

Assessing the development impact of resource sector companies on their host countries

Discussion paper

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PRICEWATERHOUSECOOPERS 

Preface

In mid-2008, **The Foundation for Development Cooperation** (FDC) and the Australian Strategic Policy Institute (ASPI) discussed the important influence of resource sector companies on development-related issues in developing countries. Subsequently it was found that little analysis had been undertaken regarding the key factors driving this development, or in relation to the opportunities for companies to positively contribute to solving local development challenges. In early 2009 FDC and ASPI commenced discussion regarding the implementation of a new joint research initiative: *Australia-based Resource Sector Companies Overseas – Assessing Development Impact*. It was determined that this would consist of a Task Force, composed of Australia-based resource sector companies operating globally and other key industry participants. The Task Force would meet to discuss and analyse issues such as those set out below.

- the existing development dividend produced by Australia-based resource sector companies
- the potential for producing greater benefits through additional initiatives
- the risks of excessive reliance by host governments and local communities on resource sector company capacity
- the constraints faced by resource sector companies in managing expectations of their contributions
- the impact of resource sector operations on their host economies and local communities
- company role and influence over the political, socio-economic, and security outcomes in their host countries
- examples of development initiatives which maximise benefits of host communities
- varying approaches to ensure enhanced security and social licenses to operate

In order to better pave the way for the Task Force's discussion meetings and compilation of key baseline information, FDC invited **PricewaterhouseCoopers** (PwC) to collaborate on the preparation of this discussion paper.

Following the release of this initial discussion paper, the project team will work with a cross industry Task Force to better understand the resource industry use of and needs for integrated impact assessment, as well as the role and influence of resource sector companies in their host countries. It is anticipated that the end product of the research project will include a) a high-level report on the role, influence and impact of mining operations, including recommendations on how resource sector companies can mitigate/maximise the negative/positive impact of their operations, and possibly b) a user-friendly toolkit to implement responsible and integrated impact assessment for the resource sector. We expect that the final outputs will be useful for the planning undertaken by resource sector companies operating internationally, along with governments regulating and cooperating with the resource sector.

Contributors to this discussion paper

The Foundation for Development Cooperation (FDC)

FDC is an independent, not-for-profit international development organisation. Established in Brisbane, Australia, in 1990, the mandate of FDC calls for it to conduct policy-oriented research, foster public awareness, mobilise broader Australian and overseas development cooperation, and support non-governmental development efforts. Through partnerships and alliances, FDC undertakes a range of initiatives which seek to improve the lives of poor people in developing countries, foster innovative approaches to development, and connect policy work to self-help efforts at the grass roots level. FDC's work includes economic development and assessment, policy analysis, grass-roots community-based initiatives, strategic research, partnerships and leverage, advocacy, consulting and advisory services, project design and implementation, secretariat and network management, and training and capacity building. FDC's headquarters is in Brisbane, Australia. FDC has an Asia regional office in Singapore and a Pacific regional office in Fiji.

One of FDC's major programs is titled, Resources Sector and Local Economic Development. This program aims at helping resource sector companies maximise benefits they deliver to the local communities while at the same time supporting and growing their core business. Initiatives with resource sector companies and stakeholders have shown that resource sector companies, because of their scale, financial resources, long-term presence and commercial viability, often play an extremely important role in addressing local and national-level development challenges. Companies can influence political and economic security issues in their host economies but also require better systems and more efficient ways to measure impacts and integrate these results into their overall management plans.

PricewaterhouseCoopers (PwC)

The firms of the PwC global network (www.pwc.com) provide assurance, tax and advisory services to build public trust and enhance value for clients and their stakeholders. More than 155,000 people in 153 countries across the PwC network share their thinking, experience and solutions to develop fresh perspectives and practical advice. We provide advice and professional services across a broad spectrum of industries and sectors, to private, government and not-for-profit clients.

PricewaterhouseCoopers has a long-term commitment to supporting the sustainability of the communities in which it operates. Along with helping clients find the right balance among competing economic, social and environmental goals, PwC undertakes a broad range of thought leadership initiatives. In these projects PwC utilises its networks and expertise in order to investigate and analyse key issues that are impacting on businesses, the community and the world.

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This report has been prepared as a discussion paper for the resource sector companies and related stakeholders. It aims to discuss the development impacts of the resource sector and review the guidelines and assessment tools that are used by the industry to measure the social, environmental, economic/financial and governance/political impacts of their activities on the countries where they operate. This paper was prepared as a basis for discussion with the resource industry. No reliance should be placed by any person on any information contained in this report for any purpose. FDC and PwC accept no responsibility in any way whatsoever for the use of this report by any other persons or for any other purpose.

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Acronyms

ADF	Australian Defence Force
ANU	Australian National University
AS	Australian Standards
ASPI	Australian Strategic Policy Institute
CBO	Community Based Organisation
CDM	Clean Development Mechanism
CERs	Certified Emission Reductions
CGE	Computable General Equilibrium
CSP	Centre for Science in Public Participation
CSR	Corporate Social Responsibility
EIA	Environmental Impact Assessment
EP	Equator Principles
EITI	Extractive Industry Transparency Initiative
ESIA	Environmental and Social Impact Assessment
EU	European Union
DOTS	Development Outcome Tracking System
FDC	the Foundation for Development Cooperation
FI	Financial Institution
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
HIA	Health Impact Assessment
IA	Impact Assessment
IAIA	International Association for Impact Assessment
IAS	International Accounting Standard
ICMM	International Council on Mining and Metals
IFC	International Finance Corporation
IIDS	International Institute for Sustainable Development
IIED	International Institute for Environment and Development
IPIECA	International Petroleum Industry Environmental Conservation Association
ISO	International Organization for Standardization
KPC	Kaltim Prima Coal
MCA	Mineral Council of Australia
MCEP	Mining Certificate Evaluation Project
MCMPR	Ministerial Council on Mineral and Petroleum Resources
MDB	Multilateral Development Bank
MDG	Millennium Development Goals
M&E	Monitoring and Evaluation
MMSD	Mining and Mineral and Sustainable Development Project
MP	Management Plan
NGO	Non-governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PBC	Policy-based Lending
PNG	Papua New Guinea
PwC	PricewaterhouseCoopers
SEAT	Socio Economics Assessment Tool
SIA	Social Impact Assessment
SME	Small and Medium Enterprises
SMP	Social Monitoring Plan
TBL	Triple Bottom Line
UN	United Nations
VPSHR	Voluntary Principles on Security and Human Rights
WBCSD	World Business Council for Sustainable Development
WWF	World Wide Foundation

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1 Executive summary

The resource sector affects significant physical impacts on the countries in which it operates. This includes large investment, infrastructure, environmental effects, employment, revenue to governments and ultimately the extraction of unrennewable resources that can be considered the property of the state, its people and the natural environment. The resource sector operates across the globe in almost every country, its operations often have long life spans, and many are located in remote and underdeveloped regions of the world.

Increasingly resource sector companies are becoming conscious of the importance of understanding the impacts, both positive and negative, that they have on the communities and countries where they operate. With this has come an understanding of the importance of maximising or mitigating these impacts, where appropriate.

A key objective of this paper is to initiate discussion regarding the identification and assessment of the social, environmental, economic/financial, governance/political, and strategic impacts of resource sectors companies, and to build an understanding of how these impacts interrelate with the sustainable development of host countries.

Numerous principles and best practice guidelines have been developed to ensure companies behave in a socially responsible manner and contribute to sustainable development outcomes. These also provide valuable inputs into the impact assessment process. A brief review, of 17 sets of principles and leading practice guidelines, relevant to the resource sectors, has been included in this discussion paper.

In addition, nine prominent and freely available impact assessment frameworks, currently used by resource sector companies have been reviewed. Each framework is discussed and appraised, based on a scoring methodology developed around specific and general impact areas that encompass resource sector projects, in relation to their social, environmental, economic/financial and governance/political impacts. The frameworks assessed are as follows:

- Extractive Industry Transparency Initiative (EITI)
- Measuring Impact Assessment Framework
- Global Reporting Initiative (GRI) G3 Guidelines and Mining and Minerals Industry Supplement
- Socio Economics Assessment Tool (SEAT)
- Developing a Community Impacts Monitoring and Management Strategy (CIMMS): A Guidance Document for Australian Coal Mining Operations
- Enduring Value: The Australian Minerals Industry Framework for Sustainable Development
- Development Outcome Tracking System (DOTS)
- A Guide to Social Impact Assessment in the Oil and Gas Industry
- Ministerial Council on Mineral and Petroleum Resources (MCMPR) Strategic Frameworks

The results of this evaluation, based on the selected criteria, found that no single framework performed consistently high across all categories, with a different framework scoring the highest in each category. All tools were found to have strengths and

weaknesses and only a few models encompassed all suggested areas to be covered in an integrated impact assessment. This reflects the absence of an all encompassing integrated impact assessment framework tailored for the resource sector. This review concludes that although significant information is available regarding developing and conducting impact assessment, there remains a need for a better and more integrated application of impact assessment methodologies.

The experience of resource sector companies to date suggests that many flow-on benefits are likely to derive from good practices and as a result of implementing robust community engagement and impact assessment processes. This discussion paper includes illustrative examples of the development dividend produced by international resource sector companies as a result of undertaking these activities.

Our analysis has identified some important questions in relation to the role, influence, and impact resource sector companies have on their host communities and countries. Those questions can be summarised as follows:

- **Social:** What level of stakeholder engagement are resource sector companies willing to undertake? What is their role and responsibility for maintaining and improving community wellbeing during and after mine closure?
- **Environmental:** How can resource sector companies contribute positively to the environment alongside mitigating the negative impacts of their operations?
- **Economic/ financial:** How can resource sector companies manage dependency of host economies on their operations and ensure transparency, self-reliance and economic viability of host communities after mine closure?
- **Governance:** How can internal and external good governance be ensured, and how can these positive impacts best spill over into the governance and regulatory system of host countries?
- **Strategic:** How can resource sector companies understand and ensure the positive nature of their strategic influence over their host country's future development?

These questions and the initial insights provided in this discussion paper are to form the base of an industry member Task Force discussion. The next step in the review process will involve obtaining the responses and input from the Task Force members, during the upcoming Task Force meetings. It is also envisaged that any other interested stakeholders will provide their contributions, and that this document will remain a live document that provides support and guidance to the resource sector in relation to understanding, measuring and assessing their impacts.

2 Introduction

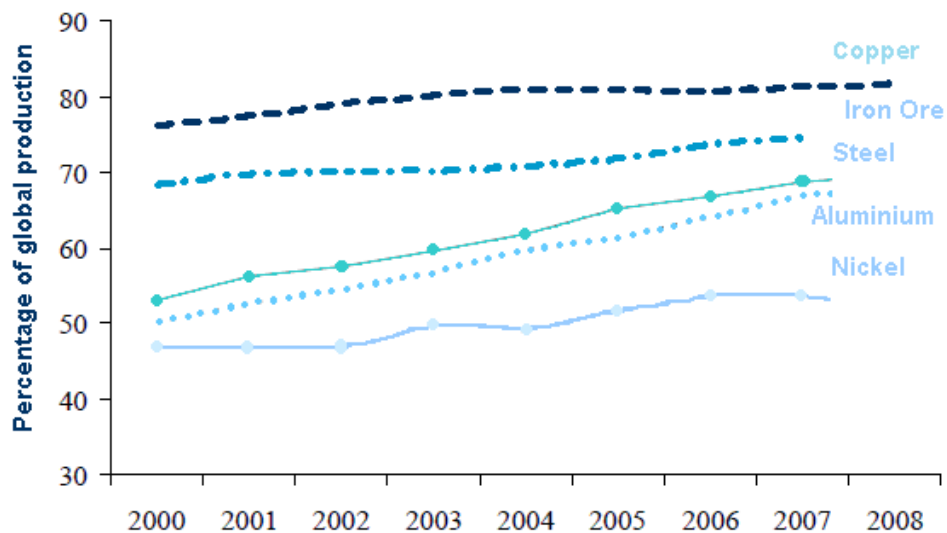
2.1 Background

The resource sector

The world's demand for resource sector products has grown exponentially since the industrial revolution. The revenue generated globally from the mining sector alone in 2008 was US\$349 billion.¹ The resource sector produces significant physical impacts on countries in which they operate, including large investment, infrastructure, environmental effects, revenue to governments and ultimately the extraction of resources that can be considered the property of the state, its people, and the natural environment.

The resource sector operates across the globe in almost every country, its projects often have long life spans, and many of these operations are located in remote and underdeveloped regions of the world. Figure 1 below shows the percentage of production for a selection of minerals that occurs in developing economies. As can be observed, the majority of these major minerals are sourced from emerging economies. Oxfam America ranks Botswana, Sierra Leone, Zambia, United Arab Emirates, Mauritius, and Papua New Guinea (PNG) as countries whose Gross Domestic Product (GDP) is most dependent on minerals. In addition, some of these countries are also amongst the lowest ranked countries in the United Nations Development Program Human Development Index.²

Figure 1- Emerging economies share in global production of selected minerals



Sources: worldsteel, UNCTAD, WBMS, Brook Hunt

¹ PwC report "Mine: When the going gets tough... Review of global trends in the mining industry – 2009"

² T Leonard "Encyclopaedia of the developing world, volume 1" Routledge Taylor & Francis Group, 2006

Development and the resource sector

Development can be understood as increases in the standard of living of a nation's population associated with sustained growth. Its scope includes the activities, processes and policies by which a nation improves the economic, political, social and environmental well-being of its people.

There are many definitions for sustainable development; Sutton (2004) defines it as development that does not undermine the environment, society, or the economy, locally or globally, now or in the future, and that delivers genuine progress socially, environmentally and economically.

The resource sector is a significant contributor to the social, environmental, economic/financial and governance/political development. The activities of businesses impact on the development of the community and country in which they operate. A resource company's presence, operations and extra-curricular activities, all have potential to influence the social, environmental, economic/financial and governance/political landscape of their location, both now and well into the future. Many developing countries, however, do not have strong rule of law and lack of institutional capabilities to effectively manage these implications and to ensure their positive impacts are maximised.

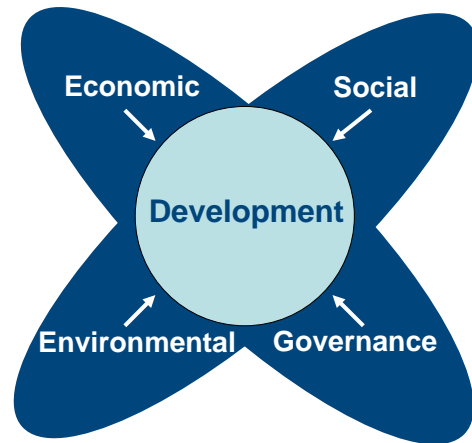
It is generally accepted that the resource sector has the responsibility to mitigate the negative impacts and the capability to enhance the positive impacts it has on the countries and communities where it operates. Therefore, it is essential that the relationship between resource sector operations and development are clearly understood, and efficient methods to understand, evaluate and identify opportunities for impact optimisation are developed.

