

# Sark replacement power system



Intro to CfR, community energy  
case studies and progress update



# About CfR CIC

**Not for profit company helping communities to develop, finance and manage their own renewable energy generation. Our experience includes:**

- Developed community owned renewables from solar panels on school roofs to one of the largest community-owned solar farms in the UK
- £78million of capital raised, including £17million from over 2,000 community investors
- Manage 50 megawatts of community solar across 7 localities
- 50,000,000 kilowatt hours of electricity from the sun each year, equivalent to the consumption of 13,500 homes
- Over £20million of surplus income (after operating and finance costs) to support net zero transition, fuel poverty and other community projects in their localities over the next 25+ years.

[www.cfrbic.co.uk](http://www.cfrbic.co.uk)

# CfR's role in supporting Sark's replacement power system

1. Manage a 3-stage tender process to find an experienced contractor to **design and build** the replacement system for the island-owned energy company
2. Develop finance strategy and manage the financing process
3. Help set up the new island-owned energy company

Other support needed down the line will include:

- Legal support from Guernsey law officers (e.g. for company set up, land agreements, contracting and financing)
- Technical advisor and owner's engineer to oversee the design and build contractor

# Burnham and Weston Energy CIC

- 9.3MW (36,000 panels) community-owned solar farm in North Somerset
- Built 2016
- Financed by £7.4million long-term bank loan and £4million community bondholders, each of whom have a '1 member 1 vote' share
- Run on a not for profit basis and generates over £50,000 per year for local community projects

## CfR role:

- Set up the community company and managed purchase of the solar farm from a commercial developer
- Managed financing process
- Ongoing company and asset management



[www.burnhamandwestonenergy.co.uk](http://www.burnhamandwestonenergy.co.uk)



# Plymouth Energy Community

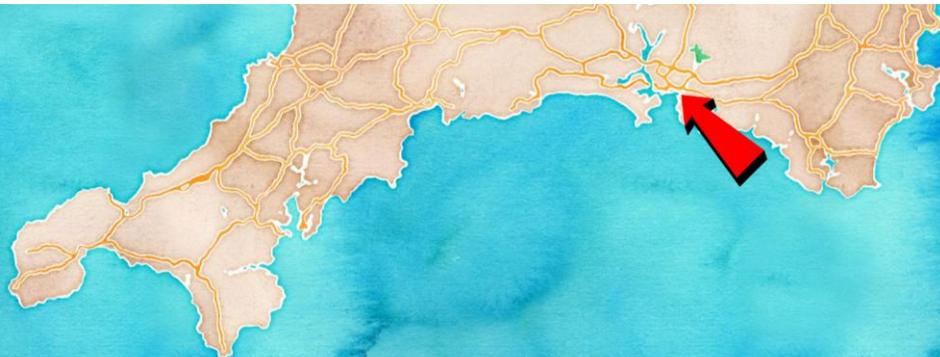
- Local energy enterprise set up with support of Plymouth City Council
- Installed community owned solar on over 30 schools and community buildings in the city and a 4MW solar farm on a former landfill site
- Currently developing a 13MW solar farm on another former landfill site and a 70 home community housing scheme
- Financed by £4million long-term loans from City Council and £2.5million from community shareholders, each of whom have a '1 member 1 vote' say
- Run on a not for profit basis to support a fuel poverty advice service

## CfR role:

- Project development and procurement support for the landfill solar sites
- Supported community share offers and debt financing



[www.plymouthenergycommunity.com](http://www.plymouthenergycommunity.com)



# Ferry Farm Community Solar

- 5MW community-owned solar farm in Selsey
- Built 2016
- Financed by £5million long-term bank loan and £1.2million from community share and bondholders
- Run on a not for profit basis and generates £50,000 per year for local community projects

## CfR role:

- Set up the community company and managed purchase of the solar farm from a commercial developer
- Managed financing process
- Ongoing company and asset management



[www.ferryfarmsolar.co.uk](http://www.ferryfarmsolar.co.uk)



# Isle of Gigha

Gigha was purchased in 2002 for its 98 inhabitants through the newly formed Gigha heritage trust. The community land buy-out was funded by £1million of loans, the rest from grant funding.

