CIRCULAR ECONOMY - A GLOBAL CHALLENGE FOR CONSTRUCTION INDUSTRY.
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Circular construction market growth in EU and globally

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Why is the circular approach needed?

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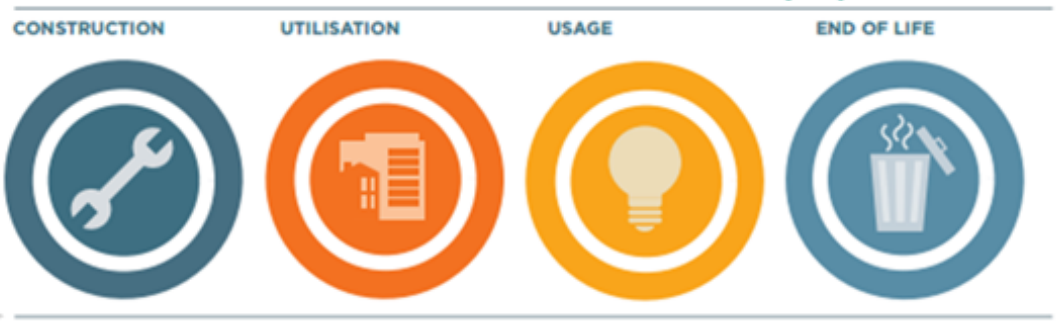
Construction trends that have to be reduced



Changes that can reduce the negative trends

Reduction of the energy and material use in construction and renovation

Design of new products that are easier to maintain, repair, remanufacture or recycle

Development of separation and collection systems that minimise the costs of recycling

Better material and energy efficiency in the construction sector

Reusing existing materials

Using recycled materials

Using waste as a fuel

Creation of markets for secondary raw materials (based on standards)

What does it mean in practice?

	Material	Prioritised by	Scarcity and dependence	Environmental impact	Potential savings	Key opportunities and challenges	Identified as a priority?
Forestry & agricultural products	Agricultural products & waste	• TNO 2013 • WEF & EMF 2014 • McKinsey Global Institute 2011	High	High	High	Need and some scope for improvement - some feasibility issues	Priority
	Wood & paper	• WEF & EMF 2014	Medium	High	Medium	Need and scope for improvement	Priority
	Textiles	*None**	Low	Medium	Medium	Some scope for improvement: collection rates	-
Minerals, chemicals and compounds	Plastics	• Arcadis 2010 • WEF & EMF 2014	Medium	High	*No info**	Need and scope for improvement: purity (PET and polymers) and collection rates (polymers)	Priority
	Metals	• Arcadis 2010 • EMF 2012 • Green Alliance 2011 • TNO 2013 • McKinsey Global Institute 2011 • WEF & EMF 2014	High	High	High	Need and scope for improvement: purity, material efficiency and value recovery	Priority
	Phosphorus	• Green Alliance 2011	High	High	*No info**	Need and scope for improvement: substitution and improved practices	Priority
	Rock	• WEF & EMF 2014	Low	Medium	*No info**	Scope for improvement: reuse and recycling	-
	Glass & ceramics	• WEF & EMF 2014	Low	*No info**	*No info**	Scope for improvement: purity of recycled material	-

Priority materials

Better material and energy efficiency in the construction sector

Improving the purity of recovered and recycled materials is necessary

What does it mean in practice?

