INTERNATIONAL ENVIRONMENTAL STANDARDS IN THE OIL INDUSTRY: Improving the Operations of Transnational Oil Companies in Emerging Economies

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In the absence of adequate environmental laws and enforcement in emerging economies, there have been calls for oil companies to voluntarily adopt "best practice" in emerging economies. This article examines five environmental practices that can be seen as "best practice" through their endorsement in national and international oil industry association guidelines, and which will, when adequately implemented, reduce the negative impacts of oil exploration and production.

1 INTRODUCTION

Emerging economies,[1] also known as "developing countries", "Third World" countries, "emerging market economies", "emerging market systems" and "emerging markets", hold the majority of the world’s proved oil reserves, and account for the majority of the world’s production of crude oil.[2] The exploitation of oil remains a priority for the governments of emerging economies, as the revenue that comes from subsurface resource exploitation is a major source of foreign income for emerging economies, of which the majority are among the poorest countries in the world, and have large foreign debts. The oil industry is also a source of taxation revenue and employment, and offers the opportunity for the transfer of technology from developed to developing countries.

Oil and gas exploration and production has the potential to cause severe environmental degradation, not only to the physical environment, but also to the health, culture, and economic and social structure of local and indigenous communities.[3] However, environmental laws in emerging economies are often ineffective because they are substantively inadequate and/or because they are inadequately enforced. This has led to calls by academics, practising lawyers and human rights and environmental activists for transnational oil companies to voluntarily improve their performance in countries with inadequate environmental laws.

Oil companies and industry groups have also recognised that international oil companies operating in emerging economies with inadequate environmental laws should adopt best practice. For example, members of the American Petroleum Institute are responsible for "obeying all laws and best practice" as part of the pledge to a program of continuous health, safety and environmental improvements,[4] while the 1997 Environmental Policy of the Australian Petroleum Production and Exploration Association (APPEA) states that APPEA encourages and supports member companies to "comply, at a minimum, with applicable laws, regulations, standards and guidelines for the protection of the environment and in their absence adopt the best practicable means to prevent or minimise adverse environmental impacts".[5]

But what is "best practice" in the international oil industry? What standards should be employed? No treaties have been negotiated with the specific aim of regulating the onshore activities of the oil and gas exploration and production industry operating within the borders of individual states. This stems historically from the view that the regulation of onshore resource exploitation falls within the domestic jurisdiction of states. In this context, the standards, guidelines and best operating practices developed by oil industry association bodies, and nongovernmental and intergovernmental organizations (NGOs and IGOs) constitute the major efforts to achieve uniform standards and operating practices across the globe.

This article examines five environmental principles or practices that are emerging in the environmental codes of conduct, statements of environmental principles, and environmental guidelines that have been developed by oil industry organizations, NGOs and IGOs, which can be identified as existing or emerging "best practice". Part 2 of this article identifies the types of standards that help to protect the environment and describes the organizations that are the
most influential in developing these standards and guidelines in the oil industry. Part 3 describes five major practices for protection of the environment that are emerging in the international oil industry and that will, when adequately implemented, reduce the negative impacts of oil and gas exploration and production on the physical and cultural environment. These practices are: environmental and social impact assessment (EIA and SIA); environmental management systems (EMS); environmental performance evaluation (EPE); environmental monitoring and auditing; and environmental reporting. Part 4 discusses the legal implications arising from the use of these standards and guidelines, while Part 5 makes suggestions for future developments.

2 SOURCES OF INTERNATIONAL INDUSTRY AND GUIDELINES REGARDING OIL INDUSTRY EXPLORATION AND PRODUCTION PRACTICES

The development by major oil industry associations of internationally acceptable environmental standards and best operating practices, contained in industry guidelines, voluntary codes of conduct and statements of environmental principles, is part of a broader and growing trend among industry in general.[6] These environmental codes and statements of environmental principles have arisen for a number of reasons. The genuine acknowledgment by industry of a duty to the environment is one reason for the growth of voluntary environmental guidelines and policies. Second, these codes are a response to shareholder, customer, interest group and community pressure on companies to be transparent and accountable in environmental management, allowing industry to demonstrate environmental responsibility and enhancing public relations. Third, companies have adopted these co-operative and flexible approaches to environmental regulation in order to avoid prescriptive and costly command and control mechanisms.[7]

In the international oil exploration and production industry, the guidelines and standards of the International Association of Oil and Gas Producers (OGP – formerly the Oil Industry International Exploration and Production Forum) and the American Petroleum Institute (API) are particularly influential. The OGP represents oil and gas companies from around the world, and the API, through the history of the dominance of US oil companies in the international oil industry, has a strong influence in the industry. The guidelines of various NGOs and IGOs are also influential, including the World Conservation Union (IUCN), the United Nations Environment Programme (UNEP), the International Standards Organisation (ISO), the World Bank, the International Chamber of Commerce (ICC) and the World Business Council for Sustainable Development (WBCSD).

The OGP has prepared several guidelines regarding onshore oil operations, on its own and in conjunction with IGOs and NGOs such as UNEP and IUCN, which represent "internationally acceptable operating practices" and "internationally acceptable goals and guidance on environmental protection during oil and gas exploration and production operations", including guidelines addressing: oil operations in tropical rainforests; exploration and production operations in mangrove areas; oil exploration in arctic and subarctic onshore regions; waste management; and decommissioning for onshore exploration and production sites.[8]

The US petroleum industry’s commitment to protect the environment is embodied in the API’s Environmental Stewardship Program, which is based on 11 Principles contained in the American Petroleum Institute Environmental and Safety Mission and Guiding Principles.[9] These Guiding Principles became part of API’s bylaws in 1990, therefore acceptance of the principles is a condition of membership of the API. The API has also produced guidelines for environmental practices, including the 1995 guideline Onshore Oil and Gas Production Practices for Protection of the Environment.[10] Other environmental policies, codes, and guidelines for protection of the environment adopted by national and regional oil industry associations include APPEA’s Environmental Policy (June 1997) and Code of Environmental Practice for companies operating in Australia; ARPEL’s 1997 Code of Environmental Conduct; and the United Kingdom Offshore Operators’ Association’s (UKOOA) Environmental Principles.[11]
The World Bank’s *Pollution Prevention and Abatement Handbook 1998* contains Guidelines for onshore oil and gas development, prepared by Bank with assistance from intergovernmental organisations and the international oil and gas exploration and production industry. The Bank’s Guidelines: set maximum levels for liquid effluents, air emissions and noise levels, which are those "normally acceptable to the World Bank Group in making decisions regarding provisions of World Bank Group assistance"; describe industry practices, processes that can reduce, prevent and control pollution, and treatment technologies; make recommendations for monitoring and reporting; and summarise the key production and control practices that will lead to compliance with emissions requirements.[12]

Environmental organisations that have produced guidelines for oil operations include the IUCN, in conjunction with the OGP or independently, for example *Oil Exploration in the Tropics: Guidelines for Environmental Protection*;[13] and Conservation International, which has also published recommendations regarding oil development in the tropics, in *Reinventing the Well: Approaches to Minimising the Environmental and Social Impact of Oil Development in the Tropics*.[14]

### 3 INTERNATIONAL ENVIRONMENTAL MANAGEMENT PRACTICES OF RELEVANCE TO THE OIL AND GAS INDUSTRY

The voluntary codes and guidelines of the international oil industry generally contain one or more of three broad types of standards or guidelines that assist in protecting the environment. The first of these are standards for equipment and products, such as construction requirements for underground storage tanks and pipelines. Poorly designed, constructed or outdated equipment may pose a greater threat to the environment. Three major organisations that set standards in the international oil industry are the ISO, the API and CEN, the European regional body corresponding to ISO.[15] Although product standards play a key role in preventing environmental pollution, they are not the focus of this article, and will not be discussed further.

The second type of standard addresses environmental practices, including the observance of environmental standards such as limits on emissions, and the implementation of recommended environmental practices such as waste disposal methods. Poor environmental practices, such as the unsafe disposal of toxic drilling wastes, and gas flaring, generally pose a greater threat to the environment. A third type of standard assists the company to improve environmental performance by adopting environmental management procedures and systems. It is this type of environmental practice or procedure that is the focus of this article.

