Circular Economy

Setting the scene

Regional preparatory meetings for global consultations on circular economy

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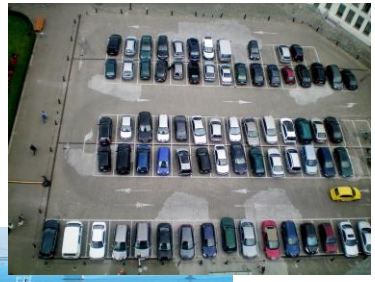
We consume millions of products

Nutrition

Housing and Infrastructure

Mobility



We consume millions of products

Consumer goods

Communications

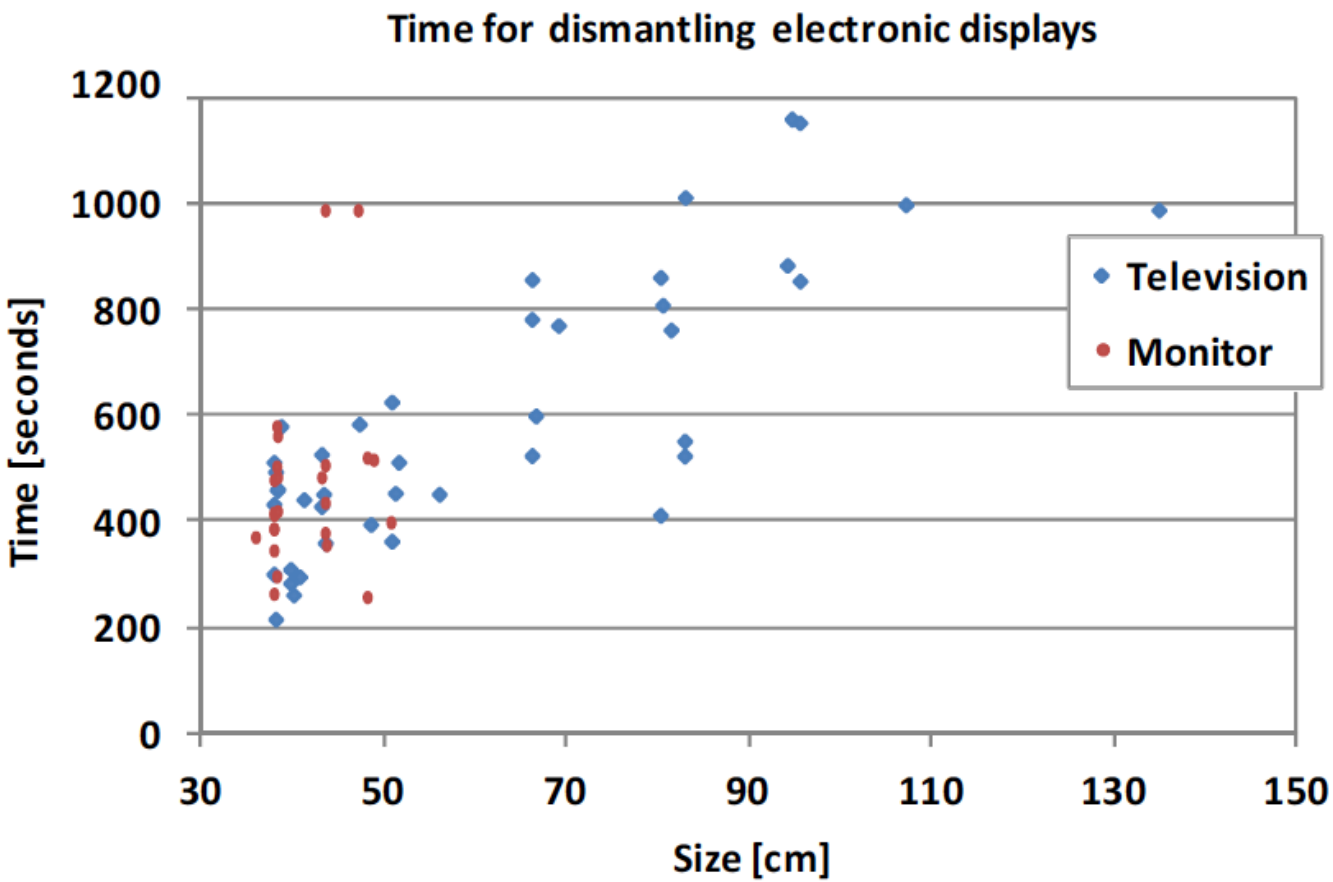
Health, education, sports, services

Linear products: planned obsolescence

Is He Referring To The Food or The Refrigerator?