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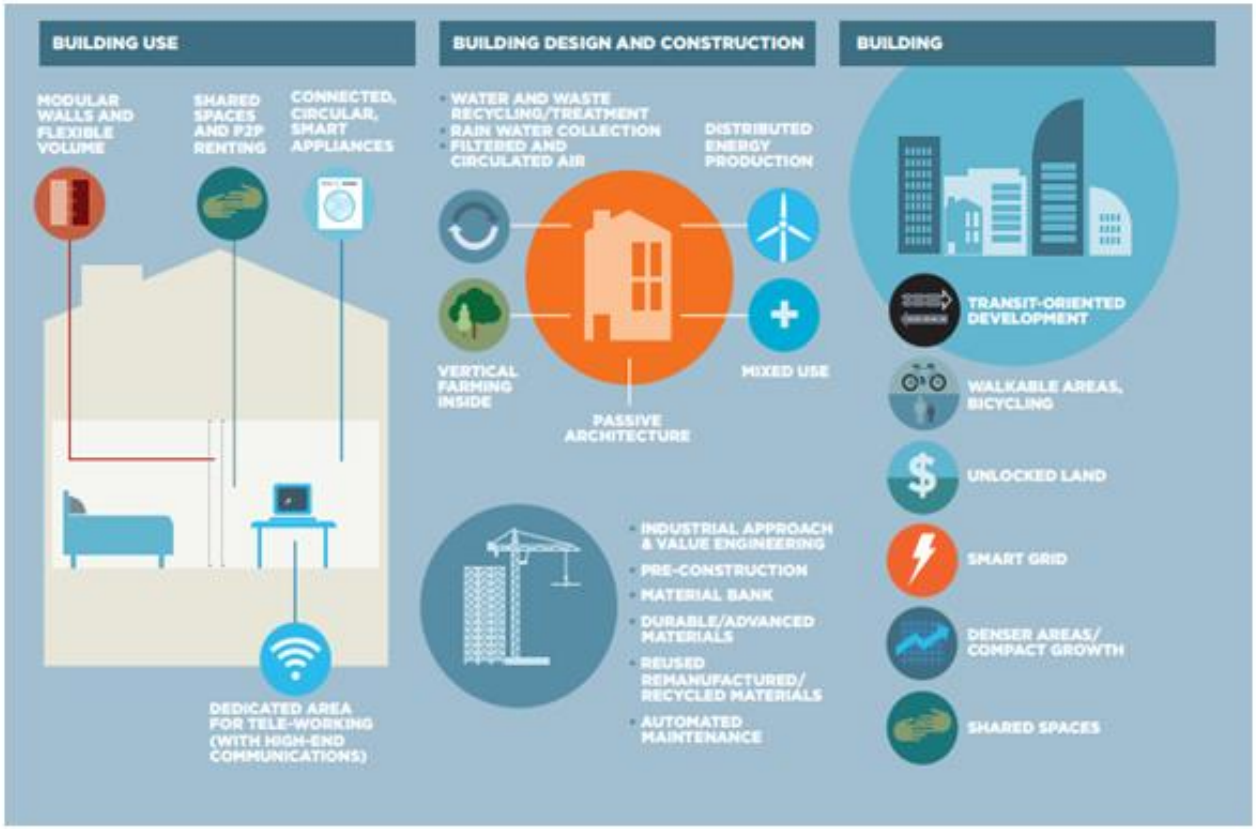
Smart City

- reducing the impact in the use phase
- optimising and re-using existing buildings
- designing circular construction
- choosing circular materials



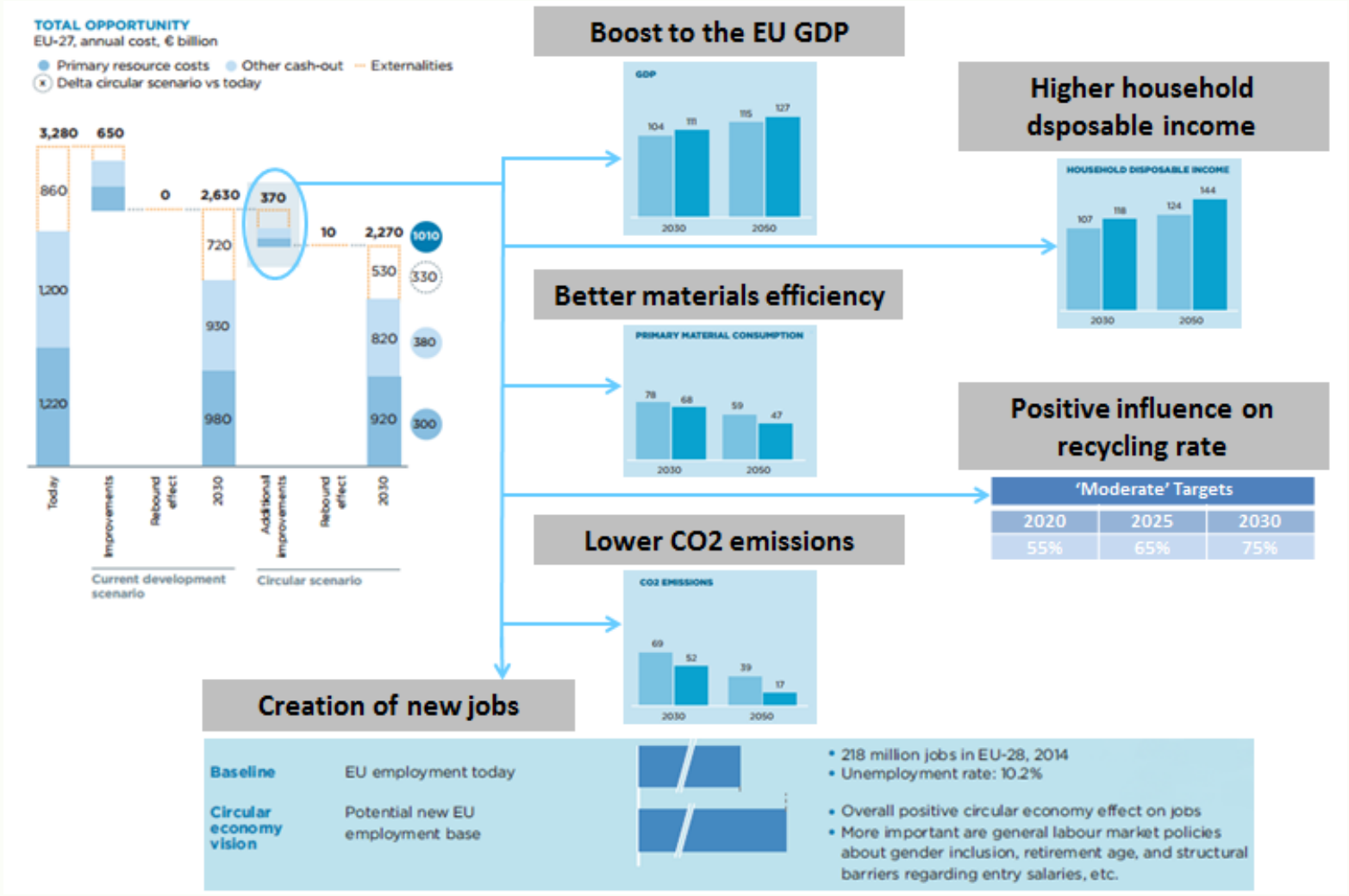
European market – attractive or not?

