

## CALL FOR SOLUTIONS

### Challenge description – Outer Hebrides

#### Call title

Explore solutions to reduce household energy costs by better utilising locally generated energy

#### Full description of the energy innovation need

As part of the RIPEET process, RIPEET stakeholders from across the Outer Hebrides from the: public sector; private sector; third sector; academia and the environmental sector collaboratively identified the following as their energy vision for the region by 2040:

*2040 sees a much-changed energy ecosystem for the Outer Hebrides which better meets local needs and utilises the world class energy resources and pioneering communities of the region. Current strengths of the Islands such as community ownership and energy innovation have been retained whilst dramatic progress has been made on energy issues that have hampered local development, such as an inconsistent stakeholder collaboration, limited grid resilience, grid constraints and fuel poverty.*

*By 2040, **fuel poverty** in the Outer Hebrides has, as far as is reasonably practicable, been eradicated following several technical, social, policy and behavioural interventions; making the islands an attractive place to live and for business to operate. Energy related supply chains, involving installers, materials suppliers, and contractors, have been strengthened, creating a significant number of local, green jobs.*

*The **local electricity grid** is “smart”, resilient and responsive due to integration with new technologies for managing, generating and storing energy. There is greater use of smart-metering in households and businesses and local network monitoring by the DSO.*

*Healthy **collaboration** across energy stakeholders within academic, public, private, community and environmental sectors continues in 2040. Comhairle nan Eilean Siar continue to play a key supportive role for energy projects, having been central in establishing a Regional Energy Consortium and supporting its management to facilitate collaboration on energy projects, foster greater local engagement with energy and develop Hebrides Energy, a local energy supply company (ESCO).*

*The combination of technical advancement and improved collaboration across sectors has driven the region to develop bespoke solutions to overcome energy challenges and become a pioneer in energy transition.*

From this vision, stakeholders identified two key areas that they wanted the RIPEET project to focus on:

- 1. By 2040, no more than 5% of Outer Hebrides households are living in fuel poverty and 1% in extreme fuel poverty*
- 2. Local energy costs are equal to those on the mainland*

RIPEET stakeholders collaboratively identified the steps needed to achieve these two key targets in a series of workshops. These workshops also helped to identify the most urgent first step that needs to

be taken **now** to set the Outer Hebrides on track for achieving the two targets set out above. Stakeholders identified this most urgent next step as:

***“Explore options for locally generated energy to be supplied and/or marketed locally and reduce household energy costs.”***

This has been amended to the call title:

***“Explore solutions to reduce household energy costs by better utilising locally generated energy”***

## Urgency of the need

Fuel Poverty has been a widespread and pervasive problem across the Outer Hebrides for many years. The Scottish House Condition Survey (2017-19)<sup>1</sup> reported a fuel poverty rate of 40% in the Outer Hebrides compared to the average in Scotland of 24%. The region also had significantly higher extreme fuel poverty rates, 24%, double the national average of 12%. Although wider factors have contributed to this issue, examining the three key causes of Fuel Poverty offer some explanation as to why the regions suffers so greatly.

### 1. The energy efficiency of properties:

Many houses across the Outer Hebrides were built during the mid-20<sup>th</sup> century when insulation was not a requirement or standard of new builds. Much of the housing stock also possesses inefficient heating and energy systems such as electric storage heaters and pre-payment meters which can drive up rates of Fuel Poverty. Due to these factors, 92% of the 15,790 properties across the Outer Hebrides were in [Energy Performance Certificate](#) bands D-G, highlighting poor household appliances and insulation and linking households with high energy costs ([Scottish House Condition Survey 2019](#)).

### 2. The cost of energy:

A combination of factors such as electricity transmission charges, a lack of a gas network for households out with Stornoway (limiting dual-tariff options) and fuel transportation costs contribute to energy prices across the Outer Hebrides that are significantly higher than those on the mainland. With dramatic recent energy price rises and further price rises predicted, it is expected that significantly more households will fall into fuel poverty due to the rising cost of energy.