Impact assessment - why measure?

It is essential for resource sector companies to understand the impact they are having on the development of the location where they are operating in order to be able to efficiently plan their mitigation measures and take action to maximise their positive impacts. Impact assessment is one way for businesses to understand their current and future impacts.

To this end many guidelines, methodologies and frameworks have been developed to assess the impacts of business on the community and country in which they operate. These tools seek to assist businesses in understanding, evaluating, and reporting on their impacts, allowing them to identify areas and key drivers that are supporting development in order to maximise these positive impacts. Impact assessment also allows businesses to identify areas for improvement, mitigate risks and minimise any negative impacts associated with their operations.

Figure 2 Resource sector impact on development



Implementing leading practice in sustainable development recognises that assessing and achieving positive outcomes is not solely limited to the immediate and surrounding environment and communities affected by operations. Rather, it must cover a larger temporal and spatial scale by taking into account all relevant sites, and include local, regional, national and international aspects.³

2.2 Objectives and overview of this review

Resource sector companies operating globally, with many of their operations being in developing countries, often play an extremely important role in addressing development challenges. Given their scale, financial resources, long-term presence and commercial viability, they can have a significant influence over political, economic and security issues in their host countries.

The objectives of this discussion paper are the following:

- explore the existing development dividend produced by resource sector companies
- look at why it is important that resource sector companies understand, evaluate, and mitigate/maximise their development impacts
- identify the various impacts of the resource sector
- review the documentation that provides input to impact assessment or aims to assist evaluating development impact in the following areas: social, environmental, economic/financial and governance/political
- raises questions and discussion points in relation to the role, influence and impact of resource sector companies over their host countries, and ways to ensure maximisation of the benefits of the host communities

The discussion paper aims to elicit feedback and response from the resource sector and stakeholders in relation to these objectives and the discussion paper's content.

The audience of this discussion paper includes resource sector companies with international operations. The subsequent outputs of the project will involve a broader audience, which includes:

- governments and government agencies
- civil society groups and non-government organisations (NGO)
- resource industry organisations
- financial institutions, including public and private banks and insurers

2.3 Discussion paper structure and content

The discussion paper is organised as follows:

³ Australian Ministerial Council on Mining and Resources, 'Leading Practice Sustainable Development Program for the Mining Industry – Evaluating Performance: Monitoring and Auditing'

- Section 2 is an introduction to the resource sector and the role it plays in development. This includes an introduction to impact assessment and its importance. This section also sets out the objectives of this discussion paper, and more broadly this review.
- Section 3 is an overview of the impact assessment methodologies available and includes a summary of the major social, environmental, financial/economic, and governance/political impacts of the resource sector.
- Section 4 is a summary and review of internationally accepted principles and guidelines for sustainable development and most recognised leading practices in the industry.
- Section 5 is a review of selected models and frameworks, presenting approaches and guidelines for assessing the impact in relation to one or more of the following areas: social, environmental, financial/economic, and governance/political. The review is based on a scoring process involving sets of general and specific criteria.
- Section 6 demonstrates how some companies have successfully maximised the benefits in the location where they operate by setting out a selection of case studies.
- Section 7 primarily looks at the role, influence and impact of resource sector companies in their host countries. It includes a preliminary discussion about issues and challenges related to impact assessment in the resource sector. It also provides initial recommendations and focus questions to stimulate stakeholder contributions to the review process and discussion around their role, influence and impact and ways for producing greater benefits for the host communities.
- Section 8 sets out the conclusion and next steps of the process.

3 Overview of impact assessment

3.1 Introduction

Central to measuring any impacts is to identify and define the potential positive and negative impacts that a resource operation could have. Then, actions can be taken to maximise or minimise these effects, where appropriate. Frameworks for measuring impacts can assist the resource sector to undertake this exercise (see section 5).

This section sets out an overview of impact assessment approaches and some potential impacts that fall into social and environmental, economic/financial, and governance/political impact categories. Impact identification is the starting point to evaluate the overall contribution of a resource sector company to a community and country's development over the mining life cycle. The impacts identified in this section are not differentiated as being direct, indirect, or cumulative but are presented as positive or negative impacts. For areas where it is difficult to define whether the impact is positive or negative these impacts have been classified as 'neutral, positive and/or negative impacts'. Furthermore, since most areas are inter-related, some impacts may be considered across multiple sections. Ultimately, the challenge remains identifying and dealing with the factors that can influence these impacts, and ensuring the proper mitigation/maximisation of negative/positive impacts. This will be discussed further in section 7.

3.2 Social and environmental

Social Impact Assessment (SIA) and Environmental Impact Assessment (EIA) are conducted in the resource sector as part of the planning and accreditation process for their operations. Currently SIA and EIA are conducted earlier in planning process, they adopt inclusive and participatory approaches, and are better regulated and more closely monitored than before. Resource sector companies are increasingly using EIA and SIA as a broader management tool or as part of their management plan, throughout the life-cycle of a resource operation.

The implementation of SIA and EIA is increasingly mandatory, yet the range and the extent of responses vary from applying international leading practices, to applying home country standards, or doing the minimum as per local regulations. Whether this behaviour is due to a lack of financial and technical resources, information or guidance, the absence of formal accountability and consistency in this area is an inherent weakness.

The social and environmental impacts, positive or negative, resulting from new and existing resource operations and eventual operation closures are significant (see Table 1 below). The intensity of the social and environmental impacts of a business' activities depends on a number of external factors, including:

- speed/fast tracking of social change
- community preparedness
- information transparency and availability
- political and legislative context, e.g. local regulations
- environmental and socio-cultural context

- relationship between interested stakeholders, i.e. resource sector companies, government, local communities, NGOs, etc
- degree to which the company perceives its responsibilities in moral and ethical terms, as opposed to economic and legal terms

Both positive and negative social impacts can occur as a result of new resource operations. While it is important and generally understood that negative impacts should be mitigated, it is also imperative to ensure that the positive benefits of the resource sector activities are maximised, taking into consideration that some positive impacts may have unintended and unforeseen negative outcomes if not appreciated in their wider context.

For example, the increased local wealth due to a company hiring locals has the potential to result in income inequality between different segments of the population, which may lead to social divisions and tensions. Furthermore, higher wages earned by a minority in the population may increase inflation and living costs overall, creating inequality that can lead to destabilisation of a community and detract from the welfare of some of its members. It could also lead to in-migration, which may result in pressures on land, water and public services. A comprehensive understanding of social and environmental impacts can make the difference between a resource sector company’s success or failure in obtaining and maintaining community acceptance.

Table 1 below sets out some of the potential positive and negative social impacts resource operations may have.

Table 1 – Potential social impacts related to resource industry activities

Positive impacts	Negative impacts
<ul style="list-style-type: none"> • Improved intra/extra community network • Improved quality of life from: <ul style="list-style-type: none"> – improved status of women – new democratic institutions in the civil society – better housing opportunity – greater resource availability – increase of available services – increased employment opportunities – increased sources of revenue – improved working health and safety standards • Poverty alleviation and wealth distribution • Improved theoretical/practical knowledge 	<ul style="list-style-type: none"> • Decline or loss of cultural legacy, heritage or significant sites • Security issues at the local level <ul style="list-style-type: none"> – law and order breakdown – destabilised internal power relations – conflict, e.g. inter-generational, resource ownership – increased criminality and social problems • Wealth inequality • Displacement and relocation • New health risks • Loss of traditional livelihoods and skills • Marginalisation of traditional, indigenous or unskilled people • Gender issues
Neutral, positive and/or negative impacts	
<ul style="list-style-type: none"> • Human rights issues • Power shift at the local level • Demographic changes, e.g. age of population, ethnicity, etc • Immigration flow 	

While social impacts can be defined as both positive and negative, environmental impacts are more difficult to demarcate. It is generally accepted that many environmental impacts of the resource sector are negative and therefore minimisation or mitigation is the main focus of the response to these impacts. Nevertheless there is scope for significant benefits to arise where the activities of resource sector companies create positive environmental impacts, for example the dissemination of energy efficient technologies or initiatives. Such projects may be economically viable in their own right, or companies can use current, well established market mechanisms that have been designed to stimulate sustainable development in developing countries. One example is the Clean Development Mechanism (CDM) under the Kyoto Protocol through which resource companies can generate carbon credits from emission reduction projects.

EIA aims to ensure that critical natural capital is maintained, that ecosystems are enhanced where possible, and that minerals wealth contributes to net environmental continuity.⁴ EIA can also assist resource sector companies identify opportunities to find innovative ways to create positive environmental impacts from their operations. For example, a community development project such as energy efficient wood stoves can generate emission reductions along with significant social benefits. Table 2 below sets out some of the potential impacts large-scale and small-scale mining activities can have on the environment.

Table 2 – Potential direct and indirect environmental impacts related to resource sector activities⁵

Potential impacts
• Reduced air quality
• Reduced/diminished water quality, quantity and availability from tailings
• Soil and geology: diminished fertility of soil, risks of erosion, risks of contamination, deforestation, pollution, risks of natural disasters, etc
• Flora and fauna: changing quantity and species composition of birds, mammals, fish, aquatic and changing composition of terrestrial vegetation
• Diminished quality of landscape
• Potential loss of cultural heritage, e.g. temple or cultural site located in a mining area
• Change in climate: temperature, rainfall, wind, etc
• Variation in energy availability and quality, e.g. light, green house gas emissions, etc
• Increased noise
• Increased waste production from sedimentation, acid drainage, metal deposition
• Increased pollution, e.g. mercury and tailings

Resource sector companies are increasingly expected and willing to conduct activities in a socially and environmentally responsible manner. Principles, such as those developed by the International Council on Mining and Metals (ICMM) and the International Finance Corporation (IFC) are internationally recognised in social and environmental management. Paradigms, such as Corporate Social Responsibility (CSR), which demand the industry to go beyond managing social and environmental impacts by significantly contributing to sustainable development, have also positively influenced this shift.

⁴ “Breaking New Grounds” report, IIED, 2002, p.8

⁵ Adapted from “Introduction to environmental impact assessment”, J Glasson, R Therivel, A Chadwick, 2005, p.18

3.3 Economic and financial

Economic and financial impact assessments used by the resource sector have evolved in a different manner to those relating to environmental and social impacts. This can in part be attributed to the fact that the basic driver of a business' activity is to maximise profits, thus assessing financial impact of their business activities is built into their everyday activities and business decisions. Nevertheless, over time, businesses have grown to understand the importance of measuring, optimising and communicating their impact on their host community's and country's economy, beyond the businesses' profit maximising activities it measures as part of its normal activities.

The resource sector has a clear direct impact on the economy where they operate, including paying wages to employees, and taxes and royalties to governments. However, impact assessment also attempts to measure the extent to which these direct benefits flow on to create second and subsequent round impacts. The magnitude of these subsequent or induced impacts is determined by a realm of other factors that need to be incorporated into impact assessment.

Value-add, which measures output less the costs of the inputs, indicates the net contribution that a business makes to the economy. A resource sector company's role in the labour market will have effects on the local market as well as the supply chain.

Economic and financial impact assessments include the following factors that can influence the magnitude and directionality of the impacts that resource sector companies have:

- transparency
- employees level of education and training
- life cycle of an operation
- efficient tax treatment
- other economic development or adverse impact mitigation programs undertaken outside the resource sector company's normal operation
- use of local inputs, suppliers and human capital
- income inequality impacts
- levels of reinvestment
- effects of an operation on:
 - prices (inflation)
 - balance of payments
 - terms of trade
 - foreign investments
 - exchange rates

Incorporating these factors into economic and financial impact assessment gives a more accurate and nuanced understanding of an operation's impact, tailoring the assessment outputs to communities, stakeholders, and government needs. Set out in Table 3 below are some potential economic and financial impacts that could flow from a resource sector company's operations.

Delineation of the levels of analysis according to the boundaries of impact is often built into economic impact assessments. Assessment may occur at the level of local, regional, or national economy in order to better gauge the depth and extent of impacts.

Financial impacts can be considered a sub set of economic impacts as financial impacts are more direct, for example local employment, whereas economic impacts refer to all the resultant or indirect impacts, for instance the increase in income inequalities and price fluctuation.

Table 3 – Potential economic and financial impacts related to resource sector activities

Positive impacts	Negative impacts
<ul style="list-style-type: none"> • Taxation, royalty payments and local settlements • Value-add, up and down supply chain • Labour market impacts and direct employment • General development and maintenance, e.g. infrastructure, electricity, healthcare, transport, etc • Improved capacity from economic or education programs • Economic growth, e.g. new businesses • Impetus to the small and medium scale economies 	<ul style="list-style-type: none"> • Destruction of economically viable assets • Increased economic dependencies and reliance • Income inequality
Neutral, positive and/or negative impacts	
<ul style="list-style-type: none"> • Exchange rate changes (e.g. appreciation of an exchange rate driven by increases in the country's exports due to the increase in resource exports) • Price fluctuations • Displacement or changes to local economic activity, e.g. small scale mining, agriculture, fishery, forestry and/or tourism • Creation of cash economy 	

3.4 Governance and political

Good governance is widely acknowledged as an essential building block to a country's development. Businesses have the ability to impact on the governance of the country in which they operate through their own governance structure and their interaction with government and institutions of a country.

Frameworks for measuring political and governance impacts are less developed than those addressing social, environmental, and economic/financial impacts, although existing impact assessment frameworks tend to incorporate related indicators.

Measuring the governance impacts of a resource sector company assessment can be made from two different perspectives; an internal organisational level and an external community and country level. Internal organisational governance impacts include:

- local mine operational standards
- in-country organisational structure
- working conditions for local and international employees

External level impacts include:

- implications for town-planning to deal with influx of local and international workers
- impacts on public sector resources, such as health systems, transport systems, sanitation systems and energy provision
- creation of anti-mining lobby groups
- influence over policy and regulation governing the resource sector

Internal and external impacts often meet in internal governance decisions, such as mine management, human resources policies, and working conditions. Resource sector operation management has complex effects which can flow on to a community's structures, and to local and national-level governance and political structures. This may include influencing or informing policies, standards, regulations, and more generally how government interacts with the private sector.

Some factors identified influence the governance related impacts of resource sector companies and need to be considered by these companies when attempting to understand and optimise these impacts. These include:

- cultural factors that impact on governance structures
- political maturity and activeness of the local population
- strength of existing governments and institutions
- maturity of the resource sector and its regulation in the country
- the presence and strength of democratic institutions
- relative size of the resource operation and its ability to influence the governance of a community and a country

It is also important to acknowledge that governance and political impacts of an organisation on the community it operates in are most often conflated with social, economic, and at times, environmental impacts. Impacts need to be assessed on their own merit and thus separating impacts becomes more of a case of determining from which angle an impact will be examined from.

