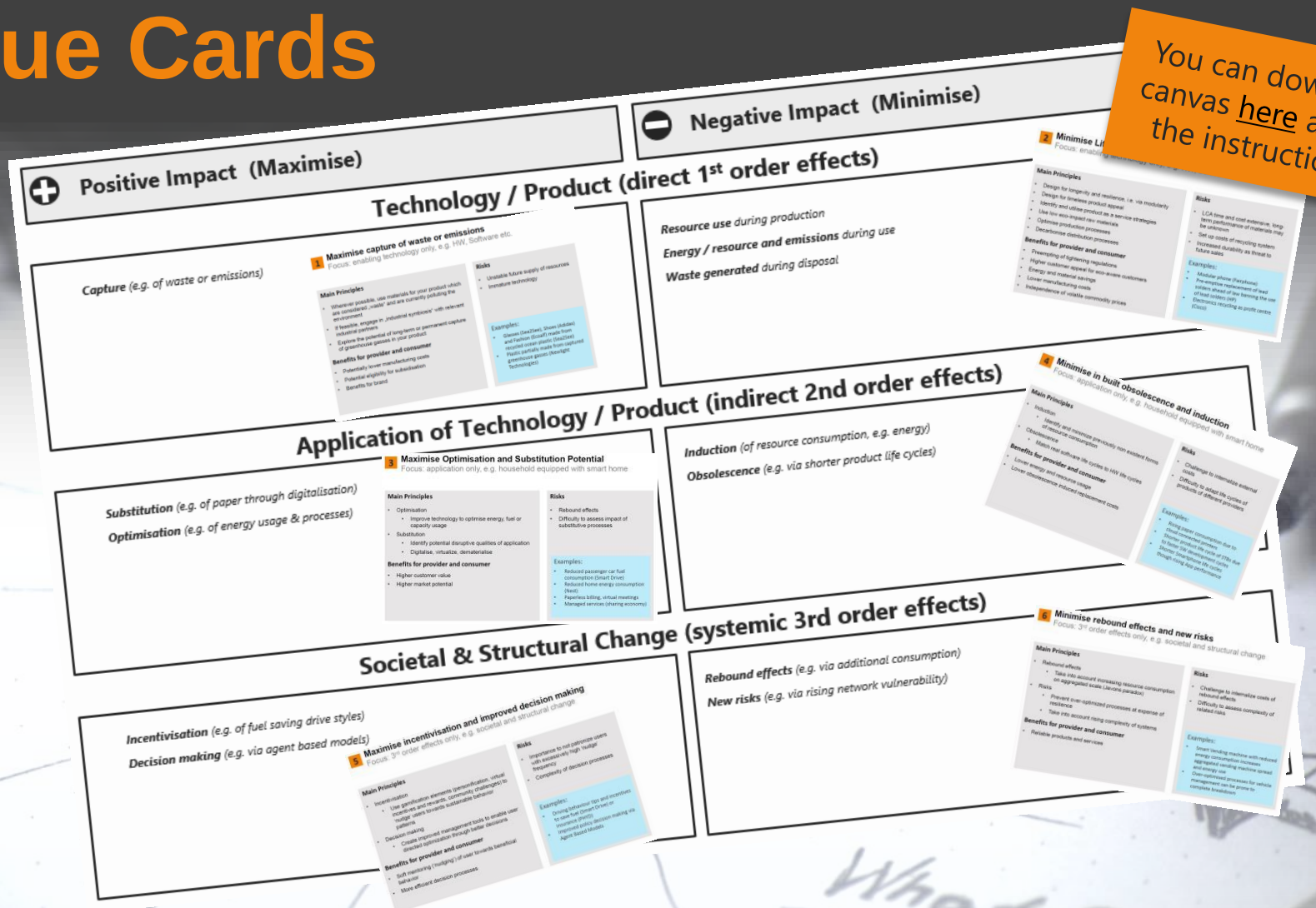
The Sustainability Impact Canvas

Cue Cards



You can download the canvas here and access the instructions here

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Impact Canvas

Project:	Owner:	Version:

⊕ Positive Impact (Maximise)	⊖ Negative Impact (Minimise)

Technology / Product (direct 1st order effects)

1

Capture *(e.g. of waste or emissions)*

You will find an explanation slide with examples for each field/number following this slide

2

Resource use *during production*

Energy / resource and emissions *during use*

Waste generated *during disposal*

Application of Technology / Product (indirect 2nd order effects)

3

Substitution *(e.g. of paper through digitalisation)*

Optimisation *(e.g. of energy usage & processes)*

4

Induction *(of resource consumption, e.g. energy)*

Obsolescence *(e.g. via shorter product life cycles)*

Societal & Structural Change (systemic 3rd order effects)

5

Incentivisation *(e.g. of fuel saving drive styles)*

Decision making *(e.g. via agent based models)*

6

Rebound effects *(e.g. via additional consumption)*

New risks *(e.g. via rising network vulnerability)*

1 Maximise capture of waste or emissions

Focus: enabling technology only, e.g. HW, Software etc.

