IPIECA Oceans Study

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TABLE OF CONTENTS

I. Executive Summary

1. Introduction and Background

The purpose of this report is to provide IPIECA members with a broad overview of the global issues, stakeholders and policy/legal context of ocean environmental concerns potentially constraining oil and gas industry operations. Oceans are critical to the industry, as marine exploration and production will continue to increase. Access may, however, increasingly be constrained due to conflicts with other uses of marine areas, including protection, and due to the impacts of oil and gas operations. A proactive, international, multi-stakeholder approach to addressing ocean sustainability may be an opportunity and necessity for the industry to maintain the social license to operate and continue to have access to resources.

2. Issues, Scale, Approaches and Tools

Oil and gas industry activities in marine areas create impacts from: exploration, development, production, shore-based facilities and shipping/product transport. Stakeholders are concerned about industry effects on marine species, habitats, ecosystem functions, and economic resources, e.g. fish stocks. Other users of the marine environment (e.g. fisheries, aquaculture, shipping, tourism) have concerns about oil and gas industry impacts and resource use conflicts.

Stakeholder approaches and tools currently used to address marine environmental issues include: the precautionary approach; ecosystem based management; ecoregions; biodiversity hot spots; marine protected areas; species protection; codes of conduct. There is strong and rapidly growing interest in applying these approaches and tools to the high seas. Spatial management efforts are particularly important and growing, especially marine protected areas (MPAs). MPA proponents in governments and NGOS are seeking to protect 10-30% of marine areas.

The overriding priority ocean issues for the oil and gas industry broadly include: pollution, biodiversity, MPAs, high seas, improved science, and best practices in marine environmental performance. As new issues and new information are always emerging, it is critical for the industry to know the key stakeholders, the approaches and tools they use and the processes they are involved in.

3. International Conventions, Policy Arrangements and Intergovernmental Organisations

The international legal and policy on the marine environment is developed through a variety of conventions, agreements and intergovernmental organisations (IGOs) that create the "playing field" and "rules". Governments, IGOs and NGOs are actively involved in these, but the industry is largely not engaged. Some of the most important international processes are: UN Convention on the Law of the Sea (UNCLOS), Convention on Biological Diversity (CBD), and the UNESCO Intergovernmental Oceanographic Commission (IOC). Important developments can occur in other fora, making it important to maintain a ‘watching brief’ on major ocean-related legal, policy and intergovernmental arenas.

Upcoming developments in and around UNCLOS, the global legal framework on oceans, will significantly affect the oil and gas industry, e.g. continental shelf claims, ocean zoning, arctic legal and policy developments. The annual UNCLOS-related Informal Consultative Process on Oceans and Law of the Sea (ICP) provides the best opportunity to interact with a wide range of global ocean stakeholders from government, IGOs, and NGOs.

The CBD covers species, ecosystems, and genetic diversity. International ocean policy developments are progressing rapidly via the CBD, e.g. on marine biodiversity, MPAs and requirements to assess impacts of economic activities in the marine environment, making it an important ocean policy arena for the industry to

engage in. The IOC provides an opportunity for industry collaboration on international marine science, an important platform for constructive interaction with IGOs, governments and NGOs on marine issues.

The UN Commission on Sustainable Development, which tracks progress on the results from the sustainable development summits at Rio de Janeiro (1992) and Johannesburg (2002), will review oceans in 2014. The lead up to 2014 creates an important target for the industry to develop, implement, document and communicate its sustainable use and stewardship of the seas. In the meantime, there is increasing pressure for more immediate sustained global attention to the oceans from many stakeholders, such as calls for improved coordination via an Intergovernmental Panel on Oceans or similar body.

4. Ocean Stakeholders: Non-Government Organisations (NGOs) and Industry

Improved oil and gas industry coordination and collaboration within the industry is critical to collectively and effectively engaging with stakeholders on marine environmental issues. As there are many, many groups addressing oceans, it is a priority for the oil and gas industry to participate in the international processes that involve the key issues and stakeholders (e.g. ICP, CBD). Engaging in these processes in a coordinated, strategic manner provides the most cost effective, high leverage means for the industry to interact with NGOs, IGOs, and governments. Doing so in collaboration with other ocean industries, as appropriate, can create an even more effective involvement.

