4. HACKING YOUR DAILY ROUTINE

Get started on load shifting at your place

Some key questions you'll need to consider:

- What appliances can you use while the sun is shining?
- Do you know the times of the day when your system is producing the most?
- What energy efficiency measures have you taken to minimise the energy you need to pay for during the evening?
- If you have gas hot water system, can you switch to an electric hot water system on a timer, to heat during the day using your excess solar power?





7 key hacks to implement right now!

1. Put the laundry and dishwasher on during the day – but don't run them at the same time!
2. If you are out during the day, can you set a timer on these major appliances (dishwasher and washing machine) so they run at peak solar energy production times?
3. Think about heating and cooling your home effectively through times your solar is generating.
4. Avoid using too many power-hungry appliances at the same time, especially if they run for a long time, eg. a dishwasher and washing machine. That's because, unless you have a 10kW system, you'll very likely completely exceed your production and be importing grid energy to cover the load.
5. If you have a pool, run your pool pump during your solar system's peak generation times.
6. Hack your household's hot water!
 - a. If you have gas hot water, use your kettle during the day to heat water (eg for the washing up) to utilise your solar system's 'free energy'.
 - b. Put the electric hot water system on a timer, at peak production times, rather than on controlled load at night. Only do this if you're sure you're exporting sufficient excess solar during the day (e.g. 10am-2pm). This hack effectively turns your HWS into an energy storage device. On days when you don't have excess solar power (e.g. it's raining) your system will use grid energy to heat. Alternatively, your solar installer can fit a more sophisticated 'diverter' to only heat when you are exporting power. (see the case study at the end of this article).
7. Cook meals during the day while your system is still generating, on an electric stove.

BONUS HACK!

It's better to gradually heat and cool a space through the day – rather than try to rapidly heat or cool it.

When using an air conditioner, every degree warmer (in winter) or colder (in summer) uses around 5-10% more energy depending on your climate zone.

5. A SOLAR-USE CASE STUDY

Meet Sebastian Crangle, Enova's Head Energy Coach

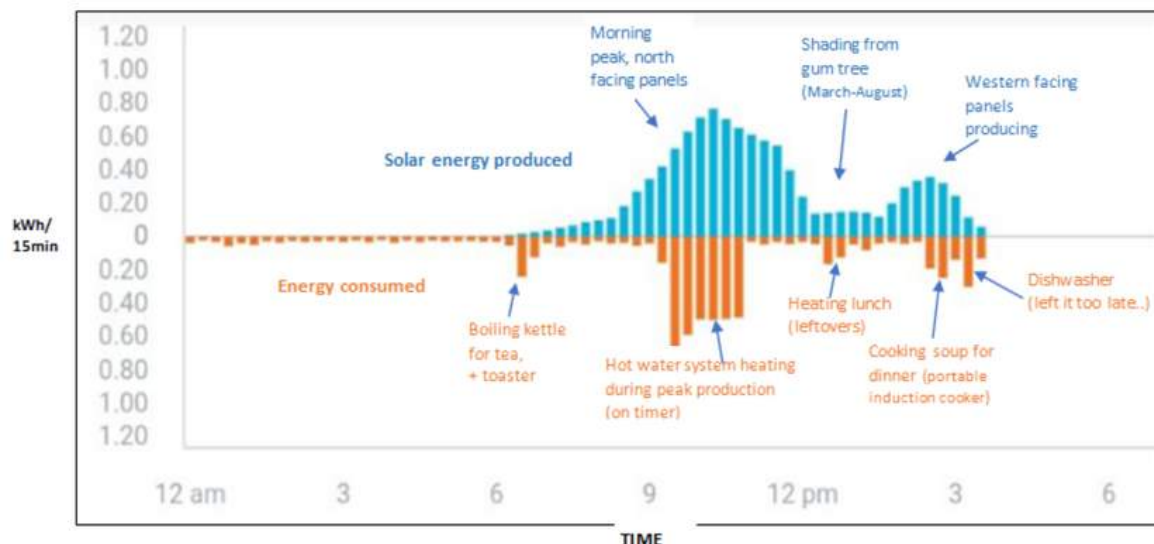


"The best tip I would give for load shifting is to avoid using two power-hungry appliances at the same time, e.g. a washing machine and a dishwasher. That's because, unless you have a 10 kW solar system you'll most likely exceed your production and be importing power from the grid, unnecessarily costing you money."

