#### 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 <sup>1</sup>		5,510	16%

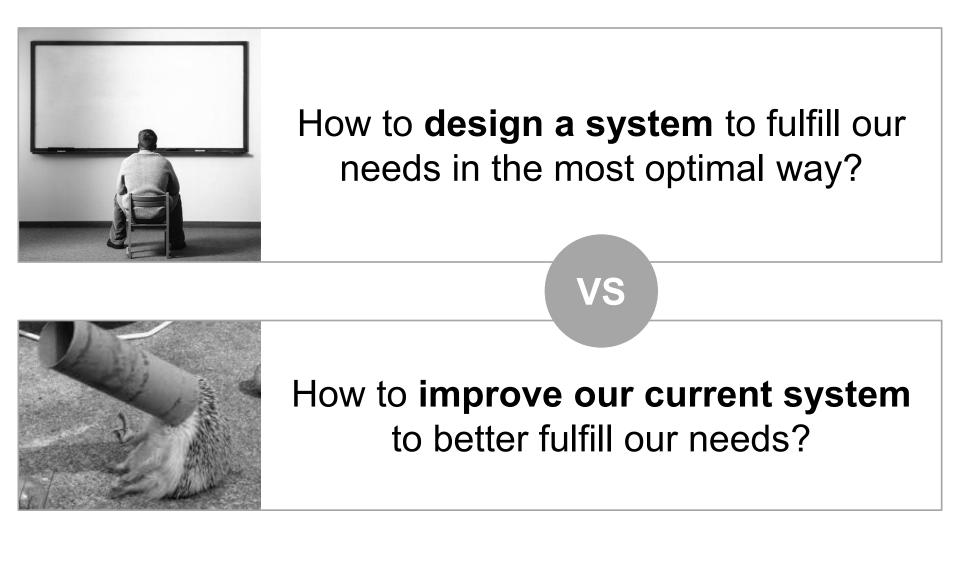
1 Includes security, education, social protection, financial services, furniture, carpets, home textiles, household equipment, glassware, tableware, beverages, tobacco, narcotics

SOURCE: Eurostat

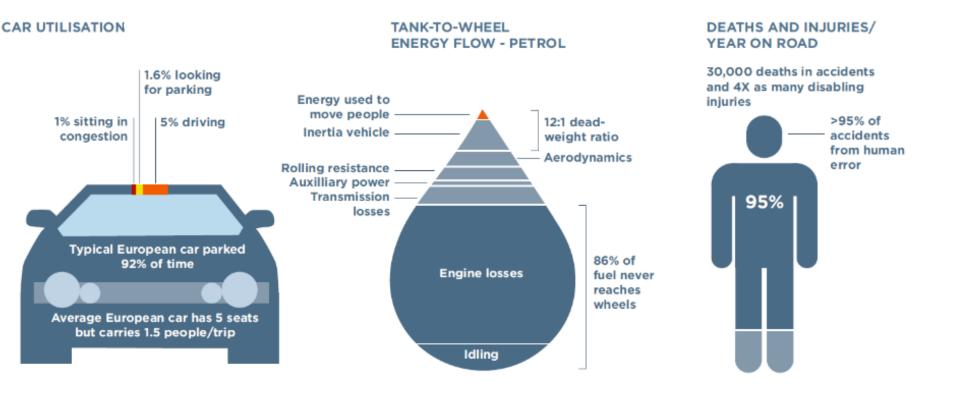
## **Starting from human needs**



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

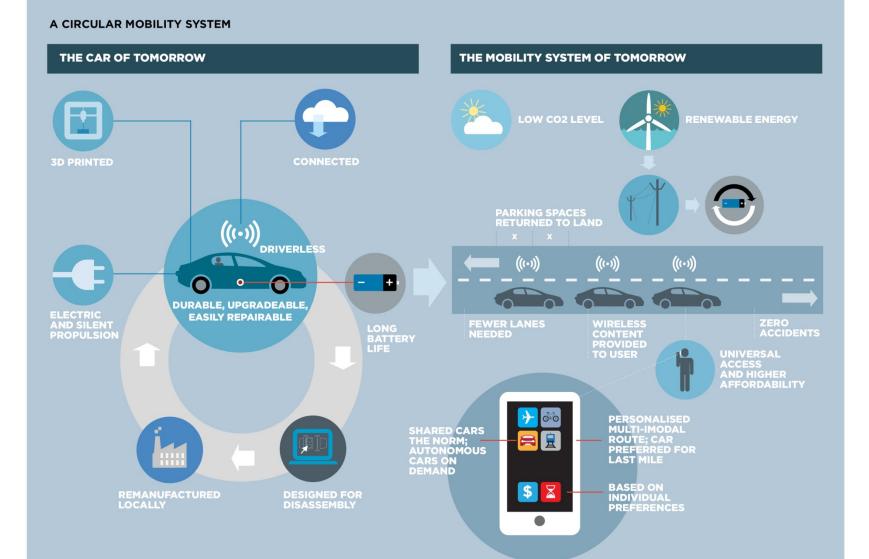


# The ReSOLVE framework: a toolbox for the circular economy

#### EXAMPLES

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

### **Vision: A Circular Mobility System**



### Five main levers that could transform our mobility systems

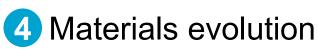






2 Renewably powered







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







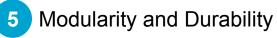
2 Energy Generation and Use



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...

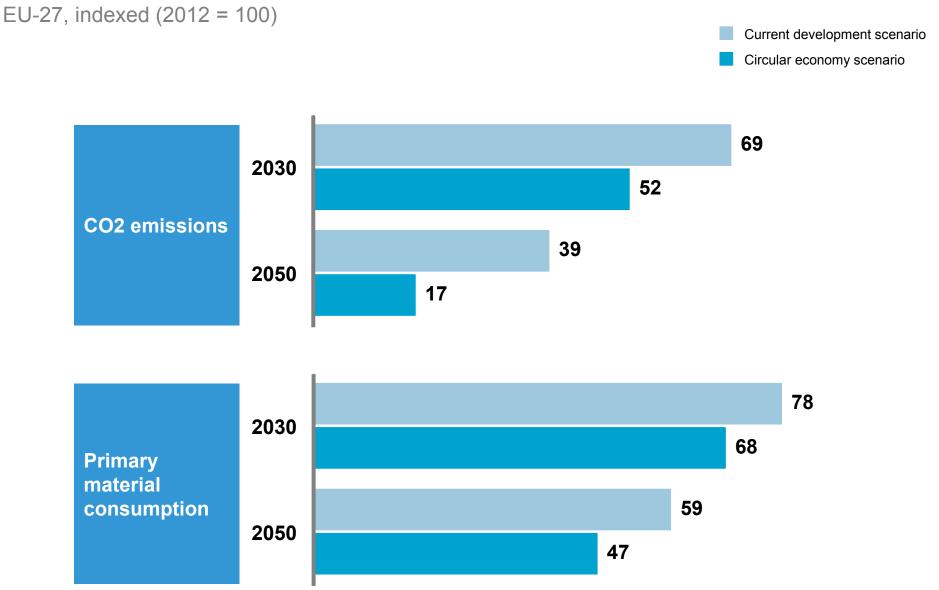
EU-27, indexed (2012 = 100)

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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