This section examines five emerging "best practices" for protection of the environment in the area of environmental management procedures and systems. These practices are: environmental and social impact assessment (EIA/SIA); environmental management systems (EMS); environmental performance evaluation (EPE); environmental monitoring and auditing; and environmental reporting. When successfully implemented by oil companies, these practices can significantly improve environmental performance and minimise the environmental destruction that occurs as a result of oil and gas exploration and production. These practices and their strengths and weaknesses will now be discussed.

#### 3.1 Environmental and Social Impact Assessment

EIA is a procedure whereby the significant environmental impacts of a proposed development project are assessed prior to activity taking place.[16] EIA has the potential to be a powerful tool to ensure that the environmental and cultural impacts of proposed development activities are assessed, taken into account in decision-making, and mitigated. While the features of EIA vary between jurisdictions, there are a number of common elements. These are:

1. **Screening**: A mechanism to identify projects with potentially significant adverse environmental impacts in order to "screen out" proposals with minimal impacts.
2. **Scoping**: A process of determining the range of issues to be addressed in the EIA and for identifying the significant issues relating to a proposed action.

3. **Alternatives**: The identification and measurement of the impacts of alternatives to a proposed development that may cause less environmental damage, including the option of "no development".

4. **Baseline Environmental Study**: This provides a description of the existing environment of the proposed development site and its environs, including a cultural resources survey, prior to any activity taking place.[17]

5. **Impact Prediction**: A procedure for ensuring that all potentially significant environmental impacts, including cultural and social impacts, are identified and taken into account.

6. **Mitigation Measures**: The identification and discussion of measures to mitigate predicted adverse environmental impacts.

7. **Environmental Impact Statement (EIS) or EIA Report**: The document, usually prepared by the proponent of an activity, which describes a proposed development, discloses the predicted impacts on the environment, and sets out information on feasible alternatives and mitigation and protection measures.

8. **Public Participation and Review of EIS**: Public consultation and participation are an integral part of an effective EIA process, and may take place at all stages in the EIA process. As a minimum, EIA procedures in democratic countries allow for public review and comment of a draft EIS before a final EIS is prepared.[18]

9. **Decision**: After the final EIS has been prepared, the relevant decision-making body must make a decision regarding whether the proposed development should proceed, and if so, whether any conditions on development will be imposed.

10. **Post-Project Analysis**: This includes on-going surveillance and control over development activities and their effect on the environment through monitoring and auditing.[19]

Under most national EIA legislation, Social Impact Assessment (SIA), which is a method for assessing the impact of development strategies and projects on societies and cultures, is undertaken as part of the EIA process.[20] "Social impacts" are "the consequences to human populations of any public or private actions—that alter the way in which people live, work, play, relate to one another, organise to meet their needs, and generally cope as members of society. The term also includes cultural impacts involving "changes to the norms and beliefs that guide and rationalise their cognition of themselves and their society".[21]

For some developments, the social and cultural effects may be far more significant than the impacts of the project on the physical environment, and yet social impacts may be more difficult to assess, predict and manage. Currently, methods for assessing the social and cultural impacts of oil projects are less advanced than methods for measuring effects of development activities on the physical environment such as the air, waters and soils, although a number of organisations such as the Interorganisational Committee on Guidelines and Principles for Social Impact Assessment and the World Bank have produced guidelines for social impact assessment.[22]

Not only is EIA becoming "singularly important in both domestic and international environmental law", but the requirement for EIAs to be conducted as a prerequisite to the approval of major resource development projects is "one of the strongest trends in global mining".[23] EIA requirements are contained in treaties, national laws and industry guidelines, and are imposed as conditions of lending and assistance by international financial organizations.

First, EIA requirements are contained in many instruments of international environmental law, including Principle 17 of the 1992 Rio Declaration on Environment and Development; Article 14(1)(a) of the 1992 UN Convention on Biological Diversity; and Article 4(f) of the 1992 UN
Framework Convention on Climate Change, which were heavily influenced by UNEP’s 1987 *Goals and Principles of Environmental Impact Assessment*, and a number of early regional treaties concerned with international watercourses and the assessment of transboundary environmental effects.[24] The most detailed procedures are contained in the 1991 Convention on Environmental Impact Assessment in a Transboundary Context, and the 1991 Protocol to the Antarctic Treaty on Environmental Protection.[25] The importance of EIA is also recognised in regional systems, most notably in Europe, where European Council Directive 85/337/EEC of 27 June 1985 obliged EC member states to have national EIA legislation in place by July 1988, and which has also formed the basis for EIA legislation by non-member European States.[26]

Second, EIA is recommended in the publications of oil and gas industry bodies. The OGP recommends the use of EIA in the oil and gas industry in its publications *View of Environmental Impact Assessment* (1986) and *Principles for Impact Assessment: the Environmental and Social Dimension* (1997).[27] The latter document, which "highlights the importance of social and environmental assessment in all aspects of project planning" to oil and gas companies and their contractors", recognises that EIA is an "integral part of projects management and engineering for all operations from seismic to decommissioning".[28] The OGP identifies consultation with stakeholders, including indigenous peoples, as a key aspect of environmental and social impact assessment.[29]

The OGP has also recommended the use of EIA in a number of its guidelines.[30] These guidelines, which represent "internationally acceptable operating practices" and "internationally acceptable goals and guidance on environmental protection during oil and gas exploration and production operations", fully endorse the EIA process, and provide recommendations and guidance to oil companies on the EIA process.[31] A key development in the EIA process as it applies to oil and gas companies is the expectation that companies will assess the impacts of oil and gas development not merely on the physical environment, but also on local and indigenous peoples. The OGP guidelines emphasise the importance of social and environmental impact assessment for assessing, predicting, avoiding and mitigating the negative impacts of development on the physical and cultural environment of indigenous peoples, including impacts on cultural and religious practices, and resource utilisation and land use patterns.

Third, many major multilateral and bilateral development institutions have adopted environmental policies and procedures. Of these, the most influential EIA requirements are those of the World Bank. The Bank’s environmental and social impact assessment requirements are set out in the *Environmental Assessment Sourcebook*, and include Operational Policy 4.01 *Environmental Assessment*, Bank Procedure 4.01 *Environmental Assessment*, and Good Practice 4.01 *Environmental Assessment*, together with Annexes.[32] Oil and gas development projects are classified as projects that "likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented" and require an EIA.[33]

As with the guidelines of the OGP, the Bank’s environment assessment requirements include special procedures for developments that affect indigenous peoples. These are Operational Directive 4.20, *Indigenous Peoples*, (currently under revision), and Operational Policy 4.12, *Involuntary Resettlement*. If a project raises issues covered by OD 4.20 or OP 4.12, it is considered "sensitive" for the purposes of categorisation of projects for environmental assessment. According to para 13 of OD 4.20, where an investment project affects indigenous peoples, the borrower should prepare an indigenous peoples development plan that is consistent with the Bank’s policy. The information to be contained in a plan includes: the legal framework regarding indigenous rights; baseline data; steps for recognising and protecting indigenous land tenure; strategies for local participation by indigenous peoples; technical identification of development or mitigation activities; assessing the capabilities and needs of government institutions assigned responsibility for indigenous peoples; an implementation schedule; provisions for monitoring and evaluation; and cost estimates and financing plans.

The Bank, in conjunction with a number of oil companies and NGOs, has also set up an internet site to harness knowledge on the social impacts of oil and gas operations. This site
contains a virtual meeting place to share knowledge about the social and environmental impacts of oil and gas operations, and contains recommendations for best practice in impact mitigation, including a document that specifically addresses "emerging basic principles of best practice" for mitigation of the environmental and social impacts of oil and gas exploration and production activities on indigenous peoples. Prior environmental assessment is one of the key principles endorsed in the document.[34]

Finally, international business in general has supported the use of EIA, as demonstrated by the International Chamber of Commerce’s (ICC) 1991 Business Charter for Sustainable Development. The Charter has been formally endorsed by hundreds of companies worldwide, including many major international oil and gas companies. The Charter comprises 16 principles for environmental management, which is stated to be a "vitaly important aspect of sustainable development".[35] According to Principle 5, entitled "prior assessment", companies should "assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site".