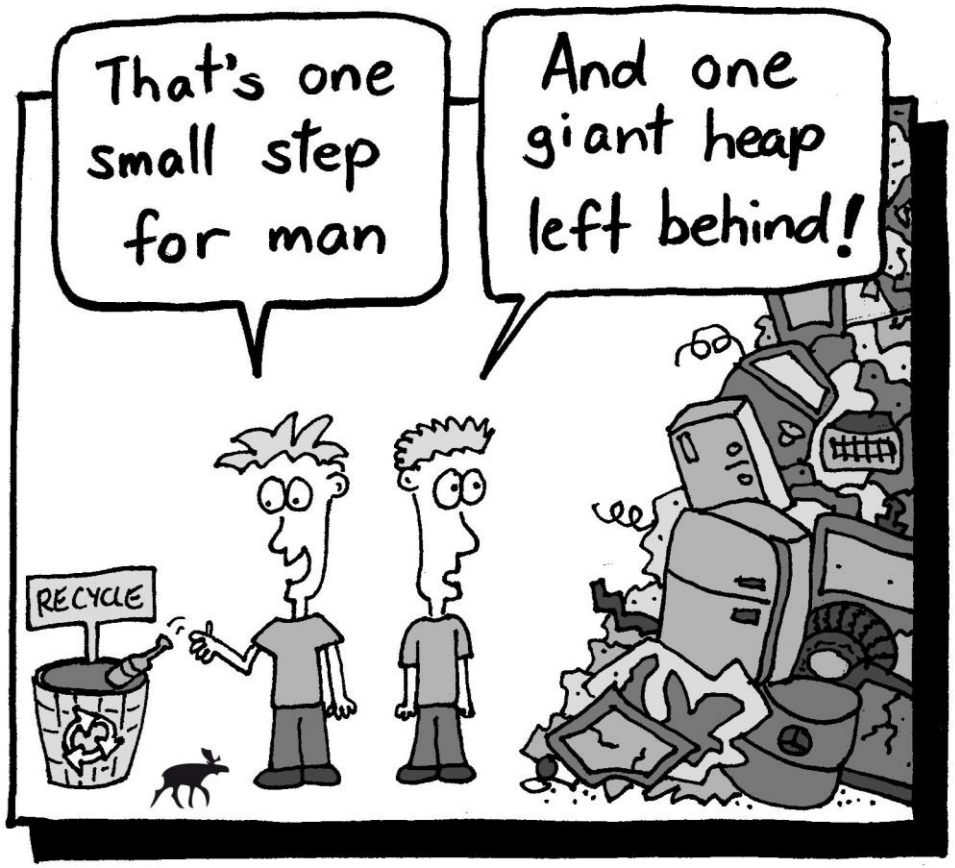
- Frequent **cosmetic changes** in products
- **Non-durability** is a feature!

Linear products: difficult to repair, reuse, remanufacture, recycle



Disassembly from 3 to 20 minutes, with special tools and skills

Linear products: Non-recoverable, non-recyclable



Global consumption of resources for societal needs (2015)

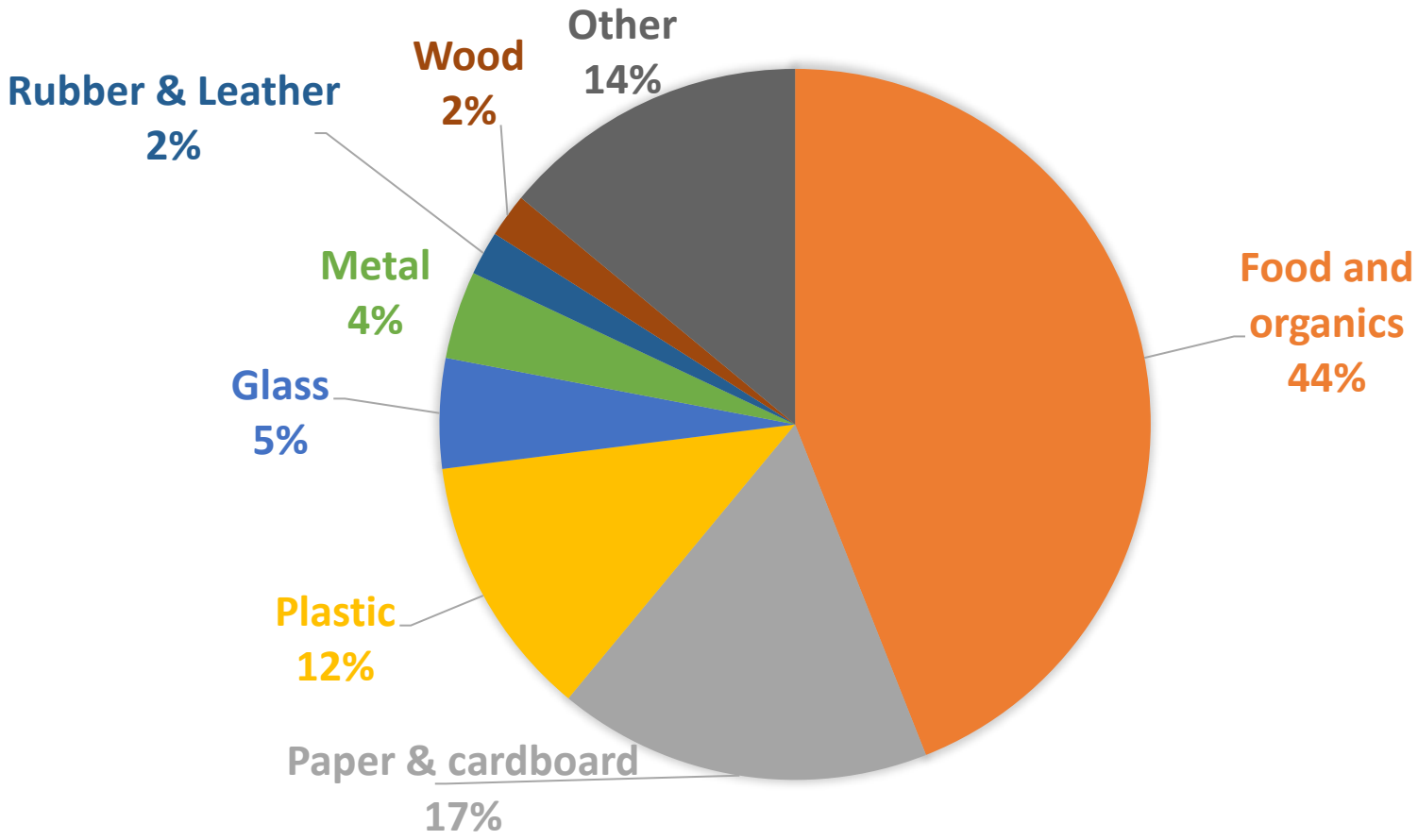
- Housing and infrastructure: 45%
- Nutrition: 23%
- Mobility: 13%
- Consumer goods: 10%
- Services: 5%
- Healthcare: 2%
- Communication: 2%

