

GreenDeLTa

sustainability consulting + software

Social LCA/Social Metrics

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Social LCA/Social Metrics

o Begriffsklärungen: Worum geht es überhaupt

1 Social LCA / Social Metrics: Warum?

2 ..wie?

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4 ..wie nicht?

5 Ausblick, persönliche Einschätzung

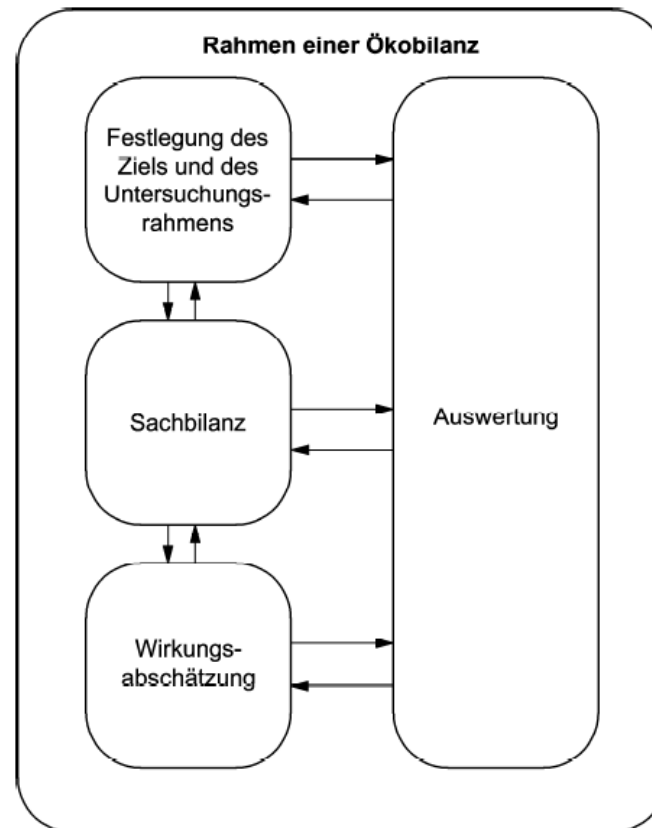
0 Begriffsklärungen

Social LCA / Social Metrics

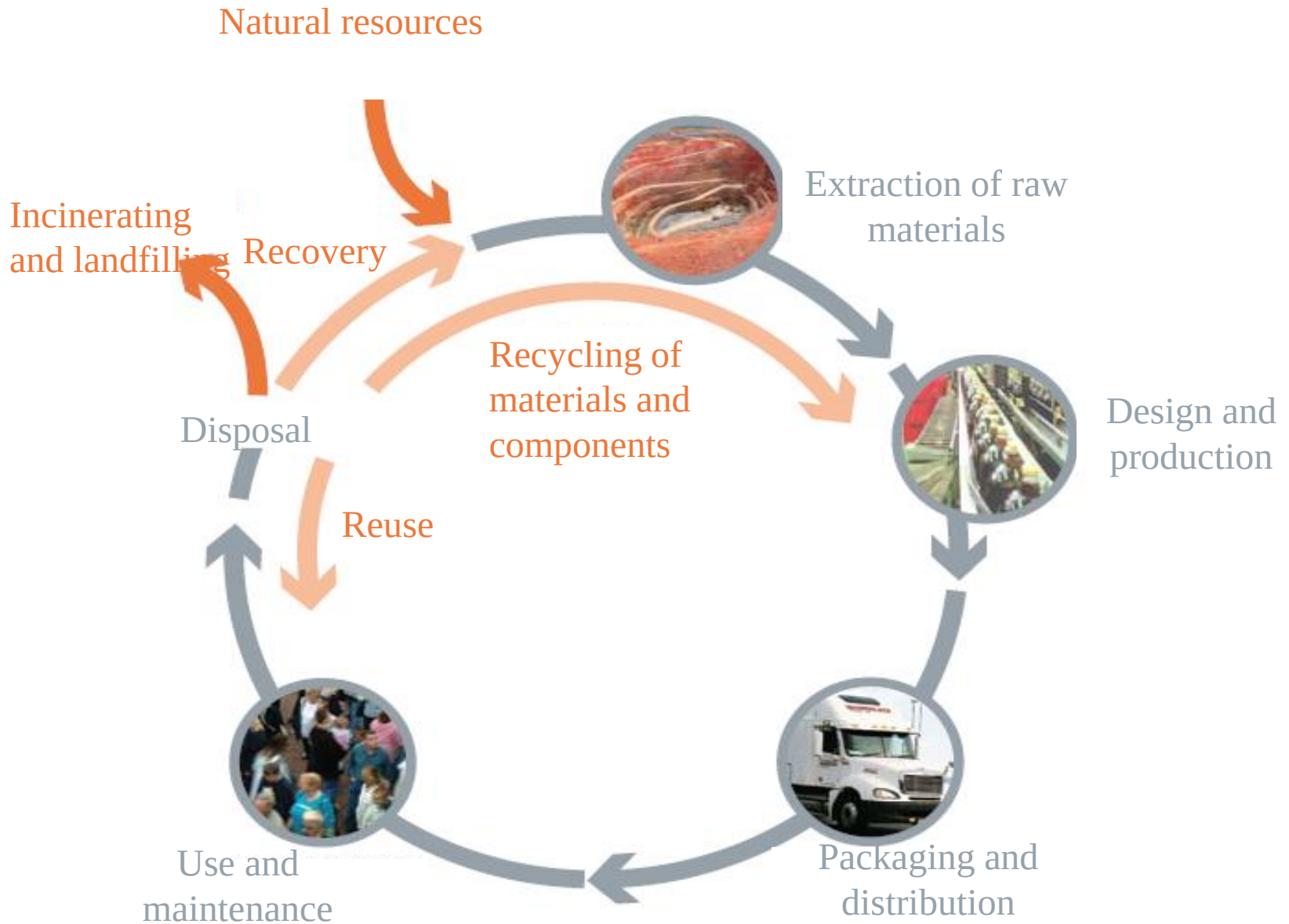
- **LCA:** Life Cycle Assessment, standardisierte Methode zur Abschätzung der Umweltauswirkungen von Produkten über den gesamten Lebensweg
- Typischerweise viele verbundene Prozesse als kleinste Einheiten im Lebensweg, jeder einzelne davon eher simpel modelliert

