



Scotland's Circular Economy Practices Ecosystem

An investigation into the barriers that businesses face in becoming more circular

Summary Report

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1.1 Introduction

This report, 'Scotland's Circular Economy Practices Ecosystem – Barriers to businesses being more circular' was developed in an academic partnership between Zero Waste Scotland and the University of Stirling. The findings represent the beginning of a journey towards a more sophisticated understanding of the environment within which Scottish businesses currently operate and the aspects of that environment which present challenges to the adoption of circular business practices.

1.2 What did we do?

The report explores a systems-thinking approach to the challenge of increasing the prevalence of businesses adopting circular economy practices (CEPs)¹ within Scotland.

Using an ecosystem framework (a widely-used academic approach) allows us to investigate the external influences on businesses with regards to the adoption of circular economy practices. This provides an understanding of the environment within which businesses operate (the ecosystem) broken down into areas of influence (elements) and builds up a picture of the barriers to circular economy practices in Scotland's economy today.

In summary, the ecosystem framework recognises that society and the structure of the economy influence how businesses operate and the decisions that they make.

The central question explored in the report is: What affects the uptake of Circular Economy Practices by businesses in the Scottish Economy and why?

And in its pursuit of answers, the Report undertakes to:

-  Define the Scottish Circular Economy Practices Ecosystem;
-  Understand the current business conditions for Circular Economy Practices in Scotland;
-  Investigate the main barriers preventing businesses from adopting Circular Economy Practices; and
-  Explore the interplay among the barriers and their impact on the business environment.

¹ Initiatives and activities a business can adopt that are consistent with decreasing the input of virgin resources into the economy by using less, using for longer, using again, and switching to regenerative material use.

The Report then draws out **actionable insights** which will inform future activities for Zero Waste Scotland and also our stakeholders and partners.

1.3 How did we do it?

We reached out to trusted intermediaries, subject matter experts, and key contacts in trade associations, business support organisations, finance, knowledge centres, and academia to conduct primary qualitative research via semi-structured anonymised interviews seeking their views on the environment within which Scottish businesses operate.

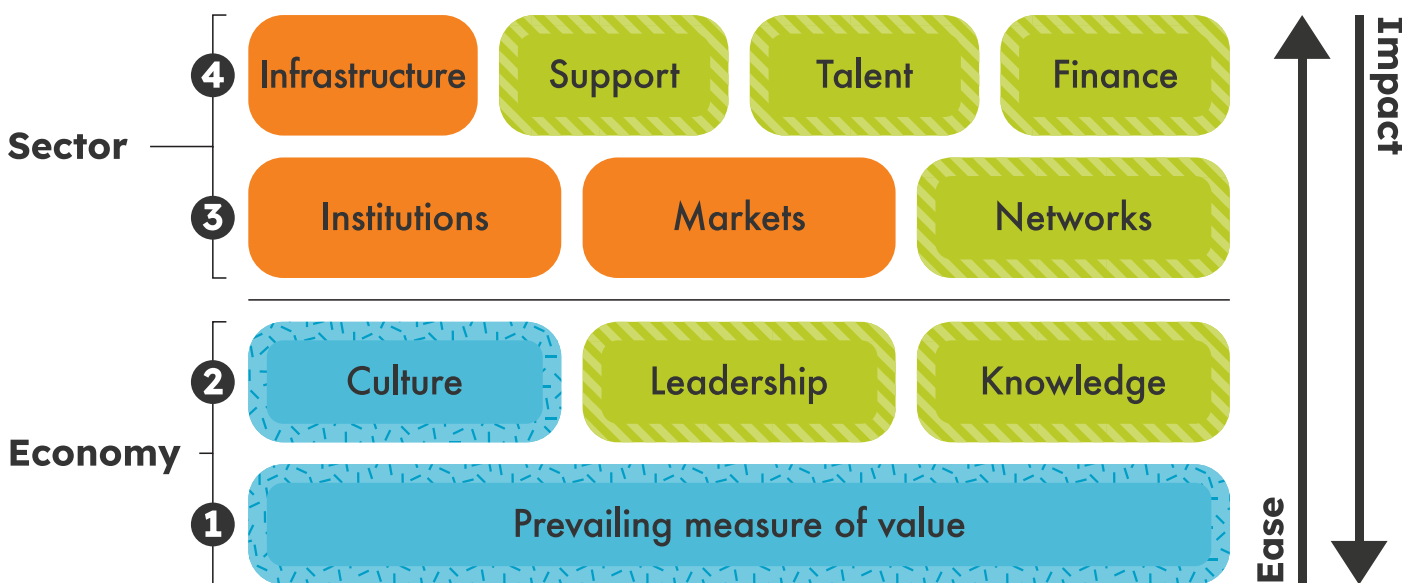
1.4 What did we find out?

1.4.1 What Scotland’s Circular Economy Practices Ecosystem looks like

Our understanding of the ecosystem is summarised graphically in the figure below.

The elements which make up Scotland’s Circular Economy Practices Ecosystem are thematic groupings of a range of components which support and reinforce one-another within the economy. Understanding these elements further, and the interconnectivity between them, is central to our current and future work.

Scotland’s Circular Economy Practices Ecosystem



Key

Cultural elements

Fundamental values within society, the beliefs and ideals that pervade all individuals and organisations within the economy.

Social elements

The networks within society and the things that flow across those networks

Material elements

The space in which the business operates both physically and conceptually.

