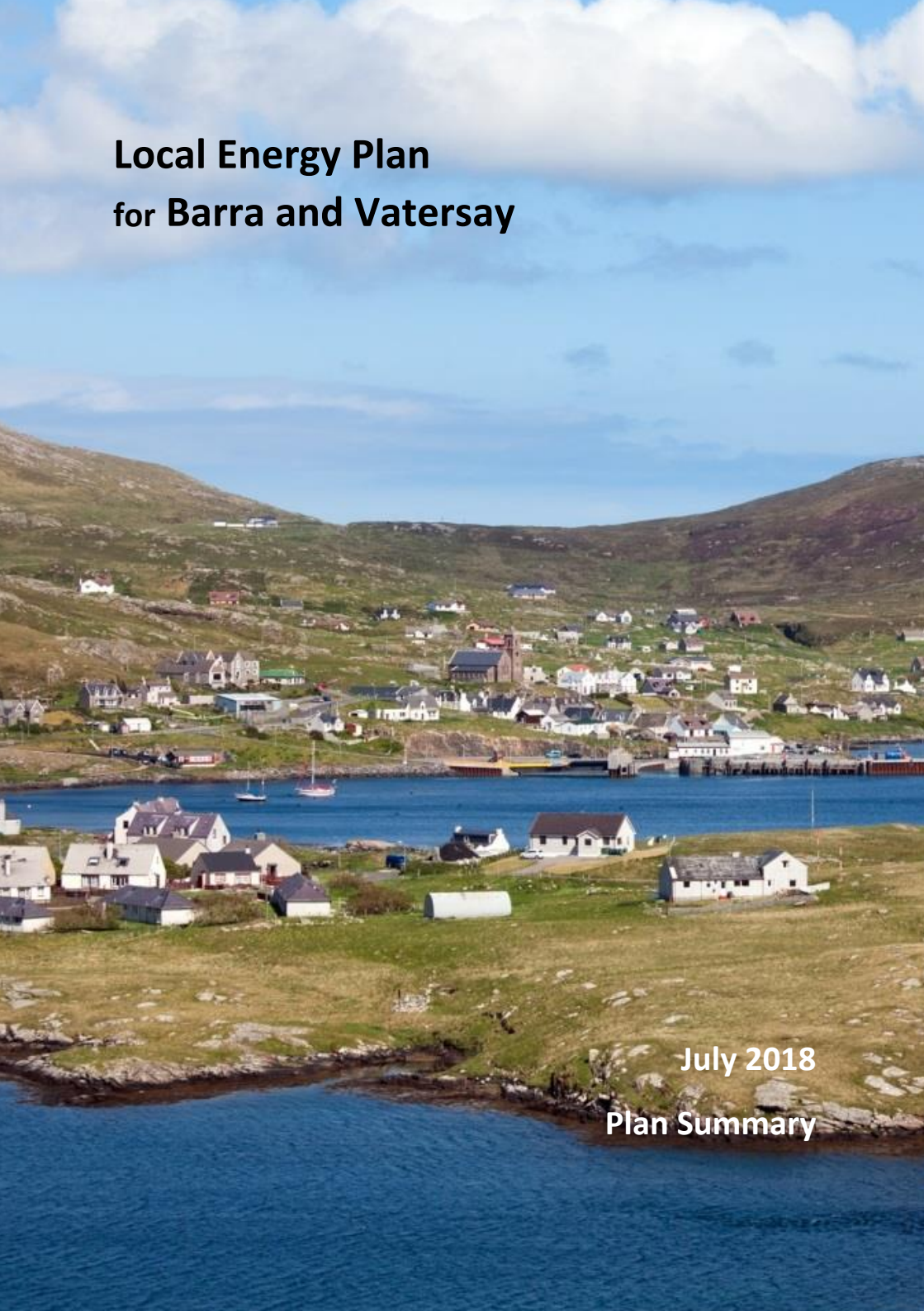


Local Energy Plan for Barra and Watersay



July 2018
Plan Summary

A Local Energy Plan for Barra & Vatersay

This Local Energy Plan has been developed to enable the Barra and Vatersay community to look at its existing and future energy needs in terms of power, heat and transport and determine where it sees priorities for action.