There are many NGOs actively working on oceans: international NGO's with marine programmes, groups focused solely on marine issues, national/local marine groups. Some are science- and field-based, others focused on policy, advocacy and/or communications. NGOs cite the oil and gas industry (and fisheries) as the reason why increasing marine environmental protection is needed. According to a public opinion survey on ocean attitudes, 91% believe oil is the top reason oceans are in trouble and 79% believe that action by oil companies is important to the health of oceans. NGO efforts on oceans are increasing in size, substance and effectiveness, with most groups engaged via the UN ICP and other UN processes, and with increasing calls for a more comprehensive approach, e.g. a "Kyoto protocol on the ocean".

There are also many other industries using ocean space and resources, and they have many marine environmental problems in common with the oil and gas industry. Oil and gas industry interaction with other ocean industries is a priority means for extending the industry collaboration to achieve greater results, and there are now processes to bring together the ocean business community around shared issues and opportunities. Inter-industry collaboration on oceans is being developed by the World Ocean Council and can catalyze opportunities for addressing common issues in a coordinated, cost effective manner that creates business benefits.

II. Main Report

1. INTRODUCTION

1.1 Purpose of the report

The purpose of this report is to provide IPIECA members with a comprehensive overview of the global issues, stakeholders and policy/legal context of ocean environment concerns that potentially constrain oil and gas industry operations, as a basis for identifying future priorities for action. This is a broad, complex remit to cover. This short report is not able to provide an exhaustive list and analysis of all the issues, stakeholders and legal aspects critical to oil and gas industry actions in the global marine environment.

The report focuses on the issues relevant to industry operations, particularly exploration and production, that fall within the scope of IPIECA's role, by reviewing:

- The key international marine environmental issues of concern to global ocean stakeholders.
- The major approaches and tools being used to address these issues.
- Critical international ocean legal and policy arrangements, particularly multi-lateral agreements, global policy frameworks and international ocean governance processes.
- The key international stakeholder groups involved in ocean issues from among: intergovernmental organizations (IGOs), non-government organisations (NGOs) and other Industry users of the oceans.
- The principle issues, methods and locations of concern to global ocean stakeholders.

1.2 Oil and gas industry characteristics and trends related to the oceans

The oil and gas industry is significant user of the ocean environment, space and resources through exploration, production, transport and shore based facilities. The oceans are critical to the future of the industry, which has operations in hundreds of countries and most marine areas, making it on of the single largest private sector ocean users. There is limited consolidated data on the status and trends of oil and gas exploration and production in the marine environment. **Critical trends in oil and gas industry activities in the ocean** include increases in the:

- Level of oil and gas exploration and production in the marine environment.
  (estimated to be 34% of total oil production in 2004, increasing to 39% by 2015)
- Level of activities in developing countries, where the legal and political context may be less clear.
- Difficultly and remoteness of the exploration and production locations.
- Depths of exploration and production, with consequent increases in the cost and risk involved.
- Amount of long distance transport of oil and LNG, with increases in vulnerability points.
- Need for global cooperation within the industry and with other stakeholders.

1.3 Ocean issues and oil and gas industry operations

Key conditions for successful, sustained oil and gas industry activities in the ocean include:

- **Social license - the most determinant factor in oil and gas industry operations in the marine environment**, i.e. the accord of society that the balance of costs and benefits to society from industry operations are acceptable, especially in relation to the impacts (both real and perceived).
- **Access** (both physical and legal) to explore, develop, produce and transport in marine areas.
- **Compliance** with all local, national and international requirements while exploring, producing and transporting in areas where access has been permitted.
- **Stability** and **predictability** in the operating environment.

As a major global ocean user and the ocean industry most of concern to the public, **addressing ocean sustainability is both a necessity and a leadership opportunity for the oil and gas industry**:

- Public surveys about the ocean environment show that the oil and gas industry performance is by far the greatest concern, indicating the importance of the industry's 'social license' to operate in marine areas (1).
- No ocean-based industry has made ocean sustainability and stewardship a strategic focus.
- There is thus an opportunity for global leadership in "Corporate Ocean Responsibility", a concept developed by the World Ocean Council (2).