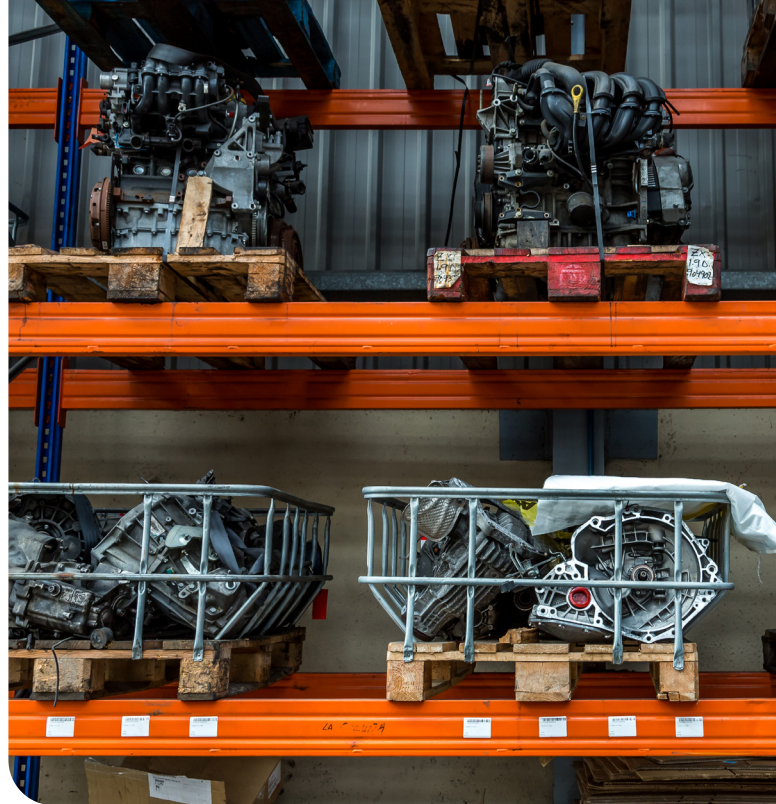
Ecosystem level

Scotland's Circular Economy Practices Ecosystem Elements Summary Definitions

Element	Definition
Prevailing Measure of Value	The failure of the economy to include the full environmental and social costs of business activity.
Culture	Cultural attitudes which support and normalize CEPs and innovation (including language and risk)
Leadership	Leading by example, through championing a vision for a circular economy and modelling behaviour.
Knowledge	Understanding of CEPs and how to incorporate them into operating models.
Institutions	State-run programs or regulations that either support the adoption of CEPs or remove barriers to their use.
Markets	Presence of sufficient local opportunities to enable CEPs adoption and unimpeded access to global markets.
Networks	Presence of social networks that connect entrepreneurs, advisors, investors, workers, and customers, and that allow the free flow of knowledge and skills relating to CEPs
Infrastructure	Availability of sufficient physical and digital facilities to enable CEPs adoption
Finance	Availability of investment capital for businesses adopting CEPs from family and friends, angel investors, and venture capitalists
Talent	Presence of skilled workers who are willing to adopt CEPs
Support	Programmes and initiatives that provide support for businesses interested in introducing CEPs

1.4.2 An evaluation of the conditions within Scotland's Circular Economy Practices Ecosystem

The Report and its findings show us that Scottish businesses currently exist in a system which is not conducive to, nor encourages the adoption of, circular economy practices. This complex, interconnected system contains a number of negative reinforcing 'loops' which favour linear practice and act as barriers preventing change.



Some key examples of these unfavourable operating conditions include:

- CEPs appear riskier because there is poor understanding within businesses and wider society of what they are and why they are important;
- Scotland's economy fails to sufficiently recognise the wider environmental and social costs of the production and consumption of products and services thereby reducing the financial value of CEPs compared with linear alternatives;
- Due to both a lack of understanding and financial disadvantage products and services based on CEPs are generally harder to sell to the majority of consumers;
- The finance community see CEPs adoption as less attractive due to lower return on investment and a higher perception of risk; and
- There is no widespread business community for CEPs to provide support.

1.4.3 Actionable Insight Development

Our report concludes with a move from theory to practice through the initial development of a set of proposed actionable insights. Delivery against these requires a strategic and collaborative approach with multiple actors across the ecosystem and its elements.



Some key examples of these actionable insights include:

- Actors within the economy need to move broadly together – businesses, households, and government can and should lead one another but progress will stall if they get too far out of step with each other.
- Breaking the concept of circularity down into CEPs makes clear that linear or circular is not a binary choice. Businesses can become more circular over time through multiple smaller steps to change their business model and practices.
- The report shows clear and fundamental barriers to CEPs in relation to the communication of and consistent understanding of knowledge and value across the economy.
- The CEPs Ecosystem model suggests that interventions in relation to market value, culture, leadership, and knowledge are likely to be most impactful in improving the conditions for the increased adoption of CEPs by businesses.
- Interventions elsewhere in the ecosystem may be easier but without recognising the fundamental barriers their impact is likely to be low and hard to sustain.
- Neither intervention in a single element nor action by a single actor alone will bring a lasting increase in CEPs adoption. Instead, the CEPs Ecosystem perspective emphasises that action in one element can facilitate progress in others and it is together that a critical mass can be achieved creating a positive reinforcement loop to a more circular economy.

Conclusion

The Report and its findings are the starting point for a journey towards improving the conditions for the adoption of circular economy practices by businesses in Scotland.

Crucially however, adopting a system-wide approach, based on the research within our report, will allow for more strategic interventions to be identified within the ecosystem, and an exploration of how influencing changes in one ecosystem element has causal effects in another.

In so doing, we aim to influence change which removes barriers preventing the adoption of circular economy practices and, instead, create positive reinforcing 'loops' tipping the system towards increased sustainability and circularity.

This report presents a unique body of work which is set to play a foundational role in Zero Waste Scotland's strategic delivery in future years.

[Read the full report now](#)

