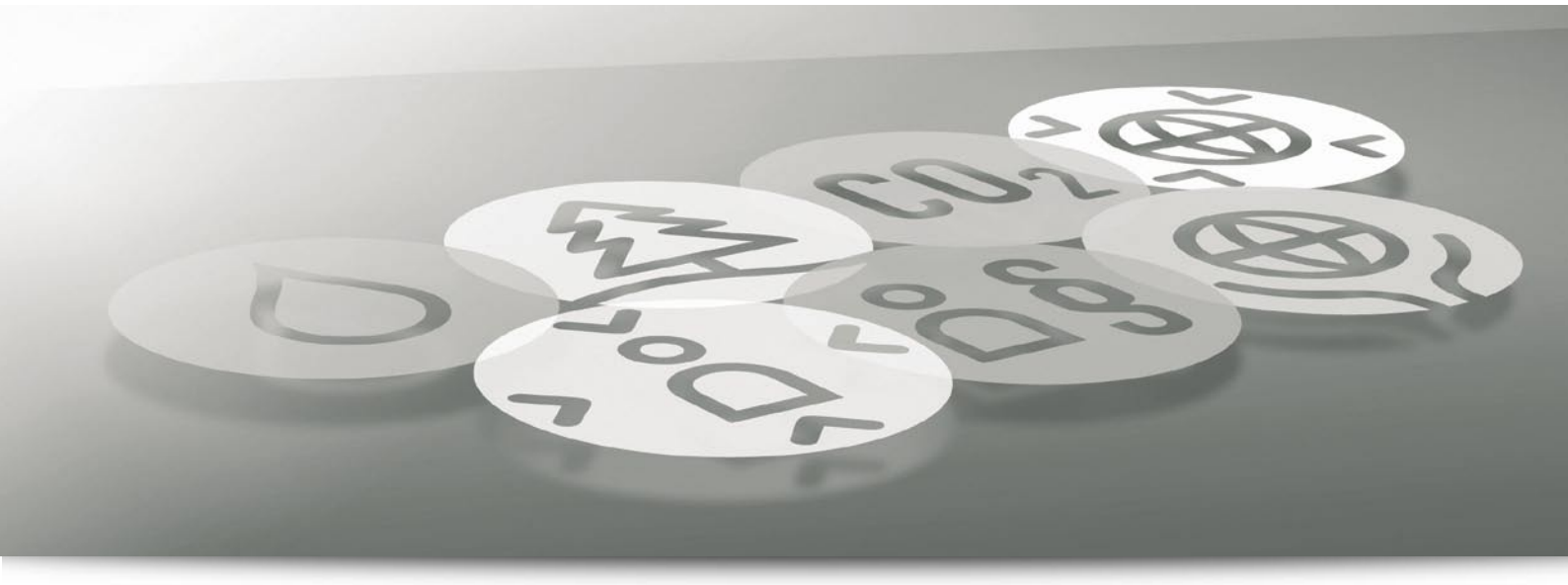
econsense

Forum for Sustainable Development of German Business

Assessing Environmental and Social Impacts



Fact Sheets

All descriptions are based on information contained in sources provided by the organizations/institutions that developed the frameworks, methods, and tools.

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econsense is an association of leading, globally active companies and organizations of German business specializing in the area of sustainable development and corporate social responsibility (CSR). Founded in 2000 on the initiative of the Federation of German Industries (BDI), the goal of econsense is to provide a dialogue platform and think tank, with the dual objectives of advancing sustainable development in business and assuming social responsibility.

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Allianz, Alstom Deutschland, BASF, Bayer, Bertelsmann, BMW Group, Bosch, Coca-Cola Deutschland, Daimler, Deloitte, Deutsche Bahn, Deutsche Bank, Deutsche Börse, Deutsche Lufthansa, Deutsche Post DHL, Deutsche Telekom, DuPont, EnBW, E.ON, EY, Evonik Industries, Generali Deutschland, HeidelbergCement, KPMG, Linde, PwC, RWE, SAP, Siemens, ThyssenKrupp, VCI, Volkswagen

ISO 14040/44:2006

http://www.iso.org/iso/catalogue_detail?csnumber=37456
http://www.iso.org/iso/catalogue_detail?csnumber=38498

Summary

ISO 14040:2006 (Life cycle assessment – Principles and framework) and ISO 14044:2006 (Life cycle assessment – Requirements and guidelines) are globally accepted standards for life cycle based environmental assessments of products. These standards focus on the process of performing an LCA and the principles and framework for environmental life cycle assessment (LCA) are provided.

ISO 14040 provides a clear overview of the practice, applications, and limitations of LCA to a broad range of potential users and stakeholders, including those with a limited knowledge of life cycle assessment. ISO 14044 is designed for the preparation of, conduct of, and critical review of the life cycle inventory analysis. It also provides guidance on the impact assessment phase of LCA, on the interpretation of LCA results, as well as on the nature and quality of the data collected.

Developer

International Organization for Standardization (ISO)

Focus

Multiple environmental impacts

Motivation (depending on the scope of the study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Management accounting**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	> **Process**	Project	Site	Organization

System boundaries

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Quantitative inventory data on inputs and outputs is needed along the value chain of an organization (depending on the system boundaries)
- ISO 14044 provides guidance on the nature and quality of the data to be collected
- Several databases are available that provide generic datasets for production of materials, processes, etc. including relevant inputs and outputs (e.g., provided by the ecoinvent Centre, thinkstep, Plastics Europe)

Adoption in industry

- ISO 14040/44 are currently the leading standards for environmental LCAs

Limitations

- In ISO 14040/44 no recommendations with regard to the assessment of certain impact categories or the use of certain impact assessment methods are provided
- Modelling choices and different approaches to some methodological issues exist

ILCD Handbook

http://eplca.jrc.ec.europa.eu/?page_id=86

Summary

The ILCD Handbook consists of a series of documents that are to a large extent in line with the international standards on LCA (ISO 14040/44) but adds further requirements and explicit, goal-specific methodological recommendations. The harmonization work of the ILCD Handbook provides practitioners with much more detail than the ISO standards. The Handbook covers relevant aspects of conducting an LCA: defining the objective and target audience, data generation, calculation of impacts on the environment, recommendation on methodologies, etc. The Handbook includes the following documents:

- General guide for Life Cycle Assessment
- Specific guide for Life Cycle Inventory (LCI) data sets (provides detail for the generation of specific types of data)
- Analysis of existing Environmental Impact Assessment methodologies for use in Life Cycle Assessment (LCA)
- Framework and requirements for Life Cycle Impact Assessment (LCIA) models and indicators
- Recommendations for Life Cycle Impact Assessment in the European context (describes the indicators and models recommended for LCIA)
- Review schemes for LCA (presents the minimum requirements for review of life cycle data or assessments for different applications)
- Reviewer qualification (specifies the requirements on the experience and expertise of reviewers)

Developer

European Commission, DG Environment and the European Commission's Joint Research Centre

Focus

Multiple environmental impacts

Motivation (depending on the scope of the study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Management accounting**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	> **Process**	Project	Site	Organization

System boundaries (depending on the scope of the study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Quantitative inventory data on inputs and outputs is needed along the value chain of an organization (depending on the system boundaries) - inventory data collection for LCA studies is very labor-intensive
- The ILCD Handbook provides guidance on the nature and quality of the data collected
- Within the ILCD Data Network, inventory data sets for core materials, energy carriers, etc. are provided [1]
- Several other databases are available that provide average datasets for production of materials, processes, etc. including relevant inputs and outputs (e.g., provided by the ecoinvent Centre, thinkstep, Plastics Europe)

Adoption in industry

- The principal target audience for the Handbook is the LCA practitioner as well as technical experts in the public and private sector
- Large volume and tangled structure make it difficult to use Handbook in practice

Limitations

- Handbook is targeted at experienced LCA practitioners, handbook is too long to be of great practical use
- Applying the Handbook does not ensure comparability of LCAs, as the Handbook allows for several methodological choices in the different phases of the LCA
- The Handbook is no longer updated (and is replaced by the PEF guide)

[1] European Reference Life Cycle Database (ELCD).