Main Principles

- Wherever possible, use materials for your product which are considered „waste“ and are currently polluting the environment
- If feasible, engage in „industrial symbiosis“ with relevant industrial partners
- Explore the potential of long-term or permanent capture of greenhouse gasses in your product

Benefits for provider and consumer

- Potentially lower manufacturing costs
- Potential eligibility for subsidisation
- Benefits for brand

Risks

- Unstable future supply of resources
- Immature technology

Examples:

- Glasses (Sea2See), Shoes (Adidas) and Fashion (Ecoalf) made from recycled ocean plastic (Sea2See)
- Plastic partially made from captured greenhouse gasses (Newlight Technologies)

2 Minimise Life Cycle Impact of technology

Focus: enabling technology only, e.g. HW, Software etc.

Main Principles

- Design for longevity and resilience, i.e. via modularity
- Design for timeless product appeal
- Identify and utilise product as a service strategies
- Use low eco-impact raw materials
- Optimise production processes
- Decarbonise distribution processes

Benefits for provider and consumer

- Preempting of tightening regulations
- Higher customer appeal for eco-aware customers
- Energy and material savings
- Lower manufacturing costs
- Independence of volatile commodity prices

Risks

- LCA time and cost extensive, long-term performance of materials may be unknown
- Set up costs of recycling system
- Increased durability as threat to future sales

Examples:

- Modular phone (Fairphone)
- Pre-emptive replacement of lead solders ahead of law banning the use of lead solders (HP)
- Electronics recycling as profit centre (Cisco)

3 Maximise Optimisation and Substitution Potential

Focus: application only, e.g. household equipped with smart home

Main Principles

- Optimisation
  - Improve technology to optimise energy, fuel or capacity usage
- Substitution
  - Identify potential disruptive qualities of application
  - Digitalise, virtualize, dematerialise

Benefits for provider and consumer

- Higher customer value
- Higher market potential

Risks

- Rebound effects
- Difficulty to assess impact of substitutive processes

Examples:

- Reduced passenger car fuel consumption (Smart Drive)
- Reduced home energy consumption (Nest)
- Paperless billing, virtual meetings
- Managed services (sharing economy)

4 Minimise in built obsolescence and induction

Focus: application only, e.g. household equipped with smart home

Main Principles

- Induction
  - Identify and minimize previously non existent forms of resource consumption
- Obsolescence
  - Match real software life cycles to HW life cycles

Benefits for provider and consumer

- Lower energy and resource usage
- Lower obsolescence induced replacement costs

Risks

- Challenge to internalize external costs
- Difficulty to adapt life cycles of products of different providers

Examples:

- Rising paper consumption due to cloud connected printers
- Shorter product life cycle of STBs due to faster SW development cycles
- Shorter Smartphone life cycles though rising App performance

5 Maximise incentivisation and improved decision making

Focus: 3rd order effects only, e.g. societal and structural change

Main Principles

- Incentivisation
  - Use gamification elements (personification, virtual incentives and rewards, community challenges) to 'nudge' users towards sustainable behavior patterns
- Decision making
  - Create improved management tools to enable user directed optimization through better decisions

Benefits for provider and consumer

- Soft mentoring ('nudging') of user towards beneficial behavior
- More efficient decision processes

Risks

- Importance to not patronize users with excessively high 'nudge' frequency
- Complexity of decision processes

Examples:

- Driving behaviour tips and incentives to save fuel (Smart Drive) or insurance (PHYD)
- Improved policy decision making via Agent Based Models

6 Minimise rebound effects and new risks

Focus: 3rd order effects only, e.g. societal and structural change

Main Principles

- Rebound effects
  - Take into account increasing resource consumption on aggregated scale (Jevons paradox)
- Risks
  - Prevent over-optimized processes at expense of resilience
  - Take into account rising complexity of systems

Benefits for provider and consumer

- Reliable products and services

Risks

- Challenge to internalize costs of rebound effects
- Difficulty to assess complexity of related risks

Examples:

- Smart Vending machine with reduced energy consumption increases aggregated vending machine spread and energy use
- Over-optimised processes for vehicle management can be prone to complete breakdown