

Managing environmental and social risks in international oil and gas projects: Perspectives on compliance

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1. Introduction

Background

Oil and gas exploration and production (E&P) and associated energy infrastructure projects take place across the globe in a diversity of environmental and socio-economic settings from the Arctic to the humid tropics. Energy industry activities are also inherently complex and risky. They involve a variety of environment, health and safety (EHS) and social issues that need to be carefully managed alongside geologic, political and economic risk factors.

Worldwide, stakeholders are demanding ever-higher levels of environmental and social performance from the industry. In addition to EHS concerns, a wide range of social issues, such as human rights, revenue management, ethics, governance and corruption, have become increasingly significant in terms of both perception and conduct of industry activities.

As a result, oil and gas companies are being exposed to a steady proliferation of policies, laws, guidelines and other norms applicable to their activities. Increased regulation has expanded the potential for legal, financial, reputational and other liabilities. More generally, the role of international companies is being redefined, as civil society expects them to accept broader responsibilities for managing environmental and social impacts of their activities on the communities and environments with which they interact.

Forward-looking companies recognize that shareholder value and environmental and social responsibility are mutually supportive. They understand that business benefits can come from following best environmental and social practices and with enhanced accountability and transparency. Underlying this awareness is the knowledge that environmental and social issues can be decisive in determining whether and at what pace projects can proceed.¹

Scope of article

This article addresses important trends in the field of environmental law and corporate social responsibility (CSR) that are of material interest to the international oil and gas

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¹ Murray Jones and Jay Wagner, 'Strategic assessment of oil and gas activities: Looking beyond EIA/SIA', Society of Petroleum Engineers (SPE 2004). Paper Presented at the Seventh SPE International Conference on HSE in Oil and Gas E&P (Calgary, Alberta, Canada, 29–31 March 2004).

industry, especially in the context of major energy projects. Information is provided to help decision-makers in oil and gas companies and their advisors manage environmental legal and social risks, improve performance and, ideally, capitalize on the potential of CSR to help them achieve competitive advantage.²

Following a brief overview of the current oil and gas business environment, the article highlights key environmental and social issues affecting the international E&P sector and some of the driving forces underlying them. It reviews selected legal and non-legal policy instruments, initiatives and trends in the environmental and social arenas. Finally, it discusses measures companies can take to manage environmental and social risks and avoid potential compliance problems.

The discussion goes beyond legal compliance, because it is important for industry practitioners to understand the wider context of relevant risks. Indeed, environmental and social issues can delay permits or even derail projects through stakeholder protests and operational interruptions, complications in securing project finance or reputation damage. Quasi-legal and non-legal initiatives relating to such issues may be imposed on or voluntarily adopted by companies and can influence the development of law and policy at national and international levels. Because environmental and social issues can materially affect companies at both the corporate and project levels, forward-looking companies actively manage relevant risks from a broader perspective than simply compliance with current legal requirements and well in advance of new requirements being imposed through legislative fiat or litigation.

2. Oil and gas business environment

Although proven oil and gas reserves worldwide have almost doubled since 1980,³ the actual volume of oil in new discoveries has dropped well below the volume of oil produced in recent years, with the fall being most acute in the Middle East and the Former Soviet Union. Conventional oil production from countries not in the Organization of Petroleum Exporting Countries (OPEC) is also projected to decline in the coming 5–10 years.⁴

Decline rates imply a need for more upstream investment, both in existing fields (to combat natural decline) and in new fields (to offset falling production from existing fields and to meet rising demand).⁵ Technological advances, such as enhanced recovery from traditional reservoirs, drilling in ultra-deep waters and into sub-salt formations, and expanded development of unconventional sources such as heavy oil and oil sand, will contribute substantially to global oil and gas supply prospects. However, it is not clear whether sufficient new supplies will be discovered to fully offset anticipated supply declines.

² The term CSR is used generally, recognizing that there is no universally shared definition of the term and that the concept of CSR has different connotations in different countries and regions.

³ Global proven reserves of natural gas at the end of 2008 stood at 6,534 trillion cubic feet, with most gas resources concentrated in the Middle East (41%) and the Former Soviet Union (34%). BP, *BP Statistical Review of World Energy* (June 2008) 22–3. BP (n 3) 41.

⁴ International Energy Agency (IEA), *World Energy Outlook 2008* (OECD/IEA 2008) 43. According to the IEA Chief Economist, if no big new discoveries are made, the output of conventional oil will peak in 2020 if oil demand grows on a business as usual basis. This is the first time the IEA has committed itself to a firm prediction when oil supplies might cease to grow.

At the same time, the International Energy Agency (IEA) projects that world primary energy demand is set to grow by 45 per cent, from 11.7 billion in 2006 to 17 billion tons of oil equivalent (toe) in 2030.⁶ Fossil fuels are projected to remain the dominant source of primary energy, accounting for 84 per cent of the overall increase in global energy demand between 2005 and 2030.⁷ Much of this demand will be from emerging economies, in particular China and India, which account for almost 50 per cent of the developing world's energy demand.⁸ The message from the statistics is clear: total upstream investment will need to rise to offset anticipated decline⁹ and assure adequate supplies to meet future anticipated demand.

Notwithstanding climate change and environmental policy interventions by governments designed to address current global trends in energy consumption and supply, petroleum exploration and development are widely expected to grow significantly in the coming years. E&P investment hotspots include deep and ultra-deep water plays, shallow offshore areas (eg, China and the Caspian), onshore areas in Latin America (including the Amazon basin), Africa, parts of the Far East and the Arctic.¹⁰ Invariably, E&P will increasingly occur in environmentally and socially sensitive areas and in developing countries often characterized by poor governance, civil conflict and weak or poorly enforced environmental controls.

While the oil and gas sector has been adapting to rising expectations for environmental and social responsibility, fundamental shifts have been taking place in the structure of the industry. Alongside a resurgence in resource nationalism in some producing countries in recent years, national oil companies (NOCs) are playing an increasingly prominent role in global oil and gas exploration and development, often in competition with international oil companies (IOCs). Mid-sized independent companies have also been growing rapidly, with major discoveries, developments and operating fields in key prospective regions. NOCs and independent companies have historically not been as exposed or vulnerable as IOCs to external pressures in the form of adverse media attention, NGO campaigns and shareholder activism. But that will likely change in the future.

All of these changes within the sector will affect how environmental and social performance issues will be felt and responded to by the industry and its stakeholders. The environmental and social practices of many companies in the industry have changed in major and positive ways in recent years. But change has not been consistent, and the issues challenging industry action and reputation are many, complex and evolving.

3. Key environmental and social issues

Overview

Environmental and social issues have steadily grown in significance for the oil and gas industry over the past four decades. There has been a continual expansion of the issues

⁶ IEA (n 5) 78.

⁷ BP (n 3) 22–3; IEA (n 5) 279–88.

⁸ IEA (n 5) 79–88.

⁹ IEA (n 5) 221.

¹⁰ Ivan Sandrea and Rafael Sandrea, 'Exploration trends show continued promise in world's offshore basins. Growth expected in global offshore crude oil supplies' (5 March 2007) *Oil & Gas J* 1–4.

companies and their stakeholders view as important and for which stakeholders expect companies to take responsibility. This has added significantly to companies' exposure to legal, economic, regulatory and reputational business risks.

Traditional environmental issues associated with E&P activities, such as controlling produced water discharges, managing waste, avoiding impacts on vulnerable species, and decommissioning, continue to be important and challenging for companies, especially when operating in remote or underdeveloped regions. In addition, activities once considered to be local, such as flaring and land clearing, are often now also viewed as aspects of global issues, such as climate change and biodiversity loss.¹¹

In many areas of the world, social issues can present even greater challenges to successful oil and gas development than environmental issues. Social issues cover a wide spectrum, such as human rights and security, community health, energy revenue management and transparency, governance, corruption, national and local poverty alleviation, social investment and capacity development, and relations with indigenous peoples.

Lack of government capacity, weak or no rule of law, political and civil/armed conflict and a host of other factors have long been characteristic of many countries in which the oil and gas industry has pursued its business. However, the nature, scale and consequences of such problems create the potential for significant disruption to sustainable long-term energy and economic development in key regions of the world. For this reason, they are receiving growing attention from governments, multilateral organizations, NGOs and industry alike.

