

Sustainable wellbeing screening with the 2021 Social Footprint method

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Credits : Bo Weidema

The 2021 Social Footprint method

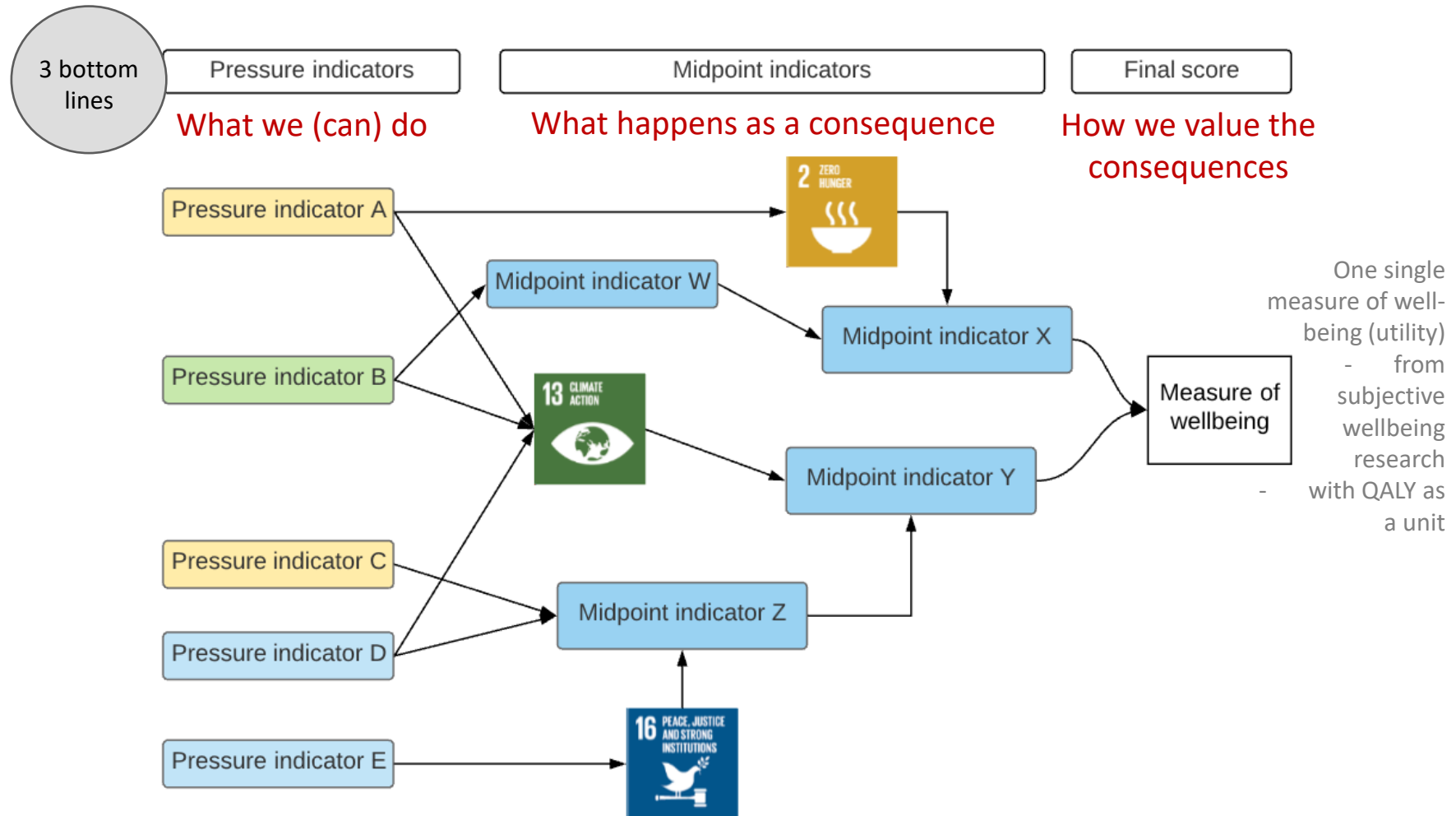
The 2021 Social Footprint method

- Combines **input-output data** on **value-added** and **work-hours** with an impact assessment on macro-scale impacts of the non-production specific impacts
- Applies equity-weights (or utility-weights), based on the countr-specific average wage/income
- Measures the sustainable wellbeing as **Quality-Adjusted person Life-Year (QALY)**
 - It is suggested as a unit for ‘Sustainable wellbeing’ in parallel to the Disability-Adjusted Life-Year (DALY)

