

March 2024 (RPC RB 2024/03)

Exploring the Circular Economy Readiness of Construction and Demolition in Northern Ayrshire: A Rural Scotland Case Study¹

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Key message: There are number of economic and social barriers to transitioning toward the circular economy in the construction and demolition sector, particular in relation to cost, knowledge and access. To support circular economy readiness in the construction and demolition sector in rural Scotland, a range of policy interventions are needed, including financial incentives and educational support.

Main Findings

- Survey results from this study suggest businesses in the C&D sector in rural N. Ayrshire report a positive level of CE readiness in terms of technology, organisation awareness and environmental practice.
- However, interviews with participating organisations indicated that they are less 'CE ready' and that there are emerging issues and barriers slowing transition to CE Readiness (Fig. 1).
- In relation to CE behaviours there were areas for improvement with regards 'supporting nature', but also in some aspects of 'reducing pollution and waste', and in the 'circulation of products' and sustainable purchasing.
- Results suggest that larger organisations are more CE ready than small and micro-businesses driven by differences in construction works undertaken, competitive drivers, and in resources available.
- The findings suggest that perceptions about the benefits and impacts of CE were also critical in shaping CE transitions. Businesses and organisations are, and will continue to be, influenced by what CE can offer in terms of increased profits or competitive advantage.

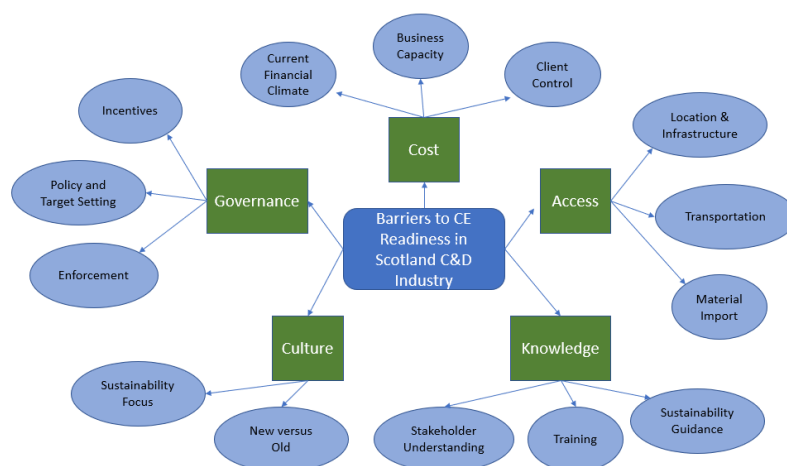


Figure 1: CE Readiness Identified Barriers

¹ This research was undertaken within the Scottish Government Rural Affairs and the Environment Portfolio Strategic Research Programme 2022–2027, Project SRUC–C4–1–.

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Introduction

The main source of total waste generated in the UK in 2020 was the construction and demolition sector (CDW), which accounted for around a 1/3 of this (DEFRA, 2021⁴). It is apparent therefore that this industry has room for improvement in practices to support its transition towards a circular economy. To achieve this, we must first understand the current progress towards circular economy readiness and how industry is preparing for and investing in CE practices. We must also consider then the barriers faced by the industry in progressing towards circular economy, with recognition that barriers may be inherently different in rural locations.

Methods

This study used a mixed method of survey and semi-structured interviews with five case-study construction and demolition organisations from a rural area of Scotland, North Ayrshire. The aim of the study was to consider and evaluate the CE readiness of organisations across the construction industry sectors, and to establish any recognised barriers to readiness within the industry (general barriers and those specific to the rural location). Surveys were designed around the technical-organisational-environmental (TOE) model and included questions relating to the circular economy behaviours or principles detailed by the Ellen McArthur Foundation (Ellen McArthur, n.d⁵). This allowed quantitative evaluation of CE readiness using readiness scoring, and comparison of readiness significance across the measured parameters using the Relative Importance Index (RII). Transcripts were then analysed qualitatively to determine key themes identifying the major barriers to CE readiness and progress in the construction industry.

Policy and Industry Implications

The introduction of stronger financial drivers together with additional training and awareness raising is required to support CE transition, with assistance in accessing this for small and micro-business and those in remote areas. Awareness raising out-with the industry (with clients and the public) is necessary in relation to the benefits of purchasing recycled / reused materials to support behavior changes. Similarly, industry support is needed to prioritise reuse above recycling (particularly for surplus materials) where appropriate to support current waste recycling facilities to diversify into reuse via creation of local / regional C&D re-use hubs, and to enhance equipment lease uptake across the industry irrespective of business location and size.

Clear guidance provision across industry is essential to ensure there are no conflicting messages (i.e. guidance for construction in comparison to those dealing with the construction waste), and a demand for consultation across industry (from the local site manager up to CEO's) to ensure realistic target and deadline setting with regards implementation and timelines to ensure these are achievable. Additionally, there is a need to review planning requirements to support easier implementation of green design and infrastructure. Enhanced Monitoring of waste management including certification and standards across the industry is needed to support a reduction in illegal activities such as fly-tipping and the uncontrolled burning of contaminated wood.

⁴ DEFRA 2021, 'UK statistics on waste'. London, United Kingdom: Government Statistical Service, Department for Environment Food and Rural Affairs.

⁵ Ellen McArthur Foundation, *What is Circular Economy?* [What is a circular economy? | Ellen MacArthur Foundation](#)

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