A thorough and well-conducted EIA provides a number of benefits, including the following: it provides a procedure for identification of likely adverse environmental impacts, including cultural impacts, before a decision to proceed with a development activity is made; it provides opportunities to the public and affected people, such as indigenous peoples, to present comments and recommendations to the decisionmaker and participate in the development process; it precludes secrecy in official decision-making, and opens the process of development to scrutiny; it provides an opportunity to identify and take alternative development options; it presents an opportunity to identify and incorporate mitigation measures into a development activity; and conditions of approval may ensure monitoring of environmental (including cultural) impacts, annual reporting by the proponent, post-project analyses and independent environmental auditing.[36]

The OGP has identified a number of advantages of environmental and social assessment for oil and gas companies.[37] First, EIA can be beneficial to the project schedule and cost through the "significant financial savings" that can arise from the early identification and resolution of potential problems and conflicts, the avoidance of delays, and from improved decision-making and project planning. Second, EIA allows companies to demonstrate a management capability for self-regulation thus avoiding unnecessary regulation by governments. EIA assists companies to: demonstrate a scientific and technical credibility, "an integrated approach to social and environmental issues" that is "likely to lead to projects that are more acceptable and hence more likely to be supported, especially in sensitive areas", and a willingness to participate in local debate; address the information needs of stakeholders; and provide assurance to government and the public, thereby generating trust and confidence and enhancing the company image.[38]

Despite the potential benefits of EIA, in practice, where EIA is required by legislation, the procedure has suffered from a number of weaknesses. First, EIAs are usually produced by project proponents, who have the greatest stake in acceptance of the project, leading to the possibility of biased and inadequate environmental impacts statements. Second, although EIAs should be conducted prior to the commencement of an activity, in practice environmental assessment is conducted only after economic and technical feasibility studies have been completed and investment decisions made, and the developer already committed to a project in its proposed format. Furthermore, governments may give support to a project on economic grounds before an EIA is prepared, and pressure is then placed on the environmental agency not to delay the proposal by making "unreasonable" demands.[39]

Third, while public participation, including the participation of local and indigenous peoples, is an integral part of the EIA process, public participation may suffer from a number of deficiencies, such as difficulties in obtaining access to information. Fourth, while EIA systems generally require decision-makers to have regard to the EIS, the decision maker is not obliged to base their decision on the EIS, so that projects will often be approved despite the results of the EIA. Contributing to most of these difficulties is the underlying attitude of many proponents and governments, who view EIA as a hurdle to development, rather than a useful
tool for protection of the environment. Finally, EIA systems in general suffer from a lack of post-decision monitoring.\[40\]

The EIA process has also been criticised with respect to its application in emerging economies. It is generally true that EIA in many emerging economies is ineffective, for a number of reasons:\[41\]

- the coverage of EIA systems in emerging economies is inconsistent in relation to the types of projects covered and the impacts assessed;
- the consideration of alternatives in EIAs is often weak, and the alternative of "no-action" is often not a viable choice given the constraints of poverty;
- mitigation is often an "after-thought", with insufficient opportunities to change previously designated plans;
- a lack of trained people and financial resources leads to the preparation of inadequate EIA reports;
- the baseline socio-economic and environmental data is inaccurate, difficult to obtain or non-existent;
- EIA reports can also be extremely difficult to obtain by the public, often being classified as confidential, and with very limited numbers of copies available for public inspection, if at all. This is often exacerbated lack of a culture of participation and low levels of literacy;
- EIA reports often have no influence on the decision that is taken; and
- monitoring of compliance with environmental controls and conditions, and of the EIA system itself, is ineffective or completely absent in developing countries.

In many emerging economies, poverty, the imperative of economic development and the often-stated view that the country cannot afford to increase environment protection results in government approval of development projects that are not environmentally sustainable. The existence of widespread corruption, political pressures and inadequate funding; the fact that the "organisations responsible for EIA are frequently new, lacking in status and political clout and working in a culture where an absence of information sharing considerably reduces their influence";\[42\] and the "bypassing" of that environment ministries by other, more powerful ministries, in particular the ministries concerned with resource exploitation, means that compliance with EIA legislation is inadequately monitored and enforced in the majority of emerging economies.

### 3.2 Environmental Management Systems (EMS)

EMS are procedural rules for the organisation that assist managers in preventing and detecting environmental violations. They assist managers to comply with existing legal requirements, and to define management processes to be followed to control the impact of a corporation's activities on the environment. Most of the major international oil and gas companies have started to adopt detailed EMS and internal environmental operating guidelines.\[43\] A number of organisations have produced standards and guidelines for EMS, including the ISO, the European Union, and oil and gas industry bodies.

The ISO is an international federation of "standards bodies" from over 100 countries. It was founded in 1946 with the aim of promoting standardisation and related activities to facilitate the international exchange of goods and services. The ISO 14000 series standards are international, voluntary standards that provide specific requirements and principles for environmental management.\[44\] They give managers a structure for establishing, improving and maintaining programmes for protection of the environment. The ISO’s standards are particularly influential, with more than 140 countries involved in their development. The relevant ISO standards for Environment Management Systems (EMS) are ISO 14001: Environment Management Systems - Specification with Guidance for Use; and ISO 14004: Environment Management Systems - General Guidelines on Principles, Systems and Supporting Techniques.

ISO 14004 is a guidance document that explains environmental management concepts, defines key terms and provides practical advice for the design and implementation of an EMS. ISO 140001 establishes a model EMS based on the set of guiding principles contained in ISO
14004. The core elements specified by ISO 14001 are: environmental policy; planning; implementation and operation; checking and corrective action; and management review.[45]

The first element, "establishing an environmental policy", requires a company to make a public statement of the company’s intentions with respect to the environment. The second element, "planning", involves a number of components. These include: implementing a systematic approach to identifying significant environmental aspects in all phases of the company’s business and under all operating conditions; establishing a procedure to identify and maintain access to all legal and other requirements; setting environmental objectives and targets; and establishing environmental management programmes, which detail methods and procedures for achieving environmental targets and objectives.[46]

The third element, "implementation and operation", involves: the identification and formal assignment of responsibility to personnel, from site personnel and managers to senior executives and managers; the provision of environmental training and awareness, and ensuring competence in EMS requirements; communication, both external and internal, regarding the EMS and environmental procedures such as emergency response procedures; the establishment and control of documentation describing the EMS and all environmental strategies, policies and procedures; the review of operational procedures to ensure they are compatible with environmental policies, objectives and targets; procedures for emergency preparedness and response; and preventing and mitigating environmental impacts.[47]

The fourth element, "checking and corrective action", involves: establishing procedures for monitoring operations that may have a significant impact on the environment; conducting impartial internal and external audits of the EMS; establishing procedures to prevent non-conformance with the EMS, and to investigate and mitigate the effects of non-conformance where this is revealed by EMS audits; and establishing procedures for the keeping of environmental records. The fifth core element requires review of the EMS in order to identify and rectify any shortcomings in the EMS and keep abreast of changes over time.[48]

The ISO 14001 series does not set environmental legal requirements; rather, it is designed to provide a management system to assist managers to comply with existing legal requirements, and to define management processes to be followed to control the impact of a corporation’s activities on the environment. A company can make a self-declaration of compliance with ISO 14001, or be audited and gain certification against the standards in ISO 14001. A company with ISO 14001 certification can claim that it has a documented environmental management system that is fully implemented and consistently followed. However, it cannot claim that its products or processes are more environmentally friendly. This is because certification under ISO 14001 is based on an audit of the EMS, not the product or service provided by the company.[49]

Another major international standard for EMS is contained in the European Union’s Eco-Management and Audit Regulation (EMAR), which establishes the voluntary Eco-Management and Audit Scheme (EMAS).[50] The Regulation, which came into force in 1993, takes the form of 21 Articles and 5 Annexes, which form part of the Regulation. The objective of the scheme is to "promote continuous improvements in the environmental performance of industrial activities" (Article 1). One way this is to be achieved is by the "establishment and implementation of environmental policies, programmes and management systems by companies in relation to their sites".[51] The requirements for EMS are set out in Article 3 and Annex I. The elements that must be addressed are: environmental policy, objectives and programmes; organisation and personnel; communications and training; environmental effects; operational control; environmental management documentation records; and environmental audits. The EMS must be verified by an independent, external, accredited environmental verifier (Article 4) and described in an annual environmental statement that is disseminated to the public (Article 5).