Product Environmental Footprint (PEF)

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013H0179&from=EN

Summary

The Product Environmental Footprint (PEF) is a multi-criteria measure of the environmental performance of products or services throughout the entire life cycle. The PEF method provides clear rules for modelling the environmental impacts of the flows of material/energy and the emissions and waste streams associated with a product throughout its life cycle. The PEF method aims at increasing reproducibility of results and comparability of life cycle environmental information, harmonizing other existing methods whilst decreasing the methodological flexibility that characterise many similar existing standards and methods dealing with Life Cycle Assessment.

The guide provides guidance on how to calculate a PEF, as well as how to develop product category-specific methodological requirements for use in Product Environmental Footprint Category Rules (PEFCRs). PEFCRs aim at providing detailed technical guidance on how to conduct a PEF study and provide specification at the product level.

Developer

European Commission, DG Environment and the European Commission's Joint Research Centre

Focus

Multiple environmental impacts

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Management accounting**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**
- **Potential compliance issues with regard to future mandatory schemes of reporting actual impacts**

Scale

> **Product/service**	> **Process**	Project	Site	Organization

System boundaries

(depending on the intended application of the study, any deviation from a cradle-to-grave approach has to be explicitly specified and justified)

> **Upstream**	> **Internal**	> **Downstream**

The PEF guide specifies that processes included in the system boundaries shall be divided into foreground processes (core processes in the product life cycle for which direct access to information is available) and background processes (those processes in the product life cycle for which no direct access to information is available). This distinction leads to different data quality requirements.

Date requirements and availability

- Quantitative inventory data on inputs and outputs is needed along the value chain of an organization (depending on the system boundaries)
- An initial screening step is recommended because it helps focusing data collection activities and data quality priorities for the collection of actual inventory data (resource use and emissions profile)
- Specific and/or generic data can be used – data must fulfill data requirements defined in the PEF guide
- Specific guidance on the assessment of data quality is provided in the PEF guide

Adoption in industry

- Currently, a three year pilot phase is running (ending in December 2016), aiming at testing the development of product category specific rules, different verification and communication approaches
- Tests are performed by volunteering industry – 25 product groups are covered and 75% of the pilots cover more than 51% market share of the products concerned (see details: http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm)

Limitations

- Some methodological aspects of the PEF Guide go beyond existing ISO standards (e.g., normalization and weighting) – new features are subject to testing, therefore not confirmed
- Some of the predefined impact assessment methods currently in the guide are not always applicable and are controversial

ReCiPe Methodology for Life Cycle Impact Assessment

http://www.lcia-recipe.net/

Summary

ReCiPe is a follow up of Eco-indicator 99 and CML 2002 methods. The purpose at the start of the development was to integrate the 'problem oriented approach' of CML-IA and the 'damage oriented approach' of Eco-indicator 99. ReCiPe integrates and harmonizes midpoint and endpoint approaches in a consistent framework. In this context, the midpoint characterization factors are multiplied by damage factors to obtain the endpoint characterization values.

ReCiPe comprises two sets of impact categories with associated sets of characterization factors. At the midpoint level, 18 impact categories are addressed. At the endpoint level, most of these midpoint impact categories are multiplied by damage factors and aggregated into three endpoint categories: Human health, ecosystems, and resource surplus costs. The three endpoint categories can be normalized, weighted, and further aggregated into a single score result.

Developer

ReCiPe was created by **RIVM, CML, PRé Consultants, and Radboud Universiteit Nijmegen**

Focus

Multiple environmental impacts

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**

Scale (method can be applied independently from a specific scale)

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries (depending on the scope of the underlying LCA study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Inventory data needs to be collected and can then be linked to ReCiPe characterization factors
- ReCiPe methods included in major LCA softwares and databases (e.g., SimaPro, ecoinvent database)
- Characterization factors are available as a MS Excel spreadsheet and can be downloaded from this page: http://www.lcia-recipe.net/file-cabinet

Adoption in industry

- Several impact categories applied in ReCiPe are recommended within the PEF methodology
- ReCiPe is widely used in industry because it gives an exhaustive list of impact categories at midpoint and endpoint level, and includes the option for calculating a single score and thus enables easy interpretation
- Methods in ReCiPe are widely recognized as scientifically sound and consistent

Limitations

- Limited number of flows addressed, some models focus only on European data
- Uncertainty of results on an endpoint level (damage models are sources of uncertainty)
- Weighting and calculation of single scores leads to subjective results

CML Impact Assessment Method

http://www.cml.leiden.edu/

Summary

In 2002 a group of scientists under the lead of CML (Center of Environmental Science of Leiden University) published a new "operational guide to the ISO standards" (Guinée et al. 2002).[1] In this guide the authors propose a set of impact categories, characterization methods, and references for (optional) normalization for the impact assessment step. The characterization and normalization factors for these impact categories are developed by different authors (institutes) and are compiled by CML in a spreadsheet. The spreadsheet has been updated many times since 2002.

In the CML impact assessment method (CML-IA) impact category indicators are defined on a midpoint level. The uncertainty of the results at this point is relatively low. The method classifies environmental impacts, like global warming, human toxicity, acidification, etc., caused by different pollutants. Characterization factors, quantifying the extent to which different pollutants contribute to an environmental impact, are provided for numerous impact categories. Normalization factors are provided based on the total extractions and emissions for the world and Europe. The normalization factor for an impact category is the sum of these total extractions and/or emissions and the corresponding characterization factors. After normalization, the impact of a specific case is expressed relative to the total world or European problem. This normalization facilitates the interpretation and is a necessary step for panel weighting between impact categories.

For further details on the methods and guidelines how to use the methods refer to the Handbook on LCA (Guinée et al. 2002).

Developer

Institute of Environmental Sciences (CML), Leiden University

Focus

Multiple environmental impacts

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**

Scale (method can be applied independently from a specific scale)

> Product/service	> Process	> Project	> Site	> Organization

System boundaries (depending on the scope of the underlying LCA study)

> Upstream	> Internal	> Downstream

[1] J.B. Guinée, M. Gorrée, R. Heijungs , G. Huppes, R. Kleijn, A. de Koning, L. van Oers, A. Wegener Sleeswijk, S. Suh, H.A. Udo de Haes, H. de Bruijn, R. van Duin, M.A.J. Huijbregts. Handbook on Life Cycle Assessment. Operational Guide to the ISO Standards. Springer, 2002.