Unique features

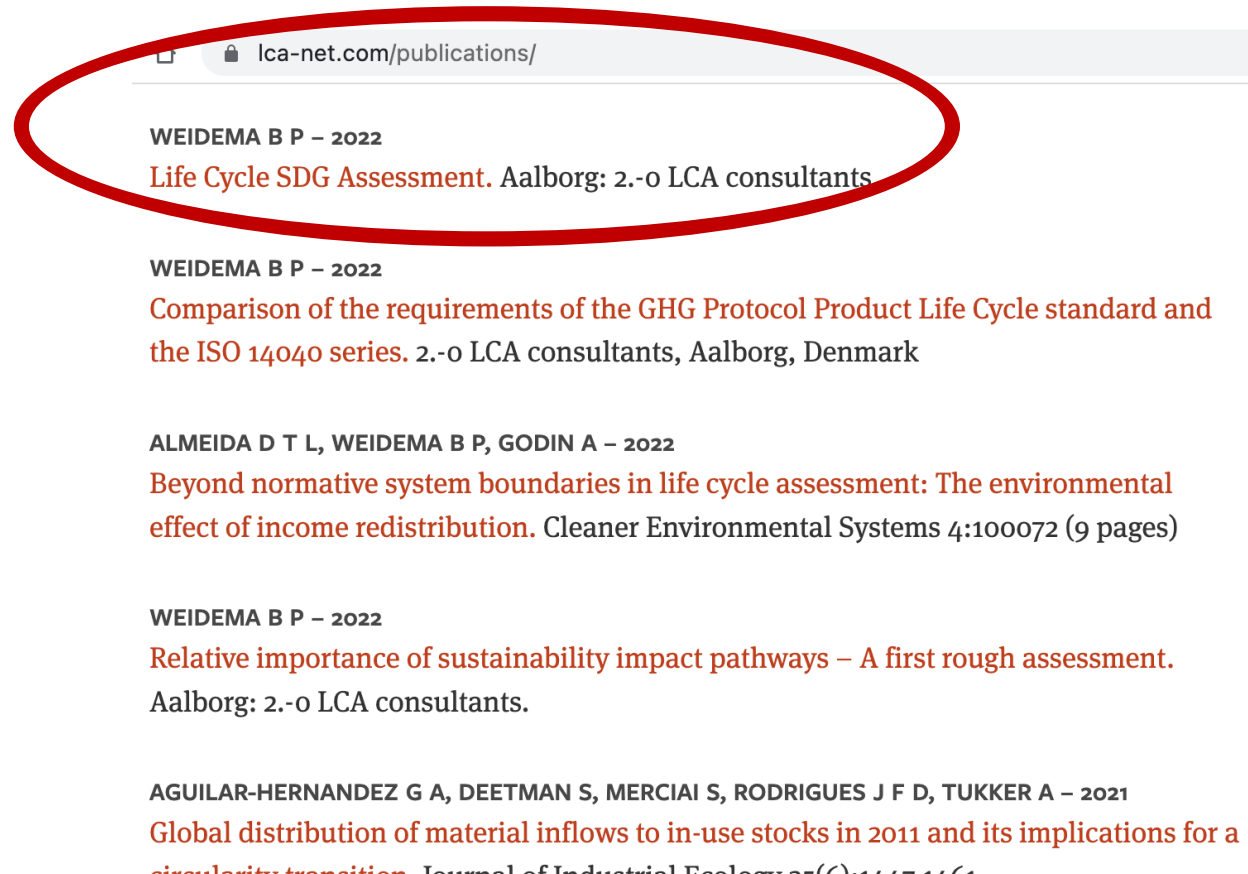
- **Sustainable wellbeing** as a comprehensive summary indicator for all social, ecosystem and economic impacts
 - Allows to quantify trade-offs and synergies between impact categories
- Applying the exhaustive ‘capitals’ approach to defining the **Areas of Protection**
- To enable the method to be applied for Life Cycle Assessment (LCA), the applied indicators have been chosen to allow for aggregation and disaggregation at any level of geographical, organisational, and product detail

Impact pathway framework



Open source - Data files

- Especially important for SME's: Open access data and method
- Cardinal-scale quantitative social impact data for year 2019



lca-net.com/publications/

WEIDEMA B P – 2022
Life Cycle SDG Assessment. Aalborg: 2.-o LCA consultants

WEIDEMA B P – 2022
Comparison of the requirements of the GHG Protocol Product Life Cycle standard and the ISO 14040 series. 2.-o LCA consultants, Aalborg, Denmark

ALMEIDA D T L, WEIDEMA B P, GODIN A – 2022
Beyond normative system boundaries in life cycle assessment: The environmental effect of income redistribution. Cleaner Environmental Systems 4:100072 (9 pages)

WEIDEMA B P – 2022
Relative importance of sustainability impact pathways – A first rough assessment. Aalborg: 2.-o LCA consultants.