Ökobilanzierung / LCA

- Prinzip der vier Phasen, iterativer Prozess
(Bild aus ISO 14040)



Lebensweg



Social LCA

- **Abschätzung der sozialen Auswirkungen über den gesamten Lebensweg**
 - **von Produkten**
 - **oder auch von Organisationen**
- Begriff vor allem geprägt von UNEP/SETAC Arbeitsgruppe, die eine Methode in direkter Anlehnung an LCA schaffen wollte (und geschaffen hat)

Social Metrics

(Weniger scharf definiert -)

Soziale Auswirkungen von Produkten über den Lebensweg, verschieden umfassend

- BASF SEEBalance;
- ÖkolInstitut ProSa;
- B. Mazijn: Socio-Economic Life Cycle Costing;
- ...

Social LCA / Social Metrics

→ Bestimmung, Analyse, Verbesserung der sozialen Auswirkungen von Produkten über den gesamten Lebensweg

Oder zumindest für Teile im gesamten Lebensweg.

1 Social LCA: Warum?

Warum Social LCA?

Warum LCA / Lebenszyklus: Auswirkungen von Produkten sind typischerweise nicht an einer Stelle konzentriert sondern finden sich auch “weiter vorne” in der Zulieferkette z.B.; der Lebenszyklusansatz erkennt das.

Warum Social LCA?



> 100 deaths due to collapse of a textile producer building in Bangladesh

Warum Social LCA?

Warum “Sozial”:

- Bestandteil der Unternehmensziele (auch indirect: Unternehmensziel Nachhaltigkeit)
- “social due diligence”

Warum Social LCA?

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Partnersuche

START POLITIK **WIRTSCHAFT** MEINUNG GESELLSCHAFT KULTUR WISSEN DIGITAL STUDIUM KA

Unternehmen | Geldanlage | Börse

🏠 ZEIT ONLINE zur Startseite machen

China-Blog

Felix Lee über Roten Kapitalismus und chinesische Online-Phänomene



Apple bleibt ein Ausbeuterkonzern

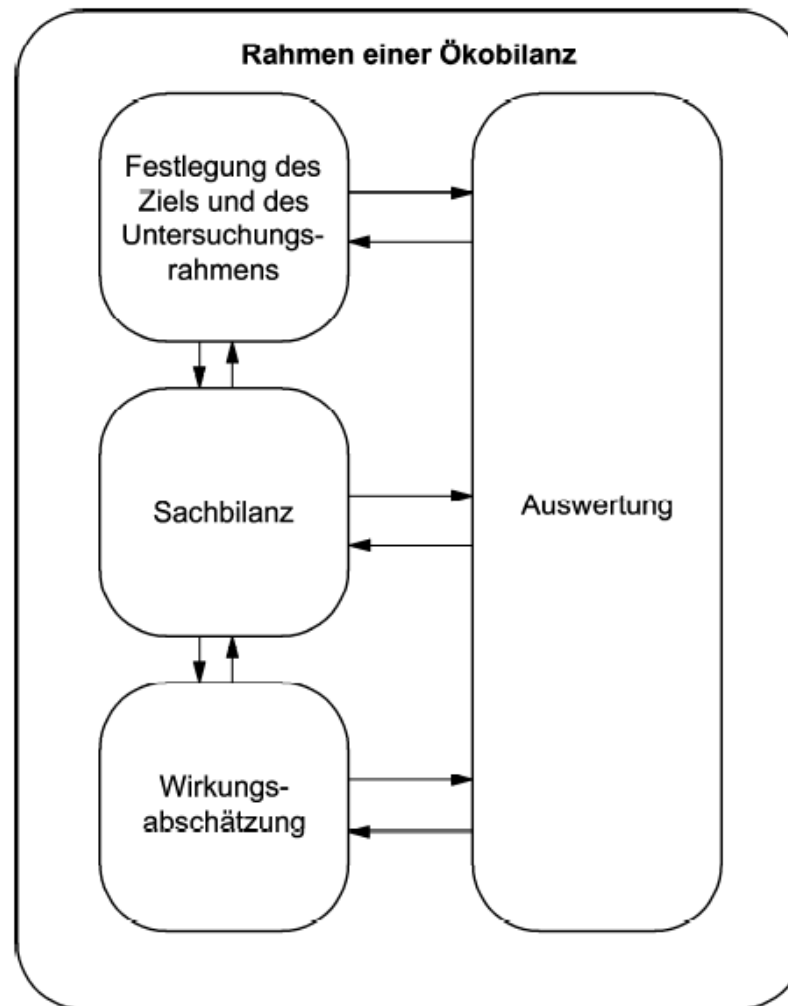
VON Felix Lee 29. JULI 2013 UM 13:51 UHR

