

GreenDelta^{TC}

sustainability consulting + software

Social LCA of an Ecolabeld Laptop

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Outline

- Background
- Goal and Scope
- Method
- Results
- Conclusions and Recommendations

Background

Relevance of (Portable) Computers

- Increasing importance of computers, especially portable ones
- Production mainly in Asia; often under poor working conditions
- PCs ...
 - ... are resource-intensive
 - ... contain many different substances (heavy metals, rare metals, flame retardants, ...)
 - ... consume energy
 - ... have a short life span
 - ... cause numerous social and environmental effects in their LC

The EU Ecolabel

- Voluntary labeling system that aims to promote eco-friendlier products
- It aims to identify green products in an easy way as certified products are labeled with the logo
- The label provides several criteria for every product that have to be fulfilled
- Meanwhile more than 1,000 products in 12 product groups as for instance paper, cleaning, electronics, furniture, or clothing are awarded



Goal and Scope

Goal

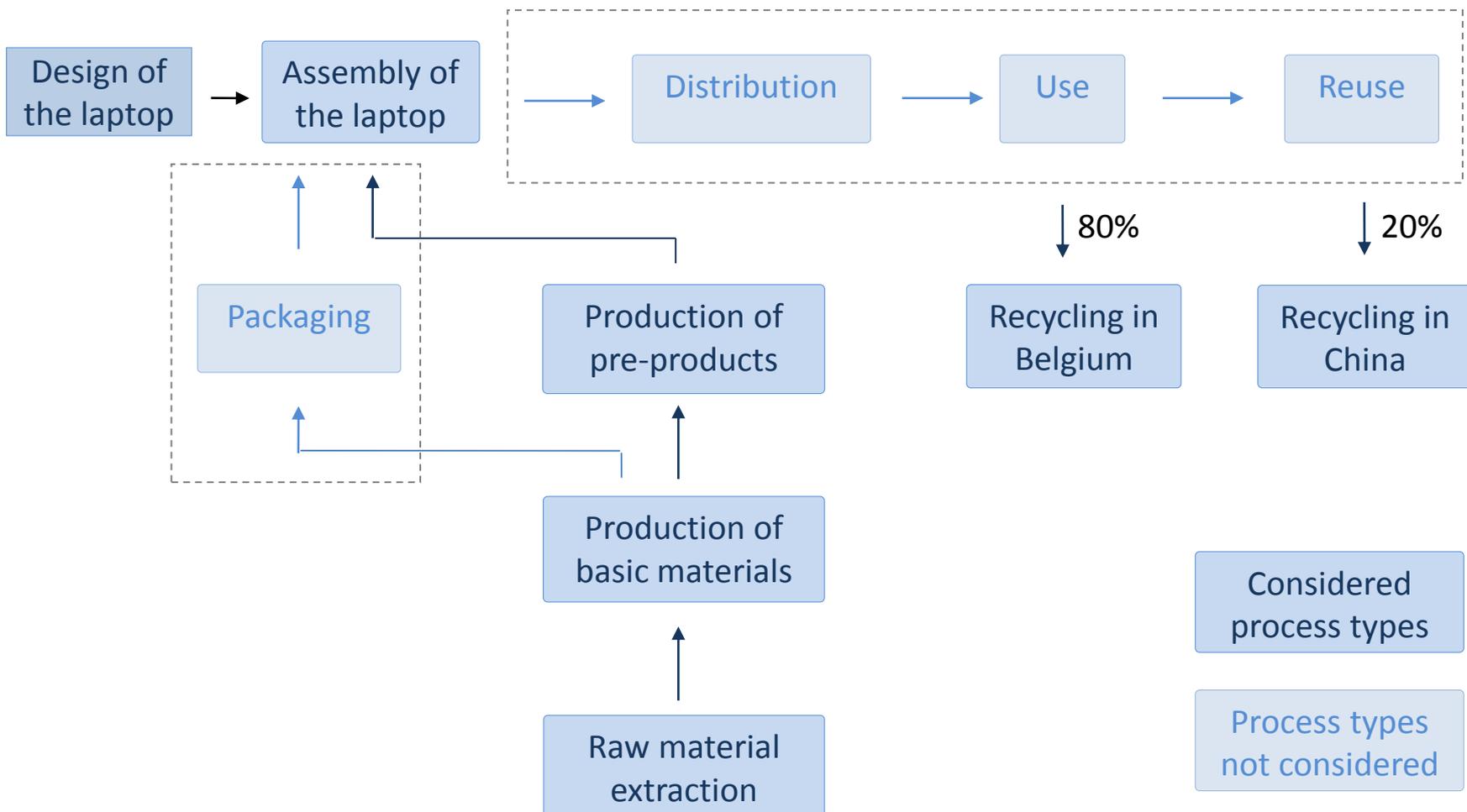
- Application of the UNEP/SETAC guidelines on a complex product
- Identification of social and environmental hot spots in the entire life cycle in order to improve the sustainable performance
- Derivation of recommendations

