CARES CASE STUDY

LOCAL ENERGY SCOTLAND

INCH FARM, PITTENWEEM

BACKGROUND

John Whiteford wanted to make better use of the renewable energy generated by his solar PV array. He installed a storage battery and two car charging ports to increase the amount of energy used.

Project: Inch Farm: battery storage and car charge ports

Technology: 81kW Tesla Powerwall 2 batteries

Location: Inch Farm, Pittenweem, Fife

CARES funding: CARES Innovation Grant £15,217 for battery installation

Date installed/operational: April 2019

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John Whiteford runs Inch Farm in Pittenweem, Fife. He has a 60kW solar PV array on the potato storage sheds on his farm, providing much of the electricity needed for his farming business.

However, he noted that only around 70% of the total electricity generated was being used. The farm uses more electricity in the autumn, winter and spring months, but in the summer most of the electricity was sent back to the grid.

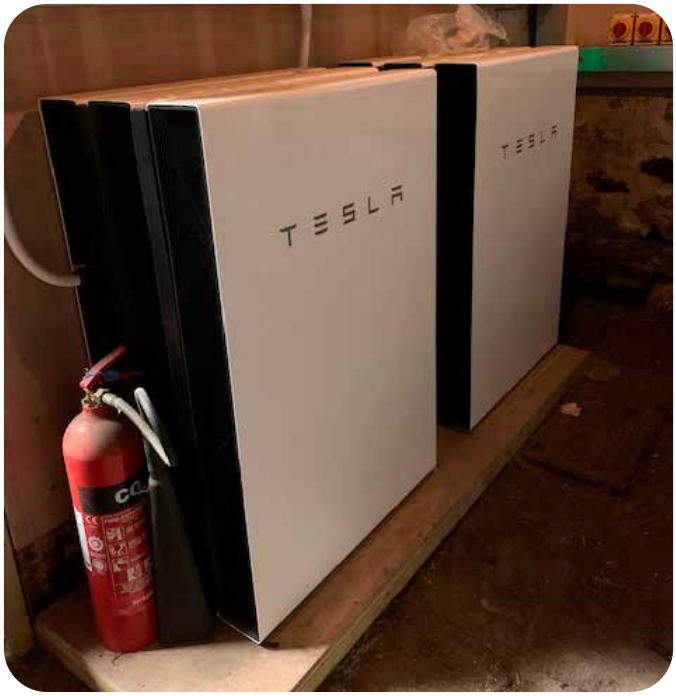
John wanted to make better use of the energy generated by his solar PV array. He applied for a CARES Innovation grant to install a storage battery to make better use of the renewable energy generated. The use of a commercial battery system on a daily cycle would increase the amount of electricity being used by making it available after dark when solar panels are not effective.

PROJECT AIMS AND OBJECTIVES

The first phase of the project aimed to install an 81kW Tesla Powerwall 2 battery to capture the renewable energy already being generated on site.

The second phase involved installing two fast car charging ports for electric and electric hybrid cars: this service would be free of charge to the public during the first year of installation.

The third and final phase will see John buy at least one electric vehicle for his own use.



OUTCOMES AND ACHIEVEMENTS

The battery and car charging ports were installed successfully in April 2019.

During the first year of installation, John is offering free electricity to members of the public to charge their electric vehicles. Thereafter, he will offer electricity at a competitive price. The monetary benefit to the community is potentially substantial, in addition to increasing the renewable energy used and encouraging the community to use electric vehicles.

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LESSONS LEARNED

John said that “although Tesla products are good quality and reliable, they are not cost effective without grant funding. If I had funded the whole cost of the project myself, the increase in energy efficiency would not be enough to cover the purchase and installation costs incurred. However, receiving 50 per cent of funding from CARES means that the return on investment is now under 10 years where the lifespan of the battery is between 10 and 15 years.”

The Scottish Government’s CARES Innovation grant provides funding of up to £150,000. It has been designed to improve the viability of larger CARES capital projects by grant funding elements of the renewable or local energy system project; by funding local energy system innovation activity; or by supporting the replication of CARES innovation projects that have worked well.

Find out more about the CARES Innovation grant at localenergy.scot/funding/innovation-grant.

To find out more about funding from the Community and Renewable Energy Scheme, visit localenergy.scot/funding