

Why a circular economy is good for the UK



“If we are to avoid exceeding the limits of what Nature can provide on a sustainable basis while meeting the needs of the human population, we cannot rely on technology alone: consumption and production patterns will need to be fundamentally restructured.”

Professor Partha Dasgupta, author of *The economics of biodiversity*¹

Introduction

In a circular economy, materials are highly valued, so are kept in use as long as possible, minimising the need to use more virgin resources with all the associated environmental impacts of extraction, processing, use and disposal.

But the reasons for ending the throwaway society are not just about the environment. By eliminating waste and promoting the repair, reuse, remanufacturing and high quality recycling of products, the government can meet wider economic goals.

The new government has stated an ambition to deliver a “decade of national renewal” for the UK, focusing on key missions, including growth, energy security and greater opportunities for all. Creating a circular economy should be at the heart of achieving these goals, as a source of job creation and to grow new industries.

By wholly embracing this approach, as countries like the Netherlands are already doing, the UK can enhance resource security, build its own lucrative reprocessing operations, upskill the workforce for high quality new jobs, including in the UK's industrial heartlands. And, through the greater independence a circular economy brings, it would help to minimise the risks of volatile international supply chains, contributing to prosperity and economic stability.

To realise these benefits, a whole government approach is necessary, with all departments getting behind the mission to transform our unsustainable 'take, make, waste' economy into one that offers a more secure and prosperous future.

Five economic benefits of a circular economy

1 _____ It supports economic growth

Continuing with a wasteful linear economy will limit the UK's growth potential. Improving resource use boosts GDP, with studies suggesting that moving to more resource efficient processes could grow UK GDP by nearly one per cent by 2035 – ie nearly £25 billion – and globally it could increase GDP by three per cent by 2050.²

The Green Finance Institute has said that nature's depletion affecting UK supply chains could knock six per cent off GDP by the 2030s.³ Actions to reduce the need to extract and process resources – through new models of consumption, reuse and repair – will not only reduce the UK's impact on the natural world at home and abroad, but will lessen the impacts of riskier linear extraction models that currently degrade nature, harming future growth potential.

The GDP growth potential of resource efficiency by 2035⁴



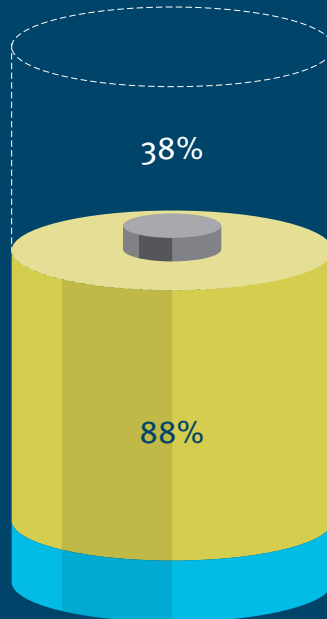
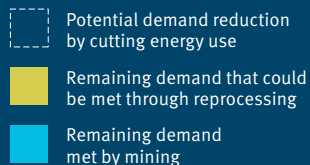
2 _____ Less exposure to risky supply chains

The UK is a net importer of materials and 73 per cent of material extraction to supply the UK economy occurs abroad.⁵ Critical raw materials (CRMs), like lithium and rare earth elements used in products like batteries and wind turbines, can be sourced from relatively few countries, increasing supply chain risks.

The UK is nearly 100 per cent reliant on imports of the 24 materials the government has identified as being of ‘high’ or ‘elevated’ criticality.⁶

Careful management of energy demand could halve the UK’s need for lithium or cobalt by 2030. Reusing or recycling materials from existing products and infrastructure could meet 80-100 per cent of remaining demand by 2050.⁷ This would enable the UK to keep highly valuable, infinitely recyclable materials in circulation, increasing energy independence and security.