Table 4 identifies some governance related impacts, which may contribute to or detract from sustainable outcomes.

Table 4 – Potential governance and political impacts related to resource sector activities

Internal/organisational governance impacts	External/community level governance and political impacts
<ul style="list-style-type: none"> • Increase of or issues related with transparency • Introduction of best practice corporate governance policy implementation • Empowerment of workers • Increased capacity from training or skills transfer to staff • Support of democratic processes amongst workers association 	<ul style="list-style-type: none"> • Increase of or issues related with transparency, e.g. interaction with governments, agreements, implementation of the EITI • Production sharing and mine lease agreements • Improved capacity resulting from training or skills transfer to local authorities and communities • Empowerment of stakeholders and the community, e.g. minority, women and

Internal/organisational governance impacts	External/community level governance and political impacts
	disadvantaged groups <ul style="list-style-type: none"> • Governance issues for the local community, e.g. strain on resources and services like health, education, sanitation, power
Political impacts	
<ul style="list-style-type: none"> • Opposition and resistance, e.g. lobby groups • Change in local government's decision making process • Corruption • Changes in governmental operations, standards, regulations and laws 	

3.5 Strategic

Host governments and industry experts recognise that resource sector companies in developing countries can have a profound effect on a wide range of strategic issues. In this context strategic is defined as the influence over a country's medium to long term choices and policy attitude to resources development. Strategic impacts are particularly important when a major resource sector operation is taking place in a small country, or where a single resource project straddles national borders or otherwise affects multiple countries. In addition to rents paid directly by companies to host government treasuries, the trade and output of mining, as well as oil and gas operations, can have a profound strategic impact at national and regional levels. The scale and influence of some investments can themselves cause shifts of power or major security issues.

Examples of the strategic role, influence and impact of resource sector operations in developing countries are multiple. Recent examples include multinational oil and gas investments in Eastern Russia and Nigeria; gold exploitation in Papua and oil and gas in the Gulf States; and oil and gas extraction agreements in the Timor Sea. Recent past examples of resource sector operations which have had a profound effect on strategic issues in their host environments include copper mining in Bougainville, gold in PNG Western Province, and copper in Peru.

Resource sector companies can have considerable influence on sustainable development with the strategic decisions they make. For example, Oil Search in PNG uses a tax credit scheme to construct schools, hospitals and government buildings. From Oil Search perspective, this was a strategic decision as it avoided the issue of double taxation and contributed to long-term growth and stability. However, it was not strategic from a sustainable development perspective as it effectively took the role of the government thus creating dependency. Further information about this project and other examples of leading practices are presented in section 6.

Potential strategic impacts, mostly indirect and cumulative to other impacts, are summarised in table 5 below.

Table 5 – Potential strategic impacts related to resource sector activities

Potential impacts
<ul style="list-style-type: none">• Power shift at the national level• Inadvertent promotion of separatist movements, e.g. Bougainville, Katanga• Where a single major operation straddles national borders, this can either rupture or enhance bilateral relations• Disproportionate impact in one part of a country, e.g. Eastern Russia• Perceptions, true or not, of unfair rent flows from host community to national treasuries, e.g. Papua, Peru• Greater local wealth leading to higher levels of armament

4 Principles and leading practices

4.1 Introduction

Principles and leading practice guidelines aim to facilitate and ensure socially responsible activities and outcomes from a business' operations. The first of note was developed in 1976 by the Organisation for Economic Cooperation and Development (OECD) and presented voluntary principles and standards for responsible business conduct of multinational corporations. These guidelines led to the development of a number of other sets of principles and leading practice guidelines ranging from some very general, to international or sustainable development focused, to others that are industry specific. The process of developing these principles is complex, as many issues must be taken into consideration, including varying regulatory environments, cultural and religious contexts, and different social and economic priorities for development.

Many of these guidelines feed into, or are referred to, as benchmarks in the frameworks reviewed in section 5. While not setting out a methodology for measuring impacts, they provide guidance and context for this process. For this reason, summaries and brief comments in relation to some key principles and leading practice guidelines have been included in this review.

4.2 Key principles and leading practices

Set out in Table 5 below are a selection of key principles and leading practice guidelines that are relevant to the resource sector and/or the impact assessment frameworks reviews in this discussion paper. More detailed summaries and comments are included in Appendix B.

Table 5 – Overview of principles and leading practices in relation to businesses' impact

Principles or leading practice guidelines	Author	Year	Summary
ISO*14000 series	ISO	1996	International standards on environmental management providing a framework for the development of both the system and the supporting audit program
IAIA: SIA and EIA principles	IAIA	EIA: 1999 SIA: 2003	Social and environmental impact assessment principles that promote development of local and global capacity for the application of environmental, social, health, and sustainable development
UN Global Compact - Ten principles	UN	2000	10 principles in the areas of human rights, labour, the environment, and anti-corruption enjoy universal consensus
VPSHR	Taskforce	2000	Principles on security and human rights for the extractive industries
MMSD Project	IIED	2002	Sustainable development principles for the mining industry in relation to the following areas: economic, social, environmental and governance
Seven Questions to Sustainability	IIDS	2002	Recommendations for best practices in relation to the following areas: engagement, people, environment,

Principles or leading practice guidelines	Author	Year	Summary
			economy, traditional and non-market activities, institutional arrangements and governance, synthesis and continuous learning
AS 8000 series	SA	Revised in 2003	Standards and principles for corporate governance area
ICMM 10 principles – SD Framework	WBCSD and IIED	2003	10 principles covering corporate social responsibilities specific to the mining and minerals sector in accordance with the GRI guidelines
AA1000	AccountAbility	2003	The series are principles-based standards for helping organisations become more accountable, responsible and sustainable
EITI Principles	EITI	2003	Principles to increase transparency of payments to governments from the extractive industry. They are the cornerstone of the EITI
Good Practice Standards for Evaluation of MDB	MDB	2004	Guidelines (Addendum) to meet the special evaluation requirements of policy-based lending (PBL)
Framework for Responsibility in Mining	CSP and WWF	2005	Proposes social, human rights and environmental improvements for the mining sector, through evolving standards
IFC – Policy on Social and Environmental Sustainability	IFC	2005	Eight performance standards for project performance review in the areas of social and environmental sustainability
G3 guidelines	GRI	First release: 2000 Revised in 2006	Feeding into the GRI reporting framework, the guidelines are broken up into six indicator protocols: society, environment, economic, human rights, labour, and product responsibility
MCEP - Principles	MCEP	2006	Independent, third party certification mechanism based on principles in the areas of environmental and social performance
The Equator Principles (EP)	IFC and FIs	2006	Financial benchmark for determining, assessing, and managing social and environmental risk in project finance
OECD Guidelines to Multinational Enterprises	OECD	2008	Principles and standards of good practice in relation to corporate social behaviour

*for full names see Acronym section

5 Framework review

5.1 Introduction

In the absence of integrated impact assessment standards which are recognised and applied universally by the resource sector, numerous and varied assessment techniques and tools have been developed by a broad range of businesses and organisations. These frameworks vary considerably in their quality and complexity of methodology as well as length and style of implementation. Appendix A contains a presentation and comparison of different existing techniques.

A number of internationally recognised organisations have developed principles, guidelines, and standards for leading practices (see section 4) which are useful inputs for impact assessment frameworks. Desktop research and discussion with resource sector companies has shown that there is a significant amount of information available for developing and conducting impact assessments. However, there remains a need for a comprehensive toolkit for integrated impact assessments.

In this context, nine freely available impact assessment frameworks have been selected for review, aiming to highlight their areas of strength and weakness. The review of the frameworks was informed by desktop review and did not include consultation with creators or users. Consultation in relation to the selected frameworks is the next step to be undertaken in the review process. In addition, the review does not reflect how a particular framework may be used in practise, nor does it acknowledge the use of the framework in conjunction with other measures. Some frameworks stipulate specific approaches; however implementation will necessarily vary according to the user and operational context. This review aims to assess the framework's approach and scope of utilisation.

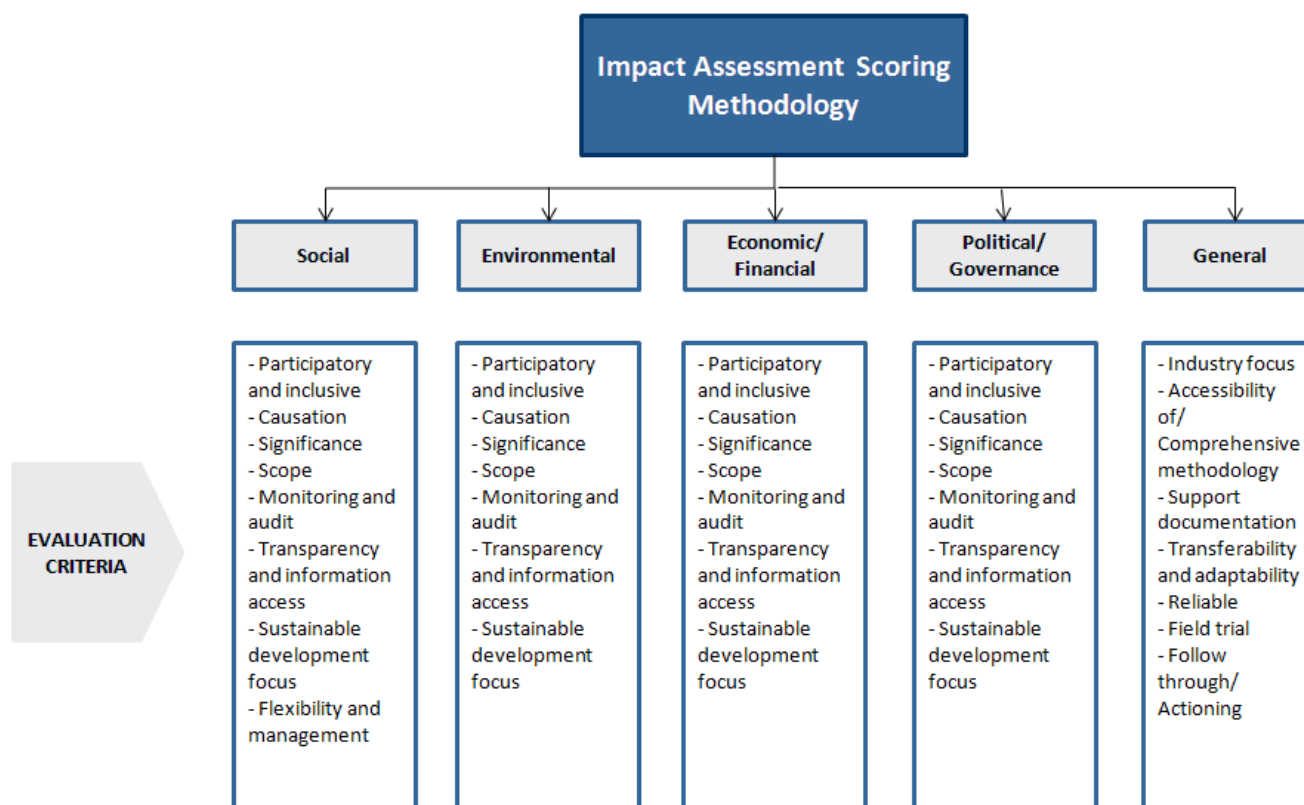
The review was based on a scoring methodology, developed by the FDC/PwC team, developed around specific and general impact areas that encompass resource sector projects. Appendix C contains a full description of the scoring criteria. The specific impact areas include: social, environmental, economic/financial, and governance/political. The frameworks are only scored on the impact areas that they specifically address. The criteria are rated on a 3 point scale, as follows:

- 0 = not included in the framework
- 0.5 = partially included
- 1 = comprehensively included
- 1* = exceptional approach and/or methodology, which is easily understandable and applicable

While the scoring system can be seen as an inherent limitation of the evaluation method that attributes discrete classifications to phenomena (i.e. 0, 0.5 or 1), this method was chosen for consistency and objectivity reasons.

Figure 3 below presents the scoring criteria used in the review, in relation to the impact areas.

Figure 3 - Evaluation framework criteria



5.2 Review of impact assessment frameworks

Extractive Industry Transparency Initiative (EITI)

Description

The EITI is a global standard that promotes transparency of payments paid by the extractive industry to government. The EITI is governed by an international multi-stakeholder board of implementing and supporting governments, NGOs and oil, gas and mining companies. The Board polices compliance with its 19 stage-gates process for monitoring and reconciling company payments and government revenues at the country level. The process is overseen by participants from the government, companies, and civil society. The EITI is an indicator of the performance of both governments, and resource sector companies, in translating the wealth that resource extraction generates into benefits for a country.

Overall comments

The EITI is a voluntary initiative to which the extractive industry and governments agree to adhere. The strength in the EITI is that it requires direct engagement of government and resource sector companies, holding them both accountable for the transparency of the revenues they pay and collect. Citizens can use these reports to monitor and influence government spending. However if government is not willing to engage or does not have a level of governance necessary to implement the initiatives, then the resource sector company cannot utilise the tool. The EITI can be considered narrow in that it measures the statutory payments made and revenues received by the central government, but it does not include other payments

made to government and other organisations. Nevertheless, the types of payments to governments that are captured can vary according to the selection made by the in-country oversight committee; they can also extend the initiative to track payments at a sub-national level.

Criticism have been raised by some resource sector companies in relation to the tailoring and implementation of the tool, on the basis that it is not sufficiently focused on their industries, and further, that there is not an adequate support for effecting its in-country implementation.⁶ Most significantly, although the EITI does not assess what payments to government by the extractive industry are ultimately used for, it is a critical first step in the impact measurement process as it assesses that the payment and receipt of this revenue occurs in a transparent manner.⁷

Measuring Impact Assessment Framework

Description

The framework, created by the World Business Council for Sustainable Development (WBCSD) and the IFC assesses the impacts of a business' operations on the development of an area or a country. The framework uses an input/output methodology that measures the direct and indirect impacts of the business activities on development and social outcomes.

Overall comments

The methodological document sets out indicators and provides links to additional indicators that can be used. It includes an excel-based guide to help companies customise the framework to their respective operations. The assessment can be tailored to:

- different lengths and depths
- location and type of operation
- level of stakeholder engagement
- company strategic priorities

This framework is a highly flexible and adaptive model which could be used for any type or part of a business. The methodology, objectives, boundaries, inputs, and involvement of stakeholders can all be determined by the user. However, as indicators of performance are unspecified, accurate measurement is difficult. Comparison of results across impact groups may then be indistinguishable. The accompanying guide to the tool gives comprehensive lists of potential inputs under the various sections, which can be adapted to varied businesses and circumstances, and also allows for a better focus on the issues that the business, and ideally stakeholders, have identified as most important.

The framework links into some international guidelines, yet it does not require any benchmarking, performance reviews, or aligning of activities with these. The strength and usefulness of its outcome depends entirely on how the users follow the process, the quality of the inputs they select, the stakeholder engagement process that they undertake, and how they decide to report and act on the outcomes.

