NESOI
EU ISLANDS FACILITY

Archipelago of Mull Actions for Zero Emissions

AMAZE

MULL, IONA, ULVA, GOMETRA, ERRAID, INCH KENNETH

"The project will enable citizens of the Mull Archipelago to work together, take ownership, design and deliver their transition to carbon neutral."

This project is supported by the EU Islands Facility NESOI.
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NESOI
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The European Islands Facility NESOI aims to unlock the potential of EU islands to become the locomotives of European Energy Transition. To do so, NESOI aims to mobilize more than €100 million of investment in sustainable energy projects to give EU islands the opportunity to implement energy technologies and innovative approaches, in a cost-competitive way. NESOI has selected 56 such projects across the European Union and provide them with financial resources and technical support.

Archipelago of Mull Actions for Zero Emissions

ABOUT
THE PROJECT

Project Promoter — The Mull and Iona Community Trust

Stakeholders — The Mull and Iona Community Trust (MICT); Scottish and Southern Energy Network; Local island communities and enterprises; NHS Highland, etc.

Country UK | **Sector** Energy planning | **PROJECT VALUE** 121 M€

DESCRIPTION

The energy systems in the archipelago of Mull are inefficient and dependent on fossil fuels. To tackle these issues, a Clean Energy Transition Agenda (CETA) is needed. The ultimate vision is to create the first islands-wide renewable energy electric vehicle (EV) hub network located at community buildings in the UK.

AIM OF THE PROJECT

The project includes a CETA and feasibility study for community-led renewable energy hubs and EV schemes, aiming to define the energy and carbon situation, identify pathways to decarbonisation, and explore renewable energy opportunities.

FUTURE STEPS

With the CETA and EV car club studies developed, the island will now focus on carrying forward the five pillars outlined in the plan. Additionally, future work will focus on engaging a broader audience, which shall ensure the datasets are full representative of all the archipelago's vast demographics dispersed across a large land mass.

HOW THE EU ISLANDS FACILITY NESOI
SUPPORTS THE PROJECT

1. Analysis of existing planning documentation, identification of the project boundaries
2. Assessment of the key project sizing drivers taking also into consideration local characteristics
3. Identification of suitable technological options given existing project sizing requirements and constraints
4. Cost-Benefit analysis, impact evaluation, identification of the preferred option
5. Risk analysis and identification of available mitigation strategies; assessment of existing procurement options
6. Financial modelling and identification of target scenario, identification of financing/funding options
7. Action plan and identification of project monitoring procedures

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Archipelago of Mull Actions for Zero Emissions - **Interview**

INTERVIEW WITH

Siân Scott

Fundraising Manager at The Mull and Iona Community Trust

Q: How was the project initially designed? Why choose this specific technology / sector?

A: The community has been working on decarbonisation projects for 15-20 years, particularly around waste reduction and circular economy. Therefore, the CETA creation and energy audit which were the basis of this project was a natural progression, enabling continued work on advancing the island's EV networks through a pre-feasibility study into an EV club and charge point hubs.

Q: What are the challenges of the project?

A: The main challenge of this project was the short (i.e. one year) time scale with respect to our goal of broadening community engagement. The focus groups engaged during the project aren't fully representative of everybody on the archipelago, a very geographically dispersed population over a large land area. Therefore, the next stage will be to go back into the community and engage a more diverse group of people in the CETA plan.

Q: What are your next steps towards clean energy transition?

A: We'll be taking forward the the various activities described within the five pillars of the island's CETA. The most immediate goal is to secure additional funding beyond what NESOI has already provided, enabling us to carry forward the feasibility recommendations around the EV charge hubs which are nearly investment ready.

Q: Within your views, where could this project be replicated?

A: There is certainly replication potential for islands with a similar geography and population makeup. The lessons were learned regarding community engagement during this initial phase of work could indeed be quite useful for islands looking to develop their CETA.