Date requirements and availability

- Data on relevant inventory flows is needed, ideally on the detail of specific substances
- Inventory data can be linked to CML characterization factors
- All characterization and normalization factors are downloadable as spreadsheet, which is regularly updated

Adoption in industry

- Up to now, the CML-IA method is the most widely-used method in LCAs and it has been applied in various studies/ projects worldwide

Limitations

- Midpoint categories provide no direct link to the actual damage caused to the environment, human health, etc. and are thus hard to interpret
- The number of impact categories makes the interpretation of obtained results vastly complex
- No localized fate models are included, but global averages

Eco-indicator 99 Method for Life Cycle Impact Assessment

http://www.pre-sustainability.com/eco-indicator-99-manuals

Summary

Eco-indicator 99 is an impact assessment methodology that transforms the data of the inventory table into damage scores which can be aggregated to three comprehensive damage categories (and further to one single score result):

- Damage to human health (expressed as DALY (Disability Adjusted Life Years) using estimates of the number of years of life lost and the number of years lived disabled),
- damage to ecosystem quality (expressed as the loss of species over a certain area, during a certain time), and
- damage to resources (expressed as the surplus energy needed for future extractions of mineral sand fossil fuels).

Eco-indicator 99 was developed with the aim to simplify the interpretation and weighting of results of life cycle impact assessment and can be used by designers in day to day decision making.

Developer

Goedkoop and Spriensma, PRé Consultants

Focus

Multiple environmental impacts

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Reduction of operational costs**
- **Operational risk management**
- **Reputational risk management**

Scale (method can be applied independently from a specific scale)

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries (depending on the scope of the underlying LCA study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Inventory data can be linked to Eco-indicator 99 factors
- The Eco-indicator 99 method is included in major LCA softwares and databases (e.g., SimaPro, ecoinvent database)

Adoption in industry

- The method was widely used in industry in LCA studies until the release of the follow up, the ReCiPe method, in 2008
- As of today, only few users still use the Eco-indicator 99 method

Limitations

- Uncertainty of results (damage models are sources of uncertainty)
- Weighting and calculation of single score results are very subjective

WULCA – Water Use in LCA

http://www.wulca-waterlca.org/

Summary

The WULCA working group focuses on developing a coherent framework within which to measure, assess, and compare the environmental performance of products and operations regarding freshwater use. In this context, indicators that measure the environmental impacts of water use on human health, ecosystems, and freshwater resources are developed, adequate water inventory schemes and parameters are established, and an impact assessment method for characterizing water use and related environmental impacts is developed.

The method recommended by the WULCA group for assessing water use is called AWaRe and represents the relative Available Water Remaining per area in a watershed after the demand of humans and aquatic ecosystems has been met. This method quantifies the potential of water deprivation, to either humans or ecosystems, and serves in calculating a water scarcity footprint as per ISO 14046.

Developer

WULCA working group (under the auspices of the UNEP/SETAC Life Cycle Initiative)

Focus

Consequences of water use

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale (method can be applied independently from a specific scale)

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries (depending on the scope of the underlying LCA study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Characterization factors for agricultural and non-agricultural use are provided, as well as default ones if the activity is not known
- Country level values can be obtained online: http://www.wulca-waterlca.org/project.html

Adoption in industry

- 8 industrial sponsors have supported the development of the method
- Method is currently in the test phase
- Method will be officially published early 2016

Limitations

- AWaRe values are currently only available as a beta-version and only generic average data is available
- Change in scale from what users are accustomed to and hence results need to be interpreted differently
- Method is very new, only few case studies will be available in the next 6 months

Pfister et al. – Assessing the Environmental Impacts of Freshwater Consumption in LCA

http://pubs.acs.org/doi/abs/10.1021/es802423e, http://pubs.acs.org/doi/abs/10.1021/es1041755

Summary

The method developed by Pfister et al. describes the impact of freshwater consumption (that is the share of total water use which is not returned to the originating basin) in the life cycle of products or processes. The method includes different impacts: Freshwater deprivation, which assesses freshwater consumption based on physical water scarcity; damage to human health, which addresses health impact resulting from malnutrition as a consequence of agricultural water shortage; damage to ecosystem quality, which evaluated ecological consequences resulting from decreased biodiversity due to water shortage; and damage to resources, which assesses depletion of freshwater resources as a consequence of water used exceeding renewability rates. The method can be used within most existing life-cycle impact assessment methods.

Developer

Stephan Pfister, Annette Koehler, Stefanie Hellweg, ETH Zurich

Focus

Consequences of water use

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Many organizations face serious risks related to freshwater shortage in their supply chains.

Scale (method can be applied independently form a specific scale)

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries (depending on the scope of the underlying LCA study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Regionalized inventory data is needed
- Factors are available on watershed (hydrological unit) and country level (e.g., ecoinvent database)
- Global averages might be applied to water consumption with no spatial location
- Agriculture and power production are most important water consumers and more detailed data on country level can be derived from http://www.ifu.ethz.ch/ESD/downloads/WATER_DATA

Adoption in industry

- The paper describing the methods has been cited 452 time so far and has been applied to several industrial case studies (e.g., by Nestle, Kraft foods, Danone, and others) analyzing water footprints or impacts of water consumption in LCA
- The method is used in some case studies for the upcoming ISO/AWI TR 14073 (examples for water footprint applications)
- The Quantis water database integrated the methodology in the largest database for assessing water footprints (http://www.quantis-intl.com/microsites/waterdatabase.php)

Limitations

- Uncertainties exist, assessment has to be understood as a hotspot analysis, identifying potential environmental problems from water consumption
- A more detailed assessment taking into account the local conditions and identifying mitigation measures needs to be conducted

WAVE – Water Accounting and Vulnerability Evaluation

http://pubs.acs.org/doi/full/10.1021/es404994t

Summary

The water accounting and vulnerability evaluation (WAVE) model was introduced to enhance the analysis of water consumption and resulting consequences in LCA. The method considers atmospheric evaporation recycling within drainage basins for the first time. Rather than predicting impacts, WAVE analyzes the vulnerability of basins to freshwater depletion. By means of a water depletion index (WDI), the risk that water consumption can lead to depletion of freshwater resources is assessed. Water scarcity is determined by relating annual water consumption to availability in more than 11 000 basins. Additionally, WDI accounts for the presence of lakes and aquifers which have been neglected in water scarcity assessments so far. By setting WDI to the highest value in (semi)arid basins, absolute freshwater shortage is taken into account in addition to relative scarcity. This avoids mathematical artifacts of previous indicators which turn zero in deserts if consumption is zero (e.g., in deserts).

Developer

Markus Berger, Matthias Finkbeiner, Technische Universität Berlin

Focus

Consequences of water use

Motivation (depending on the scope of the underlying LCA study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale (method can be applied independently from a specific scale)

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries (depending on the scope of the underlying LCA study)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Regionalized inventory data is needed
- Basin internal evaporation recycling ratios (BIER) and WDI are available free of charge on both, drainage basin and country level, in a Google Earth layer and spreadsheet (www.see.tu-berlin.de/wave/parameter/en)

Adoption in industry

- Method has been applied in industrial case studies (e.g., automobile, biofuels) analyzing impacts of water consumption in LCA

Limitations

- Relation of water consumption and damages to human health and ecosystems is rather uncertain
- Midpoint scarcity not necessarily in line with endpoint damages
- Inventory information is often not available on a detailed geographic resolution

ISO/TS 14067:2013

http://www.iso.org/iso/catalogue_detail.htm?csnumber=59521

Summary

ISO/TS 14067:2013 "Greenhouse gases – carbon footprint of products – Requirements and guidelines for quantification and communication" comprises principles, requirements and recommendations for the quantification and communication of complete as well as partial carbon footprints of products (CFP). The Technical Specification (TS)[1] is based on existing international standards on life cycle assessment (ISO 14040 and ISO 14044) for quantification and on environmental labels and declarations (ISO 14020, ISO 14024, and ISO 14025) for communication.

