Social Life Cycle Metrics for Chemical Products

A guideline by the chemical sector to assess and report on the social impact of chemical products, based on a life cycle approach

wbcsd

November 2016

Building a sustainable world where more than 9 billion people can live within the boundaries of the planet by 2050 is a powerful mission. As a solution provider, the chemical industry is key to helping reach this long term vision, through innovative products and solutions that contribute to solving sustainability challenges. Therefore, as Co-Chairs of the World Business Council's Reaching Full Potential chemical sector project's Metrics activities, we are pleased to present this fourth publication on sector guidance for assessing and reporting on the sustainability performance of chemical products.

This guidance presents social life cycle Metrics and is the first of its kind for the chemical industry. It enables chemical companies to assess and report on social impacts of chemical products within the full value chain, by taking a life cycle approach.

Chemicals are the basis of most of the products in the world. Customers, governmental bodies, non-governmental organizations and consumers are increasingly aware that the chemical sector has an important role to play to create a positive impact on people's health and well-being, and prevent possible negative impacts. Therefore, defining this new standard is important because, 'what you can measure, you can manage'. With a common framework for assessing and reporting on social life cycle metrics, we have a means to improve the social impact of our products within the communities in which we are active, for the end-users our solutions are used by, and all the involved workers along the entire value chain.

This guidance rounds out the previous guidance documents we have developed in the WBCSD, including "Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain" (2013), "Addressing the Avoided Emissions Challenge" (2013), and "Life Cycle Metrics for Chemical Products" (2014). All of these guidance documents share a common objective – to provide guidelines and metrics for consistent and credible measurement and communication on how the value chains of chemicals impact on and contribute to sustainability.

We are grateful for organizations such as the United National Environment Programme (UNEP), and the Product Social Metrics Roundtable, and many others, for paving the way in the area of social metrics. This document builds off of those, to develop a common framework for chemical companies to use.

We also are thankful to the many stakeholders that provided feedback and input on this guide. Just as in our previous guidelines, we encourage our value chain partners and stakeholders to engage with us to further improve the guidelines and quality of our methodology.

Mr. Feike Sijbesma
Chief Executive Officer
Royal DSM

Dr. Kurt Bock
Chief Executive Officer
BASF

Mr. Jean-Pierre Clamadieu
Chief Executive Officer
Solvay

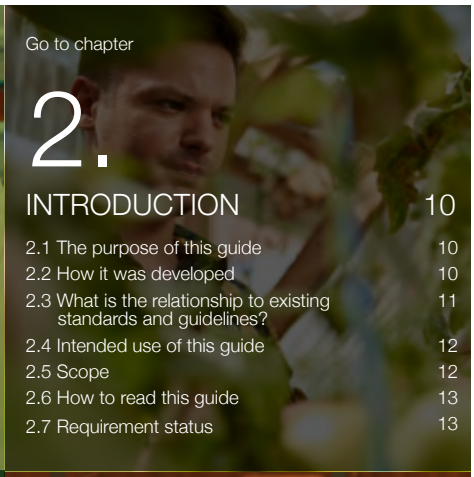
The working group has been led by Andrea Brown, Director, Sustainable Materials from the WBCSD and been supported by PricewaterhouseCoopers.
We thank Isabelle Spiegel, Olivier Muller, Cathelijne Klomp, Juliette Lefébure and other collaborators for their contribution in different phases of the project.

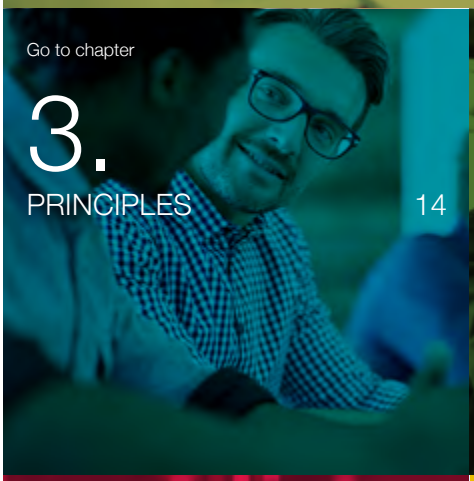
Several stakeholders and experts external to the chemical industry have been asked to proceed with a critical review of this guide. In particular, we would like to express our thanks to the following people for their valuable input: Marzia Traverso (BMW Group); Luce Beaulieu, Professor Jean-Pierre Revéret, and Sara Russo Garrido (CIRAIG-UQAM); Lynette Chung (Clariant) ; Lise Laurin (EarthShift); Dr. Laura Schneider (Econsense - Forum for Sustainable Development of German Business); Professor Atsushi Inaba (Kogakuin University); Charles Duclaux (L'Oreal); Guy Castelan (PlasticsEurope); João Fontes and Mark Goedkoop (PRé Sustainability); Douglas Mazeffa (Sherwin Williams); Francisca Hubeek (Solidaridad); Albert Kruft (The Sustainable Development workgroup of Solvay's European Works Council); Fayçal Boureima, Llorenç Milà i Canals (UNEP-DTIE).

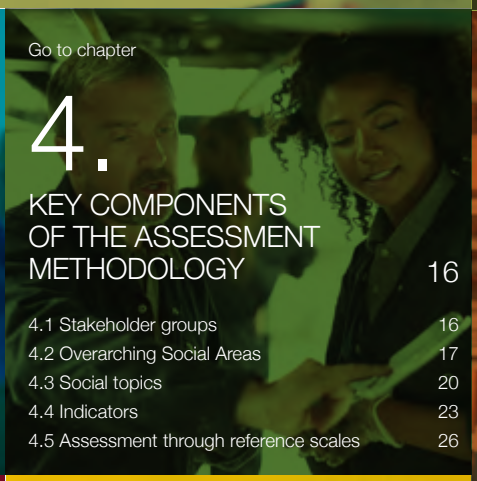
Acknowledgements

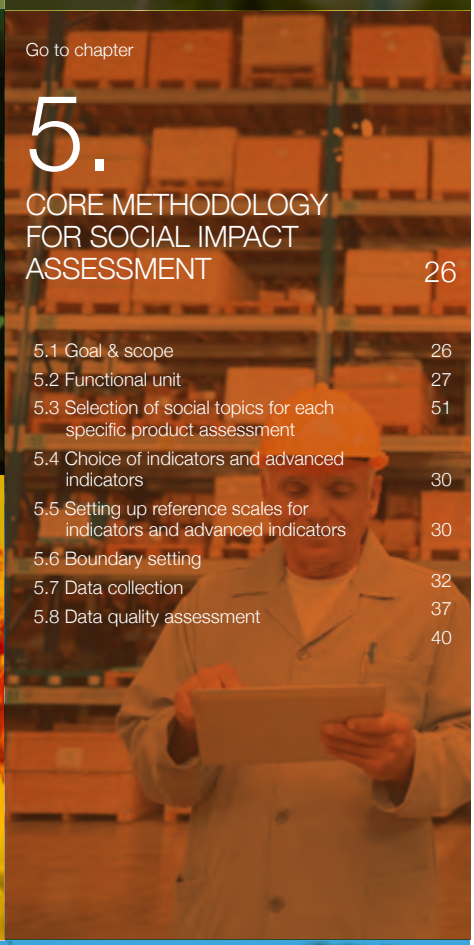
Working Group on Life Cycle Metrics participants:

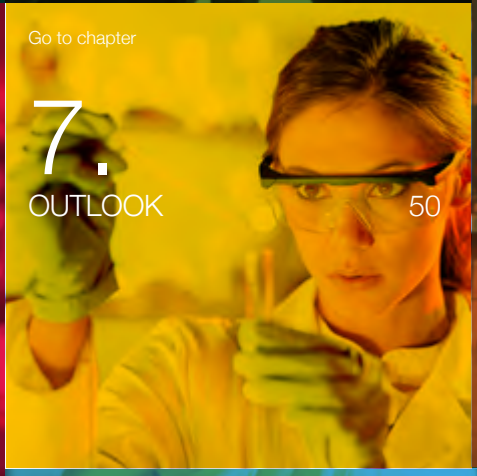
AkzoNobel	Carmen Alvarado, Klas Hallberg, Peter Nieuwenhuizenn
BASF	Peter Saling
DSM	Kimberley Chan, Jacobine Das Gupta, Dave Morris, Gaelle Nicole, Fokko Wientjes
CEFIC	Ann Dierckx, William Garcia
Eastman Chemical	Cathy Combs, Anne Kilgore, Barclay Satterfield
Evonik Industries	Stefan Haver, Thomas Jostmann, Guido Vornholt
Henkel	Uwe Bergman, Joerg Feesch, Kyle Whitaker
Mitsubishi Chemicals Holdings Corporation	Matsuda Kiyoshi
SABIC	Gretchen Govoni, Rajesh Mehta, Ashok Menon, Suchira Sen, Venkata Krishna Kumar Upadhyayula
Solvay	Michel Bande, Pierre Coërs, Dominique Debecker, Joachim Poesch, Jean-François Viot











1 Executive summary



1.1 Why define common social metrics for the life cycle of chemical products?

The chemical industry innovates and produces products that are part of the life cycle of the majority of everyday goods. The position of the chemical industry in the value chain is therefore key in enabling a reduction in environmental impacts and improving the social performance of countless goods. To assess the contribution of chemical products to impact and value creation, chemical companies have invested substantial effort in studying the social risks and benefits of various products.

This document provides a first attempt at methodological guidance for the chemical industry globally in measuring and reporting the social impacts of chemical products along their life cycle. The objective of this guide is therefore to provide a consistent and credible assessment and communication on both the social impact and social benefit/value of chemical products in their application. It is applicable globally, to different chemical products for various industries and from chemical companies with a range of sizes.

This work has been mainly inspired by the *Guidelines for Social Life Cycle Assessment of Products and Associated Works* (UNEP/SETAC, 2009), and the 2014 *Handbook for Product Social Impact Assessment, v. 2.0,* developed by the Roundtable for Product Social Metrics. Additionally, investigations among stakeholders on social impacts and previous work performed with the WBCSD on life cycle metrics devoted to environmental impact assessment were also used as a base.

1.2 Value of this guide

This guide promotes a first reflection on social impacts and benefits/values on the full social life cycle for chemical sector products. Measuring social impacts allows companies to demonstrate positive contributions and improvements on negative impacts of chemical products.

The value of this guidance is that social impacts of chemical products can now be tangible and measurable for companies, and companies can use this to steer product development, value proposition development, and, ultimately their product portfolio as a whole. Its objective is to provide the credible foundations that will be used for the assessment of chemical products and the development of complementary methodologies, enabling, in the future, the comparison of products' social performance throughout the entire chemical sector.

1 Advancing on product-related social metrics

Building on the available methodologies and standards in the field of social impact, this guide is among the **first global and sector-specific guidance documents that can be used as a foundation to consistently assess and report a chemical product's social metrics along its value chain, integrating both positive and negative impacts.** It has been developed in collaboration with existing initiatives, such as the WBCSD Social Capital project, corporate reporting initiatives for the chemical sector, and product social impact assessment or social life cycle assessment (LCA) initiatives.

2 Ensuring comparable and credible social impact assessment

This guide provides common assessment foundations. It **supports the future development of methodologies enabling the comparability of the assessment of chemical products in terms of social performance.**
It aims to drive and support consistent and credible product claims across companies and across sectors.

3 Anticipating value chain needs

This guide reflects the ambition of the chemical sector **to improve and facilitate social impact assessments and decision-making for companies along the value chain.** Such companies will be able to rely **on consistent upstream and downstream information** on the social performance of the chemical products they use to develop and improve their own sustainable products.

4 Engaging stakeholders

The process to develop this guide has included input from relevant **internal and external chemical sector stakeholders,** ensuring that product social assessment and communication best reflect their expectations.

5 Providing practical and educational guidance

This guide is **designed to be user-oriented**, providing meaningful, supporting guidance, with explanations and illustrations exclusively for the assessment of social indicators for specific chemical products. Particular attention has been dedicated to the readability of the document, both in terms of technical vocabulary definitions and illustrative examples.

6 Calling for action

Finally, the elaboration of this guide has highlighted critical gaps (in terms of the development of reference scales for advanced indicators, aggregation or weighting methodologies and data availability) that need further methodological development and data gathering efforts. Covering those gaps will allow the industry to go further in its sustainability measurement.
By supporting these activities from different sectors, it will be possible to generate meaningful data sets and information for the assessment of the sustainability of chemical products.

1.3 Key features of this guidance

6 principles
were followed while developing the guidance and will guide users in the implementation of the methodology:
relevance, completeness, consistency, transparency, accuracy, and feasibility.

3 stakeholders groups
were targeted for this work on social metrics:
workers, consumers, local communities.

25 social topics were selected as the most representative and were split into two groups:

- 11 mandatory social topics are to be covered as a minimum in every product assessment. Indicators and optional advanced indicators are proposed for each mandatory social topic.
- 14 non-mandatory social topics may be included in a product assessment based on a selection process defined in the present guide. Additional indicators and optional advanced indicators are also proposed for each non-mandatory social topic.

Two possibilities are provided to define the system boundaries: cradle-to-gate and cradle-to-grave. Key life cycle stages within the system boundaries are included in the product assessment based on a process defined in this guide.

OVERARCHING SOCIAL TOPICS		STAKEHOLDERS		
		Workers	Local communities	Consumers
SOCIAL AREAS		Social Topics		
	Bacis rights & needs	• Fair wages • Appropriate working hours • Freedom of association, collective bargaining and labor relations • No child labor • No forced labor, human trafficking and slavery • No discrimination • Social/employer security and benefits	• Access to basic needs for human rights and dignity (healthcare, clean water & sanitation, healthy food, shelter) • Respect for indigenous rights	• Direct impact on basic needs (healthcare, clean water, healthy food, shelter, education)
	Employment	• Management of reorganization	• Job creation	
	Health & Safety	• Workers' occupational health risks • Management of workers' individual health • Safety management system for workers	• Health and safety of local community's living conditions	• Impact on consumer health and safety
	Skills & Knowledge	• Skills, knowledge and employability	• Promotion of skills and knowledge	• Promotion of skills & knowledge
	Well-Being	• Job satisfaction	• Access to basic needs for sustainable development (infrastructure, ICT, modern energy) • Nuisance reduction • Developing relationship with local communities	• Consumer's product experience

Legend
Mandatory social topics
Additional social topics to be selected by a practitioner

Figure 1: Overview of the 25 mandatory and non-mandatory social topics and their corresponding stakeholders and social areas

5 social areas

were used to group the positive and negative social consequences a product and its application can generate:

basic rights and needs; employment; health and safety; skills and knowledge; well-being.

Five reference scale levels enable the valuation of each indicator and advanced indicators: from -2 (unacceptable performance) to +2 (outstanding/exemplary evidence), via 0 (standard performance/ compliance).

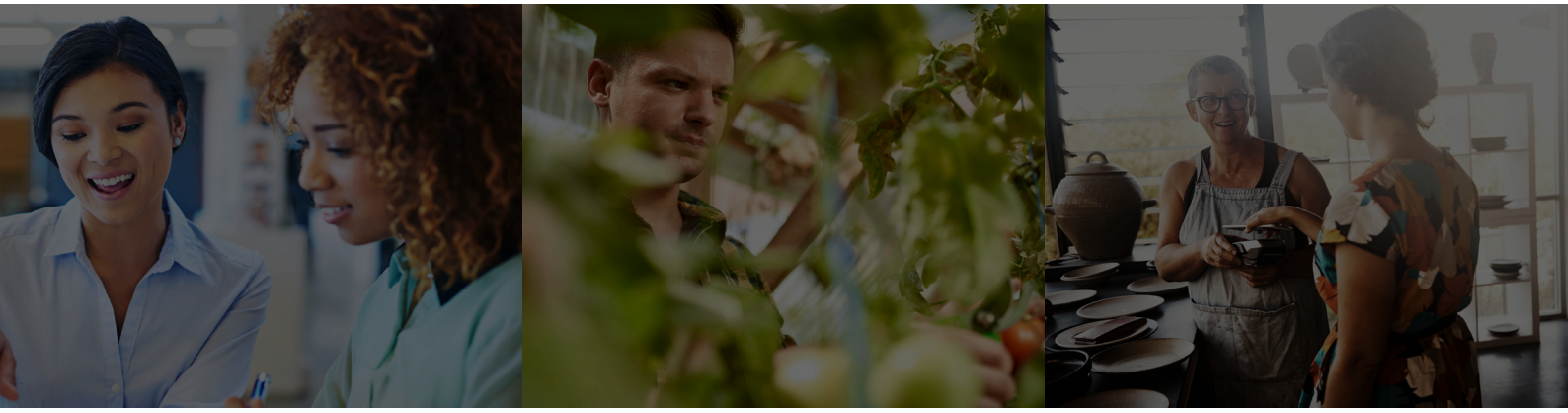
Two types of aggregation are suggested as optional:

- Aggregation along the value chain: grouping results of the key life cycle stages for a given indicator. Existing worst case results (if any) shall be flagged additionally to the aggregated results.
- Aggregation across social topics: grouping results from all indicators within a same social topic, social area or stakeholder category.

One peer review is possible per product assessment to assess the consistency with the present guide. Depending on the goal of the study and the distribution of the report, the peer review can be performed internally or externally.

…and one case study illustrates the present guidance: PVC pipes for water delivery in Europe.

2 Introduction



2.1 The purpose of this guide

The objective of the present guide for assessing and reporting social impacts by the chemical sector **is to provide solid foundations for the development of consistent and credible communication of a product's social metrics throughout its whole life cycle.** Therefore, this document proposes a global framework to align social metrics for the assessment of chemical products based on the global/high-level investigations of the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009) and associated works, version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) and stakeholder feedback.

The guide is part of the WBCSD's Reaching Full Potential (RFP) Chemical Sector Project, which brings together companies that work on social impact assessment in order to develop collaborative solutions from the chemicals value chain towards a sustainable 2050. The RFP Project includes two work streams:

- Metrics: Development of guides for consistent and credible communication to stakeholders on a chemical product's environmental and social impact and benefit/value throughout its life cycle (Avoided GHG Emissions, Environmental LCA, Social Metrics);
- Value Chain Collaboration: Identification of pre-competitive barriers and solutions to bring existing chemical solutions to market faster—emphasizing the long-term disruptors and enablers towards Vision 2050.[1]

[1] The World Business Council for Sustainable Development's (WBCSD) cornerstone Vision 2050 report calls for a new agenda for business and lays out a pathway to a world in which 9 billion people can live well, and within the planet's boundaries, by mid-century. More information is available on the WBCSD website: http://www.wbcsd.org/vision2050.aspx.

2.2 How it was developed

The guide is the result of a collaborative process among 10 global chemical companies that are WBCSD members. The collaborative **Working Group on Life Cycle Metrics** has also been supported by the European Chemical Industry Council (CEFIC). The group met over 20 months to cooperatively share their best practices and jointly generate new approaches. The outcome, this sector guide, is designed to improve the harmonization and consistency of chemical product social impacts and social benefit/value assessments along the life cycle.

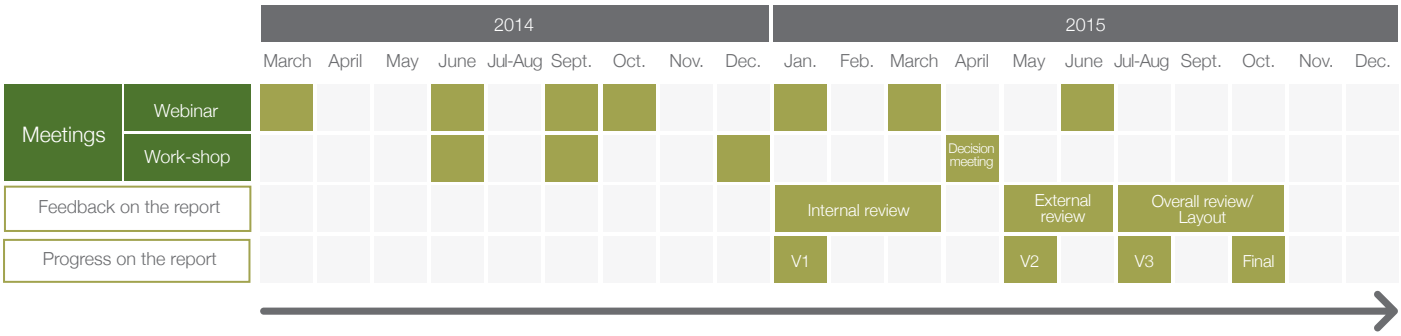


Figure 1: Overview of the 25 mandatory and non-mandatory social topics and their corresponding stakeholders and social areas

The Working Group on Life Cycle Metrics was chaired by DSM and co-steered by DSM, BASF and Solvay. Working group members included Aditya Birla, AkzoNobel, BASF, DSM, Eastman Chemical, Evonik Industries, Henkel, Mitsubishi Chemical Holdings, SABIC, and Solvay which are globally active companies representing Asia, the Middle East, the United States, and Europe. The European Chemical Industry Council (CEFIC) was also represented in the Working Group.

The project lasted from March 2014 through March 2016. During this time, subgroups were deployed so as to decide specifically on the development of social topics and the definition of indicators.

The social metrics methodology was developed and decided on during four dedicated workshops lasting two full days each at WBCSD headquarters. The people involved from each company are experts with diverse backgrounds linked to social metrics (life cycle assessment (LCA) practitioners, human resources (HR) and corporate social responsibility (CSR) experts, etc.) and were supported internally by complementary expertise when needed (e.g. legal or marketing departments). The whole project, and the decision-making within, has been supported by the WBCSD and PricewaterhouseCoopers.

A stakeholder engagement process was also carried out to seek feedback on this guide. In May 2015, several stakeholders with a wide range of profiles (NGOs, universities, global companies, LCA experts, etc.) were requested to provide their feedback on the guide (general opinion and specific issues). More than 200 specific comments, were received and discussed with the working group in order to improve the guide. A document grouping all the comments and decisions made by the working group has been created to keep track of present and future amendments to the guide.

2.3 What is the relationship to existing standards and guidelines?

The key feature of this guide is to offer the foundations of a commonly and internationally accepted methodology in the field of social metrics that is specific to the chemical industry.

It is built upon existing guidelines: it relies heavily on the *Guidelines for Social Life Cycle Assessment of Products and Associated Works* (UNEP/SETAC, 2009) and version *2.0 of the Handbook for Product Social Impact Assessment* (PRé Sustainability, 2014). Previous work performed by the WBCSD on life cycle metrics devoted to environmental impact assessment was also used as a base.

The choice of social areas, social topics and indicators was made based on a chemical sector perspective. The scales defined for the indicators reflect the key social impacts to consider when assessing a product from the chemical industry. This approach explains some of the differences observed with existing methodologies and is explained in Appendix 7.

2 Introduction continued

2.4 Intended use of this guide

This guide is designed **from a chemical industry perspective**. It is intended to be used by:

- Chemical companies that seek to assess and communicate the social impact and values of their products along the whole value chain, and especially:
  1. Internally (life cycle assessment group members, people in charge of sustainability, corporate social responsibility, reporting, marketing, purchasing, human resources, etc.) to assess and eventually improve their social impacts. Different functions of one company can then be involved to bring their expertise to specific parts of the assessment;
  2. Externally to communicate the results to value chain partners and other stakeholders.
- Users of chemical products in the value chain, in order for them to understand the assumptions supporting the social product claims of the chemical sector.
- Other groups considering social metrics (including at corporate level) in order to develop a more complete methodology for the social assessment of chemical sector products and to allow comparisons in future methodologies.

2.5 Scope of this guide

This guide exclusively covers areas related to social impacts. Whenever economic and environmental areas are addressed, it is because they are linked to a social concern (such as health impacts, employment, etc.). Although the developers of this document recognize that social, legal and economic impacts are linked, typical environmental, economic or legal aspects are not measured as such within the scope of analysis.

This guide is meant to provide the results for either a social assessment for a single product application, or, in the future, the comparison between two (or more) product applications. At this stage, this guide shall not be used to make comparative assertions (with regard to ISO standards addressing comparative assertions) but can be used for the comparison of products for specific impacts within the same study.

This guide is a significant step towards the social impact assessment of chemical products. It covers foundations for social impact and **value assessment and provides basic requirements, notably on:**

- Goal and scope, functional unit, boundary setting;
- Categories of stakeholders to be included as a basis of analysis;
- Social topics to be covered when assessing the social impact and benefits/values of one chemical product application, or when comparing two or more chemical product applications, and the review process, both according to the final user of the information (internal communication vs external communication);
- The rating methodology and framework for each social topic's indicator;
- Guidance to be applied in case of unavailable data and management of data quality.

However, as the methodology for the development of social metrics for products is still emerging, **some limitations have been raised** during the development of this guide. They are mainly the following:

- Suggested indicators to report the performance on each social topic—difficulties were raised in defining indicators to illustrate the different social topics as:
  1. Globally recognized standards do not always exist;
  2. The practice of companies in terms of reporting social performance is mainly on an input/output level but generally not on an outcome/impact level (I-O-O-I method);
  3. There is a lack of readily available data that would enable the definition of performance reference points and then position a result towards these references.
- Indicators measuring the processes in place and giving weight to the impact of these processes have been built. But while more advanced indicators have also been designed proposing a quantitative assessment to report on the consequences on the processes in place, these advanced indicators are optional in this methodology due to the limits detailed above. We expect further versions to allow credible assessment using globally recognized advanced indicators.
- The gathering of data to perform an assessment can be time consuming and the use of generic data exposes limitations in term of data accuracy. Despite the fact that we recognize that data which are the most specific to a product and most meaningful for the assessment may be privileged, product-specific data are not always available. Therefore, corporate-level data will be used very often, notably for supply chain actors.
- The development of further case studies in the years to come is needed to get more experience and understand the challenges of implementation.

2.6 How to read this guide

WBCSD working group explanations on methodology choices in this guide are presented in colour boxes from the chapter and text in italics.

So as to enhance readability:

The key requirements of this guide are presented in grey boxes.

Relevant examples from the chemical sector are presented in green boxes.

Definitions are presented in blue boxes.

In addition, explanations of definitions and key concepts and, where relevant, a summary of the main requirements are also provided.

The reference methodology guide is mentioned in brackets at the end of the quoted requirement.

2.7 Requirement status

In order to allow for the assessment of the robustness of a chemical product social metrics report, all requirements from this guide are marked as either “shall”, “should” or “may” (definitions adapted from the Life Cycle Metrics for Chemical Products (WBCSD, 2014) and the International Reference Life Cycle Data System Handbook (Joint Research Centre, 2012)):

SHALL: Mandatory requirement that must always be followed, excluding any specifically named exceptions, if any.

SHOULD: Requirement that must be followed. Deviations are permissible if they are clearly justified in writing, giving appropriate details. Reasons for deviation can include a lack of applicability or if another solution is clearly more appropriate.

