Charting progress

In parallel with the need to increase understanding of the circular economy, it will be important to chart progress and identify where more work is needed to achieve change. Some existing indicators are already useful, but others will be needed to help guide the development of supportive and flexible policies.

The transition to a circular economy will be evolutionary. Innovation and change will bring benefits, but also create challenges. The case of complex plastics and alloys — increasingly used in electrical and electronic products as well as in vehicles — is a good example. Science, businesses and government are only beginning to understand how to recycle them, avoiding the waste of valuable and increasingly rare materials, while keeping potentially hazardous substances out of the biosphere where they could affect ecosystems and also human health.

Current work on indicators has been driven, to a large extent, by developments in material resource efficiency and waste management. While these are useful, the statistics do not cover some particularly relevant aspects of a circular economy, such as material losses and the qualitative aspects of recycling. In addition, more robust data are needed on new business trends and sustainable consumption relating, for example, to eco-design, the sharing economy, and repair and reuse. Better descriptive social indicators, indicators for industrial symbiosis and waste prevention indicators would also provide greater insights on progress.

The series of circular economy reports, to be published by the EEA in the coming years on the basis of growing insights from science and innovation, aims to support making Europe's economy more circular and realising its full potential.

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Launched in January 2016, *Circular economy in Europe — Developing the knowledge base* is the first of these reports. It aims to provide first answers to some of the questions and knowledge challenges. The series mainly targets policy makers at European Union (EU) and national levels, but also businesses and civil society.

Compiling and interpreting a wide range of available information, it touches upon four dimensions of a circular economy: the concept and benefits; the main enabling factors and transition challenges; metrics for measuring progress; and contextual issues that would require attention from research or policy.

With this and subsequent reports, the EEA seeks to support policymaking by furthering the understanding of the circular economy concept and its implementation.

The report can be found at:
http://www.eea.europa.eu/publications/circular-economy-in-europe
or use the QR code

About the EEA: The European Environment Agency is the EU body set up to provide independent, reliable and comparable environmental information for decision-makers and the public. Our information aims to help the European Union, and EEA member countries make informed decisions on improving the environment and move towards sustainability. In our work we cooperate closely with national environmental bodies, organised in Eionet.
More at: eea.europa.eu

European Environment Agency

Circular economy in Europe

Developing the knowledge base

European Environment Agency

Arriving at a circular economy is essential for Europe

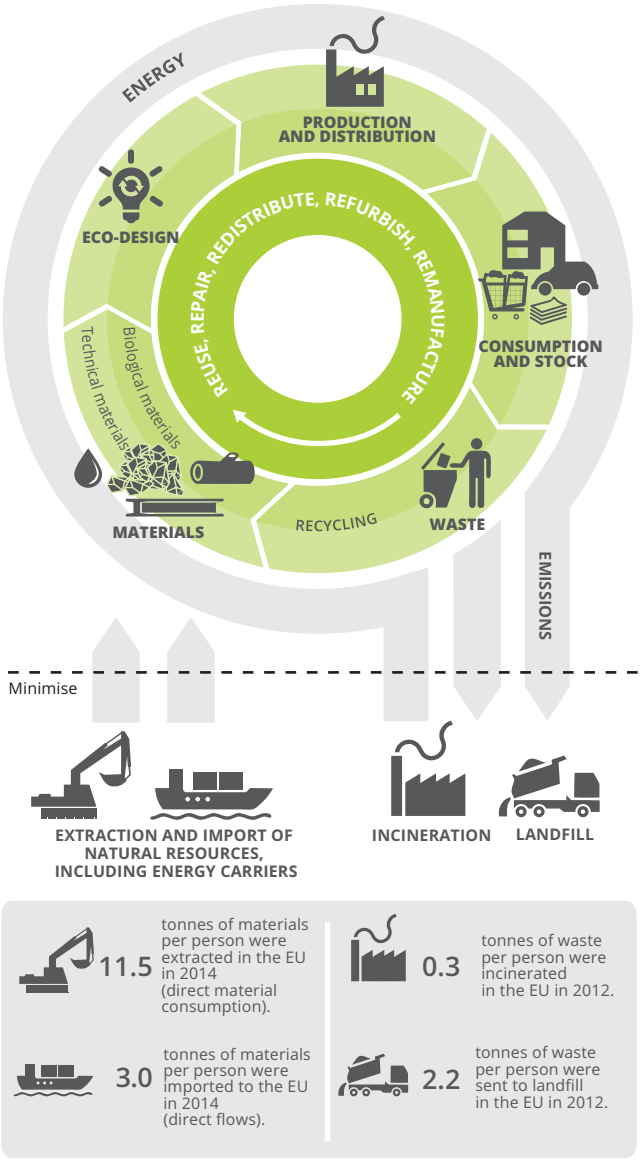
Living well within the limits of the planet is a central ambition in the European Union's 2050 vision. A circular economy can contribute to this as it seeks to increase the share of renewable or recyclable resources while reducing the consumption of raw materials and energy, and cutting emissions and material losses. Sharing, re-using, repairing, refurbishing and recycling existing products and materials as well as eco-design, will help maintain the utility of products, components and materials and retain their value.

The benefits for Europe include reducing environmental pressures in Europe and beyond and minimising the continent's dependence on imports as international competition for resources increases. Circular economy strategies could also result in cost savings, increasing the competitiveness of Europe's industry while delivering benefits in terms of job opportunities.

However, inter-sectoral and political tensions are likely to develop in the course of the transition to a circular economy, as there will inevitably be winners and losers. While Europe remains a powerhouse of knowledge and innovation, some of its traditional businesses and their employees are likely to suffer.

The overall aim is to manage all natural resources efficiently and, above all, sustainably. The transition to a circular economy will need to involve all stakeholder groups: government, business and finance, civil society and citizens. It will require different business, finance and even fiscal models, together with technological and social innovation and education. The European Commission's 2015 'circular economy package' should play an important role in bringing this about.

A simplified model of the circular economy for materials and energy



The knowledge needed and the role of the EEA

The transition to a circular economy involves fundamental changes to production-consumption systems in Europe. Monitoring and assessing the related environmental pressures and impacts is a core EEA activity.

The concept of a circular economy is relatively new at the European level, and its overall economic, environmental and social effects have therefore yet to be fully assessed. Some progress towards circular economy is made, particularly regarding waste and new business practices, but not necessarily in a systematic or coordinated way. More information is needed to inform decision-making and integrate environmental, social and economic considerations.

Managing the transition will therefore require a better understanding of several broad societal trends and the drivers of production and consumption patterns. Examples of good practice can also inform analyses of policy options and effectiveness. Obtaining relevant information from all actors involved will require cooperation across different sectors and between organisations, a process to which the EEA intends to contribute.

While some indicators and assessments already exist, there is much to be done to develop a comprehensive analytical framework. The concept described in the figure to the left can be applied at European, national or local levels, as well as to specific sectors or materials.

The EEA aims to contribute to the knowledge base on circular economy in cooperation with its relevant partners and networks, including the European Environment Observation and Information Network (Eionet).