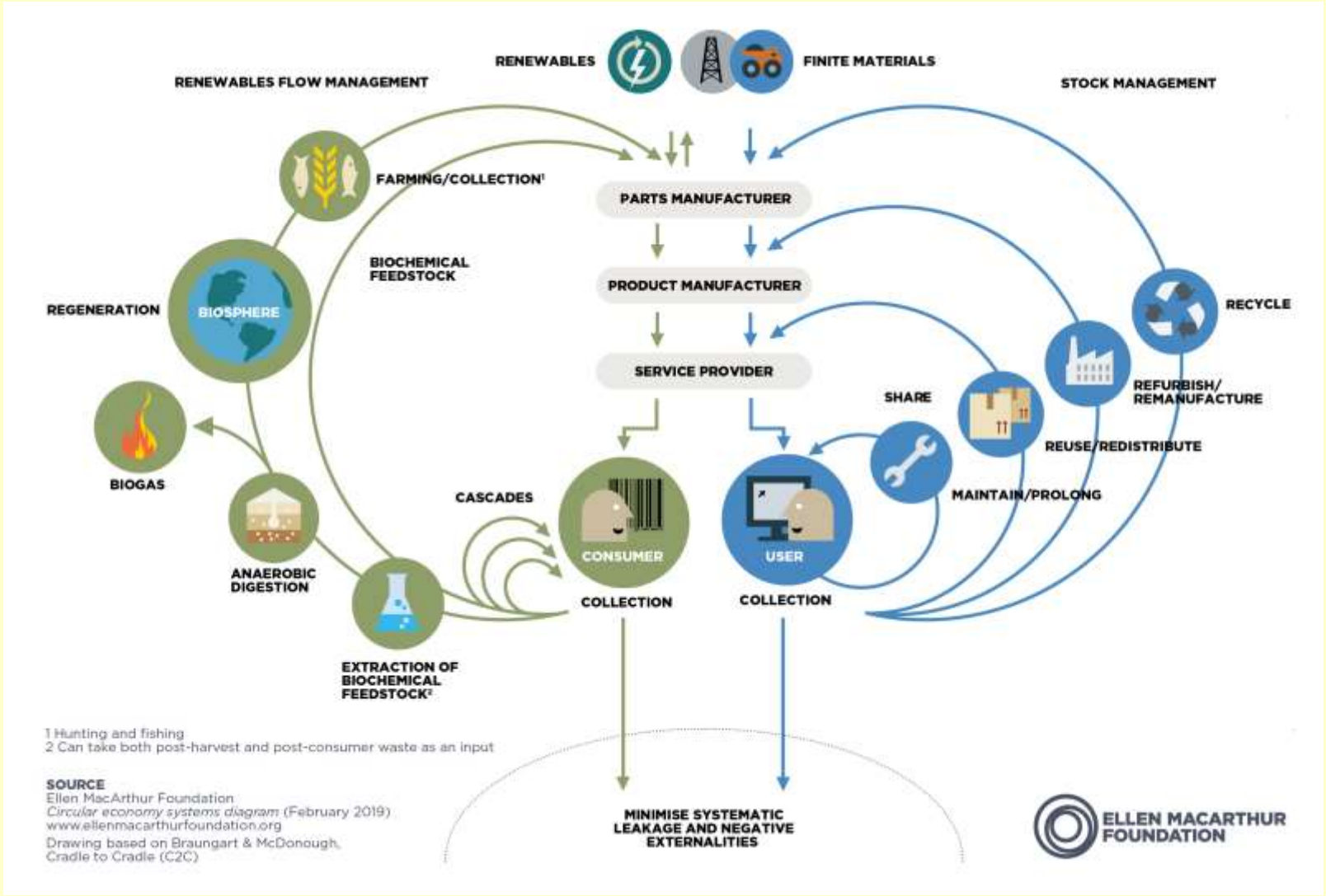
# WEEK 3

# UNDERSTANDING THE CIRCULAR ECONOMY

# SEMINAR

Managing Sustainability
BMA6105

# The circular economy – Butterfly diagram

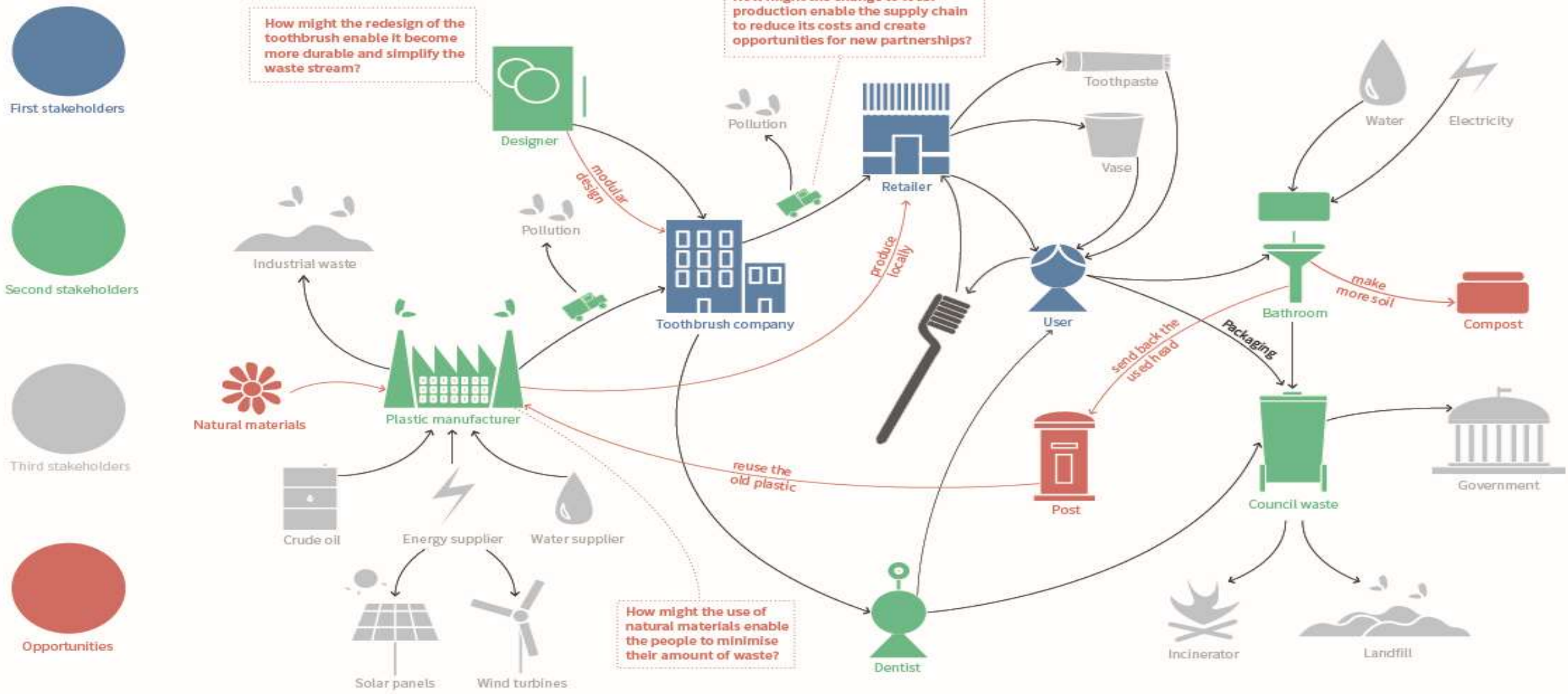


# Examples: We have a problem with the design of ‘things’






# System analysis example – Toothbrush



# System analysis: Single use plastic spoon

- Map