Sebastian has provided real-life examples that show how he manages his solar energy use and production

The graphs from Sebastian's solar system monitoring system show the solar energy production and consumption throughout the day.

Using the hacks mentioned earlier, Sebastian has added notes to explain what's happening, including his energy use behaviours. Now over to Sebastian...



"As you can see, I've aimed to ensure my usage is timed along with my system's generation.

The goal is to do things that use energy at times when I know my solar is producing enough of it, and to avoid using more energy than my system is producing at any point in time.

If done perfectly, you wouldn't need to import energy from the grid during the day. In effect, it's a way of "living within your means", something which is a lot more critical if you are living off the grid.

For most of us with a grid-connected system, it's not critical to get load shifting this assiduously, and besides, your ability to do it is entirely dependent on how big your solar system is, and how energy-hungry your appliances are.

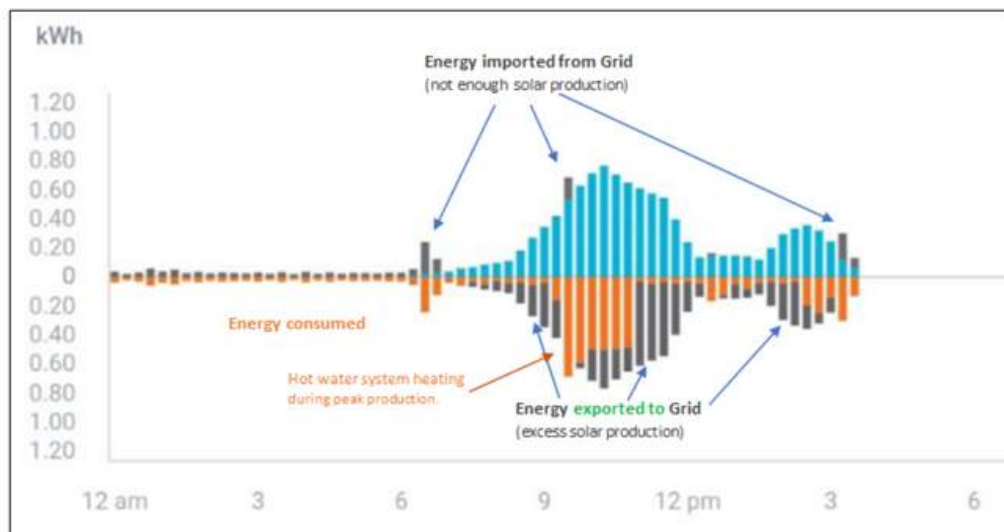
Of course, I'm a bit overly conscientious about such things, and have the technology available to know how much energy is being produced at a given time.

Sometimes I go a little overboard... like when there's clouds passing over as I'm cooking lunch, and so I adjust the temperature on the induction cooker to not exceed the varying production. A bit much I know... but it's satisfying!

If you don't have production/consumption monitoring for your solar system, never fear! You can make some assumptions about your energy production, and loosely fit your energy using activities around that.

You'll need to be a lot less obsessive than I've been, and that's probably a good thing! 😊

Okay, so let's now look at the second graph, which now also shows from today the energy I needed to import from the grid, and the excess energy exported back to the grid.



As you can see in this graph, even while Sebastian is using as much energy as possible when his solar rooftop system is generating, he is still able to sell some solar energy back to the grid.

I did pretty well today don't you think? Sure, there were a few slip ups if you want to be picky:

- at 9:30 when I knew the hot water system was about to start heating I was still cooking food for our dog, and went over my energy generation at that time.
- I also should have started cooking dinner a bit earlier, at 2pm when my solar was producing nicely.
- and put the dishwasher on earlier as well, or on a 'quick' cycle so it would be done before the sun hits the trees at 3:15...

Oh well, I tried... will do better next time (tomorrow!) 😊

NEED MORE INFORMATION OR HELP?

Installing a solar system is a big investment. We'd love to assist you to get the most out of yours, including financially! We know one of the key goals for our solar customers is to ensure the system pays for itself as quickly as possible.

If you have more questions about your system and your energy use, please email our friendly team at hello@enovaenergy.com.au.

We may be able to assist and troubleshoot your usage to get your bills down and your day time solar usage up.

We also have a useful energy resources section that we keep updated here <https://enovaenergy.com.au/free-downloads>

Thank you for reading! :-)