“social due diligence”

<http://blog.zeit.de/china/2013/07/29/apple-bleibt-einausbeuterkonzern/>

2 Social LCA: Wie?

Social LCA: Vorgehensweise



Social LCA: Vorgehensweise

Wirklich ganz analog zur Vorgehensweise bei Ökobilanzen, Carbon Footprint Studien.

Aber Besonderheiten:

- Indikatoren sind keine naturwissenschaftlichen Messergebnisse sondern teilweise subjektiv
- Indikatoren können qualitativ sein
- Indikatoren können auch positive Wirkungen abbilden (Beitrag zur Beschäftigung, Bildung, ...)
- Methode weniger weit entwickelt, weniger Datenbanken & Software verfügbar

Social LCA: Klassisches Beispiel

Social LCA for a notebook computer ASUSTek UL50Ag, GreenDelta 2011



Social LCA for a notebook computer: einige Bestandteile

- Produktauswahl, Zielfestlegung
- Indikatorendefinition und -auswahl
- Performance Reference Points Festlegung
- Datenerhebung und Modellierung Lebensweg
- Auswertung einschließlich Aggregation über den Lebensweg

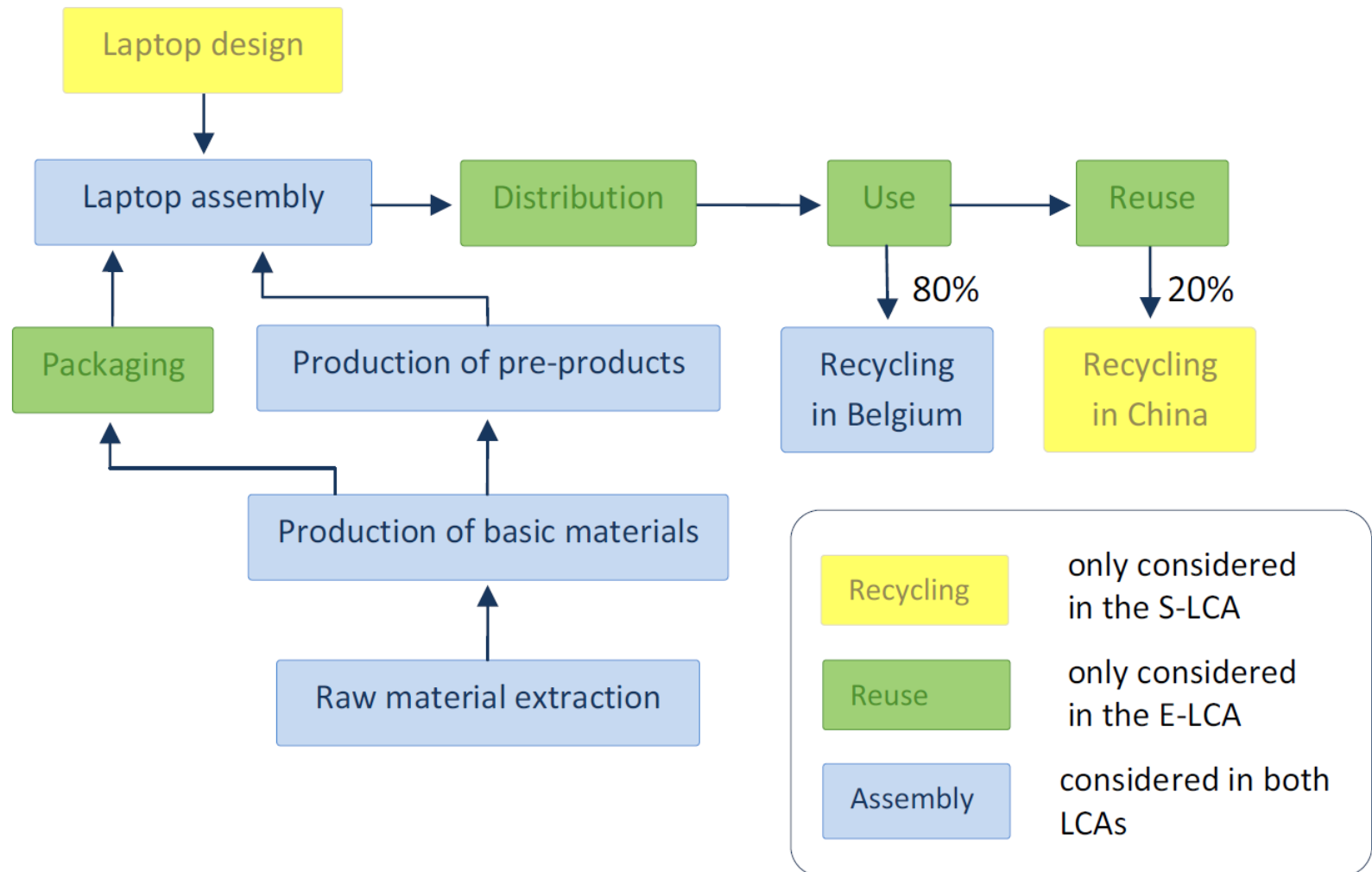
Social LCA for a notebook computer: Indikatoren und Performance Reference Points

