

ICSG
Project Report

Survey of Environmental and Social Reporting Practice in the Copper Mining, Smelting and Refining Industry

October 2002

Notice: The information contained in this document is intended to provide an overview of the current situation in environmental and social reporting practice, as it affects the copper industry. This paper is provided for reference purposes only. References to sites, companies, and agencies are for information purposes only.

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1 Executive Summary

Environmental and social reporting to the general public plays an important role in communicating sustainable development performance to stakeholders. Today, there is a growing expectation on the part of civil society, governments and, more recently, the financing sector for industry to report on various aspects of their business practice. In some countries, there already exist legal requirements or voluntary commitments addressing disclosure of information in the context of shareholder or public-right-to-know regulations or sectoral codes of conducts. But in many cases, environmental and social reporting is a unilateral and voluntary approach of individual companies.

The ICSG Secretariat has undertaken a survey of existing environmental and social reporting practice in the copper mining, smelting, refining and fabricating industry. The survey focuses on public accessible reports and does not address other means of communication. The objectives of the survey can be resumed as follows:

- Map out global coverage of policies and reporting practice of the copper industry
- Map out differences in reporting practice along the process chain
- Map out major environmental and social issues addressed in the reports
- Map out use of measurable indicators in specific areas
- Map out differences between small, medium-sized and large enterprises

The survey is carried out in form of a web-based study and consists of two parts. This first part deals with the reporting practice of companies operating mines, SX/EW-operations, smelters or refineries. The second part covers major companies operating wire rod plants, brass mills, wire mills and cable plants. The reference year for all figures and reports is the year 2000. The survey only deals with reporting practice and does not address actual management practice. This means that non-reporting companies may as well have appropriate management programmes or other measures in place, but, as they currently do not report on these issues, these actions are not included in the survey.

Preliminary observations indicate that many copper mining, smelting and refining companies have published corporate policies on market-related or financial topics such as investor relations and product quality management. In addition to that, further voluntary commitments mainly address issues related to the environment, health and safety of workforce and

community relations. Commitments addressing procurement strategies (upstream) and product stewardship practices (downstream) claim far less importance. Availability of company reports and coverage of copper production are lower in the case of secondary refinery producers than in the case of primary producers. Most reporting secondary producers are either large companies or integrated producers.

The review of types and coverage of reporting practice reveals that most mining, smelting and refining companies report on the state of products and markets and the current financial situation of the company. In addition to these market transparency issues, especially large enterprises complement these investor relations with reports on environmental issues. Whereas legal requirements and interest of the employees may drive reporting on health and safety issues, stakeholder pressure and public concerns can stimulate reporting on the environment. More recently, reporting on community relations has been introduced in a number of major mining companies, highlighting benefits and contribution to the local economy, education and infrastructure. Only a small number of companies addresses the emerging issue of product stewardship. The concept of sustainable development is mainly addressed through major mining companies and integrated primary producers.

Following the stock-take of existing reporting practice, an analysis of scope, coverage and contents of reports has been carried out. Afterwards, preliminary conclusions have been drawn from the survey results (see Chapter 6). Draft reports will be circulated to experts for comments including key companies and associations. It should be noted that the reports are generic in nature and do not identify specific companies or countries.

It is evident that the responsibility for addressing issues identified in Chapter 6 does not lie solely with the individual companies. Some of them might be best addressed by companies or by associations in form of a progressive buy-in at different speeds considering regional and sectoral priorities and circumstances. Furthermore, many of these issues need to be tackled to varying degrees through individual companies, industry associations or third party or governmental initiatives. In particular, issues regarding the increase of credibility and acceptance as well as the definition of issues to be addressed within a “Sustainable Development Report” require the involvement of industry associations, governments and other stakeholders. Existing voluntary initiatives can provide companies with guiding frameworks for further improvement of their environmental and social reporting practice.

2 Introduction

Meeting the demand for metallic raw materials is crucial to the economic and social development of modern societies. In the light of the sustainable development challenges associated with the supply of primary metals, many copper mining, smelting and refining companies currently seek for new strategies and concepts to address these issues and communicate achievements. Today, there is a growing expectation on the part of civil society and governments for industry to report on their business practices. In some countries there already exists legal requirements and/or voluntary commitments requiring disclosure of information in the context of public-right-to-know regulations or sectoral codes of conducts. But in many cases, environmental and social reporting is a unilateral and voluntary approach of individual companies in due response to a corporate ethos, public concerns and/or consumer pressure.

Different stakeholders have different needs and interests and therefore different expectations regarding the type and nature of information disclosed. From the company's point of view it is necessary to identify those groups that have a legitimate stakeholder interest and then consider their particular needs and expectations. Recognising this, various mechanisms are currently applied to communicate openly about operations and products with relevant stakeholders. Besides corporate reporting, a wide range of further communication mechanisms is considered, such as training events, advisory services and outreach programmes designed for the local community, governments and other stakeholders.

This survey focuses on **public accessible reports** and does not address other means of communication. The key objective of this survey is to map out the **coverage** of current public environmental and social reporting practices of copper mining, smelting and refining companies. Reporting practice within the fabrication industry is reviewed in the second part of this survey.

Access to timely, reliable and accurate information is essential for public understanding and informed decision-making. In this context, environmental and social reporting of companies helps to improve communication and stimulate stakeholder dialogue. In theory, corporate reporting should enable stakeholders to understand and assess environmental and social performance of companies, while credibly demonstrating efforts, achievements, opportunities

and challenges. In order to present a balanced view, it is necessary to assess, disclose and disseminate information regarding benefits, impacts and risks associated with processes and products throughout the mine and product life cycle, whilst respecting necessary commercial confidentiality.

Therefore, any engagement with a broad range of stakeholders starts with the availability of accurate and relevant information in the public domain. For this purpose, the vast majority of companies use the Internet as the prime communication tool for delivering information to shareholders, stakeholders and the general public. Taking this into account, the survey was carried out in form of a **web-based study**.

In recent years, a number of studies have been carried out aiming at analysing and improving corporate reporting practice. In Chapter 7, a non-exhaustive list of previous surveys on reporting practice in the mining sector is provided. Some key lessons of particular relevance to this survey drawn from the latter investigations are summarised below.

The *"Mining & Minerals Sustainability Survey 2001"* analyses issues, policies, tools and corporate behaviour of major mining companies in the context of sustainable development. While there is a strong endorsement and recognition of the importance of the ideas of sustainable development to the future of the industry, and the success of individual companies, it appears that many companies are wrestling with the concrete steps necessary to make this recognition operational. Facts and figures on respondents with sustainability performance measurement and reporting procedures are presented. According to this investigation, two thirds of respondents publish environmental reports and over 50 % of respondents present social reports externally [PWC, 2001].

Advanced economic, social and environmental reporting is just one tool for tackling the sustainable development challenges facing the sector. While many companies are far from addressing and reporting on all the issues related to this concept, they have taken action to carry out a kind of gradual, progressive buy-in at different speeds, picking up priority issues and concerns. Therefore, it is worthwhile identifying major elements as well as major environmental and social issues addressed in the reports. Previously carried out examinations indicate that there is a wide range of common elements and categories of information contained in current reports. According to the study *"Environmental self-reporting in the*

mining industry", main differences consist in the degree of motivation and openness towards engagement and in the data richness and performance reporting ability. [Peck, 2001]

Following the study *"Reporting in the Mining Sector"* common elements of best practice reports include an overview of the company, its operations and the associated environmental and social impacts. Furthermore, policies and management systems to prevent and mitigate impacts are described. These explanations should be backed by means of performance targets, measurable indicators and company or even site-specific data. Altogether, they describe the level of performance a particular company wants to achieve [MEM, 2000].

An increasingly important issue is the degree to which metal companies identify external expectations and interests and how they engage in some kind of dialogue with stakeholders aiming at incorporating these views into the corporate decision-making process. In the absence of any agreed reporting format, an appropriate process for an objective appraisal of company performance may provide assurance to stakeholders that the company is actually addressing the major environmental and social issues associated with its activities and that this is accurately reflected in the report. In this context, independent reviews and third party statements can be useful to raise credibility and acceptance of the outcomes [MEM, 2000].