Various oil industry associations have also set out requirements for EMS. The OGP has published its own Guidelines for the Development and Application of Health, Safety and Environmental Management Systems that are consistent with the ISO 14001 series.[52] The API has developed guidelines for environmental management systems, based on the best
practices of API members, and consistent with the ISO 14001 series.[53] The API’s Model Environmental, Health and Safety (EHS) Management System and Guidance Document are voluntary tools to assist companies to develop or enhance an environmental, health and safety management system. APPEA’s Code of Environmental Practice, which provides guidance on the development and application of EMS consistent with the ISO 14000 Series Standards, states that EMS "should be integrated into the overall business management process at all levels".[54]

A number of benefits of a "well-prepared and comprehensively implemented EMS" have been identified. An EMS: provides a framework for integration of environmental management into the company’s operations; helps the company to identify and reduce environmental impacts; helps the company comply with regulatory requirements; helps the company to set and meet its own environmental targets; and helps increase control of operations and costs.[55] By assisting companies to identify and manage their impacts on the environment, EMS have the potential to control and reduce environmental degradation.

From the company perspective, an EMS also helps the company to demonstrate its commitment to the environment to the company’s shareholders, customers and suppliers, and to the local community and regulatory authorities. This should help to satisfy community pressure for improved environmental performance and improve the company’s public image, thereby improving access to capital and business opportunities, facilitating the issue of licences and permits, helping the company gain future access to new operational sites, and providing a competitive tendering advantage.[56]

Despite the benefits of the ISO series standards, there are a number of limitations regarding these standards, particularly as regards the certification process.[57] First, developing countries may find it more difficult to implement the EMS standards, as companies from developing countries may not have the resources to achieve certification, and/or the infrastructure necessary for certification may be absent. Just as the implementation of EMS may provide companies with a competitive advantage, so those companies from emerging economies that cannot afford to gain certification may be placed at a competitive disadvantage in tendering for projects.

Second, the ISO 14000 Series does not set legal environmental standards. Certification indicates a corporation has a consistent environmental policy, but makes no representation regarding the standard of environmental performance or objectives set by a company. If environmental standards in developing countries are lower than developed countries, the EMS certification will indicate the corporation is complying with the laws, but will not reveal that the environmental standards observed are not be as high as in Western countries. Public and government misconception that EMS set actual environmental standards for operation, can led to misplaced public confidence in the regime for environmental protection, providing a "shield" under which oil companies can operate using practices that are clearly below "best practice."[58]

Third, self-declaration by companies regarding their implementation of EMS under ISO 14001, in contrast to third party verification, may enable some companies to hold themselves out as having internationally acceptable EMS when in fact this is not the case.

3.3 Environmental Performance Evaluation (EPE)

EPE is a management tool or process designed to ensure the ongoing measurement and improvement of an organisation’s environmental performance. It is a process by which a company measures its environmental performance against criteria set by management.[59] The real development of EPE began in the 1990s, with work undertaken by the ISO. The ISO has published 2 standards that provide guidance to companies in how to conduct and improve EPE. These are ISO 14031 (1999): Environmental Management - Environmental Performance Evaluation - Guidelines, and an accompanying technical report, ISO/TR 14032 (1999) Environmental Management - EPE - Case Studies Illustrating the Use of ISO 14031.
The most critical aspect of EPE is the choice of meaningful indicators to measure the environmental impact of activities. Indicators basically relate to three areas: the management system (environmental management indicators, or EMIs); the operational system (environmental performance indicators or EPIs); and the state of the environment (environmental indicators or EIs). EMIs track and measure actions performed primarily by management employees that are aimed at reducing environmental impacts, for example, the implementation of training plans. EPIs, which deal with the operation of facilities and equipment, help assess the actual discharges, wastes generated, resources used, and other impacts of the actual facilities and equipment on the environment. EIs are used to assess the state of the environment, including the biological, physical and socioeconomic impacts produced by the organisation.

There are various sources of information for the oil and gas industry to use in compiling indicators, including standards/documents/guidelines produced by regulatory agencies, industry bodies such as the API, OGP and APPEA, and other organisations such as the World Bank, for a range of different activities in the oil and gas production processes, including access road construction, construction of drilling pad facilities, well development and drilling, installation and operation of production equipment, installation of pipelines, refining, and decommissioning.

The oil industry has started to establish collaborative efforts to develop indicators of environmental performance. For example, the OGP's Environmental Performers Indicators Task Force is working on definitions and data-collection protocols for a set of industry-wide exploration and production environmental performance measures. The data will be used to report on the global performance of the exploration and production industry worldwide on an aggregated basis. The OGP will not identify the performance of individual companies, but the three top performers will be identified and invited to share their experience of best practice through OGP Forum workshops.

Another example of cooperation on the development of indicators is that provided by Arco, BP Amoco, Conoco, Shell and Statoil, who have been collaborating on harmonising environmental indicators to allow them to benchmark their worldwide upstream health, safety and environmental performance against each other. The group has agreed on 21 parameters in 3 areas to measure health, safety and environmental performance, these being:

- "company descriptors", such as the top health, safety and environmental policy document of the company; assurance of policy compliance; operational performance; the policies of joint ventures and subsidiaries; and stakeholder communication;
- "results measures", which include: safety performance statistics; operational performance; the policies of joint ventures and subsidiaries; and stakeholder communication;
- "activity indicators", which include: the number and types of audits; the number of business units with implemented management systems; emergency response plans and drills; a description of training; incident reporting process; and reward and recognition programs.

The measurement of social and cultural performance by oil companies is also an emerging trend. However, there are as yet no common, standardised indicators used by companies, nor do the majority of companies yet report on their performance in these areas. Just a few examples of current indicators used by companies include: the existence of community advisory panels; investment in educational and community programmes; support for the Universal Declaration of Human Rights; the number of reported bribes; the number of forums organised to discuss employee conditions; and the level of local content of projects in terms of jobs and procurement.

As with environmental performance indicators, the major international oil companies are starting to collaborate on the development of indicators of social performance. For example, Statoil, BP-Amoco, Royal-Dutch Shell and Conoco are involved in a project, led by Statoil, on developing indicators to reflect a company’s contribution to sustainable development, with performance to be measured in a number of areas, including: ethics (human rights, bribery/corruption, gender, cultural and racial diversity and political activities); environmental
management (preservation and restoration, production stewardship, product stewardship/portfolio, global impact and resource use); and stakeholder relations (employees, suppliers and customers, society at large, NGOs, interest groups and government).[66]

The measurement of social and environmental performance has a number of benefits. The evaluation of environmental and social performance provides companies with benchmarks for improving their performance in these areas. The publication of environmental and social performance reports based on standardised, comparable criteria allows indigenous peoples, the general public, non-governmental organisations, shareholders, academics, and the government to judge the performance of companies, not only against their own performance in previous years, but against the performance of other companies. In the context of oil exploration and development, environmental and social performance reports will provide local communities and indigenous peoples with extremely useful information on the past and current environmental and social policies and performance of oil companies that are seeking to operate on traditional lands, and will provide information to shareholders and the community that can be used to demand improved performance from oil companies in these areas.

3.4 Environmental Monitoring and Auditing

Monitoring
Environmental monitoring involves the ongoing checking, inspection or examination of equipment, management systems, operational activities and their effect on the environment on a regular and frequent basis. Different types of monitoring include: monitoring equipment to ensure it is in good working order; monitoring the company's impacts on the environment, for example, emission levels, wastes, and the amount of energy used; monitoring the state of the environment, for example the level of toxicity of watercourses affected by oil development; monitoring the implementation of an EIS, to see, for example, if the project is implemented in accordance with any mitigation measures required; and monitoring the EMS, that is, monitoring the management processes.

