



Reviewing the journey

Towards a Sustainable Aluminium Industry: Stakeholder Engagement and Core Indicators

Executive Project Summary

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The Starting Point

In the year 2000 the project idea “to develop a sustainability indicator set for the European aluminium industry” was the starting point of a four-year collaboration between the Gesamtverband der Aluminiumindustrie (GDA), the European Aluminium Association (EAA), the Wuppertal Institute and triple innova.

The project idea is based on the increasing need for transparency and accountability for sustainable industrial development, both at company and sectoral level. Recently, it has become more significant for consumers, shareholders and the political actors how different products are being produced. Shareholders of companies, NGOs, media, public institutions and local communities also play an increasing role in raising awareness in this field, especially with respect to corporate scandals. Hence, the reputation of corporations has become a key managerial concern in many sectors as the public valuation of corporations can drastically change the economic success of their particular products.

For accountability and transparency, sustainability indicators are essential tools for business in the process towards a more sustainable future. Hereby, indicators and indicator sets can be used, as a communication tool, for target setting, for monitoring and steering performance, benchmarking or reporting to internal and external stakeholders. However, the search and selection process of sustainability indicators is complicated by the differences between companies and between sectors. Commonly accepted, internationally harmonised and a practical set of indicators is needed, which enable comparisons between nations, regions and enterprises and include targets and indicators for all dimensions of sustainability.

On the international and national level, a number of sustainability agendas have been put forward by a variety of stakeholders (political institutions, consumer associations, NGOs, businesses, etc.). These broadly defined policies and demands cannot directly be translated into business action as they are not specific enough for the companies in focus. However, the similarities between companies within a sector, e.g. their common process technologies and related impacts, common framework conditions and similar market positions, can be used to specify what sustainable development means for companies within this sector. Within this project specifically, a sustainability indicator set at the sector level is considered as driver to develop a critical mass of leading companies with improved sustainability performances.

Prior to this project the European aluminium industry has been involved in the sustainability issues. In 1998, the seven largest European aluminium producers launched the initiative “*Aluminium for Future Generations*” as a pan-European stakeholder consultation process; the producers (which are now partly merged) include Alcan, Alcoa, Algroup Alusuisse, Koninklijke Hoogovens (Corus), Hydro Aluminium, Pechiney and VAW aluminium AG (Aluminium for Future Generation, 1998). Since then the Aluminium for Future Generations initiative has acted within the sector as a catalyst for sustainable issues. Sector organisations have released other publications on sustainable development, for example, the report on social aspects of aluminium (GDA, 2001a), “Aluminium – A sustainable material” from the German Aluminium Association (GDA, 2001b) and annual company reports illustrating the commitment to sustainability (EAA, 2002). Taking these sustainability efforts further, the project “Towards a Sustainable Aluminium Industry” aims at overall sustainability performance improvement of the European aluminium industry.

This executive project summary prepared by the Wuppertal Institute and triple innova describes the interactive research collaboration as a journey of dialogues. This journey covers the methodology (“Navigating the journey with COMPASS”), the steps (“The main stops along the journey”), the results within the project phases (“Where have we arrived?”) and the conclusions and outlook (“Traveller’s journal and Roadmap ahead”). This report complements the final project reports and addresses a broader external audience.

Navigating the journey with COMPASS

The COMPASS methodology was developed by the Eco-efficiency and Sustainable Enterprise Group of the Wuppertal Institute in 1999, in response to the need among business decision makers to create an internal information basis and to provide transparent information to external stakeholders (Kuhndt and Liedtke 1999). COMPASS (companies' and sectors' path to sustainability) helps to select — according to a Plan-Do-Check-Act management cycle — a set of indicators to measure economic, social and environmental performance.

COMPASS combines five elements:

- COMPASS_{profile} aims at describing the state of knowledge about economic, social and environmental performance issues within the organisation/sector and the expectations of different stakeholders facing the organisation/sector.
- COMPASS_{vision} defines targets to be reached and selects a set of indicators in relation to the targets set.
- COMPASS_{analyse} explores the distance-to-target by performance measurement and benchmarking.
- COMPASS_{management} finally ensures the translation of the target set and indicators selected into decision-making processes by providing suitable management instruments.
- In COMPASS_{report} a communication plan is prepared that helps to report (according to international standards and guidelines, like those provided by the International Organisation for Standardisation (ISO) and the Global Reporting Initiative (GRI)) to an internal or external audience on performance improvements and achievements.