MAY: A methodological or procedural recommendation. The issue can be ignored or addressed in another way without the need for any justification or explanation.

3 Principles

Summary

This guide adopts the six principles of *Life Cycle Metrics for Chemical Products* (WBCSD, 2014) and *Addressing the Avoided Emissions Challenge* (WBCSD, 2013), consistent with the *GHG Product Life Cycle Accounting and Reporting Standard* (WRI/WBCSD, 2011): relevance, completeness, consistency, transparency, accuracy and feasibility. These principles guide users in the implementation of this document, especially when making choices that are not specified by this guide.

Relevance

Ensure the chemical product assessment appropriately reflects the actual social impacts of the life-cycle system as much as possible and serves the decision-making needs of users—both internal and external to the company.

Completeness

Account for and report on all social impacts for the given functional unit and within the chosen inventory boundary.

Disclose and justify any specific exclusion, define meaningful cut-off criteria.

Consistency

Use consistent methodologies to allow for meaningful comparisons of social impacts over time.

Transparently document any changes to the functional unit, applied datasets, system boundary, methods, or any other relevant factors in the time series.

Transparency

Address all relevant issues in a factual and coherent manner, based on a clear audit trail.

Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

Accuracy

Ensure that the assessment of social impacts within the scales is systematically neither over nor under actual information on processes, as far as can be judged.

Ensure that uncertainties are reduced as far as practicable.

Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

Feasibility

Ensure that the chosen approach can be executed within a reasonable timeframe and with a reasonable level of effort and cost.

4 Key components of the assessment methodology

Summary

This section describes the key components (stakeholders, overarching social areas, social topics, indicators) of the assessment methodology designed by the WBCSD Working Group on Life Cycle Metrics and explains the process followed to build up this methodology.

4.1 Stakeholder groups

All manufactured products generate social impacts that can be either positive or negative. As an impact is always linked to a receiver (here a group of people, as we exclusively analyze the social impact), stakeholders had to be defined, in the same way that the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009) links each impact subcategory to a group of stakeholders.

Among the five groups listed by the UNEP/SETAC guidelines (see chart below), three stakeholders groups were selected for this work on social metrics: workers, consumers and local communities.

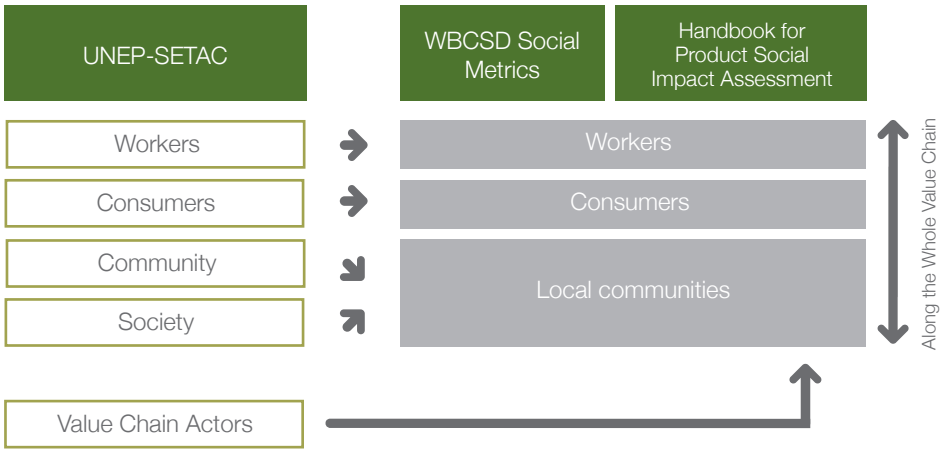


Figure 3: Selection of stakeholder groups

These three stakeholders groups are the same as those selected in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014).

Note: All stakeholders are considered along the whole value chain. So workers include workers from smallholders and small and medium-sized enterprises if such entities are part of the product value chain and if they are relevant to the product studied.

DETAILS ON THE WORKING GROUP'S METHODOLOGY

Explanation of the choice of three stakeholder groups (instead of the five suggested by UNEP/SETAC):

- *Considering that each stakeholder group is addressed at each step of the value chain, the stakeholders of the value chain actors are integrated in the three groups.*
- *Likewise, the stakeholder group "Society" has been merged with "Community" inside a stakeholder group called "Local communities", as in version two of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014). Part of the "Society" group is also integrated in the "Consumers" stakeholder group.*
- *From UNEP/SETAC, the "Society" group also includes the following areas: public commitment to sustainability issues, prevention of armed conflict, corruption, technology, contribution to economic development, etc., which are not addressed in the present guide. We remind readers that economic areas are excluded so as to focus on social areas only (cf. section 2.5 on the scope of the current guide).*

4.2 Overarching Social Areas

To value the social impact of a product application, the WBCSD Social Metrics Group decided to identify the most relevant range of social impacts a product and its application can generate on the three stakeholder groups considered (workers, consumers, local communities). Some 70 positive or negative social aspects were identified and regrouped into five overarching areas, called "social areas". These overarching social areas are the foundations of the social impact assessment of a product.

DEFINITIONS

1. ***Basic rights and needs:*** *There are minimum rights and entitlements within international conventions that apply to all workers. Adopted in 1998, the International Labour Organization (ILO) Declaration commits Member States to respect and promote principles and rights in four categories, whether or not they have ratified the relevant Conventions. These categories are: freedom of association and the effective recognition of the right to collective bargaining, the elimination of forced or compulsory labor, the abolition of child labor and the elimination of discrimination in respect of employment and occupation. The Declaration makes it clear that these rights are universal and that they apply to all people in all States—regardless of the level of economic development.*

   Organizations also contribute to meeting workers' basic needs through the implementation of fair wages, appropriate working hours, social security and benefits.

   Moreover, this social area also addresses the extent to which organizations respect and work to protect, to provide or to improve community access to local material resources (i.e. water, land, mineral and biological resources), shelter and sanitation. Communities and organizations may share the use of material resources, especially in emerging or unstable countries.

   Based on the International Labour Organization's Declaration on fundamental principles and rights at work (ILO, 1998) and version two of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014).

2. ***Employment:*** *This social area assesses the role of an organization in directly affecting employment by creating jobs, generating income and supplying training opportunities for community members. Organizations can have a particularly strong effect on local community development when they hire local workers for senior management positions. This is likely to encourage open communication and trust with the community.*

   Adapted from version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) and from the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009).

3. ***Health and Safety:*** *The term health, in relation to work, indicates not merely the absence of disease or infirmity; it also includes the physical and mental elements affecting health, which are directly related to safety and hygiene at work.*

4 Key components of the assessment methodology continued

Health and safety also address the consumer's right to be protected against products that may be hazardous to health or life. Consumers expect products to perform their intended functions satisfactorily and not pose a risk to their health and safety. Additionally, this social area addresses the positive impacts that products may have on the health and safety of product end-users under defined conditions.

Finally, this social area addresses how organizations impact community safety and health. This includes the general safety conditions of operations and their public health impact. With regards to general safety, operations can impact community safety through equipment accidents or structural failures. Project-related land-use changes can also lead to natural disasters, such as landslides. Disease may spread as a result of business-related land-use changes, for example when poor water drainage contributes to the spread of malaria. An influx of workers can also encourage the spread of communicable disease. The generation and/or use of hazardous materials and emissions of pollution may also lead to adverse health impacts. Organizations may also contribute to the health and safety of local communities, for example by sharing access to worker health services.

Adapted from version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) and based on ILO/ WHO definition (Occupational Safety and Health Recommendation, 1981 - No. 164) and the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009).

4. *Skills & Knowledge: Education and training are what make people employable, thereby allowing them to gain access to decent work and create further employability of workers in a larger market. A more skilled and aware workforce enhances the organization's human capital and contributes to employee satisfaction, which correlates strongly with improved performance. By investing in human resources, companies can improve productivity and compete more successfully in world markets. Training benefits not only the individual worker, but by increasing her or his productivity and skill level, the employer reaps the rewards as well. For those facing retirement, confidence and quality of work relations are improved by the knowledge that they will be supported in their transition from work to retirement. The goal of lifelong learning is to promote the development of knowledge and competencies that will enable each citizen to adapt to a rapidly changing labor market and to participate actively in all spheres of economic life.*

   Education and training are also key to employability, economic growth, poverty eradication, and sustainable community development. By investing in skills and education at the community level, companies improve both their future workforce and the future strength and stability of the economy and society in which they will do business. The goal of lifelong learning is to promote the development of knowledge and competencies that will enable each citizen to adapt to a rapidly changing labor market and to participate actively in all spheres of economic life.

   Consumer education is the preparation of an individual through the skills, concepts and understanding that are required for everyday living in order to achieve maximum satisfaction and sustainable resource use. It is defined as education given to the consumer about various consumer goods and services, covering price, what the consumer can expect, standard trade practice, environmental, social and economic impact of goods and services, etc.

   Based on the International Labour Organization's International Labour Standards on Vocational guidance and training (ILO, 2004).

5. *Well-being: This multidimensional social area addresses how the company contributes to worker, local community and consumer well-being through work-life balance satisfaction, job satisfaction, actions with local communities, etc. The well-being of staff is an increasingly relevant and necessary consideration in the modern workplace. Well-being at its simplest level is perhaps ultimately about personal happiness—feeling good and living safely and healthily. This means not allowing work to undermine the basic purposes and workers' needs, and by extension those of their families. In this respect, well-being is a significant aspect for work and careers.*

   Moreover, this social area also addresses the extent to which organizations respect and work to protect, to provide or to improve community access to infrastructure (i.e. roads, sanitation facilities, schools, etc.). Organizations and communities may benefit from improving the quality of local infrastructure. This social area also encompasses the well-being the consumer associates with the use of a product.

   Adapted from version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) and based on the Handbook for Product Social Impact Assessment (Roundtable for Product Social Metrics, 2014), How's life? Measuring well-being (OECD, 2013) and the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009).

DETAILS ON THE WORKING GROUP'S METHODOLOGY

*The 70 social aspects were identified using **existing works and databases** (among which the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009), social life cycle assessments (S-LCA) works from Greendelta (see the Greendelta website listed in the references) and the Social Hotspot database (also listed in the references)) and through an **internal and an external stakeholder consultation:***

- *Companies from the WBCSD Reaching Full Potential project answered the internal survey, with at least three business functions interviewed per company (responses were received from the following business functions: marketing; communications; innovation/ R&D; LCA/sustainability; market development; strategy; purchasing).*
- *Nine organizations participated in the external stakeholder survey: Goodyear; Interface; M&S; L'Oréal; Corbion; CEPE (European council of paints, printing inks and artists' colors manufacturers); Institute of Sustainable and Environmental Chemistry, Faculty of Sustainability, Leuphana University; Wuppertal Institute; PRé Sustainability.*

They were questioned on their views/needs on product social metrics from the chemical sector and on the approach of this initiative.

Then, using the stakeholder consultation results, the WBCSD Working Group on Life Cycle Metrics grouped the social aspects into five overarching social areas and set up clear definitions to avoid overlaps. Specific social aspects may be distributed in different social areas. For example, business ethics topics were not defined in a dedicated social area, but distributed to the most complementary one (basic rights and needs, employment).

4 Key components of the assessment methodology continued

4.3 Social topics

Within the framework of social areas and stakeholders, 25 social topics were selected, among a total of 70, as the most representative for each combination of stakeholder and social area.

Social topics are positive or negative social impacts that may occur at the various stages of the life cycle. They were identified by the subgroups through the analysis of information available in existing studies and databases.

DETAILS ON THE WORKING GROUP'S METHODOLOGY

Subgroups were created for each social area in order to identify the most representative impacts, called "social topics", that are specifically linked to the overarching Social Area. These subgroups based their analysis on studies and databases such as the Guidelines for Social Life Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009), version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014), international standards (Global Reporting Initiative, case studies from the hotspots database, etc.) and subgroup members' proper sectorial expertise (not necessarily life cycle assessment-based).

Along with the external sources of information on which the selection was based and the subgroup members' expertise, the social topics were challenged:

- *Internally, through the application of certain social topics on case studies, especially the case of PVC pipes for water delivery in Europe;*
- *Externally, through expert review.*

Choice of the mandatory social topics

Theoretically, each product application could be assessed regarding the 25 social topics. Nevertheless, they are not always material with regard to the goal of the assessment and social issues of the chemical product for a given usage. In addition, the assessment of a product for each of the 25 social topics would increase the complexity and the time and resources allocated to the assessment, which would make the exercise unfeasible in a business context.

As the selection of social topics shall reflect a comprehensive set of social issues related to the product system being studied, this guide recommends a minimum set of social topics that should be covered. Therefore, in order to reduce the workload of product application social impact assessment, as well as to ensure, in the future, a minimum of comparability between assessments, the WBCSD working group has selected the following list of 11 mandatory social topics for any product application assessment carried out according to the present guide.

As the “Direct impact on basic needs” (mandatory) and “Consumer’s product experience” (non-mandatory) social topics can only be assessed in the use phase, in the case of a cradle-to-gate study the number of social topics is reduced to 23 and the number of mandatory social topics to 10.

4 Content and design of the assessment methodology continued

OVERARCHING SOCIAL TOPICS		STAKEHOLDERS		
		Workers	Local communities	Consumers
SOCIAL AREAS	Bacis rights & needs	Social Topics • Fair wages • Appropriate working hours • Freedom of association, collective bargaining and labor relations • No child labor • No forced labor, human trafficking and slavery • No discrimination • Social/employer security and benefits	• Access to basic needs for human rights and dignity (healthcare, clean water & sanitation, healthy food, shelter) • Respect for indigenous rights	• Direct impact on basic needs (healthcare, clean water, healthy food, shelter, education)
	Employment	• Management of reorganization	• Job creation	
	Health & Safety	• Workers' occupational health risks • Management of workers' individual health • Safety management system for workers	• Health and safety of local community's living conditions	• Impact on consumer health and safety
	Skills & Knowledge	• Skills, knowledge and employability	• Promotion of skills and knowledge	• Promotion of skills & knowledge
	Well-Being	• Job satisfaction	• Access to basic needs for sustainable development (infrastructure, ICT, modern energy) • Nuisance reduction • Developing relationship with local communities	• Consumer's product experience

Legend

Mandatory social topics

Additional social topics to be selected by a practitioner

Figure 5: The 11 mandatory and 14 non mandatory social topics

DETAILS ON THE WORKING GROUP'S METHODOLOGY

To prioritize and select a list of mandatory social topics, working group members completed a matrix to indicate whether the social topics should be mandatory for the chemical sector based on their professional experience. The final selection of the mandatory social topics was made during a workshop.

4.4 Indicators

Indicators were built for each social topic, following the methodology used in *Guidelines for Social Life-Cycle Assessment of Products and Associated Works (UNEP/SETAC, 2009)*: at least one indicator (mandatory) combining the checking of processes in place to adequately address the social topic considered and their impact, and when relevant, one or more optional **advanced indicators.**

Generally these advanced indicators are more quantitative and based on a specific aspect of the social topic. They are considered optional for the assessment.

DEFINITIONS

Indicator: *quantifiable representation of a social impact. One indicator has been designed for each of the 25 social topics. It combines the checking of processes in place and the assessment of their impact. Indicators for mandatory and additional social topics are necessarily integrated into the assessment of the product.*

Advanced indicator: *one (or more) advanced indicators have also been designed for 25 social topics. They are generally more quantitative and based on a specific aspect of the social topic. They are considered optional for the assessment.*

The final objective of these indicators is to value the social impact of a product application. For enhanced communication and reading, and to facilitate interpretation, and, in the future, comparability, indicators have been normalized to a **5-level scale, ranking the indicators' results from -2 (worst social impact) to +2 (greatest social benefit)**, presented in section 4.5.

EXAMPLE: SOCIAL/EMPLOYER SECURITY AND BENEFITS

Indicator: Example of a product reaching a 0 level

Social/employer security and benefits	X	a) Policies in reporting company exist
	X	b) Company provides a minimum standard of social security in terms of healthcare and income security
	X	c) Company provides access to remedy
		d) Company provides social security in terms of healthcare and income security (incl. old age) additional to national regulations (e.g. company pension scheme, protection, etc.)
		e) Suppliers are actively encouraged to achieve a,b,c,d
	2	a,b,c,d,e achieved
	1	a,b,c,d achieved
	0	a,b,c achieved
	-1	a,b partially achieved
	-2	a,b,c,d,e not achieved

Advanced indicator: Example of a product reaching a 0 level

SOCIAL BENEFITS (INCL. SOCIAL SECURITY EXPENDITURES)	
2	Description of social benefits (incl. social security expenditures) of key life cycle stages of the value chain companies is available in official reports.
1	Description of social benefits (incl. social security expenditures) of key life cycle stages of the value chain companies is partially available in official reports.
0	Description of social benefits (incl. social security expenditures) of the reporting company is available in official reports.
-1	Description of social benefits (incl. social security expenditures) of the reporting company partly exists.
-2	Description of social benefits (incl. social security expenditures) of the reporting company does not exist.

DETAILS ON THE WORKING GROUP'S METHODOLOGY

Each subgroup addressed one particular social area so as to develop the social topics linked to each stakeholder group. Their work consisted of building the social topics and linking to each of them at least one indicator able to value the social impacts of a product application on each stakeholder group, on the whole value chain and throughout the life cycle of a product.

Strengths and weaknesses of each type of indicator have been listed. Difficulties were raised such as data availability, building reference scales for advanced indicators, and issues of "coverage" of indicators in relation to the social topic (in some cases, several advanced indicators are needed to fully address the social topic). Therefore, these indicators are not mandatory in the requirements. The decision on the use of these indicators belongs to the practitioner (see section 5.4).

The principles used during the creation of each social topic and indicator were the following:

- *Is the definition of the social topic* ***relevant?***
- *Is the list of social topics* ***complete*** *(covering all health and safety perspectives, covering the whole life cycle)?*
- *Is the definition based on current or emerging* ***recognized standards?***
- *Are the indicators' definitions adaptable* ***internationally?***
- *Are the indicators* ***measurable*** *and* ***comparable?***
- *Do the indicators allow* ***comparison*** *between different product applications?*
- *Do the indicators assess both* ***negative impact*** *and* ***benefits?***
- *Are the indicators applicable along the whole* ***value chain?*** *Any exclusion to be justified.*

Each subgroup based its investigations on existing databases and global standards presented in appendix 1 and 2.

4.5 Assessment through reference scales

The indicators will enable the valuation of each social topic with the help of a scale that assesses each process or input linked to the functional unit of the product application from -2 to +2. This reference scale is similar to the one used in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014).

Using reference scales is critical to ensuring that a topic is handled the same way by the different users of the guide.
The scales defined for each indicator (see appendix 4) were built on a chemical industry perspective, with zero or medium performance indicating the industry's benchmark.

Interpretation of scales across the value chain will touch upon sectors that are beyond the chemical sector.

The final list of social topics, related indicators, and scales, is available in Appendix 4.

Figure 7: Generic reference scale

5 Core methodology for social impact assessment

5.1 Goal & scope

A clear definition of the chemical product application assessment's goal is critical for alignment between the results and expectations of the study.

A clear definition of the scope will focus the analysis on the intended goal.

The grey box below is directly inspired from Life Cycle Metrics for Chemical Products (WBCSD, 2014).

REQUIREMENTS

Conclusions of the chemical product application assessment **shall** be consistent with the study goal.

Consistent with International Organization for Standardization's (ISO) life cycle assessment global standards (ISO 14040:2006 and ISO 14044:2006), the following specific requirements are to be taken into account for a chemical product social metric assessment's goal definition.

The chemical product application assessment report **shall**:

- State the intended goal and study application(s) of the chemical product application assessment in a precise and unambiguous way;
- Explain the reasons for carrying out the chemical product application social metrics study, name the drivers and motivations, and especially identify the decision context;
- State the business goal clearly;
- Identify the target audience of the study, i.e. to whom the results of the study are intended to be communicated.

EXAMPLE: SOCIAL/EMPLOYER SECURITY AND BENEFITS

Typical examples of intended applications for chemical product social impact studies include (source: version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014, p. 22)):

- Understand potential risks and improvement opportunities of a new product in initial development phase;
- Understand potential risks and improvement opportunities before making the decision to start a project pilot;
- Screen (a part of) the product portfolio to identify hotspots, risks and improvement opportunities;
- Assess the impacts of a product in the market for internal assessment and optimization;
- Communicate results in a B2B context, comparing a product with an alternative product or solution;
- Communicate the results to the general public.

Typical examples of intended audience include internal and/or external stakeholders: employees, shareholders, customers, regulators, local communities, society, etc.

Typical examples of reasons for carrying out the study are also developed in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014).

5.2. Functional unit

A clear definition of the functional unit represents a key element of the methodology, as it allows comparison of the social impact of two or more chemical products by providing a reference to which social topics can be related.

DEFINITIONS

Functional unit: *"Quantified performance of a product system for use as a reference unit" (source: ISO 14040:2006 and 14044:2006).*

Reference flow: "Amount of product on which the results of the study are based" (source: GHG Product Life Cycle Accounting and Reporting Standard).

REQUIREMENTS

The following requirements have to be taken into account when defining the functional unit (source: Life Cycle Metrics for Chemical Products (WBCSD, 2014)):

The functional unit **shall** be consistent with the goal and scope of the study.

As the functional unit specifies the benefit provided to the customer, the functional unit **shall** be equivalent for all compared solutions.

To ensure products in a comparative chemical product social impact study are exchangeable in the selected market, relevant quality criteria **should** be taken into consideration, as much as feasible.

The following three quality properties **should** be used to assess whether compared solutions are truly exchangeable:

- Functionality, related to the main function of the solution;
- Technical quality, such as stability, durability, ease of maintenance;
- Additional functions rendered during use and disposal; if additional functions of any of the systems are not taken into account in the comparison of the functional units, then these omissions **shall** be explained and documented (source: ISO 14044:2006, §4.2.3.2.).

For cradle-to-grave studies, companies shall specify the duration time of a product that contributes to the functional unit, i.e. how long the performance of the final product or service needs to be maintained. The chemical product social impact assessment report **shall** explain how this duration has been determined in relation to the lifetime of the product.

Both the duration of the functional unit and the lifetime of the product **should** be in line with standards used in the market (e.g. product category rules, studies from reputable organizations, studies by leading companies in the value chain).

EXAMPLES

Example 1: Assuming that a company wants to assess the social impacts and value of using PVC pipes for water delivery in Europe, the goal and functional unit could be the following:

- **Goal of the assessment:** Social assessment of water delivering system in Europe using PVC pipes;
- **Functional unit:**
  - **Cradle-to-grave:** Making drinking water available to 10,000 inhabitants over a 50-year period;
  - **Cradle-to-gate:** Producing pipes dedicated to water delivery with a service life of 50 years.
- **Reference flow:**
  - **Cradle-to-grave:** 500,000 gallons (1.89 million liters) of water/year or similar;
  - **Cradle-to-gate:** 10 kilometers of 150 mm PVC pipes.

Example 2: To assess the social impacts and value of using bio-based polyethylene (PE) for food packaging produced in Brazil, the goal and functional unit could be the following:

- **Goal of the assessment:** Social assessment of milk sold in the USA in 2015 using bio-based PE packaging produced in Brazil;
- **Functional unit:**
  - **Cradle-to-grave:** Making 1 liter of fresh milk available for the consumer in good sanitary conditions with a shelf life of two weeks;
  - **Cradle-to-gate:** Producing PE packaging dedicated to the packaging of fresh milk in 1 liter bottles.
- **Reference flow:**
  - **Cradle-to-grave:** 1 liter of milk or similar;
  - **Cradle-to-gate:** 1 bio-based PE bottle of 1 liter capacity.

5.3. Selection of social topics for a specific product assessment

The objective is to select of this section is to select social topics that are particularly relevant for the assessment performed and consistent with the goal of the study. Mandatory social topics for all chemical products have already been identified. In addition, other relevant social topics could be selected within the scope of the assessment.

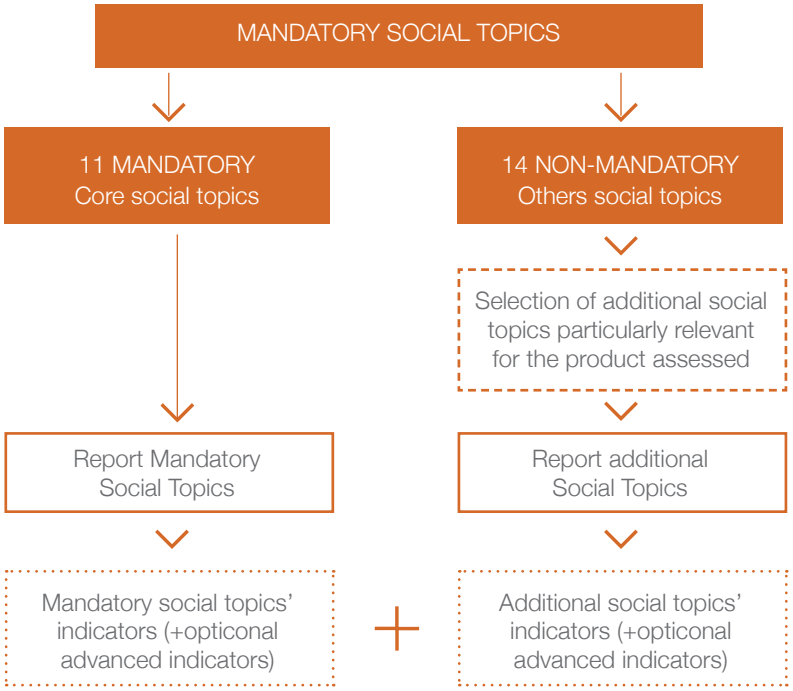


Figure 8: Selection of social topics and associated indicators

REQUIREMENTS

- For an **absolute product application's** social impact assessment:
  - The 11 mandatory social topics **shall** be included in the social impact assessment (see section 4.3);
  - A practitioner **shall** select additional impacts within the 14 non-mandatory social topics to be added to the assessment based on their particular relevance and justify their choice;
  - Note: The grouping of the 11 mandatory social topics and the additional non-mandatory social topics that are considered as particularly relevant for the product application studied form the list of **material social topics**.
- Non-material social topics **may** also be included in the assessment.
- For a social impact comparison between comparable product applications, the selection of additional social topics **shall** be conducted as described above for each product application; and all social topics that have been selected for both product applications shall be included in the social impact comparison. This requirement anticipates future versions of this guide, because at its actual stage of development, this guide does not encourage comparative assertions between product applications.
- The selection of social topics **shall** reflect a comprehensive set of social issues related to the product system being studied and be both justified and consistent with the goal and scope of the social evaluation.
- For most social assessment studies, existing social topics and the corresponding indicators will be selected. However, in some cases existing social topics and the corresponding indicators are not sufficient to fulfil the defined goal and scope of the study and new ones have to be defined. When new social topics and the corresponding indicators are defined, it shall be clearly stated and the requirements described in the present guide shall be applied (see sections 3, 4 and 5.5).

