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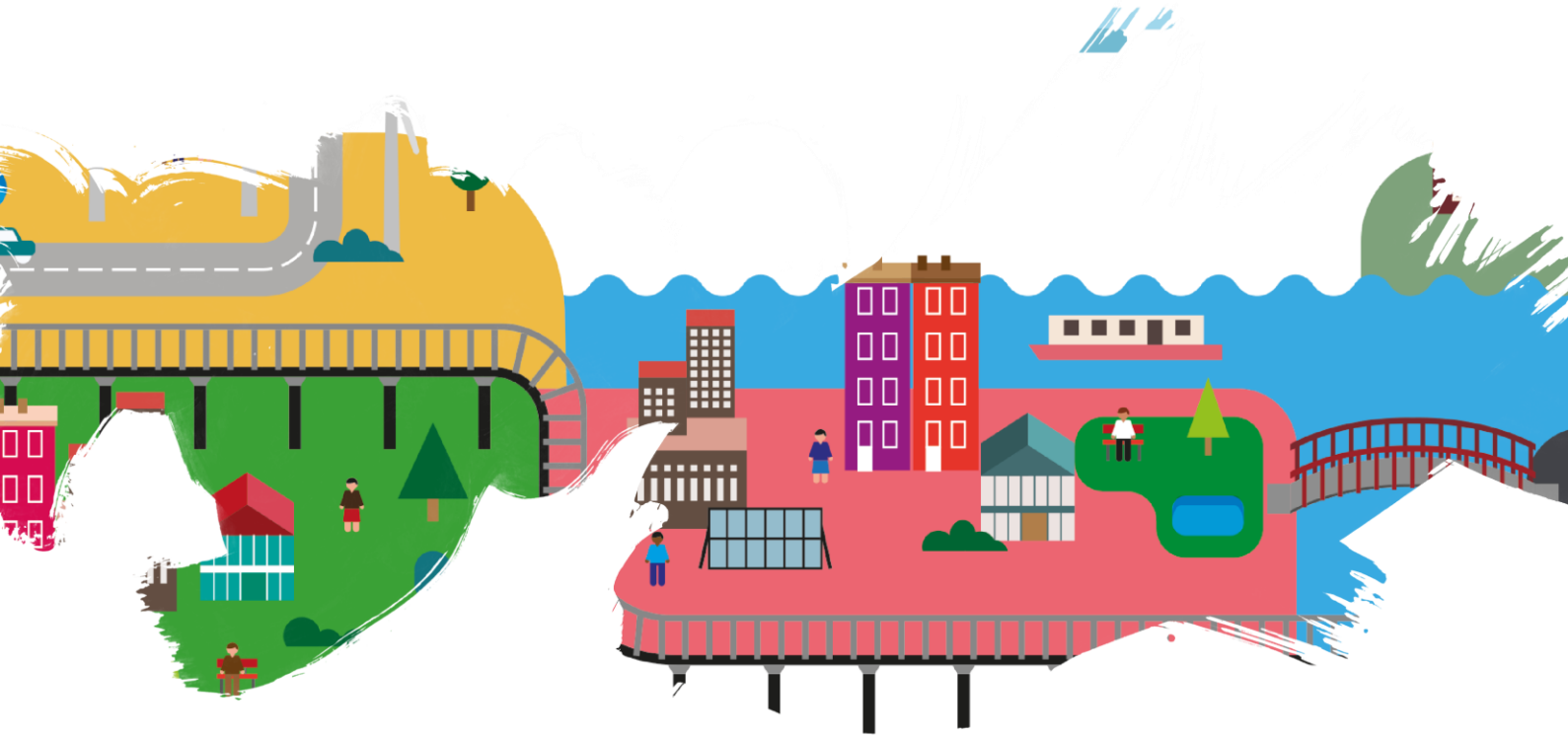

GREEN INDUSTRIES

Perspectives from Europe

INTERNATIONAL URBAN COOPERATION PROGRAMME

LATIN AMERICA AND THE CARIBBEAN

INTERNATIONAL URBAN COOPERATION
European Union

GREEN INDUSTRIES

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Green industry policies

Green industrial policy is often referred to as governments' attempts to fast-track the development towards a low-carbon economy. It relies on a variety of different policy measures, many of which constitute direct or indirect subsidies. It is, however, in practice very difficult to separate general industrial policies from that of green industrial policy as governments use industrial policies to promote new industries and innovation in developing new technologies.