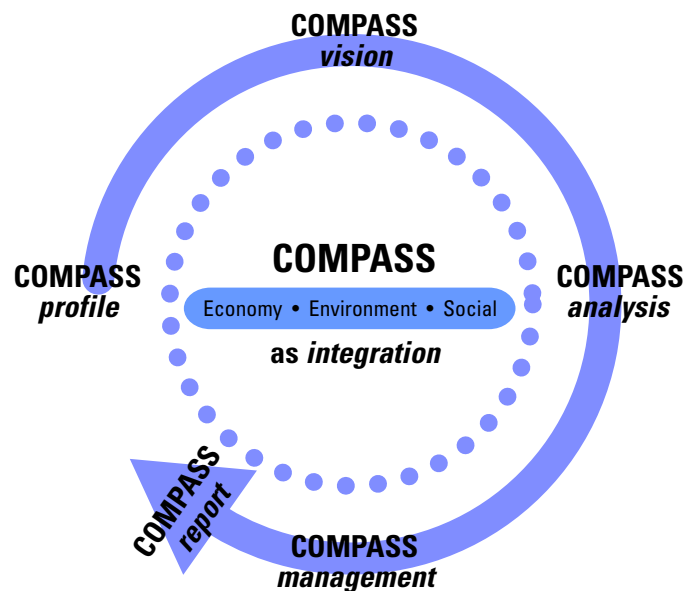


Figure 1: Elements of COMPASS. (Source: Kuhndt and Liedtke, 1999)



The COMPASS methodology was adapted to the specific needs of the European aluminium industry and the objectives of the project. The tailor-made COMPASS comprises a systematic approach consisting of three core tools of COMPASS_{profile}: a sustainability agendas review, a sectoral focus area analysis and a consideration of stakeholder expectations. Whereas the review of current sustainability agendas provides an overview of the broader sustainability debate, a focus area analysis helps to identify key sector-specific issues. The results from the agenda review and the focus area analysis serve as essential input for the consideration of expectations by internal and external stakeholders.

The stakeholder approach i.e. consideration of a wide range of stakeholder expectations (different professional backgrounds, age groups, and gender representivity, etc.), has been chosen in order to cover broad and timely stakeholder demands. The use of the tailor-made COMPASS methodology enabled the identification of relevant aspects and the selection of indicators that help monitor the identified focus areas. Hence, it provides the basis for the implementation of improvement measures and for the development of a report to (and a dialogue with) internal and external stakeholders of the aluminium industry sector.

The main stops along the journey

The research collaboration was conducted in two phases. The first phase of the collaboration focussed on the development of a sustainability indicator set. The process was guided by the management phrase “You can’t manage what you can’t measure”. The second phase, aimed at the discussion and improvement of this indicator set, maintained ‘improving through feedback’ as the underlying concept for the process (see figure 2).

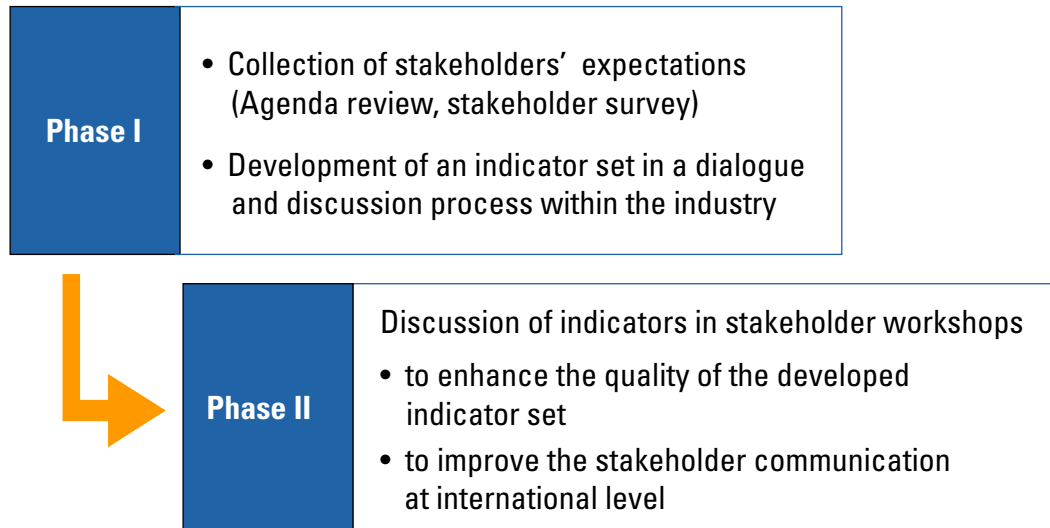


Figure 2: Objectives of the two-phase project.

The stakeholder survey

A stakeholder survey was conducted to gather data on the opinions and expectations from internal and external stakeholders regarding sustainable development of the European aluminium industry.

In order to get a balanced view from a wide range of stakeholders, the survey addressed both internal stakeholders (aluminium companies and associations) and external stakeholders (labour organisations, academic/research institutes, government, related social and environmental NGO’s). The selected survey participants were asked to evaluate sustainability categories and aspects identified in the agenda review and pinpoint additional categories and aspects they considered important (see figure 3).

