

## Enabling Circular Economy Initiatives in Rural and Island Scotland

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*Image of Newtown Bay on the Isle of Cumbrae looking out towards the Isle of Arran © SRUC*

### The problem we are trying to address

This research explores the feasibility of circular economy (CE) initiatives in a rural and island context in Scotland. It draws on a review of international case studies, work in Scotland to apply Islands Community Impact Assessments (islands screening) to recent CE consultation documents [1-3], and initial work to understand our first Scottish case study locations, the islands of Arran and Cumbrae.

### What we did

We completed a rapid evidence review of international CE examples beginning with an overview of what the CE is and why it is relevant to the policy context in Scotland, including the National Strategy for Economic Transformation and the country's ambitious net zero targets [4-6].

Alongside a small number of interviews with experts working locally on CE island initiatives, and in international CE-related organisations, the research team undertook desk-based research to identify and explore CE initiatives on Vlieland (Netherlands), Samsø (Denmark), Mallorca (Spain), and Norfolk Island (Australia).

### Key Takeaways

- The transition to a circular economy necessitates a systemic way of thinking and acting that interconnects people and communities, industries and infrastructure and institutional and policy governance.
- The Scottish Government has demonstrated its commitment to establishing a circular economy through multiple strategies, plans, and proposals.
- Islands can be ideal 'living labs' through which new approaches and techniques can be tested. However, it may not be possible to use economies of scale and it is difficult to close every loop.
- Scotland has much to learn from international case studies, but the nuances of persistent challenges such as access to land, housing and affordable, reliable transport infrastructure must be considered.

## What we learned

Circular economy (CE) initiatives are at times difficult to define but are essential to meeting national and international carbon neutrality goals. They also deliver to the UN Sustainable Development Goals, and to wider agendas such as community wealth-building, just transition and net zero [7].

Island communities can be valued as 'living labs' and 'lighthouse projects' – communities that can 'show the way' for circular economy initiatives on the mainland. It is vital that local people are fully engaged in designing these projects.

Other success factors might include positive mechanisms to encourage increased awareness and behaviour change by households and businesses, an exploration of alternative ownership models for land and businesses, and at least some degree of island autonomy or agency to direct initiatives.

However, there may be challenges encountered, including an inability to take advantage of economies of scale, higher costs of delivery, limited and expensive local transport provision, access to housing and land, and a lack of local data to measure flows of materials and products.

There are many international case studies and support organisations from which islands in Scotland can learn. Moreover, the Islands (Scotland) 2018 Act, the drafting of a National Islands Plan and the introduction of Islands Community Impact Assessments all encourage greater recognition of the potential opportunities and challenges of Scotland's island communities [8-10].



Image of offshore wind turbines off the coast of Samsø  
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## Learnings from international case studies

**Vlieland, Netherlands:** On Vlieland, a material flow analysis was conducted by CE specialists [Metabolic](#). In terms of energy usage, the biggest by far is ferries. There have been a few successful examples of neighbourhoods with energy positive housing, but these efforts could be scaled up [11]. Although there is some policy support from Dutch government [12], there is more that can be done to enable CE initiatives on islands.

**Island of Samsø, Denmark:** National level policies, effective communication and a vibrant cultural context, are strong social drivers for Samsø's CE [13]. Samsø has an [Energy Academy](#) which generates knowledge and solutions towards the island's CE goals. One key 'success factor' in Samsø has been the breaking down of big goals to smaller projects, which makes it easier for people to see how they fit in. There should be caution taken in terms of undertaking too many experiments, and often it is the case that existing methods of doing things need to be replaced with better investments. CE initiatives on islands must tie in with wider national and international goals [14].

**Mallorca, Spain:** The council of Mallorca is using the technological platform [Finhava](#) to promote the CE in the fields of local agriculture and sustainable tourism. The platform traces and calculates the carbon footprint of food consumed in hotels. It also evaluates the volume of food waste produced and transforms this into an ecological compound for farmers to use as fertiliser for crops. In addition, the Balearic region has a new law regarding sustainable tourism which introduces a circularity strategy [15].

**Norfolk Island, Australia:** Norfolk experiences issues with resource reuse. Proper waste management is expensive and difficult. While glass is easily reused, building waste and hard plastics are difficult to process and are sometimes burnt with the ash-product and thrown into the sea. Local residents have created a culture of reuse and repurposing and most residents and tourists are aware of the importance of a [sustainable island](#).

## Early learning from Scotland: the islands of Arran and Cumbrae

In the specific cases of Arran and Cumbrae, there is great interest in circular economy (CE) initiatives. There are many pilot projects underway with considerable scope for enhanced funding and support through a co-design process involving local island communities and wider regional, national and even international stakeholders.

On Arran, the major challenges experienced are access to housing and reliable ferry transportation and access to land for CE projects. Any future initiatives on-island must build on and acknowledge the island's history and culture, including challenges around land ownership. Many residents are engaged in CE initiatives like regenerative agriculture, plastic pollution reduction, and repair services. There is scope to expand local and indigenous knowledge through traditional practices and to improve digital and social connectivity.

On Cumbrae, residents of Millport have much pride over the beauty of their island. They are interested in further developing the 'shared goals' for the island, combining interests for both nation-wide initiatives and local development and sustainability. The island's small size and proximity to the mainland make it a great pilot destination for CE initiatives. Some [businesses](#) hope to turn Cumbrae into a sustainable tourism destination. Critical to all of this, however, is that islanders' voices are heard by external organisations seeking to work with them.

*For these islands [Samsø], "it means a lot to be independent, **not disconnected**, that's not the same thing.... If we give them the administrative power, it is amazing to see what can be accomplished."*



Image of Cordon Community Garden honesty box system on the Isle of Arran, Scotland © SRUC

## Recommendations

- Local level data is needed to understand flows of people, resources, etc. on and off/to and from island (and rural) locations.
- With some local autonomy, islands (and rural) locations could place limitations on numbers of visitors or types of products (e.g., single-use plastic bags) coming in.
- Local FE and HE colleges can work with industry, researchers, etc. locally to better understand future skills gaps and appropriately tailor their offering.
- A recognition of the long-standing structural challenges on islands is critical (e.g., access to land, affordable housing, reliable ferries).
- The term CE should be made meaningful to individuals and their everyday lives.
- Local people must be engaged beyond consultation to ensure that any interventions are appropriate for their geographical, cultural, economic, social, etc. contexts.
- Local initiatives should work within national/regional level frameworks.
- CE initiatives should be aligned with the community wealth-building and just transition agendas.
- Scotland's islands should link with and learn from global CE networks.

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