Oil and gas investment can have significant positive local and, in the case of major projects, regional and national economic impacts. Oil and gas companies can, in fact, play a significant role in stimulating local economic development. For example, companies can contribute to broader improvement in environmental and social conditions by implementing best environmental practices, training the local workforce and working with their supply chains to improve environmental and social standards.

However, large extractive industry investments can also give rise to a range of negative effects, especially in countries with weak governance capabilities.¹² Such effects include increased corruption, disintegration of traditional local community social and economic structures, failure to deliver meaningful and sustainable benefits to local communities, and other outcomes counterproductive to delivering sustainable economic and social

¹¹ For example, the World Bank-led Global Gas Flaring Reduction Initiative is intended to address both local environmental impacts of flaring and the contribution of industry flaring emissions to global climate change (see <<http://www.worldbank.org/ggfr>>).

¹² The *Organisation for Economic Co-operation and Development (OECD) Risk Awareness Tool for Multinational Enterprises in Weak Governance Zones* defines weak governance zones as

investment environments in which public sector actors are unable or unwilling to assume their roles and responsibilities in protecting rights (including property rights), providing basic public services (eg, social programs, infrastructure development, law enforcement and prudential insurance) and ensuring that public sector management is efficient and effective

. *OECD Risk Awareness Tool for Multinational Enterprises in Weak Governance Zone* (OECD 2006) 11 <http://www.oecd.org/document/26/0,3343,en_2649_34889_36899994_1_1_1_1,00.html>.

development in these countries.¹³ While unintended, these dynamics can have a profound effect on the social and economic stability of host countries and local communities.

Host governments typically expect oil and gas companies to aggressively pursue exploration and development, sometimes at the expense of addressing environmental and social impacts associated with those activities. At the same time, companies must deal with local communities and NGOs who trust neither companies nor the government to protect their interests in these arenas. All too often in the past, local communities have either not been consulted or have lacked an effective voice to influence oil and gas activities that have dramatically affected them and their lands. Further, they may feel they have received little or no benefit from these activities.

Paradoxically, government failure to deliver effective governance in the form of environmental protection and economic and social development often results in both government and local communities seeking to shift the burden of delivering such benefits to oil and gas companies. Companies may have no choice but to assume that role, if only to ensure that the project is approved by government and receives initial and sustained community support. At the same time, companies must resist taking on functions that are more appropriately those of the government. This can be a significant challenge, especially in the context of social investment schemes. Managing stakeholder expectations through early and meaningful stakeholder consultation is particularly important in such circumstances.

Against this background, stakeholders have become increasingly vocal. They seek assurances that companies are committed to assessing and minimizing the environmental and social impacts of their activities even absent a legal obligation to do so, and to implementing suitable EHS and social performance management systems. They also expect companies to engage in far more robust and effective stakeholder consultation than has historically been the case in many parts of the world,¹⁴ and to deliver meaningful and sustainable benefits to local communities over the life of the project and operations.

The growing emphasis on stakeholder consultation reflects broader expectations regarding transparency and accountability on the part of industry.¹⁵ Companies have chosen and/or been forced to increase internal and external performance reporting and other communications to respond to growing shareholder activism, NGO campaigns and demands by local communities. Initially a company-specific exercise, reporting

¹³ See Macartan Humphreys, Jeffrey Sachs and Joseph Stiglitz, *Escaping the Resource Curse* (Columbia University Press 2007) ISBN-10:0231141963, ISBN-13: 978-0231141963.

¹⁴ Alongside a proliferation of stakeholder consultation guidelines developed by multilateral organizations, NGOs and others, project finance requirements set by financial institutions, such as the International Finance Corporation (IFC), private banks and export credit agencies, have become much more demanding.

¹⁵ A significant expression of this trend is the Extractive Industries Transparency Initiative (see <<http://www.eitransparency.org>>), a coalition of governments, industry and civil society that seeks to improve governance in resource-rich countries through verification and publication of company payments and government revenues from oil, gas and mining investment.

and disclosure are gradually becoming more standardized, although differences in how companies report continue to make industrywide comparisons difficult.¹⁶

It is important to note, however, that socio-economic issues generally do not lend themselves to quick, technological ‘fixes’. Identifying, understanding and managing such complex issues requires expertise not traditionally found within oil and gas companies, such as in ecology, sociology and anthropology, rural economic development and emerging environmental markets. Further, however valuable it is for companies to take action to address CSR issues, as a practical matter there will inevitably be constraints on such actions in areas of the world suffering from governance problems.¹⁷

Nonetheless, by extending the traditional EHS agenda to cover these wider questions, companies have the opportunity to positively influence key industry concerns, such as the long-term license to operate, permitting of new projects and media coverage. While addressing such issues can have significant cost and time implications for companies, ignoring them is not an option.

Meanwhile, oil and gas companies increasingly have to address project-specific environmental, social and economic issues that are simultaneously local, regional and international in nature and that have become increasingly intertwined with questions relating to global environmental and social sustainability. Three issues – climate change, biodiversity conservation and water – illustrate these linkages.

Climate change

Global climate change is the single most important environmental issue facing the international energy industry today. Satisfying growing global energy demand while at the same time limiting or reducing emissions of key greenhouse gases, such as carbon dioxide and methane, presents an enormous challenge. According to the IEA, between now and 2030 the bulk of the increase in energy demand will be met by fossil fuels. Renewable energy sources, such as wind and solar, will enjoy high growth rates. However, they start from a very low level and, according to some analysts, are likely to have a limited impact in this timeframe.

Greenhouse gas emissions are projected to continue to grow in line with global economic activity and energy demand.¹⁸ Achieving the deep emissions reductions likely to be necessary to stabilize the climate will entail significant changes in the way society pro-

¹⁶ One of the most important reporting initiatives to date is the Global Reporting Initiative (GRI). GRI has announced formation of a multi-stakeholder working group to develop sustainability reporting guidelines for the oil and gas sector that will supplement GRI’s current extensive reporting guidelines (see <<http://www.globalreporting.org/ReportingFramework/Sector-Supplements/OilAndGas/OilAndGasSectorSupplement.htm>>. Guidelines on sustainability and non-financial reporting in the oil and gas industry are also set out in ‘Oil and Gas Industry Guidance on Voluntary Sustainability Reporting’, a joint product of the International Petroleum Industry Environmental Conservation Association (IPIECA) and the American Petroleum Institute (API) (see <<http://www.api.org/ehs/performance/industry-vol-report.cfm>>). The US Securities and Exchange Commission (SEC) also requires US-based companies to report on environmental issues (see discussion in Davis Polk and Wardwell ‘Environmental disclosure in SEC filings’ (21 January 2009) <<http://www.davispolk.com/1485409/clientmemo/01.21.09.env.disclosure.sec.filings.pdf>>).

¹⁷ Jędrzej George Frynas, *Beyond Corporate Social Responsibility: Oil Multinationals and Social Change* (CUP 2009) ISBN: 928-0-52186-844-0.

¹⁸ See *Climate Change 2007: Synthesis Report* (Intergovernmental panel on climate change 2007) <http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf>.

duces and uses energy. It will require the development and deployment of energy-efficient and low-emission technologies for all major sectors of the economy and for all major regions of the world. This will pose significant challenges for the international oil and gas industry and highlights the need for individual companies and industry as a whole to take action to address climate change risk.¹⁹

Concern about climate change is being expressed in many forms at the international, national and local levels around the world, not least in activities surrounding the United Nations Framework Convention on Climate Change (UNFCCC). The oil and gas industry is feeling the effects of that concern in diverse ways. Tighter regulation of emissions of key gases in some countries, and stakeholder pressure more universally, are driving companies to apply emissions control technologies, reduce and avoid flaring, and implement energy efficiency measures. Likewise, they increasingly face national policies to promote use of natural gas over coal and oil, and alternative energy sources over fossil fuels, with associated implications for companies' current and future investment pipelines.²⁰

To add to the complex challenges facing industry, organizations interested in climate change or human rights as independent corporate responsibility issues are beginning to link the two, with some supporting creating a legal liability for the impacts of climate change on human rights.²¹ Much concern is being paid globally to the environmental and social effects of potential interactions among changes in climate, biodiversity and water. Such trends add substantially to the challenge companies face in managing such complex issues in their business.