⁶ ICMM Statement on the Extractive Industries Transparency Initiative (EITI), <http://www.icmm.com/publications/757ICMMStatementonEITI+templateOctober04.pdf>

⁷ ICMM Statement on the Extractive Industries Transparency Initiative (EITI), <http://www.icmm.com/publications/757ICMMStatementonEITI+templateOctober04.pdf>

Global Reporting Initiative (GRI) G3 Guidelines and Mining and Minerals Industry Supplement

Description

The G3 guidelines are the basis of the GRI's sustainability reporting framework and are recommended to be used as the basis for an organisation's annual reporting. The guidelines outline the core content for reporting and a disclosure framework that organisations can voluntarily use. The flexibility of the G3 format allows organisations to plot a path for continual improvement of their sustainability reporting practise. The guidelines are broken up into six indicator protocols: society, environment, economic, human rights, labour, and product responsibility. The indicator protocols outline the reporting requirements for their specific segment. There are also specific sector supplements that have been developed in conjunction with the G3 guidelines, including one for the mining and minerals industry.

Overall comments

The G3 guidelines provide an overview of sustainability reporting. They define report content, quality, and boundary setting as well as standard disclosure. The G3 are designed for use by organisations of any size, sector, or location, and therefore do not offer a tailored approach for the resource sector. The guidelines consist of principles for defining report content and ensuring the quality of reported information.

The guidelines refer to other international standards, such as the International Accounting Standard (IAS), for consultation when compiling reports. It also encourages stakeholder consultation throughout the whole report process. No templates are provided with the framework. This allows a degree of flexibility in the reporting process.

Socio Economics Assessment Tool (SEAT)

Description

The SEAT has been developed by Anglo-American, a UK-based international mining company, to help operations benchmark and improve their local, social, and economic impacts. The tool has also been adapted to other companies' operations. The methodology firstly proposes to identify and assess the impacts of a particular operation on the community's key socio-economic development needs. The next step in the methodology is to test this hypothesis through comprehensive stakeholder engagement; then to develop a management plan to mitigate any negative impacts and enhance any positive effects the operation has on the community. The final step is to produce a report with stakeholders to form the basis for ongoing engagement with and support for the community. The process is intended to increase accountability; to improve the company's understanding of the needs, priorities and concerns of local people and the dynamics within the community; to enhance the development opportunities created by the core business; and to build the capacities of staff with community development responsibilities.

Overall comments

The SEAT makes no distinction between environmental, social, economic/financial, and governance impacts. The toolkit focuses on economic and social impacts but includes a qualifier which states that it is impossible to fully account for economic and social impacts without considering all the environmental impacts, as they are all interrelated. All impacts, regardless of their specification, go through the same impact analysis. The impacts are identified by the corporation and the stakeholders. If all the relevant stakeholders are not engaged, the potential for some impacts to be overlooked arises, especially since there is no direction to include

assessment of standard impacts, such as water pollution. The toolkit consists of 33 tools governing amongst other things, impact assessment, engagement, stakeholder management, reporting and intervention planning, such as establishing partnerships or supporting enterprise development. The toolkit also provides tables in which to document the assessment.

Developing a Community Impacts Monitoring and Management Strategy (CIMMS): A Guidance Document for Australian Coal Mining Operations

Description

This is a manual developed by the Centre for Social Responsibility in Mining (CSR) to provide guidance to mining operations on how to better understand and manage their impacts on local communities. The CIMMS presents four main steps for conducting community impact assessment:

- Stage 1 – Getting started: formulating, defining, profiling and mapping
- Stage 2 – Obtaining community input: designing the method and providing feedback
- Stage 3 – Formulating strategy: planning, prioritising, monitoring, documenting and feedback
- Stage 4 – Implementing the strategy: action plan, monitoring, review and feedback

Overall comments

The document is a sound guideline to engage the community in planning and implementation processes. It stresses the importance of thorough monitoring, and provides examples of methods, typical measures, and useful resources to undertake this monitoring. The manual is accompanied by a Sourcebook of Community Impact Monitoring Measures which provides potential impact measures in the following areas: economic, community support, employment, environmental, and demographic. While it has been written principally for the Australian coal industry, it is broadly applicable to the non-coal sector.

Enduring Value: The Australian Minerals Industry Framework for Sustainable Development

Description

The key role of Enduring Value is to translate the Principles of Sustainable Development (developed by ICMM) into practices which ensure the industry operates in a manner that is attuned to the expectations of the community and seeks to further maximise the long-term benefits that can be achieved through the effective management of Australia's natural resources. It includes assessment of human rights, governance, social, health, safety, environmental, and socio-economic impacts. The framework is accompanied with a supporting guide for implementation.

Overall comments

The main advantages of this framework are that it includes a strong sustainability focus, as it is based on internationally recognised principles, rigorous and mandatory monitoring and evaluation (M&E) requirements. The fact that the M&E results of the users (the members of the Minerals Council of Australia (MCA)) are made publically available on the MCA's website ensures transparency, consistency and accessibility of the impact assessment outcomes.

Development Outcome Tracking System (DOTS)

Description

DOTS, developed by the IFC, aims to track the development outcomes of all active IFC operations throughout the project's life-cycle. This systematic tracking allows the IFC to monitor projects and assist them to improve their performance. DOTS encompasses results measurement for investments and advisory services based on four performance components; financial, economic, environmental and social, as well as broader private sector development impacts. While it is not focused on the resource sector, it presents departmental standard indicators which are defined by industry, including one entitled Oil, Gas, Mining and Chemicals.

Overall comments

The tracking system presented by IFC has the advantages of being consistent with good practice standards agreed upon among a group of multilateral development banks (Equator Principles) and presents a comprehensive framework of their scoring and criteria identification approach. While the presentation of the DOTS methodology is quite detailed, it is not a guidance document for implementation, but rather a presentation of the IFC's own tracking system to be applied to its clients.

Based on information provided by the Development Effectiveness Unit of IFC, the DOTS system is not available to the public, mainly because it contains proprietary information, and also because it is integrated into IFC's overall system, and thus is not self-standing. However, information about DOTS is published and can therefore be used by a resource sector company if appropriately customised and adapted.

A Guide to Social Impact Assessment in the Oil and Gas Industry

Description

This guide, developed by International Petroleum Industry Environmental Conservation Association (IPIECA), outlines the use of SIA by the oil and gas industry. It provides managers of existing or new oil and gas operations with an understanding of how to make the best use of SIAs. This guide is not intended to be an in depth framework for undertaking SIA, but rather a step by step guide to implementing SIA, following leading practices in the sector.

Overall comments

This guide is a good instrument to assist resource sector companies in developing and implementing SIA as it provides a simple and comprehensive step by step approach and provides useful tips and examples. Although it discusses how to incorporate SIA into an integrated approach, it does not cover any other areas of impact assessment.

Ministerial Council on Mineral and Petroleum Resources (MCMPR) Strategic Frameworks

Description

MCMPR's strategic frameworks, created from collaborative work between government, industry, researchers, and practitioners, aims to provide the resource sector with a set of leading practices for sustainable development. The overall framework details principles under six key areas: stakeholder involvement, planning, financial provisions, implementation, standards and relinquishment. It is accompanied by a series of 14 specialised booklets covering themes such as:

- Community engagement and development
- Land rehabilitation and revegetation
- Mine closure
- Materials stewardship
- Monitoring, auditing and performance
- Environmental related themes

Overall comments

The set of documents has the advantage of providing useful information and specialised guidance on the following:

- How to perform environmental impact assessment in specialised and specific areas, e.g. tailings management, cyanide management, water management, biodiversity management, etc
- How to conduct monitoring, auditing, and performance review for all the company's activities
- How to conduct community engagement and development, including the process of ongoing engagement with communities and stakeholders, and the development of capacity over the life of a project and post-closure

Nevertheless, the overall content is quite complex and is not necessarily applicable without specific tools. The framework sets out the leading practices in mining rather than providing a comprehensive approach to implementation.

5.3 Summary of review results

A summary of the review results is presented in Table 6 below. Full descriptions and results for the criteria are included in Appendix D⁸. In summary, Table 6 shows that, based on the selected criteria for this evaluation, all tools have strengths and weaknesses. Some have scored particularly well in some areas, for instance the GRI model has obtained the maximum score for social. In addition, only a few models encompass all suggested areas to be covered in an integrated impact assessment, although at different levels (i.e. Measuring Impact Assessment Framework, GRI and SEAT).

⁸ A full evaluation for each framework is not included in the appendix, however each is available if requested.

Table 6 - Summary of results of the review of impact assessments frameworks

Criteria	Review results				
	Social (Max 8)	Environ- mental (Max 7)	Economic (Max 7)	Governance (Max 7)	General (Max 7)
Extractive Industry Transparency Initiative	-	-	3	4	5.5
Measuring Impact Assessment Framework	5.5	4.5	4.5	4.5	4.5
GRI G3 Guidelines and Mining and Minerals Industry Supplement	8	6.5	3.5	3.5	5.5
SEAT	5.5	5.5	5.5	3	7
CIMMS: A Guidance Document for Australian Coal Mining Operations	6.5	4	4	-	6
Enduring Value: The Australian Minerals Industry Framework for Sustainable Development	6	5.5	-	3	5.5
DOTS	4.5	4.5	4.5	-	2.5
A Guide to SIA in the Oil and Gas Industry	4.5	-	-	-	3
MCMPR Strategic Frameworks	5.5	5.5	-	-	4.5

6 Case studies

6.1 Introduction

The experience of resource sector companies to date suggests that many flow-on benefits are likely to derive from good practices and as a result of implementing robust community engagement and impact assessment processes.

This review has set out the different impacts of mining and discussed tools and guidelines available to conduct comprehensive integrated impact assessments. This section presents illustrative examples of the development dividend produced by international resource sector companies and the potential for producing greater benefits through additional initiatives. Some examples include:

- Engaging with local stakeholders and participating in decision making processes that inform development initiatives locally and nationally
- Developing partnerships with local NGOs and other organisations
- Supporting the creation of market linkages
- Empowering community and local government through capacity building initiatives (e.g. SME development, household financial management, etc)
- Developing secure and independent investment plans for landowners
- Encouraging sustainable microfinance schemes and supporting the development of a trust or community fund for future generations
- Using equitable and transparent financial distribution methods
- Supporting greenhouse gas emission reduction schemes
- Promoting energy efficient technologies
- Helping establish national policies

The list of successful initiatives is potentially long, so for the purpose of illustrating some approaches that have improved socio-economic, environmental and governance practices, the following examples⁹ have been selected from PNG, Ghana and Chile. The benefits of each contribution to sustainable practices are summarised prior the case study examples.

6.2 Case studies

The **social aspects** of sustainable practices, including stakeholder engagement, can reduce dependency of communities on the mining cycle ensuring that appropriate resources are committed to the transition phase post-mine closure (see case studies 1 and 2 below). Open channels of communication reduce suspicion on operations and provide opportunities for stakeholders to participate in decisions affecting their futures. The ongoing process builds confidence and involvement which promotes shared ownership of outcomes. It is important that the stakeholders bearing risks, due to the resource operation, also share the benefits, such as improved education and health outcomes.

⁹ The case studies are drawn from information publically available on the relevant companies' websites.

Case Study 1 - Barrick Gold –the Porgera Environmental Advisory Komiti (PEAK)

PEAK is an independent association which aims for long-term sustainable development and environmental stability in the surrounding communities and environs of the Porgera Gold Mine in the Enga Province of PNG. It was established in 1997 in response to community concerns about the environmental impact of the Porgera Joint Venture (PJV) gold mine, with the aim of following sustainable development best practice to improve transparency, and creating accountability for its environmental performance.

The initiative aims to strengthen the relationship between the mine and the community and minimise the environmental impacts of the mining operations, while following social, economic and environmental international best practice. By providing independent advisory, information and review services, PEAK adds value and complements the interests of the surrounding community, PJV's management and shareholders, and other stakeholders.

The committee is formed by specifically targeted professional groups with expertise in environmental, social and economic fields, along with representatives from government and the broader community. The members meet twice a year and discuss issues related to environmental management (e.g. waste discharge, tailings disposal, sediment behaviour in the river system), social issues surrounding mine closure, the long term sustainability of relocated communities, health, education, law and order and capacity building.

The PEAK committee demonstrated the mutual benefits of investing in a strong industry and community partnership in order to address community concerns about the social and environmental impacts of a project through its contribution to the following activities:

- Investigation of potential business models for financial services in Porgera Valley
- Household financial management training of trainers
- Mine closure consultations with two sub-committees overseeing biophysical and socio-economic issues
- Health risk assessments of mine impacts
- Local community needs analysis
- Public health initiatives to improve treatment and education for HIV/AIDS and STI intervention programs
- Monitoring progress and developing further action plan for the sustainability program
- Enquiry into illegal mining
- Improving reporting processes, information transparency, communication channels, information sharing and release amongst and to stakeholders

PEAK is an example of institutionalising multi-stakeholder community engagement and has been an important element in reducing external criticism of the Porgera project.

More information available at: www.peakpng.org.pg

Case Study 2 - Anglo America implementation of SEAT in Chagres Smelter, Chile

The Socio-Economic Assessment Toolbox (SEAT) was launched by Anglo America in 2003 and has subsequently been implemented in 55 operations in 16 countries worldwide. SEAT involves seven steps, carried out on a three yearly cycle, to provide a snap shot of local social and economic issues and stakeholder views related to an Anglo American operation. The Anglo American Chile operations were one of the first to apply the SEAT toolkit. Through the implementation of the SEAT process, the operations were able to identify key local issues such as: who to engage with, how to manage the engagement and who is accountable. They were also able to recommend appropriate management responses to local concerns and identify which review mechanism to adopt.

As a result of the SEAT process a number of initiatives were developed in response to the impacts identified. For example, the community of Catemu, in Chile, where the Anglo American Chagres Smelter is located, felt that the company had done little to support the economy. The inhabitants of the town had little schooling and

experienced high unemployment. In response, a program promoting local suppliers was developed and a training program for unemployed people in Catemu was initiated. A technical-professional program for graduates of Chagres' public high school was also implemented and professional and academic internships and apprenticeships programs were developed. Another success was a partnership with a local NGO to provide loans and support to 6,000 small businesses.

Testimonials from local Chileans demonstrated the benefits that the responses to the SEAT have had on local communities. The leader of a women's group in Chile expressed her satisfaction with the SEAT process, 'We have come to see the company in a different light. We feel relevant; we feel important.' A municipal council member added, 'It's still too early to tell, but so far the community has taken this very well. They feel that finally Anglo has taken an interest in their basic needs and are very happy. Now, people are asking themselves, 'what more can we do?''