Materials: biomass, fossil fuels, metals and non-metallic minerals

Resources: materials, land and water

Source: Circularity gap reports 2018 & 2019, Circle Economy

Global solid waste composition in 2016



Source: “What a waste 2.0”, WBG, 2018

Lancet Commission on Pollution and Health main health findings*

Pollution killed an estimated 9 MILLION people in 2015…

3 TIMES MORE than AIDS, tuberculosis and malaria combined.

9 MILLION premature deaths = 16% of all deaths worldwide

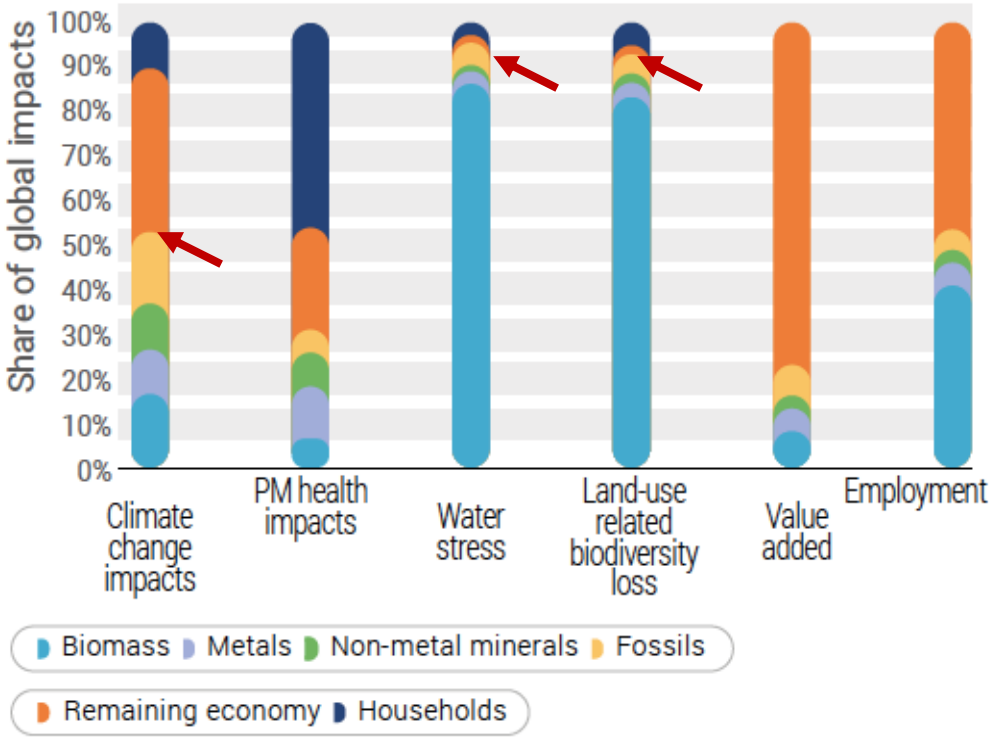
*Supported by EU, UNIDO, USAID and Pure Earth, among others

GLOBAL ECONOMIC IMPACT OF POLLUTION

Estimated at **$4.6 trillion per year**, the equivalent to 6% of global GDP, using welfare cost analysis

Commission recommended **Circular Economy practices** to be deployed to deal with pollution.