Which type of economic, social and environmental information do internal and external stakeholders expect from the aluminium industry?

With respect to the type of information internal and external stakeholders expect from the aluminium industry, the survey determined that there is most consensus on environmental information and less consensus on information regarding social and economic issues. This finding can be explained by the fact that most environmental effects can be measured globally in a similar way, whereas social

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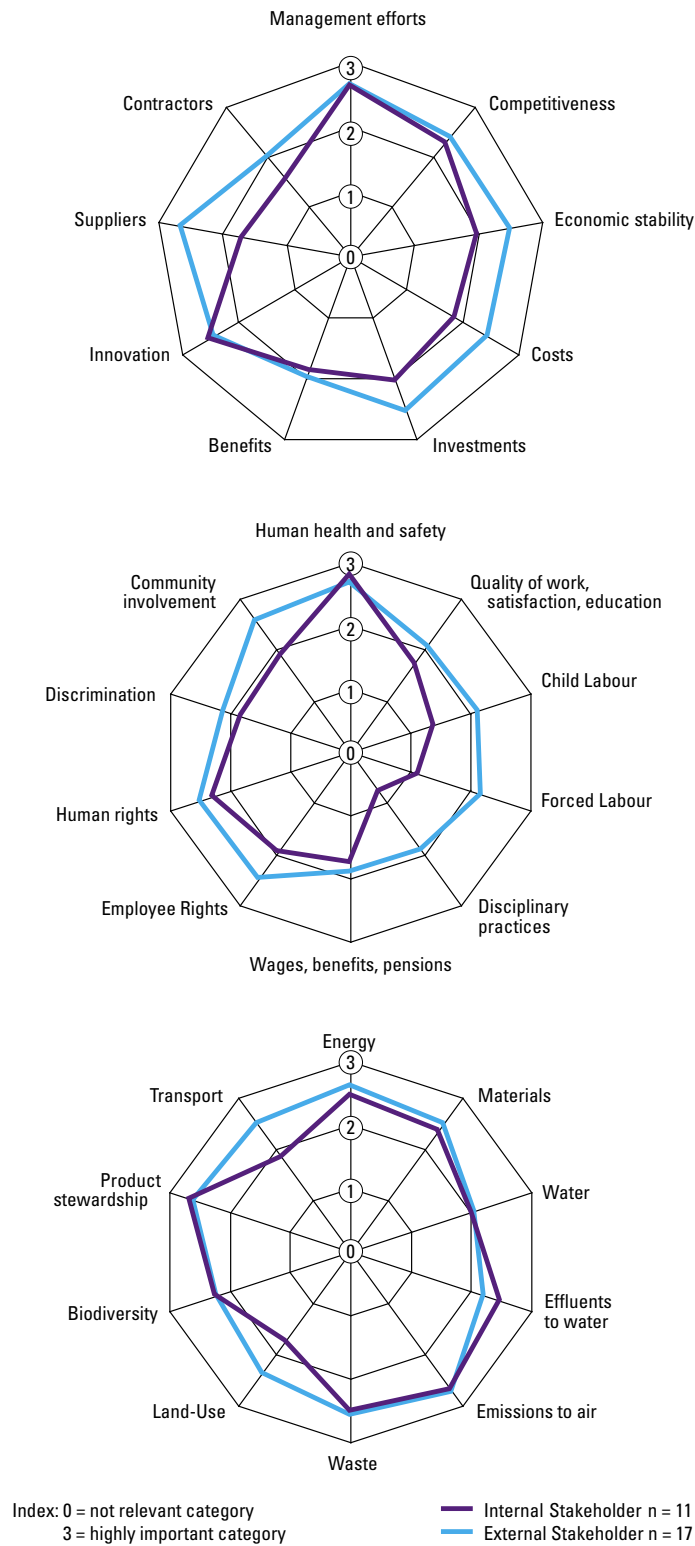


Figure 3: Comparison of internal and external stakeholder views on sustainability reporting of the aluminium industry. (Source: Kuhndt et al., 2002)

Life cycle phase	Most important aspect
Bauxite mining	• land use after mining
	• image of company/public image
	• protection of eco-system
	• dialogue with community
Aluminium production	• image
	• community involvement
	• kind of energy carrier consumed
	• amount of thermal energy consumed
Primary smelting	• CF ₄ , C ₂ F ₆ emissions
	• efficient electricity production
	• CO ₂ emissions
	• amount of electricity consumed
Aluminium processing and manufacturing	• product development
	• design for recycling
	• technological development
	• amount of energy consumed
Use phase	• reduced fuel consumption in transport applications
	• reduced emissions due to light weight in transport applications
	• end-of-life value products
	• recycling systems
Recycling	• improvement of recycling
	• improvement of collection system
	• emissions
	• reduced cost through design for recycling
Transport	• competitiveness
	• accident prevention
	• reliability
	• employee training for risk prevention

Table 1: Most important aluminium life cycle aspect based on stakeholder survey. (Source: Kuhndt, et al., 2002).

effects are heavily depending on the cultural, societal and regulatory context. Economic indicators are currently under discussion, since the traditional financial indicators do not fulfil the increasing demand for transparency and accountability. Compared to social and economic indicators, environmental indicators have also been in scientific reviews and public discussions for a longer period.

