

Introduction to Solar PV



What is Solar PV



Solar Vocabulary

- A kilowatt (kW) is a measure of power.
 (1000 watts = 1kw)
- A kilowatt-hour (kWh) is a unit of energy
 - Equivalent to one kilowatt (1 kW) of power expended for one hour (e.g. Ten 100 watt light bulbs burning for 1 hour)
- 1 kW of PV produces between 850-900 kWh/Yr. in Ireland
 - Average home uses about 5,000 kWh/yr.

Things to Consider

- Shading Of The Panels
- Current Electrical Usage vs Long Term Usage
- Demographic Of Your Home & Times You Are In Your Home
- Purchase Of Electric Vehicle
- How You Heat Your Hot Water



Installation Types of Solar PV



Ground Mount Frame

Panels Installed on Ground Mount Frame



Flat Roof Mount Frame



Panels Installed on Flat Roof Mount Frame



Roof Mounted Frame



Panels Installed on Steel Shed Roof



Panels Installed on Roof Mounted Frame



Alpha ESS 5KW Inverter with a Battery

Grant Incentives

GRANT NAME	VALUE	
SEAI Solar PV Grant	€900 per kWp up to 2kWp	€

€900 per kWp up to 2kWp €1800 for 2kWp solar panels

€300 for every additional kWp up to 4kWp Total Solar PV grant capped at €2400 €2100 for 3kWp solarpanels€2400 for 4kWp solarpanels

EXAMPLE

How it Works

- PV Panels Generate DC Power
- The Inverter Changes The Power To AC This Is The Power The House Uses
- Unused Power During The Day Is Stored In The Battery in DC This Will Be Used Later On
- When The Battery Is Full The Unused Power Must Be Fed To The Grid
- A Hot Water Diver Can Be Installed. The Diverter Can See This Power & Divert It To The Immersion
- A Car Charger Can Also Be Installed The Charger Can Also See This Power And Divert It To Your Car
- In The Evening Available Power Is Taken From The Battery You May Have to Import Power Also
- You Can Charge Your Battery Over Night Using Cheap Power & Use It In The House The Next Day
- You Control Your System With An App Installed On Your Phone
- To Summarise House has Priority Then The Battey Then Hot Water / EV

Expected Generation From A System

1kWp = 850/900 KWH per year



Facts

- PV can solve a problem between March & October
- Electricity Suppliers have Started Paying between 14c 20c for all Unused Electricity exported onto the Grid
- You can Monitor your Electricity Usage using an App on your Phone
- A Battery can Power your home in the Event of a Power Outage

Expected Installation Costs & Savings

Sample Quote of one of our Most Installed Systems Nationwide

Battery System (Alpha) 4.5kWp of modules kitted to 10.1kWh battery storage

12 x Bisol Premium 375W Monocrystalline modules (All black modules)*

Bisol Mounting system on a *Slate Roof (*Price may vary on roof type) 1 x Projoy Fire Safety Switch AC Switchgear

Alpha 5kWp Inverter kitted to 10.1kWh storage capacity

Costing €14,600 (inclusive of VAT) -€2,400 (SEAI Grant) €12,200 Final cost after grant incentive

OPTIONAL EXTRAS

Alpha ESS Inverter Warranty Extension: €325 Eddi Hot Water Diverter: €650





Presented By