Global impacts of resource extraction and processing



- ~50% of climate impacts
- ~90% of water stress
- ~90% of biodiversity loss due to land use

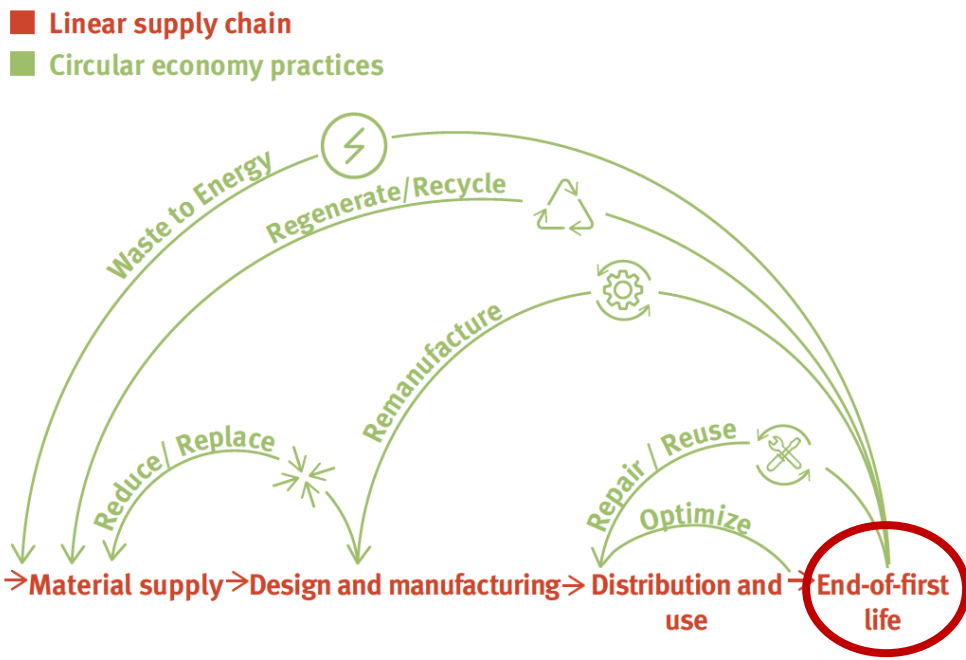
BUT

Production and consumption also created lots of **value added and jobs**

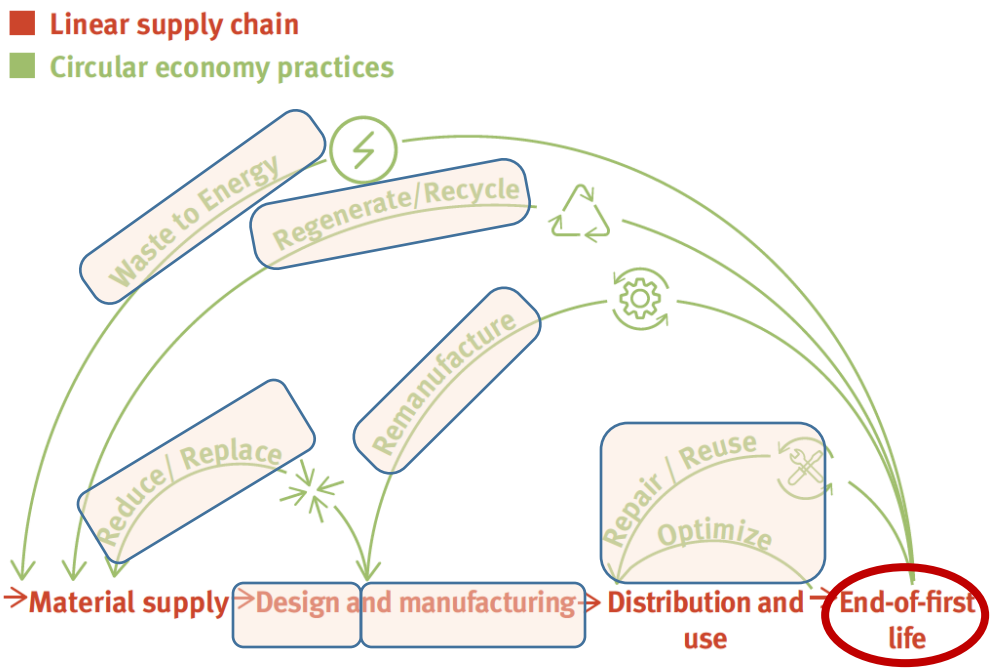
Global Resource Outlook 2019 (https://www.resourcepanel.org/reports/global-resources-outlook), International Resource Panel, 2019