The participants identified important aspects for them in each life-cycle phase of aluminium production and consumption. (see Table 1). At the stage of bauxite mining for example, land-use after mining, protection of the eco-system, dialogue with the community and image of the company or public image were indicated as the four most significant ones.

Key issues for respondents in the production and processing phase of aluminium included the type and amount of energy consumed, community involvement and atmospheric emissions.

The manufacturing, use and recycling phases raised, for example, the following issues: energy consumption, emissions, improved design to enhance recycling and product life. Lastly, under transport, respondents felt that safety, reliability and competitiveness were important aspects to consider.

The first indicator set

Based on the stakeholder survey and a literature review, a draft indicator set has been developed. For sustainability indicators it is common practice to classify them into dimensions (e.g. environment), categories (e.g. water) and aspects (e.g. effluents to water). The structure of the indicator set is shown the extract of the set in Table 1 (see, in Chapter 4). For improved transparency, references to the categories, aspects and indicators are listed as well as information regarding the importance of the identified aspects for different stakeholder groups according to a literature review. Additionally, the relevance according to the stakeholder survey is specified in a scale from low = 1 to high = 3 importance. Furthermore, the interlinkages between indicators within the indicator set as well as the time frame for each indicator are given. The time frame suggests action to be taken in the short term (1 year), the medium term (3 years), and the long term (5 years). For small and medium-sized business the time frame might be extended by a factor 2. In total, the first indicator set covered 21 categories and 154 indicators, 100 indicators are considered first priority, 46 indicators as second priority and 8 indicators as third priority)

Stakeholder workshops

In the second phase, the objective was to take the developed indicator set into a stakeholder discussion process and acquire feedback on the core indicator set and to improve it. Two workshops with internal and external stakeholders were conducted. The first workshop was carried out targeting the stakeholders, who participated in the stakeholder survey and expressed their interest in an involvement in further activities. Besides the project partners, participants from different companies and institutions joined the workshop. Among the external stakeholders, were participants representing research, consultancies, training and development agencies, sustainable and ethical investment organisations, environmental NGOs and intergovernmental organisations. The second stakeholder workshop aimed at gathering previously uncovered issues and including underrepresented stakeholder groups for example, civil society, suppliers, academics (in the field of sustainable consumption), governmental representatives (regarding Integrated Product Policy (IPP)), trade unions and development-aid agencies.

Content-related issues		
SD vision	→	Set guardrails & quantitative long-term goals in absolute figures
Categories & aspects	→	Cover broad and prioritised issues
Use-related issues		
Areas of application	→	Benchmark externally & internally
User of indicator set	→	Engage firms (SMEs) in reporting
Purpose of use	→	Improve management & performance
System boundaries	→	Clarify value chain-wide approach and expand regional scope
Scope	→	Specify the companies covered

Figure 4: Key stakeholder demands. (Source: Wuppertal Institute)

The workshops highlighted a general message from stakeholders, firstly, an appreciation for the aluminium industry's efforts and secondly the indicator set is a good starting point. Also, the methodology for the development of the indicators appeared to be transparent, well structured and clear to the stakeholders.

Furthermore, a number of stakeholder demands have been voiced, relating to a number of issues, which can be grouped in content-related and the use-related matters (see figure 4). The *content-related issues* describe categories and aspects relevant for the aluminium industry identified by stakeholder demands. In contrast, the *use-related issues* concerned information related to the application of the indicators (purpose of use, user, area of application) and the scope of the object inspected including a definition of its system boundaries.

With respect to the content of the indicator set, the stakeholders expressed the need for broad but prioritised coverage of the indicator set. In this context, the importance of specific sustainability aspects has been mentioned such as human health and safety, research and development, implementation of best available technology, air emissions, pot line management, sustainability standards in entire supply chain, impacts of mining, ecologically sensitive "No Go Areas", energy demand and sources and recycling. Furthermore, the stakeholder also demanded a reduced number of indicators. Also the importance of governance within the sector has been highlighted several times. Related specific aspects are for example the long-term sustainability vision of the sector, the provision of concrete targets per indicator and the regular updating of indicators. Most of these issues in the indicator set have been elaborated during the course of the project.