How cutting energy use and reprocessing could reduce the need for lithium extraction by 2050



3 _____ New high quality jobs where they're needed

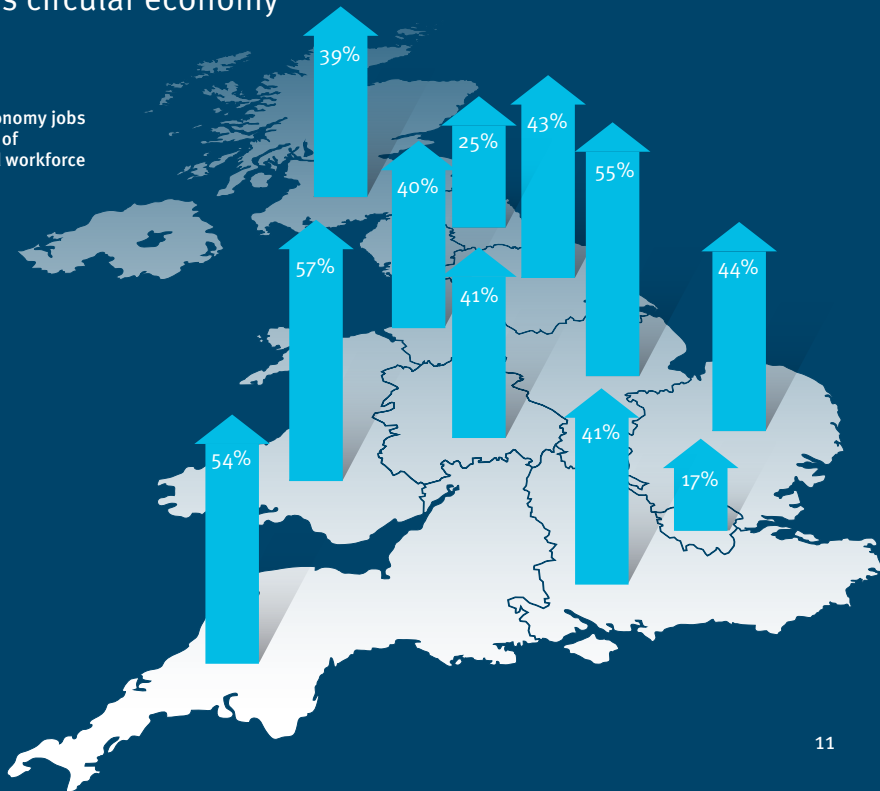
A much more ambitious, economy-wide approach to repair, remanufacturing, reuse and recycling has the potential to create over 450,000 jobs by 2035.⁸

These would be all over the country and in occupations suffering high rates of unemployment. For example, there are potential gains in occupations negatively impacted by automation and industries moving abroad, such as manufacturing, process plant and machine operatives, and skilled trades.

An ambitious circular economy could lead to 96,000 more jobs in skilled trades, such as remanufacturing and machinery and electronics repair, particularly in the East Midlands, Wales and the South West.⁹ It would also create more administrative, procurement and logistics roles related to these industries across the country.

Jobs growth could be significant for regions in an ambitious circular economy

New circular economy jobs
as a percentage of
the unemployed workforce



4 _____ Quick wins on climate change

Improving how materials are used could reduce the greenhouse gas emissions associated with UK consumption, at home and abroad, by two billion tonnes by 2050.¹⁰ This would be the same as eliminating the cumulative emissions from running 20 coal-fired power stations for 25 years.¹¹ Territorial emissions reductions (ie within the UK and subject to the legally binding net zero target) would account for 502 million tonnes of those emissions, which is 11 per cent of the reduction needed to meet the UK's net zero target.¹²

Resource use is a primary driver of climate change but the huge potential of resource efficiency as a major emissions reduction policy is not being exploited. This is especially the case for heavy industry where full decarbonisation will be a lengthy process.

Transforming UK resource efficiency could cut emissions equal to closing 20 coal-fired power stations

2bn tonnes CO₂e removed



5 _____ It's already delivering for the economy

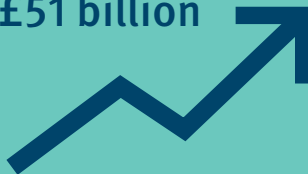
Repair and maintenance made up 40 per cent of construction activity in 2023 and was worth £77 billion to the UK economy.¹³

Estimates suggest this is the tip of the iceberg of what is possible. The single measure of cutting VAT on housing renovation and repair from 20 to five per cent over a five year period could provide economic stimulus of over £51 billion and create nearly 350,000 extra jobs in construction and the wider economy.¹⁴

Cutting VAT on housing renovation and repair would provide an economic stimulus



An economic stimulus of over
£51 billion



and nearly
350,000 extra jobs



What the government should do

The new government has announced a time limited taskforce to create a circular economy strategy for England. This is a positive step towards unlocking these benefits. Here are three actions that will ensure it makes the most of the opportunity:

1. Embed cross government action on resources

A new approach to resources requires effort right across government. The new taskforce will report to a small ministerial group, including the Treasury, environment, energy, transport, housing and business departments. Long term success will depend on all these departments promoting and adopting circular economy approaches.