Circular economy is an "industrial economy"

- Returns products, parts and materials into use several times
- Based on principles that
  - Products are designed to last
  - Value is maintained for as long as possible
  - Generation of waste and pollution is minimized
  - Renewable energy is used along value chains, as much as possible
- Enablers: **Innovation, Stewardship, Partnership and Collaboration** between businesses, governments, and consumers



Circular economy practices are “business practices”



Along **global** and **domestic value chains**

- Eliminate/**replace** the product (-> single-use plastics)
- **Design** phase
  - **Reduce** amount of materials used
  - Eliminate/**replace** hazardous chemicals
  - Improve **Durability** / **Reusability** / **Upgradability** / **Reparability** / **Recyclability**
  - Increase **recycled** content in products
  - Ensure products use energy and other resources efficiently
- Maximize **resource efficiency** in manufacturing
- **Optimize**/intensify use of products
- Enable **remanufacturing**
- **Regenerate** biomass, **recycle** materials
- After maximizing circularity everywhere else, **recover energy** from remaining waste

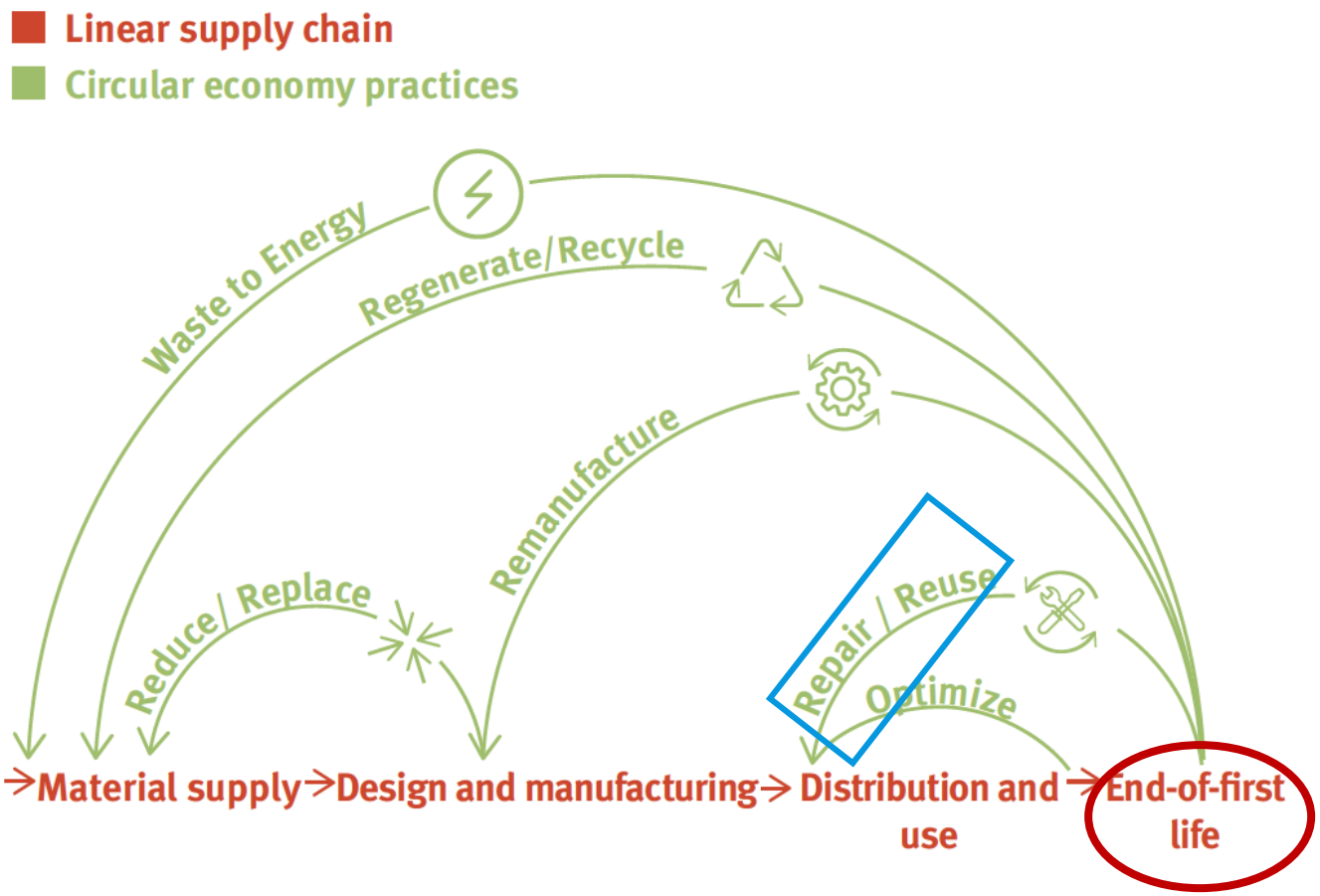
Circular economy practices **strengthen resilience** of firms and economies!