Regarding use-related issues stakeholders expressed the areas for which the indicator set should be used once it is established. Both internal and external benchmarking are promising applications. A wide range of firms could use the indicator set for external reporting, including the SMEs within the sector. The reporting should cover both management as well as performance indicators. Furthermore the stakeholders called for a broader regional coverage of the indicators and for specification of the companies covered.'

Where have we arrived?

Understanding stakeholder demands as a starting point for business action

The process of active stakeholder consultations and review of stakeholder initiatives has been valuable for the actors within the project to improve the awareness and understanding for sustainability within the sector and within member companies. With reference to increasing networking (campaigning) power of NGOs, the early involvement of stakeholders can promote the anticipation of future business risks and is hence a crucial starting point for today's management decisions. The involvement of stakeholders helps to prioritise the project to be conducted within the company and within the sector. Improved networking opportunities for future co-operations are an additional benefit for the companies involved in stakeholder engagement processes.

SD categories and affiliated aspects	Stakeholder relevance according to		Suggested Indicators (units/parameters)	This indicator is already standard (S) or a similar one is listed in ...	The Indicator is linked to ...	Priority ² : 1 = short-term 2 = middle-term 3 = long-term		
	Literature review ¹	Survey						
1. abbreviations used: Policy (P), Multi-stakeholder (M), Academia (A), Finance (F), Business (B), NGO (N), Standard (S), Stakeholder Workshops (SW)								
1. Governance								
1.1	Sustainability policy and strategy References: • UNCSO (2001) • OECD (2000a), p. 20 • EC (2001) • GRI (2000), p. 26 • WBCSD (2000) • SAM (1998)	P M A F B SW	2,8	a. existence of publicly available sustainability vision, values statement(s), policies and programmes (yes/no, description, refer to quantified targets) b. frequency of review of those statements, policies and programmes (e.g. annually) (date) c. consideration of stakeholder opinions in the development/ review of those statements and policies (description) d. number and type of signed sustainability charters and/ or memberships in sustainability councils (e.g. CERES, Global Sullivan Principles, WBCSD etc.) (description)	a. UNCSO (2001), p. 44; GRI, p. 26; SAM (1998), p. 1; PIRC (2000); ING (2001), p. 7 b. GRI; SAM (1998), p.2; PIRC, p. 3; ISO 14031, p. 23; WBCSD (1999); SAM (1998), p. 2; Oekom, p. 7; PIRC, p. 4; WBCSD (2000), p. 24 d. GRI, p. 26; SAM (1998), p. 2			1 2 1 1
1.2	Institutional set-up References: • GRI (2002), p. 41 • Wuppertal Institute (2004) • CSRwire (2002)	M A B SW		a. sustainability boards at sectoral and company level in place (share of companies absolute and in %, sector "yes/ no", description) b. mechanism in place to monitor implementation of statements and policies specified in 1.1 c. management levels with specific social/environmental/ economic (not purely financial) / responsibilities (description)	a. Bayer AG (2004) p. 6; ESFA (2003) p. 4 b. University of Sussex (2000) p. 7; Iskander and Chamliou (2000) p.14 c. SAM (1998), p. 1; ISO 14031, p. 22; WBCSD (2000), p. 24		1-21	1 1 1
1.3	Management Performance References: • OECD (2000a), p. 20 • Deutsche Bundesregierung (1997) • EC (2001) • GRI (2000) • SAM (1998) • SAI (1997) • Accountability • WBCSD (2000) • SustainAbility/ UNEP	P M A F B N SW	2,8	a. economic/environmental/social targets set and achieved (description, refer to coverage of recycling, corruption and dam development issues) b. application of equal environmental/social standards world-wide (e.g. H&S, SA 8000, AA 1000, emission standards, resource-efficiency, EMAS, ISO) (yes/ no, kind of standards, description) c. sites with external verification of environmental/ social standards specified in c. (share of sites, share of turnover by site) d. frequency of social/environmental or sustainability auditing and/or reporting by site (date) e. environmental cost accounting system in place (yes/no, description) f. risk management system in place (regarding economic, social and environmental risk aspects) (yes/ no, description) g. description of incidents over the last five years, incl. associated costs (absolute number, description)	a. GRI (2000), p. 31; Oekom (2000), p. 2; MJRA (2000), p. 5; SAM (1998), p. 4; ISO 14031 b. Accountability (1999), SustainAbility/ UNEP (1999) c. GRI (2000), p. 26; University of Sussex, p. 27; d. EC (2001), p. 16; Oekom (2000), p. 2; ISO 14031, p. 23; WBCSD (1999), p. 8; ING (2001), p. 7 e. GRI (2000), p. 26; SAM (1998), p. 7, Wuppertal Institute (2001) f. GRI (2000), p. 26 g. SAM (1998), p. 8; ISO 14031, p. 23		2-21 2-21 2-21 12-21 2-4, 6-17, 19-21	2 1 1 1 1

Table 2: Suggested Indicators for most relevant aspects identified (extract). (Source: Kuhndt et al., 2004)

The indicator set

The project's core objective was to develop, discuss and improve a sustainability indicator set for the European aluminium industry with stakeholder consultations. This goal has been achieved resulting in the indicator set of which an extract is provided in the table 2.