ISO/TS 14067 provides guidance for using life cycle assessment with climate change as the single impact category. In the TS a CFP is defined as the sum of greenhouse gas (GHG) emissions and removals in a product system expressed as CO_2-equivalents. Offsetting is outside of the scope of ISO/TS 14067. The TS also provides information for the development of CFP-product category rules (CFP-PCR), or the adoption of product category rules (PCR) that have been developed in accordance with ISO 14025.

Developer

International Organization for Standardization (ISO)

Focus

GHG emissions

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	> **Process**	Project	Site	Organization

System boundaries (depending on the scope of assessment)

> **Upstream**	> **Internal**	> **Downstream**

Partial CFP only accepted for "internal" application. Publicly available CFP need to cover all stages of the life cycle.

[1] As the subject on quantification and communication of a carbon footprint of products is still under development, the agreement to publish an international standard could not be reached and it was decided that the publication of a TS is appropriate. It is recommended by ISO that after six years a TS should be either withdrawn or converted into an international standard.

Date requirements and availability

- The product system includes inputs of other products, materials and energy flows, starting from the extraction of the raw materials
- A CFP study should use data that reduce bias and uncertainty as far as practicable by using the best quality data achievable (data quality indicators are listed in the specification)
- Several databases are available that provide generic datasets for production of material , processes, etc. including relevant inputs and outputs (e.g., provided by the ecoinvent Centre, thinkstep, Plastics Europe)

Adoption in industry

- The TS was developed in an international committee (107 experts from more than 30 countries and liaison bodies from industry and Non-Governmental Organizations)

Limitations

- Lengthy document, most of its content is a repetition of content of previous standards
- There was insufficient support for the approval of the final draft among the participating countries (which led to the publication of a TS rather than a standard)

Greenhouse Gas Protocol

www.ghgprotocol.org

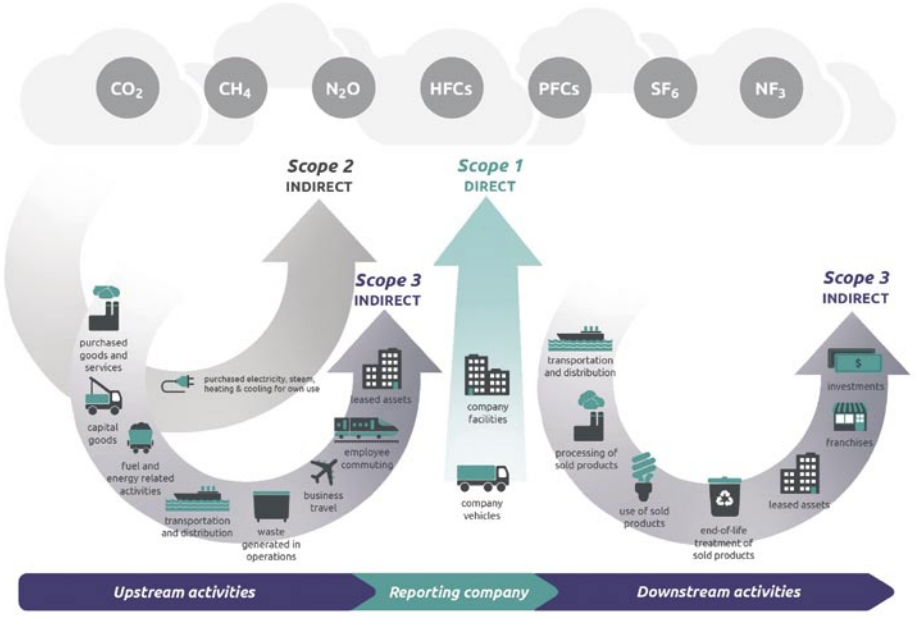
Summary

The Greenhouse Gas (GHG) Protocol offers the most widely used suite of standards, guidance and tools for organizations and governments to understand, quantify, and manage their greenhouse gas emissions.[1] To help delineate direct and indirect emission sources, three scopes are defined for GHG accounting purposes in GHG Protocol publications. Scope 1 refers to direct GHG emissions that occur from sources that are owned or controlled by the organization, for example emissions from combustion in owned or controlled boilers, vehicles, etc. Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the organization. Scope 3 focuses on indirect emissions that are a consequence of the activities of the organization, but occur from sources not owned or controlled by the organization (in the value chain).

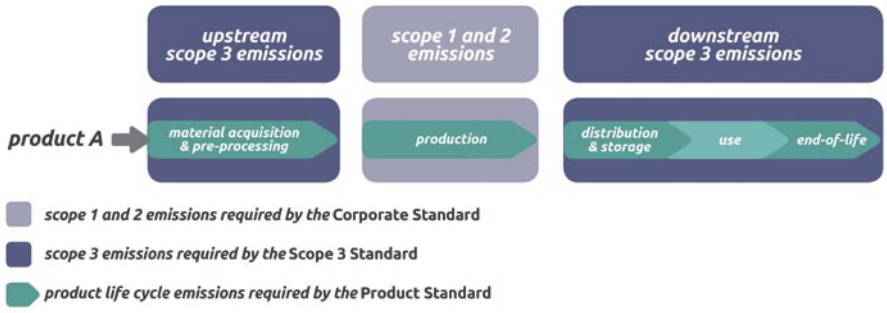
The **Corporate Standard** provides guidance for organizations preparing a GHG emission inventory of their internal operations, focusing on scope 1 and 2 emissions. The **Scope 2 Guidance**, a supplement to the Corporate Standard, clarifies and standardizes how businesses and organizations account for and report scope 2 emissions from purchased and acquired electricity. The **Corporate Value Chain (Scope 3) Standard** builds on the Corporate Standard but takes a life cycle (value chain) approach and allows organizations to assess their entire value chain emissions and identify the most effective ways to reduce emissions.

The **Product Life Cycle Accounting Standard** can be used to understand the full life cycle emissions of a product and focus efforts on the greatest GHG reduction opportunities. This is the first step towards more sustainable products. Using the new standard, organizations can measure the greenhouse gases associated with the full life cycle of products including raw materials, manufacturing, transportation, storage, use, and disposal.

Overview of GHG Protocol scopes and emissions across the value chain of a specific company



Relationship between the Corporate, Scope 3, and Product Standards for an organization manufacturing product A



Source: GHG Protocol (2013): Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

[1] Carbon dioxide equivalent (CO_2e) emissions are assessed, representing emissions of all greenhouse gases, aggregated and converted to units of CO_2e using global warming potential (GWP) values.

Developer

The GHG Protocol is a multi-stakeholder partnership of businesses, non-governmental organizations (NGOs), governments, and others convened by the **World Resources Institute (WRI)** and the **World Business Council for Sustainable Development (WBCSD)**.

Focus

GHG emissions

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**
- **Potential compliance issues**

The GHG Protocol Standards are designed for organizations of all sizes in all economic sectors and in all countries. Organizations seeking a better understanding of the GHG inventory of products they design, manufacture, sell, purchase, or use can benefit from the use of this standard. By addressing GHG emissions, organizations can identify opportunities to bolster their bottom line, reduce risk, and create competitive advantage by enabling better product design, increasing efficiencies, reducing costs, and removing risks. The standard will also help organizations respond to customer demand for environmental information and make it easier to communicate and report the environmental aspects of products.