Circular economy actors and benefits

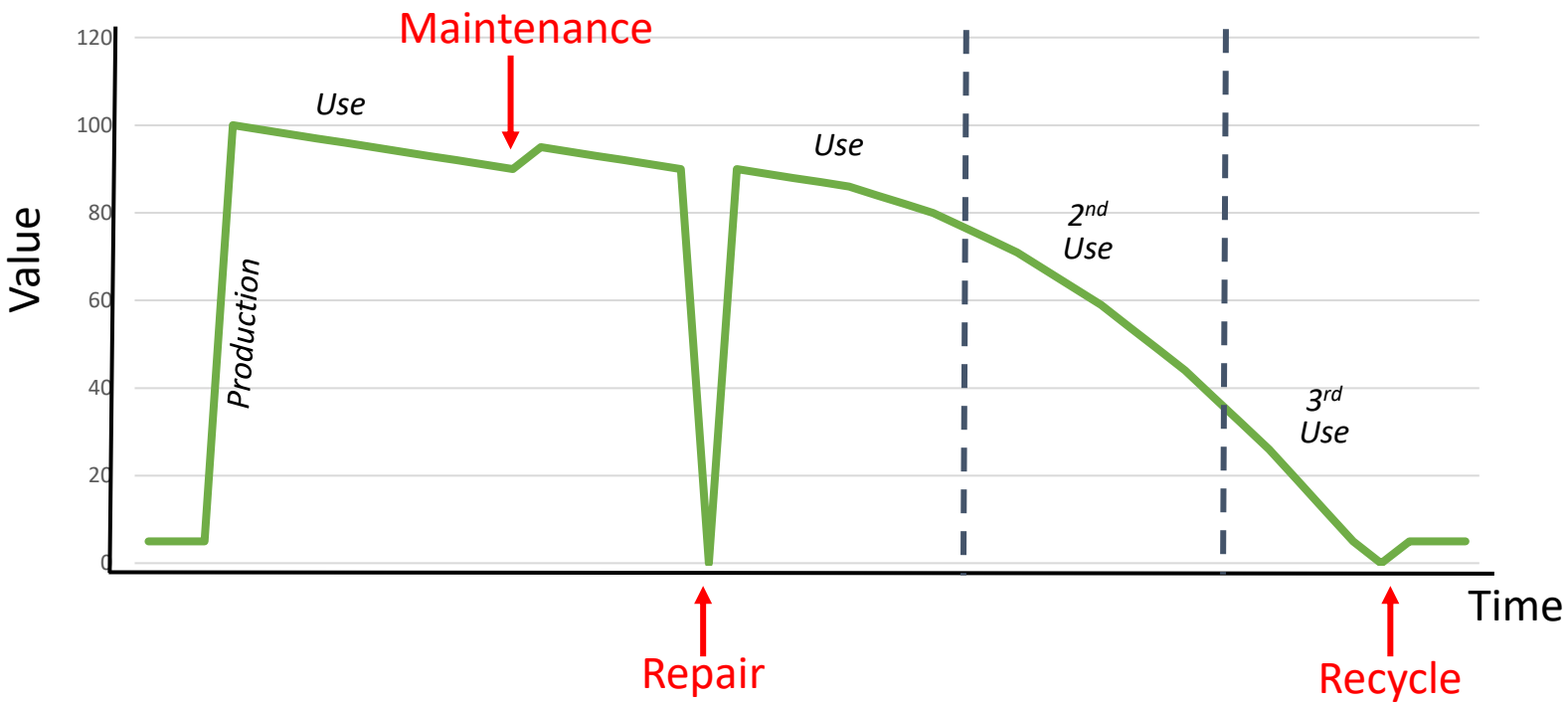
- Circular economy actors:
  - Consumers
  - Businesses
  - Governments
- Role of governments is to create favorable conditions
  - Enable consumers to buy more circular products, have them understand their benefits
  - Move businesses to increasingly design & produce more circular and safer products, which also increase profitability

Economic benefits	Environmental benefits	Social benefits
Increased productivity (with resource efficiency)	Reduced environmental impact	Improved well-being
Reduced production costs and improved competitiveness	Reduced emissions of greenhouse gases (GHG) and pollutants	New jobs and incomes
New business activities and models	Reduced pollution and end-of-life waste	Improved health and working conditions of people
New markets and investment opportunities	Higher quality of ecosystem services	Improved health of animals and plants
Enhanced consumer loyalty	Preservation of natural resources (water, land, materials)	New partnerships and collaborations
Reduced resource scarcity and better protection on resource price fluctuations	Safeguarding biodiversity	Innovations and technologies make life easier