Another important issue is the comparability of reports. According to the *"WWF Scorecard of Environmental Reports of Australian Mining Companies"*, comparable reporting within a sector can, on the one hand, lead to a kind of competitive benchmarking between companies and, on the other hand, enable industry associations or governments to have a more complete and balanced view of a particular sector. Disseminating experiences and lessons learned from one company or industry sector can stimulate other companies or sectors to follow the approaches. Another benefit of credible reporting may arise from improved reputation towards financing organisations and insurance companies [WWF, 2000].

Recognising the efforts and analytical achievements of these well-known studies, the **value added** by the present work needs to be highlighted. Most investigations focused on major global mining companies in general without analysing corresponding products and operations in detail. Analysts have picked up more or less arbitrarily the majority of the biggest mining companies of the "Western World". Many of these companies are highly diversified and integrated. The findings of previous surveys can neither be related to particular commodities nor to respective process steps within the process chain of mining, smelting and refining.

Reporting practice of minor producers and producers in the "Eastern World" which account for a significant share of global metal production has not been analysed, yet.

In order to get a clear view of the actual coverage of reporting practice, these surveys need to be complemented with commodity-related statistical data on size and production of companies. Furthermore, non-reporting companies should be included in the analysis. In summary, this survey aims at adding value to previous works in the following way:

- Focus on the supply of copper rather than on mining in general
- Focus on copper mining, smelting and refining companies
- Focus on primary and secondary refinery production of copper
- Focus on actual coverage (including non-reporting companies)
- Focus on size of companies

Considering these issues and gaps, the **objectives** can be summarised as follows:

- Map out policies and reporting practice of the copper mining, smelting and refining industry
- Map out the global coverage of policies and reporting practice
- Map out differences in reporting practice along the process chain
- Map out major environmental and social issues addressed in the reports
- Map out the use of measurable indicators in specific areas
- Map out differences between small, medium and large enterprises

There are also some relevant issues that are not addressed in this study. The survey does **not** pursue the following aspects:

- Carrying out an in-depth analysis of reporting practice
- Analysing or judging report contents
- Pointing out particular sites, companies or regions
- Verifying report content nor controlling information, data or outcomes
- Considering unpublished information, internal or confidential information
- Considering reports associated with environmental or social impact assessments prior to the start of the project or mine closure plans

3 Methodical Approach

3.1 Scope

Copper mining, smelting and refining companies report in very different ways on their annual activities. With respect to environmental and social reporting practice a distinction can be made in stand-alone reports, reports that are integrated in annual reports (financial and market), or periodically updated presentations and information on the respective homepages. For corporate policies on issues relating to environment, health and community relations, the same observations hold true. Whereas some policies can be considered to be mere recognitions of relevance of particular issues, others include formal statements or broad commitments or, as practised by many global players, present more detailed and readable policies by breaking down specific issues to practical and measurable criteria and targets.

The **reference year** for all production figures and reports is **2000**. It should be recognised that the industry focus on sustainable development has significantly increased since 2000. In this context, this survey can serve as a baseline document for assessing the continual improvement process of companies on these matters. The survey covers mining and processing operations (final product: concentrates), SX/EW-operations (final product: refined copper cathodes), and primary and secondary smelting and refining operations (final product: refined copper cathodes). Integrated companies, who report on various steps of the process chain are included in the analysis and determination of coverage of each step. Many global companies are highly diversified and produce different commodities throughout the world. For these companies only information concerning copper-specific issues is considered in the context of this survey.

System boundaries of this survey cover mainly the "Western World" (Latin and Northern America, Western Europe, Southern and Central Africa, Oceania and South Asia). Due to lacking information, the following minor copper producing countries of the "Western World" have not been included: Botswana, Colombia, Cyprus, Morocco, Nicaragua, Oman and Saudi Arabia. With respect to the "Eastern World" (Eastern Europe, CIS and China), only a few major copper producing companies offering Internet sites or reports in English have been included in the survey (e.g. Norilsk/Russia, Jiangxi/China, Kazakhmys/Kazakhstan,

KGHM/Poland). Production sites in the "Eastern World" managed by Western companies have been included, if homepages or reports are available in the public domain.

A large number of companies are considered to be small and medium enterprises. Recognising the need for effectively reducing time and effort for carrying out the survey, a clear and transparent **cut-off criteria** in terms of annual production is required. Therefore, while aiming at analysing the world coverage of reporting practice, the cut-off criteria > 20,000 t/a copper content in the final product is introduced for mining sites and refineries. Producing sites with a production less than the cut-off criteria are included if they belong to a large metal producing company that actually reports on these sites, as well. In total, a number of 72 mining companies and 65 refined production companies have been analysed.

3.2 Sources of information

According to Figure 1, the principal source of information has been the Internet (homepages of companies). Other sources of information, such as widely distributed hard copies of reports or other publications on policies, etc., are included for those sites who do not post these reports on their respective homepages. The annex (Chapter 7) provides a not exhaustive list of selected best practice corporate reports ([AngloAmerican, 2001]; [BHP-Billiton, 2001]; [Falconbridge, 2001]; [MIM, 2001]; [Noranda, 2001]; [WMC, 2001]).

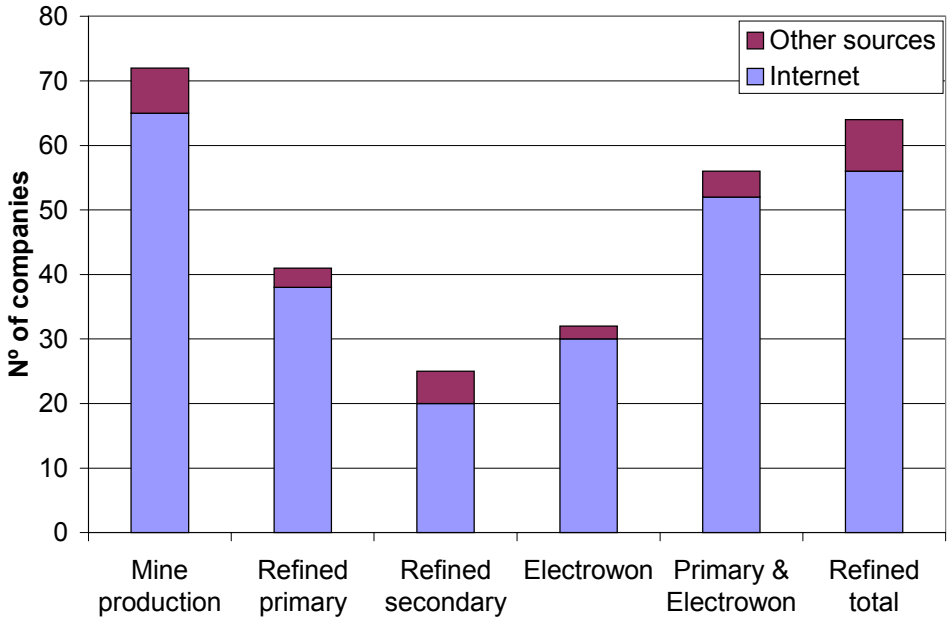


Figure 1: Number of addressed companies and sources of information

Those companies that do not have a company homepage or do not distribute hard copies of reports (but may as well report to industrial associations, official institutions or government agencies, which do not publish these results) are considered to be “non-reporting companies” for the purpose of this exercise due to the lack of information in the public domain.

3.3 Company- and site-specific production

The coverage of copper mining and refinery production is calculated by means of weighting particular company results with respective production. Actual site-specific and company-specific production figures can be drawn out of many communications or reports available in the public domain, considering the corresponding share of production attributable to the respective ownership. For those companies or sites where no accurate and current production data are available, current production figures are estimated on a site-by-site basis using country-specific production data and site-specific capacities. Country-specific data are drawn out of the Monthly Copper Bulletin [ICSG, 2001a]. Site-specific capacities are published in the biannual Directory of Copper Mines and Plants [ICSG, 2001b]. The capacity weighted distribution of non-attributable country production is carried out assuming an equal rate of capacity utilisation at the producing sites in a particular country.

