

Report of:	Head of Housing and Partnerships
Contact Officer:	Christian Hawkins Amanda Laight
Telephone No:	01543 456 805
Portfolio Leader:	Housing
Key Decision:	Yes
Report Track:	Cabinet: 08/11/18

CABINET**8 NOVEMBER 2018****PARTICIPATION IN AN OFGEM APPROVED 'SANDBOX' TRIAL TO OPTIMISE THE USAGE OF EXISTING SOLAR PV ENERGY INSTALLATIONS****1 Purpose of Report**

- 1.1 To consider participation in an OFGEM approved 'Sandbox' trial utilising innovative technology to optimise the usage of existing solar photovoltaic energy generation systems on Council owned dwellings.

2 Recommendations

- 2.1 That Approval for participation in the trial is granted.
- 2.2 That the Head of Housing and Partnerships is authorised to agree on the conditions of the trial with Green Energy Networks Ltd and Chase Community Solar.
- 2.3 The list of properties to be included in the trial will be restricted to Council owned properties agreed by the Head of Housing and Partnerships and will be determined on the basis of their suitability for inclusion in the project.

3 Key Issues and Reasons for Recommendation

- 3.1 The project will assist with the development of new energy efficient technology to help reduce reliance on fossil fuels.
- 3.2 Information on how energy generated from Solar PV Panels can be more efficiently utilised and providing education to the Cannock Chase Council tenants on how to more efficiently use their solar PV installation.
- 3.3 This is a community project and if successful has the potential to reduce fuel poverty on a wider scale.

- 3.4 The properties identified to participate in this trial are attached in the Not for Publication Appendix 2 of this report.

4. Relationship to Corporate Priorities

- 4.1. This scheme supports the Council's Corporate Priority of 'Community Wellbeing', specifically the Strategic Objectives of 'Supporting Vulnerable People' and 'Promoting Attractive and Healthy Environments'.

5. Report Detail

- 5.1 Chase Community Solar Limited has approached the Council regarding participation in an OFGEM (Office for Gas and Electricity Markets) approved 'Sandbox' trial which will utilise innovative technology to optimise the usage of existing solar photovoltaic energy generation systems on some of the Council owned dwellings.
- 5.2 In 2015 Chase Community Solar, in collaboration with the Council, delivered the installation of Solar Photovoltaic Panels on 314 bungalows within Cannock Chase Council's housing stock, supported by the Cabinet report 'Provision of Photovoltaic (Solar) Panels to Further Council Owned Properties' submitted on 20th March 2014.
- 5.3 As a result of this project the tenants of these properties receive the benefit of free energy during times when the panels are generating electricity.
- 5.4 Chase Community Solar Limited is an Industrial and Provident Society which is a locally funded community based organisation which benefits from the feed-in Tariffs relating to the energy generated. Since the Solar PV panels were initially installed, Chase Community Solar has undertaken consultation with the tenants regarding the use and effectiveness of the installations. This consultation has highlighted our tenant's interest in further energy saving technologies.
- 5.5 The company ethos is to invest back into the local community, which led to Green Energy Networks Ltd approaching them regarding the 'Sandbox' trial. A Regulatory Sandbox is an approved method of permitting the controlled trial of an innovative business model, which in this case relates to the use of shared battery storage from electricity generated locally by Solar PV panels.
- 5.6 The 'Sandbox' scheme is to be run in Nottingham on some private dwellings and if approval given, will also be run in the Cannock Chase District on some of our housing stock. The properties identified to participate in this trial are attached in the Not for Publication Appendix 2 of this report.
- 5.7 A Community Energy Services Company (ESCO) is required to ensure the conditions are adhered to (see Appendix 1). This monitoring will be undertaken by an organisation named 'SmartKlub Limited'.

- 5.8 The list of streets (Appendix 2) have been agreed with Western Power Distribution (the network operator), the preferential locations that has the best potential to deliver the greatest benefit for the customer, the ESCO and local low voltage electricity network, in line with the Ofgem innovation Sandbox Agreement. The properties are located to the sub-stations locations to ensure a maximum number of plots connected to a single low voltage circuit.
- 5.9 The trial will run from January 2019 until July 2020 following tenant engagement and site surveys.
- 5.10 The potential benefits are an Increase in 'free electricity' for participating tenants with Solar PV panels and the potential for neighbouring tenanted properties without Solar PV panels to benefit from the use of stored electricity using the technology available through the 'sandbox' agreement.

6 Implications

6.1 Financial

Although there is no direct cost to the Council, there will be the cost of administering / providing support to the scheme on behalf of the Council. It is felt this can be managed within existing staffing levels.

6.2 Legal

To allow for innovation the Regulatory Sandbox means that current regulations are relaxed in a controlled environment. SmartKlub Limited will act as the Community Energy Services Company (ESCO) to ensure the conditions in Appendix 1 are adhered to and following further agreement any further conditions agreed upon.

6.3 Human Resources

None

6.4 Section 17 (Crime Prevention)

None

6.5 Human Rights Act

None

6.6 Data Protection

The project will require liaison with the tenants in the properties and the sharing of personal data. Chase Community Solar has knowledge of the Data Protection Act 1998 and the General Data Protection Regulation 2016/679 and will be required to enter into a Data Processing Agreement with the Council prior to being passed any personal data.