Buildings account for the largest share of total EU final energy consumption (40%) and produce about 35% of all greenhouse gas emissions. The construction and use of buildings in the EU account for about half of all extracted materials and energy consumption and about a third of the EU water consumption. The construction sector also produces about one third of all waste. Reducing resource use in buildings is therefore is key to achieving the overarching goals of sustainable development. Better design of materials and buildings, recycling or reuse of materials and reduced energy consumption in use of the buildings as well as in the manufacture of construction products and the construction process plays a major role in reducing environmental impacts.[1]

In July 2014, the European Commission adopted a Circular Economy Package including an overall paper: "Towards a circular economy: a zero waste programme for Europe" and communications on sustainable buildings, green employment, SMEs, and waste review. The package had a strong focus on waste management and in early 2015 the package was redrawn and the waste part was replaced by a more ambitious proposal to promote the circular economy, i.e. exploring synergies with other policies and how to address more concretely the country specific implementation issues. A hearing and consultation process in connection with the development of a white paper on Circular Economy was put in place from June to August 2015 with the aim of developing a comprehensive approach in the EU before the end of 2015. In December 2015 the Commission presented the new Circular Economy Package2 in the form of an EU Action Plan for the Circular Economy2.

The CE package set long-term waste targets and presents a list of concrete actions to be carried out before 2020 management and recycling. Key elements of the revised package include:

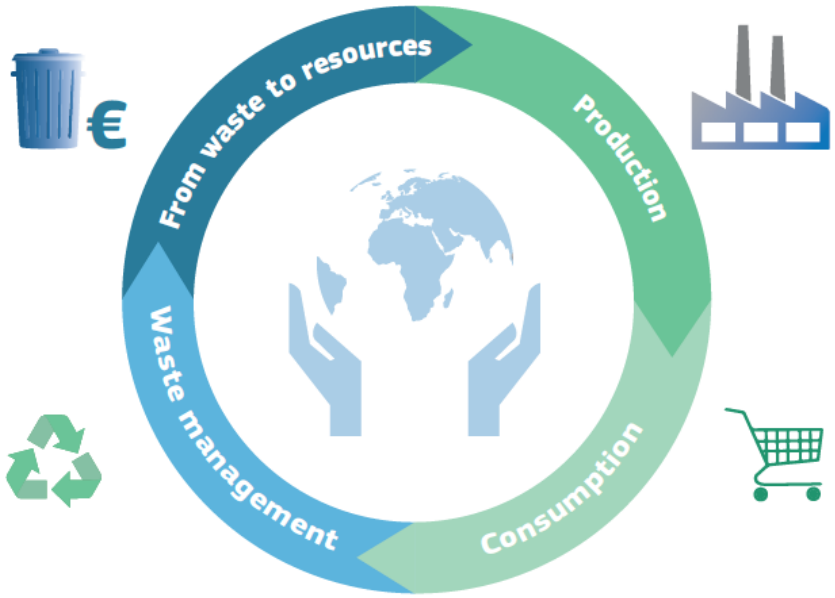
- A common EU target for recycling 65% of municipal waste by 2030;
- A common EU target for recycling 75% of packaging waste by 2030;
- A binding landfill target to reduce landfill to maximum of 10% of all waste by 2030;

[1] European Commission, Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, *On resource efficiency opportunities in the building sector* COM/2014/0445

[2] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Closing the loop – An EU action plan for the Circular Economy*, COM(2015) 614/2, December 2015. http://europa.eu/rapid/press-release_IP-15-6203_en.htm

- A ban on landfilling of separately collected waste;
- Promotion of economic instruments to discourage landfilling ;
- Simplified and improved definitions and harmonized calculation methods for recycling rates throughout the EU;
- Concrete measures to promote re-use and stimulate industrial symbiosis - turning one industry's by-product into another industry's raw material;
- Economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electric and electronic equipment, vehicles).