EXAMPLES OF SELECTING NON-MANDATORY SOCIAL TOPICS

	14 NON-MANDATORY SOCIAL TOPICS	CASE N°1 PRODUCTION OF PVC PIPES FOR WATER DELIVERY IN EUROPE CASE (ENERGY COMING FROM RUSSIA)	CASE N°2 BIO-BASED PE FOR FOOD PACKAGING PRODUCED IN BRAZIL
Workers	Management of worker's individual health		
	Appropriate working hours		Material because of a risk identified in the country where it is produced
	No discrimination		Material because of a risk identified in the country where it is produced
	Social/employer security and benefits		Material because of a risk identified in the country where it is produced
	Job satisfaction		
	Management of reorganization		
Local communities	Access to basic needs for sustainable development (infrastructure, ICT, modern energy)		
	Respect for indigenous rights		Material because of the attention brought by the media on deforestation
	Nuisance reduction		
	Developing relationship with local communities	Material because local communities invest money for PVC pipe installation, so they have strong expectations	
	Promotion of skills & knowledge		
Consumers	Consumer's product experience		
	Direct impact on basic needs	Material for the PVC because of the societal function of the product, which is to make water available for the population	Material because of the societal function of the product
	Promotion of skills & knowledge		
		2 additional social topics to be added to the assessment	5 additional social topics to be added to the assessment

Figure 9: Overview of the selection of additional social topics to integrate in the assessment for the PVC pipes and bio-based PE packaging cases

5.4. Choice of indicators and advanced indicators

As described in section 4.4, for each social topic one 'indicator' and at least one 'advanced indicator' have been developed.

REQUIREMENTS

Choice of indicators:

At each relevant life cycle stage (determined by the setting of boundaries through a practitioner analysis, see section 5.6) and for each selected social topic (mandatory and additional material social topics, see section 5.3), the assessment **shall** include, at a minimum, the main indicators. One or several advanced indicators **may** be included as well.

Assessment of indicators:

Results of the assessment for each indicator **shall** be expressed in numerical format (from -2 to +2), according to one of the reference scales defined in Appendix 4.

For advanced indicators, as they are not compulsory, they:

- **Should** be assessed in numerical format (from -2 to +2), according to a reference scale;

OR

- **May** be published in quantitative format only, without the -2 /+2 scale.

5.5. Setting up reference scales for indicators and advanced indicators

In the current version of this guide, a reference scale has been defined for every indicator. For advanced indicators, in the current version of this guide, a reference scale has been developed for each social topic. However, due to a lack of data, such scales have not been defined for all advanced indicators but first indications on what kind of reference scale could be used are given in Appendix 4. Therefore, this section is about setting up reference scales that are specific to a given advanced indicator. A reference scale is needed to set a limit—when a product should get, for example, a level 0 or a level +2. Further guidance on how to set up a reference scale is developed in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014, p.13-16) and in "Socioeconomic LCA of Milk Production in Canada" (Revéret et al., 2015).

REQUIREMENTS

Reference scaling shall be defined based on sectorial information, such as:

- The industry average;
- An alternative average (for example of the main actors of the industry);
- Another benchmark representative of industry, national or international regulations;
- Best available technologies or standards.

Scaling shall be done according to recognized data such as sector averages, databases, expert's investigations.

EXAMPLES

1. **Advanced indicator:** Reference based on expert investigations

   For the social area “Employment”, the “Total number of jobs” advanced indicator linked to the social topic “Job creation” is referred to a reference of 2% originating from expert investigations. For example, a company activity (linked to the functional unit of the product application) that increased the amount of jobs by more than 2% compared to the previous year will receive a score of +2 on this indicator.

2. **Advanced indicator:** Reference based on the average sector level

   For the social area “Health & safety”, the advanced indicator “Absenteeism rate” linked to the stakeholder group “Workers” and the social topic “Safety management system” considers the average sector level as a reference. As such, if the level of absenteeism exceeds the sector average, the company’s score (linked to the functional unit of the product application) will lie between -2 and -1.

1. **Indicator:** Reference based on expert investigations

   For the social area “Health & safety”, the main indicator linked to the stakeholder group “Consumers” and the social topic “Impact on consumer health & safety” will consider product application performance with respect to usual policies and practices in place that have been listed by expert investigations. As such, if the product increases the risk of disease, accident or injury, the product application performance will be rated at -2.

Methodology to set up a reference scale

“Generic reference scales” have been designed for the assessment of advanced indicators and are available in appendix 4.

Hence, advanced indicators, when included in the analysis and when data are available, may need a more specific reference scale based on a generic reference scale.

5.6. Boundary setting

While this guide is applicable to products (as opposed to companies), the analysis of each indicator at each life cycle stage for the selected social topics would lead to time-consuming and complex studies with little marginal relevance. This step prioritizes and selects the life cycle stages to be included in the social impact assessment because of the social risks they may have.

Specific cut-off rules, which are clearly defined in an assessment, can be applied and the most significant life cycle steps will be assessed.

DEFINITIONS

Cradle-to-grave LCA: *Addresses the social aspects and potential social impacts (e.g. use of workforce and consequences for job creation/destruction) in a product's life cycle, from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (ISO 14040:2006 and 14044:2006).*

Cradle-to-gate study: *Addresses the social aspects and potential social impacts (e.g. use of workforce and consequences for job creation/destruction) throughout, from raw material acquisition to the point at which it leaves the factory gate (i.e. excluding transport to use location, use and end-of-life).*

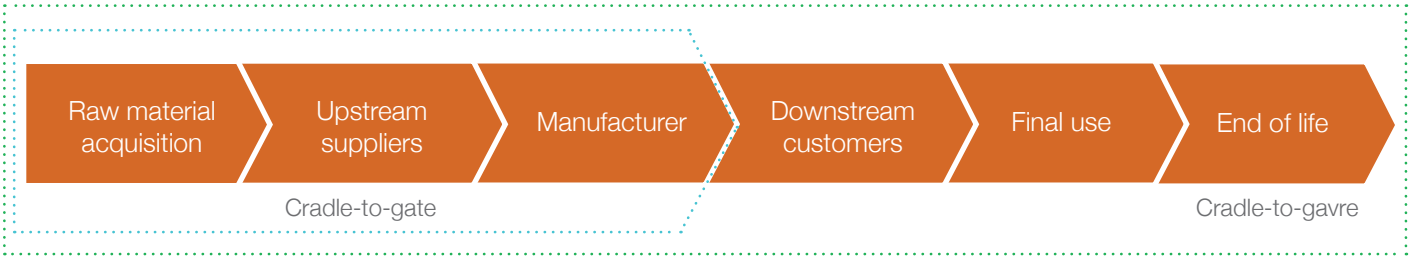


Figure 10: Life cycle stages and scope of cradle-to-grave and cradle-to-gate assessments

REQUIREMENTS

The social impact assessment of a product application:

- **Shall** be adapted to the goal and scope

  The goal and scope are defined at the very beginning of the analysis and cover the product and its application.

- **Should** cover the whole life cycle, down to the use and end-of-life of the product.

  The value chain will always (excepting for specific cases) cover the value chain from cradle-to-grave.

  A specific limitation statement and the description of the cut-off rules applied shall be included in the chemical product social impact study report in order to inform the reader that comparability of the chemical product social impact with other products may not be relevant and might lead to incorrect conclusions. Furthermore, by adopting the cradle-to-gate assessment, some stakeholders and linked social topics will not be covered, which will lead to a different social impact assessment. For example, in a cradle-to-gate study, the health and safety of a product cannot be assessed from a consumer point of view.

- **Should** be focused on a selection of key life cycle stages. In that case, the requirements are the following:
  1. The selection of key life cycle stages **shall** be performed by answering key questions and, when necessary, **may** rely on risk filter criteria, listed in Appendix 5;
  2. When the stage is a chemical producer with a significant impact on the results of the study of the product, it **shall** be included; an iterative approach might be needed to define it;
  3. All the life cycle stages identified as risky **shall** be included in the social assessment;
  4. The justification of selection of the key life cycle stages **shall** be provided, as well as the justification of exclusion.

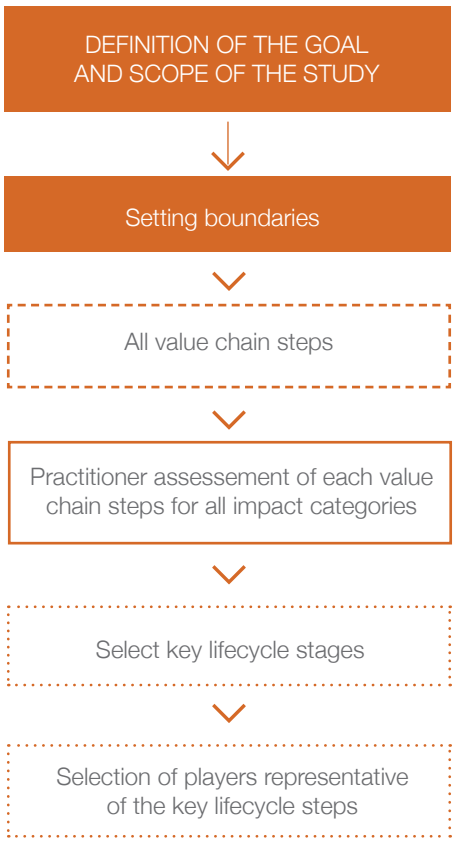


Figure 11: Overview of life cycle stage selection process

Methodology to identify key life cycle stages

In order to select the key life cycle stages to integrate in a product assessment, an analysis will be conducted, first by addressing several questions (see below) to an industry expert who will answer according to his/her expertise, and also using the sources of information listed in Appendix 1. The questions will be addressed for each life cycle stage of the product application. Every mandatory and additional material social topic will also be considered.

Key questions to be considered by the industry expert are:

- Is this life cycle stage relevant for the functional unit and to the goal of the study in terms of mass, working hours, business importance, etc.?
- Are there identified risks linked to the geographical location of the product? Is it produced in a country with past known international human rights violations or other significant negative impacts on social topics?
- What are the usual actors of this life cycle stage (e.g. multinational or small companies, many actors in the market or few)? Does the company's structure (size, number of subcontractors and suppliers, etc.) present specific risks?
- Is there evidence of social violations and risk situations at this stage of the value chain?
- Are significant benefits induced by the life cycle stage?
- Are there specific hazards due to the activity, considering the mandatory and additional social topics included in the assessment?
- Is the life cycle stage mainly determined by a chemical product's function?

	UPSTREAM			CHEMICAL COMPANY'S OWN OPERATION	DOWNSTREAM			USE PHASE		END OF LIFE
Life cycle stages	LC1	LC2	…		LC1	LC2	…	LC1	…	LC1
Details on the life cycle stage location										
Key questions										
Is there evidence of social violations and risk situations at this stage in the value chain?				Automatically included in the assessment as it concerns the company's own operations						
Are there specific benefits during this life cycle stage?										
Is this life cycle stage relevant to the functional unit and to the goal of the study (in term of mass, business importance, etc.)										
Is it produced in a country with known international human rights violations or social risks pointed out by media?										
Are there specific risk resulting from the company's structure & organization?										
Are there specific hazards due to the activity considering the impact categories?										
Conclusion										

Figure 12: Example of table to be used for setting boundaries

In case the data available do not allow for the evaluation of the life cycle step's risk, a filter-based assessment can be applied to the life cycle stages targeted. Appendix 5 defines the filter criteria for each social topic corresponding to the compliance level. **Life cycle stages not meeting these filter criteria will be included in the product application assessment.**

The choice of key representative actors for the selected key life cycle stages is developed later within the data gathering section (see section 5.7.2.).

EXAMPLES

The PVC pipe manufacturing life cycle stages are the following:

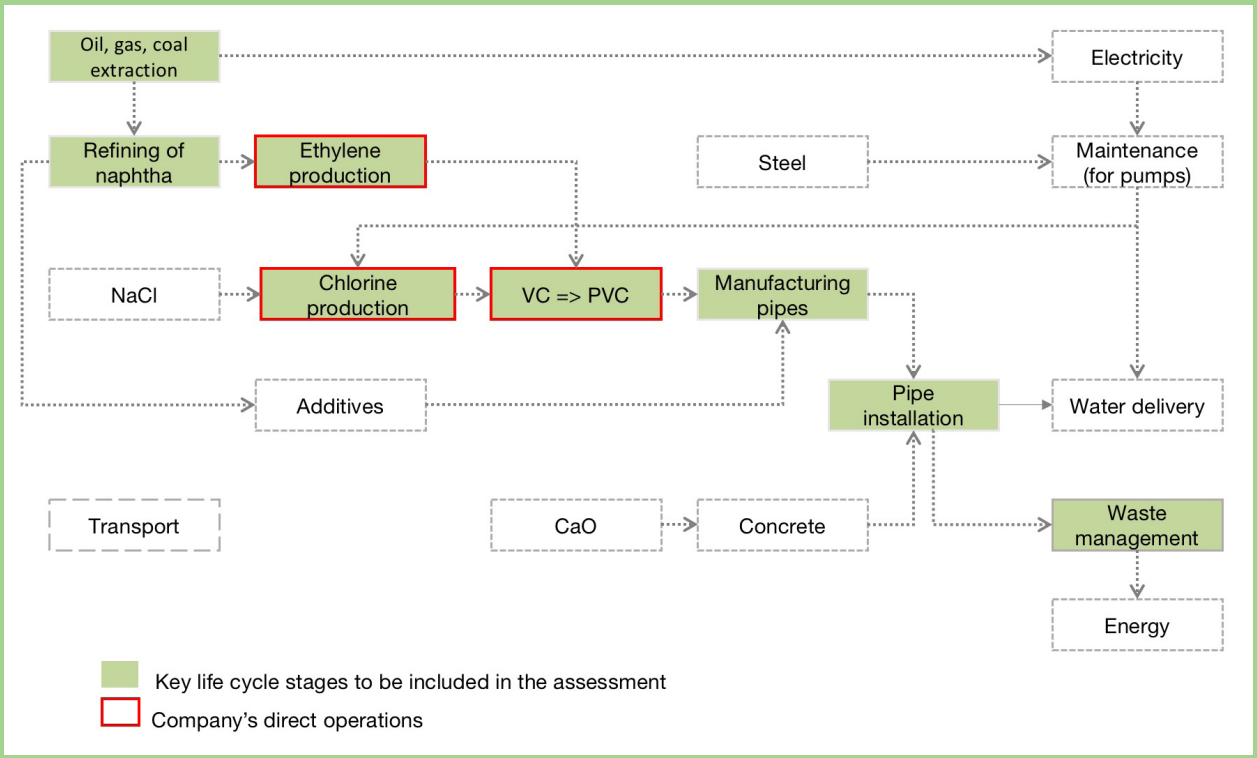


Figure 13: Overview of the key stages along the PVC pipe production value chain

Note: Sodium hydroxide (NaOH) and hydrogen are co-products of chlorine at the chlorine production stage. Both uses are in a separate stage that would be included in studies with a different focus (and not in this PVC study).

The selection of key life cycle stages is based on the following justifications:

	UPSTREAM				CHEMICAL COMPANY'S OWN OPERATIONS
Life cycle stages	Oil extraction	Refining of naphtha	NaCl manufacturing	Additives (colorants, pigments, anti-oxidants) manufacturing	Ethylene, chlorine, VC, PVC production
Details on the life cycle stage location	North Sea (40%) and Venezuela (60%)	Europe	Europe	Europe	
Key questions					
Is there evidence of social violations and situations of risk at this stage in the value chain?	No	No	No	No	Automatically included in the assessment as it concerns the company's own operations
Are there specific benefits during this life cycle stage?	No	No	No	No	
Is this life cycle stage relevant to the functional unit and to the goal of the study (in term of mass, business importance, etc.)	Yes	Yes	No (not significant in term of mass)	No (up to 5% in mass maximum)	
Does this life cycle stage occur in a country with known international human rights violations or social risks?	Yes, Venezuela	No	No	Europe, highly regulated	
Are there specific risks resulting from the company's structure & organization?	Multinational companies	Multinational companies	Multinational companies	No	
Are there specific hazards due to the activity considering the impact categories?	Yes, subcontractors in the oil sector, with higher exposure to labor issues	No	No	No	
Conclusion	Key life cycle stage	Key life cycle stage	Not included in the assessment	Not included in the assessment	Key life cycle stage

	DOWNSTREAM				USE PHASE		End of life
Life cycle stages	Pipe manufacturing	Concrete production	Pipe installation	Steel production for pumps	Electricity	Maintenance of pumps	PVC pipe waste management
Details on the life cycle stage location	Spain	Europe	France				
Key questions							
Is there evidence of social violations and situations of risk at this stage in the value chain?	No	No	No				No
Are there specific benefits during this life cycle stage?	No	No	No				No
Is this life cycle stage relevant to the functional unit and to the goal of the study (in term of mass, business importance, etc.)	Yes	No (not essential considering the functional unit)	Yes				Yes
Is it produced in a country with known international human rights violations or social risks pointed out by media?	No	No	No				No
Are there specific risks resulting from the company's structure & organization?	Large number of companies, compliance management is difficult	No	Large number of companies, compliance management is difficult				No
Are there specific hazards due to the activity considering the impact categories?	Yes, with high energy demand and potential social hazard	No	Use of solvents to connect pipes (risk in term of health & safety)				When incinerated, could have impact on health due to air emissions coming from the use of additives
Conclusion	Key life cycle stage	Not included in the assessment	Key life cycle stage	Not included in the assessment	Not included in the assessment	Not included in the assessment	Key life cycle stage

Figure 14: Justification of the key life cycle stages selection

Regarding the use phase, several interpretations of what should be assessed are possible:

- Assessment of the impact of the use of the product on stakeholders in its production system (eg. The potable water production system contributes to improve living standard of communities)
- Or assessment of the impact of the technical function of the chemical product within its working environment (eg. the impact of maintenance of the PVC pipes on the consumers).

Within the PVC pipes case study the second option was chosen.

5.7. Data collection

The main difficulty when performing a social impact assessment will be the collection of data. As such, performing a social impact assessment is not only about following a methodology but also about deciding on the (5.7.1) type of data sources (origin) and the (5.7.2) gathering level (location) of data, depending on the availability of information (and affordability of data collection), and on the scope/functional unit of the product application to be assessed. This decision will have a direct consequence on the reliability of the assessment results. Indeed, as stated in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014, p.10) "poor data quality compromises the quality and reliability of the assessment and leads to uncertainty about the results" and can lead to wrong conclusions/ interpretations for life cycle assessment results.

Types of data sources

DEFINITIONS IN THIS GUIDELINE:[2]

Primary data: *Data from specific operations in the studied product's life cycle.*

Secondary data: *Process data that are not from specific processes in the studied product's life cycle.**

*The use of secondary data provides challenges for aggregation and/or comparison due to the use of different definitions and different units of analysis.

REQUIREMENTS

The data used for the assessment **shall** be as representative as possible of the product. Data for processes specific to the product assessed are preferable to company-level data if the product does not mobilize all the company's processes.

For primary data:

The most accurate and available primary data **shall** be used. Any use of secondary data when primary data of good quality are available **shall** be justified.

For secondary data:

Quality of secondary data (including supplier data) **shall** be assessed according to the criteria specified in section 5.8.

The sources of secondary data to be used **should** be based on the following list of source categories:

- Life cycle inventory (LCI) datasets from recognized sources:
  - o Industry average data published by associations or federations;
  - o Results of studies published in the literature;
  - o Generic databases.
- Proxy data;
- Technical literature.

The above list **may** also be used as an order of choice to be used for default selection of secondary data that are not critical to the product social metrics assessment results.

For all secondary data, specific attention has to be paid to the choices, quality and methodology underlying these datasets. The inherent assumptions **shall** be carefully considered by the practitioner before using the data. Allocation approaches used (if any), cut-off, data gaps (lack of or incomplete emissions data, etc.) **should** be reported.

[2] These definitions are different from UNEP/SETAC life cycle inventory guidance and from product environmental footprint (PEF) methodology.

EXAMPLES

Examples of data that can be used for each type of data quality can be:

- Primary data—data collected through surveys for the specific assessment;
- Secondary data—public data, such as annual or sustainability reports, Carbon Disclosure Project (CDP) disclosures, publications;
- User groups—industry associations, supplier data surveys (Ecovadis), benchmarking studies;
- Generic average data—based on statistics (from industry average or major company players), social hotspots database, the Organisation for Economic Co-operation and Development (OECD) databases, others.

A list of generic databases is provided in the appendixes of the UNEP/SETAC Guidelines for Social Life Cycle Assessment of Products and Associated Works.

Data gathering levels

Data can be available at different levels within a company: product, site or corporate level.

REQUIREMENTS

Most product/application-specific information **shall** be provided for the assessment:

- If data are available at product level, they **shall** be used for the assessment;
- If data are not available at product level, by default site/corporate-level information **should** be used and allocated to the functional unit;
- Unavailable data **shall** be treated as described in section 6.1 on uncertainties and limits of the results.

PVC CASE STUDY EXAMPLE

Using the same hypotheses and information described in section 5.6 for the PVC (pipes for water delivery in Europe) case study, the following assessment was made on the level of data used for the PVC product application assessment:

		UPSTREAM		COMPANY'S OWN OPERATIONS	DOWNSTREAM		END OF LIFE
Key life cycle stages (resulting from the hotspot analysis)		Oil extraction	Refining of naphta	Chlorine, ethylene, VC and PVC manufacturing	Pipe manufacturing	Pipe installation	PVC pipe waste management
Source of information		Tier 2	Tier 1	Company's own sites	Customers	Installation	End of life
Operating country		North Sea (40%) and Venezuela (60%)	Europe	Europe	Spain	France	France
Assumption of source of information	Ex: for the key actor, identify public complaints (in media), search for information from the main plant…	Key actors (Norway); country specific information (Venezuela)	Key actors	Key actors	Key actors	Key actors To complete	Key actors To complete
Data gathering level	Ex: main suppliers (Gazprom, Total, Shell, etc.): database, surveys, audits Ex: company-specific Ex: generic data (industry, sector, etc.) Databases: LtO questions (TFS), IPIECA & OGP (oil industry)	Country-specific data	Company specific data	Company specific data	Sector specific data	Company specific data	Company specific data
Estimated time (hrs) and resources (people) needed	Give: deadlines and real time estimation Expertise needed (ex LCA practitioner, etc.)	2.5 h, 1 person (for the 3 indicators below in grey)	2.5 h, 1 person (for the 3 indicators below in grey)	2.5 h, 1 person (for the 3 indicators below in grey)	1.5 h, 1 person (for the 3 indicators below in grey)	0.5 h, 1 person (for the 3 indicators below in grey)	0.5 h, 1 person (for the 3 indicators below in grey)
Fair wages indicator	Indicators result	-1	1	2		1	1
	Data quality	3	2	1	2	2	2

Figure 15: Example of analysis of data gathering levels for the "Fair wages" social topic

How to make choices where different sources could be used

The following requirements detail how to prioritize data gathering:

- **Choice between different suppliers or customers:** The practitioner **should** select the most representative suppliers or customers linked to the goal of the study (based on mass criteria for instance).
- **In case of several representative actors:** A weighted average, based on market share or volume criteria, **should** be used to combine data from several key actors identified for a single life cycle stage.
- Worst case performances **should** be specifically mentioned.

EXAMPLES

- **Example 1**: End of life of PVC pipes in Europe

  The selection of representative actors was based on the European market share for PVC recovery and waste management (including landfilling and incineration).

- **Example 2:** Case of Supplier A, rated -2 and representing 40% of supplies in mass and Supplier B, rated +2, 60% of supplies in mass

  The weighted average result is close to 0. However, a comment should be provided with the result to draw attention to the -2 score for Supplier A.

- **Example 3:** Natural gas provided from Russia and from the Middle East

  Use generic regional data and combine the data using a weighted average, considering the share of natural gas coming from each region.

REQUIREMENTS

- For advanced indicators reported without a reference scale and in the case of different activities performed by the same employees: A pro rata formula should be used to consider what is dedicated to the functional unit (e.g. based on working hours or production ratios in volume or in value).
- The hierarchy suggested in the ISO 14040 Standard on life cycle assessment should be followed for allocation issues between different by-products.

EXAMPLES

- Example 1: During a year, an employee works 1,000 hours producing PVC and 700 hours producing another product, and has received 48 hours of training. We should consider 48*1000/1700 = 28 hours only for the assessment.
- Example 2: The impacts linked to the energy consumed to produce PVC and chlorine by the same industrial process has to be allocated using meaningful physical pro-rata criteria.
- Example 3: Assessment of the accident frequency rate (result of the total number of accidents divided by the total number of working hours). The total number of accidents has to be as specific as possible to the product or product class assessed, but the total number of working hours can be allocated to the product based on volumes produced by a factory.
- Example 4: It is important to find meaningful relationships for the underlying data to have statistical relevance. The accident frequency rate of the operation vessel per month is not significant compared to the accident frequency rate of a site in a five-year average.

5.8. Data quality assessment

Version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014, p.11) has built the following data quality matrix based on a scale that quantifies the quality of data from 1 to 5 (1 being high quality and 5 being poor quality). It helps determine the right level of data quality so as to ensure reliability of information and to transparently identify all the uncertainty zones.

REQUIREMENTS

To ensure clarity and transparency, data quality shall be provided in addition to the aggregated results (if any, see section 6.2).

The quality of all data shall be assessed using the criteria in the following table.

CRITERIA	SCORE	1	2	3	4	5
	Own operations and direct suppliers	Independent 3rd party verified data provided with documentation	Non-verified internal data with documentation, or verified data partly based on assumptions	Non-verified data partly based on assumptions,	Qualified estimate	Non-qualified estimate,
Accuracy, integrity, and validity				or data based on grey scientific report	(e.g. by an internal or external expert),	or unknown source
					or data based on non-scientific report	
	Other value-chain actors	Data obtained from value-chain actor directly and provided with 3rd party documentation	Data obtained from value-chain actor directly with documentation	Data obtained from other value-chain actors with poor or incomplete documentation	Data obtained from literature	Unknown source
Timelines		Data from current reporting period	Data from previous reporting period	Data from 2 years before reporting period	Data from 3 years before reporting period	Data from more than 3 years before reporting period, or unknown age of data
Correlation		Data from specific site under study	Data from other sites of the company in the same region	Data from relevant sites of the company in other regions	Data from other companies in same region with similar production conditions	Average sector or country data from public or 3rd party database provider

Figure 16: Data quality matrix (source: The Handbook for Product Social Impact Assessment, v. 2.0 (PRé Sustainability, 2014, p.11))

In case none of the sources of information is available (primary, secondary, user group, generic), the grade "unknown" shall be given for the indicator and a grade of "5" (worst case) shall be given to the data quality. The final results of all the indicators may still be eligible for aggregation.