Scale (depending on the scope of the assessment)

> **Product/service**	Process	Project	Site	> **Organization**

System boundaries (depending on the scope of the assessment)

> **Upstream**	> **Internal**	> **Downstream**

The Corporate Standards focuses on internal and upstream activities (but only with regard to purchases electricity). The Corporate Value Chain Standard and the Product Life Cycle Accounting Standard aim to assess the full cradle-to-grave GHG emissions of products (upstream, internal, downstream), but the guidance is also applicable to limited system boundaries (e.g., cradle-to-gate).

Data requirements and availability

- Quantitative date with regard to GHG emissions is required along the value chain of an organization (depending on the scope addressed)
- The GHG Protocol provides several tools and secondary datasets to support organizations to develop comprehensive and reliable inventories of their GHG emissions
- Guidance on data collection and the assessment of data quality (key data quality indicators are technological, temporal, and geographical representativeness, completeness, and reliability) is provided
- The documents also provide support on when to use primary versus secondary data

Adoption in industry

Hundreds of organizations around the world are using GHG Protocol standards and tools to manage their emissions. The Product Life Cycle and Corporate Value Chain standards have been created through a broad, inclusive, multi-stakeholder process. Over a three year period:

– 2,300 participants were involved from 55 countries,
– 112 members formed technical working groups to draft the standards, and
– 38 organizations from various industries road tested the standards in 2010

In 2014, 86% of Fortune 500 organizations responding to the CDP survey reported using the GHG Protocol Standards to report their emissions.

ISO 14046:2014

http://www.iso.org/iso/catalogue_detail?csnumber=43263

Summary

ISO 14046:2014 specifies principles, requirements and guidelines related to water footprint assessment of products, processes, and organizations. The standard is based on the ISO 14040-series for Life Cycle Assessment and defines what requirements are needed to complete a water footprint assessment, including local aspects related to both scarcity and quality.

ISO 14046 clearly states that water footprint assessment is an impact based measure. The requirements and recommendations given in ISO 14046 provide elements for understanding how water use can be improved by accounting for the volumes used and by quantifying scarcity and pollution, as well as other related impacts. The standard intends to provide decision makers in industry, government, and non-governmental organizations with a means to estimate the potential impact of water use and pollution and has been developed in order to reach consensus on methodological questions.

Rather than proposing a specific inventory and impact assessment method, the standard defines criteria which have to be fulfilled in an ISO compliant water footprint study. The standard states, that a water footprint assessment can be uses as both, as a stand-alone analysis and as part of an LCA containing additional environmental information. [1]

Developer

International Organization for Standardization (ISO)

Focus

Consequences of water use

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

A water footprint assessment, as proposed by ISO 14046, can assist in determining potential environmental impacts related to water use, strategic risk management related to water use, facilitating of water efficiency practices and optimizing water management, and informing decision-makers in industry, government, and public.

Scale

> **Product/service**	> **Process**	Project	Site	> **Organization**

System boundaries (depending on the scope of the assessment)

> **Upstream**	> **Internal**	> **Downstream**

[1] In ISO/AWI TR 14073, which is currently under development, illustrative examples on how to apply ISO 14046 will be provided.

Date requirements and availability

- Data on, i.a., quantities of water use, types of water resources used, forms of water use, locations of water use, and data describing water quality is needed
- A full description of data collection, quality, and analysis is presented in ISO 14046

Adoption in industry

- ISO 14046 has been developed by experts from all over the world (e.g., WBCSD, EC, World Steel, etc.)
- Due to the novelty of the standard limited application in industry case studies

Limitations

- ISO standard sets high level guidance, additional customization of concept is needed and methodological choices remain
- Societal, environmental, economic, legal, cultural, political, and organizational diversity need to be considered when applying ISO 14046

Global Water Footprint Standard

http://waterfootprint.org/media/downloads/TheWaterFootprintAssessmentManual_2.pdf

Summary

The Global Water Footprint Standard lays out an internationally accepted methodology for conducting Water Footprint Assessment.

The standard has been applied and tested worldwide across many sectors and includes detailed instruction and guidance on the following:

- How to calculate the green, blue and grey water footprint[1] to understand the geographic and temporal allocation of water resources for industry, agriculture and domestic water supply
- How to conduct a water footprint sustainability assessment which includes criteria for understanding the environmental sustainability, resource efficiency and social equity of water use, for both consumption and pollution
- How to use the results of the water footprint accounting and sustainability assessment to identify and prioritize the most strategic actions to be taken in local, regional, national, and global scales (impact indices have been developed to enable additional interpretation)

Developer

Hoekstra, A.Y, Chapagain, A.K., Aldaya, M.M., and Mekonnen, M.M., Water Footprint Network

Focus

Risks related to water use

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> Product/service	**> Process**	**> Project**	**> Site**	**> Organization**

System boundaries

> Upstream	**> Internal**	**> Downstream**

Date requirements and availability

- Data on water consumption and chemical loads in effluents along the supply chain of a product is required
- A useful database is WaterStat: http://waterfootprint.org/en/resources/water-footprint-statistics/, and a helpful tool (including data) for the assessment of water footprints can be found here: http://waterfootprint.org/en/resources/interactive-tools/water-footprint-assessment-tool/

[1] That is: consumption of ground and surface water (blue water), the evapo(transpi)ration of rainwater (green water), pollution of freshwater (grey water).

Adoption in industry

- The standard is being used by various industries, including Food and Beverage, Apparel, Paper and Pulp, Manufacturing, and various governmental agencies

Limitations

- The method is data intensive
- Pure volumetric figures do not allow for an assessment of the consequences of water consumption, that's why Water Footprint Assessment includes both Water Footprint Accounting and Water Footprint Sustainability Assessment (the latter stage is more elaborative)
- Approach requires temporally explicit inventory data, which are difficult to obtain

Global Water Tool

http://www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx

Summary

The Global Water Tool (GWT) supports organizations to map their water use and assess risks relative to their global operations and supply chains. The GWT provides easy access to and analysis of critical data. Users can quickly map their locations and water use data against water, sanitation, population, and biodiversity datasets and stress indicators on a country and watershed basis, with future outlook, and in turn assess risks related to their global operations, supply chains, new projects and prioritize action. Thus, organizations can understand the water use/needs of operations in relation to local externalities to make informed decisions. The GWT helps organizations to perform a first level screening through maps, figures or charts capturing key water performance and risk indicator. The global analysis supported by the tool can guide a deeper understanding of local communities' water situations and help prioritize actions for high risk sites.

Developer

World Business Council on Sustainable Development (WBCSD)

Focus

Risks related to water use

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	> **Process**	> **Project**	> **Site**	> **Organization**

System boundaries

> **Upstream**	> **Internal**	Downstream

Date requirements and availability

- GWT is a free, publicly available excel-based tool
- Information of water inventory and site of activity is needed
- Tool includes an excel workbook (inventory by site, key reporting indicators, metrics calculation), an online mapping system plotting site locations with external water, sanitation, population, and biodiversity datasets, and a Google Earth interface for spatial viewing
- Tool can be used in combination with other tools such as an organization's internal environmental data tracking tool, and is compatible with GEMI's Local Water Tool™ to build water management plans at a specific site or operation

Adoption in industry

- An Advisory Board of 21 WBCSD member companies in a wide range of industries provided oversight and pilot testing to launch the first version of the tool in 2007
- The advisory board for the 2015 version includes several organizations (e.g., BASF, DuPont, Pepsico, Shell, etc.)