Performance Reference Points: Wie sollen die Indikatoren gemessen werden. Skala und Richtung.

Subcategories	Performance Reference Points	Basis
Freedom of association and collective bargaining	Freedom of association and collective bargaining should be ensured. The forming and joining of independent trade unions should be possible.	■ ILO labour standards ■ UN Declaration on Human Rights ■ OECD Guidelines for Multinational Enterprises ■ UN Global Compact ■ IFC Performance Standards on Social and Environmental Sustainability ■ The Global Sullivan Principles ■ UNEP/SETAC method sheets
Child labour	No occurrence of child labour.	■ ILO labour standards ■ OECD Guidelines for Multinational Enterprises ■ UN Global Compact ■ IFC Performance Standards on Social and Environmental Sustainability ■ The Global Sullivan Principles ■ UNEP/SETAC method sheets
Forced labour	No occurrence of forced labour.	■ ILO labour standards ■ OECD Guidelines for Multinational Enterprises ■ UN Global Compact ■ IFC Performance Standards on Social and Environmental Sustainability ■ The Global Sullivan Principles ■ UNEP/SETAC method sheets
Fair salary	The wage level should ensure a decent standard of living. The payment of the minimum wage is often not sufficient. Further, companies should pay in time and do not withhold shares of the salary.	■ ILO labour standards ■ UN Declaration on Human Rights ■ The Global Sullivan Principles ■ UNEP/SETAC method sheets
Working time	The working time should not exceed 8 hours per day and 48 hours per week.	■ ILO labour standards ■ UNEP/SETAC method sheets
Discrimination	No occurrence of discrimination. Further, companies should employ minorities and the employment ratio men to	■ ILO labour standards ■ UN Declaration on Human Rights ■ OECD Guidelines for Multinational

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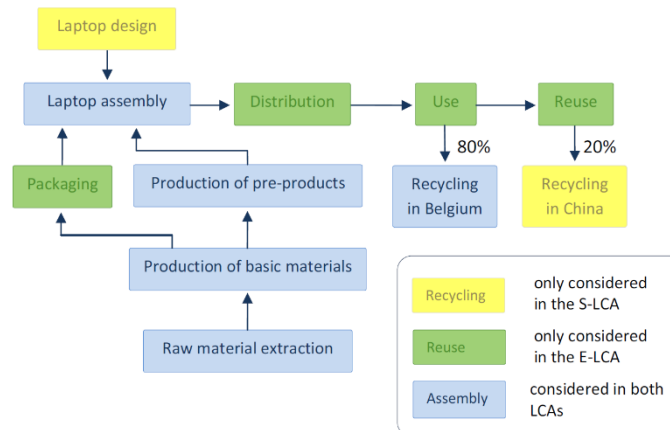
Social LCA for a notebook computer: Datenerhebung und Lebensweg



Social LCA for a notebook computer: Datenerhebung und Lebensweg

- Komplette Neuerhebung, Befragung in China, verschiedene Datenquellen...
- Unterscheidung in Vordergrund- und Hintergrundprozesse

(Heute: generische Datenbank Social Hot Spots Database)



Social LCA for a notebook computer: Impact Assessment und Auswertung

Für jeden einzelnen Indikator und Prozess bewertet, entspr. Performance Reference Point

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

Raw material extraction – Copper from Chile

- Strong labour movement
- Moderate working time
- Discrimination?
- Environmental pollution
- Violation of indigenous land rights
- Demonstrations against the mining sector
- Negative health effects
- High degree of automation, but focus is not the development of eco-friendlier technology

Stakeholder group	Subcategory	Performance assessment	Working conditions	Health and safety	Human rights	Socio-ec. repercussions	Indigenous rights	Governance	Impact assessment
Worker	Freedom of association and collective bargaining		✓	✓	✓	✓	(✓)	(✓)	
	Child labour		✓	✓	✓	✓	✓	✓	
	Forced labour		✓	✓	✓	✓	✓	✓	
	Fair salary		✓	✓	✓	✓	✓	✓	
	Working time		✓	✓	✓	✓	✓	✓	
	Discrimination		✓	(✓)	✓	(✓)	(✓)	(✓)	
	Health and safety		✓	✓	✓	(✓)	(✓)	✓	
	Social benefits/social security	no information							
Local community	Access to material resources		(✓)	✓	✓	(✓)	✓	✓	
	Access to immaterial resources		✓	✓	✓	✓	✓	✓	
	Delocalisation and migration		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	
	Cultural heritage	deficient information							
	Respect of indigenous rights		-	-	✓	✓	✓	✓	
	Safe and healthy living conditions		✓	✓	✓	(✓)	(✓)	✓	
	Secure living conditions	no information							
	Local employment		✓	(✓)	-	(✓)	(✓)	(✓)	
	Community engagement		-	✓	✓	(✓)	✓	(✓)	
Society	Public commitments to sustainable issues		(✓)	(✓)	(✓)	-	(✓)	✓	
	Contribution to economic development		✓	✓	✓	✓	✓	✓	
	Prevention and mitigation of conflicts		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	
	Technology development		✓	✓	✓	-	(✓)	✓	
	Corruption		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	