It has been created by the community, rather than being developed for them by other bodies (e.g. local authorities or National Government).

The development of the plan has been led by a steering group that includes representatives from the Voluntary Action Barra & Vatersay, Coimhearsnachd Bharraidh agus Bhatarsaidh (Barra & Vatersay Community) Ltd, Castlebay & Vatersay Community Council, Northbay Community Council, Hebridean Housing Partnership, Barratlantic Ltd, Comhairle nan Eilean Siar (CnES), Local Energy Scotland, Home Energy Scotland and Community Energy Scotland.

The Local Energy Plan provides a start in the community's engagement with its energy needs. It offers a focus for immediate opportunities that can be developed in the short term. It also provides scope for longer term planning for further changes in the future.



Approach to Local Energy

Our energy needs, and how these are met reliably, cost effectively and without long term environmental consequences, are one of the key considerations for every community.

For this reason the present and future energy needs of a community are most usefully considered in a ‘whole system’ approach. In this way the overlapping impacts of how we use power, heat and transport can be considered at the same time, rather than in isolation.

As part of this there needs to be a study boundary to provide a primary area of focus. This does not exclude the linkages with neighbouring areas or opportunities that may be nearby.



A Community Plan

At the heart of the development of the Local Energy Plan are the views of the community of Barra and Vatersay. These have been sought by a combination of:

- working with a local steering group
- public meetings in Northbay and Castlebay
- display noticeboards in the community shop
- an online survey (88 respondents)

Community Views

The survey findings provided priorities for each action area.

Energy in the home

- lower energy tariffs
- insulation and draught proofing
- upgrade of heating systems

Transport

- support for uptake of electric vehicles
- support for a community minibus
- development of more walking and cycle paths

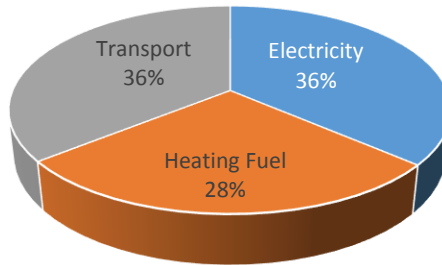
Community scale energy projects

- renewable energy supplying homes and businesses
- bulk fuel purchase
- large-scale renewables

Energy Use for Barra and Watersay

The annual estimated total energy demand is shown here.

Estimated total energy use



Source	Annual Energy Use (GWh/yr)	Annual Carbon Emissions (tCO _{2e} /yr)
Residential, <i>of which:</i>	32.3	9,714
Electricity	13.9	5,362
Heating	10.8	2,487
Transport	7.6	1,865
Non-Domestic, <i>of which:</i>	11.0	2,968
Electricity	1.8	698
Heating	1.3	324
Transport	7.9	1,946
Total (All Sources)	43.3	12,682

Challenges to address

In meeting the energy needs of Barra and Vatersay a number of challenges have been identified:

High levels of fuel poverty

Comhairle nan Eilean Siar region has an average fuel poverty rate at 56% (Scottish House Condition Survey, 2016)

Inefficient energy consuming housing

55% of dwellings are assessed as being in the least efficient Energy Performance Certificate (EPC) rating bands (E – G)

51% of dwellings are 35 or more years old.