Monitoring ensures compliance with environmental and social regulations and with any conditions imposed upon development on the basis of an EIA. It "provides a tool to evaluate and update mitigation strategies, if conditions change or original strategies prove not to be effective", allows anticipated impacts to be documented, and "can identify any unanticipated impacts" of development.[67] The OGP has stated that monitoring should be ongoing throughout the life of a project, and that effective monitoring increases credibility for a number of reasons, which include: improving acceptance of current projects; providing a basis for ongoing consultation; contributing to the development of improved mitigation tools; providing a mechanism for learning from past operations and experience; and providing information for performance reporting.[68]

Environmental monitoring is a key feature of EMS that are promoted by the ISO, EMAS, OGP and the API. The OGP has stated that monitoring the environmental impacts of "all stages of a project is [the] key to responsible operations", while the Australian Petroleum Production and Exploration Association's Environmental Policy states that APPEA encourages and supports its members to "monitor environmental effects".[69]

Auditing
Environmental auditing is "the practice of comparing environmental regulatory and management requirements against the operational and management performance record of a facility by evaluating such records and systems against a set of predetermined standards".[70] It is a systematic, periodical evaluation of a company's environmental organisation, performance and systems against pre-determined standards. There is a distinction between performing a "compliance" audit and an EMS audit. The former concentrates on compliance with regulatory requirements, while the latter focuses on "the organisational structure, responsibilities, practices, procedures, processes and resources for implementing environmental management".[71]

These standards do not mandate third-party audits or external disclosure of audit reports, and are focused on audits of environmental management systems, rather than on compliance with legal regulations. However, the ISO standards are flexible and are appropriate for application to all operations of an organisation, that is, are not site-specific. They are considered to be the largest and most influential effort towards standardising environmental auditing.[72]

The European Commission’s Environmental Management and Audit Scheme (EMAS) is another influential audit scheme.[73] Article 3(d) of the EMAS Regulations requires companies that voluntarily participate in the EMAS to carry out, or cause to be carried out, environmental audits at sites where an industrial activity is performed. The audit may be carried out by either company or external auditors, and must be consistent with ISO 14011. The audit must address a range of issues listed in Annex I(C), including: assessment, control, and reduction of environmental impacts; raw energy, materials and water management and savings; evaluation, control and reduction of noise; product planning, including transportation, use and disposal; the environmental performance and practices and contractors, subcontractors and suppliers; prevention and limitation of environmental accidents; emergency procedures; and staff information and training on environmental issues. Annex II sets out requirements for the audit process, including audit objectives, reports, follow-up and frequency. The audit results and procedures must be verified by an independent, accredited verifier.[74]

In general, environmental audits may be performed in-house or by an independent third party, or by a combination of both. The use of an outside auditor may add credibility to the audit findings. Over time, it is expected that increased international attention will be given to requirements for internal and independent third party environmental auditing and public disclosure of audit results.[75] Prince and Nelson have claimed that "a clear trend exists for industry to mandatorily perform audits, disclose them to the public, and engage a third party to conduct them".[76]

The OGP has affirmed the importance of environmental auditing for the oil and gas industry in its Guidelines for the Development and Application of Health, Safety and Environmental Management Systems, in which it is stated that "the company should maintain procedures for audits to be carried out, as a normal part of business control", while ARPEL has published its own guidelines for conducting environmental audits.[77] The importance of auditing as part of an EMS is also emphasised in Principle 16 of the ICC Business Charter for Sustainable Development, entitled "Compliance and reporting" which affirms that sustainable development requires companies to "conduct regular environmental audits and assessments of compliance with company requirements, legal requirements and these principles".

In the context of oil exploration and production on indigenous peoples lands, auditing has a crucial role to play not only in assessing the state of the environment on an on-going basis, but as a means for determining the damage caused by oil companies to the environment in cases where indigenous peoples are claiming compensation for environmental destruction and demanding restitution of the land. For example, in 1992, Petroecuador contracted a Canadian consulting firm HBT Agra Limited to conduct an independent and impartial environmental audit of Texaco’s facilities in Ecuador. The audit, which was to be "a thorough study of the direct and indirect environmental and socio-economic impacts of Texaco’s operations", and legally binding on Texaco, was viewed by the indigenous peoples of the Amazon as a chance to hold Texaco accountable for the damage it had caused to the Amazon and provide an opportunity for restoration of the degraded environment and modernisation of outdated production methods.[78] In the event, the terms of reference of the audit, its lack of independence and the secrecy with which it was conducted, and its results, have been severely criticised.[79]

Although it is generally argued that external monitoring and auditing (and/or the external verification of internal monitoring results) by accredited, independent organisations is the best
method for ensuring the reliability and independence of results, third party oversight suffers from a major weakness: the vulnerability of independent monitors and auditors to capture by the firms they set out to audit. Where a corporation retains monitors or auditors from "for profit" auditing firms, there is always the possibility that the auditors will become aligned with the interests of the corporation they are monitoring, thereby seriously undermining the independence, accuracy and reliability of the monitoring/auditing results.[80]

3.5 Environmental and Social Reporting

Companies across all industry sectors, including the international oil and gas industry, are facing increasing pressure to disclose information regarding their environmental and social performance to governments and the public. The holistic view of reporting on environmental, social and economic issues, in contrast to "stand alone" measures of environmental performance and social performance, is referred to as "triple bottom line" reporting. Some key reasons why companies are moving into environmental reporting are to:

- satisfy community and individual "right to know" requirements;
- improve company performance in social and environmental areas by measuring and publicly reporting on these areas;
- demonstrate corporate accountability for the social and environmental impact of operations;
- add shareholder value through the demonstration of a superior ability to manage environmental and social impacts; and
- report contributions to sustainable development by measuring and reporting "triple bottom line" impacts.[81]

The move towards environmental reporting is illustrated by a number of general mandatory disclosure requirements and voluntary reporting initiatives that have arisen in recent years. As regards mandatory disclosure, a number of countries require corporations to report on the release and transfer of various potentially toxic or harmful polluting substances as part of national pollutant inventory schemes, for example Australia’s National Pollutant Inventory, Canada’s National Pollutant Release Inventory, the UK’s Chemical Release Inventory and the USA’s Toxic Release Inventory.[82]

Despite these mandatory disclosure schemes, most environmental reporting initiatives are voluntary schemes led by industry organisations, IGOs and NGOs. One example is the European Commission’s EMAS, which has, as one of its objectives, the promotion of continuous environmental performance of industrial activities by "the provision of information of environmental performance to the public".[83] Companies that voluntarily participate in the scheme must prepare an environmental statement specific to each site, have the statement independently verified by an accredited environmental verifier, and disseminate the validated statement to the public.[84] The statement must contain:

- a description of the site’s activities;
- an assessment of all the significant environmental issues;
- a summary of figures on pollution emissions, waste production, consumption of raw material,
- energy, water and noise; and presentation of the company’s environmental policy and site’s EMS.[85]

Other examples of voluntary reporting initiatives include the Global Reporting Initiative, launched by the US-based Coalition for Environmentally Responsible Economies (CERES), which released the *Sustainability Reporting Guidelines* in June 2000; the US company-led Public Environmental Reporting Initiative; and the SustainAbility-UNEP "Engaging Stakeholders Programme".[86] Environmental reporting is also part of the ICC’s Business Charter for Sustainable Development, with Principle 16 exhorting companies to periodically provide appropriate environmental information to the Board of Directors, shareholders, employees, the authorities and the public; and part of the Confederation of British Industry’s (CBI) Environmental Forum, whose members "are committed to making an annual public report on their environmental performance".[87]
As regards environmental disclosure and reporting in the international oil industry, in 1999 the UK-based group SustainAbility, in partnership with UNEP, produced The Oil Sector Report: A Review of Environmental Disclosure in the Oil Industry, which examined the current efforts at environmental and social disclosure for 50 leading oil companies, and made recommendations for future development in these areas. The Report found that among large international oil companies, environmental reporting is on the way to becoming standard practice, with most individual companies making some sort of environmental information publicly available.[88]

In addition to the reporting initiatives of individual oil companies, a number of oil industry associations have begun publishing environmental, health and safety reports at an aggregate level. The OGP has developed definitions and data-collection protocols for a set of industry-wide exploration and production environmental performance measures, and began using these publish aggregate performance data in an annual environment report beginning August 2000.[89] Each year, the API publishes a "Petroleum Industry Environmental Performance Annual Report", which presents statistical information about the US petroleum industry’s environmental and safety performance in eight areas: workplace safety, chemical releases, refinery residuals (by-products), oil spills in US waters, underground storage tanks, used motor oil, gasoline vapour controls, and US environmental expenditures.[90] APPEA established an environmental incidents database in 2000, from which the first environmental performance summary statistics are expected to be released in May 2002. Other associations producing some type of aggregate data include the Norwegian Oil Industry Association, the UK Offshore Operators Association Limited, and Canada’s Petroleum Communication Foundation.

