

# Case Study

McDonald's, Ballincollig  
Co. Cork



- ✓ **Installer:**  
**Clean Energy Ireland Ltd**
- ✓ **Equipment Supplier:**  
**Passive House Systems**
- ✓ **Estimated Simple Return on Investment:**  
**8 years**
- ✓ **Life expectancy:**  
**25 years**
- ✓ **Annual Maintenance cost:**  
**€0**
- ✓ **System Size:**  
**15.12 kW peak**  
The system is comprised of 56 number 270W PV modules.
- ✓ **Installation time:**  
**2 days**  
Solar PV technology can be rapidly deployed. Once design and grid connection arrangements are finalised the actual installation can be completed in 2 days by our expert installers.
- ✓ **Completion Date:**  
**October 2017**  
The inverter was tested and commissioned to rigorous standards in the presence of ESB personnel and has since been producing clean renewable electricity.
- ✓ **Annual Electrical Production:**  
**13,900 kWh (Oct.17'-Oct.18')**  
The annual CO<sub>2</sub> savings are 5,560kg, (reducing carbon footprint), with substantial savings annually to the customer on their energy costs.



## **PV Module: PHS 270W 60 Cell Poly Silver**

The PV modules used have a production warranty of 30 years and are tested to the highest international standards by TÜV. These are manufactured in an ISO9001:2008 and ISO14001:2004 certified facility.

## **Mounting System: Renusol FS10, flat roof ballasted system with no penetrations**

The FS10 mounting is quality manufactured in Germany to the highest standards. The ballasted system allows for rapid deployment due to the absence of roof fixings and penetrations. The PV panels are held by placing standard concrete blocks in the ballast trays as specified by the site-specific wind load calculations.

## **Inverter: Solis 15kW 3 Phase grid tied DC to AC inverter**

Solis industrial three phase inverters have a wide operating voltage range. Dual MPPT tracking reduces losses caused by partial shading and allows a wider range of panel wiring from two different arrays. Solis inverters exceed 95% efficiency under normal operating conditions and come with a 5-year warranty which can be extended to 10 years.

## **Approximate current cost to install: €17,000 + VAT**

The above cost includes the design, supply, installation commissioning and handover of the PV system, as well as G10 grid Protect Relay (typically €4,500 nett) and ESB witnessing G10 test process (typically €800 nett). This price excludes planning permission application costs.

## **Grid Connection: G10 grid protection relay including commissioning in presence of ESB personnel**

The G10 protection relay is only required if the PV system output is over 11kW. A significant savings can be made if the system is kept under this restriction.

  
**CLEAN ENERGY IRELAND**

Tel: 021 428 9407  
Email: [info@cleanenergyireland.ie](mailto:info@cleanenergyireland.ie)  
Web: [www.cleanenergyireland.ie](http://www.cleanenergyireland.ie)

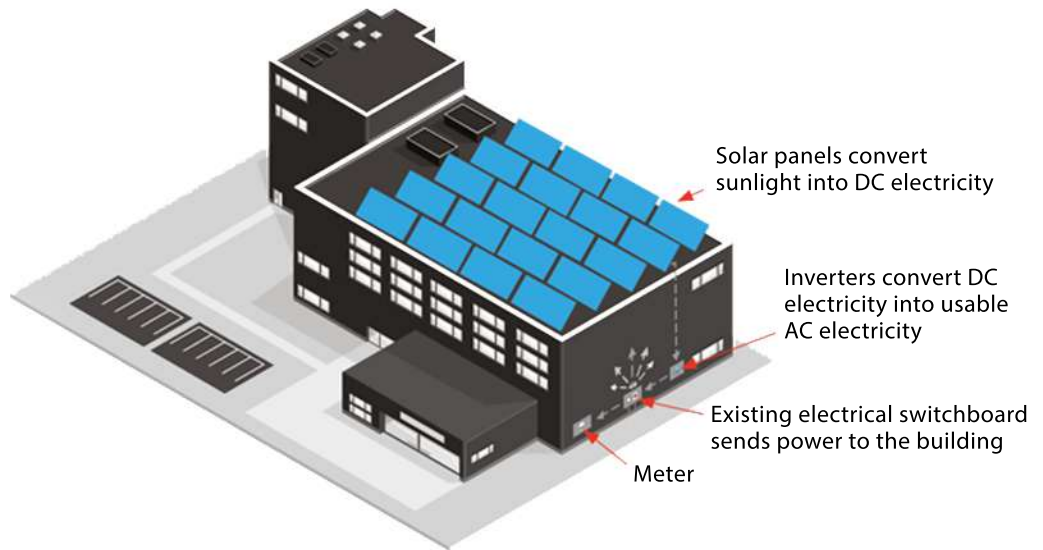
# Case Study

McDonald's, Ballincollig  
Co. Cork

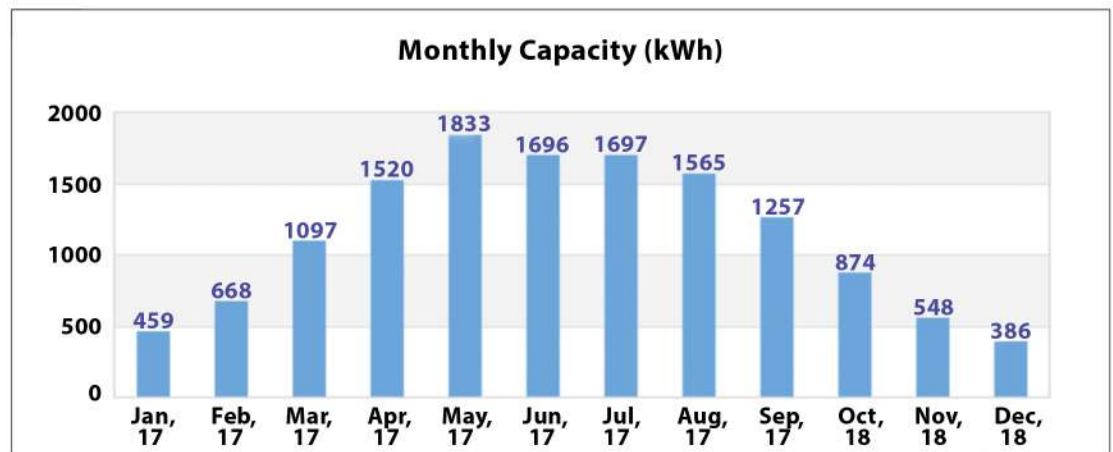
## Sample of our satisfied Clients:



## Operation of PV system



## Measured Monthly Power Production from the PV



## Why choose Clean Energy Ireland?

- ✓ Each installation is rigorously tested and documented during commissioning.
- ✓ System components fully certified and manufactured to highest standards.
- ✓ Customer handover and training supplied as standard.
- ✓ Fully qualified expert installers (City & Guilds).
- ✓ 12 years' experience of Solar installations.
- ✓ Full insurances with a zero claims history.
- ✓ Dedicated PV Engineering support.
- ✓ NSAI Quality Assured Products.

**CLEAN ENERGY IRELAND**

Tel: 021 428 9407

Email: [info@cleanenergyireland.ie](mailto:info@cleanenergyireland.ie)

Web: [www.cleanenergyireland.ie](http://www.cleanenergyireland.ie)