3.4 Coverage of the survey

Using country-specific production data from the November 2001 edition of the Copper Bulletin [ICSG, 2001a], it can be calculated that companies covered by this survey accounted for 88 % of global mine production from concentrates, 96 % of global electrowon production, 89 % of global primary and 63 % of global secondary refinery production in the reference year 2000. The analysed secondary producers are representing 93 % of Western World secondary refinery production.

4 Copper Industry Background

4.1 Copper production in 2000

World copper refinery production amounted to 14.8 Million tonnes in 2000. Facts and figures concerning global copper production in 2000 are summarised in Table 1. In accordance with the statistical definition of the ICSG, statistical notation is made for solvent-extraction and electrowinning (SX/EW) at the mine level to distinguish this production from copper derived from concentrates and cement copper. Furthermore, we distinguish in Primary (electrolytic and fire-refined), Secondary (electrolytic and fire-refined) and Electrowon (High-grade SX/EW) refined production. Electrowon from copper-nickel matte is included in the primary category where this is necessary.

Table 1: Worldwide copper production in 2000 [ICSG, 2001a]

Process	**Commodity**	**Production [1000 t Cu]**
Mine production	Concentrates	10,831
	SX/EW	2,354
	Total mine	13,185
Refinery production	Primary	10,325
	Secondary	2,129
	Electrowon	2,354
	Total refined	14,807

4.2 Sector Analysis

Before we go into an in-depth analysis of current environmental and social reporting practice, it is worthwhile paying attention to some features of the upstream copper industry sector. Whereas, in general, most downstream fabricators and manufacturers are not integrated, a large share of mine, smelter and refinery production can be attributed to large diversified and integrated companies that usually operate in a global market place. Here, we place particular emphasis on the features:

- Sector concentration,
- Sector integration and
- Sector structure.

4.2.1 Sector Concentration

Close to 60 % of global mine production from concentrates is mined at sites attributable to the Top 10 mining companies (see Figure 2). Total refinery production including electrowon copper is less concentrated than respective mine production. The level of concentration of the Top 10 refining companies is around 50 % with secondary refinery production less concentrated (43 %) than primary and electrowon (53 %). The sector concentration of the upstream copper industry appears to be pretty significant. Therefore, many previous surveys focused primarily on analysing the reporting practice of these major producers. Nevertheless, as a consequence, the resting 40 % of mine production and 50 % of refinery production have not been included in many previous surveys.

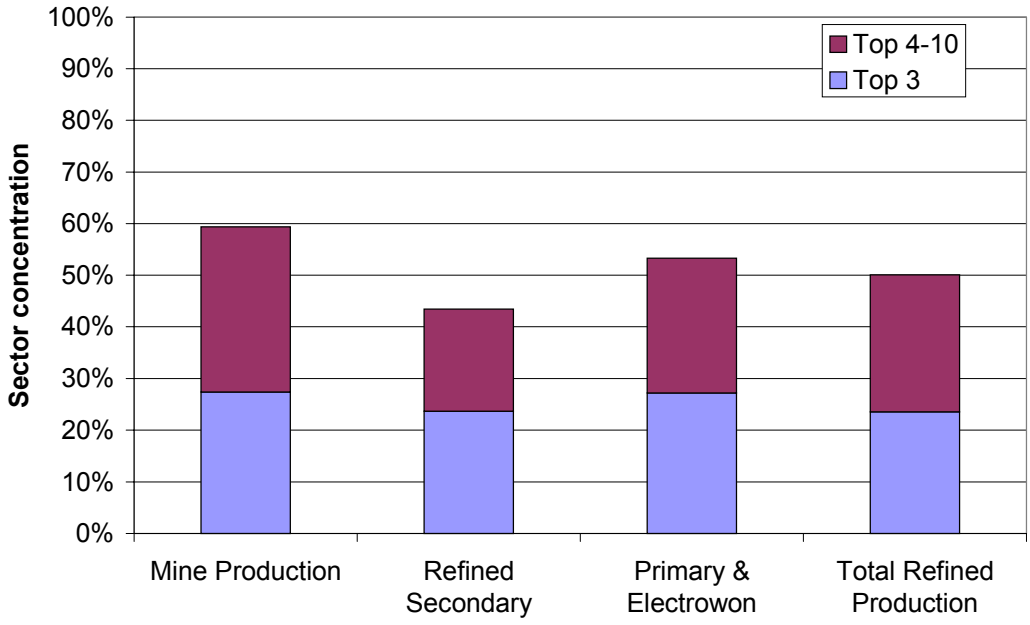


Figure 2: Sector concentration of the global copper mining and refining industry in 2000

4.2.2 Sector Integration

Sector integration reveals to what extent the supply of raw materials is managed and controlled by the subsequent step of the process chain. Figure 3 illustrates that 64 % of mine production from concentrates is directly produced by integrated refining companies that feed the produced concentrates into own smelters and refiners. The process route of electrowon copper is fully integrated.

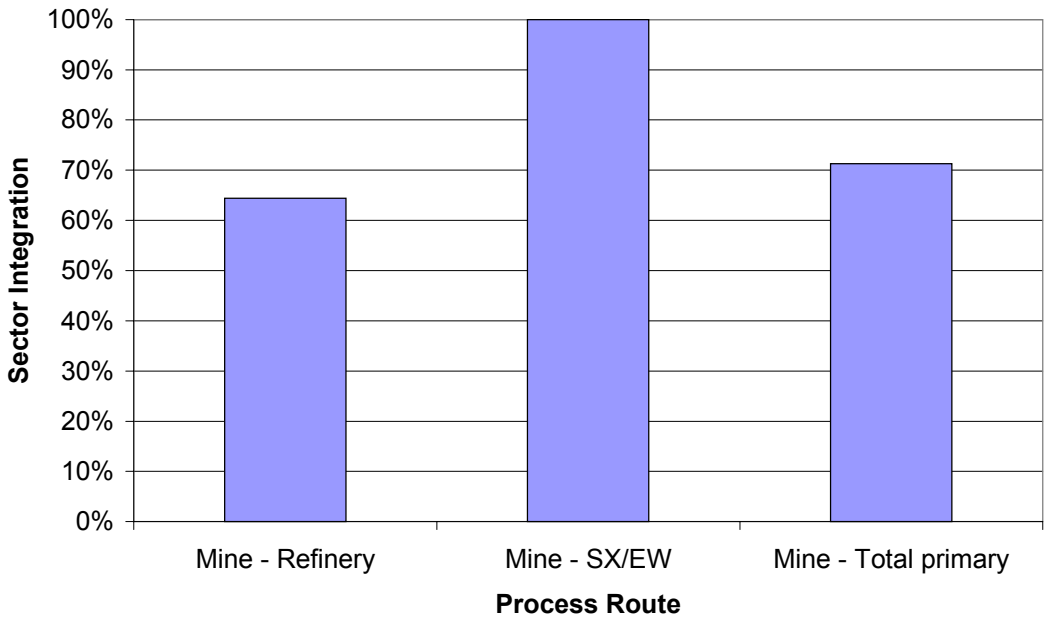


Figure 3: Sector integration of the global copper mining and refining industry in 2000

4.2.3 Sector Structure

The high levels of sector concentration and integration are reflected in the sector structure. According to Figure 4 and Figure 5, differences in size and number of companies are more significant in the case of copper mining than in refinery production. On the one hand, nearly 70 % of copper mines produce less than 7 % of mine production from concentrates. On the other hand, 16 % of companies account for close to 78 % of mine production. In the case of refinery production, distribution shows a slightly more balanced picture with large companies representing 20 % of total companies and producing around 73 % of refinery production.