Figure 1: What is circular economy?



Source: European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Closing the loop – An EU action plan for the Circular Economy*, COM(2015) 614/2, December 2015. http://europa.eu/rapid/press-release_IP-15-6203_en.htm

Successful CE implementation requires government involvement and effective institutional arrangements, but first it requires knowledge about practical solutions and benefits. Although introducing the CE approach initially imposes some increased costs, many CE solutions also turn out to be economically advantageous when the avoided cost of environmental damage and saved operational costs are taken into account. The legislation, policies, and pilot programs already in place demonstrate the potential of CE to make a difference. Such projects must according to the CE approach focus on improving the effectiveness and efficiency of CE policies:

- actively involving the production sector, local government, community groups, industrial associations, professional networks, and nongovernment organizations in establishing a CE;
- building capacity for CE implementation and monitoring through enhanced training and dissemination of local and international experience; and

- strengthening governance by establishing high-level leadership, coordinating CE efforts across sectors and ministries, and promoting and enforcing private CE activity rather than directly implementing such activity.[3]

Promotion **of green energy** – renewable energy and energy efficiency - is a cornerstone of the EU climate change policy and prerequisite for the move towards a circular economy. The policy framework for EU for climate and energy therefore deals with three areas: Greenhouse gas emissions, renewable energy and energy efficiency.

The EU Directive on renewable energy sets a binding target of 20% of final energy consumption from renewables by 2020. All member states have adopted national renewable energy action plans that detail the actions they intend to take to meet their individual targets. The individual targets vary substantially between the member states from 10% in Malta to 49% in Sweden. In 2014, the share of renewable energy reached 15% and thereby reached the interim target towards 2020. The progress of the member states is assessed every two years.

As part of EU's energy and climate goals for 2030, EU countries have agreed a new target for 2030 of at least 27%. To reach the 2030 target the Commission has identified that in sectors such as housing, other transport modes and electrical equipment there will be a need for a significant acceleration of current efforts to tap what the Commission calls 'a significant unexploited potential'. It is foreseen that large investments will be needed in the building sector (leading to lower running costs), as well as framework conditions and information that encourage consumers to take up innovative products and services. Ambitious EU-wide Energy Efficiency Standards for appliances, equipment, buildings and CO2 standards for vehicles will be needed4.

To avoid distorting energy prices and the market, EU has issued guidance on support schemes to help governments design and revise support schemes5. The guide focuses on renewable energy for electricity generation.

A third area that is strongly related to the green industry agenda is the promotion of **green growth** or greening of the economy– green employment, promotion of green technologies exports, and development of new technologies and practices through innovative procurement.

There has been considerable job creation in the environmental goods and services sector – often labelled as "green jobs" – even during the economic crisis. Employment in the EU increased from 3 to 4.2 million between 2002 and 2011. In 2014 the European Commission launched its Green Employment Initiative: Tapping into the job creation potential of the green economy. The Commission label the potential of employment creation linked to the production of energy from renewable sources, energy efficiency,

[3] World Bank, *Study on Policies for Promoting Circular Economy in China*. Washington D.C. 2007.
[4] European Commission, Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, *A policy framework for climate and energy in the period from 2020 to 20*30. /COM/2024/015 final January 2014. (retrieved 27.08.2015)
[5] European Commission, *European Commission guidance for the design of renewables support schemes, Brussels*, 5-11-2013 (retrieved 27.08.2015)

waste and water management, air quality, restoring and preserving biodiversity and developing green infrastructure as significant and resilient to changes in the business cycle6.

