GROWTH WITHIN: A CIRCULAR ECONOMY VISION FOR A COMPETITIVE EUROPE







McKinsey Center for Business and Environment

Housing, food & mobility are the largest expenditures for European households

Human needs

Breakdown of annual household expenditure

EUR, EU28 average, 2012 (total = € 34,900)

Housing			9,580 27%
Food		6,550	19%
Mobility		5,130	15%
Entertainment		3,030	9%
Health	Carlo	2,410	7%
Clothing		1,780	5%
Connectivity		910	3%
Other ¹		5,510	16%

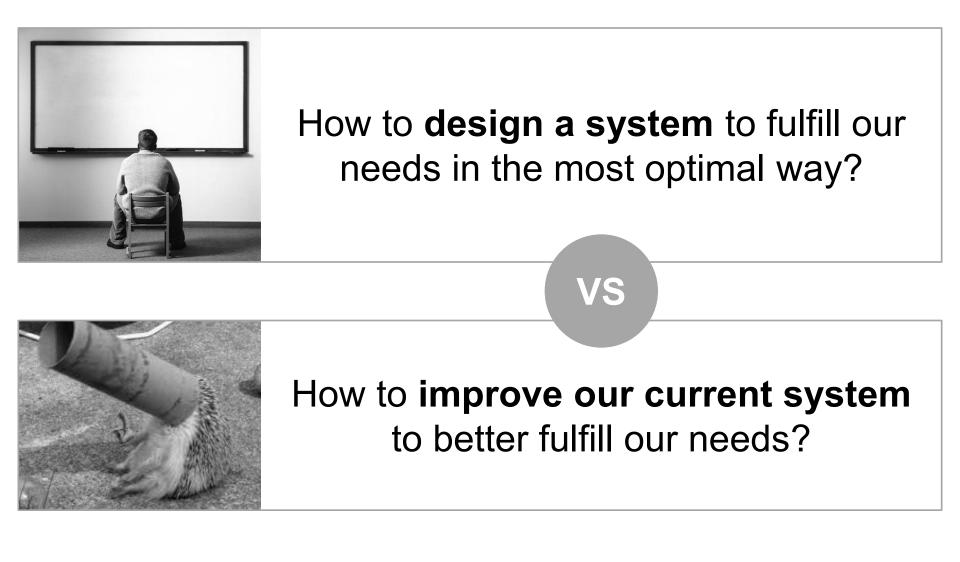
1 Includes security, education, social protection, financial services, furniture, carpets, home textiles, household equipment, glassware, tableware, beverages, tobacco, narcotics

SOURCE: Eurostat

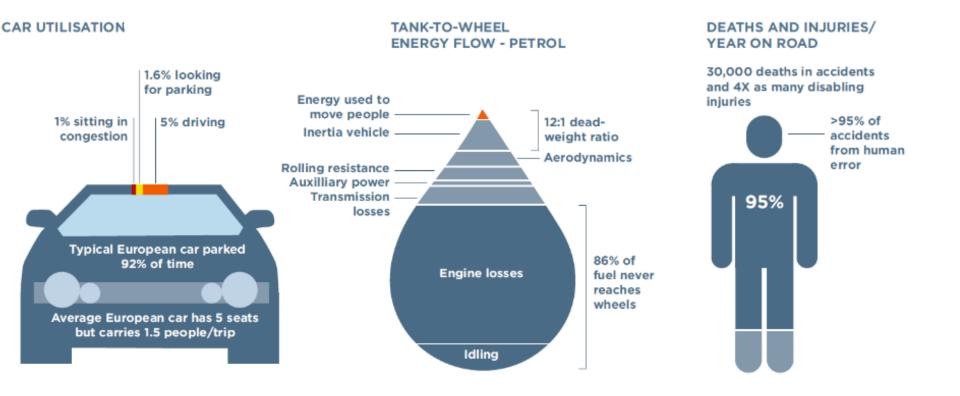
Starting from human needs



Are we asking the right question?



Structural waste in the mobility system



LAND UTILISATION:

Road reaches peak throughput
 only 5% of time and only 10%
 covered with cars then

50% of most city land dedicated to streets and roads, parking, service stations, driveways, signals, and traffic signs

SOURCE: EU Commission mobility and transport, accident statistics; www.fueleconomy.gov; EEA car occupancy rates data; S. Heck and M. Rogers, *Resource revolution: How to capture the biggest business opportunity in a century*, 2014; Centre d'études sur les réseaux, les transports, l'urbanisme et les constructions publiques.