Scope: Functional unit

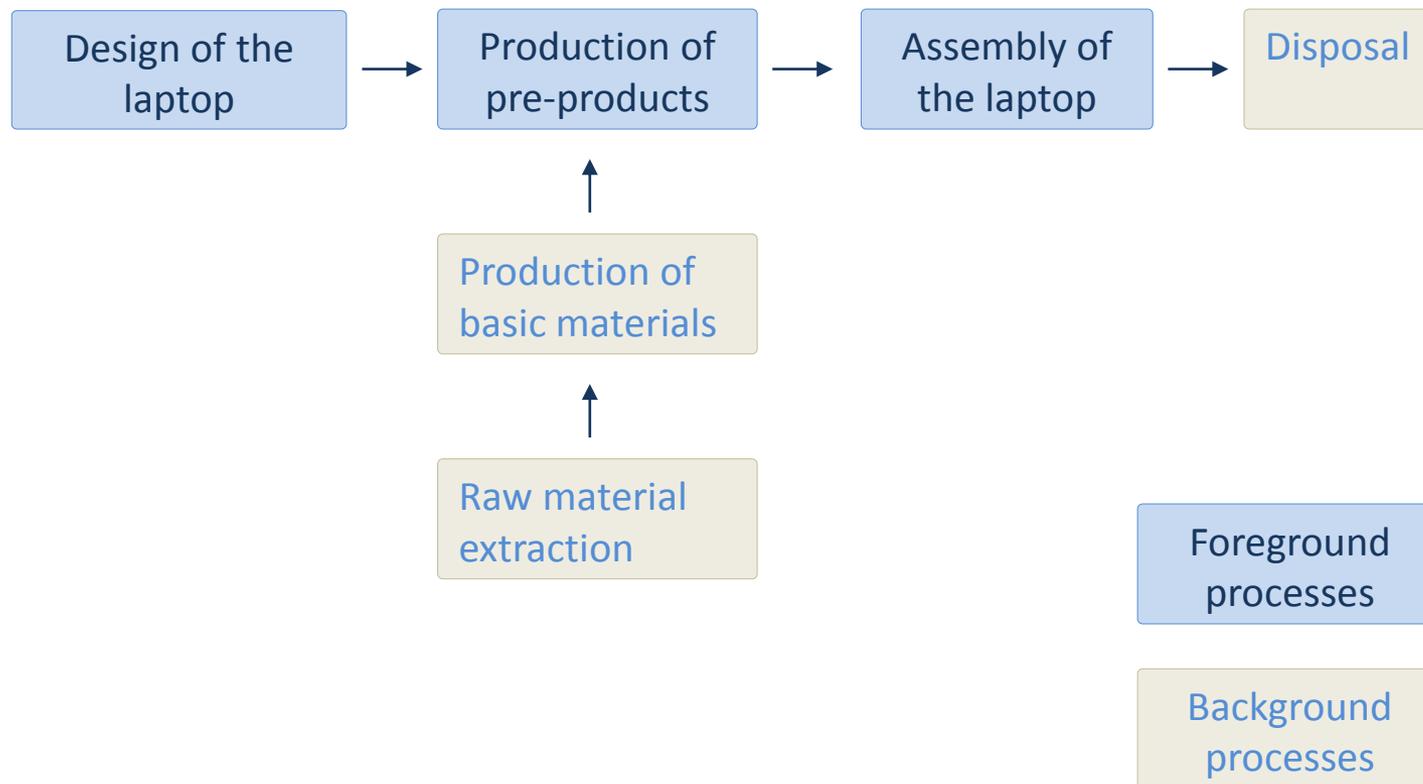


- Notebook for office use
- 15.6" display with LED backlights
- 8 cell lithium-ion battery
- Intel® Core™ 2 Duo processor with 2*1.3 GHz, 4096 MB RAM, and 500 GB hard drive space
- 3 USB ports
- ODD
- 5 in 1 card reader
- 2,3 kg weight