Despite the evidence that the oil industry "is taking the reporting agenda seriously", the Oil Sector Report found that the overall rate of environmental reporting is brought down by four main types of nonreporters: state-owned companies; smaller companies; upstream-only companies; and project-based consortia. In the case of small and upstream-only companies, their size and lack of retail brand means that they are out of public eye and are therefore not under the same pressures to report; similarly, in the case of project-based consortia, a company created for a particular project and owned by a number of larger oil companies are not often associated with one corporate name by the public, and pressure for reporting is non-existent.[91]

The quality and content of corporate environmental reports varies considerably between companies. The quality and usefulness of the reports are undermined by lack of comparability from company to company, with companies using different indicators, definitions, measurement and estimation techniques, reporting periods, and geographic coverage of operations. In addition, oil companies remain divided on the benefits of third-party, independent verification of environmental and social reporting.[92]

Furthermore, social reporting, which is the process of accounting, preparing and publishing information on social impacts and social performance, including cultural impacts, lags well behind environmental reporting.[93] Public concern in this area generally relates to: corporate security arrangements involving paramilitary or government armed forces; links to human rights abuses; distribution of costs and benefits; poor environmental management and pollution among local communities; traditional land rights of indigenous communities and the right of self-determination; discrimination in the workforce; occupational health and safety; and bribery and corruption.[94] The lag of social reporting behind environmental reporting is true for industry in general, not just the oil industry, with the World Business Council for Sustainable Development stating that the systems for monitoring, measuring and reporting corporate social responsibility performance through generally-accepted indicators are still in their infancy.[95]

The Oil Sector Report found that "because social reporting is in its infancy, we are some way from seeing truly comparable social performance indicators", and that there is a "pressing need for greater coherence and convergence" in this area.[96] As yet there is only limited agreement on how to measure and monitor social performance, with the development of indicators in this area being described as being "extraordinarily difficult".[97] Nonetheless,
some "key clusters" of indicators are emerging in the practice of oil companies. The *Oil Sector Report* identified eight categories for reporting, including the category "impacts on local communities", with potential aspects for indicator development in this category being: adherence to global operating standards; independent statements from groups most affected; use of community advisory committees; compensations and compensation policy for local environmental damage; impacts on community health and local economies; skills and technology transfer; and cultural sensitivity and management systems addressing indigenous issues.[98]

It is expected that the movement towards social accountability will gain momentum in the future.[99] With performance in the social area being more difficult to quantify than commercial or environmental performance, general research in the development of social performance and impact indicators is being conducted by a number of bodies. For example, the Institute of Social and Ethical Accountability (ISEA), established in 1996 as a professional body committed to strengthening the social responsibility and ethical behaviour of the business community, is engaged in developing standards for social and ethical accounting, auditing and reporting. In its draft publication 'Towards Standards in Social and Ethical Accounting, Auditing and Reporting' (February 1999), ISEA produced key principles that should underlie social disclosure by companies.[100] ISEA has also developed AccountAbility 1000 (AA1000), an accountability process standard that is currently under revision. The World Business Council on Sustainable Development, the US-based Coalition for Environmental Economies (CERES) and the Global Reporting Initiative (including the UNEP and the Association of Chartered Certified Accountants) are collaborating with ISEA to develop indicators and reporting standards for sustainable development, which includes social performance measures.

While this move towards "corporate social responsibility", including the assessment and reporting of environmental and social performance, has benefits for the community, it also raises a number of concerns, in particular the questions of whether, and to what extent, the Board of Directors and senior management of a corporation, who are responsible to shareholders for the financial health of the company, can incorporate social objectives into the company’s operations, while still maintaining the longterm profitability of the corporation.[101]

4 LEGAL IMPLICATIONS OF STANDARDS

The continuing development and use of standards and guidelines regarding best practices for the protection of the environment, drafted by IGOs such as UNEP and the ISO, often in conjunction with oil and gas industry bodies, has legal implications beyond the formal status of these documents as "nonbinding" guidelines. In both the international and national sphere, these non-legally binding have the potential to "harden" into binding law.[102]

First, in the international sphere, the norms, principles or standards contained in the guidelines, declarations of principles and codes of practice of NGOs and IGOs, such as the non-binding Rio Declaration on Environment and Development, can be seen as "soft law".[103] A norm is "soft" either when it is not part of a binding regime or when it is contained in a binding instrument but is not stated in obligatory terms. "Soft law" has emerged as a new and important source of international law, particularly in the fields of the environment and human rights, as the diversity of the international community and the complexity of the problems to be addressed have made it harder for states to obtain consensus on the creation of legally binding rules.

Over time, soft law may contribute to the formation of binding international law, either through the incorporation of initially non-binding norms into a treaty, or, when these guidelines, codes, principles are viewed as legally authoritative by a sufficient number of countries over a sufficient length of time, through the creation of customary law.[104] Thus, over time, measures for protections of the physical and cultural environment, including EIA, environmental management systems, monitoring and auditing, environmental performance
evaluation and environmental reporting, may become standard practices that the international community expects every government to require of oil and gas corporations by law in the future. Furthermore, the current leading international companies are preparing EIAs and implementing EMS, even when national laws do not require them, as "a hedge against future liability for failing to meet international standards."[105]

Nationally, industry statements of best practice may come to be binding through their application by national courts. If industry guidelines are generally endorsed and implemented by international oil companies, national courts can use the guidelines as evidence of industry "best practice" in litigation against the corporation. National courts can invoke the guidelines to interpret petroleum contracts negotiated with governments, such as service contracts and joint venture agreements, which require the use of best practice,[106] or to interpret legislative provisions that require the use of good international practice.

For example, in the Australian context, APPEA has stated that its voluntary Code of Environmental Practice "could reasonably be regarded as setting a benchmark for defining good oilfield practice on environmental matters", and thus implicitly invoked under Commonwealth and State offshore and onshore petroleum legislation such as the Petroleum (Submerged Lands) Act 1967 (Cth), which includes an obligation to conform to "good oilfield practice".[107] APPEA is so concerned with its own potential legal liability arising from reliance on the Code of Environmental Practice by its members, should the Code fail to satisfy legislative requirements, that APPEA has attached a disclaimer of liability to the Code. This disclaimer states in part that:

The APPEA Guidelines are intended to provide general guidance as to those operating practices which are considered to represent good industry practices in the petroleum industry.

**APPEA does not accept any responsibility or liability for any person’s use of or reliance on the guidelines, or for any consequences of such use or reliance.**

The Guidelines have not been reviewed or approved by Government bodies or regulators, and do not have legal force or effect. Therefore, compliance with the Guidelines will not necessarily mean compliance with legal obligations. Each person accessing the Guidelines must acquaint itself with its own legal obligations, and must, on a case-by-case basis, form its own judgement as to the conduct required in order to satisfy the individual circumstances. ... It cannot be assumed that compliance with the Guidelines will in any way be sufficient.

Because "best practice" requirements are generally expressed in terms of the practices accepted *internationally*, an oil corporation is liable to a finding they did not follow best practice as set out in an international guideline, even if the corporation is not a member of an industry association issuing the guideline. Where a company is a member of the organisation that issued the guideline, there is an even greater potential for guidelines to be used as legal standards of industry "best practice" in legal proceedings, as the company may be deemed to have "endorsed" the guidelines by virtue of its membership, even if the company was not actually aware of them.[108] The argument is even stronger in the case of oil companies that participated in the formulation of the industry standards.