Data quality shall be provided in addition to the aggregated results.

In case the scales, or some elements of the scales, appear to be irrelevant or not applicable to some steps of the value chain, the grade "not applicable" shall be given to the indicator's score, as well as to the data quality. The final results of all the indicators may still be eligible for aggregation.

Appendix 2 lists the main databases that can be used when performing a social assessment.

EXAMPLES

Example 1: Assessment of a product for the social topic “Fair wages”, with data presenting the following characteristics:

- Data are verified by an independent 3rd party;
- Data come from the current reporting period;
- Data concern the specific site under study.

The data quality score for the indicator of this social topic is:

	Accuracy, integrity and validity	Timelines	Correlation	Data quality score
Product score	1	1	1	1

Example 2: Assessment of a product for the advanced indicator “Frequency rate of safety incidents” of the social topic “Safety management system for workers”:

- There are non-verified internal data with documentation;
- These data come from 2 years before the assessment period;
- The data concern relevant sites of the company in other regions.

The data quality score for this advanced indicator is:

	Accuracy, integrity and validity	Timelines	Correlation	Data quality score
Product score	2	3	3	3

6 Interpretation & communication of results

6.1. Uncertainties and limits of results

Though theoretically we would expect a social impact assessment to use product-level data with a quality rating of 1, data can sometimes be of low quality or even unavailable. The reasons for lower quality data can be linked to the source of information (e.g. regulations that do not require collection of that data or do not make it publicly available) or to the lack of internal resources (e.g. time, expertise, financial). In any case, even though data quality is rated 1, it may still include limits that should be announced in line with the results.

REQUIREMENTS

- Limits of the assessment shall be provided and clearly identified when communicating the results of the product application assessment.
- The results of the assessment shall be interpreted according to the goal and scope of the study, and the interpretation should include an assessment and a sensitivity check of the significant inputs, outputs and methodological choices in order to understand the uncertainty of the results. (Source: Adapted from the ISO 14044 standard)
- As every product application assessment is based on case-by-case expert judgment, data with a certain level of quality, and a methodology that has been decided on using other sources of information, every assessment should be provided with a transparent description of the methodological and data quality limitations.

EXAMPLES

Examples of limitations on the PVC case

1. Limitations on the scope of the analysis: The assessment is based on a key life cycle stages analysis. As such, some significant life cycle steps might have been skipped due to an initial screening with limited data and time resources;
2. Limitations on data quality: For the end-of-life stage, data have been collected on a hypothetical 30%/30%/40% basis for the main actors for each sector (recycling with VEKA, incineration and landfilling with Veolia).

6.2. Aggregation (optional)

As the assessment is led for several life cycle stages of a product application and for at least 11 social topics, aggregation can be seen as a way to facilitate the communication of the results of the assessment to external stakeholders and facilitate their understanding by non-experts. However, aggregating results can be time-consuming and presents a risk of misinterpretation and/or reduction in the transparency of the results. Furthermore, companies might see these aggregated results as an easy solution to compare product applications, which the methodology does not allow at this stage.

So, at this stage of the social assessment methodology's development, and in the absence of a robust aggregation approach, the WBCSD working group members recommend to address this step with particular caution, always presenting detailed results along with aggregated results, and to keep aggregation optional.

REQUIREMENTS

When aggregation is chosen, the process shall respect the following principles:

- **Clarity:** Aggregation **shall** be achieved at a level understood by stakeholders;
- Transparency: Stakeholders **shall** be able to disaggregate if they want to further analyze a specific stage of the value chain or a social topic in particular;
- Credibility: The methodology shall be sufficiently detailed.
- Consistency: The results shall be consistent with the goal and scope of the assessment.

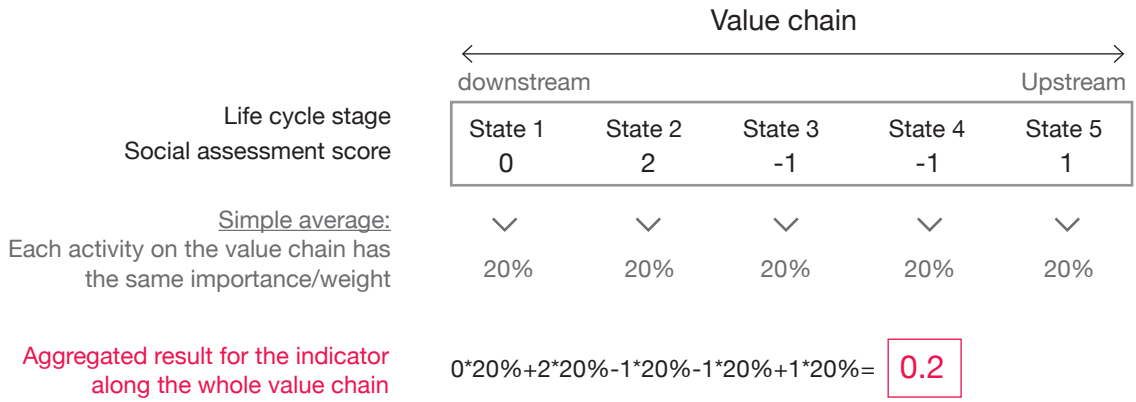


Figure 17: Example of aggregation along the value chain

Note: Simple average is used here as an illustration because it is the most straightforward.

REQUIREMENTS

Once all actors along the value chain have been assessed on the indicator for each social topic:

- These values should be aggregated along the life cycle stages with a simple average;
- The worst cases (-2) shall still be flagged in addition to the aggregated result;
- As described in section 5.8, so as to ensure clarity and transparency, data quality shall be provided in addition to the aggregated result.

EXAMPLES FROM THE PVC PIPES CASE

Example of aggregated results for the "Fair wages" social topic from the PVC pipes case study

		UPSTREAM		COMPANY'S OWN OPERATIONS	DOWNSTREAM		END OF LIFE	AGGREGATED RESULTS		
Key life cycle stages (resulting from the hotspot analysis)		Oil extraction	Refining of naphta	Chlorine, ethylene, VC and PVC manufacturing	Pipe manufacturing	Pipe installation	PVC pipe waste management	Product Performance	Flag the worst case	Data Quality
Source of information		Tier 2	Tier 1	Company's own sites	Customers	Installation	End of life			
Operating country		North Sea (40%) and Venezuela (60%)	Europe	Europe	Spain	France	France			
Assumption of source of information	Ex: for the key actor, identify public complaints (in media), search for information from the main plant…	Key actors (Norway); country specific information (Venezuela)	Key actors	Key actors	Key actors	Key actors To complete	Key actors To complete			
Data gathering level	Ex: main suppliers (Gazprom, Total, Shell, etc.): database, surveys, audits	Country-specific data	Company specific data	Company specific data	Sector specific data	Company specific data	Company specific data			
	Ex: company-specific									
	Ex: generic data (industry, sector, etc.)									
	Databases: LtO questions (TFS), IPIECA & OGP (oil industry)									
Estimated time (hrs) and resources (people) needed	Give: deadlines and real time estimation Expertise needed (ex LCA practitioner, etc.)	2.5 h, 1 person (for the 3 indicators below in grey)	2.5 h, 1 person (for the 3 indicators below in grey)	2.5 h, 1 person (for the 3 indicators below in grey)	1.5 h, 1 person (for the 3 indicators below in grey)	0.5 h, 1 person (for the 3 indicators below in grey)	0.5 h, 1 person (for the 3 indicators below in grey)			
Fair wages indicator	Indicators result	-1	1	2		1	1	0.67	N/A	1.5
	Data quality	3	2	1	2	2	2			

Figure 18: Example of aggregation of the "Fair wages" indicator score for the PVC case study

Aggregation across social topics

DEFINITIONS

Aggregation across social topics *is the aggregation of all indicators (indicator and advanced indicators), either for a social topic or a social area or a stakeholder category or for all stakeholder categories, grouping all indicators studied.*

REQUIREMENTS

- Once all social topics have been assessed through their respective indicators for each product application, aggregation across social topics **may** be performed.
- However, when using aggregation across social topics, all requirements from version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) shall be implemented.

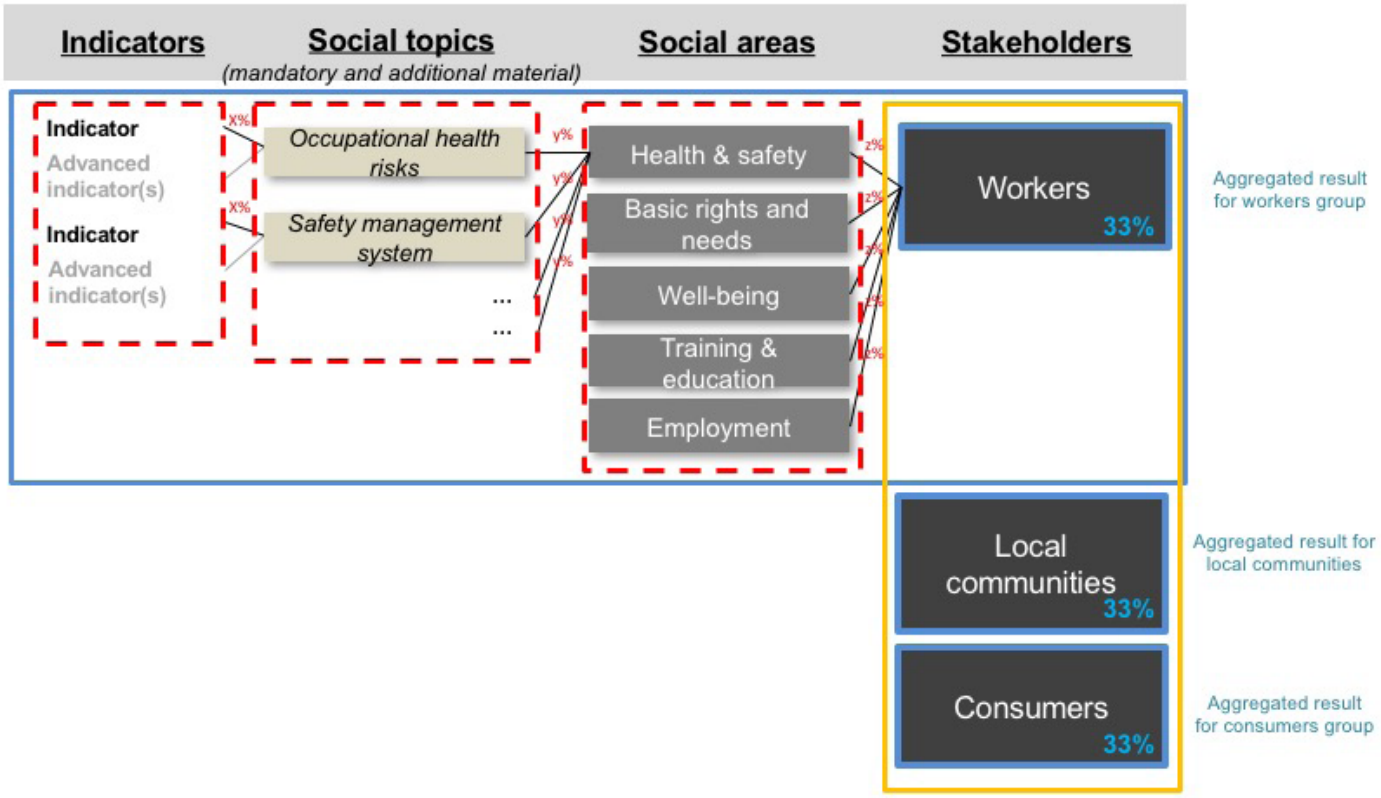


Figure 19: Aggregation across social topics

6.3. Interpretation of the results

As an illustration, the following communication format could be used to present the key results of the assessment, assuming that one graph would be presented for each stakeholder category.

The graph indicates the aggregated results of the assessment: the performance of the product and the quality of the data used to evaluate this performance.

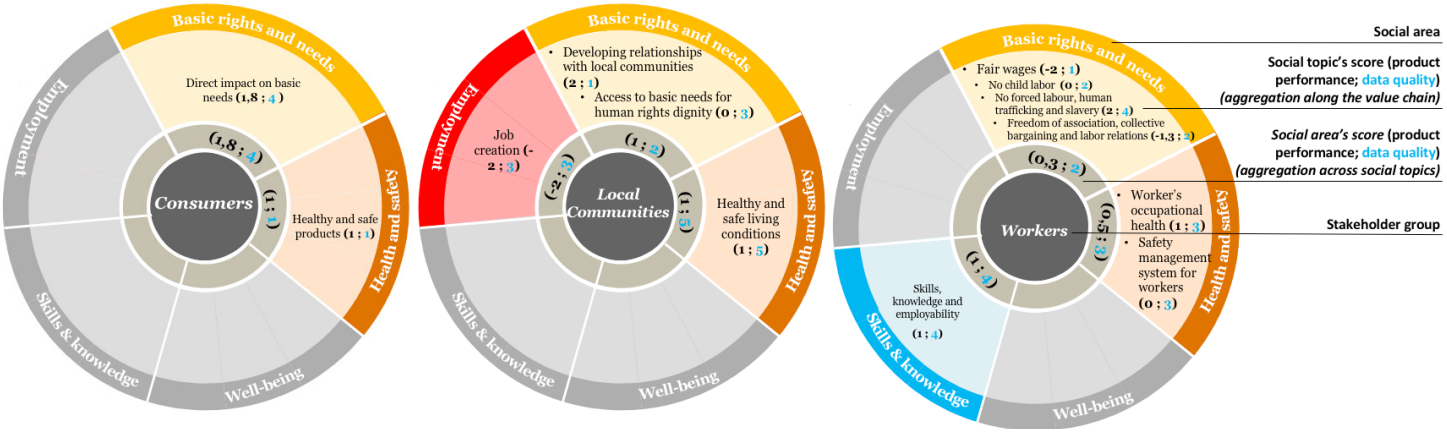


Figure 20: Example of presentation of aggregated results

This figure has only been designed to suggest an example of communication of the results of the assessment. It shows the results of a product application for each stakeholder group and on each mandatory and additional social topic selected for the assessment. Its goal is to provide a quick view of the results for each stakeholder group. The widths of the social topics do not reflect their importance; they are only due to the fact that some social areas contain more social topics than others.

6.4. Peer review

REQUIREMENTS

- Peer review of chemical product application reports to external stakeholders **may** be conducted to assess their consistency with this guide.
- In the case of external publication, an external critical review by a panel of LCA experts **may** be performed prior to publication. In such a case, the external peer review **should** be based on the ISO 14040/44 standard.
- A chemical product application report that was peer reviewed **shall** include a statement clearly specifying that the study has been peer reviewed and summarizing the conclusions of that review.

Particular attention has to be paid to some crucial steps of the methodology and information reported on this methodology:

- Description of the goal and scope of the assessment;
- Selection of additional material social topics (section 5.3);
- Boundary setting and selection of key life cycle stages (section 5.6);
- Assumptions made for data gathering, sources of data used and data quality assessment;
- Transparency in the results and their interpretation (shall be linked to the goal and scope);
- Limits of the assessment.

6.5. Communication of results

Methodologies for assessing products' social impact assessment are very new and still under development. As detailed previously, this methodology is the first social metrics methodology dedicated to the chemical sector. As for any new methodology, users have to be cautious while communicating the results in order to inform the readers of the potential limits of these results.

This section of the report aims at guiding the users on how they can communicate the results of their product application's assessment.

REQUIREMENTS

According to the ISO 14044 standard's General Requirements and Considerations for Reporting (section 5.1):

"The results and conclusions of the LCA **shall** be completely and accurately reported without bias to the intended audience. The results, data, methods, assumptions and limitations **shall** be transparent and presented in sufficient detail to allow the reader to comprehend the complexities and trade-offs inherent in the LCA. The report **shall** also allow the results and interpretation to be used in a manner consistent with the goals of the study."

Any communication of the results and conclusions of a project using the social metrics methodology shall include a warning on the limitations of quantifying social impacts, due to the novelty of this approach, which necessarily implies additional caution while reading and using the results.

An example of such a warning could say "the current report follows a methodology that is still under development and some caution is needed while interpreting the results and making conclusions based on the study."

Results **should** be communicated (internally and externally) using the template suggested in Appendix 6.

How to use the results

This methodology can be used for several reasons, such as the following examples.

EXAMPLES FROM THE PVC PIPES CASE

Application examples presented in version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) and in the GHG Corporate Value Chain (Scope 3) Accounting and Reporting Standard:

- Understand potential risks and improvement opportunities of a new product in the initial development phase;
- Understand potential risks and improvement opportunities before making the decision to start a project pilot;
- Assess the impact of a product in the market for internal assessment and optimization;
- Identify social issues along the value chain;
- Screen (a part of) the product portfolio to identify hotspots, risks and improvement opportunities;
- Manage and reduce regulatory risks;
- Improve the product and/or company's reputation;
- Improve communication and reporting:
  - Inform business partners about product and value chain characteristics;
  - Communicate the results to the general public to provide them with the key information to make better purchasing decisions.

7 Outlook



This guide is a first approach for the chemical sector towards setting the foundations to assess and report the social impacts of chemical products along their value chain. Further challenges that are not fully covered in this guide may be addressed in future phases of the WBCSD chemical sector project in the years to come, notably the following:

- Development of more accurate advanced indicators, as well as a reference scale for each advanced indicator (particularly concerning the notion of “partially achieved” for -1 and +1 levels);
- Development of a more detailed communication template;
- Additional user-oriented features such as a checklist for quality assessment, a template for data collection, and/or an extended description of best practices;
- Development of rules and guidance to allow comparative studies within the social metrics methodology;
- Development of a common knowledge base gathering relevant information, e.g. literature, contacts, especially for the definition of industry averages;
- Identification of relevant data sources and development of databases;
- Guidance for data aggregation and single scoring of results;
- Implementation schemes for the decision-making processes of chemicals industries, in particular to move towards the combination of social and environmental LCA;
- Definition of additional indicators to address regional or cultural specificities;
- Completion of pilot studies.

The next refinement opportunity for these metrics will be to share practices and communicate results during an implementation phase. Sharing and discussions with existing initiatives will be ongoing to build more consistency across the different approaches.


100%

8 Appendices

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Websites

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- DSM's People Life Cycle Assessment (LCA) tool—http://www.dsm.com/corporate/sustainability.html
- Greendelta – Practical Aspects of Social Life Cycle Assessment International Workshop —www.greendelta.com/Social-LCA-Workshop-2012.220.0.html
- Greenhouse Gas Protocol—www.ghgprotocol.org
- IndustriALL global union—http://www.industriall-union.org
- International Labor Organization—www.ilo.org
- International Organization for Standardization 26000 —http://www.iso.org/iso/home/standards/iso26000.htm
- PricewaterhouseCoopers Total Impact Measurement and Management—http://www.pwc.com/totalimpact
- Responsible Care—http://www.icca-chem.org/en/Home/Responsible-care
- Social Accountability International—http://www.sa-intl.org
- Social Hotspots Database—www.socialhotspot.org
- Solvay Sustainable Portfolio Management—http://www.solvay.com/en/sustainability/product-responsibility/index.html
- Social Value UK (formerly the SROI (Social Return on Investment) Network—http://www.thesroinetwork.org
- UNEP/SETAC Life Cycle Initiative—http://www.lifecycleinitiative.org
- WBCSD Social Capital project—http://www.wbcsd.org/socialcapital.aspx

	MAIN SOURCES OF INFORMATION
Health & Safety	• International Labour Organization (ILO) • Methodological Sheets for Subcategories in Social Life Cycle Assessment (S-LCA) (UNEP/SETAC Life Cycle Initiative, 2013 pre-publication) • Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) • ISO 26000 (International Organization for Standardization) • SA 8000 (Social Accountability International) • DSM key performance indicators (KPIs) • Responsible Care • G4 Sustainability Reporting Guidelines (Global Reporting Initiative (GRI))
Workers' rights & Basic needs	• Business Social Compliance Initiative (BSCI) is a widely used supplier management system focusing on improving sustainability in the supply chain and established by the Foreign Trade Association in 2003 (http://www.bsci-intl.org/) • International Labour Organization (ILO) • Methodological Sheets for Subcategories in Social Life Cycle Assessment (S-LCA) (UNEP/SETAC Life Cycle Initiative, 2013 pre-publication) • Roundtables and non-governmental organizations (NGOs) (e.g. the Humanist Institute for Cooperation (Humanistisch Instituut voor Ontwikkelingssamenwerking - HIVO) • Estimating a living wage: A methodological review (http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_162117.pdf) • http://fairwageguide.org/ • http://livingwage.mit.edu/ (only for U.S.) • National and international statistics (e.g., http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/) • http://www.tradingeconomics.com • UN Global Compact (http://www.unglobalcompact.org/) • Ruggie framework (http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf)
Well-Being	• Roundtable for Product Social Metrics • Company reporting systems
Skills & knowledge	• Handbook for Product Social Impact Assessment (PRé Sustainability, 2014) • Methodological Sheets for Subcategories in Social Life Cycle Assessment (S-LCA) (UNEP/SETAC Life Cycle Initiative, 2013 pre-publication) • Chhipi-Shrestha, G. K., K. Hewage, R. Sadiq (2014) "'Socializing'" sustainability: a critical review on current development status of social life cycle impact assessment method". Clean Technologies and Environmental Policy 17 (3), 579-596. • ILO R195 - Human Resources Development Recommendation, 2004 (No. 195) Recommendation concerning Human Resources Development: Education, Training and Lifelong Learning Adoption: Geneva, 92nd ILC session (17 June 2004). • *A Framework for Business Engagement in Education 2013* (UN Global Compact, 2013). • *A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy* (International Labour Office, Geneva, 2011)
Employment	• Global level - How's life? Measuring well-being (OECD, 2013) • G4 Sustainability Reporting Guidelines (Global Reporting Initiative (GRI))

Sources of information used by subgroups to define the social topics and indicators

Social topics and indicators were also built using the sources presented in Version 2.0 of the Handbook for Product Social Impact Assessment (PRé Sustainability, 2014, p. 113).

		Databases (from UNEP/SETAC, PwC search and CEFIC)	Comments
Mandatory social topics			
Workers	Workers' occupational health risks Management of worker's individual health Safety management system for workers	> Global level Global trend according to estimated number of occupational accidents and fatal work-related diseases at region and country level https://osha.europa.eu/en/press/articles/global-trend-according-to-estimated-number-of-occupational-accidents-and-fatal-work-related-diseases-at-region-and-country-level ILOSTATS country data http://www.ilo.org/safework/countries/lang--en/index.htm ICCA Responsible Care Progress Report 2002-2012 – Growing our future From CEFIC: http://www.cia.org.uk/CIAServices/WorkplaceHealth.aspx ---------- > Brazil ILOSTATS Occupational safety and health country profile: Brazil http://www.ilo.org/safework/countries/americas/brazil/lang--en/index.htm Human Rights and Business Country Guide – Occupational Health in Brazil http://hrbcountryguide.org/countries/brazil/labor-issues/forced-labor/	• Country profiles on occupational health for many countries: indicates the fatal & non-fatal injuries from work, as well as frequency rate, and gender, economic activity, occupation, etc. • Figures on worker safety (number of fatalities and lost time injury rate, expressed as the number of lost-time accidents with at least one day out of work per million working hours). • International labor standards, laws and regulations, authorities and bodies, policies and programs and statistics (the section occupational injuries provides figures as to fatal and non-fatal injuries with regards to gender, economic activity, frequency and reference groups. • Provides information on country context, four cases of occupational health related issues, including one for the chemical industry, guidance for businesses and engagement opportunities, including company initiatives
	Fair wages	> Global Level • ILO Decent work country profiles http://www.ilo.org/integration/themes/mdw/lang--en/index.htm • ILO Working Conditions Laws Report 2012 - A global review • Fair wage guide : http://fairwageguide.org/ • Non-Poverty Wages for Countries Around the World http://www.sweatfree.org/nonpovertywages Eurostat's : SBS (structural business statistics) - Nice R2 level (under "Earnings") ---------- > Brazil Level ILO Decent work country profile - Measuring Decent Work in Brazil http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_124376.pdf 2013 Report: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_228791.pdf • Trading Economics - Brazil minimum wage: http://www.tradingeconomics.com/brazil/minimum-wages • Trading Economics - Brazil average wages: http://www.tradingeconomics.com/brazil/wages	• Report assessing progress on decent work in several countries, covering ten dimensions of decent work (employment opportunities; adequate earnings and productive work; decent hours; combining work, family and personal life; work that should be abolished; stability and security of work; equal opportunity and treatment in employment; safe work environment; social security; social dialogue, workers' and employers' representation; economic and social context for decent work). The economic and social context is also explained, and important policy advances and challenges highlighted. Specific information on minimum wages is also present. • Report providing global, regional and national statistics on minimum wages. • Tool providing information to determine fair wages and pricing, using minimum wage data for 150 countries and international poverty lines to calculate benchmarks for products made on an hourly or piece rate basis. Databases used for calculation are not made available by the website. • SweatFree Communities is a campaign of the International Labor Rights Forum, assisting sweatshop workers globally to improve working conditions and unions. The organization provides a methodology for non-poverty wages and figures for 2007-2008. • See description above. Specific information on minimum wages is also present, e.g. pages 10 and 11. A summary of the document is available here: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_228941.pdf - In 2013, the second edition of the Decent Work Profile for Brazil was released. It refers mostly to the second half of the 2000s and incorporates a wider range of indicators that those adopted in the first edition. In addition, it features a chapter on companies and decent work. A sub-national perspective is adopted in this report. • Trading Economics is a website providing information for 196 countries including historical data for economic indicators, exchange rates, stock market indexes, government bond yields and commodity prices. Data is based on official sources. It indicates minimum wage in Brazil (724 BRL) and provides context (comparison with other countries and history). Definitions for indicators and sources for data are not available on the website. We thus recommend using it as an informatory tool and cross-checking any information sourced from this website.