out the components of the system that lead to the use of single use plastic spoons, most of which end up in landfill after a single use.
- What are key drivers/enablers of this system?

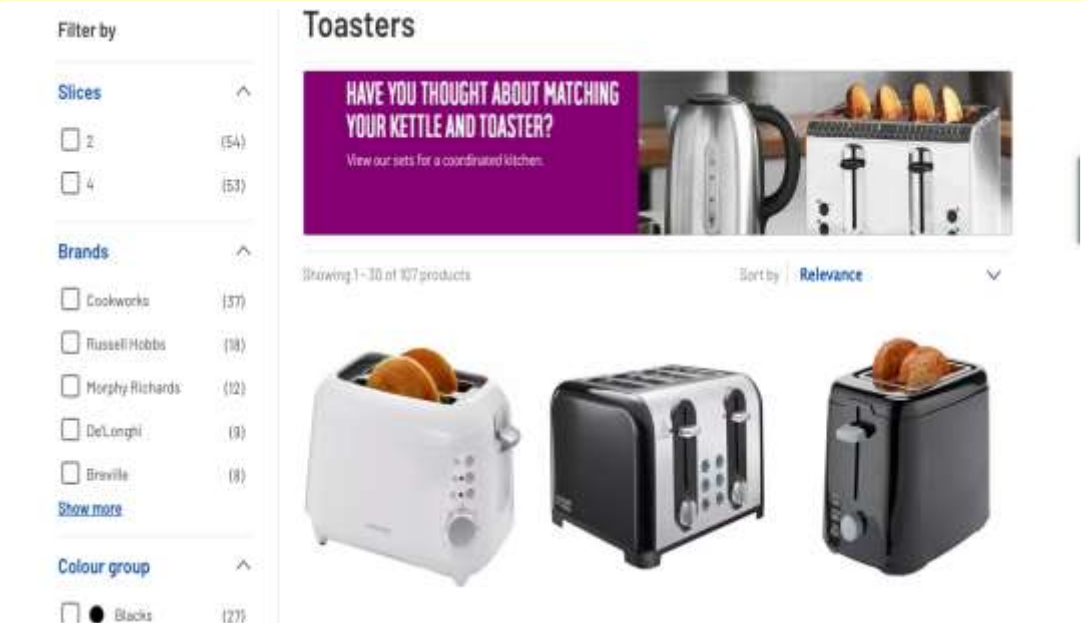
- System interventions:
  - What are the alternatives to this production-consumption system?
  - What interventions are needed to bring these about?