More information available at: www.angloamerican.co.uk

Business strengthening and development offers beneficial outcomes leading to a stronger social license to operate and economic sustainability over time. As presented in case study 3 below, such activities may result in improved relationships, accelerated process for approvals, reduced costs caused by conflict and security issues, enhanced company image and opportunities for greater efficiencies in utilising local knowledge, resources and capital.

Case Study 3 - Newmont and IFC strengthening and developing SME in Ghana

Newmont developed its first gold mine in Ghana in 2006, the Ahafo Mine located in the Brong Ahafo Region. The IFC gave Newmont US\$125 million, or about 21 per cent of the mine's total cost, to increase value-add services to suppliers and related businesses in order to support local SMEs.

The IFC was also undertaking other development efforts in the region at the time in order to reduce barriers to entry for businesses such as simplifying the number of registration steps from 75 to two. The cooperation between IFC and Newmont was called the Ahafo Linkages Program and was designed to:

- Support local businesses to become providers of goods and services to the mine
- Improve competitiveness of non-mining sector businesses to diversify the economy
- Build business institutions, training and support services in the interest of long-term growth

Some of the outcomes from the initiative included:

- Support programs for women entrepreneurs and incorporating HIV/AIDS awareness into training activities.
- As of December 2008, 32 per cent of company employees were local hires and the project improved local infrastructure in terms of roads, transport, power supply, mobile phone coverage.
- Six months into the program, monitoring showed an increase in formalisation of microenterprises with increased registration and offices in communities. The number of local businesses engaged with Newmont increased to 52 by the end of the first year and US\$4.2 million worth of goods and services were being procured.
- Other signs of growth were better access to credit for business, signs of reinvestment of returns, and increased rate of tax obligations being met.

Future efforts will focus on encouraging SMEs to procure locally in order to increase the trickle-down effect of Newmont's impact in the local economy.

More information available at: www.newmont.com

Enhanced ecosystem security not only reduces the stress on the environment caused by resource sector operations, but also decreases environmental risks faced by resource sector companies. Furthermore, considering the close relationship that many communities in

developing countries have with the land, **environmental sustainability** has direct implications for the health and livelihoods of local inhabitants and the ongoing viability of the greater ecosystem.

As climate change awareness increases, so does the development of environmental policies and measures such as market mechanisms, which benefit developing countries and therefore resource sector companies operating in these countries. Environmental market mechanisms, such as the Clean Development Mechanisms (CDM) can be used to increase returns for companies whilst increasing environmentally sustainable outcomes. The environmental assets in the form of carbon credits, such as Certified Emission Reductions (CERs) can be utilised by the resource company to reduce compliance costs or as an additional revenue stream by trading credits on the environmental markets.

As shown in case study 4 below, valuing minimisation of environmental impacts can also prompt technological innovation towards greater efficiencies. Growing awareness of climate change impacts over the long-term will see environmental sustainability remain high of the agenda of constituencies. Recognising and responding to these factors again contributes to a company's social license to operate.

Case Study 4 – Teck minimises footprints of operations in South America

Teck is a diversified Canadian resource sector company with copper mining operations in South America. Teck report on sustainable practices according to the GRI Third Generation (G3) Guidelines and the GRI Reporting Principles, Technical Protocols, Indicator Protocols and the Mining and Metals Sector Supplement.

Teck is an example of a resource sector company aiming to expand its environmental practice through technological innovation and stewardship of the land in order to minimise the footprint of operations. Biodiversity principles are applied in reclaiming closed mine sites. About 37 per cent of the land impacted by Teck has been reclaimed through site-appropriate re-vegetation with local species of flora (Teck 2008 Sustainability Report Summary).

Teck seeks to leverage the global climate change agenda to drive research and development and diversify commercial opportunities.

"There appears to be general consensus regarding shifts in climate and weather patterns on a global scale. We must be cognizant of the potential impact of changes in climate, such as increases in periods of severe weather..." (Teck 2008 Sustainability Report Summary)

Teck participated in the Carbon Disclosure Project (CDP) for three years to contribute to the largest database of corporate climate change information, helping with knowledge sharing about risks and opportunities posed by climate change and emissions (www.cdproject.net/canada.asp).

Teck's technology division is conducting research on zinc-air fuel cell applications for the renewable energy sector. This alternative process to smelting is being tested at a prototype plant in Brazil with Vale. The process would significantly reduce emissions and eliminate the production of pollutant wastes and gases.

Regular consultation with local farming, community, environmental groups and assessment resulted in:

- The introduction of dust suppressants on unpaved roads and blasting being revised according to wind activity in order to minimise impact on air quality
- 102 cacti being relocated to ensure their survival
- The study and preservation of archaeological sites found in and around the operations, and recognition from the Council for National Monuments

More information available at: www.teck.com

One benefit of implementing **sustainable practices in governance** is improved confidence that stakeholders have contributed to decision-making processes (see case study 5 below). Governance practices need to be cognisant of the local political/societal practices and the role of local government, community groups, and faith-based groups in decision-making processes. Supporting equitable and representative institutions of civil society across businesses and community engagement practices helps improve transparency, efficiencies and build stability; and can potentially lead to mutually respectful relations with stakeholders.

Case Study 5 - Oil Search sustainable development through governance in PNG

Oil Search recognises the importance of informal governance in the many avenues for interaction and channels for communication with their stakeholders. The company employs 70 multi-skilled community affairs officers based across the community covering a large region with diverse languages, cultures and environment, from the Southern Highlands Province down to villages in the Gulf Province of the Kikori River delta.

Recognising the tribal and kinship based ownership of land and governance networks in the region, Oil Search employs around 25 village liaison officers who maintain information flows between villages and company offices. As these officers have positions in their communities at a grass-roots level they are important credible disseminators of information and can pass on the concerns of communities. In addition they can assist in resolving issues with government and institutions.

Oil Search liaises with faith-based groups central to civil-society in the region and helps provide health services where the government cannot provide them, such as the Community Health Unit, which runs according to the National Government Health Departments' Strategic Plan. In remote areas of Oil Search's operations, local community can be treated by on-site medical staff. Long term capacity is built through public health education and skills transfers to health professionals in the community targeting key health challenges of malaria, maternal health and HIV/AIDS.

The company's conduct with private business aims to provide business development opportunities to local landowner companies that are representative of ethnic groups and local geography. Preference is given to businesses that display good practice, such as those holding audits, having a broad equity base of shareholders, a constitution and dividend distribution. As such, businesses have an incentive to become more transparent and accountable. To assist with this, Community Affairs Business Development Officers can provide or organise support for businesses in areas of compliance and good practice.

At a national government level, Oil Search participates in the tax credit scheme, allowing them to put a portion of company tax (approximately US\$7Million annually) towards infrastructure projects, such as public buildings and roads, approved by government. The construction projects are run by Oil Search. Through engaging government and community development groups, the company ensures projects are delivered efficiently and appropriately in the context of the larger development effort. Some of the projects include: construction of Kikori High School, Kikori Hospital, Pimaga Hospital and Tari Court House.

More information available at: www.oilsearch.com

7 Discussion and focus questions

This section sets out a summary of the different observations made during this review process and raises questions related to the role, influence and impact of resource sector companies on their host countries.

The first discussion and questions are general, while the following sectors are focussed on role, influence and impact directly related to the selected areas: social, environmental, economic/financial, governance/political and strategic.

As set out in section 6, there is a strong business case for assessing the development contribution of a resource sector project. It can be argued that there is a moral obligation on companies, as corporate citizens, to ameliorate their impacts. In addition, for a company to ensure community and host country acceptance, along with meeting their stakeholder's expectations, is it important that they ensure the impacts of their operation are understood and optimised.

Overarching questions for resource sector companies and stakeholders can be summarised as follows:

- What is the reach and boundaries of the role, influence and responsibilities of a resource sector company beyond its core work?
- What are the main drivers of understanding and optimising the development impacts of resource sector companies?
- How to address the balance between providing services to a community where there is a need and developing dependence or taking the role that government could be fulfilling?
- How to best ensure resource sector companies' non-core activities are developed with the support of the host community and the host country as well as implemented in a way that ensures community wellbeing, self-reliance and economic viability during and after mine closure?
- Which angle or perspective should an issue be examined from, considering impacts are often related to one or more of the social, economic/financial, environmental and governance spheres?

7.1 Social

Key observations

The social dimensions of impacts in the resource sector are perhaps the most challenging to assess and optimise. They involve human aspects which are constantly changing and adapting, and subjective perceptions that are often in discord. For example, many communities in mining areas are divided between those who support mining, those who oppose it, and those who are ambivalent. Other important challenges related with the social aspect and community engagement include:

- Managing expectations from the host community.
- Managing the risk of excessive reliance from the host community.
- Finding an appropriate balance between formal and informal engagement and considering partnership opportunities.

- Dealing with conflicts, security and human rights issues.
- Prioritising understanding before actions, e.g. ensuring that the needs of the communities are understood before designing and implementing any project.
- Incorporating human experience and subjective perceptions into the analysis.
- Dealing with competing world views, such as western versus Indigenous conceptualisations of land.

With that in mind, some initial recommendations in relation to understanding and optimising social impacts of a resource operation can be made:

- Ensure a proper understanding of the needs, priorities and dynamics of the host community and aim, especially during the project development phase, to work with the community to build a vision of how they would want to interact with the resource operation going forward. For example a community may wish to maximise the creation of operation-related economic opportunities or to minimise potential disruption of social structures.
- Empower and develop the local communities by building capacity, strengthening local organisations, supporting and developing partnerships and market linkages. Also, look to identify existing programs, services, projects and/or processes (such as a community or regional plan) which an operation could integrate in to potential initiatives.
- Security and human rights issues: The VPSHR present a good set of principles and range of recommendations but to summarise only a few, companies should:
 - where appropriate, conduct an independent peace and conflict impact assessment to assess the risk of provoking or exacerbating violent conflict through their operations.
 - not adopt policies that create or intensify divisions in communities, such as hiring traditional enemies of the local community or one faction of an internal division in the community as security guards.
 - develop partnerships with relevant conflict resolution organisations and governments.
- Ensure full transparency for credibility of the engagement process and for the responsiveness of a project to its stakeholders.
- Define key baselines against which to evaluate past and future changes, and whether or not these relate specifically to the impact of the mining operation. Develop a broad Social Monitoring Plan (SMP), from the social impact assessment and mitigation measures, which also allows identification of unanticipated social impacts and adds additional mitigation measures if necessary.

Focus questions for stakeholders

- What level of engagement is a resource sector company willing to undertake (e.g. consultation vs. engagement)? How do you see the company's role in maintaining and improving community wellbeing during and after mine closure?
- Who defines the nature of social responsibilities, and can they be defined collectively?
- While few regulatory frameworks formally require social license to operate, many jurisdictions implicitly require acceptance by the local population. What is the best approach to achieving and substantiating community acceptance of a resource operation?
- Small-scale and artisanal mining: When should resource sector companies recognise the rights of small-scale and artisanal mining and how can they address and minimise the risks that they pose?

- Security and human rights issues: what is the best approach for companies to operate in areas where excessive security is required?
- While resource sector companies increasingly recognise that stakeholders should be involved in defining mitigation measures and social/community development projects, what should be the limits of stakeholder involvement? (e.g. decision making process for activities, infrastructure, compensation agreements, etc)
- Criteria transparency and information access: Can the conflict of interest among different groups of stakeholders and between global and local priorities interfere with the credibility and transparency of SIA and EIA, or result in biased explanation of the results? What is the best way to deal with this?
- What are the best ways to recognise women's rights and address gender-related issues, within and outside the operation's site? (e.g. gender impact assessment, compensation program sensitive to gender, participation of women in mining activities, benefits and packages such as maternity leave, equal and suitable training)
- How do you address deeply-held resentment and suspicion engendered by historical injustices, especially among displaced Indigenous communities?

7.2 Environmental

Key observations

The environmental impacts of resource sector operations are arguably the most recognised and regulated. Nevertheless, EIA and environmental management pose many challenges for resource sector companies. For instance:

- Developing and implementing innovative and sustainable environmental practices in areas such as land use, closure scenarios and waste and tailing management.
- Managing to keep up with the development of environmental laws and regulations in different jurisdictions (e.g. greenhouse gas emissions reduction measures) and voluntarily adopting environmental friendly initiatives (e.g. green energy, renewable energy).
- Evaluating and mitigating indirect and cumulative impacts not related with the company's operations or activities (e.g. impacts from other resource sector companies or suppliers' environmental management policies and practices).
- Define where the needs of the operation for the use of scarce resources such as water and land may impact most directly upon other users or other forms of economic activity.
- Understanding and managing the full life-cycle environmental impact of products extracted through product stewardship arrangements.

With that in mind, some initial recommendations in relation to understanding and optimising environmental impacts of a resource operation can be made:

- Early planning and responsible strategising: Developing responsible environmental agreements with the host community (e.g. land ownership agreements, rehabilitation programs), and investigating environmental laws and regulations in order to develop sustainable environmental initiatives (e.g. greenhouse gas emissions reduction projects).
- Innovative and sustainable environmental practices should be put in place throughout the mining life cycle to ensure that negative impacts are not only mitigated but that the local eco-system is improved for the next generations. This also requires that companies

recognise their impacts on the environment are cumulative, and cannot be treated in isolation.

- Companies should collect adequate baseline data at the beginning of the EIA process and environmental assessment should include worst-case scenarios and analysis of off-site impacts. Companies should work with potentially affected communities to identify worst-case emergency scenarios and develop appropriate response strategies.
- Environmental costs, including those associated with regulatory oversight, reclamation, closure, and post-closure monitoring and maintenance should be included in the environmental impact assessment.

Focus questions for stakeholders

- In the past five years many EIAs have included post-closure costs in their analysis, but this is not universally practiced. What are the arguments for and against this approach?
- Compliance with local, national and international environmental management standards: How are decisions made as to which standards are complied with (e.g. minimal standards or leading practices)?
- Who defines the extent to which impacts are positive or negative? How can a company-stakeholder relationship be developed to ensure these impacts can be regularly scrutinised and re-evaluated?
- What are the benefits and limitations to implementing voluntary environmental initiatives that aim to contribute positively to the environment?

7.3 Economic and financial

Key observations

The role and responsibility a resource sector company chooses to take has major impacts on its host economy. The main economic and financial challenges associated with the role, influence and impact of resource sector companies can be summarised as follows:

- While companies usually track the financial results of their operations, it is more challenging to translate this measurement to understand impacts on local and national host economies.
- While taxation and royalties are usually set, local settlements are mostly flexible or established based on a consultation process and negotiation which can lead to conflicts and tension between the company and the local community.
- The cost-effectiveness of hiring and training locally compared to utilising external employees.
- Deciding on the role to play within the labour market and changes associated with economic growth, for example increases in wage rates.
- Large scale mining operations can result in substantial macroeconomic shocks such as:
 - Employment and wages
 - Exchange rate volatility
 - Inflation

- Ensuring that the benefits that result from government spending and investment of taxes and royalty payments are maximised, and that resource sector companies' contribution is recognised.