The industries and companies providing leadership in ocean sustainability and stewardship will:

- Move beyond reactive, local/national, single-agency, compliance-only, individual unit approaches.
- Strive for proactive, international, multi-stakeholder approaches that are coordinated and integrated.
- Develop and implement ocean strategies to obtain and maintain the social license to operate in the marine environment.

Leadership in implementing Corporate Ocean Responsibility can result in:

- Improved public perception, improved access to resources and a reasonable margin for error.
- Reduced time and effort needed to secure and maintain access.
- Improved internal cost efficiencies of marine operations related to cross-cutting ocean issues.
- Improved stability and predictability in the marine operating environment.
- Reduced risk and losses from external factors that create delays in starting operations and/or stops due to unanticipated changes in policy, legislation or social license.
- Improved chances for a consistent, level playing field in the development and implementation of policy and legislation, especially on global ocean issues.

2. INTERNATIONAL OCEAN ISSUES RELEVANT TO THE OIL AND GAS INDUSTRY

2.1 Issues

A recent *Science* article maps the human impact on marine ecosystems on a global scale, showing the almost no ocean area is free from impacts, with climate change, land-based activities, shipping, fishing, and ocean-based pollution are all identified as key human activities with an impact (3). Oil and gas industry activities in marine and coastal areas potentially result in a range of impacts that are of concern to ocean stakeholders:

- Exploration, including: sound and vibration impacts on marine fauna from seismic testing; numerous kinds of impacts from exploratory and appraisal drilling.
- Offshore development/production, including: direct physical impacts of drilling, installations, pipelines and operations; pollution from discharged drill muds, cuttings, chemicals, produced water, chronic oil and chemical spills, sewage, and marine debris; catastrophic oil and chemical spills; decommissioning and disposal of platforms; greenhouse gas emissions.
- Development and operation of shore based facilities: direct physical impacts of habitat displaced by installations; degradation of adjacent areas from operations; noise from operations; pollution from effluent discharge and waste; chronic spills; greenhouse gas emissions, construction and maintenance dredging, possible cooling water discharge.
- Industry shipping activities and oil or gas transport, including: catastrophic spills; chronic spills; bunker spills; marine mammal strikes; alien species introductions from ballast water and hull fouling; greenhouse gas emissions; tanker/ship decommissioning.
- Cumulative oil and gas industry activities, i.e. impacts from all of the company, and/or all oil and gas industry, operations in a given marine area.
- Cumulative industry activities, i.e. impacts from all of the kinds of industry in a given marine area, including, but not limited to, oil and gas.

These activities and impacts create concerns among stakeholders about effects on marine biodiversity and natural systems at a variety of levels, including:

- Species, e.g. marine mammals, marine turtles, other endangered species, seabirds/shorebirds.
- Habitats, especially highly diverse and productive assemblages, e.g. coral reefs, mangroves, seagrass beds, wetlands, deep water/cold water reefs, seamounts, thermal vents and habitats that support fisheries (such as fish nursery areas).
- Ecosystem functions, e.g. animal migration patterns, fish spawning areas.
- Fish and other living resources important for economic value, food security and livelihoods.

Other private and public users of the marine environment that have concerns about impacts and resource use conflicts resulting from oil and gas industry activities include:

- Fisheries, e.g. effects of submarine pipelines on trawling fisheries and gear, effects of dredging or chronic pollution on fish larvae and critical habitat, effects of shoreline installations on access to fisheries.

- Aquaculture, e.g. affects of oil spills on stocks and gear, such as shellfish lines or fish cages.
- Shipping, e.g. effects on navigation from offshore installations.
- Offshore wind energy or submarine cables, e.g. competition for use of offshore space or seabed.
- Tourism and recreation, e.g. esthetic effects of platforms, clearing of mangroves for onshore development, effects of oil spills on beaches.