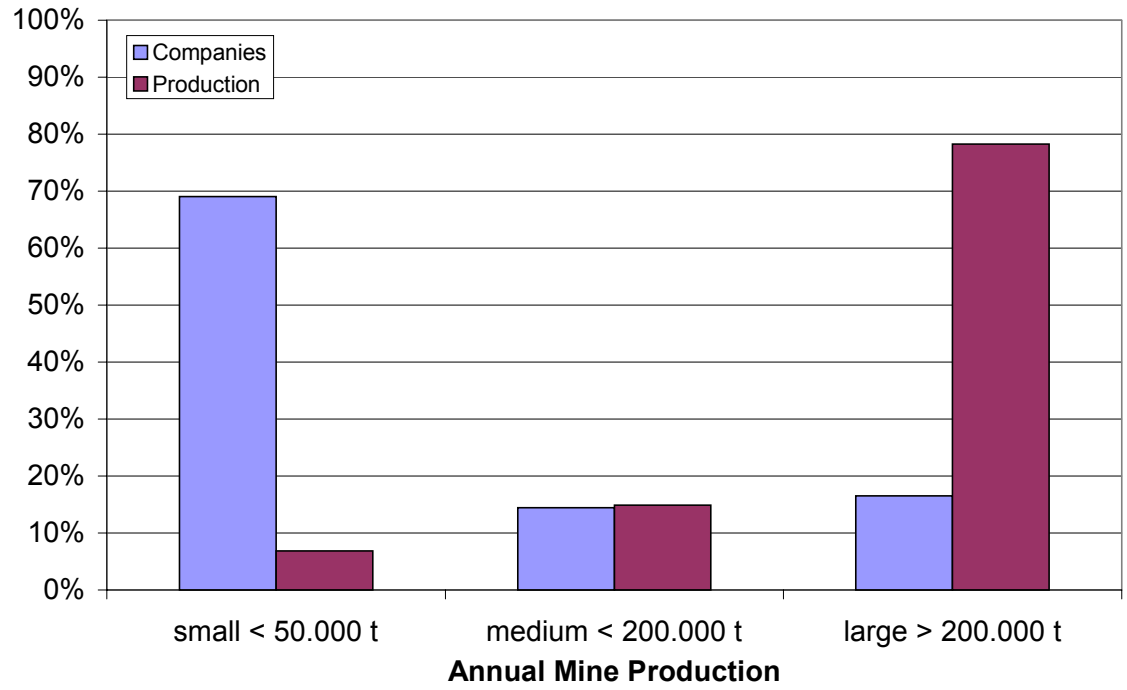


Figure 4: Sector structure of the copper mine production from concentrates in 2000

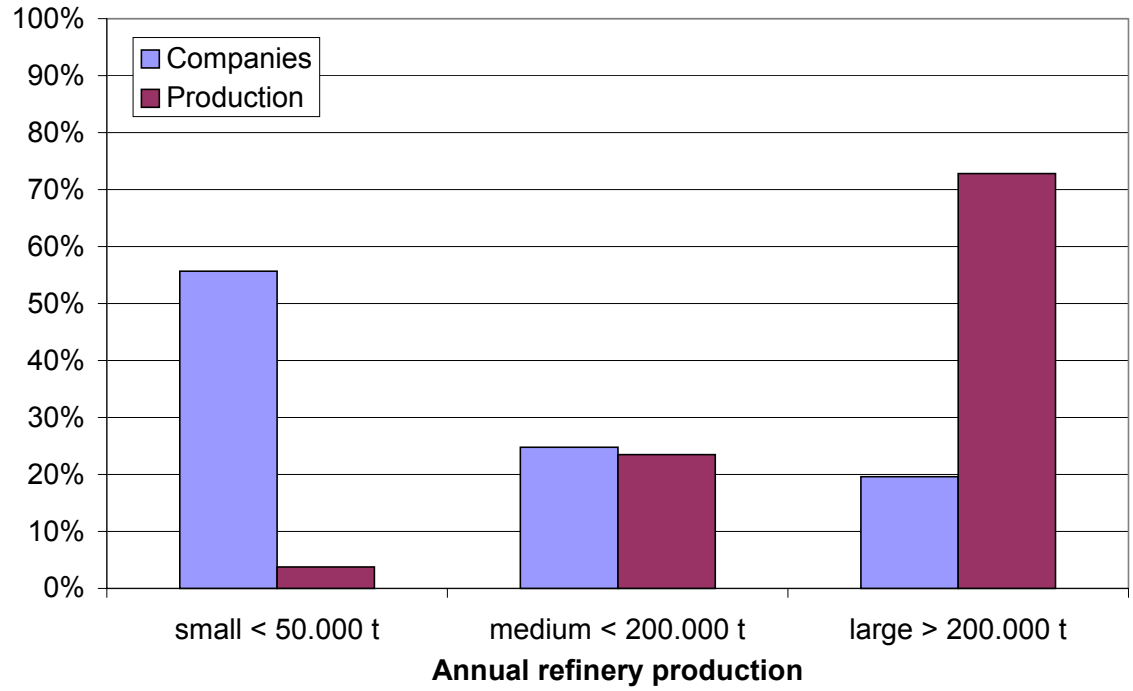


Figure 5: Sector structure of total refined copper production in the year 2000

5 Results of the Survey

In the following, results of the survey of environmental and social reporting practice in the copper mining, smelting and refining industry are summarised. The difference between coverage of companies ("counting companies") and coverage of copper production ("weighting results obtained from companies with respective copper production) should be noted. For the reference year 2000, all sites within the scope of study producing more than 20,000 t/a copper have been analysed and the production attributed to respective companies.

5.1 Types of Policies/Commitments

In recent years, many copper mining and refining companies have published corporate policies on market-related or financial topics such as investor relations and product quality management (Figure 6). In addition to that, further voluntary commitments mainly address issues related to the environment, health and safety of workforce and community relations. Commitments addressing procurement strategies (upstream) and product stewardship practices (downstream) claim far less importance. Corporate behaviour regarding general ethics and legal compliance is not explicitly addressed in many policies, although it can be supposed that these principles are recognised by the vast majority of companies.

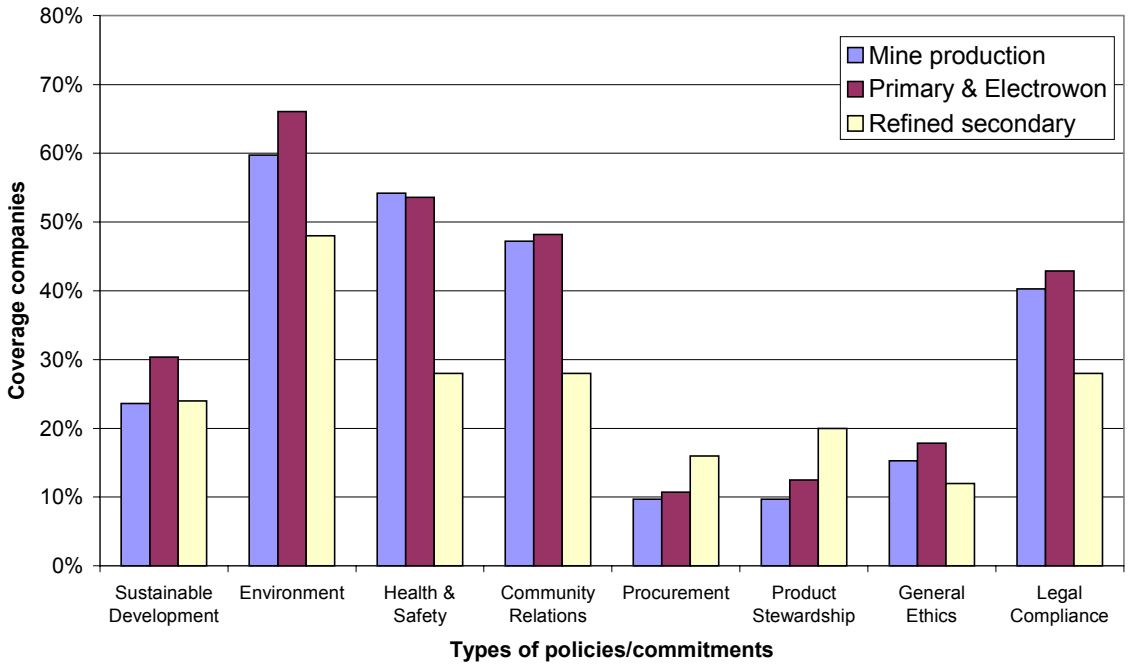


Figure 6: Types of policies/commitments in the copper mining and refining industry

5.2 Availability of Annual Reports

As can be drawn from Figure 7, annual reports are widely available on-line, addressing in varying degrees market, financial, environmental and social issues. Availability of company reports and coverage of copper production are lower in the case of secondary refinery producers than in the case of primary producers. Most reporting secondary producers are either large companies or integrated producers.