Limitations

- The GWT does not provide specific guidance on local situations and is not appropriate for analyses at local and river basin level, as the resolution may be too coarse for accurate estimates
- The tool addresses the exposure to lack of water access and sanitation and proximity to biological hot spots rather than impacts of water use

IPCC Special Report – Land Use, Land-Use Change, and Forestry

http://www.ipcc.ch/pdf/special-reports/spm/srl-en.pdf

Summary

The report was prepared to describe he scientific methodology to account for GHG emissions and sinks related to agricutural and forestry activities (e.g., carbon sequestration, field emissions) Considered are agricultural and forestry activities including land use, land-use change, and relevant Articles of the Kyoto Protocol. The IPCC report outlines the influence of land use/land-use change on greenhouse gas sources and sinks and introduces different approaches for carbon accounting to assess compliance with the commitments under the Kyoto Protocol.

Land use and land-use change (LUC) directly affect the exchange of greenhouse gases between terrestrial ecosystems and the atmosphere. Land-use change is often divided into direct LUC (dLUC) and indirect LUC (iLUC). dLUC occurs when new agricultural land is taken for production and feed-stock purposes and therefore displaces for example a forest. iLUC occurs when land currently used for feed or for crops is changed to the production of different products and the demand for the previous land use remains.[1]

Developer

Intergovernmental Panel on Climate Change (IPCC)

Focus

Consequences of land use and land-use change on greenhouse gas sources and sinks

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

The guidelines provide information regarding the compliance with the Kyoto Protocol.

Scale

> **Product/service**	Process	> **Project**	> **Site**	> **Organization**

System boundaries

> **Upstream**	> **Internal**	> **Downstream**

[1] Several methods are available for assessing land use in the context of LCA. Some authors consider only biodiversity when assessing land use (e.g., Vogtländer et al. (2004) Characterizing the change of land use based on flora: application for EIA and LCA, Journal of Cleaner Production 12(1): 47-57), others consider also changes in soil quality (Milà I Canals et al. (2007) Methods for assessing impacts on life support functions related to the use of fertile land in LCA, Journal of Cleaner Production 15(15):1426-1440), changes in GHG emissions (Anderson-Teixeira et al. (2011) Do biofuels life cycle analyses accurately quantify the climate impacts of biofuels related land use change? University of Illinois Law Review 2: 589-622) or the effects on fresh water (Saad et al. (2011) Assessment of land use impacts on soil ecological functions: development of spatially differentiated characterization factors within a Canadian context, International Journal of Life Cycle Assessment 16(3):198-211) (see also Finkbeiner et al. (2014) Challenges in Life Cycle Assessment: An Overview of Current Gaps and Research Needs, Springer).

Date requirements and availability

- Lands can be identified, monitored, and reported using geographical and statistical information
- Changes in carbon stocks and net greenhouse gas emissions over time can be estimated using some combination of direct measurements, activity data, and models based on accepted principles of statistical analysis, forest inventory, remote-sensing techniques, flux measurements, soil sampling, and ecological surveys
- Exemplary data and information on carbon stock / carbon stock changes for different geographical regions and ecological zones is provided
- Cost of measuring changes in carbon stocks and net greenhouse gas emissions for a given area increases as desire for precision and landscape heterogeneity increase

Adoption in industry

- The IPCC guideline builds the scientific basis for GHG accounting in agricultural and forestry activities
- Guidelines are widely adopted in the development of LCA databases for agricultural and forestry operations

Limitations

- Precise definition of the system is difficult – different definitions and accounting approaches produce different estimates of changes in carbon stock
- Accounting for land use and land-use change includes different types of uncertainties, including measurement uncertainty and uncertainty in defining and quantifying baselines
- Methods used for accounting for carbon stock changes can vary in accuracy, precision, verifiability, cost, and scale of application
- High uncertainties are involved in the evaluation of LUC emissions
- Estimation of indirect emissions is complex and there is no consensus on how this is to be performed

Guidelines for Social Life Cycle Assessment of Products

http://www.lifecycleinitiative.org/resources/reports/

Summary

The UNEP/SETAC Guidelines for Social Life Cycle Assessment of Products provide a framework to assess and report potential and real social impacts of products along the entire life cycle. First, the S-LCA Guidelines provides a map, which describes the context, the key concepts, the broader field in which tools and techniques are getting developed and their scope of application. Second, the S-LCA Guideline presents key elements that need to be considered and provides guidance for the goal and scope, inventory, impact assessment and interpretation phases of a social life cycle assessment. The inventory is elaborated for indicators (e.g., number of jobs created) linked to impact categories (e.g., local employment) which are related to five main stakeholder groups (worker, consumer, local communities, society, and value chain actors). The framework detailed in the S-LCA Guidelines is mainly in line with the ISO 14040 and 14044 standards for Life Cycle Assessment. However, some adaptations for the consideration of social issues were made.

Developer

UNEP/SETAC Life Cycle Initiative at UNEP, CIRAIG, FAQDD and the Belgium Federal Public Planning Service Sustainable Development

Focus

Social topics in product life cycles

Motivation (depending on the scope of the study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

SLCA informs users about practices that comply with, exceed, or fail to meet standards for human rights and working conditions. This information may help the company to improve its social performances on social key issues in its product life cycle.

Scale

> **Product/service**	Process	Project	Site	Organization

System boundaries (depending on the specification of the assessment and the unit processes considered)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- The approach makes use of site specific and generic data
- Quantitative and qualitative data can be used
- Collecting site specific data is a very time consuming step - in particular, for complex products such as electronic equipment or vehicles it will hardly be possible to collect site specific data of all suppliers
- There are few databases available that provide social impact data on a generic level (country/sector) (one example is the Social Hotspots Database)

Adoption in industry

- Pilot projects are underway in different industries (automotive, electronics, and chemical industries)
- So far, results are mainly for internal use and not for external communication

Limitations

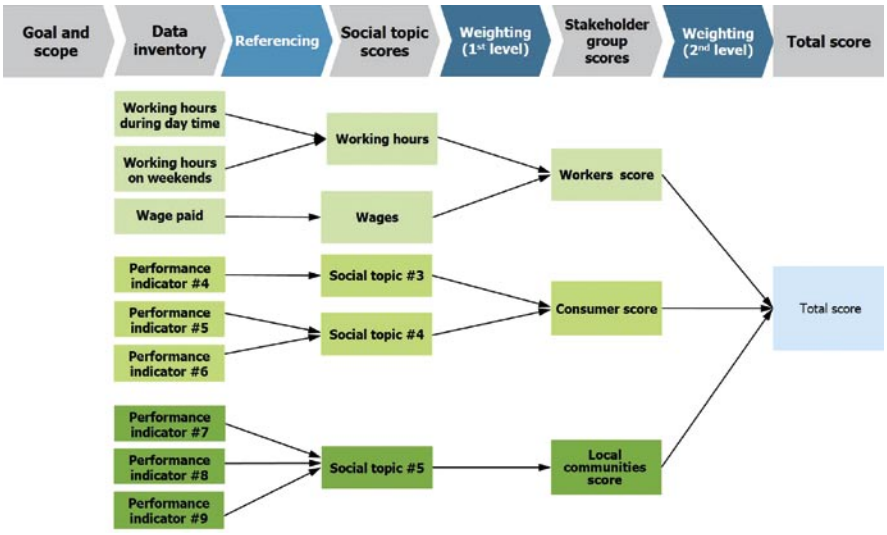
- Limited data availability
- High subjectivity of assessment
- Large amount of resources needed to perform comprehensive studies

Handbook for Product Social Impact Assessment

http://product-social-impact-assessment.com/handbook/

Summary

The Handbook for Product Social Impact Assessment proposes a practical and aligned methodology for organizations to assess the social impacts of products and services, making efficient use of human and financial resources. By supporting the assessment of social performance, this handbook aims to enable organizations to achieve greater insight into their social impacts. The handbook is based on the approaches of the participants of the Roundtable for Product Social Metrics, as well as external references such as UNEP SETAC Guidelines for Social Life Cycle Assessment of Products and international standards at corporate level such as GRI and ISO 26000. The impact assessment method allows for aggregation of performance indicators into social topic scores, stakeholder scores, and the total score. Furthermore, the handbook provides a prioritization of social topics to reduce complexity of assessment and increase practicability.



