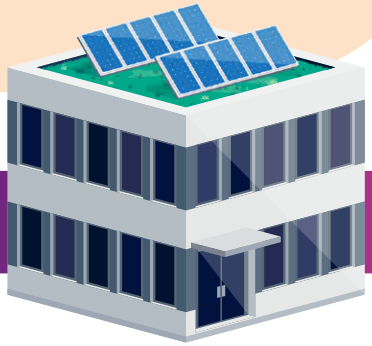
Solar PV Info

energia | IRFU
IRFU Official Energy Partner

What is Solar PV?

Solar panels are large, flat surfaces made from silicon or an alternative semiconductor that capture sunlight and convert the energy it contains into electricity.



How do solar panels work?

1. The sun gives off light, which travels in the form of photons.
2. The photons hit the photovoltaic (PV) cells of the solar panel. This creates an electrical charge.
3. The DC current of the charge is converted into the AC current we need for our homes by an inverter within the solar panel.
4. The AC current flows through a meter and into your home's consumer unit.
5. When you use electricity, it automatically comes from the free electricity you've generated.
6. Any extra electricity you generate but don't use can be sold back to the grid.

Interested in installing Solar PV in your club?

- **Non-Domestic Microgen Scheme | Business Grants and Supports | SEAI**

Some of the key benefits of solar panels

1. Environmental benefits

Solar power is a form of **green, clean and renewable energy**. Switching to solar energy will reduce your carbon footprint. In fact, having solar panels on your roof is estimated to save one tonne of CO_2 every single year.

2. Save money & earn money

With the right solar panel system, you'll be able to generate most or all of your own electricity, particularly if you install a battery to store electricity created when you're not at home. **This will cut your energy bills**. You can also earn money by selling electricity from your solar panels on days when they generate more than you need.

3. Electricity in all seasons

Solar panels work efficiently **all year round**. They need sunlight, not heat. Although they will generate substantially more electricity in the direct sunlight and long daylight hours of summer, solar panels continue to generate electricity on a cold winter's day. Around 20% of the electricity from a typical solar installation will be generated between October and February.

Is Solar PV a good option for me?

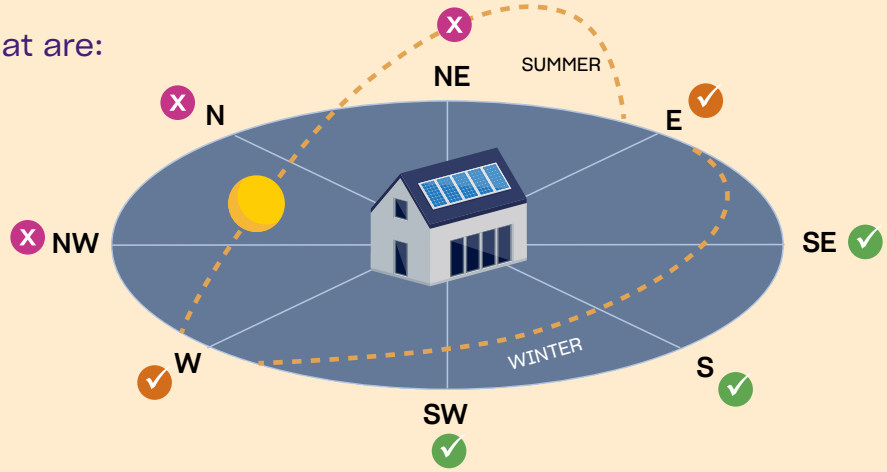
The amount of energy produced by solar panels depends on several factors:

1. **The capacity** of the solar panels.
2. **The number** of solar panels in the system.
3. **The amount** of sunlight.
4. **The orientation** of the roof space.
5. The club's **current energy usage** patterns.

The best rooftops for maximising electricity generation are those that are:

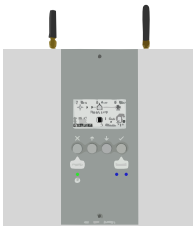
- south-facing
- in good condition, and
- with minimal shading from trees or adjacent structures

The optimum tilt angle of solar PV panels in Ireland for yearround solar gain is 35-40 degrees.



What are some of the other options available?

Battery storage allows users to store or divert electricity generated during the day and then utilise it during the evenings when needed. However, this can add considerably to the cost of installation and would need careful analysis in advance.



A hot water immersion diverter can be used to divert electricity to an electric immersion in your water tank to heat hot water. This might suit a club where showers are often in use in the evening.

Talk to your energy consultant, Sustainable Energy Community mentor (26-counties) or installer about the feasibility and value for your club of these options.

Top Tips

To make sure Solar PV is the right investment for you, establish a good understanding of your current energy use by:

- Collecting and analysing your **energy bills**.
- **Taking meter readings** in the morning and late afternoon/ early evening (e.g., 6pm) to see how much energy you're using during the daylight hours.
- Considering the installation of a **simple electricity monitor**. This is a very simple way to get a real-life profile of your electricity demand.

For more general Information about Solar, see below:

- **Energia's Solar Solutions | Our Sustainable Solutions | Energia**

FAQs

Will we need planning permission for a solar PV installation?

No planning permission is required for most rooftop solar installations on the island of Ireland or for many smaller ground installations. There are some zones where restrictions do apply. Check with your installer or contact your local planning office.

Is there grant funding available for solar PV installations?

There is a grant scheme for club house solar installations in the 26-counties: Let's try and find what you want | SEAI There is no equivalent scheme in the six counties. However, solar PV panels may be eligible under other community, facility or sports grants.

Can we earn money from exporting surplus electricity from our solar PV panels?

Clubs in the 26-counties can benefit from a Clean Export Guarantee (CEG) tariff or a Clean Export Premium (CEP) tariff. Ask your Sustainable Energy Community (SEC) mentor, contact your energy supplier or visit https://www. gov.ie/en/publication/b1fbe-micro-generation/ for more details. There is no Clean Export Guarantee in the six counties at the moment. However, your energy supplier may offer to pay you for exported energy from your renewable generator. Action Renewables can also register your generator for export.

Our club is interested in solar panels. What should we do next?

- Gather as much information as possible - e.g., bills, meter readings, clubhouse activities records -on your club energy use and your clubhouse activity.
- Seek professional advice from an energy consultant, an energy expert in your club or community or your SEC mentor (26-counties) to assess the costs, benefits and suitability of solar PV for your club.
- Identify a specialist contractor. For clubs in the North: MCS-certified installers (https://mcscertified.com/findan-installer/) should be used if possible, although this is not currently a mandatory requirement. For clubs in the South - a list of SEAI-registered Solar PV companies is available at https://www.seai.ie/grants/home-energygrants/solar-electricity-grant/solar-pv-installersand-c/
- Inform the ESB or Northern Ireland Energy of any solar PV installation in your club.
- See https://www.seai.ie/publications/SEAI-Solar-PVGuide-For-Business.pdf for more details.

Can I add a battery to my existing PV system?

Yes you can add a battery to your Solar PV system if you already have one installed.