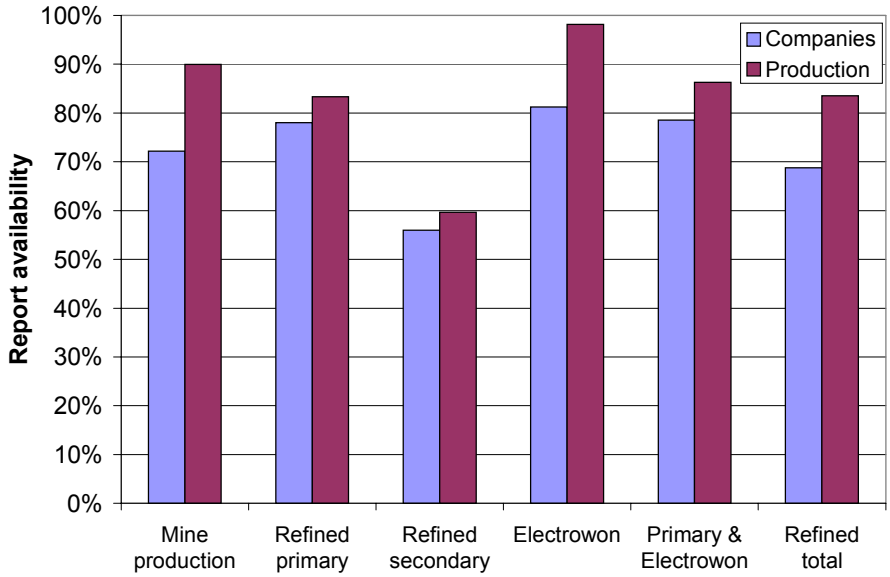


Figure 7: Coverage of annual report availability in the copper mining and refining industry

5.3 Types and Coverage of Reports

The analysis of types and coverage of reporting practice, illustrated in Figure 8, reveals that most companies report on the state of products and markets and the current financial situation of the company. In addition to these market transparency issues, especially large enterprises complement these investor relations with reports on environmental and safety issues. Whereas legal requirements and interest of the employees may drive reporting on health and safety issues, stakeholder pressure and public concerns can stimulate reporting on the environment. More recently, reporting on community relations has been introduced in a number of major mining companies, highlighting benefits and contribution to the local economy, education and infrastructure. Only a small number of companies address the emerging issue of product stewardship. In absence of a consistent and accepted definition of sustainable development in the metal's sector, companies who recognise the importance of

this concept in their corporate policy and who periodically report on environmental, health and social issues are regarded as "reporters on sustainable development" in the context of this survey. At present, the concept of sustainable development is mainly addressed by major mining companies and integrated primary producers. Considering the coverage of production, mining companies widely report on issues related to the environment, health and safety and community relations. The lack of coverage of secondary production may be due to less polluting production processes and, therefore, less stakeholder attention and public pressure.

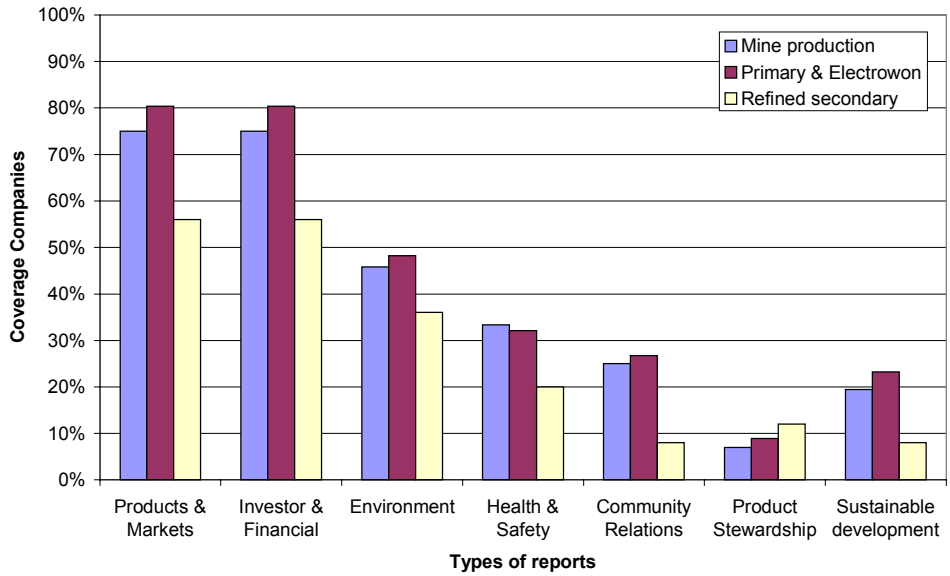


Figure 8: Availability of reports in the copper mining and refining industry in 2000

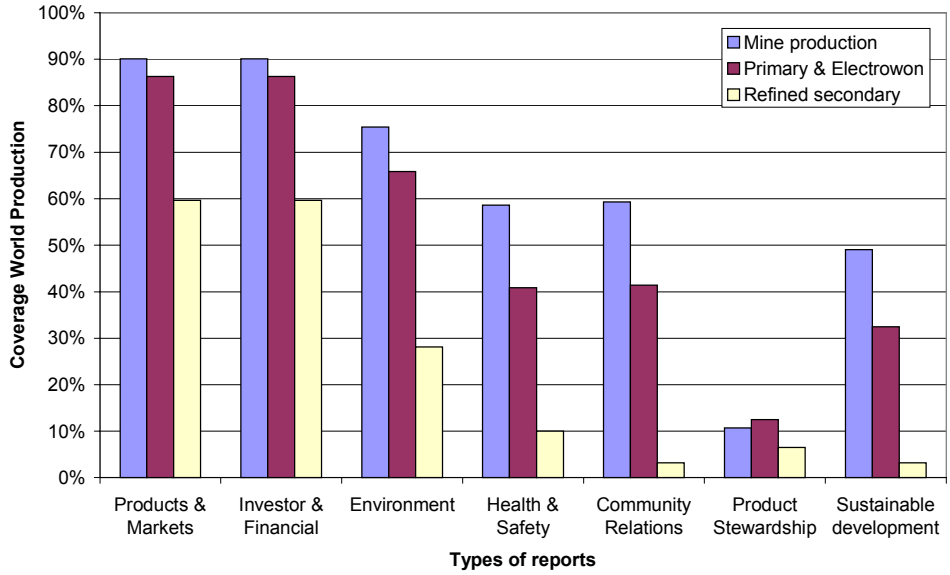


Figure 9: Coverage of copper production through reporting practice in the year 2000

5.4 Environmental Issues

The vast majority of copper producers have general environmental programmes established. The analysis of report content illustrated in Figure 10 can help to identify priority issues, as they are perceived by the metals industry. Non-reporting on specific issues doesn't mean that there is no action going on. Furthermore, some issues may not be of particular importance for all operations or companies. For example, post closure activities may not be an issue for new mining sites, yet, but reporting can be expected for the future. For primary and secondary producers reporting on post-closure activities relates mainly to mines and processing plants operated upstream. Companies reporting on environmental issues place particular emphasis on issues related to water use, emissions and waste recycling and disposal. For many companies, energy use is perceived as a competitive issue and is, therefore, not reported.