Small and medium-sized enterprises (SMEs) are the backbone of the European Union as the 20.7 million companies represent more than 99% of all European businesses. 85% of new jobs over the past 5 years were created by SMEs and they provide 67% of total employment. The European Commission promotes the growth of SMEs through the Small Business Act for Europe. The Act includes an initiative to raise SMEs awareness of environmental and energy-related issues and to assist them in implementing legislation, assessing their environmental and energy performance and upgrading their skills and qualifications. The European Commission has collected examples of good practice in various areas e.g. in "Enable SMEs to turn the environmental challenges into opportunities". The examples are continuously being updated and can be found at the Commission's homepage 7

Public procurement has the potential to push innovation in industry towards greener production and products. On January 2014, the European Parliament adopted new public procurement directives that member states have to transpose into national law by January 2016. The changes to the procurement procedures which are expected to increase the uptake of PPI include:

- Increased flexibility and simplification on the procedures to follow, negotiations and time limits;
- Clearer conditions on how to established collaborative or joint procurements which, through bulk purchasing, can provide the necessary demand to launch new solutions;
- Strengthening the use of life cycle costing, which describes all the phases through which a product passes from its design to its marketing and the discontinuation of its production;
- The creation of innovation partnerships which enable a public authority to enter into a structured partnership with a supplier with the objective of developing an innovative product, service or works, with the subsequent purchase of the outcome;
- The exemptions for procurement of R&D services currently included in the new Directives will be maintained. Public procurers can therefore continue to undertake pre-commercial procurement.

EU intends to step up its efforts on research and innovation policy to support the post-2020 climate and energy framework.

The climate change policy area as well as circular economy are examples of policy areas that cut across multiple traditional policy areas. Policy development, legislation, implementation and monitoring is challenging, but necessary. It requires significant coordination and alignment of efforts both at EU level and at national/city level.

Role of environmental observatories by Civil Society Organizations

Comprehensive research and monitoring is done by EU institutions and national observatories in most areas related to the industrial sector. Civil Society Organisations, however, play an important role in

[6] European Commission, Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, Green Employment Initiative: Tapping into the job creation potential of the green economy, July 2014.

[7] Ec.europa.eu/growth/smes (retrieved 25.9.2015)

promoting and encouraging enterprises in disclosing environmental information, commenting on and pushing for policy initiatives, by publishing and carrying out benchmarking in specific sub-sectors and ranking of companies and sectors in relation to specific environmental targets.

In the EU, specific societal stakeholders' organisations are recognised officially to play a role in ensuring the societal interests are represented in e.g. the European Standardisation System at European level. This is done in order to compensate the absence of a systematic and organised participation of societal stakeholders at national level.

European Environmental Citizens' Organisation for Standardisation (ECOS)

The ECOS, is one such non-profit organisation, specialised in standardisation and technical product policies. The organisation works for environmental concerns to be included in standards and thereby improve the environmental performance of products during their whole life-cycle. ECOS has as aim to warrant sound measurement methods for pollutants and energy-savings and ensure the provision of clear information to consumers towards sustainable consumption8

ECOS' goal is to promote substantial improvements of energy-using products put on the EU market within a short timescale, in order to deliver tangible greenhouse gas reductions by 2020, as well as other potential environmental and social benefits. To this end, ECOS has been working to improve the Energy labelling and Ecodesign directives and is active in the field of market surveillance to ensure the proper implementation of these directives. ECOS coordinate the input of European environmental NGOs into these policy processes.

A large number of product-specific measures have already been developed and adopted under the Ecodesign framework Directive, as well as related energy labels. Products included range from consumer products to industrial products like power transformers and motors. A detailed list of the products and the aspects at stake dealt with by ECOS is available are regularly updated on the Coolproducts website9.

Outlook

There are many signs that the Circular Economy thinking is going to be Europe's next big thing. The Circular Economy concept offers a long needed comprehensive and concrete system-wide perspective that can help revitalising the discussions and initiatives towards sustainable development. And it is about tying together all the hot issues in current EU discussions: economy, innovation, business development jobs, climate change, resilience and resources.