	Freedom of association	> Global level ITUC Survey of violations of Trade Union Rights http://survey.ituc-csi.org/Brazil.html?edition=336&lang=en#tabs-3 Bureau of Democracy, Human Rights and Labor - Country Reports on Human Rights Practices for 2013 http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper ---------- > Brazil ITUC Survey of violations of Trade Union Rights – Brazil http://survey.ituc-csi.org/Brazil.html?edition=336&lang=en#tabs-3 - Bureau of Democracy, Human Rights and Labor - Country Reports on Human Rights Practices for 2013 – Brazil, Workers' rights - Freedom of Association and the Right to Collective Bargaining http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper - Human Rights and Business Country Guide –Trade Union in Brazil http://hrbcountryguide.org/countries/brazil/labor-issues/trade-unions/	• Survey providing context, legal framework and practical implementation of freedom of association, collective bargaining and strikes for most countries. Update by country. • Legal requirements, quality of law enforcement and cases of non-compliance or conflicts for each country • Context, legal framework and practical implementation of freedom of association, collective bargaining and strikes in Brazil. (2014 update) • Legal requirements in Brazil, quality of law enforcement, and cases of conflict • Provides information on country context (unionization, anti-union discrimination, collective bargaining, strikes, access to remedy). It also reports three cases of issues or public complaints related to the topic, including a case involving Vale and the petrochemical workers' union. Finally, it provides human rights guidance for businesses and examples of engagement opportunities.
	No child labor	> Global level Understanding Children Work Project (ILO, World Bank, UNICEF) http://www.ucw-project.org/Pages/InfoByCountry.aspx - United States of America Department of Labor, 2012 Findings on the Worst Forms of Child Labor http://www.dol.gov/ilab/reports/pdf/2012TDA.pdf - UNICEF Database on child labor http://data.unicef.org/child-protection/child-labor - United States of America Department of Labor, List of goods produced by child or forced labor http://www.dol.gov/ilab/reports/child-labor/list-of-goods/ - Human Rights' Watch, Section on child labor http://www.hrw.org/by-issue/publications/691 ---------- > Brazil Understanding Children Work Project (ILO, World Bank, UNICEF) - Brazil http://www.ucw-project.org/Pages/CountryDetails.aspx?id=29 - United States of America Department of Labor, 2012 Findings on the Worst Forms of Child Labor – Brazil http://www.dol.gov/ilab/reports/child-labor/brazil.htm - Human Rights and Business Country Guide – Child Labour in Brazil http://hrbcountryguide.org/countries/brazil/labor-issues/forced-labor/	• Percentage of child labor by country (including information on age, school attendance, gender, residence, economic activity, etc.), country reports, studies • Annual report on the efforts of certain U.S. trade beneficiary countries and territories to eliminate the worst forms of child labor through legislation, enforcement mechanisms, policies and social programs. • Percentage of children aged 5-14 years engaged in child labor (by gender, place of residence and household wealth quintile). Additional resources include publications on specific aspects of child labor. • Goods produced by children or forced workers and by country • Reports on child labor issues in different countries, news releases.

	No forced labor, human trafficking and slavery	> **Global level** • The Global Slavery Index 2013 – Walk Free Foundation http://www.globalslaveryindex.org/report/?download • ILO Global Estimate of Forced Labour http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_182004.pdf United States of America Department of Labor, List of goods produced by child or forced labor http://www.dol.gov/ilab/reports/child-labor/list-of-goods/ --- > **Brazil** • The Global Slavery Index 2013 – Walk Free Foundation: Brazil http://www.globalslaveryindex.org/country/brazil/#article-1098 • Human Rights and Business Country Guide – Forced Labour in Brazil: http://hrbcountryguide.org/countries/brazil/labor-issues/forced-labor/	• Ranking of 162 countries around the world, based on a combined measure of three factors: estimated prevalence of modern slavery by population, a measure of child marriage, and a measure of human trafficking in and out of a country. The Index provides a quantitative ranking of 162 countries around the world according to the estimated prevalence of slavery, that is, the estimated percentage of enslaved people in the national population at a point in time. The Index also provides an estimate of the size of the modern slavery problem, country by country. • 2012 report providing global statistics on forced labor, evolutions, comparisons by region, forms of labor, gender and age group of victims. • Goods produced by children or forced workers, by country (2013) • 2013 findings and progress report for Brazil: information on the number of forced laborers, global ranking, regulation, context and recommendations for improvement • Provides information on country context, four cases of forced labor, guidance for businesses and engagement opportunities, including company initiatives.
	Skills, knowledge and employability		
Local communities	Health and safety of local community's living conditions		
	Access to basic needs for human right to dignity (healthcare, clean water & sanitation, healthy food, shelter)	> **Global level** UNICEF WHO - Progress on drinking water and sanitation – 2012 update http://www.unicef.org/media/files/JMPreport2012.pdf World Bank – General country data http://data.worldbank.org/country?display=graph FAO – Food Security Indicators http://www.fao.org/economic/ess/ess-fs/fs-data/en/ --- > **Brazil** World Bank – General country data (see description above) http://data.worldbank.org/indicator/SH.H2O.SAFE.RU.ZS/countries/BR?display=graph OECD Better Life Index – Housing in Brazil http://www.oecdbetterlifeindex.org/countries/brazil/ World Food Programme - The State of Food Insecurity in the world 2014 http://www.fao.org/3/a-i4030e.pdf	• Report providing an overview of the global situation and regional trends for drinking water and global sanitation, including with regards to MDGs. Country figures for 1990-2010 are provided for the use of sanitation facilities and the use of water sources in percentage of population (pp 38 – 55). • General data on countries and economies (World Development Indicators, global economic prospects – forecasts, projects & operations, finances, surveys, climate). In the world development indicators section, data on access to water (improved water source for rural or urban areas) is available for most countries. • Improved water source rural/urban (% of rural or urban population with access) in Brazil • Data on satisfaction with regards to housing, as well as with the number of rooms in a dwelling, number of persons living there, private access to indoor flushing toilet. • Country data on indicators for availability, access, stability and use. • Report assessing undernourishment around the world in 2014, providing insights for the suite of food security indicators and for the enabling environment to improve food security and nutrition. In the last section, it focuses on lessons learned for several countries, including Brazil. It provides information on national goals, regulations and policies, and statistics for access to healthy nutrition.
	Job creation		
Consumers	Impact on consumers health and safety	ECOLEX search for country regulations on product disposal and recycling - http://www.ecolex.org	Provides references to treaties, legislation, court decisions and literature for environmental issues, including on product disposal and recycling. Thus, can be used as a tool to evaluate the strength of national legislation in that area.

		Databases (from UNEP/SETAC, PwC search and CEFIC)	Comments
Optional social topics Optional impact categories			
Workers	Appropriate working hours	> Global level ILO Working Conditions Laws Report 2012 - A global review ILO – General survey on hours of work 2005 http://www.ilo.org/public/english/standards/relm/ilc/ilc93/pdf/rep-iii-1b.pdf > Brazil Human Rights and Business Country Guide – Working conditions and working hours in Brazil http://hrbcountryguide.org/countries/brazil/labor-issues/working-conditions/ ILO LABORSTA - Hours of work - in manufacturing (per week), by economic activity (per week) – Brazil http://laborsta.ilo.org/	• Report providing global, regional and national statistics on weekly normal hour limits, overtime limits, overtime remuneration, annual leave. • Survey providing statistical information about national practices, trends in working-time schedules, impediments to ratifications of the ILO Conventions and recommendations for the future. Although this is a bit outdated, it can provide useful information as to how the situation has evolved. • Provides information on country context, three cases of lawsuits for the violation of appropriate working hours, guidance for businesses and engagement opportunities. The website provides in this context information on the National Commitment to Improve Labour Conditions in the Sugarcane Activity (2008 – current). • The ILO Department of Statistics (LABORSTA) collects and disseminates detailed statistics on the following aspects of working time: hours of work by economic activity, in manufacturing; weekly hours of work in non-agricultural activities and in manufacturing; and theh distribution of the employed population by hours of work (1995-2005 only). In addition, data on hours of work are collected for 159 occupations through the ILO October Inquiry, which is conducted with reference to the month of October each year by means of questionnaires that are sent to ILO Member States.
	No discrimination	> Brazil Human Rights and Business Country Guide – Rights Holders at Risk in the Workplace in Brazil (societal groups at risk of employment-related discrimination and poor labor conditions) http://hrbcountryguide.org/countries/brazil/rights-holders-at-risk/vulnerable-groups-in-the-workplace/	Provides information on country context (Afro-Brazilians, migrant workers, persons with HIV/AIDS, persons with disabilities, gender minorities, women, access to remedy unionization, anti-union discrimination, collective bargaining, strikes, access to remedy). It also reports three cases of issues or public complaints related to the topic. Finally, it provides human rights guidance for businesses and examples of engagement opportunities.
	Social /employer security and benefits	> Global level • ILO World Social Protection Report 2014/2015 http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_245201.pdf • International social security association – social security programs throughout the world and social security country profiles http://www.ssa.gov/policy/docs/progdesc/ssptw/ http://www.issa.int/country-profiles • ILO Social security database – Programs and mechanisms; inquiry; statistics http://www.ilo.org/dyn/sesame/IFPSES.SocialDatabase --- > Brazil International social security association – social security programs throughout the world and social security country profiles – Brazil country profile (2013) http://www.issa.int/country-details?countryId=BR&regionId=AME&filtered=false	• Report providing a global overview and country data (see annex) on social security, with a focus on social protection for children and families, social protection for women and men of working age (including employment injury protection, unemployment protection, disability benefits and maternity protection), social protection for older women and men, towards universal coverage in health, and expanding social protection. • The Country Profiles cover national social security programs established by statute that insure individuals against interruption or loss of earnings resulting from old age, disability or survivorship; sickness and maternity; work injury or occupational disease; unemployment; and child rearing. They provide an overview of social security programs in the Americas, Africa, Asia and the Pacific, and Europe. Scheme descriptions are provided for over 170 countries and territories, and profiles of complementary and private pensions in 50 countries. Sources: surveys carried out by the ISSA in co-operation with the U.S. Social Security Administration (SSA), OECD, IOPS, social security officials throughout the world. Information is updated region-by-region over a two-year cycle (Africa 2013, the Americas 2013, Asia and Pacific 2012, Europe 2012). • Database providing information for each country and region on different branches of social security (e.g. work injury, invalidity, unemployment, etc.) with different variables (e.g. qualifying period of contribution/work for work injury) and year. • Overview, indicators, scheme description, external scheme data, pensions, reforms, resources http://www.ssa.gov/policy/docs/progdesc/ssptw/2012-2013/americas/brazil.pdf

	Job satisfaction	> Global level OECD Study – How's life? 2013. Measuring Well-being http://www.keepeek.com/Digital-Asset-Management/oecd/economics/how-s-life-2013_9789264201392-en#page153	Assessment of different aspects of people's well-being in OECD and selected emerging economies, including on job satisfaction. The report provides for instance information on employees working long hours and time devoted to leisure and personal care (figures 2.14 and 2.15), perceived work family conflict (box 3.2 and figure 3.12), life satisfaction and labor market status and main dimensions of work and employment quality (figure 5.1 and table 5.1). Countries assessed include Brazil.
	Management of reorganization		
Local communities	Indigenous' rights	> Global Level • Bureau of Democracy, Human Rights and Labor of the USA, Country Reports on Human Rights Practices for 2013 http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper • Amnesty International human rights report by country and issue http://www.amnesty.org/en/human-rights/human-rights-by-country • Business & Human Rights Resource Centre reports on racial discrimination http://business-humanrights.org/en/regions-countries/americas/brazil --- > Brazil • Brazil—property rights and resource governance profile http://usaidlandtenure.net/sites/default/files/country-profiles/full-reports/USAID_Land_Tenure_Brazil_Profile.pdf • USA Bureau of Democracy, Human Rights and Labor, Country Reports on Human Rights Practices for 2013 – Brazil http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper • Amnesty International human rights report by country and issue http://www.amnesty.org/en/region/brazil/report-2012 - Report on Brazil (see description above)	• Human Rights Report including information on indigenous peoples (rights and their violation for example) when relevant. • Reports and publications by country or topic. General focus on human rights but information on indigenous peoples and their rights is also provided. • Reports and articles on rights in business, by topic, company or country (including with regards to land rights and indigenous peoples). • Overview of the situation in Brazil; information on land tenure rights for indigenous peoples, regulation in Brazil, land use, land management and conflicts with regards to indigenous peoples. • The report on Brazil includes statistics on indigenous peoples (population size, groups, language) and provides information with regards to indigenous rights, conflicts, etc.
	Access to basic needs for sustainable development (access to ICT services, energy, sanitation, land rights)	> Global level • World Bank Global Tracking Framework 2013 http://documents.worldbank.org/curated/en/2013/05/17765643/global-tracking-framework-vol-3-3-main-report • World Bank country data http://data.worldbank.org/indicator#topic-9 • World Bank Data - Access to electricity http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS --- > Brazil • Clean Energy information portal (REEGLE) – Policy database, Brazil http://www.reegle.info/policy-and-regulatory-overviews/BR • APEX (Brazilian Trade and Investment Promotion Agency) – Brazil in the world – energy http://www2.apexbrasil.com.br/en/invest-in-brazil/why-invest-in-brazil/energy#./energy?&_suid=141225367214201891045582284629 • CENBIO – Brazilian Reference Center on Biomass, Prof. Suani Coelho – Energy access in Brazil (2009) http://www.cepal.org/drni/noticias/noticias/6/37496/Coelho.pdf	• This report provides an initial system for regular global reporting based on indicators that are both technically rigorous and feasible to compute from current global energy databases. The annex provides country data on access to electricity, access to non-solid fuel, renewable energy and energy efficiency. • Data available for some countries only. Access to electricity: percentage of population with access to electricity for each country. Electrification data are collected from industry, national surveys and international sources. • Data on energy sources, reliance, extend network, capacity concerns, renewable energy, energy efficiency, ownership, competition, energy framework, energy debates, energy studies, role of government, government agencies, energy procedure, energy regulator, etc. REEGLE is an information portal that has established knowledge partnerships with information providers such as the World Bank and the International Energy Agency. • Statistics on access to electricity, energy distribution networks, connection points of energy, renewables, biofuels. • Presentation with data on energy supply, electric system, access – with references to regions in Brazil, rural electrification programs and case studies on energy supply from biomass in the Amazon. • Access to information and telecommunications services can be determined thanks to the indicators and figures provided by World Bank country data (fixed broadband Internet subscribers (per 100 people); ICT goods exports (% of total goods exports); ICT goods imports (% total goods imports); ICT service exports (% of service exports, BoP); Internet users (per 100 people); mobile cellular subscriptions (per 100 people); secure Internet servers (per 1 million people)).

	Nuisance reduction		
	Developing relationship with local communities		
	Promotion of skills and knowledge	> Global level UNICEF data on education http://data.unicef.org/education/overview UNESCO education database http://data.uis.unesco.org/	• Data from 2008-2012 on administrative data school participation, youth and adult literacy rates, survey data on primary net attendance, survey data on primary survival rate and on secondary net attendance rate. Data available for most countries. • Database providing yearly statistics (last updates vary) on country participation, progression, completion, literacy rates and population, educational attainment, international student mobility in tertiary education, human resources, financial resources, school resources and teaching conditions (Africa only), adult education (Latin America and Caribbean only), population, system.
Consumers	Direct impact on basic needs		
	Consumer's product experience		
	Promotion of skills & Knowledge		

Appendix 3. WBCSD Work group methodology for the building of the indicator scales

The working group members were spread into five subgroups (one subgroup per social area) and were given the following template and example to build the indicator scales:

SUBGROUP OPERATING MODE	
How did the subgroup decide on the list of subtopics? How did the subgroup decide on the list of indicators and how were they classified among performance levels ?	
SUBTOPICS	
List all the subtopics and provide a small presentation/definition for each in order to clarify at least the scope and the approach (listing of indicators is not required)	Subtopic 1
	Subtopic 2
	Subtopic …
MAIN SOURCES OF INFORMATION USED	
List the main sources of information that the subgroup used to provide the definitions, indicators, etc.	
SPECIFIC QUESTIONS RAISED BY THE SUBGROUP	
Did the subgroup encounter any difficulties or were questions raised that might be worthwhile for/discussed with all subgroups?	

Figure 21: Template used to describe the subgroup's methodology

Health & safety (Consumers)	Proposed definition (based on PRé handbook definition)	Score	Indicator	Recommended primary internal data sources	Recommended primary external data sources
Impact on consumers' health and safety	Products are expected to perform their intended functions satisfactorily and not pose a risk to consumers' health and safety. This social topic addresses both risks and the positive impacts that products may have on the health and safety of the end-users of products.	Scale-based	(a) The level of contribution of the product to consumers' health and safety, excluding intended basic functions.	Product quality assurance manual, product risk assessment dossier	ICCA GPS portal
			(b) The product is risk assessed for consumer use and the outcome is communicated to the general public.		
			(c) There is a procedure in place in the event of the recall of an unsafe product.		
			(d) The product is labelled for safe handling and disposal.		
			(e) The product is labelled on a voluntary basis for safe handling.		
			(f) The product increases risk of disease, accident or injury.		
		2	a,b,c,d,e		
		1	a,b,c,d		
		0	b,c		
		-1	a		
		-2	f		

Figure 22: Example of the structure followed to build an indicator's scale

Appendix 4. Generic reference scales for indicators and advanced indicators

Introduction

Explanation of the typical structure of the scaling:

Explanation of scoring	
a) b) …	Criteria to fulfill to reach the scales have been defined to facilitate the positioning on the scale. The criteria to achieve to reach each scale is detailed below.
2	Outstanding/exemplary performance => All the criteria are achieved
1	Good performance => Almost all the criteria are achieved or partially achieved
0	Standard performance/compliance => Compliance criteria achieved
-1	Inadequate performance => One or two criteria achieved or partially achieved
-2	Unacceptable performance => No criteria achieved
	Unknown (default)

To identify the level of the scale that the product application assessed reaches, the company assessing the product application must check which criteria (a, b, c, etc.) are met (symbolized by a red cross).

- Example of a 0 level for the “Social/employer security and benefits” social topic **indicator:**

Social/employer security and benefits	X	a) Policies in reporting company exist
	X	b) Company provides a minimum standard of social security in terms of healthcare and income security
	X	c) Company provides access to remedy
		d) Company provides social security in terms of healthcare and income security (incl. old age) additional to national regulations (e.g. company pension scheme, protection, etc.)
		e) Suppliers are actively encouraged to achieve a,b,c,d
	2	a,b,c,d,e achieved
	1	a,b,c,d achieved
	0	a,b,c achieved
	-1	a,b partially achieved
	-2	a,b,c,d,e not achieved

- Example of a +2 level for the “Social/employer security and benefits” social **topic indicator:**

Social/employer security and benefits	X	a) Policies in reporting company exist
	X	b) Company provides a minimum standard of social security in terms of healthcare and income security
	X	c) Company provides access to remedy
	X	d) Company provides social security in terms of healthcare and income security (incl. old age) additional to national regulations (e.g. company pension scheme, protection, etc.)
	X	e) Suppliers are actively encouraged to achieve a,b,c,d
	2	a,b,c,d,e achieved
	1	a,b,c,d achieved
	0	a,b,c achieved
	-1	a,b partially achieved
	-2	a,b,c,d,e not achieved

- Example of a 0 level for the “Social/employer security and benefits” **advanced indicator:**

Social benefits (incl. social security expenditures)	
2	Description of social benefits (incl. social security expenditures) of keys life cycles stages of the calue chain companies is available in official reports.
1	Description of social benefits (incl. social security expenditures) of keys life cycles stages of the calue chain companies is partially available in official reports.
0	Description of social benefits (incl. social security expenditures) of the reporting company is available in official reports.
-1	Description of social benefits (incl. social security expenditures) of the reporting company partly exists.
-2	Description of social benefits (incl. social security expenditures) of the reporting company does not exist.

GUIDANCE & DEFINITIONS

We have considered 3 stakeholder groups—workers, communities and consumers—for the entire life cycle of products, including the end of life of products.

For workers, the questionnaire applies to all workers involved in the key life cycle stages of the product (from raw material extraction to manufacturing, use or disposal).

Workers are defined as people who are employed to perform work related to the product value chain.
The key life cycle stages are the stages identified in the materiality/hotspot analysis. The assessment must be carried out for any worker involved in the key stages. In cases where there is an occupational consideration (e.g. occupational health), the spatial limits are those of the working site (e.g. on the product manufacturing site, the company’s own employees, contractors and suppliers on the site will be considered as one group of workers)

OVERARCHING SOCIAL TOPICS		STAKEHOLDERS		
		Workers	Local communities	Consumers
SOCIAL AREAS		Social Topics		
	Bacis rights & needs	• Fair wages • Appropriate working hours • Freedom of association, collective bargaining and labor relations • No child labor • No forced labor, human trafficking and slavery • No discrimination • Social/employer security and benefits	• Access to basic needs for human rights and dignity (healthcare, clean water & sanitation, healthy food, shelter) • Respect for indigenous rights	• Direct impact on basic needs (healthcare, clean water, healthy food, shelter, education)
	Employment	• Management of reorganization	• Job creation	
	Health & Safety	• Workers’ occupational health risks • Management of workers’ individual health • Safety management system for workers	• Health and safety of local community’s living conditions	• Impact on consumer health and safety
	Skills & Knowledge	• Skills, knowledge and employability	• Promotion of skills and knowledge	• Promotion of skills & knowledge
	Well-Being	• Job satisfaction	• Access to basic needs for sustainable development (infrastructure, ICT, modern energy) • Nuisance reduction • Developing relationship with local communities	• Consumer’s product experience

The following pages of the guide detail the generic reference scales that have been designed for indicators and advanced indicators.