Maintenance/Repair and Reuse

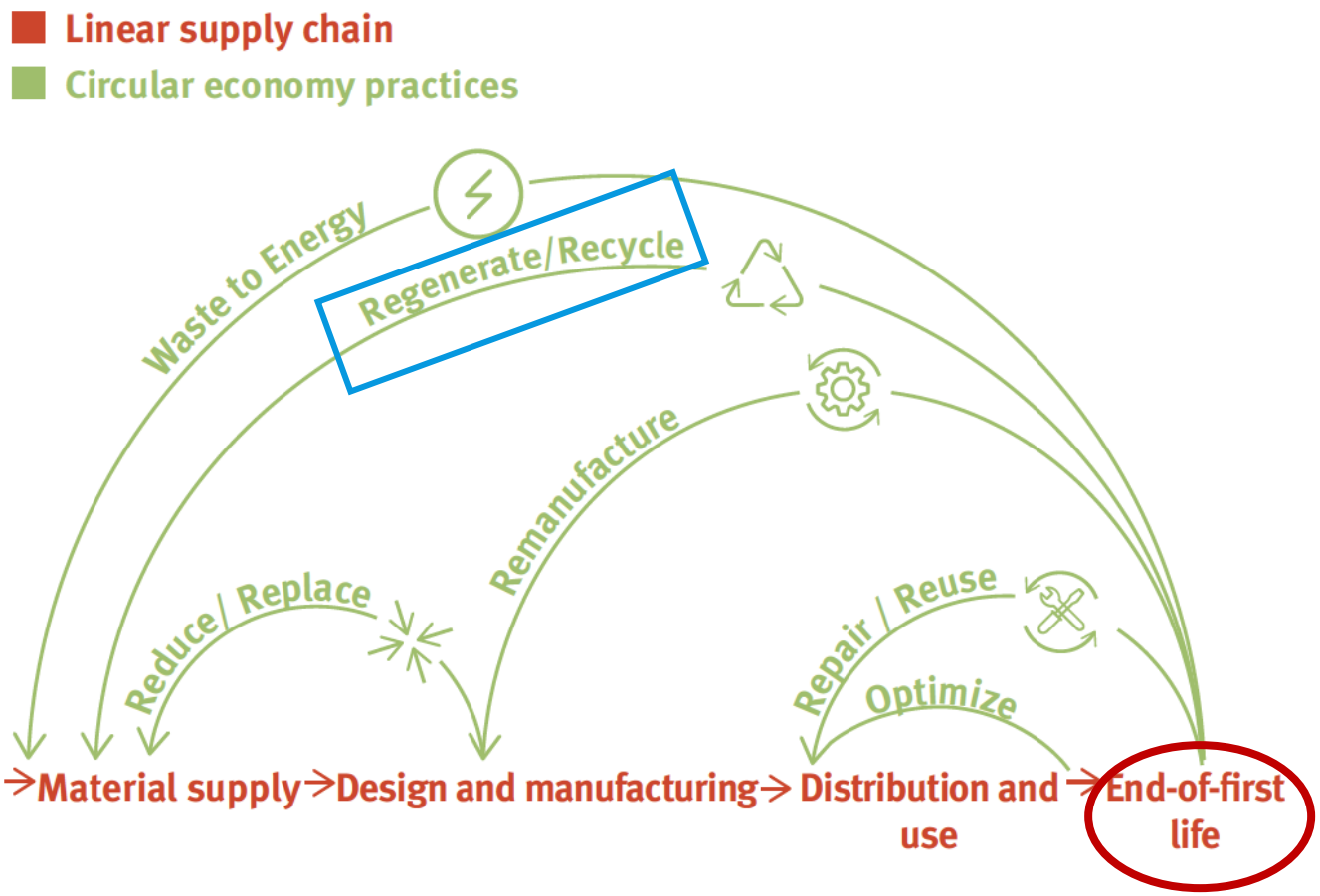


Product value during use



"New business opportunities, creating higher skilled jobs"