Typical data flow within the impact assessment method

Source: Roundtable for Product Social Metrics (2014): Handbook for Product Social Impact Assessment.

Developer

Roundtable for Product Social Metrics

This initiative was started by PRé Sustainability and seven members: Ahold, BASF, BMW Group, DSM, Goodyear, Philips, and RB. Five new members joined the group in the Roundtable Phase 2, contributing their knowledge and ideas, and increasing the diversity of the group: AkzoNobel, L'Oréal, Marks & Spencer, Steelcase and a chemical company.

Focus

Social topics in product life cycles

Motivation

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service** | Process | Project | Site | Organization

System boundaries (depending on goal and scope of the assessment)

> **Upstream** | > **Internal** | > **Downstream**

Date requirements and availability

- The approach makes use of site specific and generic data, quantitative and qualitative data can be used
- Data collection is the most time-consuming state in the assessment, as collecting specific data from direct and indirect business partners is often challenging
- Collecting site specific data can be very time consuming – in particular, for complex products such as electronic equipment or vehicles it will hardly be possible to collect site specific data of all indirect suppliers
- Only few databases are available that provide social impact data on a generic level
- The handbook does not provide guidance on possible data sources

Adoption in industry

- The handbook is available since September 2014 and generated more than 3000 downloads in less than eight months
- The handbook was tested by companies from the chemicals, automotive, tire and rubber, electronic, consumer goods, office furniture, and retail sector
- The experiences of the six pilots conducted by the companies during the Roundtable Phase 2 are included in the handbook

Limitations

- Criteria for the assessment proposed may not be universal or may not be applicable to every country and context
- The performance indicators proposed typically measure inputs and outputs, rather than the final impacts of the product

Social Hotspots Database (SHDB)

www.socialhotspot.org

Summary

The SHDB offers a way to prioritize hotspots and calculate a social footprint by compiling and aggregating information about the significant social impacts in particular countries and for specific sectors within the supply chain. The SHDB includes a Global Input Output (IO) model derived from the Global Trade Analysis Project, a Worker Hours Model constructed using annual wage payments and wage rates by country and sector, and Social Theme Tables covering 22 themes within five Social Impact Categories – Labor Rights and Decent Work, Health and Safety, Human Rights, Governance, and Community Impacts. The ranking of worker hour intensity and the risk levels across multiple social themes for the different sectors within a product category supply chain are used to calculate Social Hotspots Indexes using an additive weighting method. The SHDB offers information necessary to conduct a generic Social LCA.

Developer

New Earth, Harvard Center for Health and the Global Environment Sustainability and the Health Initiative for Net-Positive Enterprise (SHINE)

Focus

Social topics in the life cycle of products or organizations

Motivation (depending on the scope of the underlying study)

- **Corporate strategy and innovation management**
- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	Process	Project	Site	> **Organization**

System boundaries (depending on the scope of the assessment)

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Data on economic quantities in different countries is required
- Information on location of suppliers is required, ideally involving all tiers

Adoption in industry

- The system has been tested in several case studies (examples for applications of the SHDB can be found in several journal articles)
- 300 users worldwide
- Recommended in Cradle-to-Cradle certification system

Limitations

- Identification of hotspots rather than facility specific risks
- Lack of sector granularity in the GTAP model and lack of sector data for some indicators

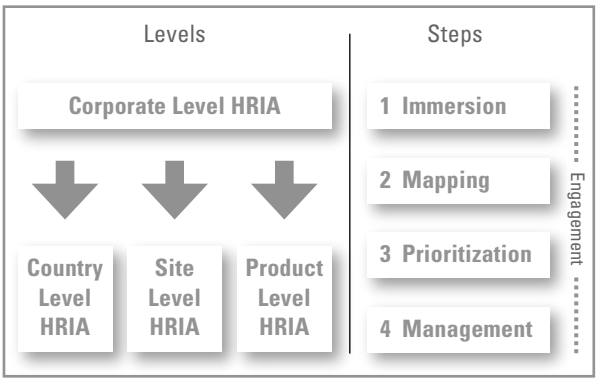
Conducting an Effective Human Rights Impact Assessment

http://www.bsr.org/reports/BSR_Human_Rights_Impact_Assessments.pdf

Summary

The report outlines BSR's recommended approach to human rights impact assessment (HRIA), containing guidelines, key process steps, examples and lessons BSR has learned in conducting human rights impact assessments in various industries. BSR's approach to HRIAs includes four different levels: organization, country, site, and product. The organization-wide assessment is typically the first step and helps a company identify countries, sites, or products that are associated with high risks for human rights violations and should be subject to a specific in-depth HRIA. Human rights impacts are assessed according to four key steps:

- **Immersion:** Immersing in human rights to understand local, national, and international human rights standards and expectations.
- **Mapping:** Identifying the most relevant human rights issues for the organization. Identify hotspots in the organization's business activities.
- **Prioritization:** Determining the order in which the identified issues should be addressed.
- **Management:** Building a robust approach to managing human rights risks and opportunities by remediating existing impacts and strengthening the organization's human rights strategy, policies, processes, communications and stakeholder engagement.



Source: own representation on the basis of BSR (2013): Conducting an Effective Human Rights Impact Assessment.

Developer

BSR Human Rights Advisor

Focus

Identifying and addressing human rights impacts, risks, and opportunities

Motivation

- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Results of the assessment can be used for alignment with global standards such as the UN Guiding Principles on Business and Human Rights.

Scale

> **Product/service**	Process	Project	> **Site**	> **Organization**

System boundaries

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- Basic information about the company's business and operations along the value chain are required
- Information and data on existing policies and processes that address relevant issues, stakeholder/community engagement and relevant grievance mechanisms are required
- Project and product specific data is needed for site and product level assessments
- Generic country-level data is available from external providers (e.g., country guides, country risk assessments)

Adoption in industry

- Several dozen companies, including major multinational companies in the ICT, energy and extractives, healthcare, forestry, food and beverage, manufacturing, hospitality, consumer products, media, toy, electronics, and retail sectors, have used the BSR framework

Limitations

- High degree of data availability and maturity is required
- Framework is not very specific in parts
- Customization can be time intensive and external advisors are needed

Human Rights Compliance Assessment

https://hrca2.humanrightsbusiness.org/

Summary

The Human Rights Compliance Assessment (HRCA) is an assessment tool designed to detect potential human rights impacts of businesses. The HRCA covers all internationally recognized human rights and their impacts on stakeholders, including employees, local communities, customers and host governments. The HRCA consists of a database of questions and indicators to measure business policies, processes and performance. Each of the questions and indicators are derived from international human rights and labour instruments (e.g., the Universal Declaration of Human Rights, the International Bill of Rights and ILO core labour rights). The online checklist format allows businesses, national human rights institutions, civil society groups and others to identify and evaluate whether businesses have effective human rights due diligence measures in place across the different aspects of their operations (e.g. human resources, communities, government relations etc.).