The marine environment is a dynamic, fluid, continuous and connected ecosystem. There is lot that is not known about marine biodiversity and ecosystems and there is considerable spatial and temporal variability and unpredictability in these ecosystems. Issues in the marine environment do not exist in isolation as the systems are linked in ways that are not understood. Human activities create changes that reverberate through a web of connected ocean system relationships, resulting in secondary and tertiary impacts - and effects far from the original activity and its location. Nonetheless, the industry is held responsible for the unanticipated, unintended consequences of its activities.

It is impossible to provide an exhaustive list of every potential oil and gas industry issue in the marine environment. There are too many issues, and constantly emerging new information (e.g. deep water reefs, new species) and new uses (e.g. offshore wind energy, ocean sequestration, offshore cage aquaculture). It is important to be familiar with the main issues and the trends, but there will always be new issues to deal with. For these reasons, it is more important to know the stakeholders concerned with the issues, the approaches and tools they use and the processes they are involved in - and to engage in priority processes in a credible, substantive manner.

2.2 Spatial Context

Global ocean issues are being addressed at a variety of spatial scales depending on: 1) the issue, 2) the stakeholder and/or 3) the process. For many NGOs, the geographic scale is determined by the physical distribution of the species, habitat, critical processes or natural systems of interest, e.g. seabird nesting areas, coral reefs, sea mounts, fish spawning sites, whale calving grounds. These criteria are increasingly synthesized at a global, regional, or national level, e.g. ecoregions or biodiversity 'hot spots'. Some efforts have a very comprehensive geographic approach, e.g. areas beyond national jurisdiction ("high seas").

It is important to remember that many stakeholders consider all ocean areas to be sensitive or important - whether or not this is scientifically valid - especially regarding oil in the marine environment. It does not matter where in the sea there is an oil problem, as there will always be concerns about impacts. The converse is not true, i.e. if the industry takes action to address ocean environment issues; it does matter where these efforts are undertaken, as they must be seen as targeting meaningful issues and locations.

2.3 Approaches and Tools

A **variety of approaches and tools** are being used to address marine environmental issues, including: a) the precautionary approach; b) ecosystem based management; c) integrated coastal zone management; d) large marine ecosystems; e) ecoregions and hot spots; f) marine protected areas and networks; g) species protection and management; h) campaigns; i) codes of conduct and certification; j) industry partnerships; and k) risk assessment. Many of these are leading to **increased spatial management of the oceans**.

Due to the lack of knowledge of the oceans, of how various components of the ocean environment interact with each other and of the effects of human activity, the **precautionary approach** (4) has been widely adopted, as has **Ecosystem Based Management** (EBM), which integrates ecological, social, and economic issues with a recognition that humans are a critical player in the ecosystem (5). **Integrated Coastal Zone Management** (ICZM) is also widely accepted and increasingly implemented to tackle the overlapping array of coastal issues and activities. The precautionary approach and EBM have become part of some national and

international legal requirements, notably for fisheries management planning. It is only a matter of time before these become adopted into other legal regimes governing ocean use.

The **Large Marine Ecosystem** (LME) approach integrates a range of physical and biological characteristics to define ocean ecosystems, with some being easily defined (e.g. Baltic Sea LME) and others with boundaries more difficult to determine (e.g. Benguela Current LME). **Ecoregions and biodiversity hot spots** seek to identify diverse, productive and/or unique marine areas (e.g. coral reefs, mangroves, seagrass beds, wetlands, deep/cold water reefs, seamounts, thermal vents). These efforts are based on best available scientific information, but also reflect the difficulty of determining natural boundaries in a dynamic ecosystem where there is a paucity of data. Nonetheless, the maps resulting from these approaches are determining the priorities for many stakeholders.

Although some of the above approaches are primarily focused on ecological characteristics, and others include economic and human use aspects, one thing that most of have in common is inclusion of **spatial management of ocean areas and uses**. This major trend is most emphatically expressed through the use of **Marine Protected Areas** (MPAs) by many stakeholders as the preferred to provide zones of ecosystem level conservation, especially when implemented as multiple use MPAs, such as Australia's Great Barrier Reef Marine Park. The designation of MPAs creates additional issues regarding oil and gas industry operations around and (if allowed) in these areas. There is an OGP Task Force on MPAs.

