

# THE FACULTY OF ENGINEERING

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# **Energy for Socioeconomic Transformation**



#### The case of local and community energy in Scotland

**Damien Frame** Senior Knowledge Exchange Fellow

University of Strathclyde 26<sup>th</sup> September 2024



# **Presentation Overview**



- Global Renewables Centre Introduction
- Scottish policy context
- Support for Community and Local Energy Systems
- Case studies
- The roles of stakeholders, collaboration and learning

# The Scottish Global Renewables Centre (GRC)

Funded by the Scottish Government

#### **GRC** Objectives

Support and enhance existing KE mechanisms

- Conferences and workshops
- Communities of Practice
- Online resources

Enhance capacity building opportunities

- Postgraduate
- Professional Development
- International, Local, Online

Increased research and innovation

- Develop international academic partnerships
- Connect with industry and policy makers
- Access international research funding
- Unlock investment







Renewable Energy Industries Association of Malawi





# **Scottish Policy Context**

Policy focus on delivering Net Zero through local energy planning and action

- Community Energy Policy Statement (Sept 2015) confirmed a 2020 target for 500MW installed capacity of community and locally-owned renewable energy generation, subsequently increased to 1GW by 2020
- Local Energy Policy Statement (2021) A shift towards more localised energy solutions is a vital part of our journey to a net zero future with Local Energy developing alongside (and within) a vibrant national energy network.
- Draft Energy Strategy (2023) includes a 2030 target of 2GW of community and locally owned renewable energy

The Scottish Government has proposed a legally binding target of net-zero greenhouse gas emissions by

2 \$ 45 at the latest

Local Energy Policy Statement

gov.scot





# **Case Studies**

# **Buchanan Community Hydro**

Optimising renewables incentives

- Buchanan Community Hydro Society incorporated as a community benefit company (BenCom).
- 100kW run-of-river community hydro scheme was built and was fully operational on 15 July 2022.
- Accredited under the Feed-in Tariff (FiT) scheme, and in its first year of operation generated 357,000kWh of clean power
- The society made the first awards from its Community Benefit Fund in Spring 2023. The fund made eleven awards totalling £23,990 to community development projects.





#### Mull and Iona Community Hydro



### Mull and Iona Community Hydro

Overcoming grid connection challenges and meeting local heating needs

- Community initiative to build 400kW hydro generation
- Undertaken by the Mull and Iona Community Trust (MICT), a charitable company limited by guarantee
- Network operator only permitted a 50kW maximum output due to capacity issues (network constraints)
- Solution found through an innovation project partnering with distribution network operator and smart grid tech companies
- Link new local heat demand to local generation to allow increased generation connection

## **Mull and Iona Community Hydro**

#### THE WATERFALL FUND

The Waterfall Fund was established as an independent charity by MICT in 2015 specifically to receive the net profits from the Garmony Hydro Scheme and to distribute them as grants to community projects on the islands of Mull, Iona and the surrounding small islands, in a fair, open and transparent manner.

# 2024 ROUND 1 FUNDING AWARDS

**16** SUCCESSFUL APPLICANTS



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# **Glasgow Community Energy**

Diversifying funding and moving to off-grid solutions

- A renewable energy co-operative operating in the Glasgow area
- Funding support from Network Operator (SPEN) and also a community share offer
- First project rooftop solar PV on two secondary schools - produce 79,000 kWh of clean energy and will save nearly 50 tonnes of CO2 per year
- Next project 10kWp off-grid cycle hub supporting active travel in Glasgow
- First £10k community benefit fund opened this year



Thanks to everyone who supported our first Community Share Offer!



# **ISKON Scotland**

Optimising on-site use of energy

- 2x 11kW wind turbines to generate electricity
- a 50kW biomass boiler to provide heat to the hall and temple
- solar thermal panels to supply hot water to Community Hall
- an air source heat pump to heat the greenhouse, allowing crops to grow all year round.
- four air source heat pumps
- 2 x 6kW solar PV arrays
- 2 x 8kW energy storage batteries.



# Scottish Government International Development Funding

Scotland, Malawi, Zambia and Rwanda

- £15m per annum focussed International Development Fund
- £24m Climate Justice Fund

PUE examples include:

- Grid connected Value Addition Centres
- Minigrids with Agri-PUE
- Farmer crop diversification and productivity improvements
- Irrigation, cold storage and market linkage for horticultural products
- Coffee Co-operatives direct export to buyers in Scotland



# **Collaboration and Sharing of Learning is key!**

Case studies include:

- Policy makers
- NGOs
- Financers
- Private sector innovators
- Community groups
- Academics

**Renewable Energy** Malawi Industries Association REIAMA Hub of Malawi Zambia Scottish Zambia ZARENA University of Strathclyde Hub Hub imesgineering Í **Renewable Energy Association** Rwanda Hub ENERGY PRIVATE DEVELOPERS Your partners for energy in Rwanda

PUE delivering community benefits:

- Economic support for vulnerable groups
- Low carbon heating/cooling
- Low carbon transport
- Water access
- Business and employment opportunities

https://www.strath.ac.uk/workwithus/sgglobalrenewablescentre/

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