### 3. Household income:

The Outer Hebrides Community Planning Partnership’s Poverty Action Group [recently announced](#) that the Covid –19 pandemic had resulted in a 4.8% increase in the number of families in poverty across the Islands. The group also stated that there is a child poverty rate of 21.5%. As Fuel Poverty is a subset of poverty, support for those living in poverty and continued economic development of the Islands is also key for combatting Fuel Poverty.

With the current rapid increase in energy prices, the incidence of fuel poverty in the region is set to increase and will have a dramatic impact on the livelihoods and wellbeing of the Outer Hebrides.

In addition, there is significant local generation of energy in the region, the majority of which is renewable electricity which is sold to the National Grid and transported to the UK mainland.

---

<sup>1</sup> [Scottish House Condition Survey 2017 - 2019](#)

This pilot project hopes to reduce energy costs for local people by utilising locally generated energy to provide energy at a lower cost than is currently being paid by households and businesses.

### Expected impact of addressing this energy need

Allowing locally generated energy to be supplied and/or marketed locally to help reduce household energy costs would help to reduce the incidence of fuel poverty in the Outer Hebrides. This would have the added benefit of freeing up income to spend in other areas of the local economy as well as ensuring that households can adequately heat their homes which would support their overall health and wellbeing.

The Outer Hebrides face some of the highest poverty levels in Scotland with over 880 families living in poverty. The impact of the Covid pandemic has been a 4.1% increase in poverty levels. Fuel poverty levels in the Outer Hebrides are the highest in Scotland at 36% (the national average is 25%) highlighting the vulnerability of our island communities to rising energy costs. Therefore, understanding and delivering better solutions to reducing household energy costs in the Outer Hebrides has never been more important.

Potential results of the pilot project could include:

- Advancing the innovative knowledge basis and/or technology base of the Outer Hebrides on local off-grid energy generation
- Developing a virtual model of the Outer Hebrides energy system
- Conducting research into the long term economic impacts of fuel poverty in the Outer Hebrides
- Designing an innovative campaign for policy reform on local energy supply
- Improving the knowledge/technological basis for alternative fuel sources
- Showcasing new and improved means for insulating properties

### Alignment of the need with policy

Addressing this need links in with key targets set out in The Fuel Poverty Act (2019):

- By 2030: (a) no more than 15% of households in Scotland are in fuel poverty, (b) no more than 5% of households in Scotland are in extreme fuel poverty.
- By 2035 (a) no more than 10% of households in Scotland are in fuel poverty, (b) no more than 3% of households in Scotland are in extreme fuel poverty.
- By 2040 (a) no more than 5% of households in Scotland are in fuel poverty, (b) no more than 1% of households in Scotland are in extreme fuel poverty.

This need also aligns with the Scottish Governments Local Heat and Energy Efficiency Strategies (LHEES), long-term plan for decarbonizing heat in buildings and improving energy efficiency across an entire local authority area. So far, an LHEES has only been completed for Harris and strategies for the remaining areas of the Outer Hebrides remain outstanding. The need identified compliments the aims of LHEES by seeking alternative means to reduce fuel poverty levels alongside physical building improvements.

### Linkages with other regional initiatives



The proposed solution should ensure that there is clear, open and regular communication with the following initiatives which are also involved in energy transition activities in the Outer Hebrides:

- [Scottish Government's Carbon Neutral Islands](#)
- [Islands Centre for Net Zero](#)

## Functional scope of the pilot

The proposed solution should include the following elements:

- Successful pilot projects must show a level of innovation. This could be taking a novel approach to address the energy need or trialling an approach from elsewhere in the Outer Hebrides
- Ensure that the proposed pilot project will have a positive impact on household energy costs
- Make sure that citizens remain at the centre of the energy transition process