Individual MPAs may not ensure adequate precautionary protection and resiliency and there is an increasing focus on **MPA networks** to address broad, long term impacts, such as sea temperature rise. There are increasing calls for **10-30% or more of marine areas to be set aside as necessary for adequate protection**. These numbers are becoming enshrined in declarations, policies, international agreements and, in some cases, legislation. Related to this is an increasing focus on **"high seas" protected areas**, i.e. MPAs outside national EEZ's (areas beyond national jurisdiction).

Species level protection and management efforts largely focus on marine mammals, marine turtles, seabirds, polar bears and other mega fauna. The **IUCN Red List** of rare, threatened and endangered species includes few marine species outside these groups. A **Global Marine Species Assessment** is currently underway, proposing other flora and fauna for listing, with a focus on fish and invertebrates. New marine species continue to be discovered, especially through the 10-year **Census of Marine Life** currently underway.

Campaigns oriented to the media and the public continue to be used to address specific ocean issues, e.g. whaling, ocean trawling, etc. Tanker accidents and other oil spills continue to be high profile events, stoking public opinion when they occur. **Codes of conduct, standards and certification** are being used more and more to provide a means for responsible players (and their products) to be identified by the consumer public and by business buyers. This approach is most well developed in sustainable seafood efforts, where there are numerous 'seafood choice' programmes to educate consumers and the Marine Stewardship Council (MSC) certification/ecolabel.

NGOs are increasingly developing **private sector partnerships,** including with oil and gas companies, some which address ocean issues. Government agencies are pursuing public-private partnerships to address sustainable development, with few examples addressing ocean issues. **Risk assessment** is a tool that is well developed and widely used by the oil and gas industry. It has not been widely used in marine conservation planning, but this is changing, for example in Australia marine bioregional planning.

3. INTERNATIONAL LEGAL AND POLICY CONTEXT

3.1 International Conventions, Policy Arrangements and Intergovernmental Organisations

The international legal and policy regime for the conservation, management and sustainable development of the marine environment is being developed through numerous conventions, agreements and intergovernmental organisations and programmes that create the international "playing field" and "rules". Governments and intergovernmental agencies directly participate in these, with NGOs actively involved, resulting in significant new ocean policy developments. The Pew Oceans Commission and the US Commission on Ocean Policy, and subsequent California Ocean Protection Council are examples of governments promulgating regulation based on NGO and government work.

These processes are important opportunities for the industry to participate in ocean policy developments and engage with ocean stakeholders. However, business and industry is largely not engaged in these processes, with a few exceptions. There have been calls for an **Intergovernmental Panel on Oceans**, a **UN Ambassador for the Oceans** or a **Kyoto protocol on the ocean**s to address the ocean issues and the complex institutional situation more comprehensively.

The **UN Convention on the Law of the Sea (UNCLOS)** provides the global legal framework on oceans, and created the **International Tribunal on the Law of the Sea** and the **International Seabed Authority** (which administers seabed mineral resources and commercial use thereof) and the **Commission on the Limits of the Continental Shelf**. The importance of UNCLOS to the oil and gas industry is increasing, e.g. 2009 is the deadline for countries such as Russia who have ratified UNCLOS to claim an extended continental shelf; there is a major push in the US to accede to UNCLOS. New UNCLOS components are periodically developed to clarify its application, e.g. such as the Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks. It is likely that upcoming UNCLOS developments will significantly affect the oil and gas industry, e.g. continental shelf claims, ocean zoning, arctic legal and policy developments.

The UNCLOS is administered by the **UN Division on Ocean Affairs and Law of the Sea (DOALOS)** which organises the annual meeting of the **States Parties to the Law of the Sea (SPLOS)** and the annual **Informal Consultative Process on Oceans and the LOS (ICP)**. The ICP assembles government representatives and IGOS, with NGOs and other stakeholders as observers, around marine themes. It provides the single best opportunity to interact with a wide range of stakeholders on global ocean issues. The ICP also oversees some activities, including a proposed Global Marine Assessment (GMA) which is to provide periodic reporting and assessment of the state of the marine environment. DOALOS and the World Ocean Council are working to organise industry gatherings in association with the ICP.