Raw material extraction – Copper from the Congo

- 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
- Migrant workers
- Use of outdated technologies
- Widespread corruption

Stakeholder group	Subcategory	Performance assessment	Working conditions	Health and safety	Human rights	Socio-ec. repercussions	Indigenous rights	Governance	Impact assessment
Worker	Freedom of association and collective bargaining		✓	✓	✓	✓	✓	✓	
	Child labour		✓	✓	✓	✓	✓	✓	
	Forced labour		✓	✓	✓	✓	✓	✓	
	Fair salary		✓	✓	✓	✓	✓	✓	
	Working time		✓	✓	✓	✓	✓	✓	
	Discrimination		✓	✓	✓	✓	✓	✓	
	Health and safety		✓	✓	✓	✓	(✓)	✓	
	Social benefits/social security		✓	✓	✓	✓	(✓)	✓	
Local community	Access to material resources		(✓)	✓	✓	✓	(✓)	✓	
	Access to immaterial resources		✓	✓	✓	✓	✓	✓	
	Delocalisation and migration		(✓)	(✓)	✓	(✓)	✓	✓	
	Cultural heritage	no information							
	Respect of indigenous rights		-	-	✓	✓	✓	✓	
	Safe and healthy living conditions		✓	✓	✓	(✓)	(✓)	✓	
	Secure living conditions		✓	✓	✓	(✓)	-	✓	
	Local employment		✓	✓	✓	✓	✓	✓	
	Community engagement		-	✓	✓	(✓)	(✓)	✓	
Society	Public commitments to sustainable issues		(✓)	(✓)	(✓)	-	(✓)	✓	
	Contribution to economic development		✓	✓	✓	✓	✓	✓	
	Prevention and mitigation of conflicts		✓	✓	✓	✓	✓	✓	
	Technology development		✓	✓	✓	-	-	✓	
	Corruption		✓	✓	✓	✓	✓	✓	

Production of pre-products – RAM by Company X

- Presence of a trade union at company, but there are restrictions
- Fair salary
- Moderate working time
- No case of discrimination, share of women is 49.6%
- Environmental pollution, but presence of an EMS

Stakeholder group	Subcategory	Performance assessment	Working conditions	Health and safety	Human rights	Social responsibilities	Indigenous rights	Governance	Impact assessment
Worker	Freedom of association and collective bargaining		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	
	Child labour		✓	✓	✓	✓	✓	✓	
	Forced labour		✓	✓	✓	✓	✓	✓	
	Fair salary		✓	✓	✓	✓	✓	✓	
	Working time		✓	✓	✓	✓	✓	✓	
	Discrimination		✓	(✓)	✓	✓	(✓)	(✓)	
	Health and safety		✓	✓	✓	✓	(✓)	✓	
	Social benefits/social security		✓	✓	✓	✓	✓	✓	
Local community	Access to material resources		(✓)	✓	✓	(✓)	(✓)	✓	
	Access to immaterial resources		✓	(✓)	(✓)	(✓)	(✓)	(✓)	
	Relocalisation and migration		-	(✓)	✓	(✓)	✓	(✓)	
	Cultural heritage	deficient information							
	Respect of indigenous rights	not relevant							
	Safe and healthy living conditions		✓	✓	✓	(✓)	-	✓	
	Secure living conditions		✓	✓	✓	(✓)	-	✓	
	Local employment		✓	(✓)	-	✓	✓	✓	
	Community engagement		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	
Society	Public commitments to sustainable issues		✓	✓	✓	-	(✓)	✓	
	Contribution to economic development		✓	✓	✓	✓	✓	✓	
	Prevention and mitigation of conflicts	not relevant							
	Technology development		✓	✓	(✓)	-	-	✓	
	Corruption		(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	
Value chain actors	Fair competition		(✓)	(✓)	(✓)	-	-	✓	
	Promoting social responsibility		✓	✓	✓	(✓)	(✓)	✓	
	Supplier relationships	deficient information							
	Respect of intellectual property rights		-	-	(✓)	-	-	(✓)	

Social LCIA overall result, all stakeholders



Social LCA for a notebook computer: Auswertung: Aggregation?

Wie kommt man von den Einzelindikatoren je Prozess auf einen Wert je Prozess, und/oder auf einen Wert für den gesamten Lebensweg?

Social LCA for a notebook computer: Auswertung: Aggregation?