With that in mind, some initial recommendations in relation to understanding and optimising economic and financial impacts of a resource operation can be made:

- Companies need to identify what external economic factors influence the economic impact of their operation and make this part of an ongoing monitoring system.
- Companies should report payments made to appropriate authorities and monitor the use and distribution of this money as per agreement.
- When negotiating compensation packages with local communities, companies need to make their own calculation of the financial loss for these communities, share the result of this exercise with them, and reach a common agreement on this value.
- The choice between hiring and procuring locally or externally can affect both the operations and the financial viability of the company and therefore needs to be assessed based on quantitative and qualitative measures. For instance, hiring employees locally may require more capacity building but usually results in indirect benefits to the local community and eases the process of obtaining community acceptance.
- The level of involvement of a company in the labour market may have repercussions locally and along the supply chain. Therefore companies should take a strategic approach and identify potential impacts, then define the role they want to fill in the community. This role may even be defined in collaboration with the community itself.
- Countries that have insufficient tools and institutions to manage the macroeconomic impacts that are created by large scale mining activities may require external assistance.

Focus questions

- How to best deal with official and non-official payments requested and to determine the amount based on the potential impact? How do you define the distribution structure? How to deal with bribery?
- How to best define a local versus external employee structure to ensure local community satisfaction and effectiveness of an operation?
- Labour market: What level of involvement in the structure of the labour market and potential changes in the local economy should a resource sector company take?
- What factors inform the makeup of local and external employees and procurement? Is it beneficial to impose specific quotas (e.g. religion, gender, etc)?
- What scope is there for a company to respond to changes in external economic factors affected by their operation?
- Is value-add of a resource operation a feasible and credible measure to use to understand economic impact?

7.4 Governance and political

Key observations

The governance arrangements that impact resource sector companies are complex and differ greatly from country to country. The analysis in this paper does not take into account this vast

spectrum of political and regulatory structures, however, challenges identified in relation to internal and external governance have been summarised as follows:

- The role and mandate of resource sector companies is not clearly defined. Host governments may abuse, or have high expectations of, resource sector companies. Alternatively the host government may have low expectations on the behaviour of resource sectors companies, e.g. not requiring to hire locally or to remediate to environmental damage caused by the operations.
- Taxation and royalty payments are usually established by the government. The challenge is to maintain transparency of the payment made and ensure the use of it is as per agreements.
- The impact and issues identified relating to governance are often multifaceted and can be classified as social, economic, environmental and political all at the same time.
- A company's internal governance has complex effects which may flow on to the community's governance and even the national regulatory structure.
- Increase in local and national income related to resource sector activity can create or exacerbates corruption and conflicts.

Initial recommendations

- It is important that resource sector companies prioritise and define the extent of their involvement in external governance issues at the outset.
- A resource sector company can assist in achieving positive governance impacts on a community or country by encouraging long-term self-reliance through capacity building, skills transfers and developing partnerships and joint initiatives.
- Resource sector companies should ensure that all impacts are monitored, regardless of which area they fall under, and that indirect impacts are taken into consideration and mitigated or maximised.
- As many standards are voluntary, impact assessment frameworks benefit from a well functioning government, including the presence of strong regulations, and the will and capacity to enforce laws. Where this is not the case, resource sector companies can support the development of policies and practices, at a local and national level, by implementing robust monitoring processes that ensure transparency.
- Companies should report payments made to central governments, state or regional governments, local government and other authorities. These payments should be compared to revenues governments receive, as well as to government budgets.

Focus questions for stakeholders

- Are programs in place to ensure internal and external good governance (e.g. incentive programs for employees, capacity building for local governments, etc)? Are initiatives in place to avoid dependency of the community and local authorities?
- Should the resource sector lead or simply comply with minimum governance requirements and local regulatory systems?
- How can a resource sector company define the extent of its involvement with local and national governments in order to create reasonable expectations or to minimise the risks of excessive dependency?

- What is the role of the resource sector company when conflicts between authorities and local communities occur?
- What position should the resource sector company take in the political structure? And what are the related effects?
- How powerful is the resource sector company perceived? Is the company perceived as a threat or a benefit for the country?
- How will the resource sector company deal with community lobby groups or local protest groups opposed to the resource operation?

7.5 Strategic

Key observations

The potential impacts of a resource sector company on human and environmental security, welfare, and economic growth are clearly recognised. The cumulative effects of these consequences, however, take on a more strategic dimension in terms of the overall impact of the resource sector on host countries, in the form of their influence over a country's medium to long term choices and policy attitude to resource development.

Section 3 presented the main impacts of resource sector companies and noted issues pertinent to the strategic environment. It also showed the relationship between all types of impacts and sustainable development practices. Therefore, it can be understood that sustainable practices can, although in an indirect way, make a positive contribution to these strategic aspects.

Nevertheless, the main challenges can be summarised as follows:

- The contribution that resource sector companies make to the advancement of states or countries has not been sufficiently drawn into official regional security thinking for the various forums that discuss Asia-Pacific security such as, ASEAN Regional Forum, ASEAN and APEC.
- Resource sector companies produce long-lasting impacts that resonate at a strategic level. Government policy makers need to pay heightened attention to the affect of additional investment in the resource sector to a country's overall national and regional security.
- The challenge for government is how they can better cooperate with resource sector companies to ensure their strategic objectives align with long-term corporate goals.

Focus questions for stakeholders

- How can companies be more cognisant of the strategic effect they can have and how to best approach this role?
- How can host governments be encouraged to cooperate more efficiently with resource sector companies to ensure that businesses are regulated in a way that aligns with national strategic objectives?
- What are ways to further increase benefits to host communities without unduly affecting the prevailing strategic balance, i.e. intra-national relationships between the host community and host government?

- How can companies include management of strategic issues within their own corporate responsibility planning frameworks?
- What procedures should be developed to manage situations where there is conflict between minerals companies' goals and national strategic objectives?

8 Conclusion and next steps

Many resource rich developing countries rely on foreign investment to convert their natural resources into revenues and job opportunities. International resource sector companies are increasingly investing in initiatives encouraging public-private dialogue and collaboration, and raising awareness of standards and leading practices related to social, environmental, economic/financial, and good governance. By promoting leading practices, the industry can make a significant contribution to achieving sustainability and meeting the needs of the present without compromising the ability of future generations to meet their own needs. How business interacts with the environment, the host communities, economy and government, is a key determinant in its ability to maintain its license to operate, innovate, grow and maximise positive benefits of the host economy.¹⁰

Implementation of sustainable development principles in the minerals sector requires the development of integrated tools capable of bringing these diverse principles and objectives into focus in a manageable decision-making structure.¹¹

This review was undertaken in response to the absence of readily available toolkits to guide the full implementation process of integrated impact assessment for the resource sector. We hope this discussion paper has provided initial insights into the potential role, influence and impact of resource sector companies in their host countries and the different inputs and methods to assessing the impact and the contribution of resource sector companies to sustainable development.

This discussion paper is the beginning of the discussion process. The next step is to receive the responses and inputs from the industry Task Force members, during the upcoming Task Force meetings. It is also envisaged that any interested stakeholders will provide their contributions and that this document will remain a live document which provides support and guidance for implementing integrated impact assessment.

¹⁰ Measuring impact, 2008, WBCSD, p14

¹¹ Breaking New Grounds, IIED, 2002

Glossary

Leading practice: A method, process or activity that is broadly accepted to be more effective at delivering a particular outcome than any other method.

Computable General Equilibrium: A class of economic model used to estimate the effect of changes in one part of the economy upon the rest.

Cumulative impacts: Result from the combined effects of various projects over time. The causation and mechanisms leading to cumulative impacts are complex, and as such, outcomes can be significant and unexpected.

Corporate Social Responsibility (CSR): CSR is a form of corporate self-regulation integrated into a business model. This may include businesses monitoring their adherence to law, ethical standards, and international norms and acknowledging their responsibility for the impact of their activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere. In addition, proactively promote the public interest by encouraging community growth and development, and voluntarily eliminating practices that harm the public sphere, regardless of legality. CSR is the deliberate inclusion of public interest into corporate decision-making.

Development: Development can be understood as increases in the standard of living of a nation's population associated with sustained growth. Its scope includes the activities, processes and policies by which a nation improves the economic, political, social and environmental well-being of its people.

Direct impacts: Are caused by an identified and specific project related activity.

Framework: A comprehensive, conceptual structure that directs sustainable practice. It may define priorities, methods and guidelines.

Guidelines: Clear rules to maintain adherence to principles in practice.

Impact: Effects that can be positive and/or negative, direct, indirect or cumulative.

Impact assessment: Systematic practice to identify and measure advantages and disadvantages from different actions, where results can be presented in such a way that they can be tested by other analysts.

Indirect impacts: Effects that occur as a result of direct impacts.

Input-output models: A representation of the flows of economic activity between sectors within a given region.

Multiplier: A factor that quantifies the change in total income as compared to the injection of capital deposits or investments which originally fuelled the growth.

Principles: A fundamental code of conduct that should inform guidelines and best practice and be adhered to in all activities. In terms of sustainable development practice, principles may derive from the universal values and priorities of the UN Millennium Development Goals.

Resource sector company: A business involved in extracting earth resources, including minerals, oil and gas.

Social license to operate: The broad acceptance of a business to conduct its activities by a host community or society.

Sustainability: Improving the quality of human life while living within the carrying capacity of supporting eco-systems.¹²

Sustainable development: Development that does not undermine the environment, society or the economy, locally or globally, now or in the future, and that delivers genuine progress socially, environmentally and economically.¹³

Tool: A mechanism to implement an aspect of sustainable practice. For example impact assessment or performance monitoring.

¹²Caring for the Earth: A Strategy for Sustainable Living. IUCN/UNEP/WWF, 1991.

¹³ Sutton, 2004

Appendices

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Appendix A Existing techniques for impact assessment

Key features of impact assessment techniques¹⁴

IA technique	Specifications
Social Impact Assessment (SIA)	<ul style="list-style-type: none"> • Usually carried out voluntarily by a company, but can be required by legislation or by funding institutions. • Impact on communities (including impacts on socio-economics, governance and institutions, culture, religion, human rights, community, beliefs, housing, values and organisation). • Consultation required all through the process and as a tool to collect baseline information. • Usually project and location specific. • Starts during project conception, its results feed decisions in the design phase, implementation and throughout the project lifecycle. • A lot of qualitative data and data often less reliable and difficult to quantify. People are ever-changing and adaptive therefore inputs are not static. • Often conducted by an external party resulting in studies not adequately integrated into the management systems.
Health Impact Assessment (HIA)	<ul style="list-style-type: none"> • Recommended by the World Health Organization, the European Union, the World Bank, United Nations Environment Programme, the International Labour Organisation, and the Food and Agriculture Organization. • Measures impact on health status of a group, with the definition of health encompassing the state of complete physical, mental and social well-being. Health is determined by a multiplicity of factors including socio-economic and environmental factors. • Community participation and consultation are critical, forming an integral part of the process. • In some instances HIA is carried out as part of SIA. • Usually project and location specific. • Starts during project conception, its results feed decisions in the design phase, implementation and throughout the project lifecycle.
Environmental Impact Assessment (EIA)	<ul style="list-style-type: none"> • Often required by legislation. • Impact on the environment (soil, air, water, wastes, fauna, flora and human activities). • Consultation phase often legislated. • Usually project and location specific. • Starts during project conception, its results feed decisions in the design phase, implementation and throughout the project lifecycle. • Usually carried out as part of due diligence to determine future potential impacts.
Environmental and Social Impact Assessment (ESIA)	<ul style="list-style-type: none"> • Often required by legislation. • Impact on both, the environment and communities (but often restricted to socioeconomic impacts). • Presently, health impacts are rarely detailed and often restricted to negative impacts. • Consultation phase often legislated. • Usually project and location specific. • Starts during project conception, its results feed decisions in the design phase, implementation and throughout the project lifecycle.

¹⁴ Adapted from: A guide to SIA in the oil and gas industry, IPIECA, 2004, website www.iaia.org

IA technique	Specifications
	<ul style="list-style-type: none"> • Usually carried out as part of due diligence to determine future potential impacts. • Unequally measures the social and environmental aspects, but may not include socio-economic aspects. • Often conducted by an external party resulting in studies not adequately integrated into the management systems.
Strategic Impact Assessment ¹⁵	<ul style="list-style-type: none"> • Usually carried out voluntarily by a company. • National and regional policy and impacts considered. • Integrates health, social, environmental and policy issues. • Starts well in advance of plan or project execution.
Computable general equilibrium (CGE) modelling	<ul style="list-style-type: none"> • CGE modelling is an economy wide analysis. It is a simulation model of the whole economy using a number of equations to quantify the impact of a shock in one industry on all industry in the economy. • CGE models use a number of economic assumptions to devise the appropriate equations.
Triple bottom line (TBL)	<ul style="list-style-type: none"> • Refers to the three elements of social, environmental and economic accountability. • Using TBL extends the decision making and disclosure so that outcomes have taken into consideration the impacts on natural and human capital, as well as financial capital. • Environment includes processes, products or services. • Social includes involvement in shaping local, national and international public policy, equality, treatment of minorities, employee issues and public concern. • Economic includes financial performance, activities relating to shaping demand for products and services, employee compensation, community contributions and local procurement policies.
Input – output modelling	<ul style="list-style-type: none"> • Uses a matrix representation of a nation's or regions to forecast the impacts of a shock in one industry on others. It shows how the output of one industry is the input of another.

