UN GLOBAL COMPACT
Network
Malaysia & Brunei

SME ESG HUB

TRANSFORM

Sustainable Impact Canvas

OVERVIEW

The Sustainability Impact Canvas is a tool to incentives sustainable product- and business model design by helping designers to identify and optimise positive and negative effects of the respective business activities. The SIC forces designers to look at the positive as well as the negative impacts of their product or business idea, therefore generating the first input for a realistic impact assessment. It is structured along three levels, which take into account all potential impact categories at the technology level, the application level and the systems level.

Major advantages of this tool are that it balances a thorough methodology with an easy to use tool and that it can be used as an input generator for the Sustainable Business Model Canvas.

Most importantly, however, the SIC is an ideal tool to incentivise "honest accounting" by preventing designers form ignoring the potential negative effects of their products and business models, a common tendency and related to the confirmation bias.

⊕ Positive Impacts (Maximise)	⊖ Negative Impacts (Minimise)
Technology / Product (direct 1st order effects)	
Capture *(e.g. of waste or emissions)*	***Resource use*** *during production* ***Energy / resource and emissions*** *during use* ***Waste generated*** *during disposal*
Application of Technology (indirect 2nd order effects)	
Substitution *(e.g. of paper through digitalisation)* ***Optimisation*** *(e.g. of energy usage & processes)*	***Induction*** *(of resource consumption, e.g. energy)* ***Obsolescence*** *(e.g. via shorter product life cycles)*
Societal & Structural Change (systemic 3rd order effects)	
Incentivisation *(e.g. of fuel saving drive styles)* ***Decision making*** *(e.g. via agent based models)*	***Rebound effects*** *(e.g. via additional consumption)* ***New risks*** *(e.g. via rising network vulnerability)*

THE CANVAS

Positive Impacts (Maximise)	Negative Impacts (Minimise)

Technology / Product (direct 1st order effects)

Capture *(e.g. of waste or emissions)*	***Resource use*** *during production* ***Energy / resource and emissions*** *during use* ***Waste generated*** *during disposal*

Application of Technology (indirect 2nd order effects)

Substitution *(e.g. of paper through digitalisation)* ***Optimisation*** *(e.g. of energy usage & processes)*	***Induction*** *(of resource consumption, e.g. energy)* ***Obsolescence*** *(e.g. via shorter product life cycles)*

Societal & Structural Change (systemic 3rd order effects)

Incentivisation *(e.g. of fuel saving drive styles)* ***Decision making*** *(e.g. via agent based models)*	***Rebound effects*** *(e.g. via additional consumption)* ***New risks*** *(e.g. via rising network vulnerability)*

HOW TO USE

The SIC is best used by systematically analysing and completing the 6 main fields in the canvas, from first order effects to third order effects. The purpose of this exercise is to first identify, and then maximise and minimise the positive and negative effects, respectively.

1] Maximise capture of waste or emissions *(technology / product level)*

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)

+ Positive Impacts (Maximise)
Capture *(e.g. of waste or emissions)*

HOW TO USE

2] Minimise life-cycle impact of technology *(technology / product level)*

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
- Pre-empting 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)

Negative Impacts (Minimise)

Resource use *during production*

Energy / resource and emissions *during use*

Waste generated *during disposal*

HOW TO USE

3] Maximise optimisation and substitution potential *(application level)*

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 asses impact of substitution process

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

Positive Impacts (Maximise)

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

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

HOW TO USE

4] Minimise planned obsolescence and induction *(application level)*

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

Negative Impacts (Minimise)

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

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

HOW TO USE

5] Maximise incentivisation and smart decision making *(system level)*

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

Positive Impacts (Maximise)

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

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

HOW TO USE

6] Minimise systemic risks and rebound effects *(system level)*

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

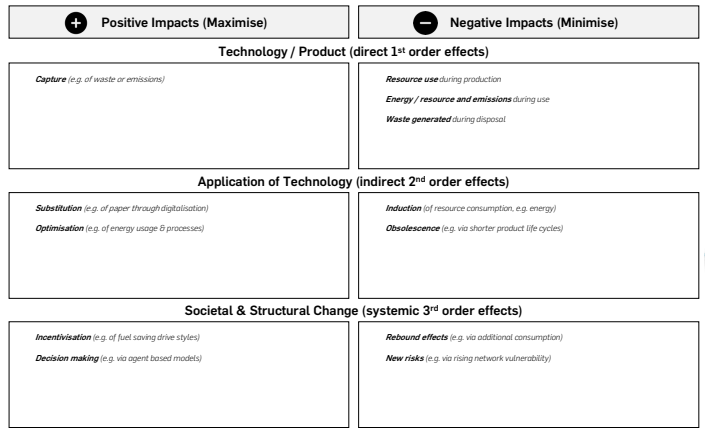
Negative Impacts (Minimise)

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

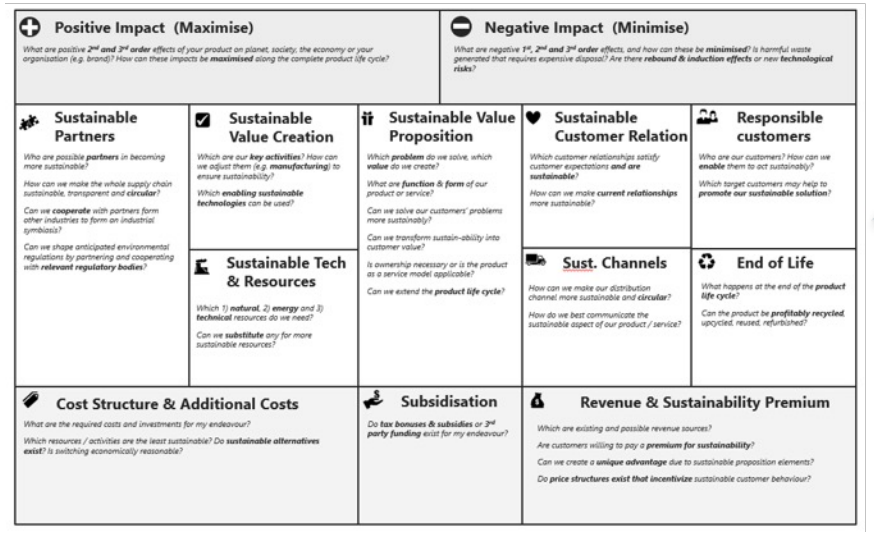
New risks *(e.g. via rising network vulnerability)*

HOW TO USE

Once the **Sustainability Impact Canvas** has been completed, you can summarise the results of the left and right columns respectively and use them as input for the **Sustainable Business Model Canvas**:



Input content from Impact Canvas into S-BMC



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