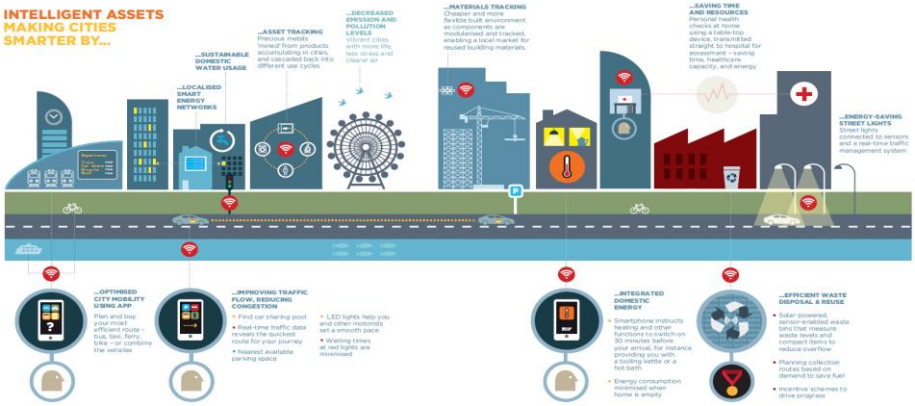
The Circular Economy agenda is not only pushed by civil society organisations and academia concerned about environmental degradation. The new large players are the large businesses and enterprises who offers their expertise and knowledge base with the aim of ensuring profitable and competitive businesses of the future. The approach to concept development and implementation is direct and

8 http://ecostandard.org/ (retrieved 27.10.2015)

9 http://www.coolproducts.eu/ (retrieved 27.10.15)

pragmatic. The circular economy is seen as a tremendous opportunity for Europe, for making better decisions about resource use, design out waste, provide added value for business, increase resilience and secure a route towards prosperity and environmental sustainability.10

Intelligent Assets – Making Cities Smarter through Green Development Technologies