The EU has a particular interest in **minimising resource use** as it is heavily dependent on imported raw materials

The Circular Economy Package includes an **80 per cent recycling target for packaging by 2030** and a **ban on sending recyclable materials to landfills by 2025**

Circular Economy can boost global competitiveness, foster sustainable economic growth and generate new jobs. **The sector of construction and demolition materials was selected through the Public Consultation as one out of the priority sectors for the circular economy**

Expected benefits of the circular economy



The EU policy and the circular economy

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European Commission is going to implement the circular approach in the EU construction sector through **creating financial and tax instruments, implementing law regulations, preparing promotional materials and integrating policy of EU members**

- **37 strategies and directives** which focus on energy efficiency, waste policy, implementation of innovations etc.
- **50 strategies and regulations** which are planned by the EU and should minimise waste, utilise renewable sources of energy and phase out the use of harmful substances
- **5 ex-post analysis** which include many details on current stage of implementation of the Circular Economy Approach in the EU
- **4 special factsheets** prepared by European Commission and aimed at closing the four loops which are related to sustainable consumption, production phase, better waste management and recovering resources from wastes

Global market – attractive or not?

Circular economy ideas are **deeply rooted in culture** of many **Asian** countries, where strong resource efficient traditions and philosophies exist

People in **Asia** have long been reusing, repairing, sharing and upscaling products, even if this is not explicitly termed 'circular economy' and what is now seen as advanced models of circular economy

Another driving factor is the population growth: by 2030, Asia is projected to account for two-thirds of the 4.9 billion global middle class population, who will have a larger disposable income to drive consumption, with consumer spending predicted to reach USD32 trillion

Global market – attractive or not?

LATAM region

Latin America has plenty of natural resources but historically the region has had difficulties translating its wealth into long-term economic development processes. But the circular economy model represents an enormous financial opportunity

Turkey

The waste sector contributes 8.23 per cent of the country's greenhouse gas emissions. Waste management is not sustainable

Russia

which currently consumes 10 times as much energy per unit of GDP as Germany, the impact of circular economy practice could be even higher: up to a 15 percent increase in GDP according to the estimates

North America

It should be admitted that the United States has not been a trend setter in the circular economy field. Similar term can be used also in case of Canada

Challenges faced by the circular economy

The most important challenges faced by the circular economy:

1. The first general challenge is to **get the prices right**

2. The second general challenge regards **the implementation of economic incentives and fiscal measures** supporting the development of a circular economy

Additional detailed challenges:

Lack of enablers to improve cross-cycle and cross-sector performance

Barriers related to consumption of green technologies

Lack of skills in circular product design and production

Barriers related to waste management

Conclusions

The majority of identified technologies, products and solutions are strictly related to the **SMART building model** which allows us to:

- **implement circular economy approach**
- **create closed loops**
- **integrate the green value chain in the construction sector**

Scenario 1: Current development path. Sharing, tele-working, and energy efficiency would advance rapidly, supported by the digital revolution, while modularity and industrial processes would progress more slowly. Lower construction costs and operating expenses but increased sprawl and relatively little system optimisation (urban planning).

Scenario 2: A development path predicated on circular principles and a system-based approach with urban planning at the centre. This scenario would:

- create an enjoyable and smart built environment that took advantage of high-value unlocked land in urban areas to create more durable, modular, and shareable buildings,
- reduce negative environmental impact and make cities more liveable and convenient.

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Thank you for your attention

Dziękuję za uwagę

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