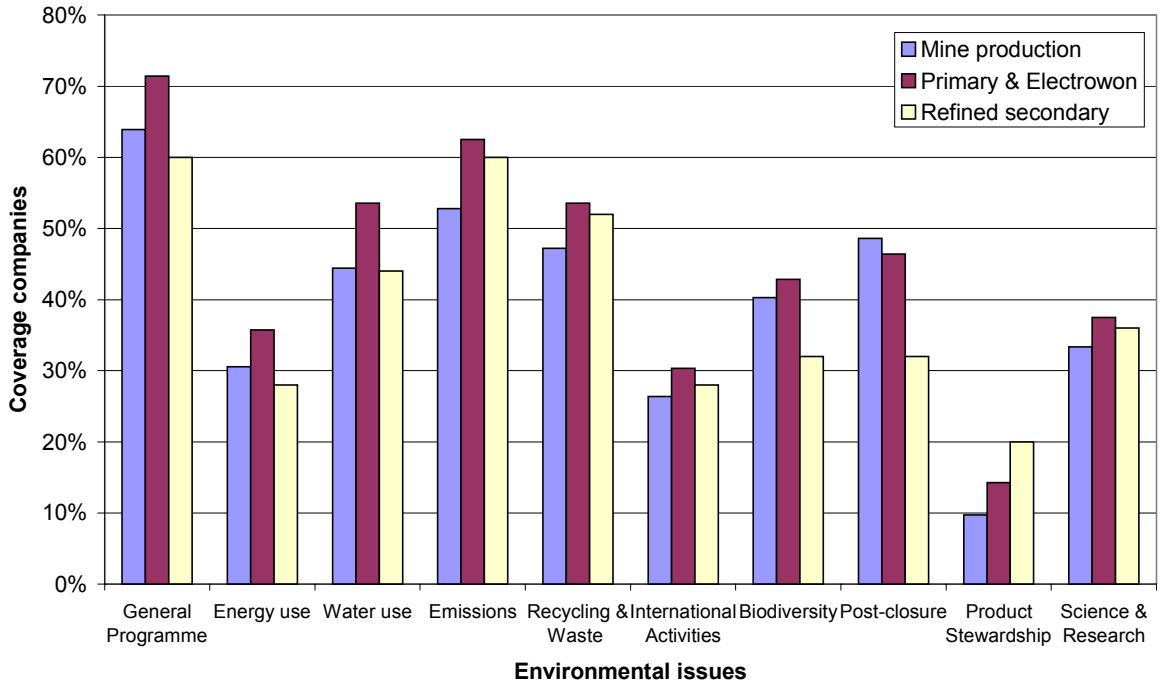


Figure 10: Environmental issues addressed in reports of the copper industry in 2000

5.5 Social Issues

Social issues are not addressed as frequent as environmental issues. For this reason, many benefits of mining, smelting and refining activities are not reported to the public. Most social reports focus on community relations and contributions to business development, education and infrastructure. Reporting on hazards and risks as well as on emergency plans for preventing and mitigating them is likely to increase in the future due to the recent tailings pond accidents and increased regulatory pressure in some countries.

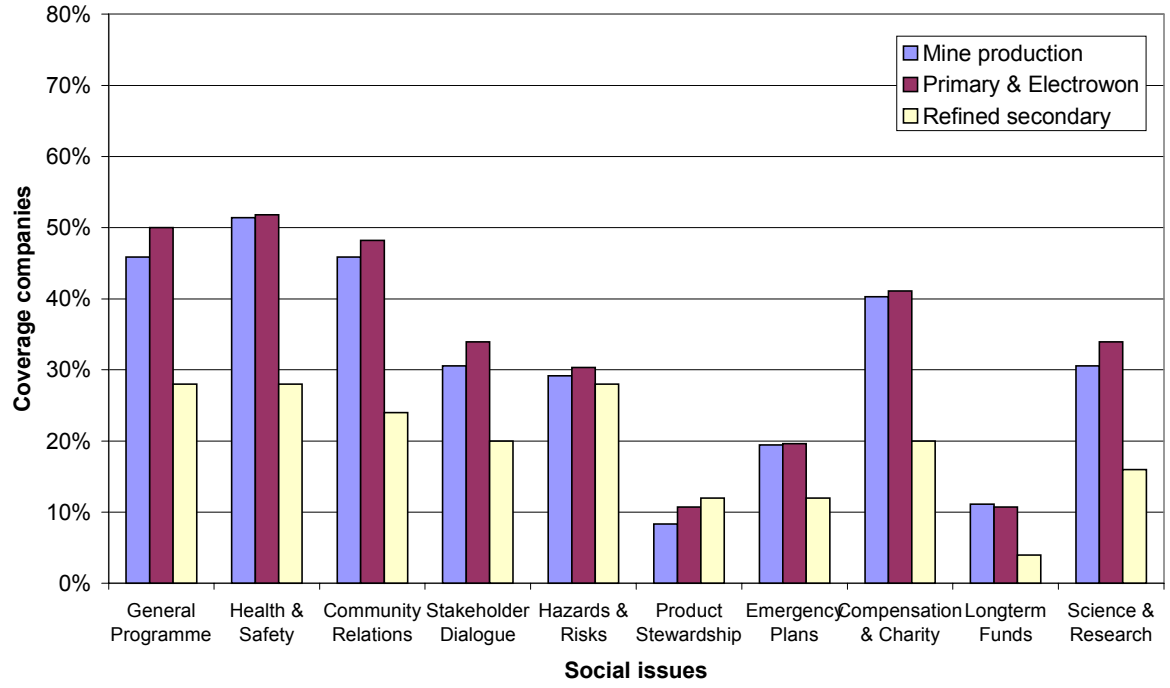


Figure 11: Social issues addressed in reports of the copper industry in the year 2000

5.6 Use of Indicators

The importance of use of measurable indicators is recognised by many companies, governments and other stakeholders. On the input-side, resource indicators are dominated by information associated with the use of metallic raw materials for metal production. In the case of mining operations facts and figures concerning proven and probable reserves are frequently published. Reporting on the outputs focuses on air and water effluents. Corporate responses to environmental and social issues place particular emphasis on environmental expenditures and on the economic contribution to local communities in the vicinities. There seems to be a need for more consistent, comparable and reliable indicators. Most data are

highly aggregated company data. In some cases, site-specific data are published. Product- or commodity related data are not published, yet.