In consequence, companies are facing growing pressure to take visible steps to mitigate the impact of their activities on the climate, both from operations and along the supply chain. Such steps might mean reducing the carbon intensity of the company's E&P portfolio on a commercial basis (ie, through purchasing carbon credits on the carbon markets) or shifting new investment and development toward natural gas and, ultimately, away from hydrocarbons to other types of energy. Industry's participation in carbon markets is taking place alongside significant industry efforts to find technological solutions to reduce carbon emissions, such as through carbon capture and storage.

Climate change uncertainties are also now driving companies to focus more attention on assessing potential vulnerability of their facilities and infrastructure to new and more intense climate-related environmental stresses.²² A recent study notes that environment-

¹⁹ See *The Oil and Gas Industry and Climate Change* (IPIECA, June 2007) <http://www.ipieca.org/activities/climate_change/climate_publications.php#21>.

²⁰ Alternative energy development brings its own environmental and social challenges and is being increasingly scrutinized as a result, such as for emissions of greenhouse gases over the lifecycle of their development and use, and habitat destruction associated with production facility footprint.

²¹ See eg, Ryan Schuchard and Nicki Weston, 'The Nexus of climate change and human Rights' (26 June 2009) <<http://www.climatebiz.com/blog/2009/06/25/nexus-climate-change-and-human-rights>>.

²² Many of the world's largest oil and gas facilities are only slightly above sea level. Over a quarter of US oil production and close to 15% of US natural gas production, eg, come from the Gulf of Mexico. Almost 10% of US refining capacity, as well as much offshore Gulf production, were shut down in preparation for the 2008 hurricanes.

related disruptions to energy facilities, including offshore oil and gas installations and pipelines, have been reported with increased frequency in recent years.²³

Much of the world's major energy infrastructure lies in low-lying coastal areas that are at risk from increased storm activity and flooding and are predicted to become increasingly physically unstable due to environmental changes. Some areas of the Arctic may become more accessible as a result of climate change, such as through melting of sea ice. However, other areas may become more challenging for operations because of such issues as permafrost melt. Thus, new facilities will need to be designed and existing infrastructure retrofitted to deal with changing environmental conditions. Facility operational integrity compromised by climate change effects may, in turn, cause environmental and social impacts, such as from spills and supply interruptions.

In other words, climate change presents both risks and opportunities to the oil and gas industry. Understanding emerging expectations and associated regulatory, technological, and commercial developments surrounding climate change has become a critical skill for the energy industry in an increasingly carbon constrained world.

Biodiversity conservation and protected areas

Biological diversity (or biodiversity, as it is often referred to) is the variety of life on earth, from bacteria to human beings. It encompasses terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part, and includes diversity within species (ie, genetic), between species and of ecosystems.²⁴

Biodiversity is fundamental to human well-being, producing goods such as clean air, fresh water, food, medicines and shelter, as well as essential services such as air and water purification, drought and flood control, and cycling of nutrients. Put simply, biodiversity is the basis for the planet's life support system. Interwoven with these functional aspects are spiritual, cultural and recreational elements that in many countries and cultures are considered to be at least as important as the more functional aspects of biodiversity.²⁵ Biodiversity also has intrinsic value in addition to the materials and services it supplies.

Biodiversity is being lost at an alarming rate as human populations grow. The current rate of global biodiversity loss is mainly caused by habitat destruction and fragmentation, pollution and overuse of natural resources (eg, overfishing and intensive agriculture). Species of all kinds are threatened by habitat destruction and modification, such as the loss of tropical rainforests and introduction of exotic or invasive species.²⁶ Ecosystems globally are under enormous stress, with consequent loss of critically important services they provide for human beings. Feedback mechanisms between climate change and ecological systems appear to be intensifying. These, in turn, have significant implications for

²³ Cleo Paskal, *The Vulnerability of Energy Infrastructure to Environmental Change* (Briefing Paper) (Chatham House, July 2009) <http://www.chathamhouse.org.uk/files/13901_bp0409energy.pdf>.

²⁴ Convention on Biological Diversity (1992) art 2 <<http://www.cbd.int/doc/legal/cbd-un-en.pdf>>.

²⁵ IPIECA, *A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector* (IPIECA 2005) 2.

²⁶ According to some scientists we are now in the early stages of the sixth great extinction, but unlike previous extinction events, which were caused by natural forces, this one is of human origin. See Lester Brown, *Plan B 2.0: Rescuing a Planet Under Stress and a Civilisation in Trouble* (Norton & Co 2004) 95.

the well-being of a society dependent on biological resources for survival and development.

Concern about global biodiversity loss has given rise to a wide array of international, regional and national responses, including the UN Convention on Biological Diversity (CBD),²⁷ and an enormous array of programs and initiatives by governments, academia, industry and NGOs. Of particular interest to the E&P sector is the target adopted under the CBD to ensure that at least 10 per cent of each of the world's ecological regions is effectively conserved.²⁸ Emphasis is placed on designating new protected areas, including Marine Protected Areas and coastal parks, where access and use conditions often severely restrict or exclude resource extraction activities. Associated with this trend is the persistent debate whether some areas are so ecologically sensitive that they should be 'no go' areas for energy-related activities.

At the same time, efforts by industry and some governments to open access to remote and sensitive areas to secure new oil and gas reserves have the potential to generate complex social and environmental issues and conflicts with local communities and NGOs. These, in turn, raise the risk of major permitting challenges and reputation damage to companies and the industry as a whole. These trends have obvious implications for the siting of E&P activities. It is therefore imperative for companies to carefully map the locations of protected and potentially sensitive areas during the planning stages of projects, to avoid delays or the need to engage in expensive redesign and rerouting of facilities.²⁹

Global biodiversity loss is a concern in its own right, because of the threats it poses to ecological systems and human society. Such loss will likely be exacerbated by global climate change. For these reasons, biodiversity conservation represents one of the most important challenges of the 21st century, with significant access and operational implications for energy development activities. Therefore, companies in the oil and gas industry face the challenge of understanding what biodiversity conservation means to them in practical terms and how their day-to-day activities can be organized and managed to maximize biodiversity conservation and enhancement.

Water

Freshwater

Water is one of the most critically important resources globally, arguably more important than oil. It is essential to maintain human life, sustains the food chain and underpins the world economy. Virtually every industry – from agriculture, power generation and manufacturing to beverage, apparel and tourism – depends on it in some way. Water also plays multiple roles in petroleum operations: as a process aid for oil production, a by-

²⁷ See <<http://www.cbd.org>>.

²⁸ UNEP-WCMC, 'Progress Towards the Convention on Biological Diversity's 2010 and 2012 Targets for Protected Area Coverage', A technical report for the IUCN international workshop 'Looking to the Future of the CBD Programme of Work on Protected Areas', Jeju Island, Republic of Korea, 14–17 September 2009.

²⁹ Tools are available and being developed that can help companies obtain information about location and characteristics of individual protected and sensitive areas. These include the World Database on Protected Areas (WDPA), a joint product of the UNEP and the World Conservation Organization (IUCN) (see <<http://www.wdpa.org>>) and the Integrated Biodiversity Assessment Tool (IBAT) (see <<http://www.ibatforbusiness.org>>).

product or waste from oil or gas production, a process aid for gas processing and oil refining, and a by-product or waste from gas processing and oil refining. Moreover, it is an invaluable resource to neighboring communities, local agriculture and other industry sectors where the oil and gas industry operates.

Yet, water is becoming increasingly scarce globally due to the confluence of population growth, urbanization and climate change. Deteriorating water quality exacerbates supply problems, especially in developing countries. In many regions demand for water now outstrips renewable supplies and this gap will likely widen in coming years. Moreover, water pollution is getting worse in many developing economies, intensifying the challenge of delivering sufficient water of the quality required to meet human needs and sustain critically needed ecological support systems.³⁰

Not surprisingly, concerns over fresh water quality and availability have been rapidly rising in importance as national strategic and even security issues. Conflicts over water are anticipated to increase in coming decades as growing populations deplete and contaminate available supplies. Yet, few companies and investors appear to be thinking strategically about the business risks and opportunities that will exist in a world of rapidly diminishing water supplies, creating significant challenges to businesses and investors who have traditionally taken clean, reliable and inexpensive water for granted.

