

# Domestic PV in Ireland

Some basic information

# Domestic Solar PV Installations in Ireland

- The government has just introduced the first incentive for people to put Solar PV on their roofs in the form of a grant per kWp.
- Providing the house was built and occupied before 2011 you could be eligible for a grant of €700 per kWp up to 4kWp. For those installations above 2kWp they must have battery storage in order to get the pro rata increase in the amount per kWp. An additional grant of €1000 is available towards the cost of the battery storage system.
- A 4kWp system with battery storage could be eligible for a total of €3,800 in grants, whereas a 4kWp system without battery storage would only be eligible for €1,400.
- A number of other requirements are needed to be met such as the installation must be by an approved contractor and the quality of the materials has to be of a certain standard, a full list is included in the appendices.

# How does it work and much can I save ?

- During daylight hours the Solar Panels generate electricity from the rays of the sun, the sun doesn't have to be shining for the panels to generate electricity although obviously the amount of energy generated increase dramatically in direct sunshine.
- Exactly how much energy is generated varies according to a number of factors such as geographical location, orientation of the roof in relation to South, the slope of the roof and any shading that occurs on the area of the roof where the panels are located.
- Irradiation figures have been calculated in countries that have had PV for a long time and these vary according to the latitude/longitude on which one is located. These are calculated for South facing roofs and factors are applied according to the variances from South. If a South Facing roof with a 15° slope is 100, South East or South West facing would be 97% and East or West facing would be 90%.
- Irradiation figures are a best estimate of likely generation and are in no way a guarantee, as no one can yet predict the weather with any real accuracy yet alone 100%.
- Solar Panels generate power during daylight and if your household has no one there during the day then the amount of generated power that can be used will be restricted to what appliances are on constant or can be timed.

## How does it work and much can I save ? Cont...

- Solar panels also deliver varying amount of energy by month so again how much you can use is directly related to the amount of electricity you use by month.
- Based on the information we have from a number of systems in the UK for the last 5 yrs, as well as an Installation in Roscommon that has been active for just over 2yrs we have been able to make certain prediction that we believe as realistic.
- A property occupied by 2 or less people with an annual grid usage of around 5,300 kWh would be able to use around 80% of the energy generated by a 2kWp system. If at least one of the people were at home for at least half a day during the week then that could be increased to 90% and with a diverter for the hot water to almost 100%. We only use 95% in our examples unless battery storage is in place.
- If the property had an annual usage of around 9,000 kWh then the same figures would apply to a 3kWp system and if annual usage were as high as 12,000 kWh one could equate them to a 4kWp system.
- One has to remember that just because you are generating electricity there is no guarantee that you will be using it and therefore no guarantee that you are saving money.

# Examples of potential savings

- The examples shown below are all using the same criteria, that is a South facing roof with a minimum slope of 15° and a grid price of 20c per kWh inc vat.
- 2.16 kWp system with diverter for hot water, 1 person at home for at least half the day and annual grid usage of at least 5,300. Estimated 95% usage of PV Generated Energy.

	Solar kWh	Used kWh	Yr 1 Savings	Grant	Total Income
Yr 1	<b>1,870</b>	<b>1,777</b>	<b>€355</b>	<b>€1,400</b>	<b>€1,755</b>
Total Income from Fuel Savings over 25 yrs = <b>€16,957</b>					

- 3.24 kWp system with diverter for hot water, 1 person at home for at least half the day and annual grid usage of at least 9,000. Estimated 90% usage of PV Generated Energy .No Battery

	Solar kWh	Used kWh	Yr 1 Savings	Grant	Total Income
Yr 1	<b>2,805</b>	<b>2,525</b>	<b>€505</b>	<b>€1,400</b>	<b>€1,905</b>
Total Income from Fuel Savings over 25 yrs = <b>€24,097</b>					

## Examples of potential savings cont....

- The examples shown below are all using the same criteria, that is a South facing roof with a minimum slope of 15° and a grid price of 20c per kWh inc vat.
- 4.32 kWp system with diverter for hot water, 1 person at home for at least half the day and annual grid usage of at least 12,000. Estimated 80% usage of PV Generated Energy. No Battery

	Solar kWh	Used kWh	Yr 1 Savings	Grant	Total Income
Yr 1	<b>3,714</b>	<b>2,971</b>	<b>€594</b>	<b>€1,400</b>	<b>€1,994</b>
Total Income from Fuel Savings over 25 yrs = <b>€28,361</b>					

- 4.32kWp system with diverter for hot water, 1 person at home for at least half the day and annual grid usage of at least 12,000. Estimated 100% usage of PV Generated Energy .With Battery

	Solar kWh	Used kWh	Yr 1 Savings	Grant	Total Income
Yr 1	<b>3,714</b>	<b>3,714</b>	<b>€743</b>	<b>€3,800</b>	<b>€4,543</b>
Total Income from Fuel Savings over 25 yrs = <b>€35,452</b>					