As well as their use in interpreting petroleum contracts and legislation, national courts may invoke international guidelines in prosecutions for environmental offences. In particular, the ISO 14000 Series, or other industry standards for EMS based on the Series, may become the legal standard of due care in negligence cases concerning the environment. Alternatively, depending on the jurisdiction, the adoption and implementation of a comprehensive and effective EMS may provide the basis for a "due diligence" defence in cases of prosecution for environmental offences, reduce the risk of regulators implementing a prosecution, or, if a prosecution is mounted, may mitigate the penalty imposed by the court.[109] For example, in *EPA v Great Southern Energy*,[110] when imposing a penalty for pollution at the lower end of the range prescribed by legislation, the Land and Environment Court of New South Wales took into account the fact that the defendant had adopted an environmental policy using an EMS certified to ISO 14001 standards.
The implementation of an EMS may also be a penalty imposed on a corporation by judges for a breach of the law. This can be seen from the results of the prosecution of BP Exploration (Alaska) Inc (BPXA) in the US in 1999 regarding the illegal disposal of hazardous waste on Alaska’s North Slope. BPXA pleaded guilty in the US District Court at Anchorage to failing to notify authorities immediately about a release of hazardous substances into the environment. As well as agreeing to pay the maximum criminal fine of $5,000,000, under the plea agreement BP Amoco PLC must establish an EMS at all of its US facilities that are engaged in the exploration, drilling or production of oil. This is the first system of its kind in the US oil industry to result from a federal prosecution. BPXA must use best environmental practices to protect workers, the public and the environment, with a court-appointed environmental monitor overseeing the implementation of BP Amoco’s nationwide $15 million EMS system during a 5-year probation period.[111]

With increasing numbers of companies entering into negotiations and contracts with indigenous peoples, contracts for exploration and production on indigenous peoples’ lands may include terms that demand exploitation that is consistent with international best practice for protection of the environment, including the cultural environment. Again, international guidelines can provide a useful source for identifying "best practice", and provide a benchmark against which companies and human rights and environmental groups can monitor developments in guidelines to see if practice corresponds with written endorsed codes and statements. Alternatively, the contract may contain a clause promising to operate in accordance with international guidelines.

International guidelines also raise the standard expected of oil companies in ways other than their application by the courts. For example, governments themselves may require implementation of good environmental practices as a condition for granting development approval, even where these practices are not required by legislation. The adoption and implementation of an EMS "is so important in today’s operating environment that companies without a comprehensive EMS will find it increasingly difficult to gain approvals and on-going cooperation from regulatory authorities".[112] Pressure for companies to adopt best practice also comes from banks, multilateral lending agencies and insurance companies, the latter especially being concerned with avoiding the risks and costs of potential environmental litigation.[113]

Finally, the practices voluntarily adopted by one company may become a model for national oil and gas legislation, thereby raising the standard expected of other companies seeking to operate in that country in the future. For example, Texaco’s procedures for the exploratory drilling of the onshore site Dao Ruang 1 in Thailand in 1993, conducted according to the company’s Worldwide Exploration and Production Environmental Practices, were used by the Thai government as a model for drafting the Ministerial Regulations concerning Petroleum Environmental Management.[114]

Although the proliferation of national bodies with national standards may well raise the standards expected of oil companies in their operations overseas, there are a number of difficulties associated with the use of oil industry guidelines that may undermine their effectiveness in emerging economies (in addition to the various criticisms discussed above in relation to specific environmental practices).

The absence of the rule of law in many emerging economies, which undermines the effectiveness of national environmental laws, will impede the translation of non-binding guidelines into binding national law in emerging economies. The potential use of guidelines depends on the existence of a strong and independent judiciary that is prepared to hold oil companies accountable for their actions and interpret phrases in petroleum contracts such as "good oilfield practice" to mean the strictest level of behaviour outlined in Guidelines and Codes rather than the lowest common denominator. In the absence of a tradition of judicial independence, and in the absence of a political system where government action is restrained by the decisions of the judiciary, the likelihood that voluntary guidelines will harden into binding law is much reduced.
In particular, the ambiguity of the phrase "best practice" could provide considerable uncertainty where the phrase is used to interpret legislation, particularly in a country where the rule of law is absent. On the one hand, phrases such as "internationally acceptable best practice" and "good oilfield practice" are used to allow the legal system to incorporate changes in technology in the oil industry. There is a trade-off between the need for flexibility, encapsulated in such phrases as "good oilfield practice", and the ambiguity inherent in these terms.

One source of ambiguity lies in determining which practices are or should be generally accepted as "best" practice. Some areas such as environmental reporting are still in relatively early stage of development, and it is arguable that while environmental reporting is "cutting edge" and desirable practice, it is not yet a "generally acceptable" practice in the industry. This is particularly so for the reporting by an industry association of the aggregate performance of its members, and also for the measurement and reporting of cultural and social impacts as opposed to impacts on the physical environment. The actual practices of international oil companies, such as waste disposal methods, vary from company to company and, for one company, across jurisdictions, such as across the different States of the USA, making it difficult to identify the best practices actually in use.

In this context, the five general practices for protection of the environment examined in this article are not the only emerging practices that are or will develop to be part of "best practice". Companies should also use products that comply with API, ISO and IEC standards; and should also incorporate best practice regarding specific aspects of oil operations, such as waste disposal, drilling etc. Other principles include lifecycle assessment, green accounting, responsibility for restoration of the environment and payment of compensation when harm has occurred. In these areas, the issue of restoring the cultural environment and measuring damages for compensation for destruction of the cultural environment, not merely the physical environment, will provide challenging developments in the legal arena.

Ambiguity also stems from the existence of many guidelines in the international oil industry, of varying detail and sophistication, so that there is no one international guideline that can be easily pointed to as representing "internationally acceptable practice". For example, while I suggested that "best practice" or "internationally acceptable practices" for protection of the environment should include prior environmental assessment, including assessment of cultural impacts, the actual requirements for EIA differ between treaties, national laws, international and national oil industry guidelines and institutions such as the World Bank, and there might be a number of standards that are suitable for adoption.

Furthermore, as time passes, and guidelines become out of date, they must be revised and new guidelines prepared. There needs to be a mechanism whereby the standards and practices contained in the guidelines and documents of industry associations, NGOs and IGOs are reviewed and updated. There is a danger that in enforcement proceedings a company may point to an outdated guideline as justification for its operations being "best practice". However, expert evidence may be able to avoid this problem. Certainly it is not a problem that is specific to developing countries, as issues of interpretation and evidence apply to both developed and developing countries where ambiguous phrases such as "good practice" or "internationally acceptable practice" are used.

A possible solution to the choice of guideline to be used as evidence of "best practice" is to require oil companies to refer to the most stringent guidelines of the industry association of which the oil company is a member. For example, a US company operating in a Latin American country may be both a member of the OGP, API and ARPEL. The guideline that could be selected by the government (in enforcement proceedings) and/or by the relevant court may be the most stringent of these association guidelines. Alternatively, in proceedings before the court, the court could look at the operating practices of the same company in other jurisdictions and choose the most stringent practice as constituting "best practice". The relevant court would need expert evidence to ascertain which is the best practice.
While the need for interpretation of ambiguous phrases such as "best practice" is not particular to emerging economies, as legislation in developed countries such as Australia also incorporates these phrases to capture flexibility and technological change, the absence of a strong and independent judiciary in many emerging economies, together with governments strongly committed to oil exploitation, often at the expense of the environment, means that phrases such as "best practice" and "internationally acceptable norms" may be interpreted to require the lowest level of environmental protection rather than the most stringent practices.

In assessing whether or not international standards improve environmental performance, we see opposite forces at work. On the one hand, the absence of credible and effective voluntary monitoring mechanisms, inadequate enforcement of laws in emerging economies, and the short term competitive disadvantage that may be faced by a company incurring costs to implement guidelines vis-à-vis competitors that do not incur these costs and/or flout environmental laws, means that relying on voluntary international guidelines drafted by industry to improve environmental performance may actually lead to a "race to the bottom", where the standards are adopted that are less stringent than those that would prevail under a wellenforced legislative regime. On the other hand, the adoption by transnational oil companies of international guidelines provides the leading companies with a competitive advantage in a number of areas, such as preference in gaining government contracts, expedited development approvals and lower risks of litigation in the future. This leads to a "race to the top", with the leading companies imposing higher standards on their competitors in order to exploit this competitive advantage.[115]

The move towards privatisation of environmental law, where regulation is taken out of the public sphere and into the private sphere, through the proliferation of voluntary codes and guidelines, raises issues of equity. For example, in the case of oil exploration and production on the traditional territories of indigenous peoples, those groups that live in an area that is under potential development by a transnational oil corporation applying international best practice will reap benefits that another group, subject to a development process by a corporation with lower standards, will not enjoy. The fairness of this dichotomy in the application of standards must be questioned.

5 Suggestions for the Future

An issue that deserves consideration in the future is the extent to which the oil industry associations should be responsible for rebuking member companies should they fail to observe the standards endorsed by the association. For example, Judith Kimberling has identified several areas in which Occidental falls short of best practice in its operations in the Ecuadorean Amazon.[116] Occidental is a member of the American Petroleum Institute, and the API’s commitment to environmental stewardship is part of the association’s by-laws. What is and should be the extent of the powers of the API to regulate the behaviour of its members? Should the API and other industry associations monitor their members’ environmental (including "cultural") performance? Should the API revoke Oxy’s membership, and what effect if any, would this have on the company?