Wie kommt man von den Einzelindikatoren je Prozess auf einen Wert je Prozess, und/oder auf einen Wert für den gesamten Lebensweg?

Beispiel:

Gewichten mit

- Arbeitszeit
- Kosten

je Prozess

3 Ansatzpunkte für social LCA

Ansatzpunkte für social LCA „heutzutage“

- Vorhandene Indikatorensets und vorhandene Performance Reference Point Einstufungen
- Social Hot Spots Database als generische Hintergrunddatenbank (mit Schwächen)

Ansatzpunkte für social LCA

Vorhandene Indikatorensets

- UNEP/SETAC 2009
- Notebook Computer Study 2011
- ProSuite 2013
- PRé Product Social Impact Handbook 2014
- Social Hot Spots Database (SHDB) 2013
- ...

UNEP/SETAC immer noch Referenz, andere eher Teilauswahl; SHDB: Erweiterungen, ungewöhnlich

Ansatzpunkte für social LCA

Vorhandene Indikatorensets: UNEP/SETAC

Stakeholder categories	Subcategories
Stakeholder “worker”	- Freedom of Association and Collective Bargaining - Child Labour - Fair Salary - Working Hours - Forced Labour - Equal opportunities/Discrimination - Health and Safety - Social Benefits/Social Security
Stakeholder “consumer”	- Health & Safety - Feedback Mechanism - Consumer Privacy - Transparency - End of life responsibility
Stakeholder “local community”	- Access to material resources - Access to immaterial resources - Delocalization and Migration - Cultural Heritage - Safe & healthy living conditions - Respect of indigenous rights - Community engagement - Local employment - Secure living conditions
Stakeholder “society”	- Public commitments to sustainability issues - Contribution to economic development - Prevention & mitigation of armed conflicts - Technology development - Corruption
Value chain actors* not including consumers	- Fair competition - Promoting social responsibility - Supplier relationships - Respect of intellectual property rights

Ansatzpunkte für social LCA

Vorhandene Indikatorensets: Notebook Study GreenDelta: Workers, foreground

Subcategory	Indicators
Freedom of association and collective bargaining	■ Evidence of restriction to freedom of association and collective bargaining in country/sector/company ■ Presence of unions within the sector/organisation and description of their influence
Child labour	■ Percentage of child labour in country/sector/organisation ■ Description of kind of child labour in the company
Forced labour	■ Frequency of forced labour in country/sector/enterprise ■ Description of kind of forced labour in the company
Fair salary	■ Specification of living wage and minimum wage in the country ■ Wage level of the worker with lowest income and description of payment performance of the sector/enterprise
Working time	■ Hours of work per employee and month in average ■ Number of days without work per week ■ Description of how overtime is handled
Discrimination	■ Percentage of women in the labour force in the sector ■ Country gender index ranking ■ Occurrence of discrimination in the country/sector/company ■ Presence of formal policies of equal opportunities

Ansatzpunkte für social LCA

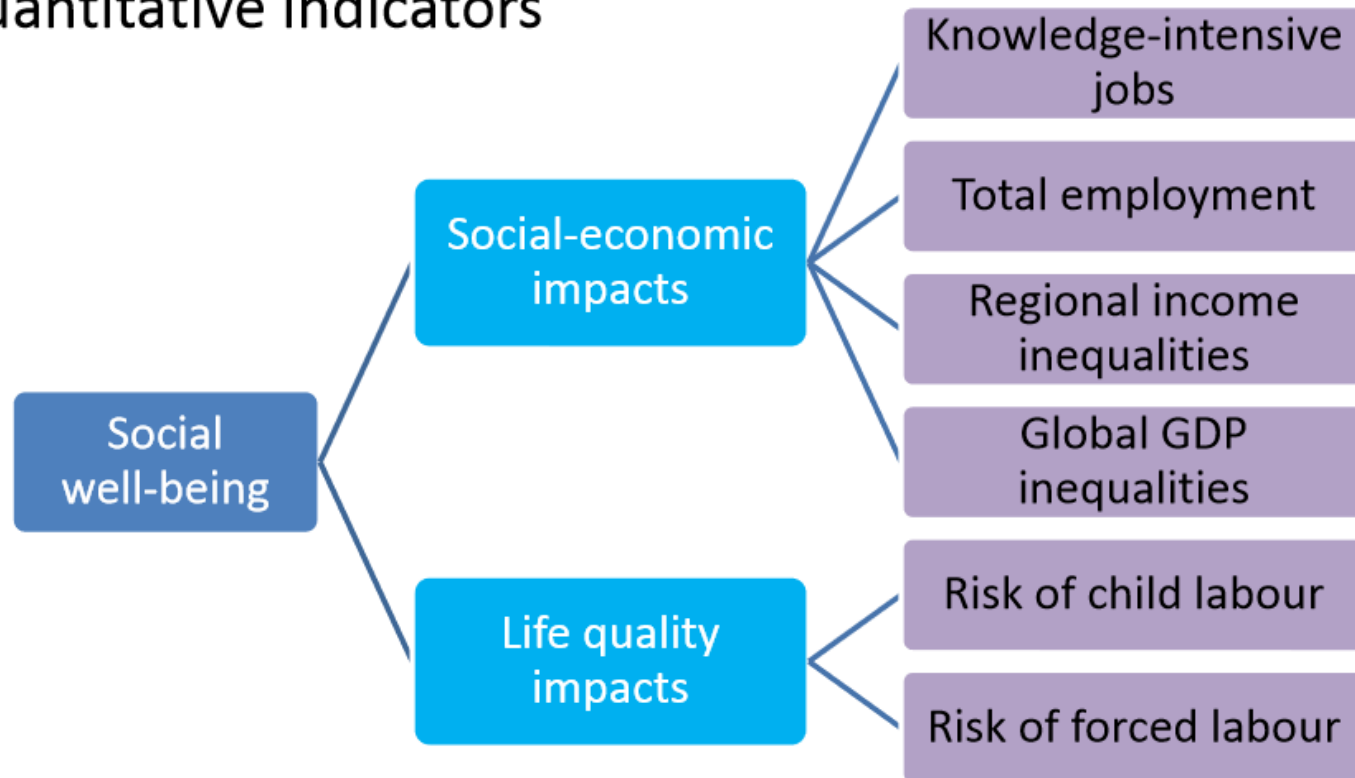
Vorhandene Indikatorensets: Notebook Study GreenDelta: Workers, foreground, 2