The trust looked to renewables to generate energy and income for the community, including to help cover the buy-out loan payments.

In 2004 the island began generating, with 3 second hand Vestas 225kW turbines, exporting to the national grid, under the Renewables Obligation subsidy scheme.

The turbines, local known as the Dancing Ladies, have enabled the repayment of capital and have also provided funds to improve housing, most of which were previously defined as 'below tolerable standards'.

The trust added a further turbine, an Enercon E33, in 2011. These four turbines collectively bring in over £150,000 in revenue each year for the community.

[www.gigha.org.uk/Windmills](http://www.gigha.org.uk/Windmills)



Island energy case study – CfR was not involved in this project



# Isle of Eigg

Eigg was powered by diesel generators. In 2008 Eigg completed the installation of an island owned energy system, providing power to residents at 23p/kWh.

The system consists of three hydro generators (1 x 100kW and 2 x 6kW), 4 x 6kW wind turbines, 54kW of solar, a 160kW diesel generator and a battery system. These were connected via a new island grid, with 11km of High Voltage underground cabling. 95% of the island's electricity is now provided by renewables.

The Isle of Eigg Heritage Trust, the community organisation which owns the island, secured £1.6 million in grant funding to develop and build the system.

The ingenuity of the system and the community that achieved it have attracted international attention. While surrounding islands are seeing a problematic decline in their communities, Eigg has bucked the trend with an increasing population and number of businesses.

<http://isleofeigg.org/eigg-electric/>



Island energy case study – CfR was not involved in this project

## Sark has a unique opportunity

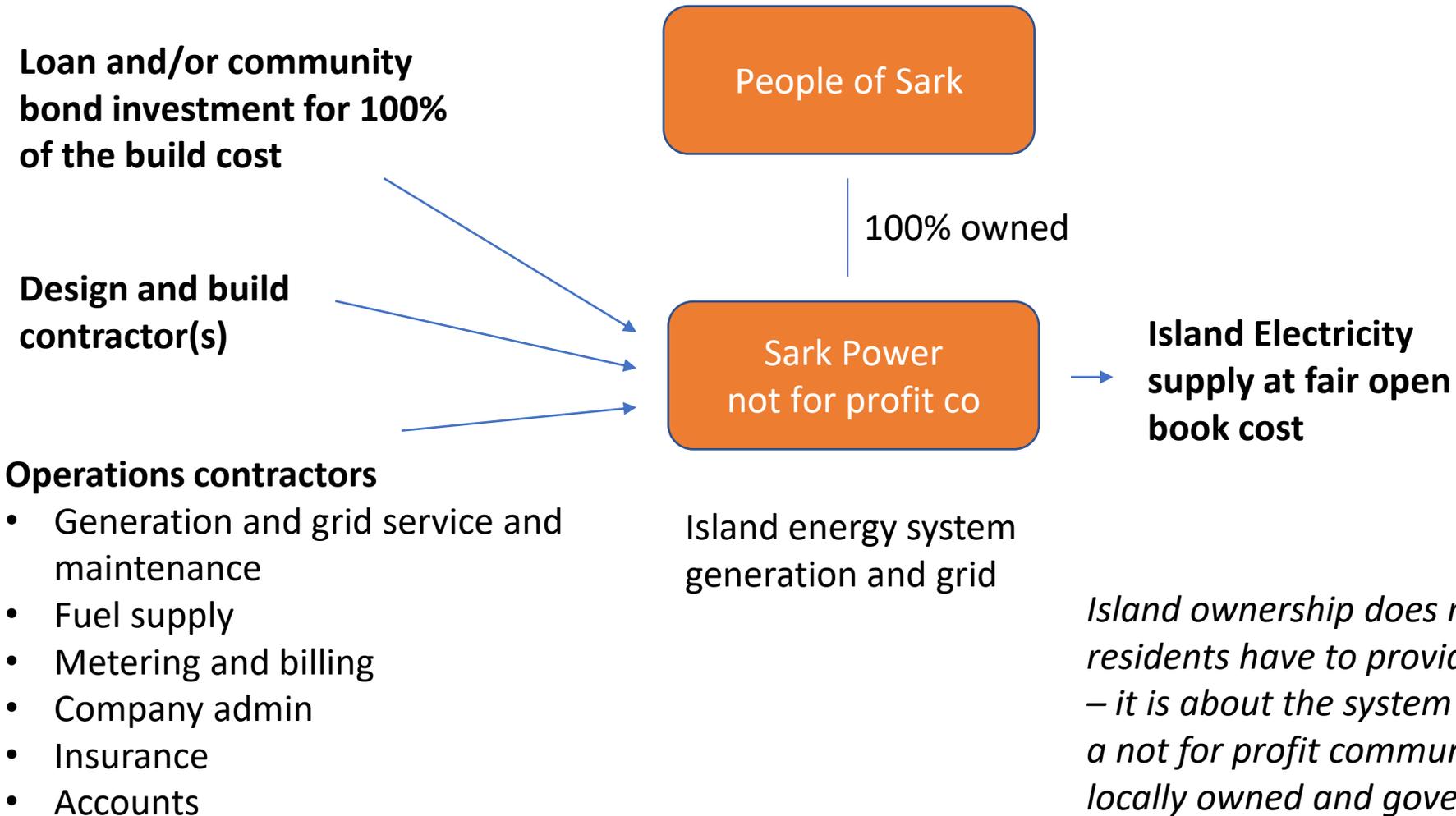
To own its own electricity generation, distribution and supply system.