One solution to solving the problems of a multiplicity of standards, guidelines and practices, and to establish standardised performance indicators and reporting formats in the international oil industry, is to develop a self-regulatory code of conduct for the international oil industry. Such a code could be based on the mechanics of the worldwide chemical industry’s Responsible Care program, which is the most sophisticated self-regulatory environmental, health and safety code in existence.[117]

Responsible Care is coordinated worldwide by the International Council of Chemical Associations (ICCA) through its members, the national chemical manufacturers associations. The core of Responsible Care (as adopted by the Chemical Manufacturers Association in the US) is a set of Guiding Principles and six Codes of Management Principles. It is a condition of membership in the CMA that companies subscribe to the set of Guiding Principles, through the signature of the Chief Executive Officer, and incorporate the six Codes of Management Practice into their operations. These Codes of Practice incorporate and go well beyond existing legal requirements. Each national association accepted as an ICCA member must report
annually on its progress in the implementation of Responsible Care. National progress in implementing Responsible Care is measured internally through voluntary member self-evaluations and externally through a voluntary monitoring systems verification process, using independently verifiable performance measures for the six Codes of Practice.

An international oil industry code of conduct, which is drafted and implemented worldwide by an international industry association such as the OGP, and nationally through national or regional oil industry associations such as the API or ARPEL, could serve a useful role in providing uniformity to the body of environmental (and human rights) principles and practices established in the international oil industry, while still allowing for innovative approaches to improving environmental performance. An international industry code would also contain a number of limitations that would need to be addressed, for example, the free rider problem, the difficulty of developing a scheme that would involve all oil companies across the globe, including state-owned companies and geophysical contractors, and the establishment of effective sanctions for failure to comply with the code. In regard to this latter issue, governments may have a role to play in co-regulating an international oil industry association code. A global self-regulatory scheme would provide certainty with respect to the standards expected of oil companies as "best practice" and allow periodic review through the establishment of an appropriate review mechanism, and is an option that should be debated in the future.

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[1] There is no one clear, fixed and generally accepted definition of an emerging economy. For the purpose of this article, the term "emerging economies" refers to a group of countries that includes "countries in transition" from socialist to market economies, and "developing countries", that are, generally speaking, yet to undergo the industrialisation and development of high-technology societies of the Western "developed" countries. Development Assistance Committee, Development Co-operation Report 1997 (OECD, Paris, 1998) pA101; OECD, External Debt Statistics (OECD, France, 1997) at 4-5.


[6] For example, the worldwide chemical industry has adopted the Responsible Care programme as a self-regulatory health, safety and environmental management scheme, while an example of an international environmental code in the mining industry is the Mining and Environment Guidelines, adopted at the International Round-table on Mining and the Environment, Berlin, 25-28 June 1991.

[7] For example, the United Kingdom Offshore Operators’ Association’s (UKOOA) promotes "innovation rather than relying on compliance against prescriptive standards or technologies", while one of APPEA’s key objectives is "self regulation thorough the formulation and


[19] Ibid at 197-199.


[29] Ibid at 4-7.

[30] E&P Forum, Oil Industry Operating Guideline for Tropical Rainforest, above n8; Oil and Gas Exploration and Production in Mangrove Areas, above n8; Oil and Gas Exploration in Arctic and Subarctic Onshore Regions, above n8; E&P Forum, Exploration and Production Waste Management Guidelines, above n8; Decommissioning, Remediation and Reclamation Guidelines for Onshore Exploration and Production Sites, above n8.

[31] Oil and Gas Exploration and Production in Mangrove Areas, ibid at 1; Oil and Gas Exploration in Arctic and Subarctic Onshore Regions, ibid at 1.


[40] Ibid at 183-188.


[44] The ISO standards on EMS have their roots in BS7750, the first international EMS standard. Developed by the British Standards Institution in 1992 as the national EMS standard for the United Kingdom, and revised in 1994, the standard has since been withdrawn.


[51] Ibid Article 2(a).


[58] For an example of this situation, see Kimerling J, "International Standards in Ecuador’s Amazon Oil Fields: The Privitization of Environmental Law" (2001) 26 Colum J Envtl L 289.


[60] Ibid at 24-26.

[61] For examples of these indicators in the oil industry, see Kuhre W, ibid at 211-218; and API, Environmental Performance Indicators: Methods for Measuring Pollution Prevention, September 1994.


[63] Ibid at 57.

[64] Ibid.

[65] Ibid at 44.

[66] Ibid at 59.


[68] Ibid.

[69] The Oil Industry: Operating in Sensitive Environments, above n27; APPEA Environmental Policy, above n6.


[71] Ibid at 293.

[72] Ibid.


[74] Ibid Article 4.


[76] Prince W and Nelson D, ibid at 306.

Kimerling J, "The Environmental Audit of Texaco’s Amazon Oil Fields: Environmental Justice or Business as Usual?" (1994) 17 *Harv Hum Rts J* 199 at 200.

Ibid.


SustainAbility Ltd/UNEP, above n62, Appendix 1 at 62-63 lists a number of mandatory environmental reporting initiatives.


Ibid Article 3(f)-(h).

Ibid Article 3(f) and Annex V; see also European Commission, "Eco-Management and Audit Scheme", [www.europa.eu.int/comm/environment/emas/](http://www.europa.eu.int/comm/environment/emas/).

SustainAbility Ltd/UNEP, above n62, Appendix 2 at 64-65 lists a number of voluntary environmental reporting guidelines and initiatives.


SustainAbility Ltd/UNEP, above n62 at 10.


SustainAbility Ltd/UNEP, above n62 at 10.

Ibid at 11-23.

Ibid at 41.

Ibid at 43.


SustainAbility Ltd/UNEP, above n62 at 43 and 46.

Ibid at 43.
The other seven categories are: business values and integrity; human rights; distribution equity; diversity; employee conditions; employee development; and social investment.

Another manifestation of the move towards social accountability is "ethical investing" or "social investing". Ethical investing involves the purchase of securities in products in firms that meet positive criteria, such as environmental sensitivity, and avoiding investments in firms that meet negative criteria, such as weapons manufacturing. Zondorak V, "A New Face in Corporate Environmental Responsibility: The Valdez Principles" (1991) 18 Bost Coll Env Aff L Rev 457 at 481.

SustainAbility Ltd/UNEP, above n62 at 46.

The World Business Council For Sustainable Development supports the view that corporate social responsibility offers clear business benefits by enabling business to monitor shifts in social expectation, control risks, identify market opportunities and improve the corporation’s public reputation: WBCSD, above n104. Others have argued that the role of corporations is to make profit and maximise shareholder value, while achieving social justice is the responsibility of governments: Friedman C, "The Social Responsibility of Business is to Increase its Profits", New York Times, 13 September 1970 (Magazine), No.6 at 32, 126.


Furthermore, IGOs and NGOs that have mechanisms for monitoring compliance with human rights and environmental norms may be able to shame governments and corporations into abiding by the norms: Szasz P, above n3 at 71.


For example, clause 7.1.5 of Ecuador's Model for Service Contracts in Exploration and Exploitation of Hydrocarbons requires oil operators to "perform all of the services which are the object of this contract, according to the best techniques, equipment and generally accepted international practices for the hydrocarbon industry."

APPEA Code of Environmental Practice, above n11.

Armstrong K, above n56 at 3-41.

Wells D, above n46 at 537; Trainor K above n56 at 557.


"BP Amoco Admits Environmental Lapse", Oil and Gas Journal, 4 October 1999, 34-35.

The Oil Industry: Operating in Sensitive Environments, "Texaco Exploration in North East Bangkok", above n27. At the time of the report, the Thai government was intending to use Texaco’s procedures for closure of the site as the case study for future reference for other concessionaire operations onshore in Thailand.


Kimerling J, above n58.

For more information on Responsible Care, see Gunningham N, "The Chemical Industry" in Gunningham Neil and Grabosky Peter, Smart Regulation: Designing Environmental Policy (Oxford University Press, New York, 1998), and the Chemical Manufacturers Association (US) internet site, www.cmahq.com/responsiblecare.nsf