Essentially, the oil and gas industry faces three types of water-related risks: (1) physical risks (affecting sectors in which water is consumed in the production process, where a lack of water of adequate quality directly reduces production); (2) regulatory risks (which have to do with the conditions under which it may be used or discharged, with regulation having become dramatically more important in recent years);³¹ and (3) reputation risks (where increasing competition for clean water among economic, social and environmental interests has a large potential for damaging the reputation and even growth prospects of companies).³²

These risks often appear in combination.³³ For example, energy activities that are perceived as consuming large amounts of freshwater supplies or discharging pollution into such supplies will be growing targets for government regulation and local community opposition. Insufficient or unreliable water supplies for existing and future operations will also contribute to friction with competing industry and other users.

³⁰ See UNEP, *Global Environment Outlook (GEO-4)* (2007).

³¹ Traditionally, many industries were able to obtain water at little or no cost by drilling their own wells or installing their own intake pipes. Regulatory responses include permits, prices or both to control consumption and discharge. See JP Morgan Global Equity Research, 'Watching Water: A guide to evaluating corporate risks in a thirsty world' (1 April 2008) <http://www.jpmorgan.com/cm/Satellite?blobcol=urldata&blobheader=application/pdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1158484353549&ssbinary=true&blobheadname1=Content-disposition&blobheadvalue1=attachment;filename=Watching_Water_A_guide_to_eva>.

³² This is particularly true in developing countries, where water use and discharges associated with industry operations can have significant direct effects on the livelihoods of people who may themselves not have sufficient access to clean water. At the same time, water issues can be highly significant in developed countries, such as Canada. According to one report, water risks are particularly important in new tar sands developments, which use 4–5 litres of water to separate out each liter of oil. See CERES and The Pacific Institute, 'Water scarcity and climate change – Growing risks for businesses and investors' (February 2009) 11–5 <http://www.pacinst.org/reports/business_water_climate/full_report.pdf>.

³³ JP Morgan, n 31.

All these aspects are likely to translate into difficulty for oil and gas companies to secure permits in water-sensitive areas. There will be increased potential for future liability, especially where potential or actual pollution from disposal practices is involved. Meanwhile, stakeholders, such as government, local communities, NGOs, farmers, local industries and the financial sector (eg, through socially responsible investment funds), can be expected to pressure companies to help address emerging water crises in regions where the companies operate or hope to.

Oceans and coastal waters

The rapidly growing body of scientific data about the health of the oceans is catalyzing efforts by governments, multilateral organizations and NGOs to control pollution and protect resources in coastal and marine areas. Substantial portions of the world's oceans are being subjected to multiple stresses, particularly in the form of land-based pollution from surface run-off, waste disposal and chemical contamination. These stresses are multiplying as coastal populations grow.

Fisheries are in decline, formerly abundant species are becoming rare, food webs are being altered, and invasive species and diseases are proliferating. Pollution from shipping, offshore drilling and cruise ships adds to the strain on coastal ecosystems, and questions and concerns about impacts of marine noise from activities, such as geophysical surveys, continue to be raised. More frequent and intense conflicts among competing users of coastal and marine resources are occurring around the world.

New challenges, such as increasing ocean temperatures, sea level rise, increased storm activity and ocean acidification, are expected to add to current ongoing unresolved coastal and marine issues. Taken together, such multiplying concerns highlight the apparent need to strengthen ocean governance and develop and implement more rational and integrated approaches to use of coastal and marine areas.

Convergence between protected areas and areas sought by industry for energy exploration and development serves to accentuate stakeholder concerns about the consequences of such activities. Even with careful planning and management, oil and gas development can have significant impacts on coastal and marine water quality and ecological systems, as a result of dredging for facility installation and maintenance, spills, operational discharges and other activities. It can also generate conflicts with other uses of coastal and marine resources, such as fishing, recreation or esthetic enjoyment.

These concerns reinforce pressure on the industry to cease discharges of polluting substances, which is being reflected in a general trend (both regulatory and voluntary within the industry³⁴) toward a 'zero harmful discharges' regime offshore. This is especially the case in recognized sensitive areas such as the Norwegian Barents Sea, but similar, if not necessarily identical, trends are in evidence outside of the OECD. The industry will also

³⁴ Chevron's \$3.8 billion Tombua–Landana development project offshore Angola is an example of a voluntary effort to design a major project for zero discharge of produced water. See John Waggoner, 'Tombua–Landana: A monument to innovation off Angola' *Offshore Magazine* (1 December 2009) <http://www.offshore-mag.com/index/article-display/2343502964/articles/offshore/volume-69/issue-12/top-5_projects/tombua-landana_-a.html>.

face a continuing need for action to address concerns about potential noise impacts from marine geophysical activities on marine mammals, fish, turtles and other marine biota.³⁵

4. Trends in environmental and social law and policy

General observations

Over the past 30 years, the international oil and gas industry has been coping with ongoing elaboration of legal requirements and norms for environmental and social performance at the international and national levels. Relevant law consists of international conventions, regional law (as in the European Union) and national law (supplemented by internal regional/local law). This 'hard' law in the environmental and social arenas is characterized by a broad diversity of form, subject matter, sponsoring and implementing governmental institutions, and supporting constituencies within civil society.

The impact of international conventions that are implemented through national law can vary widely from country to country in degree and effectiveness. Implementation and enforcement of national law around the world ranges from highly rigorous to non-existent. A recent survey of environmental governance in petroleum producing-countries done for the World Bank, eg, showed that while environmental protection is considered to be a key component of good governance in most countries, much of the emphasis is directed toward the approval of oil and gas projects, rather than to a lifecycle approach for minimizing environmental and social impacts. The same survey also found that, although many countries have transposed international conventions into national law, many lack a mechanism to require oil and gas companies to adhere to the regulatory framework for managing environmental and social impacts.³⁶

These limitations in international and national law have contributed to the development of a diverse set of non-legal norms and guidelines on environmental and social issues by organizations seeking to fill the gap left by weak regulatory regimes. Even lacking direct enforceability, such non-legal and quasi-legal approaches can be viewed as representing a degree of consensus among a relevant suite of key actors on principles for environmental and social performance. They have the potential to be converted into hard legal requirements through incorporation into national regulations, project finance or other contractual agreements, as well as other mechanisms that impose legal obligations on companies. For these reasons, it is important for oil and gas companies to be aware of key non-legal norms and standards, as well as formal laws and legal precedents, on relevant environmental and social issues.

³⁵ A major initiative in this regard is the multi-year, joint industry program under the umbrella of the International Oil and Gas Producers Association (OGP) to support research into the potential impacts of sounds generated by upstream oil and gas activities on different forms of marine life (see <<http://www.soundandmarinelife.org>>).

³⁶ The World Bank, *Environmental Governance in Petroleum Producing Countries – Findings from a Comprehensive Survey* (September 2009) <<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/0,,contentMDK:22189334~menuPK:6201087~pagePK:148956~piPK:216618~theSitePK:336930~isCURL:Y,00.html>>.

International conventions

A variety of international and regional conventions deal in whole or in part with environmental and social issues relevant to oil and gas E&P activities. They cover such subjects as law of the sea,³⁷ marine waste disposal,³⁸ the rights of indigenous peoples³⁹ and a variety of labor and human rights topics. A brief examination of two conventions – on climate change and biodiversity – indicates how they illustrate the role and influence of international law in relation to oil and gas activities.

Climate change

The UNFCCC⁴⁰ was adopted in 1992 in response to concerns that human activities are warming global climate. The objective of the Convention is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous man-made interference with the climate system. The treaty itself sets no mandatory limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. However, it provides for protocols to set mandatory emission limits.

The principal update is the 1997 Kyoto Protocol,⁴¹ which has become much better known than the UNFCCC itself. Under its terms, most industrialized nations and some central European economies in transition (called ‘Annex I countries’) agreed to legally binding reductions in greenhouse gas emissions⁴² of an average of 6 to 8 per cent below 1990 levels between the years 2008 and 2012. Countries with commitments under the Protocol to limit or reduce greenhouse gas emissions must meet their targets primarily through national measures. The Protocol introduced three market-based mechanisms as supplemental means of meeting these targets, thereby creating what is now known as the ‘carbon market’. The Kyoto mechanisms are emissions trading, the Clean Development Mechanism (CDM) and Joint Implementation (JI).⁴³

³⁷ United Nations Convention on the Law of the Sea (UNCLOS) (1992) 1833 UNTS 3 <http://treaties.un.org/Pages/ViewDetailsIII.aspx?&src=UNTSOnline&mtdsg_no=XXI~6&chapter=21&Temp=mtdsg3&lang=en>.