The key stakeholder demands have been taken up for the further improvement of the indicator set. For example, additional indicators have been included for governance issues. Furthermore, new policy developments and sustainability initiatives have been considered, e.g. the changes made in the guidelines of the Global Reporting initiative, which led to adoption of the economic indicators. Following the demands by the stakeholders the number of indicators has also been reduced (from 154) to 106 indicators (71 as first priority, 34 as second priority and 1 as third priority).

The EAA sector report

Throughout the project, the EAA objective has been to develop a sector-wide sustainability report at the European level. Consequently in October 2004 an EAA sector report was published, based on 34 indicators selected as representative for the aluminium sector by EAA.

To provide aggregated figures in the report the EAA collected detailed data from the production sites and from company level (see figure 5). Hereby, the EAA used the initiative to reach out to more than 700 production plants.

A precondition for the aggregation of the indicators on the sectoral level is the consistency in the data-gathering methodology. Hence, methodological sheets have been used, which describe the single indicators more comprehensively. This process provides a uniform and consistent database as bottom line for aggregation and further application of the indicator set. The sheet should cover aspects like indicator description, linkages to sustainable development and other indicators, methodological description, assessment of data or agencies involved in the development of the indicator and references.

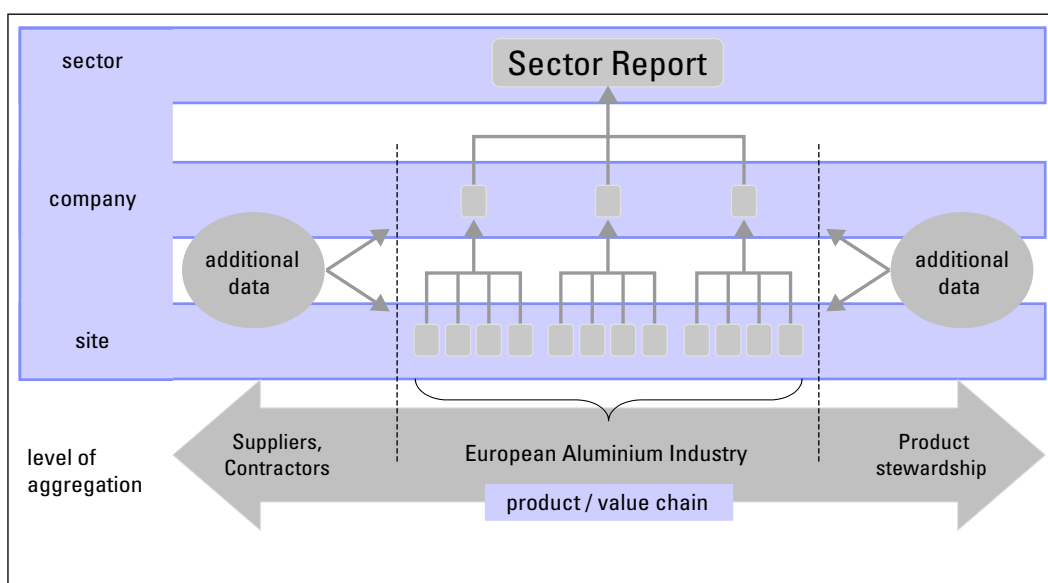


Figure 5: Aggregation of data for sector level reporting. (Source: Kuhndt et al., 2002)

Traveller's journal and roadmap ahead

Through out the four-year process we have learned from numerous experiences. Also, a number of challenges for future work have been identified. Key experiences and the roadmap ahead are highlighted below.

Experience "On track"

From a general perspective, the stakeholder involvement can be an effective way of integrating a wider range of relevant aspects, actors and expertise into management decisions in order to settle, or clarify controversial questions before intensive planning steps are taken. The four-year process formed a shift towards a more sustainable aluminium industry sector, i.e. enhanced the possibility for member companies to integrate external stakeholder demands into corporate decision making. Addressing these demands, corporations will be able to capture intangible value (e.g. strengthening image, acquiring new knowledge, improving satisfaction of employees) and increase shareholder value (see figure 6).