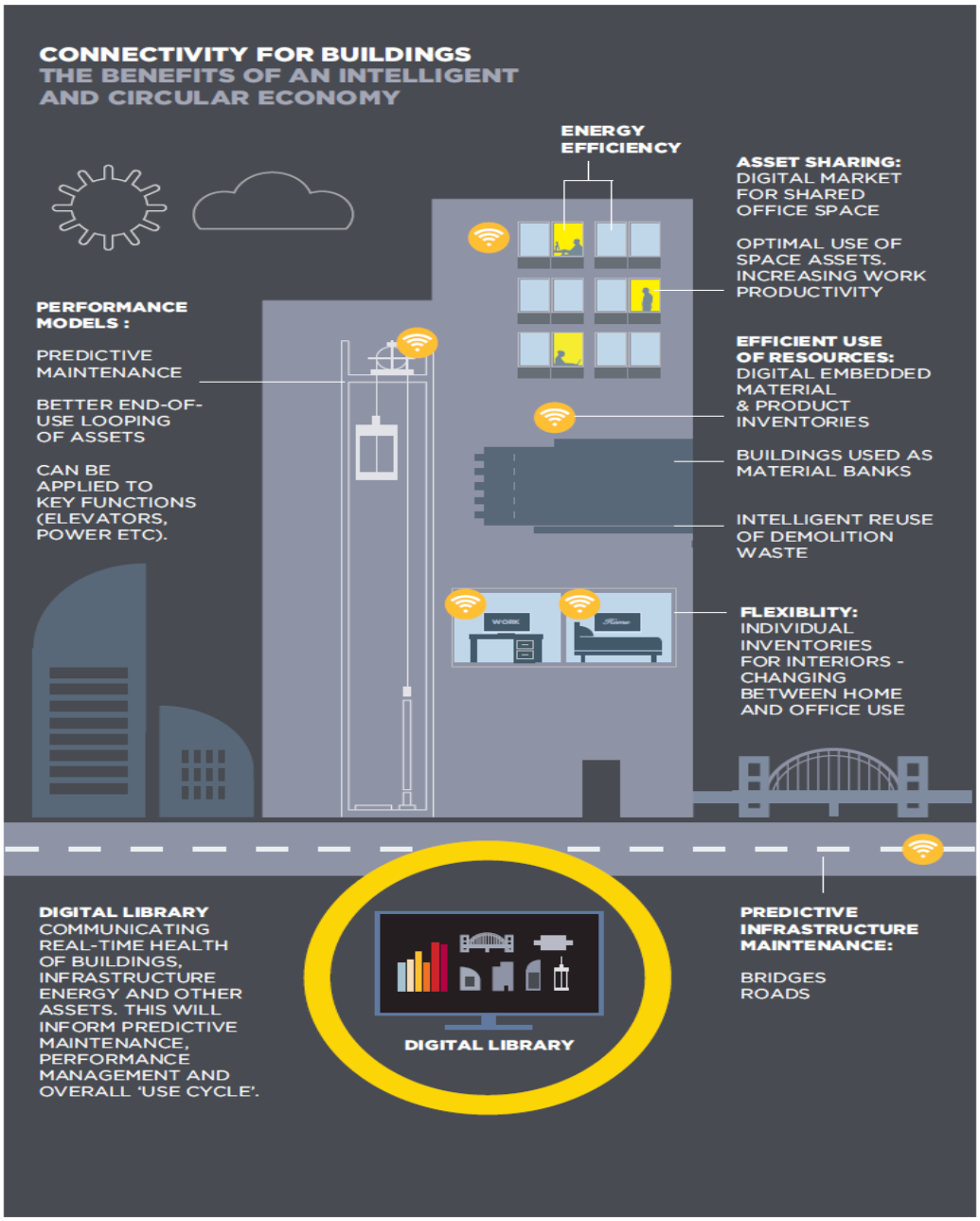
Source: Ellen Macarthur Foundation. 2016. Intelligent Assets: Unlocking the Circular Economy Potential. p.58-59.
http://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_Intelligent_Assets_080216.pdf

Using resources more efficiently is predicted to also bring new growth and job opportunities. Better eco-design, waste prevention and reuse can bring net savings for EU businesses of up to EUR 600 billion, while also reducing total annual greenhouse gas emissions. Additional measures to increase resource productivity by 30% by 2030 could boost GDP by nearly 1%, while creating 2 million additional jobs. Moving towards a circular economy is at the heart of the resource efficiency agenda of the European Commission established under the Europe 2020 Strategy for smart, sustainable and inclusive growth. The main ideas on how to do more with less are being taken further in the EU's Environment Action Programme to 2020.11

Figure Benefits of An Intelligent and Circular Economy

[10] Ellen Macarthur Foundation / McKinsey Center for Business and Environment, *Growth within - A circular economy vision for at competitive Europe* –June 2015 (retrieved 30.10.2015)

[11] http://ec.europa.eu/environment/circular-economy/ (retrived 30.10.2015)



Source: Ellen Macarthur Foundation. 2016. Intelligent Assets: Unlocking the Circular Economy Potential. p. 44.
http://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_Intelligent_Assets_080216.pdf

A European Union Programme

IUC-LAC PROGRAMME

The International Urban Cooperation Programme - Latin America and the Caribbean (IUC-LAC) connect cities in different regions of the world to get in touch and share solutions to common problems. This initiative is part of a long-term strategy of the European Union to promote sustainable urban development in collaboration with both the public and private sectors and with civil groups and citizens. Through participation in the IUC-LAC, Latin American municipalities exchange knowledge with their counterparts in Europe, thus building a greener and more prosperous future.

IUC-LAC activities promote the achievement of political objectives and important international agreements on urban development and climate change, such as the EU Urban Agenda, the UN Sustainable Development Goals and the Paris Agreement.

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* All the aforementioned information is based on internet and published source mentioned in footnotes.