Recycle /Regenerate biomass



Recycling rates

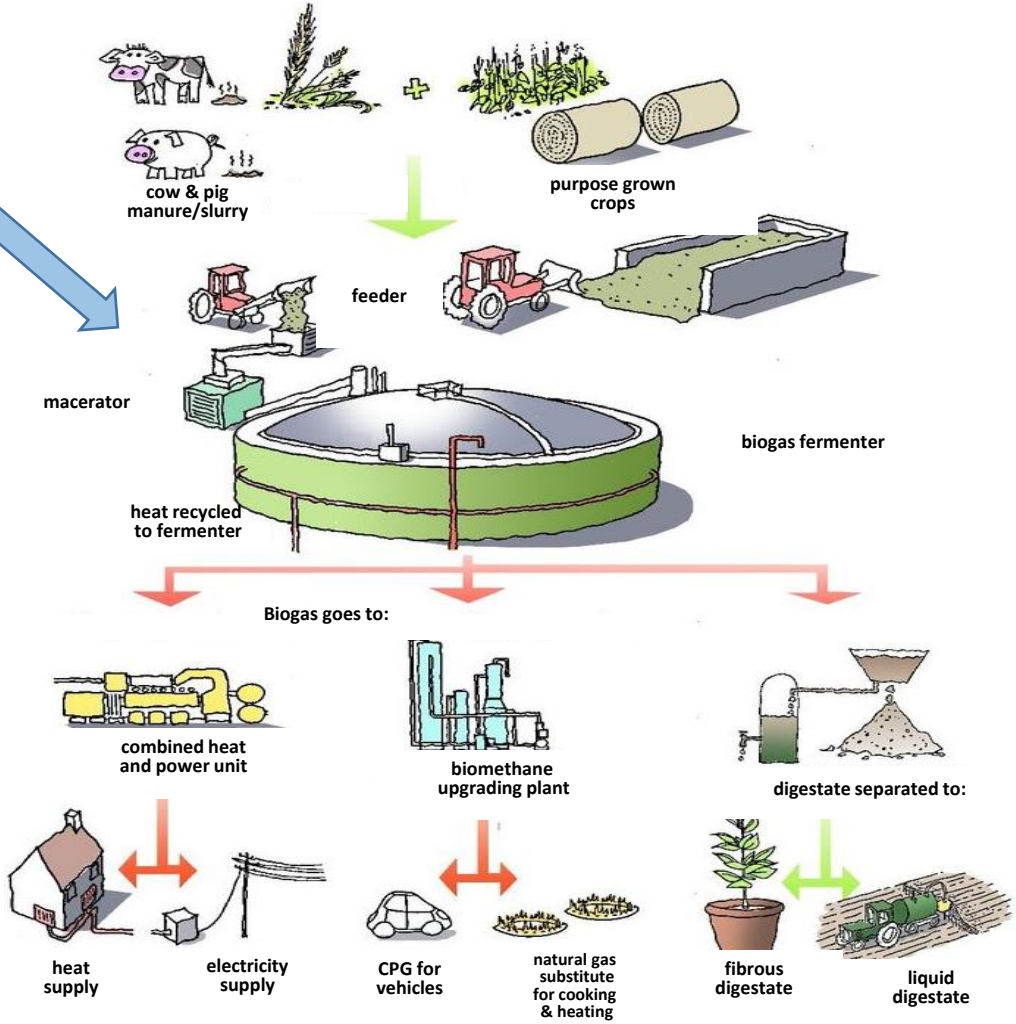
- Metals: In principle, infinitely recyclable. Some are well recycled (e.g., iron/steel – about 67% of steel is produced from recycled iron/steel; about 70% of aluminum). Others (e.g., rare-earth metals) are poorly recycled (one reason why governments are so keen to promote recycling of electronic equipment).
- Other materials have OK-to-good recycling rates:
  - About 50% of post consumer paper waste is recycled;
  - About 20% of glass produced is recycled (for container glass, it's 30%, for flat glass it's 10%).
- Other materials are much more problematic:
  - No more than 2% of plastics are recycled!
  - Only ~1% of textile waste is properly recycled. 19% is down-cycled (rags, stuffing, etc.). The rest is incinerated or landfilled, what a huge loss of value!

Regenerate biomass

Anaerobic Digestion

Composting

Production of uniform compost in windrows at a commercial composting facility.



Suggestions on how to move forward "together" at global level

- Develop a **concrete shared understanding** (government, business, civil society) for CE as a means to achieving important **global goals** (climate crisis, health and economic impacts of waste and pollution, creation of decent jobs, improving the well-being of people,…)
- Establish **on-going global dialogue** (at the consultations platform backstopped by UNIDO), exchanging information and experience on
  - **Barriers** to implementing CE practices (no one-size-fits all);
  - **CE solutions** that worked or did not work,
  - **Learning together** from success cases, how to monitor/measure progress and defining guidelines, etc.;
  - Setting up of **partnerships** (government-to-government, business-to-business, with financial institutions, …)
  - Eventually, converging on **global actions** that will enable implementation of CE principles and practices

Suggestions on how to move forward at country level

- Develop a **concrete shared vision** for CE as a means to achieving important societal goals (government, business, civil society/consumers)
- Establish **an independent unit in government** to drive CE across interest groups and policies
- Establish a cross-sectoral, **pre-competitive space (for business,** but not only**)** for exchange of information, setting up of partnerships and definition of standards
- **In collaboration with the business community and consumer groups**;
  - Identify and **select areas of activity within focus sectors** which are economically, environmentally and socially relevant
  - Develop a system of **targets and indicators,** initially based on existing data/information
  - Systematically prepare **specific solutions to barriers and incentives for CE practices**
- Build on **existing strengths** as much as possible; e.g. (eco-)industrial parks where businesses cluster
- Launch an **educational initiative** to embed principles of CE in relevant curricula, introduce what CE means in practice to future generations of consumers

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