³⁸ Convention on the prevention of marine pollution by dumping of wastes and other matter (1972), known as the London Convention, administered through the International Maritime Organization (IMO) <http://www.imo.org/includes/blast-DataOnly.asp/data_id%3D16925/LC1972.pdf>.

³⁹ Convention on Indigenous and Tribal Peoples in Independent Countries (ILO No 169) (1989), administered by the International Labour Organization <<http://www.ilo.org/ilolex/cgi-lex/convde.pl?C169>>.

⁴⁰ <<http://unfccc.int/resource/docs/convkp/conveng.pdf>>.

⁴¹ <<http://unfccc.int/resource/docs/convkp/kpeng.pdf>>.

⁴² The six gases covered by the protocol are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆). The most prominent of these, and the most pervasive in human economic activity, is carbon dioxide, produced when wood or fossil fuels such as oil, coal and gas are burned.

⁴³ Article 6 of the protocol specifies that emissions trading must ‘be supplemental to domestic actions’, meaning a country cannot entirely fulfill its responsibility to reduce domestic emissions by relying primarily on emissions trading or JI to meet its targets. JI and CDM are the two project-based mechanisms that feed the carbon market. JI enables industrialized countries to carry out JI projects with other developed countries, while the CDM involves investment in sustainable development projects that reduce emissions in developing countries.

Implementation of the emissions reduction commitments set out in the Protocol has been incomplete in the face of many challenges and uncertainties. Nonetheless, the Protocol has provided the impetus to the European Union and other national governments (including, if only recently, the United States)⁴⁴ to move to control greenhouse gas emissions from industry and other sources. Such efforts have taken the form of a wide variety of direct emission controls, market mechanisms (such as carbon taxes and 'cap and trade' schemes), enhanced energy efficiency measures, and mandates and financial incentives for development and use of renewable energy sources to replace fossil fuels. These activities are expected to continue to expand and multiply, despite the failure of international climate change negotiations in Copenhagen in December 2009 to reach consensus on a binding agreement to replace the Kyoto Protocol, which is scheduled to expire in 2013.

Biodiversity

Ratification and entry into force of the 1992 United Nations Framework CBD Convention signalled acceptance of global biodiversity loss as an issue requiring broad and aggressive international, national and local action. The Convention addresses a wide-ranging set of topics, of which some are of particular interest to the oil and gas industry. These include requirements for Parties to the Convention to develop national strategies, plans or programs for the conservation and sustainable use of biological diversity (Article 6); to establish a system of protected areas where special measures are to be taken to conserve biological diversity (Article 8); to regulate or manage biological resources important for biodiversity conservation both inside and outside protected areas (Article 8); and to put in place procedures for assessment and minimization of adverse impacts from projects on biodiversity (Article 14).

Some countries have taken aggressive steps to adopt programs and plans, including the establishment and expansion of protected areas, in response to the Convention. However, from a strictly legal perspective, Convention implementation has generally had relatively limited direct operational impact on the oil and gas industry to date. Nonetheless, the Convention provides an important legal and policy touchstone for government, community and NGO actions that seek to manage, limit or prohibit oil and gas activity based on biodiversity concerns. For example, the oil and gas industry can anticipate continuing efforts to limit its access to sensitive ecological areas, especially as protected area designation efforts continue.

⁴⁴ Some individual states, including California, have taken legislative and regulatory action to limit emissions. The US federal government recently initiated concrete steps to reduce emissions, such as the 7 December 2009 legal finding by the US Environmental Protection Agency that greenhouse gases endanger the public health and welfare of the US and that EPA has the authority to regulate GHG emissions under the Federal Clean Air Act. <<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/08d11a451131bca585257685005bf252!OpenDocument>>. This finding sets the stage for EPA to issue future regulations of GHG emissions, such as for emissions reporting, automobile fuel economy standards and a variety of facility permit-related topics.

National regulatory trends

Environmental controls in OECD countries are steadily becoming more sophisticated and encompassing in scope and detail. The development of the new European Union regulations on chemicals, known as Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),⁴⁵ is a case in point. Although mainly applicable to chemicals and downstream operations, it is indicative of the general trend in the EU. Other examples include the restriction of the types of chemicals used in drilling fluids under the OSPAR Convention covering the North East Atlantic,⁴⁶ more stringent controls on the siting of E&P operations under the EU Habitats Directive,⁴⁷ increased public participation in specific environmental decision-making processes and reductions in allowed emissions and operational discharges from E&P operations.

Regulatory attention is especially focused on efforts to minimize the content of oil in produced water, reduce emissions of Volatile Organic Compounds and implement controls on CO₂ and NO_x emissions from flaring and power generation. Of particular interest to companies operating in Europe is Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage. It intends to give effect to the 'polluter pays principle' by imposing liability on businesses for the prevention and remediation of environmental damage. The Directive does not, as such, set sector-specific standards, but it has legal implications for a number of activities which are relevant to identifiable sectors.⁴⁸

Recent years have also witnessed a steady proliferation of environmental regulatory controls applicable to oil and gas operations to countries outside of the OECD. While there are still substantial gaps between countries and regions, the general trend is toward closing regulatory gaps, the adoption of a combination of general framework and sector-specific EHS legislation (often based on or derived from different OECD country regulatory systems), and more stringent environmental standards applicable to different phases of E&P activities (eg, produced water discharges, waste management and flaring).

Efforts are also being made to strengthen institutional capacity to regulate and enforce legislation, through mechanisms funded by development agencies, such as US Agency for International Development (USAID), the World Bank and the United Nations Environmental Programme (UNEP). This latter drive is still in its infancy and many environment agencies in developing countries continue to struggle with capacity constraints, such as availability of qualified staff, low budgets and limited political power. Many of the

⁴⁵ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the REACH.

⁴⁶ OSPAR Decision 2000/2 on a Harmonised Mandatory Control System for the use and discharge of offshore chemicals (as amended by OSPAR Decision 2005/1).

⁴⁷ Directive 92/43/EEC aims to maintain and improve biodiversity in the EU through the conservation of natural habitats and the protection of wild fauna and flora. Developers must determine if the installation is located within, or is likely to have a 'significant' effect on the integrity of a designated, proposed or candidate Natura 2000 site Special Areas of Conservation (SAC) and/or Special Protection Areas (SPA).

⁴⁸ The Directive addresses only environmental damage and damaging events which occur after 30 April 2007 and gives precedence to preexisting international convention regimes concerning liability for damage caused by marine and nuclear activities, subject to review of their effectiveness in 2014.

countries surveyed by the World Bank, in fact, lack administrative structures that would allow for the enforcement of an efficient regulatory system.⁴⁹

On the other hand, globalization of environmental laws and standards continues. Governments around the world are adopting stricter controls. Other drivers encouraging the spread of more rigorous environmental standards include the Internet, the media, court cases and NGO activism. Pressures from institutions providing project finance, such as Equator Principle Banks,⁵⁰ national export credit agencies, the IFC and multilateral development banks, such as the European Bank for Reconstruction and Development (EBRD), are also playing a role in this process.

Historically, US regulatory approaches and standards were often used as a model for non-OECD oil- and gas-producing countries.⁵¹ Today other influences, such as EU law, are becoming more prominent. This is partly a result of project finance requirements set by the EBRD in the accession countries and the Former Soviet Union. Standards applied by EU development agencies contribute to this process as well. As a result, EU standards on a range of issues, such as water, waste and atmospheric emissions, are becoming more important. UK regulatory approaches are also used as models, not only in common law jurisdictions. Norwegian and Canadian regulatory approaches are transported, especially to countries that receive development aid from these countries. For example, Indonesia's environmental impact system was originally based on the Canadian model, although it has since been amended, in part to build on learning from other Asian countries.