Developer

Danish Institute for Human Rights

Focus

Identifying and addressing human rights impacts, risks, and opportunities

Motivation

- **Customer communication and marketing**
- **Reporting and investor relations**
- **Operational risk management**
- **Reputational risk management**

Scale

> **Product/service**	Process	Project	> **Site**	> **Organization**

System boundaries

> **Upstream**	> **Internal**	> **Downstream**

Date requirements and availability

- The tool incorporates a database of nearly 200 questions and more than 1,000 indicators
- Organizations have to answer questions based on country risk and features of the organization's operation
- Organizations can build their own tailored checklists according to their size, activities, and countries of operation
- The tool is available online to subscribers, however, there is free access to a condensed version called the Quick Check
- A consultation draft of the HRCA tool has recently been published through the Platform For Human Rights Indicators for Business (HRIB). The platform hosts the full consultation draft of the HRCA tool in PDF versions, as well as case studies on how the HRCA has been used by companies, consultancies and national human rights institutions in different contexts, see http://business-humanrights.org/en/platform-for-human-rights-indicators-for-business-hrib

Adoption in industry

- HRCA indicators have been applied across the world by a variety of companies
- Company case studies of how HRCA indicators have been applied are available
- The development of the HRCA involved more than 80 organizations

Limitations

- High degree of standardization
- Findings have at most an indicative character

LBG

http://www.lbg-online.net/

Summary

LBG[1] is a global standard for measuring Corporate Community Investment (CCI). The LBG measurement framework ensures a consistent approach to the measurement and benchmarking of CCI. The network of companies using LBG provides a platform to share experience, best practice and new ideas.

The LBG framework enables organizations to measure their company's/a projects overall contribution to the community, taking account of cash, time and in-kind donations, as well as management costs. The model also records the outputs and impacts of longer-term community and business impacts of corporate citizenship activities. LBG uses a simple Input-Output-framework to enable companies to make their assessment. LBG takes a pragmatic approach to impact measurement; the framework identifies a number of key 'areas of impact' against which both shorter-term outcomes and longer-term changes can be reported. These areas of impact are complemented by simple three point scales against which the depth of impact – the degree to which individuals, organizations or the business are better off as a result of a community activity – can be assessed.

Developer

LBG in conjunction with Corporate Citizenship (a global sustainability consultancy)

Focus

Corporate citizenship activities/Corporate community investment

Motivation

- **Customer communication and marketing**
- **Reporting/Investor relations**

LBG is a measurement framework, which provides information that can be used by companies in a variety of ways. It can be used to inform management about the future direction of their community activity or to understand how their own community activity compares with peers and/or 'best-in-class' companies.

Scale

Product/service	Process	> **Project**	Site	Organization

System boundaries (outside of an organization's value chain)

Upstream	Internal	Downstream

[1] LBG was formerly known as London Benchmarking Group, but, in recognition of its use internationally, is now simply referred to as LBG

Date requirements and availability

- Gathering data on the impacts achieved by the community activity is the most challenging aspect of the LBG framework
- LBG has developed an online data tool, which companies within the network are able to use
- The LBG network conducts an annual benchmarking exercise, where companies within the network submit top-line data on their inputs, outputs and impacts for benchmarking purposes. Results are shared among members
- Details of the specific indicators used within the framework are provided in LBG's guidance manual available from www.lbg-online.net

Adoption in industry

- The LBG framework has been developed, and is continually improved, by a global network of companies
- More than 200 companies worldwide are active members of the LBG network
- The framework is also embedded in sustainability indices such as Dow Jones Sustainability Indices so widening the level of adoption considerably

Limitations

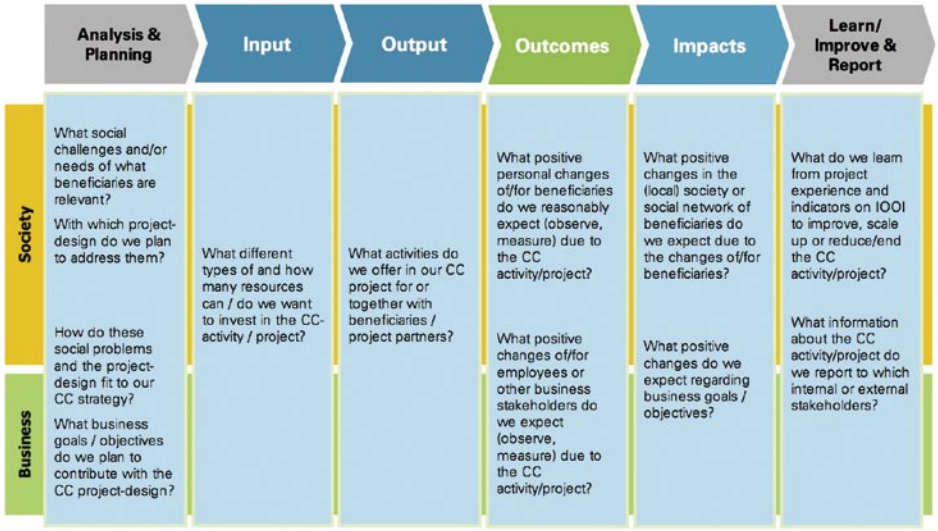
- Model provides no information about social hotspots in the value chain of an organization
- Data collection can be time intensive
- Requires top level support for impact orientation

PHINEO Model for Assessing Corporate Citizenship (CC) and Social Sustainability Activities

www.phineo.org/english

Summary

The PHINEO IOOI (input-output-outcome-impact) model/matrix supports organizations in assessing the positive impacts of corporate citizenship activities or projects on society and business. The approach has several steps, involving the analysis of social challenges and potential project designs, the assessment of different investment opportunities, the identification of specific changes of behavior and circumstances and enables the evaluation of positive effects of engagement activities or projects on society and business. Based on this matrix, organizations can identify and plan suitable CC-projects and activities or whole portfolios. The method can also be applied to social sustainability issues.



The PHINEO IOOI Model for CC-projects

Source: own representation on the basis of PHINEO gAG (2012): Praxis - Ratgeber für strategisches Corporate Citizenship. Retrieved from: https://www.phineo.org/themen/corporate-citizenship

Developer

PHINEO gAG

Focus

Corporate citizenship activities/projects – Transferable to other areas of sustainability, in particular with a social dimension.

Motivation

- **Customer communication and marketing**
- **Reporting/Investor relations**

Scale

Product/service | Process | > **Project** | Site | Organization

System boundaries (outside of an organization's value chain)

Upstream | Internal | Downstream

Date requirements and availability

- Quantitative and qualitative data on inputs and outputs is required
- Data requirements depend on specific CC-activities

Adoption in industry

- Applied by a large number of organizations to assess the impacts of engagement activities
- Several companies participate in corporate citizenship working groups

Limitations

- Model provides no information about social hotspots in the value chain of an organization
- Data collection can be time intensive
- Requires top level support for impact orientation (besides input and output orientation)