The broad mandate of the **Convention on Biological Diversity (CBD)** covers species, ecosystems, and genetic diversity, intersecting with most other ocean agreements. The CBD's "Jakarta Mandate" provides more detail on marine and coastal biodiversity conservation and sustainable use, e.g. marine and coastal protected areas, invasive species, fisheries, mariculture, and endangered species. **IPIECA participates in the 3-yearly CBD** conference of parties, but not specifically regarding marine biodiversity issues. The **Ramsar Convention** on the protection of wetlands also addresses nearshore marine areas.

The **International Maritime Organisation (IMO) is** responsible for maritime environmental issues and the **MARPOL conventions and annexes** on pollution from sea-based sources, including the London Dumping Convention and Annex 6 on air pollution. Through IMO, governments may designate Particularly Sensitive Sea Areas (PSSAs), i.e. marine management areas where shipping is prohibited or limited due to environmental stresses from shipping or other sources. The shipping industry and the oil and gas industry shipping arms are well engaged in the IMO processes, and compliant with IMO regulations. Many industry associations have consultative status, serving as a potential model for industry engagement in other ocean related conventions. The **International Framework Convention on Climate Change (IFCC)** may become of increasing importance to the marine operations of the oil and gas industry in response to growing concerns about marine-based air pollution from ships, platforms, flaring, etc. Marine-based atmospheric emissions may be more clearly identified in the successor to the Kyoto Protocol.

The **UNESCO Intergovernmental Oceanographic Commission (IOC)** has several international marine science programmes, most of which are coordinated under the **Global Ocean Observing System (GOOS)** that links national government ocean science programmes. Good science is an important part of industry interaction with stakeholders on the marine environment, and IOC programmes may provide an opportunity for international collaboration and developing globally agreed data on issues important to the oil and gas industry. IOC has expressed interest in collaborating with business and industry in areas of mutual interest. The **Group of Experts on the Scientific Aspects of Marine Protection (GESAMP)** is a scientific network sponsored by several UN agencies with ocean interests to undertake scientific reviews of key issues on their behalf, and to periodically review the state of the marine environment.

There are a number of species-related conventions that encompass marine biota, including: the **Convention on the International Trade in Endangered Species (CITES)**, the **Convention on the Conservation of Migratory Species of Wild Animals** (Bonn Convention) and the **International Whaling Commission (IWC)**. Marine mammal issues, such as impacts of sound and ship strikes, are particularly important to oil industry exploration and production and the IWC provides the main arena for these issues. The oil industry's **Joint Industry Program** funds jointly agreed research on marine animals and sound, an important example of the benefits of collaboration on shared marine environmental issues.

The **UN Environment Programme (UNEP)** is responsible for the Global Programme of Action on Land Based Sources of Marine Pollution (GPA), Regional Seas Programmes and the Division on Trade, Industry and the Environment (DTIE). The UNEP World Conservation Monitoring Centre (WCMC) maintains a global database and information on protected species and habitat and protected areas, including MPAs. The **UN Food and Agriculture Programme (FAO)** is the lead UN agency on fisheries and aquaculture and in 1995 FAO member governments approved the Code of Conduct for Responsible Fisheries (CCRF).

UN Oceans is a multi-agency body bringing together representatives of many UN agencies to coordinate their efforts on ocean and coastal issues. The head of UN Oceans (Executive Secretary of the IOC) indicates that **UN Oceans is interested to interact with industry leaders**. The **UN Global Compact** brings several thousand businesses (including several IPIECA members) together with UN agencies, labour, civil society and governments to advance ten principles in the areas of human rights, labour, environment and anti-corruption. The Global Compact (GC) has expressed interest in working with the private sector on ocean issues, and the GC Executive Director opened the recent WOC meeting "Global Ocean Industry Leadership and Collaboration on Sustainable Development of the Marine Environment" (New York, 24-25 June, 2008).