THE IMPACT

ON LOCAL COMMUNITY

1. **Local Environmental Conditions**
   The CETA projects will help address market failure and create opportunities for jobs, business start-ups, business expansion, new community incomes streams for re-investment, more sustainable island-based energy systems, reduced energy supply costs, and increased tourism.
2. **Social Acceptance and Impact**
   AMAZE enables the citizens of the Mull Archipelago to work together, take ownership, design and deliver their transition to carbon neutral. Community engagement workshops will ensure social acceptance by demonstrating the socio-economic and environmental benefits.

New Energy Solutions Optimised for Islands
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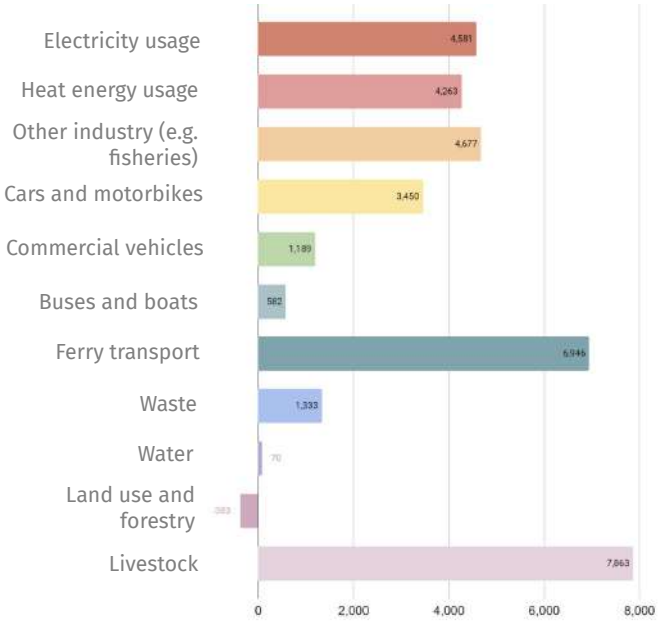
Archipelago of Mull Actions for Zero Emissions **– Technical Data**

FOCUS ON
EMISSIONS FROM CONVENTIONAL FERRY TRANSPORT

The current population of the islands is approximately 3,100 residents and the main industry on the archipelago is tourism with a vast majority arriving by ferry. Around 54% of ferry energy usage is attributable to tourism. Transportation to and from the islands surpasses all on-island transportation in terms of energy use and emissions.

There are four private ferry services in the Archipelago of Mull. The busiest of these is the 15 km Oban–Craignure crossing from the isle of Mull to mainland. This vessel represents 76% of the emissions of all four ferry services. The two other crossings to the mainland (Fishnish – Lochaline and Tobermory – Kilchoan) contribute 18% of the total. The vessel used in the Fishnish-Lochaline crossing is diesel-electric hybrid and has been in operation since 2013. This is associated with a 20% reduction in the emissions.



Breakdown of Carbon Emissions by sub-sector (tonnes CO_2e. 2019)
CETA of Mull Archipelago, 2023

EXPECTED
ENERGY SAVINGS

The project supports the financial sustainability of community buildings, off-setting operational costs through renewable energy production. Switching from conventional electricity to renewables saves 70% and efficiency measures saves 20% energy at seven community halls. Electric vehicle hub for EV sharing will further improve the energy savings, since five conventional cars are expected to be withdrawn for each one club car.

KEY NUMBERS
OF THE PROJECT

60 MWh
Amount of annual RES-based electrical energy production (at the 7 community halls)

Amount of annual GHG savings*
14.7 $ktCO_2eq$

40.4 GWh/yr
Amount of annual primary energy savings*

Payback time (for EV car club)
12 years

** GHG and energy savings combines figures from the CETA and the feasibility study, related to both the community hall improvements, and from the EV car club.*

REPLICABILITY
IN OTHER ISLANDS

The renewable energy EV hub network could become an exemplar for other European islands and mainland communities. The project will engage with mainland-based transport operating companies (passenger and good carrying) as potential beneficiaries.

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CERTH CENTRE FOR RESEARCH & TECHNOLOGY-HELLAS
NESOI contact:
Avraam Kartalidis, kartalidis@certh.gr

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