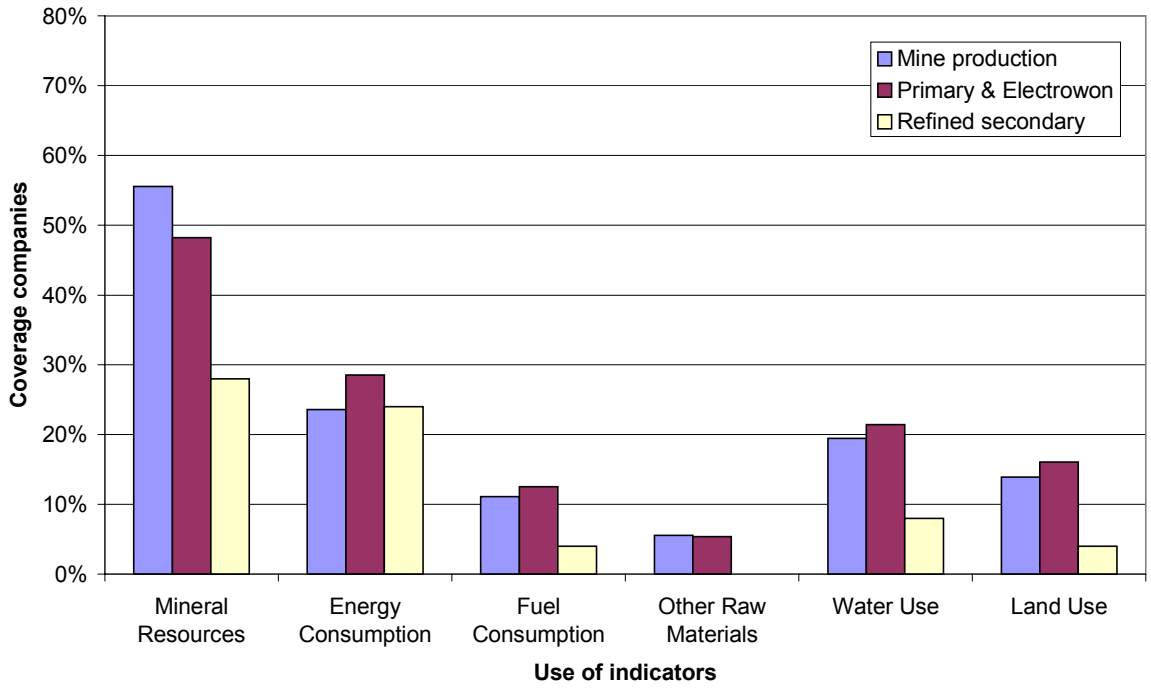


Figure 12: Use of resource indicators in reports of the copper industry in 2000

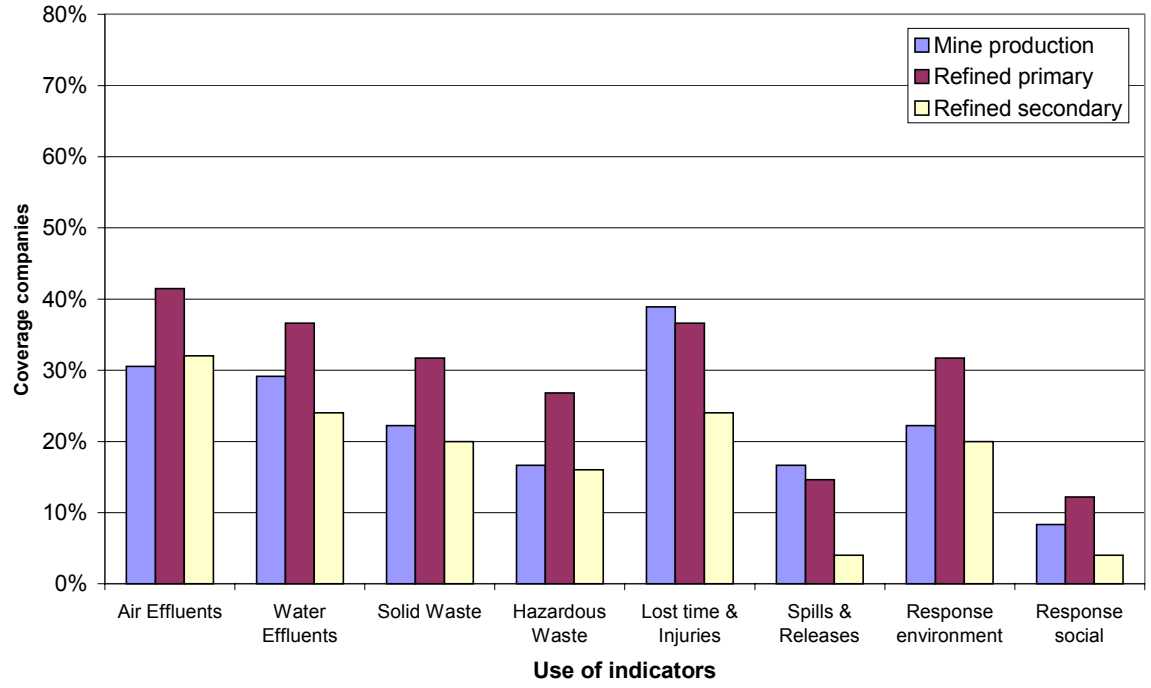


Figure 13: Use of other indicators in reports of the copper industry in 2000

5.7 Review Practice

Aiming at increasing credibility and acceptance of report contents, different types of review practices are pursued. For the sake of this survey, we distinguish in internal and external review and third party statements. Figure 14 illustrates that reporting on internal review procedures and objective appraisal of report contents are documented by very few companies.

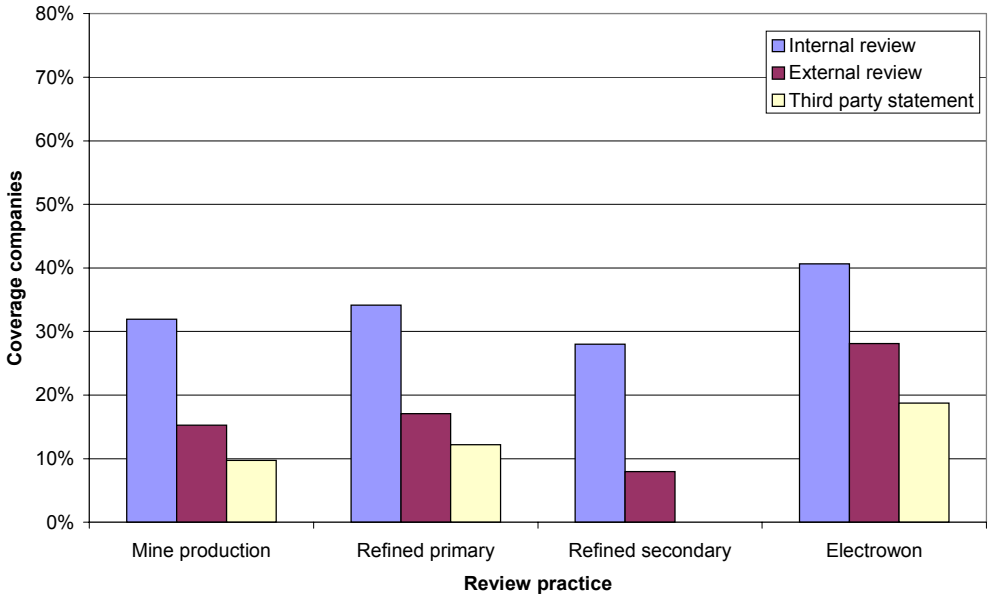


Figure 14: Review practice of reports of the copper industry in the year 2000

5.8 Reporting Practice of Small and Medium Enterprises

Small and medium enterprises dispose of less human and financial resources for extensive development of policies and reporting practice than large companies. Nevertheless, as can be seen in Figure 15, the survey reveals that broad policies or formal commitments regarding the environment, health and safety and community relations are addressed to the same extent, but with less details and not broken down to specific criteria or measures. Figure 15 also indicates that policies on emerging issues such as sustainable development and product stewardship are less addressed by small and medium enterprises. This may be due to the complex character and the need for further research and development in this field. Since small and medium enterprises have a very reduced market weight in comparison to global players, procurement strategies claim less importance. The costs associated with monitoring, reviewing and reporting of data review, lead to less reporting, less use indicators and less details on specific measures or projects. Companies with an attributable production

< 20,000 t/a report only in exceptional cases on their performance. Reports for these small producers can be found, if copper is regarded rather as a by-product than as a key commodity for an otherwise large company. In order to cope with the advanced reporting requirements, the role of associations (and governments) as providers of small and medium enterprises with policies, guidelines and methodical support should be fully explored in the future.

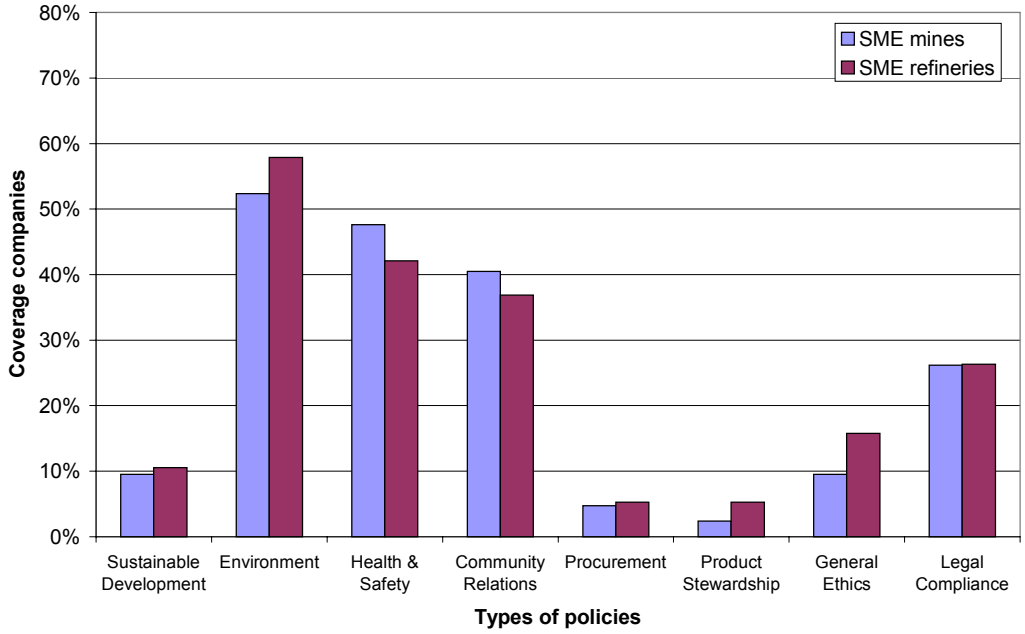


Figure 15: Availability of policies/commitments in small and medium enterprises in 2000