AGUILAR-HERNANDEZ G A, DEETMAN S, MERCAI S, RODRIGUES J F D, TUKKER A – 2021
Global distribution of material inflows to in-use stocks in 2011 and its implications for a circularity transition. Journal of Industrial Ecology 27(6):1147-1161

Open source – data files

'Life Cycle SDG Assessment impact data for 2019 (Social footprint methodology 2021).xlsx'

163 countries (> 99% of World)

All impacts divided in 76 impact categories defined at the level of Areas of Protection:

- Natural assets N1 to N9
- Manufactured physical assets M1 to M6
- Intellectual assets I1 and I2
- Human capabilities H1 to H35
- Social networks S1 to S24

The table contains columns for 'Life Cycle', 'Assessment impact data for 2019 (Social footprint methodology 2021)', 'Country name (ISO)', 'World, Africa, Europe, Asia, Oceania, Americas', 'World, total (sum)', 'Residual (Net of World)', and a grid of country codes (AFG, AGO, ALB, AND, ANG, ANT, ARG, ARM, AUS, AUT, AZR, BDI, BEN, BOL, BRA, BRB, BWA, CAF, CAN, CHE, CHL, COL, COG, CRI, CUB, CYP, CZE, DEU, DNK, DOM, DZA, EGY, ESP, EST, FIN, FJI, FRA, GBR, GHA, GRC, GTM, GUY, HUN, HRV, IDN, ISL, ITA, JAM, JOR, KAZ, KEN, KGZ, KOR, KWT, LBN, LKA, LSO, LUX, MAC, MEX, MLI, MNE, MOZ, MYS, NLD, NPL, PAN, PER, PNG, POL, PRT, RUS, RWA, SGP, SLE, SLV, SRI, SUD, SVK, SWE, SWZ, TGO, THA, TJK, TZA, UGA, UKR, UZB, VIE, YEM, ZMB, ZWE). The rows list various impact categories such as 'Airborne emissions of greenhouse gases', 'Water consumption', 'Acid equivalents', etc.

Exhaustive data coverage



In practice - Very low requirement for company-specific data

- Company-specific data from workplace surveys and/or inspections are only needed for **17 out of the 76** impact categories, covering 9% of the global impacts
- All other impact categories, i.e., covering more than 90% of all impacts, are linked to pressure indicators for which default industry data are available from national and international data sources
- The 76 impact categories are colour-coded according to data availability (how easy it is to link them to pressure indicators): ‘data reasonably available’, ‘depends on survey data’, ‘non-production specific’

Non-production-specific impacts

- Related to missing governance at the country level, rather than being technology- or company-specific
- Default data for these impacts are openly available from national and ILO statistical sources
- It is **the role and responsibility of the productive sector to provide the funding**, either directly, through payments of taxes, or through sufficient payments to the labour force so that they can pay for these services
- Ultimately these impacts are therefore linked to a limited set of economic pressure indicators, notably 'underpayment of labour and taxes' and (insufficient) 'voluntary transfers'
- **This implies that inequality plays a very important role for the overall results**

The 2021 revision of the social footprint method

- The country-specific levels of wellbeing are calculated from the Cantril scores of the annual World Happiness Report, adjusted for lost life years
- The global potential level of wellbeing is calculated to be 0.961 QALY/person-life-year
- The social footprint is calculated as difference between the actual and the potential country-specific wellbeing
- The non-production-specific parts of the social footprint are separated out and distributed over the industries in each country in proportion to their equity-weighted contribution to national income, so that industries with low wage levels receive larger weight
- New conversion factors between QALY and monetary values

Results and their interpretation

- Due to the important role of inequality for the overall results:
 - Hotspots in the results will point to unit processes with relatively low wage levels
 - For the same amount of value added (price of the product), the more equal the wage levels over the life cycle, the lower the impact will be
 - If a higher price will be accepted by the customers, this will be best spent on the parts of the life cycle with lowest wage levels

Conclusions

- While being based on a comprehensive database and a detailed cause-effect model, the method **can be applied in a simple screening mode**, with:
 - Very low data requirements
 - Results that are very simple to interpret
 - Very clear and meaningful directions to act upon
- For those who want to dig deeper into causes and effects in individual countries and industries, the database provides ample options for **more detailed contribution analyses**, for example per:
 - Impact category
 - Area of Protection
 - Safeguard Subject
 - SDG topic
 - Pressure category (e.g., for a Triple Bottom Line)

Thanks for your attention!

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