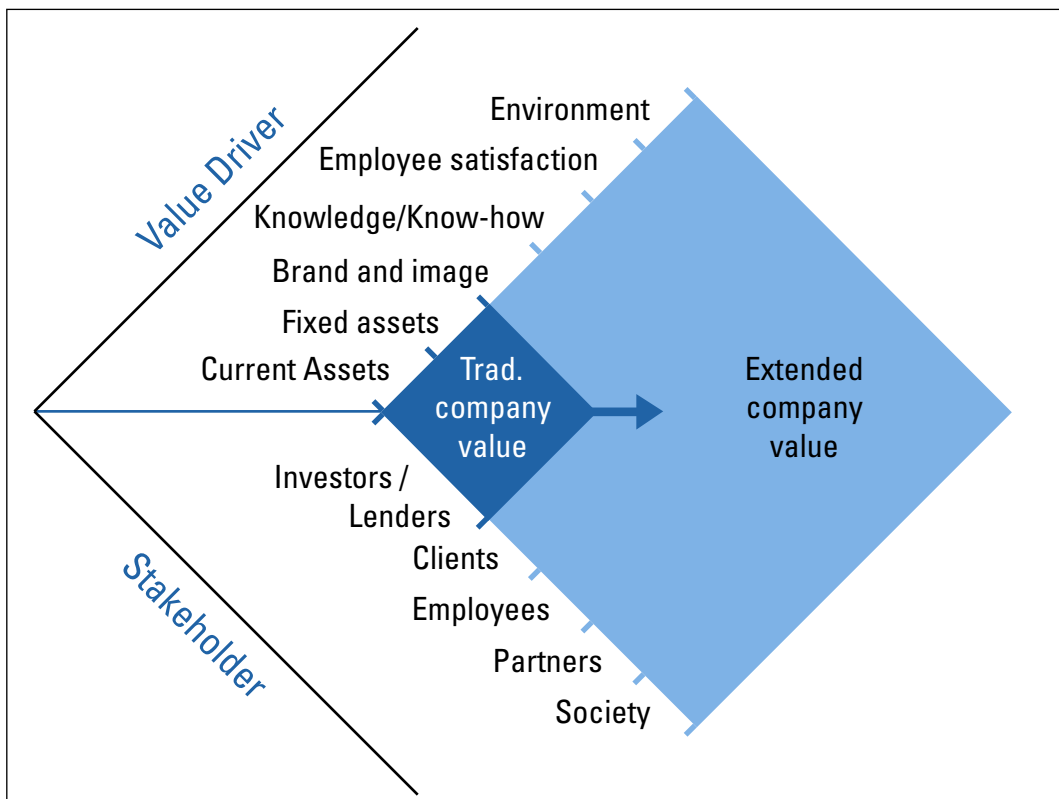


Figure 6: Expanding the traditional company value through stakeholder consideration.
(Source: adopted from PricewaterhouseCoopers, 2001)

Experience “Driving innovation within the company”

Business actors can draw on suitable indicator sets in order to accurately grasp the scope of the impacts they are generating, to assess the outcome of the measures they are taking and to effectively communicate their activities towards sustainable development. The presented approach aimed at methodological innovation through its sectoral approach. As the discussions within the project highlighted, the outcomes can be used at the corporate level as follows:

- **Internal Benchmarking:**
Companies can use the information from the companies' performance aggregated at a sectoral level as base line for internal benchmarking processes. Based on the knowledge of their own performance it becomes apparent where the companies perform well and where improvement opportunities are.
- **Product and process innovation:**
Continuous monitoring can aid in recognition of opportunities for improvement both on product and process level.
- **Monitoring value creation:**
As partly intangible aspects, improvements in environmental and social aspects can affect the value drivers and lead to increased value of a company. The extent of this relationship may vary from one company to the other. In order to get a better understanding of the value creation process, companies can investigate what types of performance improvements are significant in affecting the value drivers. In this respect, companies would be identifying priority themes for value creation.

Experience “Expanding the management efforts in the value chain”

There is the experience that the current management focus of companies sometimes obscures the most important sources of opportunities and impacts. For the aluminium industry supply chain management as well as the product stewardship offer opportunities for improved corporate sustainability performance and reputation (see figure 7).

In order to make use of these opportunities the sector organisations and larger companies can engage actors along the product chain. Within the supply chain the challenge remains to engage SMEs in reporting activities as SMEs face a number of barriers for improved external communication. Examples of those barriers are limited financial and human resources or external demand for information. In that respect, the data collection process for the sectoral sustainability report might be a way to engage and help more SMEs to work on sustainability issues. Regarding product stewardship, multiple approaches can be taken by companies to address sustainable consumption, namely: responsible marketing guidelines, customer advice, product pricing, functional product design, specific services for minorities and consumer protection. The companies of the aluminium industry have already addressed sustainability issues within the entire life cycle, such as the rehabilitation of mining areas or recycling, however, there are still opportunities both in supply chain management and product stewardship.