¹⁵ In many countries, Strategic Impact Assessment is a function carried out as part of government decision-making

Appendix B Principles and leading practices guidelines

Principles or guidelines	Author	Summary	Comments
ISO14000 series	International Organisation for Standardization	<p>Firstly developed in 1996, ISO 14000 is a SERIES of international standards on environmental management. It provides a framework for the development of both the system and the supporting audit program.</p> <p>The series also included ISO 14004 -General Guidelines on Principles, Systems and Supporting Techniques – which provides guidance on the development and implementation of environmental management systems and principles and their co-ordination with other management systems.</p> <p>The guidelines in this document are intended applicable to any organization that is interested in developing, implementing and/or improving an environmental management system, regardless of size. They are intended for use as a voluntary, internal management tool and not certification or registration.</p>	<p>The <i>ISO 14000 Toolkit</i> includes a number of key items:</p> <ul style="list-style-type: none"> • An ISO 14001 based EMS Policy Manual • A set of top quality ISO 14001 Procedures • A detailed Implementation Guide (with task lists) • A collection of forms and templates to help manage the compliance process • A comprehensive audit plan/checklist • A comprehensive ISO 14000 training and awareness presentation <p><i>Note: the toolkit is not part of section 5 as it is not freely available.</i></p>
International Association for Impact Assessment (IAIA): Social and Environmental: Impact Assessment (SIA and EIA)	International Association for Impact Assessment	<p>IAIA is a forum for advancing innovation, development, and communication of best practice in impact assessment. The international membership promotes development of local and global capacity for the application of environmental, social, health and other forms of assessment in which sound science and full public participation provide a foundation for equitable and sustainable development.</p> <p>IAIA uses key principles to develop a framework for individual companies.</p>	<p>The IAIA sets out core values and principles for social and environmental impact assessment. This is based on the understanding that guidelines are specific recommendations for action that need to be developed in the context in which they are to be applied and they need to be address to specific audience. Therefore users of the IAIA need to liaise with different groups to develop specific SIA and EIA guidelines.</p>
United Nations (UN) Global Compact - ten	UN	<p>The UN Global Compact's ten principles in the areas of human rights, labour, the environment and anti-corruption enjoy universal consensus:</p>	<p>The 10 principles are a UN initiative to encourage businesses worldwide to implement sustainable and socially responsible policies. The principles set out a basis to leading practice but</p>

Principles or guidelines	Author	Summary	Comments
principles in the areas of human rights, labour, the environment and anti-corruption		<p>The ten principles are drawn from:</p> <ul style="list-style-type: none"> • The Universal Declaration of Human Rights • The International Labour Organization's Declaration on Fundamental Principles and Rights at Work • The Rio Declaration on Environment and Development • The United Nations Convention Against Corruption 	do not include monitoring frameworks and standards.
Voluntary Principles on Security and Human rights (VPSR)	Task force composed of governments, NGOs and resource sector companies	Through dialogue, the participants developed a set of voluntary principles to guide resource sector companies in maintaining the safety and security of their operations, within an operating framework that ensures respect for human rights and fundamental freedoms. The principles fall into three categories: risk assessment, relations with public security and relations with private security.	The participants agree on the importance of continuing this dialogue and keeping under review these principles to ensure their continuing relevance and efficacy.
Mining and Minerals Sustainable Development Principles	MMSD: International Institute for Environment and Development	The MMSD project report provides sustainable development principles, based on a set of guiding principles for each of the four dimensions or 'pillars' of sustainable development, i.e. economic, social, environmental and governance. These should be seen as high-level aspirations and be interpreted in a way that recognises diversity, limitations in knowledge and capacity, and society's need for minerals.	The MMSD project was created in response to a negative public perception of resource sector companies. The main aim was to explore the role of the sector in the transition to sustainable development, an area where little previous research had been undertaken. Critics of the MMSD project have stated that it glosses over critical issues and lacks in research integrity ¹⁶ . The MMSD has however been an important step towards a mining and minerals industry specific corporate policy focus.
Seven Questions to Sustainability	The International Institute for Sustainable Development	This sustainable development approach is a flexible methodology designed for diverse stakeholders and developmental contexts in the resource extraction industry. The process is guidance based rather than prescriptive and is structured to use questions targeting: engagement, people, environment, economy, traditional and non-	The Seven Questions process could be considered as a guideline to best practice rather than as a directive. It is stressed that the objectives, indicators and metrics may vary according to "site-specific conditions and the values of the participating interests."

¹⁶ Much of the critique of the MMSD project is cited from Mines and Community (MAC) website www.minesandcommunity.org

Principles or guidelines	Author	Summary	Comments
	(IIDS)	market activities, institutional arrangements and governance, synthesis and continuous learning. It includes a tabled line of enquiry to measure impacts across: community, economy, health, environment among others, and suggests indicators and metrics to measure impacts. Each avenue of assessment is met with a hierarchy of objectives, indicators and metrics that can be used to evaluate the outcome of any set of activities related to a mining operation.	The process can be easily understood and applied by diverse stakeholders in the extraction industry. The emphasis is on adherence to the process itself and its generic nature requires tailoring to the specifics of the company involved.
International Council on Minerals and Metals (ICMM) 10 principles – Sustainably Development Framework	ICMM is a CEO led organisation representing many of the world's leading mining and metals companies as well as regional, national and commodity associations.	<p>The ICMM principles were developed by the world business council for sustainable development (WBCSD) contracted with International Institute for Environment and Development. The guidelines are based on the MMSD</p> <p>The ICMM principles cover:</p> <ul style="list-style-type: none"> • ethics • sustainable development, • human rights • risk management • health and safety • environmental performance • biodiversity and land use • product stewardship • community development • disclosure <p>The principles are supported by public reporting requirements, independent assurance and companies are encouraged to share good practise. Decisions regarding how to implement the code are made by</p>	<p>The ICMM principles have been recognised for providing basic principles to build corporate policy and practice specific to the mining and minerals industry. ICMM principles have been adopted and customised by many resource sector companies as a foundation of their corporate policy. A limitation identified of the ICMM principles is that they are not sufficiently comprehensive due to the partiality of the ICMM board and that they are based on the findings from the MMSD project which had some short fallings as detailed above.¹⁷</p> <p>The ICMM brings together all the different principles that are applicable to the mining sector.</p>

¹⁷ Sustainable Development Unsustained: A critique of the MMSD project, Prepared for the Society of St Columban by Nostromo Research, 2002: www.minesandcommunities.org/Charter/mmsd1.htm.

Principles or guidelines	Author	Summary	Comments
		individual companies.	
AA1000	AccountAbility	<p>The AA1000 Series include:</p> <ul style="list-style-type: none"> - Accountability Principles Standards: provides a better framework for an organisation to use in order to better identify, understand, prioritise and respond to its sustainability challenges - Assurance Standards: a leading international standard used to provide assurance on publicly available sustainability information, particularly CSR/Sustainability reports. - Stakeholder Engagement Standards: provides a framework to help organisations ensure stakeholder engagement processes are robust and deliver results. 	The standard is designed to complement the GRI Reporting Guidelines and other standardised or company-specific approaches to disclosure. It is the first non-proprietary, open-source Assurance Standard that covers the full range of an organisation's disclosure and performance.
AS 8000 series	Standards Australia	<p>The Australian Standards (AS) in the corporate governance series include:</p> <ul style="list-style-type: none"> • AS 8000 Good governance principles • AS 8001 Fraud and corruption control • AS 8002 Organizational codes of conduct • AS 8003 Corporate and social responsibility • AS 8004 Whistleblower protection programs for entities <p>The first Standard in the series, <i>AS 8000 Good Governance Principles</i>, defines key aspects of good governance, provides an outline of the major objectives and gives guidance on how to apply the principles. It also gives advice on:</p> <ul style="list-style-type: none"> • Developing a governance policy • Education and training for the board and senior management. • Strategies for continuous improvement of governance performance • Dealing with governance breaches – detecting, recording and dealing with governance breaches and complaints 	<p>The AS has been devised to provide a blueprint for the development and implementation of a generic system of governance suitable for a wide range of entities. They are non-prescriptive and have been designed as an easy to understand framework for small, large, public, private and not-for-profit organisations. They pull together a number of the key elements in the corporate governance including the OECD Principles of Corporate Governance and guidelines produced by IFSA, ASX Corporate Governance Council.</p> <p><i>Note: the toolkit is not part of section 5 as it is not freely available.</i></p>

Principles or guidelines	Author	Summary	Comments
		<ul style="list-style-type: none"> Record keeping Internal reporting – process of identifying, evaluating and managing key risks Board directors' induction programs <p><i>Note: other standards were not summarised here for lack of relevance in this context or because they were not published or publically available.</i></p>	
EITI Principles	EITI	The agreed Statement of Principles was developed to increase transparency around payments and receipts of revenues between the extractive industry and governments. These principles became known as the EITI Principles and are the cornerstone of the Extractive Industry Transparency Initiative.	A number of countries are currently applying the Principles and moving beyond the pilot phase and widening the EITI, there is a need for a mutually agreed set of EITI Criteria for all countries wishing to implement the EITI.
Good Practice Standards for Evaluation of MDB Supported by Public Sector Operations <i>Addendum: Good Practices for the Evaluation of Policy-Based Lending</i>	MDB Evaluation Cooperation	<p>The Good Practice Standards for Evaluation of MDB Supported Public Sector Operation is a guideline for multilateral development banks on sustainable development and corporate responsibility in relation to policy-based lending.</p> <p>MDB Evaluations Cooperation group developed distinctive guidelines to meet the special evaluation requirements of policy-based lending. Guidelines for evaluating individual operations include: timing, evaluability, assessing inputs and design processes, capturing ownership, political economy of decision making, assessing outputs, assessing outcomes, assessing impacts, evaluating the policy-based lending, process, rating policy-based lending operations, guidelines for rating policy-based lending operations, criteria and subcriteria, criteria, aggregation, and weighting, minimum threshold, guidelines for management of policy-based lending evaluation, coverage, fostering usages and accountability, disclosure.</p>	The guidelines are very specific to policy-based lending and therefore are not easily adopted by other industries or in other contexts.
Framework for	Centre of	The Framework outlines environmental, human rights, and social	The purpose of the Framework for Responsible Mining is to

Principles or guidelines	Author	Summary	Comments
Responsibility in Mining - A Guide to Evolving Standards	Science and Public Participation and World Wide Foundation	<p>issues associated with mining and mined products and explores social and environmental improvements, providing recommendations for:</p> <ul style="list-style-type: none"> governments and government agencies civil society groups, including NGOs the mining industry financial institutions, including public and private banks as well as insurers retailers and other companies seeking to source or invest responsibly 	<p>encourage multi-sector dialogue that leads to the creation and adoption of common principles, standards and criteria, rather than offering a definitive understanding of what responsible mining is. The creators come from a broad spectrum of stakeholders including NGOs, retailers, investors, insurers, and technical experts working in the minerals sector. The Framework is a living document that has an interactive forum where comments are made and published by any interested contributors. However, it only addresses issues related primarily to hard-rock mining (base and precious metals and gemstones).</p>
International Financial Corporation (IFC) – Policy on Social and Environmental Sustainability	IFC	<p>The Policy on Social and Environmental Sustainability sets out the IFC's support for project performance in partnership with clients. IFC guidelines were developed to ensure positive development outcomes from the private sector projects it finances in emerging markets. The performance standards cover the following areas:</p> <ul style="list-style-type: none"> Social and Environmental Assessment and Management System Labour and Working Conditions Pollution Prevention and Abatement Community Health, Safety and Security Land Acquisition and Involuntary Resettlement Biodiversity Conservation and Sustainable Natural resource Management Indigenous Peoples Cultural Heritage 	<p>The IFC policy entails a thorough assessment of potential social and environmental impacts and risks from the early stages of project development, and provides order and consistency for mitigating and managing these on an ongoing basis. The SEA is flexible tool that can include thorough financial and technical feasibility studies to mitigate impact. The Performance Standards may also be applied by other financial institutions electing to apply them to projects in emerging markets.</p> <p>A review of the IFC guidelines found that there were certain areas that the guidelines did not comprehensively address such as managing cross-sectoral global environmental issues such as climate change and biodiversity protection. As well as social development issues such as consultation with affected communities, broad community support, project level disclosure, resettlement, labour issues, retrenchment policies</p>

Principles or guidelines	Author	Summary	Comments
		The guidelines also include a Disclosure Policy and Environmental and Social Review Procedure that gives direction to IFC officers in implementing the Policy on Social and Environmental Sustainability and reviewing compliance and implementation by private sector projects.	and human rights. ¹⁸
G3 guidelines	Global Reporting Initiative	<p>The G3 guidelines are the cornerstone of the GRI sustainability reporting framework.</p> <p>The guidelines outline core content for reporting. They are the foundation upon which all other GRI reporting guidance is based. The G3 guidelines outline a disclosure framework that organisations can voluntarily implement.</p> <p>Included in the guidelines, reporting principles and guidance are:</p> <ul style="list-style-type: none"> • principles to define report content: materiality, stakeholder inclusiveness, sustainability context and completeness • principles to define report quality; balance, comparability, accuracy, timeliness, reliability, and clarity • guidance on how to set the report boundary • standard disclosures • strategy and profile • management approach • performance indicators 	<p>The G3 guidelines outline the GRI reporting framework. Whilst not industry specific, they do offer sector supplements that operate in conjunction with the GRI framework.</p> <p>In line with the GRI vision, it is recommended that they be used as the basis for all of an organization's annual reporting. Flexibility of the G3 format allows organisations to plot a path for continual improvement of their sustainability reporting practices.</p>
Mining Certificate Evaluation Project (MCEP) -	MCEP in conjunction with representatives	<p>Feasibility study for a third party certification of environmental and social performance of mine sites. The areas investigated include:</p> <ul style="list-style-type: none"> • governance • setting standards 	The Mining Certificate Evaluation Project is not a model rather a feasibility study assessing whether it is possible to develop a certification scheme for resource sector companies. It was the first major attempt to address the issue of a certification

¹⁸ One step forward one step back: An analysis of International Finance Corporation's Sustainability Policy, Performance Standards and Disclosure Policy" May 2006 Halifax initiative coalition <http://www.halifaxinitiative.org/updir/IFC-Analysis-HI-Final.pdf>

Principles or guidelines	Author	Summary	Comments
Principles and criteria for certification	from a range of companies, and organisations	<ul style="list-style-type: none"> assessment and assurance 	program specifically for mine sites. The objective was to start an international conversation regarding the issues resource sector companies face with certification reporting.
The Equator Principles (EP)	Financial Institutes led by Citigroup, ABN Amro, Barclays and WestLB.	<p>The EP were developed by a group of FIs led by Citigroup, ABN Amro, Barclays and WestLB. The principles are modelled on the World Bank environmental standards and the IFC social policies. There are 68 financial institutions that adhere to the EP principles.</p> <p>The 10 “EP” are a financial industry benchmark for determining, assessing and managing social and environmental risk in project financing.</p> <p>These principles are used to ensure that projects that are financed are developed in a manner that is socially responsible and reflect sound environmental management practices. The principles cover the following areas:</p> <ul style="list-style-type: none"> review and categorization social and environmental assessment applicable social and environmental standards action plan and management consultation and disclosure grievance mechanism independent review covenants independent monitoring and reporting EPFI reporting 	The EPs are based on the IFC/World Bank model and designed so that any financial institute can adopt the principles. The EPs serve as a common baseline and framework for the implementation by each EP financial institute of its own internal social and environmental policies, procedures and standards related to its project financing activities. ¹⁹ Some have suggested that the minimum threshold before the EPs apply (minimum cost of US\$10 million) is restrictive. EPs still suffered from some fundamental governance and accountability problems and critics have called on banks implementing the EPs to adopt a more robust governance and implementation systems, such as a procedure for dealing with “free riders” and a regular reporting requirement. ²⁰
OECD	OECD	The Guidelines include: general policies, human rights, disclosure,	The OECD guidelines have been adopted by 40 countries.