Developing a circular vision

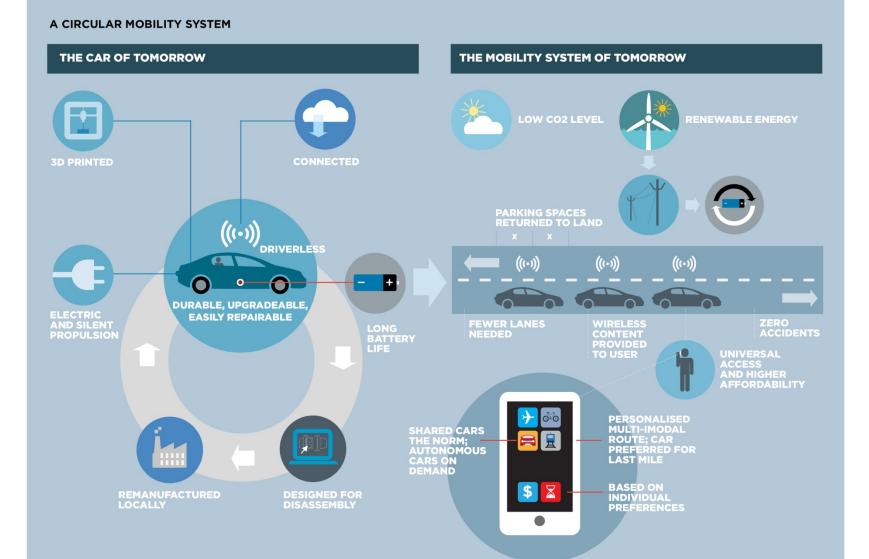


The ReSOLVE framework: a toolbox for the circular economy

EXAMPLES

	 Shift to renewable energy and materials Reclaim, retain, and restore health of ecosystems Return recovered biological resources to the biosphere 	P-REX NESPRESSO.	
SHARE	 Share assets (e.g. cars, rooms, appliances) Reuse/secondhand Prolong life through maintenance, design for durability, upgradability, etc. 	airbnb patagonia	Nearly New Car
OPTIMISE	 Increase performance/efficiency of product Remove waste in production and supply chain Leverage big data, automation, remote sensing and steering 		The Vauban Ouarter
	 Remanufacture products or components Recycle materials Digest anaerobic Extract biochemicals from organic waste 	patagonia 🔗 RENA JES 🕡 VEOLIA 📑 🦉	
	 Books, music, travel, online shopping, autonomous vehicles etc. zalando 	cisco.	NETFLIX iTunes
EXCHANGE	 Replace old with advanced non-renewable materials Apply new technologies (e.g. 3D printing) Choose new product/service (e.g. multimodal transport) 	A tarkett Company	PHILIPS Lighting skyTran

Vision: A Circular Mobility System



Five main levers that could transform our mobility systems

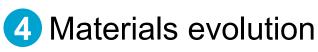






2 Renewably powered







System-level integration of transport modes

Six levers that could transform Food Systems



- 1 Resource efficient agricultural practices
- 2 Regenerative farming practices
- 3 Closed loops of nutrients and other materials
- 4 Restoration and preservation of natural capital
- 5 Peri-urban and urban farming

6 Digital supply chains

Six levers that could transform the Built Environment







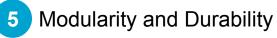
2 Energy Generation and Use



3 Shared Residential Space



Shared and Virtual Office Space



6 Urban Planning

The circular economy opportunity: 2030 scenarios

Mobility, food and built environment, EU27, societal perspective 2030

Other cash-out costs Annual primary resource costs, other cash-out costs and negative externalities Externalities EU-27, 1000 billion EUR -25% 7.2 1.1 1.0 -0.2 6.3 2.0 -0.1 5.4 1.9 1.5 3.4 3.0 2.7 1.8 1.4 1.2 Today Rebound 2030 Additional Rebound Improve-2030 ments effect improvements effect

CURRENT DEVELOPMENT SCENARIO

CIRCULAR ECONOMY SCENARIO

Primary resource costs

Comparison of potential development paths: impact on economy...

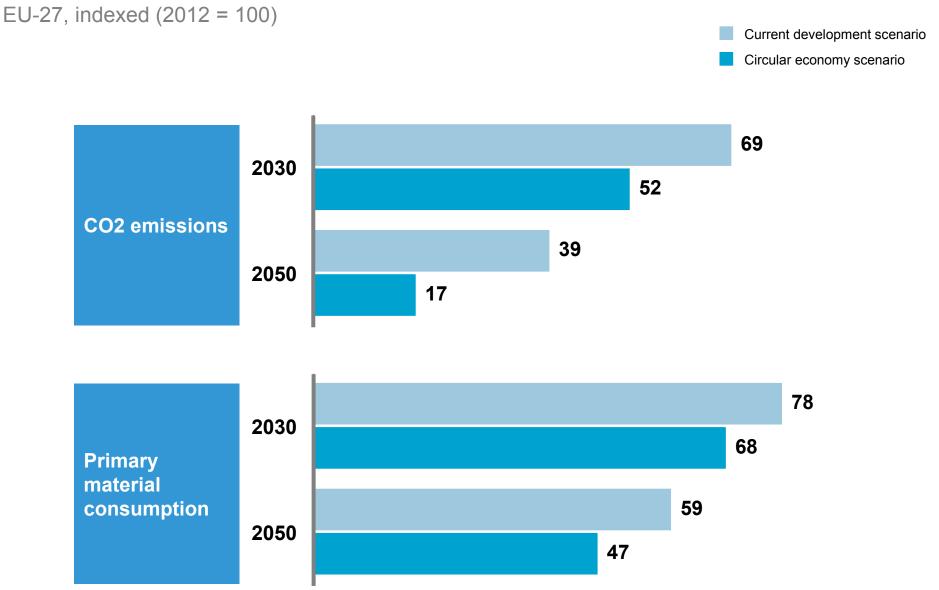
EU-27, indexed (2012 = 100)

Current development scenario

Circular economy scenario



Comparison of potential development paths: impact on the environment



Make sure to follow the direction set out by your long-term vision



Key messages



Start from human needs, to avoid (mental) lock-in in suboptimal systems



Develop a long-term circular vision by considering all levers, their interdependence and their potential impact



Make sure each step brings you closer to your long-term vision, even if this might sometimes entail temporary transition cost/inconvenience

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