Subcategory	Indicators
	■ Share of women and minorities of personnel ■ Ratio of salary of women to wages of men in sector/company ■ Treatment of workers in general
Health and safety	■ Description of potential main origins of danger and protection measures ■ Description of reported violations ■ Accident rate of the country/sector/organisation ■ Presence of a formal policy regarding health and safety
Social benefits/ social security	■ Social security expenditures of the country/sector ■ List of social benefits provided to workers ■ Evidence of violations to laws and employment regulations

Ansatzpunkte für social LCA

Vorhandene Indikatorensets: ProSuite

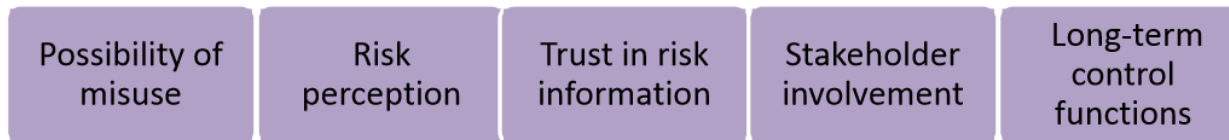
Quantitative indicators



Ansatzpunkte für social LCA

Vorhandene Indikatorensets: ProSuite

Qualitative indicators



Ansatzpunkte für social LCA

Vorhandene Indikatorensets: PRé Round Table

Workers

- Health and safety
- Wages
- Social benefits
- Working hours
- Child labour
- Forced labour
- Discrimination
- Freedom of association and collective bargaining
- Employment relationship
- Training and education
- Work-life balance
- Job satisfaction and engagement

Consumers

- Health and safety
- Experienced well-being

Local communities

- Health and safety
- Access to tangible resources
- Local capacity building
- Community engagement
- Employment