2. Reboot the UK's resources plan

Care is needed to avoid pitfalls encountered by previous administrations. The promised strategy should include concrete measures, including specific plans for high

impact sectors like construction, electronics, batteries, textiles and food, and mechanisms for improving data, including the long promised National Materials Datahub. Economic incentives should align with the circular economy objective. Higher product standards should be adopted, with a more ambitious approach to extended producer responsibility, focused on reuse and reduction.

3. Set a national resource reduction target

The UK's material footprint, which measures the virgin resources extracted to meet demand for products and services, is rising and, at 16.5 tonnes per person per year, it is over twice the UN's suggested sustainable range of six to eight tonnes per person per year.¹⁵

The north star of a new approach should be a national resource reduction target, along the lines of emissions reduction targets, providing a guiding framework for policy that brings resource use in line with what science says is needed. This was supported by the Labour Party in opposition and now, in government, it should introduce it using existing powers through the Environment Act 2021.¹⁶

Further reading



Green Alliance policy insight
August 2021

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alliance...”

Levelling up through circular economy jobs



Less in

More out

Using resource efficiency
to cut carbon and benefit
the economy

CIE-MAP
Centre for Innovation, Enterprise and Markets



Circular construction

Building for a greener
UK economy



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Green Alliance policy insight
November 2020

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Design for a circular economy

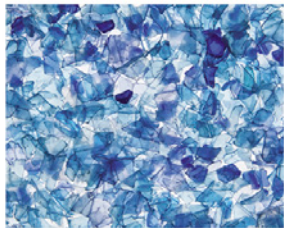
Reducing the impacts of
the products we use



Fixing the system

Why a circular economy for all
materials is the only way to
solve the plastic problem

“green
alliance...”



Completing the circle

Creating effective
UK markets for
recovered resources

“green
alliance...”



Endnotes

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- 2 Green Alliance, 2023, *Profit without loss: how conserving resources benefits the economy, businesses and consumers*
- 3 H Avery, 24 April 2024, 'Assessing the materiality of nature related financial risks for the UK', Green Finance Institute
- 4 Green Alliance, 2023, *Profit without loss: how conserving resources benefits the economy, businesses and consumers*
- 5 Office for National Statistics (ONS), May 2021, *Material footprint in the UK: 2018*
- 6 UK Critical Minerals Intelligence Centre, 2023, op cit
- 7 Green Alliance, 2021, *Critical point: securing the raw materials needed for the energy transition*
- 8 Green Alliance, 2021, *Levelling up through circular economy jobs*
- 9 Ibid
- 10 WRAP, 2021, *Net zero: why resource efficiency holds the answers*
- 11 Green Alliance analysis based on WRAP's figures. Twenty coal plants emit 80 MtCO₂e per year. Over 25 years (ie between 2025 and 2050) they would emit 2 billion tonnes of CO₂e cumulatively. Emissions from coal plants taken from US Environmental Protection Agency, 2023, *eGRID year 2021 data*.

- 12 WRAP, 2021, op cit. Green Alliance analysis of percentage contribution to net zero based on these figures: 502 million tonnes is 11 per cent of the 4,544 million tonnes of emissions that cumulatively need to be reduced to hit net zero in 2050, according to the Climate Change Committee's sixth carbon budget dataset.
- 13 ONS, July 2024, *Output in the construction industry reference tables May 2024*
- 14 RICS and FMB, 2021, *Cut the VAT: a proposal for building back better and greener*
- 15 Green Alliance, 2024, *Measuring up: the potential of targets to reduce resource use*
- 16 Hansard, 'Record of delegated legislation committee debate on draft environmental targets regulations 2022': debated Monday 23 January 2023
- 17 M Mazzucato, S Doyle and L Kuehn von Burgsdorff, 2024, *Mission-oriented industrial strategy: global insights*, UCL Institute for Innovation and Public Purpose

“Responding to the climate crisis is not just about renewable energy; it must include transforming how we move (sustainable mobility), how we build (green infrastructure) and how we eat (sustainable food).”

Professor Mariana Mazzucato,
author of *Mission-oriented industrial strategy*¹⁷

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