



CIRCULAR ECONOMY SECTOR INFRASTRUCTURE INSIGHTS

EXECUTIVE SUMMARY

The National Infrastructure Commission for Wales (NICW) commissioned Arcadis to assess the current and future infrastructure needs across the energy, water, transport, digital, and circular economy sectors, and to identify the key issues requiring Welsh Government attention.

This summary focuses on the Circular Economy Sector in Wales outlining the current state, future challenges and highlighting the key issues which Welsh Government should progress to help advance circularity.

Wales has strong Circular Economy policy ambitions, but progress is currently limited by fragmented delivery, inconsistent material value recognition, and a historic focus on waste management rather than systemic circularity.

Although Wales is internationally recognised for its leadership in recycling, achieving municipal recycling rates of 68.4% (2024/25), limited reprocessing capacity, underdeveloped secondary markets, and inconsistent data tracking constrain value retention and job creation.

CURRENT ISSUES AND CHALLENGES



Municipal and Household Materials

- Many recyclables are processed outside Wales, losing economic value and jobs.
- Whilst recycling participation is strong, reuse and repair remain limited.
- Wales has insufficient facilities for local reuse and reprocessing.



Industrial and Construction Materials

- Recycling of construction waste is high, but this is mostly into low grade recycling and there is limited progress in high-value material recovery and component reuse.
- Wales relies heavily on imported virgin manufacturing materials, but the transition at Port Talbot steelworks marks a major shift.
- Uptake of recycled aggregate is hindered by quality assurance gaps and low end user confidence.

- Less than 1% of rare earth elements in electronic waste are recycled.
- Few formal requirements currently mandate design-for-deconstruction, modularity, or use of reclaimed materials.
- Wales lacks large-scale reprocessing and remanufacturing facilities for key construction products and emerging waste streams such as batteries.



Community and Consumer Circularity

- Short, uncertain funding cycles limit long term investment.
- Practical repair skills are declining, particularly in electronics, furniture, and textiles. There are limited opportunities for accredited training.
- Public-sector procurement rarely permits the specification or purchase of refurbished goods, repair-based services, or remanufactured products.



WHERE ARE WE NOW

Recycling rates in Wales are high

68.4%

of municipal waste was reused, recycled or composted in 2024/25



compared to around 50% in England

1

Where does your recycling go? | My Recycling Wales



There is a huge opportunity for more materials to be reused.

7.5%

of materials are currently reused across the UK.

2

Circularity Gap Report the United Kingdom

Repair and re-use facilities are growing but need further support.

Across Wales there are currently:



90 repair cafes



35 reuse shops or hubs

3

Repair Café Wales (2025)

Recycling rates from construction waste are high

90%

in 2019, compared to 92% in England, but this is largely due to downcycling.



4

Natural Resources Wales / Construction and demolition waste survey for 2019

A more circular economy could deliver

£3.8 Billion

in GVA for Wales.



5

Wales: leading the way to a circular economy | WRAP The Waste and Resources Action Programme

FUTURE CHALLENGES

Wales will face a range of challenges as it develops its Circular Economy, including:

1. Expanding local repair, reuse, and reprocessing capacity.
2. Creating stronger demand for circular products and services.
3. Improving policy alignment across government.
4. Embedding circular procurement in public contracts.
5. Addressing skills shortages in repair, audits, digital systems, and implementation.
6. Strengthening digital waste and materials tracking to support transparency.
7. Establishing large scale reprocessing capacity.
8. Growing domestic supply chains for scrap steel, aggregates, critical materials, and reuse markets.
9. Developing standards, certification, and insurance pathways for reuse in construction and manufacturing.
10. Embedding circular design principles transitioning to real time material flow data and product passports.
11. Anticipating climate resilience impacts on infrastructure and supply chains.
12. Building resilience to external economic and political pressure.

FUTURE AMBITION

By 2050, Wales should aim to be recognised as a global leader in Circular Economy infrastructure - transforming waste into value, creating green jobs, and safeguarding resources for future generations.

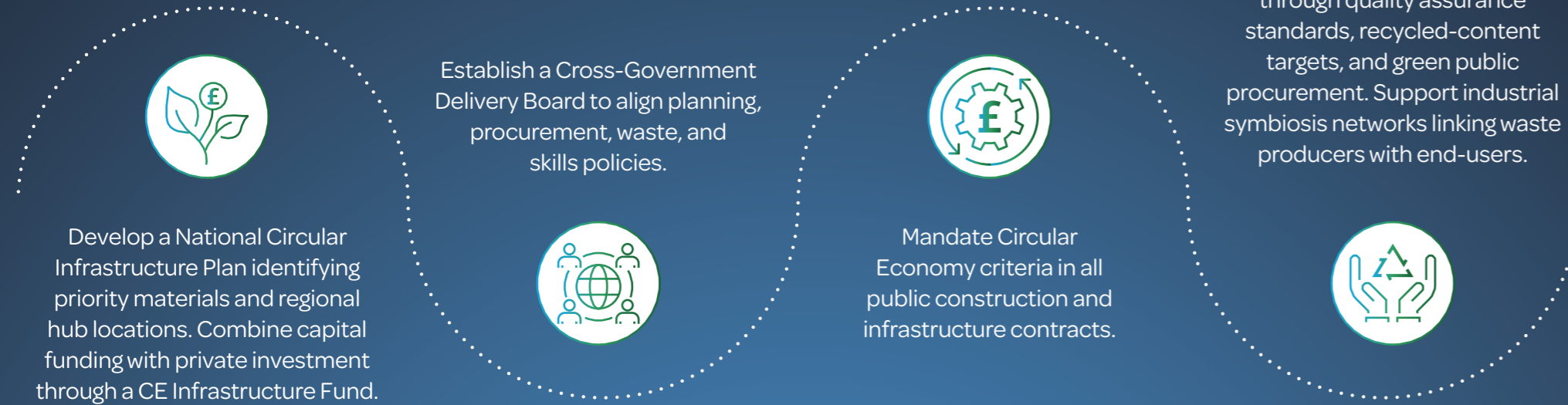
The overall vision should be for materials to be kept in productive use for as long as possible, supporting a resilient, low-carbon economy.

Suggested ambitions:

- Eliminate avoidable waste by 2050.
- Achieve 90% municipal recycling by 2035, prioritising reuse and repair.
- Source 50% of new materials from secondary / recovered streams by 2040.
- Design 10% of new infrastructure for circularity.
- Embed circular economy in 100% of Welsh public sector procurement by 2035.

PRIORITY ACTIONS

This review has identified a roadmap and a range of potential actions to address these issues and challenges and deliver the vision:



See the main report for further details on additional suggested actions related to data and tracking, skills and workforce, behavioural change and funding.



For more information,
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