Predominance of electric heating

46% of dwellings use electric heating; 49% use heating oil

These are fuels with expensive tariffs for households

Grid constraint for larger local generation assets

Present capacity limits the size of local generation, such as wind turbines, that can be connected to the local grid

Transport links

69% of the population are economically active and typically travel to work by car

Affordable ferry and air travel routes to the mainland and other islands are crucial for the whole community

45% of households have access to at least one car or van

Proposed Actions – Energy Efficiency

Action	Description	Timescale
Deliver community event to promote energy efficiency and opportunities for support in demand management, tariff switching and resource efficiency. Include low emission vehicles and associated support	Raise awareness among community in Barra and Vatersay of existing support services available to homes and businesses	Short
Community to work with Barratlantic to promote energy and transport action among non-domestic consumers	Share knowledge and understanding of support to non-domestic users and potential actions around energy and transport	Short
Provide support and advice around tariff switching	Offer support and advice to households and businesses regarding electricity tariff switching and maintaining awareness of changes to tariffs in the market	Short
Ensure heating oil purchasing options offer best value for residents and businesses	Promote bulk purchase of oil for residents and businesses	Short
Community joint venture water efficiency project	Implement awareness programme centred on water efficiency and benefits of more efficient water use to individual households and businesses	Short

Proposed Actions – Energy Efficiency

(continued)

Action	Description	Timescale
Continue to improve fabric, insulation and space heating within local residential properties, targeting Energy Performance Certificate (EPC) C rating as minimum standard. Where possible use local installers	Secure funding for ongoing improvement works to insulation, building fabric and space heating as appropriate to building form, age and wall construction	Short / Medium

Proposed Actions – Energy Generation

Action	Description	Timescale
Small scale solar photovoltaic (PV) development and other small-scale generation	Explore community opportunity for collective install of solar PV on Barra and Vatersay Promote other small-scale renewables as suitable for homes/businesses	Short / Medium
Seek to use heat pumps where appropriate as primary heat source	Seek designs for new build dwellings that use heat pumps where appropriate and practicable as the primary heat source alongside high levels of insulation and fabric. Look for opportunities to retrofit during renovation of existing dwellings	Short / Medium
District heating (Castlebay)	Carry out feasibility study for district heating scheme centred around Castlebay School and St Brendan's Hospital	Short
Community wind turbine and hydrogen production	Explore potential for local hydrogen production using community wind generation. Market availability to consider ferry operators, hauliers and bus operators	Short

Proposed Actions – Transport

Action	Description	Timescale
Promote awareness of electric vehicles and look at potential for a car club	Develop promotional and awareness event to showcase electric vehicles and sources of advice and support. Discuss potential for development of a car club with pool of electric vehicles operated as part of a wider Western Isles model	Short
Community minibus	Speak with bus operators and Community Voluntary Action Barra and Vatersay, alongside other agencies, to explore potential for electric or hydrogen fuelled bus to supplement existing services	Short
Extension of electric vehicle (EV) charging infrastructure	Explore potential for community involvement in extending electric vehicle charging points	Short / Medium
Active Travel	Discuss with CnES emerging details within Active Travel Strategy and opportunities for enhancements or improvements to current active travel routes (walking and cycling)	Medium



Proposed Actions – Smart Energy Systems

Action	Description	Timescale
Smart grid development	Seek development of localised grid management system	Medium
Continue and advance dialogue with the Distribution Network Operator, CnES, relevant agencies and Scottish Government to address constrained local and distributed network in respect of local generation and supply	Seek enhancements to local electricity grid network both internally and in respect of the distributed and transmission networks serving the Western Isles	Short / Medium
Continue dialogue with CnES and other relevant bodies regarding a Western Isles Energy Supply Company (ESCO)	Explore potential remit of Western Isles ESCO and how that might benefit energy supply for all communities	Short / Medium



Further Information

The detailed final Local Energy Plan is available within the community.

A copy of the plan is available for download at:

<https://www.localenergy.scot/what-is-local-energy/local-energy-plans/barra-and-vatersay-local-energy-plan/>

The development of the plan has been funded as part of the COBEN project (**CO**mmunity **BEN**efits of Civic Energy), an EU Interreg (North Sea Region) funded programme with fifty per cent match funding through the Scottish Government's Community and Renewable Energy Scheme (CARES). CARES is delivered by Local Energy Scotland. Technical support and plan development has been undertaken by Wood Environment & Infrastructure Solutions UK Limited. Community consultation support has been provided by Community Energy Scotland.