Scope: System boundary



Scope: Foreground and background processes

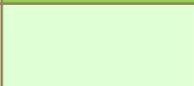


Method

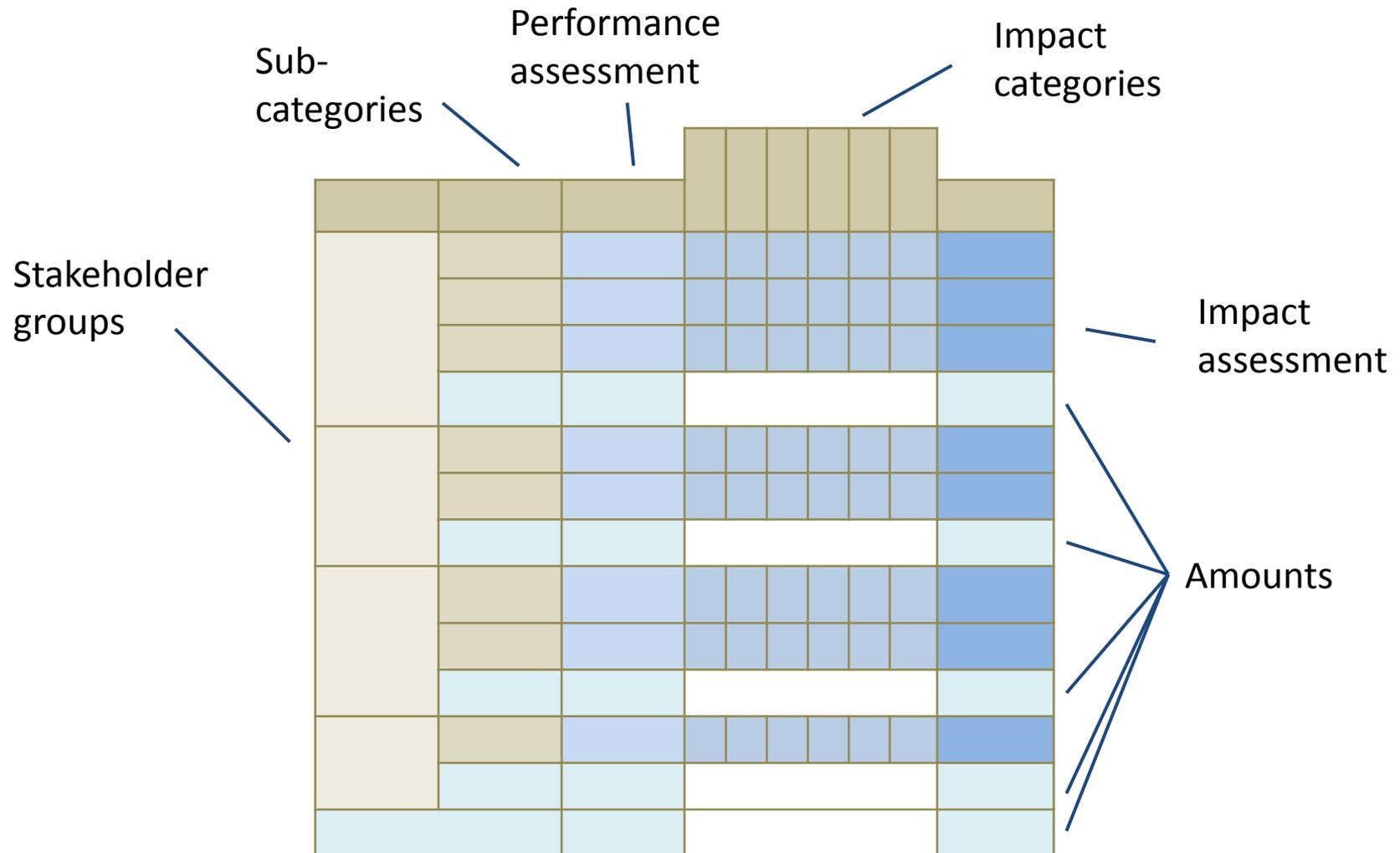
Approach

- UNEP/SETAC guidelines as basis
- Determination of stakeholders, subcategories, and indicators
- Data sources for generic data:
 - governmental and non-governmental organisations
 - Internet research and literature review
- Data sources for company-specific data:
 - Corporate reports and websites
 - Reports from NGOs
 - Questionnaires
 - Interviews with workers
 - Internet research
- Application of own S-LCIAM

S-LCIAM: The Rating Scale

Performance assessment	Impact assessment	Colour	Factor
Very good performance	Positive effect		1
Good performance	Lightly positive effect		2
Satisfactory performance	Indifferent effect		3
Inadequate performance	Lightly negative effect		4
Poor performance	Negative effect		5
Very poor performance	Very negative effect		6

S-LCIAM: The Assessment Table



Results

Raw material extraction – Copper from DRC

- Formal and informal mining sector
- Severe restrictions of union rights
- Unfair salary
- Occurrence of child and forced labour
- Hardly any safety measures
- Environmental pollution
- Mining sector is involved in war
- Use of outdated technologies
- Widespread corruption

Stakeholder group	Subcategory	Performance assessment							Impact assessment
			W	He	Hl	ec So	In	Gc	
Workers	Freedom of association and collective bargaining	6	✓	✓	✓	✓	✓	✓	6
	Child labour	5	✓	✓	✓	✓	✓	✓	6
	Forced labour	5	✓	✓	✓	✓	✓	✓	6
	Fair salary	4	✓	✓	✓	✓	✓	✓	5
	Working time	5	✓	✓	✓	✓	✓	✓	6
	Discrimination	5	✓	✓	✓	✓	✓	✓	6
	Health and safety	6	✓	✓	✓	✓	(✓)	✓	6
	Social benefits/social security	5	✓	✓	✓	✓	(✓)	✓	6
	Amount	5.13							5.88
Local community	Access to material resources	5	(✓)	✓	✓	✓	(✓)	✓	5