To set the price of electricity based on the actual cost of supply.

To go straight to a smart, renewables-based system.

For the UK mainland this is a 30+ year process. Consumers are suffering an electricity price set by gas, even though 50% of UK power comes from low and stable cost low carbon generation.

# What could island-ownership look like?



*Island ownership does not mean Sark residents have to provide all the capital – it is about the system being owned by a not for profit community company, locally owned and governed and with its community purpose written into its articles.*

# Community purpose and governance

<b>Ownership</b>	£1 '1 member 1 vote' shares for island residents?
<b>Community purpose</b>	To provide a sustainable, secure and fairly priced electricity to Sark.
<b>Board</b>	Representatives of Chief Pleas, Guernsey Electricity, Price Commissioner, legal and finance experience, elected community representatives.
<b>Legal structure</b>	Company limited by shares with community purpose written into the articles and asset lock on profits.
<b>Operating model</b>	Electricity price set on open book basis to cover running and finance costs and build up sufficient cashflow, unplanned maintenance and system replacement reserves.

# Replacement system

## Generation

- Solar – e.g. one field of panels
- Wind (if possible) – access constraints limit size of turbine to less than 30m hub
- Diesel (modular gen sets)
- Battery
- Investigate viability of feed-in tariffs

## Distribution

- Replacement 11kVA network built and maintained to UK standards
- Building connections replaced to and including a smart meter
- Scalable to future needs including 3 phase to all properties

**Smart management and billing system enabling different tariffs** – e.g. low cost power when there is a surplus of renewable generation

# Next steps

**Stage 1 (Nov - Dec) – invite expression of interests based on**

- Experience of design and installation of similar systems
- Outline technology proposal, capital cost and unit rate

**Stage 2 (Jan - Feb) – Short-list up to 3 parties for detailed proposals**

**Stage 3 (March - April) – Select preferred partner and finalise system design and cost**

**Tender review panel to include:** CfR, University of Exeter (Prof Richard Cochrane), Guernsey Electricity

**Procure and negotiate most suitable funding partner in parallel.**

**Public engagement**

Community survey – now live on Chief Pleas website.

Keep community updated with the selection process.

Selected partner to present their proposal to the community, once selected.

Further public consultation and surveys as we progress.

# Contact



**Jake Burnyeat**

Director, CfR CIC

e. [jake@cfrbic.co.uk](mailto:jake@cfrbic.co.uk)

t. 01209 705 423

[www.cfrbic.co.uk](http://www.cfrbic.co.uk)