*In addition:*

- The pilot must include a co-creation process carried out in the local language. The applicants will need to be able to communicate with stakeholder groups in English.
- Actors must be able to offer their solution in or to the region of the Outer Hebrides

## Expected outcomes

At least one viable solution to reduce household energy costs by better utilising locally generated energy. This should include:

- Clear outline of proposed steps required with accompanying budget (where appropriate) and project plan

The pilot project could also include:

- A demonstration of a local energy supply model involving a local business or household
- Involvement of a certain number of stakeholders or businesses and households in the pilot

## Ethics and Data Protection

For all data collected during any of the phases of the project all activities will be based upon informed consent and informants will be made aware of any possible privacy issue. Under no circumstance will RIPEET include private information, pictures etc. in publications without the explicit and written permission of the respective persons. RIPEET will comply fully with the EU General Data Protection Regulation (GDPR), which will replace the Data Protection Directive 95/46/EC (a directive adopted by the European Union designed to protect the privacy and protection of all personal data collected for or about citizens of the EU, especially as it relates to processing, using, or exchanging such data) and EC 2002/58 (confidentiality of information, treatment of traffic data, spam and cookies) when collecting mailing lists of operational personnel and under no circumstance will share this information with 3rd parties.

All activities are conducted applying fundamental ethical principles and relevant national, EU and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols. Social scientific research in this project will be designed and conducted in accordance with the procedures defined by the European Code of Conduct for Research Integrity, the Code of Ethics of the International Sociological Association (ISA) and RESPECT Code of Practice for Socio-Economic Research. Data collection with human subjects will comply with the ethical standards and guidelines of Horizon 2020 and the General Data Protection Regulation (GDPR), which will be rigorously applied, regardless of the country in which the research is carried out. All research is conducted ensuring respect for the participants and their dignity, protecting their values, rights and interests and fair distribution of research benefits and burden.

The basic and common principles valid for all methods and all subjects involved will be providing participants with full protection for their personal data unless they agree otherwise. Moreover, participants are informed that researchers shall protect them when desired. Personal data will be anonymised and not be shared with third parties. Data will be collected and stored securely

All data collected within this project are carefully protected in compliance with relevant national data protection legislation of the EU member states implementing the General Data Protection Regulation (GDPR), which replaces the European directive 95/46/EC. All research is designed and undertaken to ensure "*the right to privacy, the right to protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination*", following article 19 of the Regulation 1291/2013 of the European Parliament and of the Council. Personal data will be of qualitative and quantitative nature encompassing also audio-visual formats. Personal data will be stored in a way to not allow the identification of the subjects. The beneficiary will not publish any personal data unless participants have explicitly given their permission. Publications based on personal data will only report aggregated data and shall not contain information that may permit the identification of individual participants unless otherwise agreed.

In compliance with EU and national legislation, collected data are stored in computers, laptops, intranets or hard-drives of the consortium partners accessible through institutional password modified periodically (every 6 months in case of storage of personal data), and protected by regularly updated antiviruses. None of the project data will be left inadvertently available by being left on desks or in unlocked premises. All the materials stored in computers are subjected to back up regularly in order

to safeguard them from accidental losses. As a general principle, all materials that could lead to an identification of the person (e.g., informed consent, names/codes list of participants to the audit procedure) are stored separately from actual data (questionnaires, transcripts, data files, etc.) and handled by different members of the team.

All the files containing confidential information and personal details of the participants will be password protected, accessible only to the coordinator and concerned work package and task leaders. When they are no more necessary for the project, they are immediately destroyed. Files containing “sensitive” data will be stored encrypted.

---

## CONTACTS

**Document Contact:** Sarah Marshall, Highlands and Islands Enterprise (HIE)  
[sarah.marshall@hient.co.uk](mailto:sarah.marshall@hient.co.uk)

**Additional Contact:** Matthew Logan, Community Energy Scotland (CES)  
[Matthew.logan@communityenergyscotland.org.uk](mailto:Matthew.logan@communityenergyscotland.org.uk)