	Access to immaterial resources	5	✓	✓	✓	✓	✓	✓	5
	Delocalisation and migration	4	(✓)	(✓)	✓	(✓)	✓	✓	5
	Cultural heritage	no information							
	Respect of indigenous rights	4	-	-	✓	✓	✓	✓	5
	Safe and healthy living conditions	6	✓	✓	✓	(✓)	(✓)	✓	6
	Secure living conditions	4	✓	✓	✓	(✓)	-	✓	2
	Local employment	5	✓	✓	✓	✓	✓	✓	5
	Community engagement	5	-	✓	✓	(✓)	(✓)	✓	2
Amount	5.00							5.00	
Society	Public commitments to sustainable issues	4	(✓)	(✓)	(✓)	-	(✓)	✓	2
	Contribution to economic development	3	✓	✓	✓	✓	✓	✓	2
	Prevention and mitigation of conflicts	6	✓	✓	✓	✓	✓	✓	6
	Technology development	6	✓	✓	✓	-	-	✓	5
	Corruption	6	✓	✓	✓	✓	✓	✓	6
Amount	5.00							5.00	
Total amount	5.04							5.29	

Conclusions & Recommendations

Conclusions

- Presence of social hot spots in the raw material extraction, production, and recycling phase, especially informal sectors have negative social impacts
- Coherence between development status of a country and occurrence of social hot spots in a specific sector
- The presence of codes of conduct could not avoid worker right violations

Recommendations

- Improvement of labour conditions
- Implementation of meaningful codes of conducts
- Verification of codes of conducts
- Fair behaviour within supply chains
- Engagement in CSR
- Transparency

Conclusions with regard to the application of S-LCA

- The guidelines developed by the UNEP/SETAC are applicable
- Further research is needed
- Several challenges regarding
 - data availability
 - consideration of the use phase
 - social life cycle impact assessment
 - use of subcategories and indicators
 - use of software, etc.

Q&A

Thank you for your attention!

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The final report of the project will be available Mid of November
on our website: www.greendeltatc.com