6.7 Risk Management

As the project is a trial it may be that no direct benefits will be seen by our tenants however in the longer term it will assist in the development of this new technology.

The Construction Design Management Regulations 2015 will apply to this scheme and hence, although a pilot and of no direct cost to the Council, it will need to be administered in the same manner as any other construction / building contract.

There is a reputational risk to the Council if the Green Energy Networks are not able to secure the funding required to deliver the project. To mitigate the risk It is recommended that Council Tenants are not consulted until the funding for the project has been fully secured.

6.8 Equality & Diversity

None

6.9 Best Value

None

7 Appendices to the Report

Appendix 1: Sandbox Briefing Document

Appendix 2: List of Properties (Not for Publications)

Previous Consideration

None

Background Papers

None

OFGEM Innovation Sandbox
Cannock Chase District Council
Briefing Paper

Summary

Ofgem has granted a regulatory innovation sandbox for a trial with tenants of Cannock Chase District Council, who are already benefiting from rooftop solar energy provided by Chase Community Solar. The trial, which has been granted by Ofgem as part of a unique regulatory concession has been granted under what is termed by Ofgem, as their “Regulatory Innovation Sandbox”. The trial has been designed in such a way as to ensure customers involved will save money relative to their existing energy tariff and, includes a guarantee of at least a 20% cost reduction.

The trial will deliver an automated system to optimise time of use tariff selection, with that of existing solar generation and new battery storage and involves the installation of behind the meter digital technologies, to control the switching of power flows between that of solar, batteries and mains supply.

A community Energy Services Company (ESCO) will be responsible for sending consolidated bills to domestic customers for electricity from batteries and solar, as well as for their usual energy supply; and will offer local network balancing services to Western Power Distribution.

Aims

The trials aim is to demonstrate how behind the meter controls, with existing solar energy and new battery storage systems can perform at a community level and with consumer engagement can reduce energy costs and attract new sources of revenues from helping to balance the local electricity grid. We want to transform the customer relationship with energy and deliver wider future energy system benefits.

Although, no money will be spent on the installation of renewable energy technologies, funding will be required for new battery storage and control technologies in homes, which will provide the means to store energy provided by rooftop solar during its generation cycle or top up charge by using imported energy at low tariff period. This stored energy will be used to offset the import of energy at peak times of the day (self-consumed) or exported for balancing purposes when required.

The trial will show how, using digital energy technologies in homes and in the local electricity grid, it is possible to understand and control a community’s collective and individual energy demand and export availability throughout the day. We will show how a diverse range of tenants can achieve real energy cost savings of up to 20% and with a community ESCO, attract new forms of revenues from selling demand flexibility to assist in local network power balancing.

The trial will automate the control of domestic power flows and optimise solar and battery storage installed in the home, to reduce overall consumption, minimise export to the local grid and use stored energy, at times at which it provides the greatest cost saving to the tenants. The control technology deployed in the home will have the ability to optimise energy use, balance consumption and be programmed to ensure the least interaction of the customers. "Time of Use" tariffs will be used to change energy consumption habits and alternately, used to a 'top up charge' for the battery storage systems during lower tariff periods.

The trial will run in conjunction with the timescales set out in the Ofgem sandbox documented and trial funding will be provided by the BEIS's funding competition: "Funding for innovative domestic Demand Side Response demonstrations". The trial will run from July 2018 to July 2020 and after customer engagement and site surveys, we estimate the installation of the battery systems and control technology in the homes will commence during January 2019.

Features

A community energy services company (ESCO) will co-ordinate the trial. The ESCO will have primary responsibility for ensuring the conditions in this document are met

A new legal entity may or may not be created to act as the ESCO and which means that either one of the trial partners may act as the ESCO, or a new legal entity created which will be owned by one or more of the trial partners.

The trials will take place in Staffordshire, with the residents of Cannock Chase District Council properties and Nottingham, with the residents of Trent Basin.

Each home will be fitted with an additional sub-meter from SIG, which will be behind the settlement meter. This will send generation and consumption data to a central software platform. This data will be used to control when assets, including batteries and solar, are charged, discharged and used for self-consumption.

All digital metering equipment will meet the appropriate standards of the Measuring Instrument Directive (MID). If the sub-meters will be used for billing, then they must be approved for billing purposes.

Feed-in Tariff (FIT) payments for electricity produced by the existing solar panels currently go to Chase Community Solar, who will instead sell it to the ESCO as part of the trial. Chase Community Solar will therefore opt out of receiving the export component of the FIT.

The ESCO will install batteries behind the settlement meter at the properties of trial participants. The batteries can store electricity for use by trial participants and to allow the ESCO to sell flexibility and balancing services.

Credit customers will receive a consolidated bill for their locally generated electricity, their other electricity consumption, and gas if relevant. Pre-payment customers will receive a statement with the same information.

Electricity consumption that is not powered by exports from the local solar will be charged based on the tariff the consumer has with the licensed supplier. The ESCO may not increase the price of electricity provided by the licensed supplier.

Trial participants may also agree that the ESCO can arrange to switch their supply between licensed suppliers. At any given time, each consumer will only have one licensed supplier. Each consumer will receive communication from the ESCO so that they understand which licensed supplier they are with.

The ESCO may agree bilateral contracts with Western Power Distribution for balancing aggregator to use the batteries to provide flexibility services