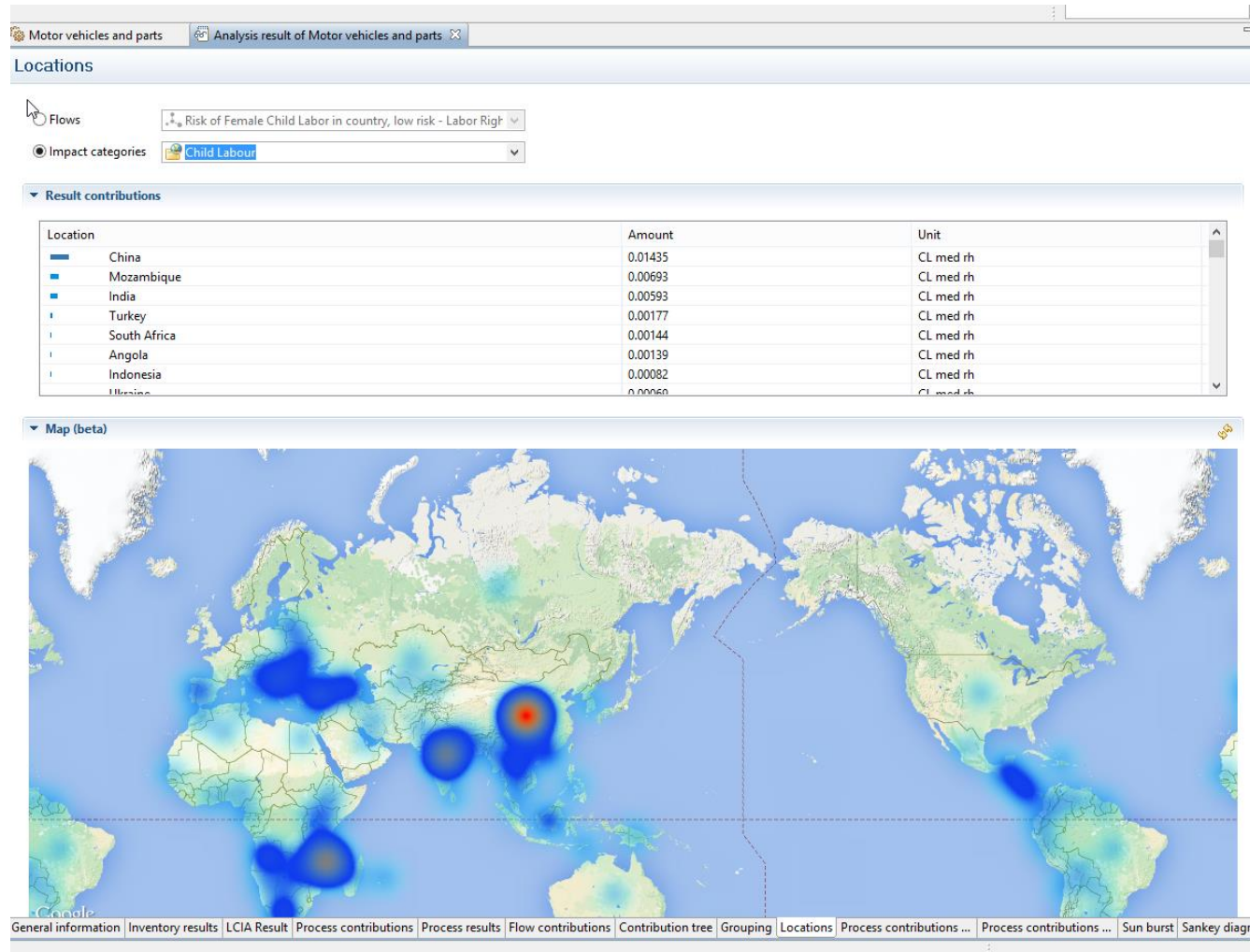
Ansatzpunkte für social LCA

Datenbank: Social Hot Spots Database

- Norris / Benoit 2013
- Basiert auf dem GTAP Modell -> Modell der gesamten Weltwirtschaft Stand 2002 (!)
- Mit sozialen Bewertungen verfügbar (mit einem bestimmten, recht umfassenden Indikatorenset)
- Grundlagen der Bewertung nicht zugänglich
- Die Datenbank ist sektorbasiert, keine einzelnen Produkte
- 4000 € /Lizenz
- Nur in SimaPro und openLCA lauffähig

Ansatzpunkte für social LCA

Datenbank: Social Hot Spots Database



Ansatzpunkte für social LCA

Datenbank: PSILCA DB

- Product Social Impact LCA Database
- Im Entstehen; GreenDelta
- Grundlage: Eora World Multi Region IO database → aktueller und umfassender als GTAP
- Social Indicators ähnlich UNEP/SETAC & Notebookstudie
- Bewertungsgrundlagen bleiben sichtbar
- Ziel: Erste Version Ende 2014
- Funding Consortium, Advisory Board; später Lizenzverkauf

4 Social LCA: Wie nicht?

Übliche Fallstricke in der Anwendung von social LCA Studien

- Zu viel Fokus auf Indikatorenauswahl und –definition → besser alle Schritte der Fallstudie zumindest grob durchgehen und dann verfeinern
- Zu starker Fokus auf Quantifizierung → relevante qualitative Aspekte bleiben unbeachtet
- Das Produkt ist zu stark eingeschränkt und hat dadurch keine wirkliche Relevanz mehr (PKW – Flüssigkristallchemikalie im Laptop)
- Zuviel Erbsenzählen und Accounting
- Lebenswegperspektive vergessen, eher lokal beschränkte Workshops

Übliche Fallstricke in der Anwendung von social LCA Studien vermeiden

- Am Anfang lieber schnellere Tests; später mehr Gewicht auf Schaffung langfristig nutzbarer Methode und Datenbasis
- Das Rad nicht neu erfinden
- “Sich austauschen und zusammensetzen” (Roundtable o.ä.) und gleichzeitig selbst aktiv sein

5 Ausblick

Ausblick (Einschätzung)

- Social LCA und social metrics sind bereit für eine breitere Anwendung; Anwendung ist jetzt schon sinnvoll;
- Es gibt noch methodischen und praktischen Gestaltungsspielraum:
 - Datenbank
 - Auswertung
 - Due diligence Ausgestaltung
- Vorteile für early movers (aber auch ein gewisses Risiko)

Über GreenDelta

Unabhängiges, international tätiges Ingenieurbüro und Forschungsunternehmen, Sitz in Berlin

- 10 Mitarbeiter
- Nachhaltigkeitsberatung und –forschung (Ökobilanzen, Social LCA, LCC)
- Softwareentwicklung (z.B. openLCA)
- Datenbank und Softwarevertrieb (alle relevanten LCA Datenbanken für openLCA; <https://nexus.openlca.org/>; SimaPro)

Über GreenDelta

Social LCA, aktuelle Projekte:

- Social LCA für einen PKW, im Auftrag eines Automobilherstellers (methodischer Input, Software, Datenerhebung)
- Social LCA als Teil einer Sustainability LCA für 12 Unternehmen der Lebensmittelbranche in Chile, methodischer Input und Konzeption der Datenerhebung, Auftraggeber: Fundación Chile
- PSILCA DB

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Vielen Dank.

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