

Heating Upgrade and PV Installation

Carlow Fire Station

Carlow Fire Station is a manned fire station which was built in 2002. There was a large electricity and gas demand for heating at their buildings. However, after successfully upgrading their gas boiler and installing PV panels, the benefits and cost savings were clear. The 3 Counties Energy Agency (3CEA) through the Sustainable Energy Authority of Ireland's Better Energy Communities programme is helping by administering state-wide funding for energy efficiency and renewable energy projects.

Summary

Company name:	Carlow County Council
Project actions:	Installation of 4 kWp PV panels. Upgrade of heating system with the installation of 16kW high efficiency condensing BAXI boiler combined with Magic Thermodynamic system (300L Store & External Panel Collector)
Finance source:	Internal
Additional funding:	SEAI BEC 2018 programme
% funding:	30%
Grant amount:	€ 7,811
Total project cost:	€ 26,038
25-year savings:	€ 82,340
Simple payback time:	5.5 years



	Annual Energy (kWh)	Annual Value (€)	Annual CO ₂ (tonnes)
Imports Before project	195,238 kWh	€ 14,949.78	47.4 tonnes
Imports After project	126,651 kWh	€ 11,656.18	36.5 tonnes
Savings	49,830 kWh	€ 3,293.60	10.9 tonnes

Benefits

Thanks to the heating upgrade and the installation of PV panels, Carlow County Council saved money and reduced its carbon footprint through the BEC 2018 Programme.

The heating upgrade has helped increase the thermal comfort of the building for its users and reduced the number of hours the heating is required.

The installation of PV panels on the roof of the building has led to a reduction in grid imported electricity on the site.