  - https://www.youtube.com/watch?v=r4Cc5zmy0eY

# The Design Challenge:
# Consumerism, fashion, obsolescence…

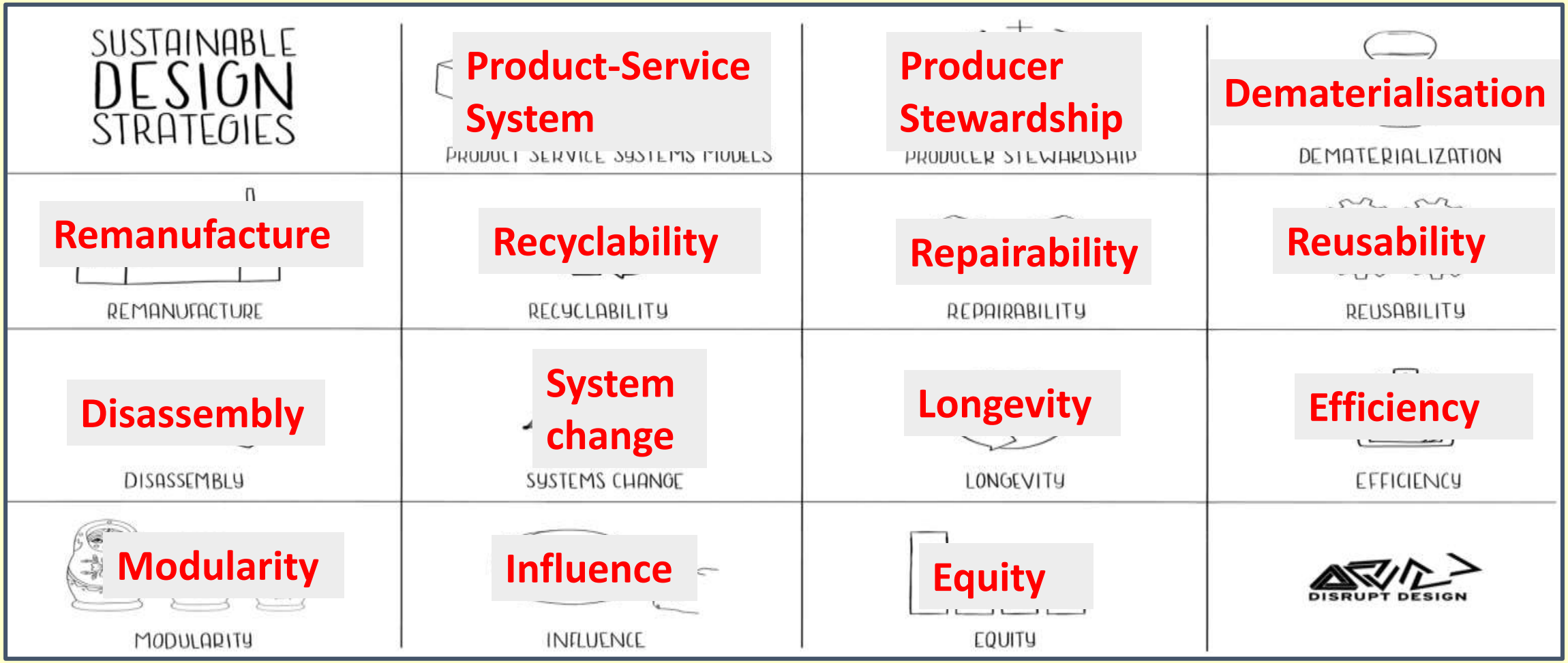
Fundamentals of Product Design:

**Economic** function / **Aesthetic** function / **Social** function / **Technical** function




# Sustainable design strategies

https://medium.com/disruptive-design/quick-guide-to-sustainable-design-strategies-641765a86fb8



# Rethinking the sustainable kitchen

Taking a toaster as your focus:

- Can you apply every design strategy in combination to make this an ideal product?
- What features does it have?
- What is needed to get this new toaster to market?

**Product as service**
**Producer Stewardship**
**Dematerialisation**
**Remanufacture**
**Recycle**
**Repairability**
**Reusability**
**Disassembly**
**System Change**
**Longevity**
**Efficiency**
**Modularity**
**Influence**
**Equity**

# CE analysis: the domestic kitchen

What is the circular economy potential of the domestic kitchen? Consider this list of kitchen items.

- What happens at end of life?
- What cascading options are possible?
- How can you retain embedded value?
- Can ownership be changed?
- What system changes are needed?
- What business opportunities are possible to shift to CE?

Develop some CE system and business options.

- Plates/bowls/mugs
- Glasses
- Cutlery
- Chairs
- Table
- Kettle
- Oven
- Washing machine
- Cookbook
- Fridge (inc food items)
- Cabinets and worktop