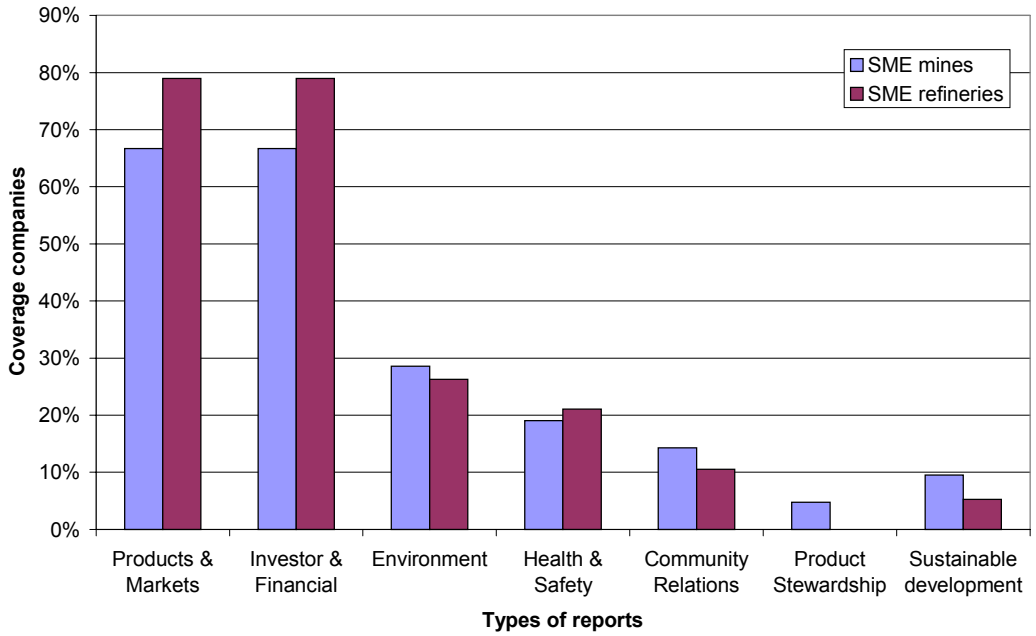


Figure 16: Availability of reports in small and medium enterprises in 2000

6 Conclusions

This survey aimed at mapping out the way in which copper mining, smelting and refining companies communicate with the public on their environmental and social performance relying on reports available in the public domain. Conclusions from the survey results can be grouped under the following four headings:

1. Increase credibility and acceptance of reports
    - Increase stakeholder dialogue (feed back, third party statements, stakeholder engagement)
    - Increase comparability of reports regarding issues, data and indicators
    - Improve review practice of outcomes and data quality (internal, external)
2. Increase use of measurable indicators to assess corporate performance
    - Develop common methodology, framework and definitions for indicators
    - Increase use of resource indicators (water, land, energy, etc.)
    - Increase use of environmental and social indicators (emissions, employment, health & safety, etc.)
    - Introduce further response indicators (management indicators)
    - Develop commodity/product indicators on benefits and impacts
3. Extend content of corporate reports
    - Increase reporting on both benefits and impacts on local community
    - Define “minimum sustainable development issues” to be addressed within a “Sustainable Development Report” in the context of metals using a multi-stakeholder approach
    - Increase focus on procurement and product stewardship issues
    - Disclose commodity/product-related data on benefits and impacts
4. Increase coverage of reporting practice
    - Increase reporting on secondary refinery production (benefits and impacts)
    - Support small and medium enterprises with exemplary policies and guidelines (through industry associations or third party/governmental initiatives)

It is evident that the responsibility for addressing these issues does not lie solely with the individual companies. Some of them might be best addressed by companies in form of a progressive buy-in at different speeds considering regional and sectoral priorities and circumstances. Furthermore, many of these issues need to be tackled to varying degrees through individual companies, industry associations or third party/governmental initiatives. In particular, issues regarding the increase of credibility and acceptance as well as the definition of minimum sustainable development issues to be addressed within a "Sustainable Development Report" require the involvement of industry associations, governments and other stakeholders. Voluntary initiatives like the Global Reporting Initiative, the Global Mining Initiative and the Non-Ferrous Metals Consultative Forum on Sustainable Development together Industry Codes of Conduct like the Australian Minerals Industry Code for Environmental Management can provide companies with guiding frameworks for further assessment and improvement of their environmental and social reporting practice.

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8 List of Surveyed Companies

Company	Country	Company	Country
BHP-Billiton	Australia	Sitindustrie	Italy
Matrix Metals	Australia	Dowa Mining	Japan
MIM	Australia	Furukawa Electric	Japan
Newcrest	Australia	Mitsubishi	Japan
Nord Pacific	Australia	Mitsui	Japan
Normandy	Australia	Nippon Mining	Japan
Pasminco	Australia	Sumitomo	Japan
Placer Dome	Australia	Kazakhmys (Samsung)	Kazakhstan
Straits Resources	Australia	LG Nikko	Korea
Western Metals	Australia	Grupo Mexico/Asarco	Mexico
WMC	Australia	Industria Penoles	Mexico
Montanwerke Brixlegg	Austria	Ivanhoe Mining	Myanmar
Metallo Chimique	Belgium	Ongopolo	Namibia
Umicore	Belgium	Buenaventura	Peru
Caraiba Metais (Parapanema)	Brazil	Centromin	Peru
Asarel	Bulgaria	Doe Run Peru	Peru
Elatsite	Bulgaria	Milpo	Peru
Agnico Eagle	Canada	Hutmen (Impexmetal)	Poland
Aur Resources	Canada	KGHM	Poland
Barrick	Canada	Somincor	Portugal
Breakwater Resources	Canada	Norilsk	Russia
Cambior	Canada	Implats	South Africa
Falconbridge	Canada	Metorex	South Africa
Imperial Metals	Canada	Navan Resources	Spain

Company	Country	Company	Country
Inco	Canada	Boliden	Sweden
Inmet mining	Canada	Glencore	Switzerland
Noranda	Canada	Erbakir	Turkey
Northgate	Canada	Murgul Mining	Turkey
Teck-Cominco	Canada	Anglo American	UK
Codelco	Chile	Rio Tinto	UK
ENAMI	Chile	American Iron & Metals	USA
Jiangxi	China	Arimetco	USA
JNMC	China	Cerro Copper (Marmon)	USA
Yunnan-Copper	China	Chemetco	USA
Gecamines	Congo	Equatorial Mining	USA
Outokumpu	Finland	Exxon Minerals	USA
Madneuli	Georgia	Montana Resources	USA
KME Group	Germany	Newmont	USA
Mansfeld (Lamitref)	Germany	Nord Resources	USA
Norddeutsche Affinerie	Germany	North American Palladium	USA
Birla Copper	India	Phelps Dodge	USA
Hindustan Copper	India	Reading Industries	USA
Sterlite Industries	India	Rio Algom	USA
Freeport	Indonesia	Southwire	USA
NICICO	Iran	RTP Bor	Yugoslavia
Europametalli (KME Group)	Italy	First Quantum	Zambia
Simar	Italy	ZCCM	Zambia