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	Fair wages (Mandatory)	Wages paid for a normal work week shall always meet at least the minimum wage, established either by law, collective bargaining agreement or an industry standard, and be sufficient to meet the basic needs of workers and to provide some discretionary income. Living wage means that wages received for a standard work week by a worker in a particular place shall be sufficient to afford a decent standard of living for the worker and her or his family. Minimum wage is determined by law, collective bargaining agreement or an industry standard. Living wage is based on research carried out by an independent external party (depending on food basket of family and actual market price). Note: The issue of "overtime wages" (reimbursement at premium rate) is included in the topic "Working hours" below for practical reasons (internal data sources for this information is linked with working hours) (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Compensation management system, salary structure and description of legal/industry minimum wage exist and are documented. b) Company provides access to remedy. c) Suppliers are actively encouraged to have documented compensation management system, salary structure and description of legal/industry minimum wage. d) Suppliers are actively encouraged to provide access to remedy.		Legal or industry minimum wage: Minimum wage refers to compensation per hour or other unit of time for employment allowed under law. Since some countries have numerous minimum wages (such as by state or province or by employment category), identify which minimum wage is being used. When no legal minimum wage exists, use the industry average.			
			2	a, b, c, d achieved	2	All workers in the value chain are paid a living wage. Indication of salary levels of the workers with the lowest income in the value chain are provided.		
			1	a, b achieved and c or d partially achieved	1	All workers are paid a living wage. Indication of salary level of the workers with the lowest income are provided.		
			0	a and b achieved	0	All workers are paid the legal or industry minimum wage. Indications are provided on the salary level of the workers with the lowest income.		
			-1	a or b partially achieved	-1	Cases in the value chain companies can be detected in which workers are paid below legal or industry minimum wage. Indications are provided on the salary level of the workers with the lowest income.		
			-2	a, b, c and d not achieved	-2	Cases in the value chain companies can be detected in which workers are paid below legal or industry minimum wage. No indications are provided on the salary level of the workers with the lowest income.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	No child labor (Mandatory)	Child labor is work that deprives children of their childhood, their potential and their dignity, that is socially or morally dangerous and that is harmful to physical and mental development. In its most extreme forms, child labor involves children being enslaved, separated from their families, exposed to serious hazards and illnesses and/or left to fend for themselves on the streets of large cities. Child working constitutes child labor if the child is below: • The age of 15 years; • Or the minimum age for employment set in the country if it is higher; • Or the age of completion of compulsory education if it is higher. However, if local minimum age law is set at 14 years of age in accordance with the developing country exception under ILO Convention 138, this lower age may apply. A young worker is any worker over the age of a child and under the age of 18. Young workers are allowed to work under the conditions stated in ILO Convention 138. (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Policies against child labor, a compliance management process and proactive programs to actively engage in banning child labor exist. b) Proof of age records are documented. c) Employment, recruitment agencies and suppliers are proactively monitored to avoid child labor. d) Company provides access to remedy. e) Suppliers are actively encouraged to have policies against child labor, a compliance management process, and proactive programs to engage in banning child labor and to support school education. f) Suppliers are actively encouraged to provide access to remedy.		Child labor in the value chain Companies are increasingly concerned with child labor in their supply chains. They view it as inconsistent with company values and as a threat to their image and ability to recruit and retain top workers, as well as to the sustainability of their supply chain. Child laborers can be found in all stages of supply chains.			
			2	a,b,c,d,e,f achieved	2	Not a single case of child labor in the value chain companies can be detected and child labor is monitored/targeted in the key life cycle stages of the value chain companies		
			1	a,b,c,d,e achieved	1	Not a single case of child labor in the reporting company can be detected and child labor is monitored/targeted in some of the value chain companies		
			0	a,b,c,d achieved	0	Not a single case of child labor in the reporting company can be detected.		
			-1	a achieved	-1	Child labor in the value chain companies can be detected. Kind of child labor is described. Actions are undertaken to reduce child labor (e.g. support of children's school education) and positive results are measured.		
			-2	a,b,c,d,e,f not achieved	-2	Child labor in the value chain companies can be detected. Kind of child labor is not described. Measurable results describing the reduction of child labor or other achieved improvements (e.g. support of children's school education) do not exist.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	No forced labor, human trafficking and slavery (Mandatory)	All work or service that is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily. Forced labor refers to situations of unfree recruitment in which persons are coerced to work through the use of violence or intimidation, or by more subtle means such as accumulated debt, retention of identity papers or threats of denunciation to immigration authorities or any other impossibility to leave the employer. (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Policies against forced labor and a compliance management process exist. b) Employment and recruitment agencies are monitored to avoid forced labor. c) Company provides access to remedy. d) Company complies with international laws. e) Proactive programs to actively engage in banning forced labor exist. f) Suppliers are actively encouraged to achieve a, b, c, d.		% of forced labor, human trafficking and slavery in the value chain Forced labor, human trafficking and slavery in the value chain Companies are concerned with forced labor, human trafficking and slavery in their supply chains. They view it as inconsistent with company values and as a threat to their image and ability to recruit and retain top workers, as well as to the sustainability of their supply chain. Forced labor, human trafficking and slavery can be found in all stages of supply chains.		
			2	a,b,c,d,e,f achieved	2	Not a single case of forced labor, human trafficking and slavery is monitored/targeted in the companies of the key life cycle stages of the value chain.		
			1	a,b,c,d,e achieved	1	Not a single case of forced labor, human trafficking and slavery in the reporting company can be detected and forced labor, human trafficking and slavery is monitored/targeted in the companies of the key life cycle stages of the value chain.		
			0	a,b,c,d achieved	0	Not a single case of forced labor, human trafficking and slavery in the reporting company can be detected.		
			-1	d not achieved and a,b, c,d,e only partially implemented	-1	Forced labor, human trafficking and slavery in the companies of the key life cycle stages of the value chain can be detected. Kind of forced labor, human trafficking and slavery is described. Actions are undertaken to reduce forced labor, human trafficking and slavery and positive results are measured.		
			-2	a,b,c,d,e,f not achieved	-2	Forced labor, human trafficking and slavery in the companies of the key life cycle stages of the value chain can be detected. Kind of forced labor, human trafficking and slavery is not described. Measurable results describing the reduction of forced labor, human trafficking and slavery or other achieved improvements do not exist.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	Appropriate working hours	The number of working hours is defined by applicable national laws and industry standards on working hours, breaks and public holidays. The normal work week, excluding overtime, shall not exceed limits set by law or 48 hours for hourly workers. Workers shall be provided with at least one day off following every six consecutive days of working. Overtime work shall be voluntary, compensated at a premium rate in accordance with either the law or applicable collective agreement, shall not exceed 12 hours per week, nor be requested on a regular basis. (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Work time management system exists and is documented. b) Company provides access to remedy. c) Company respects national law or industry standards on working hours, breaks and public holidays. d) Suppliers are actively encouraged to have documented work time management system and is documented. e) Suppliers are actively encouraged to provide access to remedy.		Normal work week compared to legal limit			
			2	a,b,c,d,e achieved	2	Normal work week in the value chain does not exceed legal limit or 48 hours for hourly workers. Overtime is recorded, voluntary and compensated at premium rate and does not exceed 12 hours per week. If there is peak work, it is within legal boundaries.		
			1	a,b,c achieved and d,e partially implemented	1	Normal work week does not exceed legal limit or 48 hours for hourly workers. Overtime is recorded, voluntary and compensated at premium rate and does not exceed 12 hours per week. If there is peak work, it is within legal boundaries.		
			0	a,b,c achieved	0	Normal work week does not exceed legal limit or 48 hours for hourly workers. Overtime is recorded, voluntary and compensated and does not exceed 12 hours per week. If there is peak work, it is within legal boundaries.		
			-1	a achieved	-1	Normal work week exceeds legal limit or 48 hours for hourly workers in peak seasons only. Overtime is recorded, voluntary and compensated, but either not at premium rate or exceeds 12 hours per week.		
			-2	a,b,c,d,e not achieved	-2	Normal work week exceeds legal limit or 48 hours regularly for hourly workers. Overtime is not recorded nor compensated.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	Freedom of association, collective bargaining and labor relations (Mandatory)	ILO Convention No. 154, PRé Handbook: "The right of workers and employers to form and join organizations of their own choice, without prior authorization, to promote and defend their respective interests, and to negotiate collectively with other parties. They shall be able to do this freely, without interference by other parties or the state, and should not be discriminated as a result of union membership. The right to organize includes: the right of workers to strike, the rights of organizations to draw up their constitutions and rules, to elect their representatives in full freedom, to organize their activity freely and to formulate their programmes. All negotiations which take place between an employer, a group of employers or one or more employers' organizations, on the one hand, and one or more workers' organizations, on the other, for: (a) determining working conditions and terms of employment; and/or (b) regulating relations between employers and workers; and/or (c) regulating relations between employers or their organizations and a workers' organization or workers' organizations. (Article 2); and/or (d) if applicable, any collective labor agreements." (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Workers and/or employers do have the right to form and join organizations of their own choice b) Negotiations between employers' and workers' organizations for determining working conditions and terms of employment do occasionally take place. c) Employers' and workers' organizations are set up and further developed regionally/nationally. d) Negotiations between employers' and workers' organizations for determining working conditions and terms of employment take place on a regular basis and are bound by contract. e) Suppliers are actively encouraged to set up negotiations between employers and workers organizations for determining working conditions and terms of employment.		Worker organization			
			2	a,b,c, d,e achieved	2	Workers and/or employers do have the right to form and join organizations of their own choice in the companies of the key life cycle stages of the value chain. Description of presence and influence of employers' and workers' organizations in the value chain exists (incl. contracts).		
			1	a,b,c achieved	1	Workers and/or employers do have the right to form and join organizations of their own choice. Description of presence and influence of employers' and workers' organizations exists (incl. contracts).		
			0	a,b achieved	0	Workers and/or employers do have the right to form and join organizations of their own choice.		
			-1	a,b partially achieved	-1	Workers and/or employers do not have the right to form and join organizations of their own choice.		
			-2	a,b,c,d,e not achieved	-2	Workers and/or employers do not have the right to form and join organizations of their own choice. Workers are hindered in their attempts to exercise their right to organize themselves and bargain collectively or worker representatives face disciplinary action.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	No discrimination	Discrimination refers to any distinction, exclusion, or preference which has the effect of nullifying or impairing equality of opportunity or treatment. In order to avoid discrimination a company shall not engage in or support discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, national or social origin, caste, birth, religion, disability, gender, sexual orientation, family responsibilities, marital status, union membership, political opinions, health condition (including HIV/AIDS status), age or any other condition that could give rise to discrimination. (Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	a) Policies against discrimination and for equal opportunities exist. b) A compliance management process exist. c) Company complies with national law or industry standards. d) Company provides access to remedy. e) Proactive programs exist. f) Suppliers are actively encouraged to achieve a,b,c,d,e.		KPIs reporting on discrimination issues			
			2	a,b,c,d,e,f achieved	2	Suppliers are actively encouraged to report key performance indicators on gender equality, multicultural hiring, diversity, etc. higher than required by national requirements.		
			1	a,b,c,d,e achieved	1	Reporting company reports key performance indicators on gender equality, multicultural hiring, diversity, etc. higher than required by national requirements.		
			0	a,b,c,d achieved	0	Reporting company reports key performance indicators on gender equality, multicultural hiring, diversity, etc. required by national requirements.		
			-1	a,b achieved	-1	Value chain companies do not report key performance indicators on gender equality, multicultural hiring, diversity, etc. or discrimination occurs in value chain companies. Kind of discrimination is described. Measurable results describing the reduction of discrimination or achieved improvements exist.		
			-2	a,b,c,d,e,f not achieved	-2	Company does not report key performance indicators on gender equality, multicultural hiring, diversity, etc. or discrimination occurs in the company. Kind of discrimination is not described. Measurable results describing the reduction of discrimination and achieved improvements do not exist.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	Social/employer security and benefits	Social security is defined by applicable national regulations and involves access to healthcare and income security, particularly in cases of old age, unemployment, sickness, invalidity, work injury, maternity or loss of a main income earner. Employer security includes additional payments by the employer (e.g. occupational pension schemes, etc.) or other benefits for workers (e.g. in difficult situations).	a) Policies in reporting company exist. b) Company provides a minimum standard of social security in terms of healthcare and income security. c) Company provides access to remedy. d) Company provides social security in terms of healthcare and income security (incl. old age) additional to national regulations (e.g. company pension scheme, protection, etc.). e) Suppliers are actively encouraged to achieve a,b,c,d		Social benefits (incl. social security expenditures)			
		(Based on ILO, UNEP/SETAC, Roundtable and NGOs (e.g. HIVOS))	2	a,b,c,d,e achieved	2	Description of social benefits (incl. social security expenditures) of key life cycle stages of the value chain companies is available in official reports.		
			1	a,b,c,d achieved	1	Description of social benefits (incl. social security expenditures) of key life cycle stages of the value chain companies is partially available in official reports.		
			0	a,b,c achieved	0	Description of social benefits (incl. social security expenditures) of the reporting company is available in official reports.		
			-1	a,b partially achieved	-1	Description of social benefits (incl. social security expenditures) of the reporting company partly exists.		
			-2	a,b,c,d,e not achieved	-2	Description of social benefits (incl. social security expenditures) of the reporting company does not exist.		

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2		ADVANCED INDICATOR 3	
Local community	Access to basic needs for the human right to dignity (Mandatory)	The extent to which a contribution is made to access to : - Healthcare (e.g. health camps with doctors for health checks, medicine). It includes prevention and curing. If the company is harming access to healthcare, this leads to negative scores. - Clean water or sanitation. If the company is deteriorating clean water, polluting water and does not clean or is destroying access to clean water or services to provide sanitation, this leads to negative scores. - Healthy food. If (risk of) competition with existing services to provide healthy food is identified, this will lead to negative scores. If the company is deteriorating or wasting food and does not do anything to compensate, this leads to negative scores. - Shelter. If the company is deteriorating or destroying houses and does not do anything to compensate local communities, this leads to negative scores. - Education. The extent to which the company provides the community with educational programs and, thereby, increases educational levels, improves learning and earning capabilities, and raises economic development. Educational programs in developing countries can target essential education and literacy and access to higher education in developed countries. (Based on ILO, UNEP/SETAC and Roundtable definitions)	a) The company or facility is taking action to improve the situation when harm is done by the company to the local community's access to basic needs for the human right to dignity b) Company or facility can demonstrate that it does no harm to the local community's access to basic needs for the human right to dignity (e.g. by having carried out an impact assessment). c) Policies and first initiatives are in place to improve local community's access to basic needs for the human right to dignity. d) Company or facility provides local community with specific services. e) Measurable improvement in health/living/education conditions of local community is being tracked. f) Company or facility provides a grievance mechanism or other feedback loop for the local community.	Local community's access to adequate healthcare services and company's contribution to healthcare services.		Local community's access to shelter : Decreased # of homeless people		Local community's access to education: Literacy levels # people with primary level education	
			2	a, b,c,d,e,f achieved	2	Level 0 AND The company contributes to 0.2 % of their revenue for healthcare services. Alternative : Government invests 2% of the tax income in healthcare services.	2	Decreased # of homeless people.	2	Improved literacy levels. Increased # people with primary level education.
			1	a, b,c achieved	1	level 0 AND The company contributes to 0.1 % of their revenue for healthcare services. Alternative : Government invests 1% of the tax income in healthcare services	1	No measurable progress in the number of homeless people yet made despite considerable efforts (resources, time, money) invested.	1	No measurable progress yet made despite considerable efforts (resources, time, money) invested.
			0	a,b achieved	0	At least 95 % of the community has access to adequate healthcare services.	0	Company or facility can demonstrate that it does no harm (but also does not contribute) to the local community's access to shelter.	0	Company or facility can demonstrate that it does no harm (but also does not contribute) to the local community's access to education.
			-1	a partially achieved	-1	At least 75 % of the community has access to adequate healthcare services.	-1	Company or facility cannot demonstrate that it does no harm to the local community's access to shelter.	-1	Company or facility cannot demonstrate that it does no harm to the local community's access to education.
			-2	a, b,c,d,e,f not achieved	-2	At least 50 % of the community has access to adequate healthcare services.	-2	Increased # of homeless people. Company prevents community from getting access to shelter and/or competes with local public housing services/ facilities. For example, company/facility destroys housing, forces people to relocate without compensation.	-2w	Deterioration of literacy level or reduced # of people with primary level education. Company prevents community from getting access to education and/or competes with local schools. For example, company/facility prevents children from going to school.

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Local community	Respect for Indigenous rights	Refers to respect for indigenous peoples' land rights and rights to other forms of cultural heritage. Indigenous peoples are entitled to determine their political status, pursue economic, social and cultural development, dispose of their land's natural resources and not be deprived of their own means of subsistence. Indigenous people always need to give their free and prior informed consent to dispose of their land with adequate compensation. It extends to the right to preserve, protect and develop indigenous and traditional knowledge systems. (Based on ILO, UNEP/SETAC and Roundtable definitions)	a) The company or facility is taking action to improve the situation when harm to indigenous peoples' rights is identified. b) Company or facility can demonstrate that it does no harm to indigenous peoples' and minority groups' rights (e.g. by having carried out an impact assessment). c) Policies and first initiatives are in place to improve indigenous peoples' and minority groups' rights. d) Affected rights holders have access to a grievance mechanism. e) A compliance management process and proactive programs to engage indigenous peoples and/or minority groups exist. f) Measurable results describing the achieved improvements exist. g) Affected rights holders have access to a grievance mechanism which involves dialogue and engagement.		Impact on the local community # of stakeholders consultations organized with local community % of the community satisfied with company/facility's activities in the area Level of satisfaction with company/facility			
			2	a, b,c,d,e,f,g achieved	2	Significant # of organized stakeholder consultations with local community. Increased % of community members satisfied with company/facility's activities in the area.		
			1	a,b,c,d achieved	1	No measurable progress yet made despite considerable efforts (resources, time, money) invested.		
			0	a,b achieved	0	Company or facility can demonstrate that it does no harm to indigenous peoples' or minority group's rights.		
			-1	a partially achieved	-1	Company or facility can not demonstrate that it does no harm to indigenous peoples' or minority group's rights.		
			-2	a,b,c,d,e,f,g not achieved	-2	Actual harm to indigenous or other minority groups' right to land, for e.g. company/facility forces indigenous community to relocate and/or carrying out any actions that undermine the traditional way of life of a minority group. Increased % of community members unsatisfied with company/facility's activities in the area.		
Consumers	Direct impact on basic needs	The extent to which the chemical products and their application (usage) contributes to fulfilling one of the basic needs stated below: - Healthcare - Clean water & sanitation - Healthy food - Shelter - Education. Significance of the contribution. The basic needs to which the application contributes have to be clearly stated. The assessment relates then to that or these specific basic need(s).	+2	Fundamental: The chemical product directly enables the fulfilling of basic need(s) and is a key component of the solution, which is recognized as a "best in the market" solution.				
			+1	Extensive: The chemical product properties and functions are essential to fulfilling basic need(s) and is a key component of the solution.				
			0	Substantial: The chemical product does not contribute directly but it cannot be substituted easily without changing the contribution to fulfill the basic need(s).				
			-1	Minor: The chemical product does not contribute directly but it is used in the manufacturing process of a fundamentally or extensively contributing product to fulfill the basic need(s).				
			-2	Too small to communicate: The chemical product can be substituted without changing the contribution to fulfil the basic need(s).				

STAKEHOLDERS GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	
Local communities	Job creation (Mandatory)	Employment effects of the company are defined in terms of job creation. Employment improves the economic livelihood of the workforce and their families. Employment also creates ripple effects of sustainable development across the community. New jobs created are additional new individual jobs or headcount, this does not include the replacement of workers who have left the company. The total number of job refers to full-time equivalent (FTE) and is considered for the reporting period and the given functional unit of the assessment.	(a)The company or site(s) complies with local regulations on workers' health and safety. (b) The occupational health of the personnel is monitored. Adequate inventories and relevant information on the health risks of all substances handled at the company or site(s) are availa,ble. (c) Health risk assessments are availa,ble for all concerned functions regarding the toxicity of all chemicals/products handled at the company or site(s). (d) Measures based on the risk assessments are implemented to protect the health of workers. (e) International occupational hygiene standards are used as occupational exposure limits when local standards are insufficient. (f) Safer chemical alternatives—beyond compliance—have been implemented and, where needed, new installations are built.		Total number of jobs (in full time equivalent) The absolute number of direct jobs created this year along the key life cycle stages of the value chain. Jobs created = hiring + other arrivals - layoffs - resignation - end of contracts - retirements - other departures. Jobs created all along the value chain = sum of all jobs created at each stage of the process. In case of acquisition or divestment, the baseline of Hn-1 (headcount at year n-1) has to be adapted to take into account comparable activities between year n and year n-1.	The evolution of headcount relative to the business growth of the company's activity. Hn = headcount at year n Hn-1 = headcount at year n-1 H= headcount growth = (Hn -Hn-1)/Hn-1 Rn = Revenues at year n Rn-1= Revenues at year n-1 R= Revenues growth = (Rn -Rn-1)/Rn-1 Ratio in %= H/R In case of acquisition or divestment, the baseline of Hn-1 (headcount at year n-1) has to be adapted to take into account comparable activities between year n and year n-1. This indicator does not capture improvement of work efficiency.	
			2	a,b,c,d achieved	2	Total number of jobs at year end (Hn) is superior by more than 2% compared to total number of jobs at previous year end (Hn-1) (job creation).	2	Rate>=120%, greater headcount increase than business expansion OR headcount decrease slower than business slowdown.
			1	a,b,c achieved	1	Total number of jobs at year end (Hn) is superior by less than 2% compared to total number of jobs at previous year end (Hn-1) (job creation).	1	Rate>100% and <120%, greater headcount increase than business expansion OR headcount decrease slower than business slowdown.
			0	a,b achieved	0	Total number of jobs at year end (Hn) is similar to total number of jobs at previous year end (Hn-1).	0	Rate=100% (business expansion in line with headcount increase OR business slowdown in line with headcount decrease).
			-1	a and b partially achieved	-1	Total number of jobs at year end (Hn) is inferior by less than 2% compared to total number of jobs at previous year end (Hn-1) (job losses).	-1	Rate <100% and >50% (business expansion higher than headcount increase OR business slowdown slower than headcount decrease).
			-2	a,b,c,d not achieved	-2	Total number of jobs at year end (Hn) is inferior by more than 2% compared to total number of jobs at previous year end (Hn-1) (job losses).	-2	Rate <100% and >50% (business expansion higher than headcount increase OR business slowdown slower than headcount decrease).
Workers	Management of reorganization	Employment effects are measured through company's management of activity reorganization (layoffs, disinvestment, closing down, etc.).	(a) The company does not violate laws when reorganizing but has no specific processes Example: the company does not help workers to recover a job. (b) The company complies with local laws in terms of company's reorganization. Example: existence of programs to help workers recover jobs following local regulatory framework. (c) The company is prone to offering significant compensation to workers who are victims of reorganization. Example: The company is transparent in negotiations with major stakeholders (unions, workers, local communities, local governments) on leave premium. (d) The company has formalized a strategy to mitigate the impact of reorganizations Example: major stakeholders (unions, workers, local communities, local governments) are associated with to find alternative solutions to layoffs (position offer on other sites, funding of training programs, etc.)					
			2	a,b,c,d achieved				
			1	a,b,c achieved				
			0	a,b achieved				
			-1	ab partially achieved				
			-2	a,b,c,d not achieved				

STAKEHOLDERS GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR	
Consumers	Consumers' product experience	Subjective product experience that goes beyond the utilitarian function of a product. This can be defined as the awareness of the effects resulting from interaction with products. (emotions, comfort, etc.). Basic needs as defined earlier in this guideline are excluded from this indicator. Measurement options are: - Consumer experience (through enquiries, panels, surveys). - Consumer behavior (reaction to satisfaction/ dissatisfaction). - Company practices to account for consumer experience. (feedback mechanism in place, level of information to consumers, transparency). Because of its nature, the added value of reporting this indicator lays only on the positive effects. Negative effects are likely to be handled in a different way (legislation, consumer withdraw). For this reason the scale for this indicator starts at level 3: Acceptable situation.	a) No negative signals exist and existence of weak (not documented enough) positive signals. b) The product is generally recognized as having a positive impact on the consumer's well-being c) A company-specific study is available. d) A study following a published and recognized method in the field of product experience is available. That publication shows that the positive impact would be less without the intermediate product under study. **Sources of signals:** NGOs, laws, EU directives, (eco)labels, WHO recommendations, association of consumers, scientific and medical literature, customers and market advertisements	2	a,b,c,d achieved
				1	a,b,c,d achieved
				0	a,b,c,d achieved
				-1	a,b,c,d achieved
				-2	a,b,c,d not achieved

STAKEHOLDER GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	
Workers	Workers' occupational health risks (Mandatory)	Definition: Occupational health incidents are the result of repeated exposure. Includes work-related illnesses leading to permanent impairment (complete or partial) of physical or mental capacity (disa,bility). (Based on OSHA definition.) The purpose of occupational health is the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention of workers leaving their jobs on the grounds of ill health caused by their working conditions; the protection of workers against risks incurred at work as a result of factors detrimental to health; the placing and maintenance of workers in an occupational environment adapted to their physiological and psychological capa,bilities; taking gender differences into account and, to summarize, the adaptation of work to each person and of each person to his/her job (based on ILO/ WHO 1950 definition). Under this sub-category, the management of occupational health risks means that the company or facility carries out risk assessments and implements appropriate measures to prevent or mitigate hazards and/or risks.	(a)The company or site(s) complies with local regulations on workers' health and safety. (b) The occupational health of the personnel is monitored. Adequate inventories and relevant information on the health risks of all substances handled at the company or site(s) are availa,ble. (c) Health risk assessments are availa,ble for all concerned functions regarding the toxicity of all chemicals/products handled at the company or site(s). (d) Measures based on the risk assessments are implemented to protect the health of workers. (e) International occupational hygiene standards are used as occupational exposure limits when local standards are insufficient. (f) Safer chemical alternatives—beyond compliance—have been implemented and, where needed, new installations are built.		Results of the health risk assessment Example: Health performance index (confirmed occupational diseases, medical emergency drills, first aid training, preemptive medicine and health promotion).		
			2	a,b,c,d,e,f achieved	2	Health performance > x% better than industry average.		
			1	a,b,c,d,e achieved	1	Health performance>y% better than industry average.		
			0	a,b,c,d achieved	0	Health performance at industry average.		
			-1	a NOT achieved, bcd partially implemented	-1	Health performance >y% worse than industry average.		
			-2	a,b,c,d,e,f NOT achieved	-2	Health performance> x% worse than industry average.		

STAKEHOLDER GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR	ADVANCED INDICATOR 1	ADVANCED INDICATOR 2
Workers	Management of workers' individual health	Under this topic, management of workers' individual health includes providing workers with occupational health programs, such as medical monitoring for (potential) exposure to hazardous chemicals; and/or general health awareness or vitality programs that provide workers with preventive health services such as general medical check-ups. The term "health" in this context is meant to include both physical and mental health, as defined by the WHO.	(a) A formalized process is in place to assess and document individual worker occupational health risks related to activities related to the product of the company being assessed, including exposure to hazardous chemicals. (b) Any worker potentially exposed to occupational health risks undergoes regular medical monitoring provided by the company. (c) Any worker exposed to risks and bearing specific weaknesses (i.e. pregnant women) is systematically moved to less risky functions. (d) Programs are in place to promote general health, such as advice, general medical check-ups, health awareness programs. (e) Measura,ble improvement in health condition of workers is proven in past years (e.g. results of epidemiological studies, reduced number of occupational diseases or of deaths due to occupational diseases, improved life expectancy)	Sickness a,bsentee rate: Refers to a measure of actual a,bsentee days lost attributed to sickness, expressed as a percentage of total days scheduled to be worked by the workforce for the same period. SAR = Sickness a,bsence days ÷ FTE workdays	
			2 a,b,c,d,e achieved	2 AR > x% better than industry average.	
			1 a,b,c achieved	1 AR>y% better than industry average.	
			0 a,b achieved	0 AR at industry average.	
			-1 a NOT achieved, bc partially implemented	-1 AR >y% worse than industry average.	
			-2 a,b,c,d,e NOT achieved	-2 AR> x% worse than industry average.	
Workers	Safety management system for workers (Mandatory)	Definition: Safety incidents are single events resulting in injury and include impairment (complete or partial) of physical or mental capacity (invalidity). (Based on OSHA.) All workers have the right to a safe workplace free of serious recognized hazards. This topic assesses both the rate of incidents and the status of prevention measures and management practices.	(a) The level of safety incidents is measured and reduction targets are set. (b) Duties and lines of responsibility for safety are defined. (c) The company or facility provides workers with adequate safety awareness training in line with the requirements of their job function and local legal requirements, including on the use of any essential personal protective equipment. Such training or awareness is availa,ble in the local language and updated periodically. (d) Measura,ble improvement in occupational safety performance is proven over the past four years. (e) Continuous design, development and review of safety programmes are in place, involving workers.	Frequency rate of safety incidents so called "frequency index (FI)" in the reporting period, also called Injury rate (GRI definition: frequency of injuries relative to the total time worked by the total workforce in the reporting period). A uniform measure for determining the average rate of incidents should be applied across the value chain. The accidents to be integrated are the ones with at least 1 day of work stoppage. The ratio should be presented for 1,000,000 working hours.	Average number of hours of health and safety training per year per worker (HST) Answer format: whole number Only if there is industry standard that can be referenced
			2 a,b,c,d,e achieved	2 FI > x% better than industry average.	2 HST> x% better than industry average.
			1 a,b,c,d achieved	1 FI >y% better than industry average.	1 HST>y% better than industry average.
			0 a,b,c achieved	0 FI at industry average.	0 HST at industry average.
			-1 a or b or c NOT achieved	-1 FI >y% worse than industry average.	-1 HST >y% worse than industry average.
			-2 a,b,c,d,e NOT achieved	-2 FI > x% worse than industry average.	-2 HST> x% worse than industry average.

STAKEHOLDER GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2
Local communities	Health and safety of local community's living conditions (Mandatory)	The extent to which the company or facility works to prevent and mitigate adverse impacts or even create positive impact by its own company activities on the health and safety of the local community associated with the extraction of raw materials and the manufacturing, distribution and end-of-life of the product, with particular attention to vulnera,ble groups such as indigenous peoples and women. This includes committing to continuous performance improvement and interaction with the communities in which the chemical facilities are located (based on PRé Handbook definition).	(a) No harm induced by your own company identified. (b) Risks and impacts on community health and safety are regularly monitored via impact assessments. c) Appropriate measures to prevent and mitigate adverse impact are implemented, including the provision of health and safety information. d) Health and safety committee or other body has been set up to deal with impacts in the local community. (e) The company or facility takes proactive actions to measure and steer improvements in community health and safety, based on stakeholder engagement and local communities' needs.		Number of records of public complaints due to chemical substance releases Note: Nuisances are treated in the "well-being" section		
			2	a,b,c,d,e achieved	2	Zero records of public complaints.	
			1	a,b,c,d achieved	1	Records with appropriate corrective and preventive actions.	
			0	a,b,c achieved	0	Records handled with a,b,c.	
			-1	a NOT achieved, b or c partially achieved	-1	Records of public complaints without corrective action.	
			-2	a,b,c,d,e NOT achieved	-2	At least one lawsuit.	