On the other hand, some countries, such as Brazil and China, have charted their own course. They have adopted regulatory frameworks that are more directly a product of their own national regulatory needs and traditions. Over the past 10–15 years, Brazil, in particular, has adopted a comprehensive body of environmental law applicable to all sectors, supplemented by an industry-specific EHS regime for offshore oil and gas operations. The system is underpinned by the *Environmental Crimes Act*, which imposes, inter alia, strict liability on polluters and makes public agents personally liable for irregularities in the context of environmental permitting.⁵²

However, enforcement of legislation remains a challenge in many countries, notably in Africa and parts of Asia where there is weak governance. Regardless of the regulatory framework in place, governments in such areas are often severely limited in their ability, willingness or interest in applying generally recognized environmental controls relating to extractive industry projects. As emphasized by recent OECD guidance,⁵³ companies operating in such areas must exercise heightened managerial care. The application of best environmental and social practices in such circumstances, as an expression of enlightened self-interest, is an integral part of such an approach.

⁴⁹ World Bank n 36.

⁵⁰ See Equator Principles discussion in Section 4.5.1 of this article.

⁵¹ The World Bank's environmental guidelines for offshore oil and gas operations (n 63) are largely based on US regulations.

⁵² Law No 9605 of 30 March 1998 (Law on Environmental Crimes).

⁵³ OECD n 12.

The process of regulatory globalization, however, is here to stay. Forward-looking companies recognize that ensuring compliance at international level requires a dedicated effort to track relevant regulatory developments and actively manage them through compliance systems that are part of a company's overall EHS management approach.

Case law and litigation

Recent years have witnessed a rise in litigation against companies in the extractive industries for environmental and social damage allegedly caused by their operations. This has taken the form of cases filed in courts of selected countries for damage caused by operations located outside of those countries, and cases filed in the domestic courts of the countries where the operations are located.

Readers are referred to the discussion of the transnational litigation trend cases in the companion article to this one, entitled 'Human rights and the extractive industries: Litigation trends and compliance solutions'. It includes information on key environmental cases, including those involving Chevron in Ecuador (filed in the USA), BP in Colombia (filed in the UK) and BHP Billiton in Papua New Guinea (filed in Australia). A few additional observations may be relevant here:

1. Challenges associated with successful prosecution of environmental claims under the US Alien Tort Statute (ATS) have encouraged some legal commentators to support merging environmental harm with human rights violations, such as the right to life⁵⁴ and a healthy environment.⁵⁵ Some have advocated applying the ATS to harm caused by global warming.⁵⁶ The risk of more aggressive assertion of ATS jurisdiction over environmental harm caused by companies remains very real.
2. On 20 December 2009, a district court in The Hague, the Netherlands, decided that it was competent to, and would hear, a case filed with the court for compensation for alleged damage from oil spills caused by Royal Dutch Shell's Nigerian unit. This is the first case of its kind in the Netherlands.⁵⁷

The rise in number of such transnational litigation cases is significant. The legal liability risk to companies should not be exaggerated, however, as the number of cases is relatively small and the chances of success for companies are high, at least based on experience to date in the US and English courts. On the other hand, in view of the publicity that litigation generates, reputational risk is potentially a much more potent factor

⁵⁴ Richard L Herz, 'Litigating environmental abuses under the Alien Tort Claims Act: A Practical Assessment' (2000) 40 *Va J Int'l L* 545, 574.

⁵⁵ Herz n 54, 580.

⁵⁶ See eg, Rosemary Reed, Note, 'Rising Seas and Disappearing Islands: Can Island Inhabitants Seek Redress Under the Alien Tort Claims Act?' (2002) 1 *Pac Rim L & Pol'y J* 399, 424 (arguing that islanders harmed by global warming could potentially seek relief under the ATS for violations of the 'environmental human rights of indigenous peoples').

⁵⁷ See 'Dutch court to take on Shell Nigeria cases' (Reuters UK 30 December 2009) at <<http://uk.reuters.com/article/idUKTRE5BT1WL20091230>>. The suit was filed by the environmental group Friends of the Earth Netherlands and four Nigerians. The plaintiffs, farmers and fishermen in the Niger Delta, allege that oil leaking from Shell activities has polluted their farmlands and fish ponds, and are demanding that Shell clean up the oil and compensate them. Shell had argued that it could not be held accountable for the leaks as they were caused by sabotage. It also disputed assertion of the court's jurisdiction over Shell's Nigerian subsidiary and argued that the case should be handled by the Nigerian courts.

for companies to consider. In some cases, NGOs, local community groups and individuals are arguably less interested in winning the legal arguments than in pursuing litigation as a means to other ends,⁵⁸ such as visibility and a broader ‘chilling effect’ on behavior of companies. In fact, a legal victory by a company several years down the line may not begin to compensate for the adverse publicity generated by a lawsuit.

Trends involving lawsuits in developed countries for alleged environmental and social impacts of activities of companies in developing countries have been accompanied by a steady growth in national ‘citizen suit’ laws in countries around the world and by litigation filed by local plaintiffs in local courts seeking redress for environmental and social damages caused by industry activities. In many developing countries, this growth has been supported by international and local environmental and legal NGOs.⁵⁹

A recent survey of social and environmental litigation against transnational firms in Africa, particularly in Nigeria, confirms this trend. The same article, however, suggests that this rise may be less significant than that of litigation against such firms in the US or UK due to the much smaller potential compensation awards typically associated with African cases. On the other hand, the trend in Africa, together with a long history of judicial activism on human rights and environmental claims in the Indian Supreme Court, confirms that a rise in social and environmental litigation is not solely a Western phenomenon (although it may have a strong correlation with jurisdictions with a British common law heritage).⁶⁰

More generally, such litigation may be seen as an expression of changing global governance and CSR developments. Additional factors, such as increased professional ability of legal counsel working for claimants, and the impact of changing social attitudes on judges, are likely also at work. Taken together, it can reasonably be expected that IOCs will be increasingly vulnerable to the risk of litigation for environmental damage caused by their operations, and to the risk that judges will be increasingly willing to re-interpret legal statutes and case law in ways not favourable to companies.⁶¹

Other relevant policies, standards and norms

Companies should also be aware of a number of policies, standards and norms adopted by multilateral financial institutions, standards organizations, industry associations and other organizations that may be useful for companies and/or used by stakeholders to define environmental and social performance standards and good practice in the industry.

⁵⁸ Jedrezej George Frynas, ‘Social and environmental litigation against transnational firms in Africa’ (2004) 42(3) *JMAS* 363–88.

⁵⁹ For example, see <<http://www.greenlaw.org.cn/enblog/?p=531>> regarding a collaboration between the Environmental Law Clinic of the Natural Resources Defense Council and the Center for Legal Assistance to Pollution Victims at the China University of Political Science and Law.

⁶⁰ Frynas n 58, 373.

⁶¹ Frynas n 58 374–5.

Financial institution standards

Multilateral development and other funding institutions are the most significant source of non-legislative environmental and social policies and norms potentially applicable to oil and gas projects. The most influential organization in this regard is the World Bank Group (WBG), which includes the IFC, the private sector arm of the World Bank.

The Bank has developed ten key ‘Safeguard Policies’ that are directed toward identification and mitigation of potentially adverse environmental and social consequences of projects supported by the Bank. These are supplemented by the Bank’s *Pollution Prevention and Abatement Handbook*⁶² and *EHS Guidelines*.⁶³ The EHS Guidelines contain the general performance levels and measures on a range of issues potentially applicable to all industry sectors (including environment, occupational health and safety, community health and safety and construction and decommissioning). They also include specific Industry Sector EHS Guidelines for onshore and offshore oil and gas development, LNG facilities, gas distribution systems, crude oil and petroleum product terminals, natural gas processing and petroleum refining, among others.

In 2006, the IFC adopted its Policy and Performance Standards on social and environmental sustainability and Policy on disclosure of information.⁶⁴ The Performance Standards and the accompanying Guidance Notes address the role and responsibility of clients for managing their projects and the requirements for receiving and retaining IFC support in the areas of:

- Social and environmental assessment and management systems
- Labor 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.

In the few years since their adoption, the IFC Performance Standards have become a global benchmark for managing environmental and social risk by financial institutions. Some regional development banks explicitly reference the IFC standards, while others have analogous (if usually more limited) standards.⁶⁵ In addition, the 32 OECD Export

⁶² See <http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1999/06/03/000094946_99040905052283/Rendered/PDF/multi0page.pdf>.

⁶³ See <<http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvironmentalGuidelines>>.

⁶⁴ See <<http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvSocStandards>>.