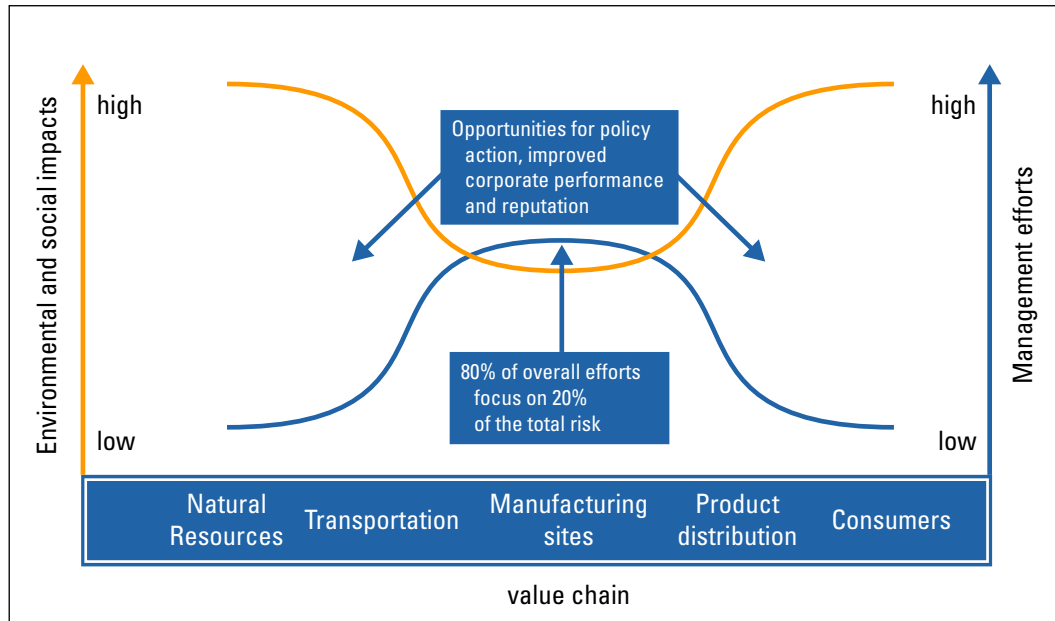


Figure 7: Mismatch between sustainability impacts and management efforts.
(Source: adapted from WWF, 2003)

Experience: Expanding the activity to a wider geographical area


The development of this indicator set has focused on the European perspective and experience. The challenge now is to expand the geographical scope of sustainability reporting and to integrate the perspectives of other parts of the world. The specific regional context might be very influential. The importance of some aspects, such as drinking water consumption or the importance of economic profit, is likely to alter in different geographical regions. The regional differences might be taken into account through the inclusion of specific national or regional agendas and/or stakeholders. However, once the sustainability indicator set has been established, it is suggested to integrate it into the management accounting system. The exercise pioneered by EAA is now used as basis for similar initiatives in other geographical regions and also on a global level by the International Aluminium Institute.

Roadmap ahead

Sustainable development relates to an unlimited time horizon and is an on-going dynamic process. The dynamic character of sustainability has been considered in project through the sequence of workshops, which allowed learning processes over time, and the indicator set which includes flexible timeframes for phased implementation. The flexible implementation considers differences of the companies within the sectors, such as size, organisational capabilities or position in the supply.

The indicators need to be revised from time to time to adapt the indicators to changing conditions, such as stakeholder demands, significant modifications in the underlying sector, e.g. technological innovation, or progress made in research on sustainability indicators. Over time, single aspects might be added if stakeholders demand information on additional issues. Some (smaller) companies, might start with a limited number of indicators and increase the number of issues covered over time.

The EAA continues to work on its sustainability indicators based on input from the stakeholder consultations and on the experiences from the first survey conducted. EAA intends to release a new sustainability report in 2006 based on a revised indicator set.

An aerial photograph of a complex railway track system. The tracks are made of metal rails on a gravel bed, with several sets of tracks crossing each other in a diamond pattern. A red traffic light is visible in the upper center of the image. The overall scene is a dense network of tracks, suggesting a major railway hub or a large industrial facility.

To conclude, sustainability reporting as well as the related processes of identifying the relevant indicators and data gathering can improve the ability of the sector to respond to increasing demand for transparency and accountability. The success of these activities is, however, grounded on continuous involvement of the sector's organisations and member companies. The aluminium industry should continue to work on the integration of sustainability in the sectoral and corporate management structures and keep on engaging a wider audience of stakeholders. In that respect, the sector approach enables a continuous improvement and learning process toward a more sustainable aluminium industry.

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