STAKEHOLDER GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2	
Consumers	Impact on consumer's health and safety (Mandatory)	Products are expected to perform their intended functions satisfactorily and not pose a risk to consumer health and safety. This social topic addresses both risks and the positive impacts that products may have on the health and safety of the end-users of products (based on PRé Handbook definitions). This social topic addresses both risks and the positive impacts that products may have on the health and safety of the end-users of products, beyond their intended functions.	(a) The product is labelled for safe handling and disposal. (b) There is a procedure in place to recall an unsafe product. (c) The product is risk assessed for consumer use in the considered application and the key outcome is availa,ble in the Safety Data Sheet or other compara,ble publications. (d) The product has not generated disease, accident or injury in its intended application. (e) Positive contribution of the product to consumer health and safety is expected (excluding intended basic functions) (f) Positive contribution of the product to consumer health and safety (excluding intended basic functions) has been proven. (g) The company provides the public with additional safety & health information or training to ensure the safe handling of the product		Global product safety summaries: Number of publicly availa,ble GPS (Global Product Strategy) safety summaries (high-level summary intended to provide the general public with an overview of product safety for a specific substance) The GPS is not product specific, but is necessarily addressed at company level See the ICCA GPS information portal http://www.icca-chem.org/en/Home/Global-Product-Strategy/global-product-strategy/chemical-information-search/		Product's (intended or unintended) contribution to the end-users health and safety, acknowledged by a certifica-tion, or accreditation body or independent research.	
			2	a,b,c,d,e,f,g achieved	2	GPS number > x% better than industry average.	2	Undisputed, externally supported, positive contribution to target market health and safety. (e.g. measura,ble reduction of risk of diseases, regenerative effects, maintenance of health, health impact related to markers of human health such as DALY, blood pressure, diseases).
			1	a,b,c,d,e	1	GPS number>y% better than industry average.	1	Evidence of positive effect of product on end-user health or safety.
			0	a,b,c,d achieved	0	GPS number at industry average.	0	No effect known to the health of the end-user in defined target market.
			-1	a or b or c NOT achieved and g achieved	-1	GPS number >y% worse than industry average.	-1	Potential (unintended) negative effects of the product on end-user health or safety, accidentally.
			-2	a,b,c,d,e,fg not achieved	-2	GPS number> x% worse than industry average.	-2	Unintended or negative effects of the product on end-users' or their families' health or safety, accidentally, supported by evidence.

STAKEHOLDER GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR	ADVANCED INDICATOR 1	ADVANCED INDICATOR 2	ADVANCED INDICATOR 3
Workers	Skills, knowledge and employability (Mandatory)	Programs for skills management allow organizations to plan skills acquisition that will equip workers to meet strategic targets in a changing work environment. A strong program and strategy on continuous development and improvement of workers skills and knowledge would result in higher productivity, skill levels and motivated workforce. Companies have different types and level of training and education programs for workforce; these have different impacts on skill development, productivity enhancement, career advancement possibilities and employability of its workforce in larger market. A process indicator on "Management of skills and knowledge" for workers category tries to find answers to following questions: 1) Does the company have programs for skills management and lifelong learning that support the continued employability of its workers and assist them in managing career endings resulting from retirement or termination of employment? 2) Does the company or facility carry out assessments and implement appropriate measures to improve its skills management program? 3) What is the type and scope of programs implemented and assistance provided to upgrade worker skills, including vocational training? 4) Does the company have a paid education leave policy? If yes, what is the scope and level of the program? 5) Does the company measure training and education programs for its tier 1 & 2 suppliers?	a) Programs and actions for skill development and training not in accordance with regulatory requirements. The programs and actions do not improve the skill level of its workers for use within the company and a decrease of workers' employability within the larger market is observed. b) Programs and actions for skill development and training in accordance with regulatory requirements that maintain and improve the skill level of its workers for use within the company. However, a decrease in workers' employability within the larger market is observed. c) Programs and actions for skill development and training beyond regulatory requirements that maintain and improve the skill level of its workers for use within the company. d) Programs for skills management and lifelong learning that support the continued employability of its workers and assist them in managing career endings resulting from retirement or termination of employment. Provides assistance to upgrade worker skills, including vocational trainings and has paid education leave policy. e) Programs and actions for skill development and training beyond regulatory requirements that create employability of workers in the larger market. f) Periodic assessments and implements appropriate measures to improve its skills management program. g) Measures training and education program for tier 1 & 2 suppliers.	Average hours of training that the organization's workers have undertaken during the reporting period, by: Gender and worker Category Maintaining and improving human capital, particularly through training that expands the knowledge base of workers, is a key element in organizational development. This indicator provides insight into the scale of the organization's investment in this area and the degree to which the investment is made across the entire worker base. Data on number of training hours is available, in general, with the human resource departments of an organization. Access to training opportunities can also support progress in other areas of social performance, such as ensuring equal opportunity in the workplace. It also contributes to motivating improvement at the personal and organizational level. Example: 30.5 hours of average training per male worker in 2013. Formula: Average training hours per worker category = Total number of training hours provided to each category of workers/Total number of workers in category	Amount of financial capital invested in worker training and education during the reporting period. Represented as a percentage equivalent of worker remuneration. Maintaining and improving human capital, particularly through training that expands the knowledge base of workers, is a key element in organizational development. Performance indicator 1 captures this aspect quite well but does not provide insight into the scale of the organization's financial capital investment to develop human capital and the degree to which the investment is made across the entire worker base. Category-wide assessment demonstrates the extent to which the system is applied throughout the organization and if there is inequality of access to these opportunities. Example: Financial capital investment in worker training and education for middle management level was equivalent to 3% of worker remuneration in this category in 2013. Formula: Financial capital invested as a percentage of worker remuneration (%), per worker category = Total financial investment in training and education to each category of workers/Total remuneration of workers in category x100	Access to paid education leave: Percentage of workers provided paid education leave, by gender and by category As per ILO convention, term paid educational leave means leave granted to a worker for educational purposes for a specified period during working hours, with adequate financial entitlements. The ILO Paid Educational Leave Convention, 1974 (No. 140) considersthat continuing education and training related to scientific and technological development and the changing pattern of economic and social relations calls for adequate arrangements for leave for education and training to meet new aspirations, needs and objectives of a social, economic, technological and cultural character. Paid educational leave should be regarded as one means of meeting the real needs of individual workers in a modern society. Paid educational leave should be conceived in terms of a policy of continuing education and training to be implemented progressively and in an effective manner. Example: 3% of female workers were provided paid educational leave in 2013. Formula: percentage of worker provided paid educational leave (%) = Total number of worker provided paid educational leave in each category/Total number of workers in category x 100
			2 b,c,d,e,f,g achieved	2 More than 50% better than reference.	2 More than 50% better than reference.	2 More than 50% better than reference.
			1 b,c,d achieved	1 Better than reference, but in a range. Performance is > 0% but less than or equal to 50% improvement compared to reference.	1 Better than reference, but in a range. Performance is > 0% but less than or equal to 50% improvement compared to reference.	1 Better than reference, but in a range. Performance is > 0% but less than or equal to 50% improvement compared to reference.
			0 b achieved	0 Performance is equal to reference for studied performance indicator.	0 Performance is equal to reference for studied performance indicator.	0 Performance is equal to reference for studied performance indicator.
			-1 a achieved	-1 Worse than reference, but in a range. Performance is less than or equal to 50% worse compared to reference.	-1 Worse than reference, but in a range. Performance is less than or equal to 50% worse compared to reference.	-1 Worse than reference, but in a range. Performance is less than or equal to 50% worse compared to reference.
			-2 a,b,c,d,e,f,g not achieved	-2 Performance is more than 50% worse than reference.	-2 Performance is more than 50% worse than reference.	-2 Performance is more than 50% worse than reference.

STAKEHOLDER GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2		ADVANCED INDICATOR 3	
Local community	Promotion of skills and knowledge	"The extent to which the company or facility works to contribute to the long-term development of local communities by enhancing and unlocking their human potential through improved access to knowledge, information, technology and skills." (Handbook on Social Impact Assessment (PRé Sustainability, 2014) "A good skills development system will be able to: anticipate skill needs; maintain the quality and relevance of training; make training accessible to all sectors of society; ensure viable and equitable financing mechanisms; and continuously evaluate the economic and social outcomes of training..."	a) Opportunities to build human capacity in the community are identified but no initiative that targets capacity building is undertaken. b) Capacity-building initiatives that target community members are undertaken on an ad hoc basis. c) Capacity building through general community education initiatives that target community members is ongoing with transparent guidelines and timelines. d) Capacity building through formal programs that target community members is ongoing with transparent guidelines and timelines.		Evidence of positive outcome of existing community training and education programs "Available evidence firmly establishes that a combination of good education with training that is of good quality and is relevant to the labor market: - Empowers people to develop their full capacities and to seize employment and social opportunities; - Raises productivity, both of workers and of enterprises; - Contributes to boosting future innovation and development; - Encourages both domestic and foreign investment, and thus job growth, lowering unemployment and underemployment; - Leads to higher wages; - When broadly accessible, expands labor market opportunities and reduces social inequalities." (ILO, 2010)		Amount of financial capital invested Amount of financial capital invested in community training and education during the reporting period. Represented as a percentage of total worker remuneration. Quantitative indicator provides insight into the scale of the organization's financial investment to develop human capital. This indicator does not capture inequality of access to these opportunities, extent of pre-existing access to education and training or relative value of money spent in local community. Further, it should be kept in mind that the level of local economic development of the evaluated community may be different from the community in which the company's sales, headquarters or main operations are located. Formula: Financial capital invested as a percentage of total worker remuneration (%) = Total financial investment in community training and education/Total salary of workers in category * 100%		
		Effective education efforts: - Are coordinated with social protection, industrial, investment, and trade policies; - Facilitate access to training and education by individuals and groups hindered by various barriers, including poverty and low income, ethnic origin, gender, disability, and migrant status. References: A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy (ILO, 2010). Opportunities for addressing educational challenges occur in core business operations, philanthropy, advocacy and/or public policy engagement, and partnerships. A Framework for Business Engagement in Education 2013 (UN Global Compact, 2013). [Source for the development of the indicator is the Handbook on Social Impact Assessment (PRé Sustainability, 2014)]	2	a,b,c,d achieved	2	Capacity-building initiatives have documented positive effect on local literacy or numeracy rates and/or economic strength	2	More than 50% better than reference		
			1	a,b,c achieved	1	Capacity-building initiatives have non-measurable positive effect on local literacy or numeracy rates and/or economic strength	1	Better than reference, but in a range. Performance is as good as, but less than or equal to 50% improvement compared to reference		
			0	a,b achieved	0	Capacity-building initiatives have no effect	0	Performance is equal to reference for studied performance indicator		
			-1	a achieved	-1	Capacity-building initiatives have possible detrimental effect	-1	Worse than reference, but in a range. Performance is less than or equal to 50% worse compared to reference		
			-2	a,b,c,d, not achieved	-2	Capacity-building initiatives have documented detrimental effect on literacy or numeracy rates and/or economic strength	-2	Performance is more than 50% worse than reference		

STAKEHOLDER GROUP	NAME OF SOCIAL TOPIC	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2		ADVANCED INDICATOR 3	
Consumers	Promotion of Skills and Knowledge	Consumer education is the preparation of an individual through skills, concepts and understanding that are required for everyday living to achieve maximum satisfaction and sustainable use of resources. It is defined as education given to the consumer about various consumer goods and services, covering price, what the consumer can expect, standard trade practice, social, environmental and economic education about the product and its effects, etc. Such information may be relayed through magazines, websites or pro-consumer word of mouth. In some locations it is part of school training. Typically such training addresses product properties, safety, pricing, possibilities to be heard and to redress. The corresponding advantages for consumers are to receive sufficient information to assess and use the product in their best interest, to use it safely and to be able to address issues, if any. This may increase customer satisfaction and reduce disappointment and risk of litigation.	a) Programs and actions for consumers are in place but do not meet applicable laws and standards. Example: Car manufacturer omitting to place a necessary safety warning. b) Programs and actions for consumers are in place that create information and knowledge for consumers in line with applicable law and standards. Example: Chemicals company informing user of its products on how to use product safely. c) Programs and actions for consumers are in place that provide all information and skills necessary to use product safely and in the best interest of the customer, and that provide him with access to help in case of issues. Example: Power supply company providing cooking courses to customers to enable economical use of power (gas, electricity). d) Programs and actions for consumers are in place that create information and knowledge that are transferable to other products and situations. Example: Grocery store chain informing consumers about quality features and levels of food (freshness of vegetables and how to recognize)		Evidence of positive outcome of existing education action taken or enabled by entity The result to be achieved by consumer education is that consumers are able to use the product in their best interest, to use it safely and to be able to address issues, if any. This is achieved by conveying information to consumers based on the initiative of the entity (see definition). The performance indicators shall thus measure the success and to how what extent it is caused by educative action taken or enabled by the entity.		Quantitative indicator provides insight into the scale of the organization's financial investment to develop human capital. This indicator does not capture inequality of access to these opportunities.		
			2	a,b,c,d achieved	2	Consumer education provided by entity is helping consumers to gain advantages in cost or profit due to the information provided by the entity. Users of product are able to assess the added value for their lives gained through the product compared to other alternatives.	2	More than 50% better than reference.		
			1	a,b,c achieved	1	Consumer education provided by entity is recognized to be above average in the industry.	1	Better than reference, but in a range. Performance is as good as, but less than or equal to 50% improvement compared to reference.		
			0	a,b achieved	0	No complaints from customers or end users on product information have been received. No unresolved requests from public authorities or media to improve consumer information is pending.	0	Performance is equal to reference for studied performance indicator.		
			-1	a achieved	-1	Complaints from customers or end users on product information have been received and are not resolved - or unresolved requests from public authorities or media to improve consumer information are pending.	-1	Worse than reference, but in a range. Performance is less than or equal to 50% worse compared to reference.		
			-2	a,b,c,d not achieved	-2	Complaints from customers or end users on damages caused by lack of or incorrect product information have been received and are not resolved. Or unresolved public authority or media investigations for such cases are pending.	-2	Performance is more than 50% worse than reference.		
			Risk filter	risk of b not achieved for a LC Stage						

STAKEHOLDERS GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		
Workers	Job satisfaction	Measure the feeling of satisfaction or engagement with one's job and employer. Specific topics like work-life balance, wages and benefits contribute to the overall feeling of satisfaction and/or engagement. To enhance pragmatism we look at this as a whole. Measurement options are: - Workers' experience (through enquires) - Worker behavior (absenteeism, turnover rates, etc.) - Company practices (training, career support, enquiry systems, etc.) Process indicator: measures to what extent workers' satisfaction is considered and managed	a) The company or site(s) was not involved in legal proceedings initiated by employee(s) against the company during the reporting period. b) No case of breach within the company or site in worker care (no access to social worker, no access to representative bodies, evidence of absence of dialog with the management). c) A non-formal survey is in place and results are communicated to top management. d) A formal survey has been in place for several years and results are communicated to top management and shared within the company. The survey is updated periodically. e) Criteria and results of the survey are analyzed and action plans are built in order to improve the situation. A "Plan Do Check Act" process is in place, and workers' satisfaction is a recognized element of the company's policy.		Job satisfaction survey Percentage of workers who state in a job satisfaction and/ or external engagement survey that they are satisfied and/ or engaged with working for the company or one of its subsidiaries. The survey should be representative of the workers involved in the manufacturing of the product under study, its raw materials and its application (if different than consumers). Aspects to be representative are geography and time.	
			2	a,b,c,d,e achieved	2	More than 75% of workers state to be satisfied or very satisfied. Or more than 75% of maximal enquiry score.	Absence rate stable, lower than 5%.
			1	a,b,c achieved	1	Between 51% and 75% of the workers state to be satisfied or very satisfied. Or between 51% and 75% of maximal enquiry score.	Absence rate decreased to half in the past 5 years.
			0	a,b achieved	0	51% of the workers state to be satisfied or very satisfied. Or 51% of maximal enquiry score.	No information available.
			-1	a achieved	-1	Between 25% and 51% of the workers state to be satisfied Or between 25% and 51% of maximal enquiry score.	Absence rate stable, lower than 10%.
			-2	a,b,c,d,e not achieved	-2	Less than 25% of the workers state to be satisfied. Or 25% of maximal enquiry score.	Absence rate doubled in the past 5 years.
Local communities	Nuisance reduction (noise, odors, traffic)	This indicator measures the impact on local communities of the noise, odors, dust and traffic generated by the site in its vicinity. Note: Nuisances related to the chemical itself and its potential harmful effects or toxicity are not integrated in this category (but under the health & safety section)	a) The activity does not generate recurrent nuisances (highly noisy activities, regularly unpleasant odors or heavy traffic). b) Plans for noise reduction exist, odors are considered, but with no significant effect yet and accidental situations are not taken into account c) Actions are undertaken to prevent accidental situations d) The company generates no harm to local communities but potential nuisances are integrated so as to comply with current regulations. e) Efficient equipment has been installed in order to limit noise levels (for noisy activities). f) Actual and potential odors are considered and noise is taken into account in risk assessment of projects for activity extension. g) Infrastructure has been built by the company or facility to separate local traffic and activity traffic.		Nuisance management The extent to which actual and potential nuisances due to the activity are taken into account and reduced.	
			2	a,b,c,d,e,f,g achieved	2	Measurable progress due to actions undertaken exist.	
			1	a,b,c,d,e achieved	1	No measurable progress yet made despite considerable efforts (resources, time, money) invested. Drastic reduction of complaints.	
			0	a,b,c,d achieved	0	Demonstration that all complaints are included into a corrective action plan.	
			-1	a,b achieved	-1	Accidental nuisance to local community, recorded through complaints.	
			-2	a,b,c,d,e,f,g not achieved	-2	Actual nuisance to local community, recorded through complaints and no actions taken to implement corrective actions.	

STAKEHOLDERS GROUP	SOCIAL TOPIC NAME	SOCIAL TOPIC DEFINITION & EXPLANATIONS	INDICATOR		ADVANCED INDICATOR 1		ADVANCED INDICATOR 2
Local communities	Developing relationship with local communities	This indicator measures the involvement of the site (money, time) in local programs for the development of, for example, culture, entertainment and sport. This indicators also measures the degree of relationship between the site and the local community. Note: Other aspects of relationships with local communities are treated under the "access to basic needs" and the "health & safety" section	a) It is part of the strategy to not participate in local development. b) Not in conflict with local community networks and programs for development. c) No interaction; contacts are neither initiated by the site, nor by the community. d) The activity does not interact with the local community but also does not have a negative impact on local development. e) In accordance with identified priorities, the company or facility participates in the life of the various networks active locally. f) The activity develops initiatives in conjunction with local networks, playing a proactive role.		Budget attributed to local development actions	
			2	e,f achieved	2	A budget is proactively and recurrently attributed to local development actions and workers are involved in actions.	
			1	e achieved	1	No provisional budget, but contributions are paid upon request after negotiation.	
			0	d achieved	0	No budget and no participation are attributed to local development actions.	
			-1	b, c achieved	-1	Negative position towards local development.	
			-2	a achieved	-2	Because of conflicting interests, the activity prevents development in the local community.	
Local community	Access to basic needs for sustainable development	The extent to which a contribution is made to : - Local transport/infrastructure (e.g. roads, bridges, public transport). If the company is blocking access to transport, this leads to negative scores. - Access to information and telecommunications services. If the company is deteriorating local communities' access to information and telecommunications services and does not do anything to compensate, this leads to negative scores. - Access to (modern) energy. If the company is deteriorating or destroying existing energy-provision services, this leads to negative scores. (Based on ILO, UNEP/SETAC and Roundtable definitions)	a) No incidents harming local services. b) Policies are in place to improve access to basic needs for sustainable development. First initiatives have started. c) Measurable improvement is made and it is a permanent benefit to be shared with the local community. d) Company or facility provides a grievance mechanism or other feedback loop for the local community.				
			2	a,b,c,d achieved,			
			1	a,b achieved and c,d partially achieved			
			0	a achieved and b,c,d partially achieved			
			-1	a NOT achieved, b,c,d partially achieved			
			-2	a,b,c,d not achieved			
Consumers	Consumers' product experience	Subjective product experience that goes beyond the utilitarian function of a product. This can be defined as the awareness of the effects resulting from interaction with products. (emotions, comfort, etc.). Basic needs as defined earlier in this guideline are excluded from this indicator. Measurement options are: - Consumer experience (through enquiries, panels, surveys). - Consumer behavior (reaction to satisfaction/ dissatisfaction). - Company practices to account for consumer experience. (feedback mechanism in place, level of information to consumers, transparency). Because of its nature, the added value of reporting this indicator lays only on the positive effects. Negative effects are likely to be handled in a different way (legislation, consumer withdraw). For this reason the scale for this indicator starts at level 3: Acceptable situation.	a) No negative signals exist and existence of weak (not documented enough) positive signals. b) The product is generally recognized as having a positive impact on the consumer's well-being. c) A company-specific study is available. d) A study following a published and recognized method in the field of product experience is available. That publication shows that the positive impact would be less without the intermediate product under study. Sources of signals: NGOs, laws, EU directives, (eco)labels, WHO recommendations, association of consumers, scientific and medical literature, customers and market advertisements				
			2	a,b,c,d achieved			
			1	a,b,c achieved			
			0	a,b,c achieved			
			-1	a,b,c achieved			
			-2	a,b,c,d not achieved			

Appendix 5. Criteria to be applied for the risk filter to select key life cycle stages

The following list of criteria is intended to be used as an option to support the selection of key life cycle stages and justify the inclusion or exclusion of stages from the scope of the boundaries.

STAKEHOLDER	SOCIAL AREA	SOCIAL TOPIC	RISK FILTER CRITERIA
Workers	Health & safety	Workers' occupational health risks	a) Compliance with local regulations of the concerned site(s) is ensured.
		Management of workers' individual health	a) A formalized process is in place to assess and document individual worker occupational health risks, related to all activities of the company, including exposure to hazardous chemicals.
		Safety management system for workers	a) The level of safety incidents is measured and reduction targets are set; b) Duties and lines of responsibility for safety are defined; c) The company or facility provides workers with adequate safety awareness training in line with the requirements of their job function and local legal requirements, including on the use of any essential personal protective equipment. Such training or awareness is available in the local language and updated periodically.
	Basic rights & needs	Fair wages	a) Compensation management system, salary structure and description of legal/industry minimum wage exist and are documented.
		No child labor	a) Policies against child labor, a compliance management process and proactive programs to actively engage in banning child labor exist.
		No forced labor, human trafficking and slavery	c) Company provides access to remedy.
		Appropriate working hours	c) Company respects national law or industry standards on working hours, breaks and public holidays.
		Freedom of association, collective bargaining and labor relations	a) Workers and/or employers do have the right to form and join organizations of their own choice
		No discrimination	c) Company complies with national law or industry standards.
		Social/employer security and benefits	a) Policies in reporting company exist; b) company provides a minimum standard of social security in terms of health care and income security.
	Well-being	Job satisfaction	a) The company or the site hasn't lost any lawsuit in the past 12 months against workers (recidivism); b) No case of breach within the company or the site in worker care (no access to social worker, no access to representative bodies, evidence of absence of dialog with the management)
	Employment	Management of reorganization	a) The company does not violate laws when reorganizing but has no specific processes Example: the company does not help workers to recover a job. b) The company complies with local laws in terms of company's reorganization. Example: existence of programs to help workers recover jobs following local regulatory framework.
	Skills & knowledge	Skills, knowledge and employability	c) Programs and actions for skill development and training in accordance with regulatory requirements that maintain the skills of the people at a level that is marketable.
Local communities	Health & safety	Healthy & safe living conditions	a) No harm induced by the company identified b) Risks and impacts on community health and safety are regularly monitored via impact assessments. c) Appropriate measures to prevent and mitigate adverse impact are implemented, including the provision of health and safety information
	Basic rights & needs	Access to basic needs for human dignity (healthcare, sanitation & clean water, healthy food, shelter, education)	b) Company or facility can demonstrate that it does no harm to the local community's access to basic needs for the human right to dignity (e.g. by having carried out an Impact assessment).
		Indigenous' rights	b) Company or facility can demonstrate that it does no harm to indigenous people's rights (e.g. by having carried out an Impact assessment).
	Well-being	Access to basic needs for sustainable development (infrastructure, ICT, modern energy)	a) No harm to local services.
		Nuisance reduction	d) The company generates no harm to local communities but potential nuisances are integrated so as to comply with current regulation.
		Developing relationships with local communities	b) Not in conflict with local community networks and programs for development.
	Employment	Job creation	a) The company is not responsible for a severe breach of fair employment management but does not respect its commitments in terms of headcount reporting.
	Skills & knowledge	Promotion of skills & knowledge	a) Opportunities to build human capacities in the community are identified; b) Capacity-building initiatives that target community members are undertaken on an ad hoc basis.
Consumers	Health & safety	Healthy & safe products	a) The product is labelled according to legislation for safe handling and disposal; b) There is a procedure in place to recall an unsafe product; c) The product is risk assessed for consumer use and the key outcome is available in a Safety Data Sheet.
	Basic rights & needs	Direct impact basic needs	
	Well-being	Consumers' product experience	a) Negative signals exist, with existence of weak (not documented enough) positive signals , balance oriented towards negative signals.
	Employment		
	Skills & knowledge	Promotion of skills & knowledge	b) Programs and actions for consumers are in place that create information and knowledge for consumers in line with applicable laws and standards.

Appendix 6. Report template for chemical product social assessment

The following template is to be used to report chemical product social impact according to the present guide.