⁶⁵ For example, the environmental and social policy of the EBRD contains standards that closely parallel the IFC Performance Standards. The US Overseas Private Investment Corporation has policies and guidelines on environment, human and worker rights, and local economic development. The Asian Development Bank also has safeguard policies addressing the environment, resettlement and indigenous people and the Inter-American Development Bank has a variety of policies on environment and human rights topics.

Credit Agencies and 17 European Development Finance Institutions also refer to the Performance Standards in their respective policies.

There has also been major uptake of the IFC Performance Standards among private banks through the Equator Principles.⁶⁶ The Equator Principles have been endorsed and adopted by almost 70 commercial financial institutions worldwide, including 16 from emerging markets, and commit the institutions to apply the IFC Standards in project loans they provide.

The potential reach of the IFC standards is steadily expanding as IFC changes its model from the traditional focus on direct project investment to more complex investment structures and financial intermediaries, including corporate loans, extractive exploration equity, infrastructure loans and limited equity share subscriptions. Similarly, some Equator Principle Financial Institutions are broadening application of the Principles to areas of activity other than project finance.

IFC has also published Good Practice Notes on a range of subjects such as biodiversity, community development, health assessment, HIV/AIDS, labor, pollution prevention, resettlement, social assessment and stakeholder engagement.⁶⁷ IFC is also active in the carbon finance arena and, as part of the WBG, is developing a climate change strategy for the WBG.

IFC Performance Standards now have status as de facto 'International Standards' and its guidance documents as 'International Best Practice'.⁶⁸ Oil and gas companies or consortia requiring external project finance will likely face a need to comply with World Bank, IFC, or Equator Principles requirements. Companies' projects may also be subject to stakeholder pressure to conform to IFC standards even if no IFC financing is involved.

International standards organizations standards and guidelines

The International Standards Organization (ISO) 14,000 series of standards on Environmental Management establishes recognized international standards, the most influential of which is the ISO 14,001 standard on Environmental Management Systems.⁶⁹ ISO has also recently published a draft of Standard 26,000 on Social Responsibility.⁷⁰ This is a voluntary standard intended to provide guidance on the underlying principles of social responsibility, the core subjects and issues pertaining to social responsibility, and ways to integrate socially responsible behavior into existing organizational strategies, systems, practices and processes.

ISO standards are widely adopted by national standards organizations. Although voluntary, they have the potential to be written into national policy and law and serve as a

⁶⁶ See <<http://www.equator-principles.com/>>.

⁶⁷ See <http://www.ifc.org/ifcext/sustainability.nsf/Content/Publications_GoodPractice>.

⁶⁸ IFC is currently engaged in a review and update of the Performance Standards, which is likely to result in limited but still potentially significant changes to the standards in areas such as climate change, human rights and supply chain.

⁶⁹ The series includes guidance on topics such as lifecycle assessment, auditing and performance evaluation. See <<http://www.iso.org>>.

⁷⁰ See <http://isotc.iso.org/livelink/livelink/fetch/2000/2122/830949/3934883/3935837/ISO_DIS_26000_Guidance_on_Social_Responsibility.pdf?nodeid=8385026&vernum=0>, or through <www.iso.org/wqsr>.

reference point for companies and their stakeholders to define ‘good practice’ in the context of oil and gas activities.

Industry association standards and guidelines

International and national oil and gas industry associations are an important source of guidance representing ‘good’ or ‘best’ industry practice or tools for managing environmental, social and health topics. Key associations that have produced such guidance include the International Association of OGP,⁷¹ the IPIECA,⁷² the International Association of Geophysical Contractors (IAGC)⁷³ and the International Association of Drilling Contractors (IADC).⁷⁴ Some national and regional industry associations have also adopted principles addressing environment and social responsibility.⁷⁵

Certain guidelines and tools developed by global multi-industry sector organizations may be useful to companies in the oil and gas industry.⁷⁶ However, as multi-sectoral efforts, they are typically higher-level and more general than those from the global oil and gas industry associations. With some exceptions, therefore, they may not be as operationally useful in a project context, having a primary value as tools for education and awareness.

NGO standards and codes of conduct

Many NGOs have also produced environmental and social principles and standards for application to the private sector. Some have been developed in collaboration with industry, and some are directly relevant to oil and gas activities.⁷⁷ However with those

⁷¹ See eg, OGP guidelines on operations in tropical forests, mangroves and arctic/subarctic areas; management of waste and naturally occurring radioactive material (NORM); onshore decommissioning and reclamation; the environmental, social and health risk and impact management process; health risk assessment; and key questions for managing social issues in oil and gas projects, among others (<<http://www.ogp.org.uk>>).

⁷² See eg, IPIECA reports on oil pollution, climate change, social and health impact assessment, biodiversity action plans and key biodiversity questions in the oil and gas project lifecycle, human rights and operating in areas of conflict, biofuels and urban encroachment (<<http://www.ipieca.org>>).

⁷³ See eg, IAGC's, *Environmental Manual for Worldwide Geophysical Operations and other operational guidelines* (<<http://www.iagc.org/en/cms/?239>>).

⁷⁴ See *IADC Health, Safety and Environmental Guide* (<<http://www.iadc.org>>).

⁷⁵ For example, Australian Petroleum Production and Exploration Association's Principles of Conduct (<<http://www.appea.org>>), and Statement of Commitments of ARPEL, the regional association of oil and natural gas companies in Latin America and the Caribbean (<<http://www.arpel.org>>).

⁷⁶ For example, to address growing global concern about water supply and scarcity, the World Business Council on Sustainable Development (WBCSD) developed a tool to help companies map their water use and assess risks relative to their global operations and supply chains. WBCSD has also issued guidance publications on a variety of climate change issues, as well as ecosystems and environmental markets (<<http://www.wbcsd.org>>).

⁷⁷ See eg, the Energy & Biodiversity Initiative (EBI), a collaboration of five global conservation organizations and four global energy companies that developed a set of best practices for biodiversity conservation in energy exploration and development (<<http://www.theebi.org>>); the Business and Biodiversity Offset Program (BBOP), a partnership between companies, governments and conservation experts to explore biodiversity offsets (<<http://bbop.forest-trends.org/>>); and the GRI, which promotes conditions for the transparent and reliable exchange of sustainability information through the development and continuous improvement of the GRI Sustainability Reporting Framework, including for the oil and gas industry (<<http://www.globalreporting.org>>) (see also n 16).

exceptions, most NGO efforts are of interest to the industry primarily as indicators of potential trends in issues, stakeholder expectations and associated organizational constituencies.

5. Company management of environmental and social risks

Environmental and social performance is a fundamental expression of a company's wider corporate responsibility and fiduciary duty to society at large. Done well, such performance can deliver significant business benefits by minimizing potential present and future risk and liability and helping maintain the company's 'license to operate' from key stakeholders. Done poorly, a company faces likely project delays or failure, operational disruptions (potentially violent) and damage to corporate reputation. These outcomes can, in turn, adversely affect the company's share price, and ability to raise project finance and gain access to acreage and other opportunities in an increasingly competitive business environment.

Effective response to the panoply of emerging environmental and social issues, laws, standards and guidelines requires companies to anticipate and address complex, multilayered issues. Environmental, social and economic issues are frequently interrelated and interdependent, and can arise in multiple arenas – legal, political, financial and reputational. Therefore, companies need to identify where in their business (both geographically and types of business activities) relevant risks have the potential to expose the company. They should also understand how company actions may reduce – or exacerbate – the company's risk exposure.

Environmental and social issues need to be managed along the full spectrum of company business activities from the corporate level to the field, no matter where the company operates. That spectrum ranges from corporate strategy and planning, through major projects and investments and operations, to decommissioning and exit. Key negotiations and legal activities, such as for host country, project finance, joint venture and contractor agreements, can be contexts in which environmental and social issues may be relevant and can be vehicles to manage relevant risks. A wide range of additional company functional activities, such as corporate planning, EHS, public affairs and human resources, provide opportunities and expertise for environmental and social risk management.

Management system approach and objectives

A company should have a systematic approach to environmental and social performance that allows it to identify and manage relevant environmental and social risks in effective and timely ways. Key objectives of such an approach should be to:

- Identify key EHS and social issues early on and throughout the lifecycle of company activities.
- Assure legal compliance.
- Guide company behavior where there are gaps in external regulation.

