



A Collection of Primary Tools



Green Industry

Tool GI 3 – Circular Economy

What this tool does:

This tool helps industry and city CEOs to decide about the use of the circular economy model of enterprises (new or existing).

How does it work?

Three principles of the circular economy are translated into a set of six business actions called the ReSOLVE framework:

Regenerate	<i>Shift to renewable energy and materials; reclaim, retain, and regenerate health of ecosystems and return recovered biological resources to the biosphere.</i>
Share	<i>Keep product loop speed low and maximise utilisation of products, by sharing them among different users (peer-to-peer sharing of privately owned products or public sharing of a pool of products), by reusing them through their entire technical lifetime (second hand), and by prolonging their lifetime through maintenance, repair, and design for durability.</i>
Optimise	<i>Increase performance/efficiency of a product; remove waste in production and supply chain (from sourcing and logistics, to production, use phase, end-of-use collection etc.); leverage big data, automation, remote sensing and steering. All these actions are implemented without changes to the actual product or technology.</i>
Loop	<i>Keep components and materials in closed loops and prioritise inner loops. For finite materials, it means remanufacturing products or components and recycling materials.</i>
Virtualise	<i>Dematerialise resource use by delivering utility virtually: directly, e.g. books or music; or indirectly, e.g. online shopping, autonomous vehicles, virtual offices.</i>
Exchange – together	<i>Replace old with advanced non-renewable materials, apply new technologies (e.g. 3D printing or electric engines) and choose new products/services.</i>

There are two broad, complementary policymaking strategies that can help accelerate the circular economy.

- ✓ The first is to focus on fixing market and regulatory failures.
- ✓ The second is to actively stimulate market activity by, for example, setting targets, changing public procurement policy, creating collaboration platforms and providing financial or technical support to businesses.

These approaches are complementary and policymakers can determine where to put the emphasis, taking inspiration from the most applicable aspects of both approaches.

The methodology presented for policy makers to accelerate the transition towards circular economy includes three main steps – each of which is detailed further in the toolkit.

- Align on starting point, ambition and focus. As in any strategic project, relevant stakeholders need to be mapped and engaged early on in the process. Based on an understanding of the national circularity and policy context, a realistic ambition level and sector scope needs to be defined.
- Assess sector circular economy opportunities. Once the focus sectors have been selected, the sector-specific assessment can begin. This step can be conducted in parallel sector working groups, and heavily relies on the involvement of businesses. The most relevant circular economy opportunities need to be mapped and prioritised. For the prioritised opportunities, sector-specific economic impact needs to be assessed, barriers limiting their realisation identified and policy options to overcome these barriers mapped.
- Analyse national implications. Once the sector-specific circular economy opportunities have been assessed, they can be aggregated and the economy-wide implications analysed. This step will typically be driven by a core group of policymakers, policy and economics experts and with the participation of multiple government agencies. The sector-specific impact assessments could be aggregated in one overarching whole-economy impact assessment to support the mandate for policy intervention. Sector-specific policy options could be complemented by economy-wide policy options. The set of sector-specific and economy-wide policy options needs to be prioritised and assembled into coherent policy packages.¹

Process:

The World Business Council for Sustainable Development has, as part of its Energy Efficiency in Buildings initiative formulated a number of recommendations and an easy-to-read interactive roadmap providing overview of recommended action at all stakeholder levels split into long-term, medium-term and short-term actions. The overall recommendations are:

- Strengthen building codes and energy labelling for increased transparency;
- Use subsidies and price signals to incentivize energy efficient investments;
- Encourage integrated design approaches and innovation;
- Develop and use advanced technology to enable energy saving behaviour;
- Develop workforce capacity for energy savings;
- Mobilize for an energy-aware culture.

The interactive tool, Transforming the Market, is an addendum to the initiative's main report. The roadmap² as well as other tools³ such as the Sustainable Mobility Project 2.0 to be used with cities to support the development of their sustainable mobility plans, are available at the WBCSD website⁴

Examples:

Example 1: Circular Economy toolkit

In 2015, the Ellen MacArthur Foundation published a toolkit for policy makers: Delivering the circular economy^{Error! Bookmark not defined.}. The position paper is in three parts:

- 1) Justification/motivation for working with circular economy,
- 2) Methodology to accelerate the transition, and
- 3) A national case study from Denmark looking both at the national perspective as well as five sectors (food & beverage, construction & real estate, machinery, packaging and hospitals).

The toolkit looks at the circular economy opportunity from a country and policymaker perspective and aims to provide policymakers with an actionable toolkit to help accelerate the transition towards the circular economy.

In the circular economy approach launched by the Ellen MacArthur Foundation the circular economy rests on three key principles as presented earlier:

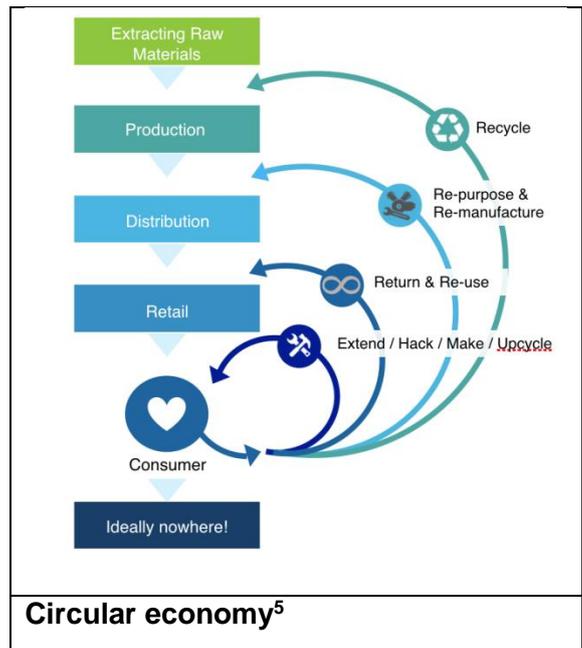
- **Preserve and enhance natural capital** by controlling finite stocks and balancing renewable resource flows—for example, replacing fossil fuels with renewable energy or using the maximum sustainable yield method to preserve fish stocks.
- **Optimise resource yields** by circulating products, components, and materials at the highest utility at all times in both technical and biological cycles – for example, sharing or looping products and extending product lifetimes.
- **Foster system effectiveness** by revealing and designing out **negative externalities**, such as water, air, soil, and noise pollution; climate change; toxins; congestion; and negative health effects related to resource use.

Example 2:

Eco-Industrial Development (EID) Position Paper – GIZ tool for Sustainable Industrial Areas.⁶

GIZ established a working group on Sustainable Industrial Areas in 2006 in cooperation with its international partners. The group has since gathered information on the subject and disseminated information on best practice and lessons learned under the heading of Eco Industrial Development. The work has an international perspective, albeit a strong focus on Asia. The Eco Industrial Development Tool Box is a collection of tools by GIZ, structured along five major topics:

- **New Industrial Parks:** site suitability assessment, site master planning, service concept for new parks, marketing
- **Industrial Area Transformation:** strategy, infrastructure development, monitoring and control
- **Company Improvement:** process improvement, resource efficiency, energy usage, disaster risk management



- **Management Structure:** industrial park information systems, industrial area management, stakeholder participation, CSR
- **Climate Change:** tools related to adaptation to impacts of climate change and mitigation of GHG emissions addressing industrial areas as well as individual companies.⁷



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⁸ <https://www.international-synergies.com/wp-content/uploads/2015/10/G7-Nikov-Sustainable-Industrial-Areas.pdf>