>> Title of the study

>> Commissioner and performer of the study

>> Date of the report

>> Specifications/contact list to access the detailed methodological report

1. Scope
    1.1 Goal & scope of the study
    1.2 Functional unit
2. Methodological choices
    2.1 Selection of social topics
    2.2 Choice of indicators & reference scale setting
    2.3 Boundary setting
3. Data sources
4. Results and interpretation
    4.1 Results and conclusions
    4.2. Limits and uncertainties
    4.3 Peer reviewer comments
5. Quality assessment
6. Conclusion
7. References

Appendix 7. Gap analysis with existing literature

Table describing the key subjects differentiating this WBCSD guide from existing guidance:

Key issues	WBCSD Social metrics for chemical products	Comparison with	
		PRé Sustainability Handbook for Product Social Impact Assessment	UNEP/SETAC Guidelines for Social Life Cycle Assessment of Products
Stakeholders	3 stakeholder categories: workers, local communities and consumers	3 stakeholder categories: workers, local communities and consumers	5 stakeholder categories: workers, local community, society, consumers and value chain actors
Social areas	5 social areas grouping the 23 most relevant impact categories for the chemical sector		6 impact categories (human rights, working conditions, health and safety, cultural heritage, governance, socio-economic repercussion) considered as logical groupings of S-LCA results, related to social issues of interest to stakeholders and decision-makers
Social topics	25 social topics corresponding to the most representative positive or negative social aspects for each stakeholder group	19 Social topics corresponding to social areas related to stakeholder groups that should be measured and assessed	31 sub categories representing impacts within an impact category (working conditions of the stakeholder's workers, for instance)
Mandatory vs optional impact categories	11 mandatory impact categories identified as material for the chemical sector	Compact assessment (e.g 5 material social topics) for internal communication vs broad assessment (19 social topics) for external communication	
Indicators	At least one indicator for each impact category and one or more possible advanced indicator(s) Indicators combine the checking of processes in place and the assessment of their impact. Advanced indicators are generally more quantitative and based on a specific aspect of the impact category; they are considered optional for the assessment.	Performance indicators Quantitative and qualitative markers of performance for each of the social topics, e.g. number of working hours during weekends, minimum salary paid, etc. They are used for the systematic monitoring of progress on improving or achieving social topics.	Inventory indicators (qualitative and quantitative) Inventory indicators provide the most direct evidence of the condition or result they are measuring. They are specific definitions of the data sought. Inventory indicators have characteristics such as type (e.g. qualitative or quantitative) and unit of measurement.
Reference scale	Scale used for measuring process and outcome & impact indicators that assesses each process or input linked to the functional unit of the product application from -2 to +2	Scale-based approach or quantitative approach	
Reference value	NO	YES	NO
Impact assessment method	YES	YES	YES
Functional unit	YES	NO	YES
Life cycle stage selection	Assessment of all life cycle stages by a practitioner who must answer a list of specific question and can use a risk filter analysis to select the most relevant stages to be integrated in the assessment	NO	Hotspot assessment: a methodological framework that allows for the rapid assimilation and analysis of a range of information sources, including life cycle based studies, market and scientific research, expert opinion and stakeholder concerns.
Allocation	NO	Only for quantitative KPIs	YES (for co-products)
Aggregation	Aggregation along the value chain and across social topics, but no general aggregation (stakeholder results can not be summed up)	Aggregation along the value chain, followed by aggregation of social topics scores into stakeholder group scores and total score.	The subcategory indicator results are aggregated into impact category results
Weighting	No specific recommendation	YES	YES

Comparison of WBCSD guidance social topics with PRé Sustainability's Handbook for *Product Social Impact Assessment:*

WBCSD Social Metrics for Chemical Products		Handbook for Product Social Impact Assessment			Justification of differences with the Handbook provided by the subgroup members
Stakeholders	Social topics	Corresponding social topic	Definition	Ref. Scale/indicators	
Workers	Worker's occupational health	Health and safety	Similar	No adv. indicator in WBCSD version => no possible comparison	Chemical-sector specific
	Management of workers' individual health	N/A	N/A	N/A	Chemical-sector specific
	Safety management system for workers	N/A	N/A	N/A	Chemical-sector specific
	Fair wages	Wages	Same	Similar to the 1st advanced indicator (difference for +1 with a limit of 5% for the WBCSD)	Tighten indicator
	Appropriate working hours	Working hours	Same	Different from indicator and advanced indicator's scale criteria	Tighten indicator
	Freedom of association, collective bargaining and labor relations	Freedom of association and collective bargaining	Same	Different from indicator's scale criteria	Tighten indicator
	No child labor	Child labor	Similar but not exactly the same	Different from indicator and advanced indicator's scale criteria	Tighten indicator
	No forced labor, human trafficking and slavery	Forced labor	Similar but not exactly the same	Different from indicator and advanced indicator's scale criteria	Tighten indicator
	No discrimination	Discrimination	Same	Different but close to process indicator's scale criteria	Chemical-sector specific
	Social/employer security and benefits	N/A	N/A	N/A	Chemical-sector specific
	Job satisfaction	Job satisfaction and engagement	Similar but not exactly the same	Different from indicator and advanced indicator's scale criteria	Turnover (used as an indicator by PRé Sustainability) is not considered to be a relevant indicator
	Skills, knowledge and employability	Training and education	Different	Different but close to advanced indicator's scale criteria	Tighten indicator
	Management of reorganization	N/A	N/A	N/A	Missing in previous methodologies
Local communities	Health and safety of local community's living conditions	Health and safety	Similar but more precise in Handbook	Very similar to process indicator's scale criteria	Chemical-sector specific
	Access to basic needs for the human right to dignity (healthcare, clean water & sanitation, healthy food, shelter)	Access to tangible resources	Same meaning but different wording	No possible comparison	Wider scope for basic needs and focus on material resources (cultural heritage is not considered)
	Access to basic needs for sustainable development (infrastructure, ICT, modern energy)				
	Respect for indigenous rights	N/A	N/A	N/A	Chemical sector specific
	Developing relationship with local communities	Community engagement	Different	Different from indicator and advanced indicator's scale criteria	One single impact category in order to better reflect that those types of engagements are generally gathered in same program
	Nuisance reduction	N/A	N/A	N/A	Chemical-sector specific
	Promotion of skills and knowledge	Local capacity building	Same as "Local Capacity Building", with additions from ILO and UN documents	Same	
	Job creation	Employment	Same	Same	
Consumers	Impact on consumer health and safety	Health and safety	Same	Very similar to process indicator's scale criteria	Chemical-sector specific
	Direct impact on basic needs	N/A	N/A	N/A	Chemical-sector specific
	Consumer's product experience	Experienced well-being	Same meaning but different wording	Different than process indicator's scale criteria	To avoid surveys that can be unrealistic in the frame of an S-LCA.
	Promotion of skills & knowledge	N/A	N/A	N/A	Chemical-sector specific

Appendix 8. PVC pipes case study

This case study aims at illustrating the different steps of the methodology described in the guidance and is based on companies' public information.

1. Context

- Product assessed: PVC pipes for water delivering system in Europe
- Actor at the origin of the assessment: European producer of PVC pipes.
- Value chain information:
  - Oil used originates from North sea (40%) and Venezuela (60%);
  - Naphta is refined in Europe;
  - PVC production is manufactured in Europe;
  - Pipes are manufactured in Spain;
  - Pipes are finally installed in France;
  - End of life is recycling by 30%, landfilling by 40%, incineration by 30%.

2. Scope

Assuming that we want to assess the social impacts and value of using PVC pipes for water delivery in Europe, the goal and functional unit could be the following:

- **Goal of the assessment:** social assessment of water delivering system in Europe, using PVC pipes;
- **Functional unit:** making drinking water available for 10 000 inhabitants over a 50-year period;
- **Reference flow:** 500 000 gal/year or similar.

3. Methodological choices

Selection of additional social topics:

Justification table for the selection of additional social topics for the PVC case:

	14 NON-MANDATORY SOCIAL TOPICS	CASE N°1 PRODUCTION OF PVC PIPES FOR WATER DELIVERY IN EUROPE CASE (ENERGY COMING FROM RUSSIA)
Workers	Management of worker's individual health	
	Appropriate working hours	
	No discrimination	
	Social/employer security and benefits	
	Job satisfaction	
	Management of worker's individual health	
Local communities	Access to basic needs for sustainable development (infrastructure, ICT, modern energy)	
	Respect for indigenous rights	
	Nuisance reduction	
	Developing relationship with local communities	Material because local communities invest money for PVC pipe installation, so they have strong expectations
	Promotion of skills & knowledge	
Consumers	Consumer's product experience	
	Direct impact on basic needs	Material for the PVC because of the societal function of the product which is to deliver water for the population
	Promotion of skills & knowledge	
		2 additional social topics to be added to the assessment

The final list of social topics included in the assessment is:

SOCIAL AREA	STAKEHOLDER GROUP	13 MANDATORY AND ADDITIONAL SOCIAL TOPICS
Basic rights and needs	Local communities	Acess to basic needs for human right dignity (healthcare, clean water & sanitation, healthy food, shelter)
	Consumers	Direct impact on baisc needs (healthcare, clean water, healthy food, shelter, education)
	Workers	Fair wages
		No child labour
		Freedom of association, collective bargaining and labor relations
		No forced labour, human trafficking and slavery
Health and safety	Local communities	Health and safety of local communities living conditions
	Consumers	Impact on consumers health and safety
	Workers	Safety managment system for workers
		Workers' occupation health risks
Employment	Local communities	Job creation
Skills and knowledge	Workers	Skills, knowledge and employability
Well-being	Local communities	Developing relationship with local communities

Boundaries setting:

The PVC pipes manufacturing life cycles stages are the following:

The selection of Key Life Cycle Stages is based on the following justifications:

	UPSTREAM				CHEMICAL COMPANY'S OWN OPERATION
Life cycle stages	Oil extraction	Refining of naphtha	NaCl manufacturing	Additives (colorants, pigments, anti-oxidants) manufacturing	Ethylene, chlorine, VC, PVC production
Details on the life cycle stage location	North Sea (40%) and Venezuela (60%)	Europe	Europe	Europe	
Key questions					
Is there evidence of social violations and situations of risk at this stage in the value chain?	No	No	No	No	Automatically included in the assessment as it concerns the company's own operations
Are there specific benefits during this life cycle stage?	No	No	No	No	
Is this life cycle stage relevant to the functional unit and to the goal of the study (in term of mass, business importance, etc.)	Yes	Yes	No (not significant in term of mass)	No (up to 5% in mass maximum)	
Does this life cycle stage occur in a country with known international human rights violations or social risks?	Yes, Venezuela	No	No	Europe, highly regulated	
Are there specific risks resulting from the company's structure & organization?	Multinational companies	Multinational companies	Multinational companies	No	
Are there specific hazards due to the activity considering the impact categories?	Yes, subcontractors in the oil sector, with higher exposure to labor issues	No	No	No	
Conclusion	Key life cycle stage	Key life cycle stage	Not included in the assessment	Not included in the assessment	Key life cycle stage

	DOWNSTREAM				Use phase		End of life
Life cycle stages	Pipe manufacturing	Concrete production	Pipe installation	Steel production for pumps	Electricity	Maintenance of pumps	PVC pipe waste management
Details on the life cycle stage location	Spain	Europe	France				
Key questions							
Is there evidence of social violations and situations of risk at this stage in the value chain?	No	No	No				No
Are there specific benefits during this life cycle stage?	No	No	No				No
Is this life cycle stage relevant to the functional unit and to the goal of the study (in term of mass, business importance, etc.)	Yes	No (not essential considering the functional unit)	Yes				Yes
Is it produced in a country with known international human rights violations or social risks pointed out by media?	No	No	No				No
Are there specific risks resulting from the company's structure & organization?	Large number of companies, compliance management is difficult	No	Large number of companies, compliance management is difficult				No
Are there specific hazards due to the activity considering the impact categories?	Yes, with high energy demand and potential social hazard	No	Use of solvents to connect pipes (risk in term of health & safety)				When incinerated, could have impact on health due to air emissions coming from the use of additives
Conclusion	Key life cycle stage	Not included in the assessment	Key life cycle stage	Not included in the assessment	Not included in the assessment	Not included in the assessment	Key life cycle stage

Excluded from the assesment as it is not in the system

4. Results and Interpretation

Details on the methodology followed to assess the PVC case:

- The work has been split between 7 group members who worked on 2 social topics each. The assessment required around ½ day of work per social topic ;
- The assessment was done mainly on the basis of key actors identified for each step of the value chain ;
- The assessment was done only on the basis of publicly available information (CSR Reports, Annual Reports, (Supplier) Code of Conduct, etc.). Companies were not directly contacted.
- When the result for one step (of several) indicators was unknown (e.g. a, c, d, e achieved, but b unknown) or scoring criteria were not reported by companies the way they are needed, expert guess have been achieved, reducing the data quality accordingly.
- The scales (or some elements of the scales) appeared to be irrelevant or not applicable to some steps of the value chain. When it was the case, no score was given and the mention "not applicable" was indicated.

				Upstream		Own operations	Downstream		Use phase	End of life	Aggregation along the value chain	
			Key lifecycle stages	Oil extraction	Refining of naphta	Chlorine, Ethylene, VC and PVC Manufacturing	Pipes manufacturing	Pipe installation	Use phase (product maintenance only)	PVC pipes waste management		
			Source of information	Tier 2	Tier 1	Own sites	Customers	Installation	Clients	End of life		
			Operating country	North SEA (40%) Venezuela (60%)	Europe	Europe	Spain	France	France	France		
Social area	**Stakeholder group**	**13 mandatory and additionnal social topics**		**Upstream**		**Own operations**	**Downstream**		**Use phase**	**End of life**	**PERF.**	**DATA QUALITY**
Basic rights and needs	Local communities	Access to basic needs for human right dignity (health-care, clean water & sanitation, healthy food, shelter)	**Result**	0	2	2	0	1	1	1	**1.0**	**3.9**
			Data quality	4	3	4	4	5	3	5		
	Consumers	Direct impact on basic needs (healthcare, clean water, healthy food, shelter, education)	**Result**	1	1	2	2	not applicable	not applicable	not applicable	**1.5**	**2.6**
			Data quality	5	5	5	3	not applicable	not applicable	not applicable		
	workers	Fair wages	**Result**	-1	1	2	-1	1	1	1	**0.6**	**2.3**
			Data quality	3	2	1	2	2	2	2		
		No child labour	**Result**	-1	1	1	-1	1	1	1	**0.4**	**2.5**
			Data quality	3	2	2	2	2	2	2		
		Freedom of association, collective bargaining and labor relations	**Result**	0	2	2	2	1	2	1	**1.4**	**2**
			Data quality	2	2	1	3	1	2	1		
		No forced labour, human trafficking and slavery	**Result**	-1	2	2	-1	-1	0	-1	**0.0**	**2.5**
			Data quality	3	2	2	2	2	2	2		
Health and safety	Local communities	Health and safety of local communities living conditions	**Result**	-1	1	1	2	2	0	0	**0.7**	**3.1**
			Data quality	2	3	2	4	3	4	4		
	Consumers	Impact on consumers health and safety	**Result**	0	0	0	0	0	0	0	**0.0**	**4.0**
			Data quality	4	4	4	4	4	4	4		
	workers	Safety management system for workers	**Result**	-1	2	2	0	2	not applicable	2	**1.2**	**1.8**
			Data quality	3	1	1	2	2	not applicable	2		
		Workers' occupational health risks	**Result**	-1	2	2	2	1	not applicable	1	**1.2**	**1.8**
			Data quality	3	1	1	2	2	not applicable	2		
Employment	Local communities	Job creation	**Result**	1	2	2	Unknown	Unknown	not applicable	Unknown	**1.7**	**3.7**
			Data quality	3	2	2	5	5	not applicable	5		
Skills and knowledge	workers	Skills, knowledge and employability	**Result**	2	1	1	1	1	not applicable	1	**1.2**	**2.2**
			Data quality	3	2	2	2	2	not applicable	2		
Well-being	Local communities	Developing relationship with local communities	**Result**	2	2	2	1	2	not applicable	2	**1.8**	**2.2**
			Data quality	3	2	2	2	2	not applicable	2		
		Step-based aggregation	**Performance**	**0.0**	**1.5**	**1.6**	**0.6**	**1.0**	**0.7**	**0.8**		
			Data quality	**3.1**	**2.4**	**2.2**	**2.8**	**2.7**	**2.7**	**2.8**		

Performance:	**Data quality:**
2 (≥1,5)	**1** (≤1,5)
1 (≥0,5 ; <1,5)	**2** (>1,5 ; ≤2,5)
0 (≥-0,5 ; <0,5)	**3** (>2,5 ; ≤3,5)
-1 (≥-1,5 ; <-0,5)	**4** (>3,5 ; ≤4,5)
-2 (<1,5)	**5** (>4,5)

- Interpretation of the results:

  Step-based aggregation

  Among all life-cycle steps studied, oil extraction is the step with the worst marks, in particular regarding basic rights and needs, human rights violation, living conditions, workers' occupational health. Results are negatively impacted by the poor situation in Venezuela, where 60% of the crude oil used to produce PVC pipes comes from.

  Pipe manufacturing, that takes place in Spain, is the steps with the second worst marks, especially regarding basic rights and needs (fair wages, child labour, forced labour), due to the absence of annual report and information regarding compensation management system or salary structure.

  Refining of naphta and production of ethylene, vinyl chlorine and PVC are the two steps with the best marks. Company producing these intermediary products and products are located in Europe. They are especially outstanding performers regarding access of local communities to basic needs for human rights dignity, absence of forced labour, human trafficking and slavery, job creation and developing relationship with local communities. European companies producing ethylene, vinyl chlorine and PVC are also best in class for providing fair wages to workers and direct impact to basic needs for consumers.

  Value-chain aggregation

  Among all social topics, the PVC pipes record the best marks for job creation (however, for three steps the assessment is not available for this social topic due to data availability) and the development of relationship with local communities.

  The PVC pipes record the worst marks for the impact on consumers' health and safety and no forced labour, human trafficking and slavery social topics.

  The PVC pipes did not get an aggregated negative score for any of the social topics studied. So we can conclude that in general, the PVC pipes manufactured in Europe and installed in France have very limited negative impacts on the three stakeholder groups studied (workers, consumers, local communities).

  Data quality

  The assessment was done mainly on the basis of public information (CSR Reports, Annual Reports, (Supplier) Code of Conduct, etc.) from key actors identified for each step of the value chain[3]. The social topics Access to basic needs for human right dignity and job creation record the worst data quality. Social topics on health and safety of workers (implementation of safety management systems, workers' occupational health) record the highest data quality.

- Challenges and Group members' recommendations for the future:

  1. It might be helpful if the reporting company, especially in the chemical sector, would use "key words" for the respective social indicators in their reports and place the necessary information near to these key words. A table with a small collection of key words relevant to the social indicators could be added to the guidance document (as an additional guidance for the reporting company and as a good help for the practitioner conducting the assessment).
  2. Having a tool calculating automatically the results would simplify the work. It would also be helpful to have "Data Quality Assessment Matrix" as a tab in the PVC case study template and also in the "Indicators Description" Excel file.

[3] Corresponding to a data quality between 2 and 3, on a scale of 5 (1 corresponding to the highest data quality).

Appendix 9. Glossary and definitions

Aggregation along the value chain: The aggregation of results of all the key life cycle stages (see section 6.2) for one indicator.

Aggregation across social topics: The aggregation of all indicators (indicator and advanced indicators), either for a social topic or a social area or a stakeholder category or for all stakeholder categories, grouping all indicators studied.

Allocation: Partitioning the input and/or output flows of a process to the product system under study.

Comparative assertion: Claim regarding the superiority or equivalence of one product or solution versus a competitor's product that performs the same function (definition based on ISO 14045:2012 and does not interpret, change or subtract from the requirements of ISO 14044:2006).

Cradle-to-gate assessment: Addresses the social aspects and potential social impacts (e.g. impact local communities by depleting resources) throughout, from raw material acquisition to the point at which it leaves the gate of the factory (i.e. excluding transport to use location, use and end-of-life).

Cradle-to-grave assessment: Addresses the environmental aspects and potential environmental impacts (e.g. impact local communities by depleting resources) in a product's life cycle, from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (adapted from: ISO 14040:2006 and 14044:2006).

Comparative chemical product social-metrics study: Chemical product social-metrics study including comparative assertions about chemical products.

Consumers: The end-users of the final products (in a personal or professional context).

Functional unit: "Quantified performance of a product system for use as a reference unit" (source: ISO 14040:2006 and 14044:2006).

Global Product Strategy (GPS): The International Council of Chemical Associations (ICCA) launched the Global Product Strategy (GPS) in 2006 to advance the product stewardship performance of individual companies and the global chemical industry as a whole. Together with the Responsible Care Global Charter, GPS is the chemical industry's contribution to the Strategic Approach to International Chemicals Management (SAICM). The overall objective of this policy framework, initiated by the United Nations Environment Programme (UNEP), is that by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment. For more details, view the ICCA GPS information portal: http://www.icca-chem.org/en/Home/Global-Product-Strategy.

Health system: The World Health Organization (WHO) defines a health system as "all the organizations, institutions and resources that are devoted to producing health actions". It includes the full range of players engaged in the provision, financing and management of health services, efforts to influence determinants of health as well as providing direct health services and encompassing all levels: central, regional, district, community and household.

Indicator: Quantifiable representation of a social impact. One indicator has been designed for each of the 25 social topics. It combines the checking of processes in place and the assessment of their impact. Indicators of mandatory and additional social topics are necessarily integrated into the assessment of the product.

Advanced indicator: At least one advanced indicator has been designed for each of the 25 social topics. They are generally more quantitative and based on a specific aspect of the social topic. They are considered optional for the assessment.

Indigenous rights (supplement): Indigenous peoples are entitled to determine their political status, pursue economic, social and cultural development, dispose of their land's natural resources and not be deprived of their own means of subsistence. Indigenous people always need to give their free and prior informed consent to dispose of their land with adequate compensation. It extends to the right to preserve, protect and develop indigenous and traditional knowledge systems.

Key actors/key life cycle stages: A risk filter analysis of boundary setting. Methodology defined section 5.6.

Life cycle: Consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal (ISO 14044:2006).

Life cycle assessment (LCA): Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle (ISO 14044:2006).

Local communities: People living in the surroundings of any site all along the life cycle of a given product and that are impacted by the site activities.

The Global Reporting Initiative notes that "the geographic definition of 'local' may vary because, in some circumstances, cities, regions within a country, and even small countries could be reasonably viewed as 'local'." The definition of "local" will depend on the purposes of measurement. For instance, if the company is trying to measure local impact for government authorities, the definition may use the jurisdictional boundaries of the authority in question. If the purpose is to compare the impact of different units within the company, the definition may encompass the sales or operations territory of each unit. If the facility is a pipeline or road, the "local" area may be defined in terms of a corridor along the route. It is important to consider the way stakeholders define local. A few key factors to keep in mind when defining the local area:

- Jurisdictional boundaries of the area;
- Scale and reach of business operation and influence;
- General relationship and dependency of the communities or districts.

(Source: WBCSD, IFC, 2008)

Material social topic: Grouping of the 11 mandatory social topics and the additional non-mandatory social topics that are considered as particularly relevant for the product application studied.

Non-comparative chemical product social-metrics study: Chemical product social-metrics study of one or more chemical products without any comparative assertion.

Plan Do Check Act (PDCA) process: Iterative four-step management method used in business for the control and continuous improvement of processes and products.

Primary data: Data from specific operations in the studied product's life cycle that is measured.

Proven performance: Several indicators (presented in appendix 4) require "proven" performance to reach specific levels of the performance scale. This term can be understood as "the company has passed an official test and corresponding documentation is available".

Red flag: Indication accompanying the result of an indicator assessment that informs the reader of unavailable data.

Reference flow: "Amount of product on which the results of the study are based" (source: WRI/WBCSD, 2011)

Reference point: A fact forming the basis of an evaluation or an assessment.

Reference scale: Scale used to measure indicators and that assesses each process linked to the functional unit of the product application. All scales defined in the report have five levels, from -2 to +2.

Remedy: Even where institutions operate optimally, adverse human rights impacts may still result from a company's activities and victims must be able to seek redress. Effective grievance mechanisms play an important role in both the state's duty to protect and the corporate responsibility to respect.

As part of their duty to protect against business-related human rights abuse, states must take appropriate steps within their territory and/or jurisdiction to ensure that when such abuses occur, those affected have access to effective remedy through judicial, administrative, legislative or other appropriate means. Currently, access to judicial mechanisms for business-related human rights claims is often most difficult where the need is greatest as a result of both legal and practical obstacles. And there is currently an uneven patchwork of non-judicial mechanisms, including mechanisms at the company level, national level (such as national human rights institutions, or national contact points in states that have signed the OECD Guidelines on Multinational Enterprises) and at the international level (such as the Compliance Advisor Ombudsman for the International Finance Corporation).

Non-judicial mechanisms, whether state-based or independent, should conform to principles of legitimacy, accessibility, predictability, rights-compatibility, equitability and transparency. Company-level mechanisms should also operate through dialogue and engagement rather than the company itself acting as adjudicator of its own actions. To support improved access to information, learning and expertise in pursuit of more effective non-judicial grievance mechanisms, the Special Representative established an online resource to assist parties in navigating their available options—Business and Society Exploring Solutions.

(Source: "Protect, Respect and Remedy" Framework for Business and Human Rights, UN, 2008)

Social topic: Social topics identified in the present study correspond to the most representative positive or negative social impacts for each stakeholder group that may occur at various stages of the life cycle. Within the 25 social topics defined in the study, 11 have been selected as mandatory due to their particular relevance for the chemical industry.

Stakeholder groups: Groups of people on which the product has an impact along its life cycle, such as workers, consumers and local communities.

Secondary data: Process data that are not from specific processes in the studied product's life cycle.

Social impact: Assessment of the potential positive or negative social performance of the product and some of its immediate effects on various stakeholders along its life cycle (workers, local communities, consumers).

Triangulation: A technique that facilitates the validation of data through cross verification from two or more sources. In particular, it refers to the application and combination of several research methods in the study of the same phenomenon.

Weighting: Assigning weights or relative values to the different social topics based on their perceived importance or relevance in order to emphasize the most important potential impacts.

Workers: People who perform work related to the product value chain (including those employed by contractors and subcontractors). This questionnaire applies to all workers involved in the key life cycle stages of the product (from raw material extraction, manufacturing, use or disposal).

Appendix 10. Acronyms

BSCI	Business Social Compliance Initiative
CEFIC	European Chemical Industry Council
CSR	corporate social responsibility
GHG	greenhouse gas
GPS	Global Product Strategy launched by the International Council of Chemical Associations
GRI	Global Reporting Initiative
HIVO	Humanist Institute for Cooperation (Humanistisch Instituut voor Ontwikkelingssamenwerking
HR	human resources
ICCA	International Council of Chemical Associations
IFC	International Finance Corporation
ILO	International Labour Organization
I-O-O-I	input/output outcome/impact level (method)
IOPS	International Organisation of Pension Supervisors
ISO	International Organization for Standardization; 14040:2006 gives LCA principles and framework; ISO 14044:2006 gives LCA requirements and guidelines; and ISO 14045:2012 gives eco-efficiency assessment of product systems principles, requirements and guidelines
ISSA	International Social Security Association
LCA	life cycle assessment
LCI	life cycle inventory
NGO	non-governmental organization
OECD	Organisation for Economic Co-operation and Development
PDCA	Plan Do Check Act
PE	polyethylene
PEF	Product environmental footprint
RFP	WBCSD's Reaching Full Potential Chemical Sector Project
SA	Social Accountability International
SAICM	Strategic Approach to International Chemicals Management
SETAC	Society for Environmental Toxicology and Chemistry
S-LCA	social life cycle assessment
SSA	U.S. Social Security Administration
UNEP	United Nations Environment Programme
UNEP-DTIE	United Nations Environment Programme Division of Technology, Industry and Economics
WBCSD	World Business Council for Sustainable Development
WHO	World Health Organization
WRI	World Resources Institute

Disclaimer

This publication is released in the name of the World Business Council for Sustainable Development (WBCSD). This document is the result of a collaborative effort among companies of the Reaching Full Potential (RFP) chemical sector project, and was supported by PwC.

Reaching Full Potential companies from the Metric work stream collaborated to develop and review the material, thereby ensuring that the document broadly represents the majority view of the group. It does not mean, however, that every company within the working group agrees with every word.

To contact WBCSD about this report:

Andrea Brown
Director, Sustainable Materials

Brown@wbcsd.org

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Our member companies come from all business sectors and all major economies, representing a combined revenue of more than $8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

Together, we are the leading voice of business for sustainability: united by our vision of a world where more than 9 billion people are all living well and within the boundaries of our planet, by 2050.

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ISBN: 978-2-940521-52-4

World Business Council
for Sustainable Development
Maison de la Paix
Chemin Eugène-Rigot 2
CP 246 1211, Geneva 21
Switzerland

www.wbcsd.org