¹⁹ The Equator Principles www.equator-principles.com

²⁰ William Baue “Will Equator Principles Deliver Social and Environmental Responsibility from Banks?” June 5th 2003 by Social Funds <http://www.socialfunds.com/news/article.cgi/1140.html>

Principles or guidelines	Author	Summary	Comments
Guidelines to Multinational Enterprises		<p>employment and industrial relations, environment, combating bribery, consumer interests, science and technology, competition and taxation.</p> <p>The Guidelines provide principles and standards of good practice consistent with applicable laws. Observance of the Guidelines by enterprises is voluntary and not legally enforceable. The Guidelines are aimed at enterprises and governments. Each country/multinational institute is to have a National Contact Point (NCP) who operates in accordance with core criteria of visibility, accessibility, transparency and accountability.</p>	<p>The appeal of the guidelines for some countries is the way in which they were multilaterally negotiated by governments, business associations, trade unions and NGOs.²¹ The NCPs are also considered a significant advantage as they are able to take up complaints of a company's non-compliance with the guidelines. This can assist in resolving business and human rights challenges as it covers issues in both home and host countries.²²</p> <p>Some view the guidelines as a minimum of acceptable corporate behaviour. As well as some corporations have found the guidelines to be too general to guide their day to day behaviour. They have also found that there is a lack of reference to international instruments such as the International Labour Organisation convention and the Rio Declaration so there is no binding obligation to abide by their principles.²³</p>

²¹ Goel, R "The Guide to Instruments of Corporate Responsibility: An Overview of 16 tools for labour fund trustees" University of Toronto

²² *ibid*

²³ *ibid*

Appendix C Review criteria descriptions

Criteria	Definition	Score
Social		
Participatory and inclusive	<ul style="list-style-type: none"> While collecting data, it adopts/or recommends the adoption of quantitative and qualitative approaches as well as multiple methodologies (e.g. survey, community consultation, etc), to suit different layers of information and people Recommends community engagement in the decision making and planning process 	0 = No mention 0.5 = Briefly or partly covered 1 = Appropriate data collection methodologies and community engagement. 1* = Approaches and methodologies clearly presented
Causation	Measures direct, indirect and cumulative social impacts, being: <ul style="list-style-type: none"> Direct impacts are due to a specific project related activity, e.g. resettlement, employment, etc Indirect impacts are due to actions resulting from direct impacts, such as loss of cultural ties due to resettlement Cumulative impacts are the combined impacts of various projects, rather than only the one mining project 	0 = No mention of the type of criteria or the causation 0.5 = Measures part of the impact types mentioned 1 = Most aspects are covered and/or the responsibility for mitigation impacts is well defined 1* = The impact measures (i.e. indicators) are also presented
Significance	<ul style="list-style-type: none"> Assesses level of intensity of social impact Evaluates the directionality of the impacts (positive and negative) 	0 = No aspect covered 0.5 = One out of the two aspects covered 1 = Both aspects are covered 1* = Shows how to do so
Scope	Allows for the measuring of social impacts over project's lifecycle as well as on different groups or geographical areas.	0 = No aspect covered 0.5 = Partially covered 1 = All aspects are covered
Monitoring and audit	Facilitates ongoing monitoring and audit of the indicators throughout the mine lifecycle.	0 = Punctual and voluntary 0.5 = Punctual and mandatory OR Ongoing and voluntary 1 = Ongoing/ regular and mandatory

Criteria	Definition	Score
Transparency and information access	Ensures public reporting of M&E results and methodology.	0 = No necessary reporting or information sharing process 0.5 = Voluntary scheme 1 = Mandatory
Sustainable development focus	Ensures community self-sufficiency overtime (e.g. lifestyle, cultural heritage); supports sustainable development goals (e.g. MDGs); takes sustainable development considerations within the corporate decision-making process.	0 = No mention 1 = Fundamentals of the framework developed based on sustainable development principles
Flexibility and management	Allow changes in methodology at any stage of the life cycle. For instance indicators and data collection process may change during the mine lifecycle to adapt to unforeseen situation.	0 = No mention 1 = Mention that flexibility and review of method is important to ensure best results
Environmental		
Participatory and inclusive	<ul style="list-style-type: none"> While collecting data, it adopts/or recommends the adoption of quantitative and qualitative approaches as well as multiple methodologies (e.g. survey, FGD, community consultation, etc), to suit different layers of information and people. Recommends multi-stakeholder involvement in the decision making and planning process. 	0 = No mention 0.5 = Briefly or partly covered 1 = Appropriate data collection methodologies and community engagement. 1* = Approaches and methodologies clearly presented
Causation	Measures direct, indirect and cumulative environmental impacts: <ul style="list-style-type: none"> Direct impacts are due to a specific project related activity, e.g. water pollution, land degradation, etc. Indirect impacts are due to actions resulting from direct impacts, such as decreased income of local fishermen from water degradation. Cumulative impacts are the combined impacts of various projects, rather than only the one mining project. 	0 = No mention of the type of criteria or the causation 0.5 = Measures part of the impact types mentioned 1 = Most criteria mentioned and/or the responsibility for mitigation impacts is well defined
Significance	Assesses level of intensity of environmental impact and the directionality (positive and negative impacts).	0 = No aspect covered 0.5 = One out of the 2 aspects covered 1 = Both aspects are covered

Criteria	Definition	Score
Scope	Allows for the measuring of environmental impacts over project's lifecycle as well as on different groups or geographical areas (i.e. local, regional and national).	0 = No aspect covered 0.5 = Partially covered 1 = All aspects are covered
Monitoring and audit	Facilitates ongoing monitoring and audit of the indicators throughout the mine lifecycle.	0 = Punctual and voluntary 0.5 = Punctual and mandatory OR Ongoing and voluntary 1 = Ongoing/ regular and mandatory
Transparency and information access	Public reporting on consultation methodologies and results and decision making process.	0 = No necessary reporting or information sharing process 0.5 = Voluntary scheme 1 = Mandatory
Sustainable development focus	Ensures environmental sustainability or self sustaining eco-systems after mine closure; supports sustainable development goals (e.g. Millennium Development Goals).	0 = No mention 1 = Fundamentals of the framework developed based on sustainable development principles
Economic and financial		
Participatory and inclusive	<ul style="list-style-type: none"> While collecting data, it adopts/or recommends the adoption of quantitative and qualitative approaches as well as multiple methodologies (e.g. survey, FGD, community consultation, etc), to suit different layers of information and people. Includes multi-stakeholder involvement in the decision making and planning process (e.g. communities, local governments, NGOs, CBOs, companies, etc). 	0 = No mention 0.5 = Briefly or partly covered 1 = Appropriate data collection methodologies and multi stakeholder engagement 1* = Approaches and methodologies clearly presented
Causation	Measures direct and indirect financial/economic impacts, being: <ul style="list-style-type: none"> Direct impacts are due to a specific project related activity. Indirect impacts are due to actions resulting from direct impacts. 	0 = No mention 0.5 = Brief mention 1 = Framework addresses both direct and indirect impacts in a comprehensive way
Significance	Assesses level of intensity of financial/economic impact and the directionality of the impact (positive and negative).	0 = No aspect covered 0.5 = One out of the 2 aspects covered

Criteria	Definition	Score
		1 = Both aspects are covered
Scope	Allows for the measuring of financial/economic impacts over project's lifecycle as well as on different groups or geographical areas (i.e. local, regional and national).	0 = No aspect covered 0.5 = Partially covered 1 = All aspects are covered
Monitoring and audit	Facilitates ongoing monitoring and audit of the indicators throughout the mine lifecycle.	0 = Punctual and voluntary 0.5 = Punctual and mandatory OR Ongoing and voluntary 1 = Ongoing/ regular and mandatory
Transparency and information access	Public reporting on consultation methodologies & results and decision making process.	0 = No necessary reporting or information sharing process 0.5 = Voluntary scheme 1 = Mandatory
Sustainable development focus	Ensures self-sufficiency and financial/economic sustainability of the local population overtime/after mine closure; supports sustainable development goals (e.g. Millennium Development Goals).	0 = No mention 1 = Fundamentals of the framework developed based on sustainable development principles
Governance		
Participatory and inclusive	Includes multi-stakeholder involvement in the decision making and planning process (e.g. appropriate authorities and governmental representatives, etc).	0 = No mention 1 = Appropriate data multi stakeholder engagement process 1* = Approaches and methodologies clearly presented
Causation	Looks at evaluating the governance of the organisation at an organisational level (direct) and then how this impacts on the governance arrangements at a local and national level (indirect).	0 = No mention 0.5 = Brief mention 1 = Framework addresses both direct and indirect in a comprehensive way
Significance	Assesses level (low, medium, high) of involvement of governance impacts/measures/actions a low, medium, high assessment.	0 = No aspect covered 0.5 = One out of the 2 aspects covered 1 = Both aspects are covered

Criteria	Definition	Score
Scope	Allows for the measuring of political/governance impacts over the project's lifecycle and on different groups.	0 = No aspect covered 0.5 = Partially covered 1 = All aspects are covered
Monitoring and audit	Ongoing follow up on governance measures/activities undertaken by/in conjunction with the relevant authority bodies.	0 = Punctual and voluntary 0.5 = Punctual and mandatory OR Ongoing and voluntary 1 = Ongoing/ regular and mandatory
Transparency and information access	Public reporting on consultation methodologies & results and decision making process.	0 = No necessary reporting or information sharing process 0.5 = Voluntary scheme 1 = Mandatory
Sustainable development focus	Facilitates continuous involvement (during and after mine closure) of local governments ensuring the maintenance of investments (e.g. infrastructure).	0 = No mention 1 = Fundamentals of the framework developed based on sustainable development principles
General		
Industry focus	Directly focussed on the resource sector (extractive industry).	0 = Not industry focus 1 = Industry focus
Accessibility of/ Comprehensive methodology	Ease of use of methodology - Cost effective tool (i.e. time and resource investment). Can be used, understood/applied by the potential user (e.g. resource sector company).	0 = Very complicated - someone with prior experience in impact assessment required to understand and apply - or too simplistic 0.5 = Useful but cannot be used on its own, need further support documentation or experienced consultant on specific topics 1 = Cost effective tool and very user friendly. Can be understood, used and applied by the company
Support documentation	Provides supportive references, templates, examples and/or tools to conduct the assessment.	0 = No supporting documentation 0.5 = Supportive documentation provided only sporadically and in certain sections only 1 = Useful supporting documentation provided throughout the framework

Criteria	Definition	Score
Transferability and adaptability	Can be adapted and customised to suit another project, in another location (e.g. laws and regulations), other organisations.	0 = No 1 = Yes 1* = Presents guidelines for customisation
Reliable	Consistent with internationally accepted policies for sustainable development and/or recognised best practices in mining.	0 = No mention of baseline principles used 1 = Fundamentals of the framework developed based on sustainable development principles and/or mining best practices
Field trial	Has been field tested.	0 = No or no mention 1 = Yes
Follow through/Actioning	Follow through on M&E activities and results with appropriate mitigation measures, and then through integrated Management Plans/Systems.	0 = No mention 0.5 = Partially covered (e.g. M&E results feed in to mitigation processes but not necessarily part of the company's overall MP) 1 = Yes, suggested 1* = Strongly recommended with guidelines to do so

Appendix D Detailed framework review results

Table 7 - Summary of results of the review of impact assessments frameworks –

Criteria / Frameworks	EITI	Measuring Impact Framework Methodology	(GRI)	SEAT	CIMMS	Enduring Value	DOTS	A Guide to SIA in the Oil and Gas Industry	MCMPR Strategic Frameworks
Participatory and inclusive	-	0.5	1	0.5	1*	1	0.5	1	1*
Causation	-	1*	1	1	1*	0	1*	0.5	0
Significance	-	1	1	0.5	1	0	1	0.5	1
Scope	-	1	1	1	0.5	1	0.5	1	1
Monitoring and audit	-	0.5	1	0.5	1	1	0.5	1	0.5
Transparency and information access	-	0.5	1	1	1	1	0	0	0
Sustainable development focus	-	0	1	1	0	1	1	0	1
Flexibility and management	-	1	1	0	1	1	0	0.5	1
Social section total	-	5.5	8	5.5	6.5	6	4.5	4.5	5.5
Participatory and inclusive	-	0.5	1	0.5	0.5	1	0.5	-	0.5
Causation	-	1*	1	1	0.5	1	1	-	1
Significance	-	1	1	0.5	1	0	1	-	1
Scope	-	1	1	1	0.5	0.5	0.5	-	0.5
Monitoring and audit	-	0.5	0.5	0.5	0.5	1	0.5	-	1
Transparency and information access	-	0.5	1	1	1	1	0	-	0.5

Criteria / Frameworks	EITI	Measuring Impact Framework Methodology	(GRI)	SEAT	CIMMS	Enduring Value	DOTS	A Guide to SIA in the Oil and Gas Industry	MCMPR Strategic Frameworks
Sustainable development focus	-	0	1	1	0	1	1	-	1
Environmental section total	-	4.5	6.5	5.5	4	5.5	4.5	-	5.5
Participatory and inclusive	0.5	0.5	1	0.5	0.5	-	0.5	-	-
Causation	0.5	1*	0.5	1	0.5	-	1*	-	-
Significance	0.5	1	1	0.5	1	-	1	-	-
Scope	0	1	0	1	0.5	-	0.5	-	-
Monitoring and audit	1	0.5	0	0.5	0.5	-	0.5	-	-
Transparency and information access	0.5	0.5	1	1	1	-	0	-	-
Sustainable development focus	0	0	0	1	0	-	1	-	-
Economic section total	3	4.5	3.5	5.5	4	-	4.5	-	-
Participatory and inclusive	0.5	0.5	1	1	-	1	-	-	-
Causation	0.5	1	0.5	0.5	-	0	-	-	-
Significance	0.5	1	0	0	-	0	-	-	-
Scope	0	1	1	1	-	0	-	-	-
Monitoring and audit	1	0.5	0	0	-	1	-	-	-
Transparency and information access	0.5	0.5	1	0.5	-	0	-	-	-
Sustainable development focus	1	0	0	0	-	1	-	-	-

Criteria / Frameworks	EITI	Measuring Impact Framework Methodology	(GRI)	SEAT	CIMMS	Enduring Value	DOTS	A Guide to SIA in the Oil and Gas Industry	MCMPR Strategic Frameworks
Governance section total	4	4.5	3.5	3	-	3	-	-	-
Industry focus	1	0	1	1	1	1	0	1	1
Accessibility of/Comprehensive methodology	0.5	1	1	1	1	0.5	0	0.5	0
Support documentation	1	1	0.5	1	1	0.5	0.5	0.5	0.5
Transferability and adaptability	1	1*	1	1	1	1	0	1	1
Reliable	1	0	1	1	0	1	1	0	1
Field trial	1	1	1	1	1	1	1	0	0
Follow through	0	0.5	0	1	1*	0.5	0	0	1
General section total	5.5	4.5	5.5	7	6	5.5	2.5	3	4.5
GRAND TOTAL	12.5	23.5	27	26.5	20.5	20	16	7.5	15.5