- Deliver a proactive approach that is consistent, effective and sustainable over time, and adaptable to varying company activities and operational locations.
- Recognize and address significant stakeholder concerns and expectations.
- Build stakeholder trust that the company will behave responsibly.

Recognized industry best practice is to put an internal integrated EHS management system at the core of the company's performance and risk management approach.⁷⁸ Many companies have begun to develop parallel social issues management systems, while others are integrating social issues into an expanded EHS-social management system.

A management system brings together policies, strategies and actions in a comprehensive approach to the company's environmental and social performance and risk management. It provides governance of relevant company activities from corporate down to field level. An effective management system is characterized by a number of key components, including policies, performance objectives and targets and activities for monitoring, reporting and audits.⁷⁹

Additional activities, such as clear and visible senior management leadership and commitment, and employee and contractor education and training, are critically important to support successful functioning of the management system.

In principle, a management system promotes more systematic and consistent performance in diverse company activities across geographical locations. However, a system that looks good on paper is of little value if not effectively implemented on the ground.

For this reason, additional components are vital to embed in the company's management system framework, including impact and risk assessments and internal standards and best practices.

Environmental, social and health impact assessment

Leading companies today conduct environmental, social and health impact assessment (ESHIA) for all major new projects, even where not required by applicable law or external financing institutions. ESHIA is considered minimum acceptable industry good practice and is a core component of any effective company environmental and social risk and performance management approach.

A range of industry and other guidelines exist as resources to a company developing an internal ESHIA process. Some address ESHIA as an integrated assessment, others are tools (eg, checklists and key questions) focusing on specific issue areas, such as

⁷⁸ See OGP *Guidelines for the Development and Application of Health, Safety and Environmental Management Systems*, Report No 6.36/210, (OGP 1994).

⁷⁹ Monitoring, reporting and audits should include systematic actions by the company to gather data and inform appropriate levels of management about company performance, identify needs for action to correct or enhance performance, assure action to address identified problems and communicate appropriate performance information internally to employees and externally to stakeholders. Many companies have found it very valuable to carry out periodic social and environmental performance reviews involving independent experts that will report back to senior management on their findings and recommendations.

biodiversity, social issues and stakeholder consultation.⁸⁰ A key challenge in developing such a company process is to design something sufficiently detailed to drive desired performance but also sufficiently flexible and adaptable to allow process application to widely varying project types, locations, regulatory requirements and local environmental and social conditions.

However, no matter how well designed, an ESHIA process is only as good as its implementation. To be effective, the process must, among many other things:

- Start early, well before project design and construction, so that findings from the process can be incorporated into project design, construction as well as operation.
- Be based on meaningful and well-executed stakeholder consultation.
- Assure that needed and relevant actions and commitments regarding environmental and social issues are integrated into relevant contractor and supply chain activities.
- Draw on appropriate functional expertise and local community knowledge.
- Be integrated with community relations activities and any social and economic benefits plans the company develops and carries out.
- Include effective transfer of internal ownership of ESHIA commitments from project to operations management within the company.
- Be kept alive, with implementation of impact mitigation plans that include monitoring of project impacts and mitigation measure effectiveness, and adaptation of mitigation over time based on monitoring information.

ESHIA focuses impact assessment at the project level. However, having internal processes to also identify high level environmental and social risks and opportunities well before the company pursues a specific project can significantly help the company manage key strategic risks and maximize positive business opportunities. Assessing such risks associated with potential new strategic business investment opportunities, such as acquisition of new acreage, can give early warning of potentially significant issues that could materially affect the ultimate feasibility or value of the investment.

Internal environmental and social standards and best practices

Increasingly, major companies in the oil and gas industry have gone beyond institutionalizing assessment and management processes to define internal operating standards and best practices on issues such as on oil in produced water, flaring or stakeholder consultation. Such standards can play an important role in supplementing local law, where necessary, to protect the environment or local communities, while also supporting the company's performance commitments and credibility with stakeholders. Laws of

⁸⁰ See eg, OGP's *Environmental-Social-Health Risk and Impact Management Process*, Report No. 389 (2007); *Guide to Health Impact Assessment*, Report No. 380 (2005) and *Key Questions in Managing Social Issues in Oil and Gas Projects*, Report No. 382 (2002); IPIECA's *Guide to Social Impact Assessment in the Oil and Gas Industry* (2004), *Key Biodiversity Questions in the Oil and Gas Lifecycle* (2006); and IFC Good Practice Notes and toolkits on a variety of topics (n 67).

developed countries, industry guidance and other resources (such as the IFC) can be useful sources of such standards and best practices.

At a minimum, internal standards and practices can and should be developed and implemented on a project- or operation-specific basis. However, a company may also choose to identify certain standards and practices that constitute minimum levels of performance wherever it operates. Developing global company standards can be a very challenging task, particularly if the standards are to be implemented in multiple countries with very different local conditions. But such development can be worthwhile. Standards can help protect a company against charges by local communities and NGOs that the company applies inconsistent levels of protection (a ‘double standard’) across its global operations.

Other activities

Many companies have found that additional activities can provide valuable input and/or support to effective implementation of an EHS/social management system, including:

- Incorporation of environmental and social performance considerations into evaluation and selection of contractors, setting of generic and contract-specific performance requirements, and robust contractor performance monitoring and compliance assurance.
- Emerging issue and trend identification and monitoring procedures.
- Stakeholder consultation and engagement, to help the company understand how evolving stakeholder expectations may affect the company’s business and reputation in a broader context than an individual project.
- Monitoring of environmental and social litigation trends in jurisdictions where the company operates and in jurisdictions that have significant potential to influence policy and practice more broadly around the world.
- Participation in global industry associations for issue monitoring, best practice sharing and participation in development of industry guidelines.
- Building of company understanding of key principles and approaches to sustainable local community economic and social development.
- Engagement and development of partnerships with key NGOs in the environmental and social arenas, to supplement company expertise, credibility, capacity and effectiveness.
- Legislative and regulatory advocacy and other government and public relations activities.
- External communications activities addressing the company’s environmental and social policies, activities and performance.

All of these activities are useful, whether or not a company formally identifies them as part of its management system. At a minimum, companies need to actively identify and undertake appropriate activities, such as ESHIA, at the field and project level to address local environmental and community needs and expectations, regardless of the degree of regulation or regulatory enforcement.

In many cases, there is value in also taking a strategic view, beyond the immediate fence line of a company or project. Opportunities to address potentially negative environmental or social impacts and deliver positive benefits may exist at various points in a company's particular value chain, eg, by identifying ways to conserve or contribute to local water resources and access to safe drinking water.⁸¹ Development of collaborative relationships with government, communities, NGOs and academia is often key to effective realization of such opportunities. Such approaches can generate considerable good will with local stakeholders and government and help the company secure its license to operate and protect its brand image.

6. Conclusions

Oil and gas are finite commodities. The quest to find, secure, produce and bring them to market is an increasingly complex and risky undertaking. The oil and gas industry is a highly competitive and intensely political business, as the recent resurgence of resource nationalism and the rise of NOCs demonstrates.

In many ways the industry has made great progress in recent decades in recognizing and taking action to address emerging environmental and social concerns. But change has not been consistent in all sectors of the industry. Industry as a whole faces the need to meet current and future challenges of doing business in a world increasingly characterized by carbon-related constraints, limits on access to and operations in environmentally and socially sensitive areas, and a steady rise in regulation, litigation, policy and standards development, and stakeholder expectations. These challenges are driving evolution of industry best practices for environmental and social performance. However, governance issues make implementing best practices and managing key environmental and social risks very difficult in many regions of the world.

These trends have significant potential implications for where and how emerging environmental and social issues will affect the industry, and how stakeholders will judge performance of individual companies and the industry as a whole. There is strong potential for such issues to have very differing impacts on different players in the sector. They will present potential opportunities for competitive advantage or disadvantage based on factors as diverse as the carbon intensity of a company's portfolio and the quality of its stakeholder relationships.

Of particular importance are leadership and demonstrated success in addressing key environmental and social issues through credible and effective performance. These, more than anything else, will strengthen a company's ability to access new business opportunities, raise project finance, effectively execute major projects and reduce its exposure to legal, financial and reputational risk.

⁸¹ See eg, case studies in IPIECA, *Water Resource Management in the Petroleum Industry* (IPIECA 2005) (<<http://www.ipieca.org/publications>>).