There several key non-binding international agreements that contributing to the policy framework on oceans. The 1992 **UN Conference on Environment and Development** formalized the principles and goals of sustainable development in **Agenda 21**, with Chapter 17 on oceans and coasts. The 1994 **Conference on the Sustainable Development of Small Island Developing States (SIDS)** developed a SIDS Programme of Action. In 2000 the Millennium Development Goals (MDGs) were agreed by all the world's countries and development institutions as a blueprint to address development needs. The 2002 **World Summit on Sustainable Development (WSSD)** set targets for sustainable development in the Johannesburg Plan of Action. The meetings of the **UN Commission on Sustainable Development (CSD)** follow up on Agenda 21 and the WSSD, with a different theme cluster addressed each 2 years. Oceans are scheduled for review in 2014.

3.2 Major Regional Conventions, Policy Arrangements and Organisations

There are numerous **'regional seas' agreements**, many catalyzed by UNEP for intergovernmental action in shared marine areas. Some of them have separate inter-governmental bodies, e.g. Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). There are many regional groups

focused on more specific issues, e.g. marine science coordination or MPA networks. There are also numerous **Regional Fishery Management Organisations (RFMOs)**, addressing intergovernmental fishery management for much of the world's sea areas and fish stocks. The 1980 Convention/Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR) is considered one of the most well developed, as it includes provisions for the precautionary approach and ecosystem based management.

Given the attention focused on the maritime claims and resources of the **Arctic region**, it will increasingly be the focus of regional efforts. The Arctic Council already provides for high level cooperation, coordination and interaction among the eight Arctic governments and the region's residents and indigenous communities. Council activities include the Arctic Marine Protection Working Group and the Arctic Monitoring and Assessment Programme, which is assessing oil and gas activities in the arctic**.** There are also an increasing number of **national/EU ocean policies and programmes** that seek to address the marine environment more comprehensively and may affect oil and gas industry operations, including the EU Strategy for the Marine Environment, the EU Maritime Policy, the US Ocean Commission, Australia National Ocean Policy, etc.

4. OCEAN STAKEHOLDERS RELEVANT TO THE OIL AND GAS INDUSTRY

4.1 Non-Government Organisation (NGO) Stakeholders

There are many NGOs actively seeking to address ocean issues at a variety of scales:

- **International NGO's with significant marine programmes**, e.g. World Wild Fund for Nature (WWF), World Conservation Union (IUCN), Conservation International (CI), the Nature Conservancy (TNC), Wildlife Conservations Society (WCS), Greenpeace, Friends of the Earth International (FOI).
- An ever-increasing number of **NGOs focused solely on the marine environment**: e.g. Ocean Conservancy, SeaWeb, Oceana.
- **A growing number of national and local NGOs** that have added marine programmes or are formed solely to address marine issues, with many of these in developing countries.

Characteristics of NGOs addressing oceans include:

- Some NGOs are primarily science-based, often with portfolios of field projects addressing their priority themes and locations.
- Others are more focused on policy, advocacy and/or communications and outreach.
- The larger NGOs engage on ocean issues in all of the above ways.
- Most groups are funded by some or all of the following sources: private foundations, corporate foundations, membership donations, bilateral government development assistance, international/multilateral agency programmes and projects.

NGOs actively engage on ocean issues in a variety of ways, using the approaches and tools outlined in section 2.3. **Major NGO trends include**:

- **Engaging on global ocean issues via the UN ICP and with the UN agencies and processes**.
- **Increasing calls for oceans to be addressed more comprehensively** by the international community, e.g. a "Kyoto protocol on the ocean", an "Intergovernmental Panel on the Ocean", or a "UN Ambassador of the Ocean".
- Working with governments on the marine environment, due to government authority in these areas.
- Forming coalitions and joint campaigns: e.g. Deep Sea Conservation Coalition, Sustainable Seafood Initiative, Census of Marine Life, Global Marine Species Assessment.

Most NGOs, especially the large international groups, address a range of issues, approaches and tools relevant to the oil and gas industry, but often **oil and gas as the key ocean industry most affecting the ocean environment and justifying the need for NGO action** (along with fisheries). In the most comprehensive poll on public opinions regarding the marine environment (conducted in the US in 1997),

91% of the public stated oceans are in trouble because oil enters the ocean, with 96% considering oil spills are a serious problem and 79% believing that action by oil companies is important to health of oceans (1). The public placed oil companies at the top of the list in the latter item, above governments or NGOs. **Major events precipitate NGO focus on the oil and gas industry, usually oil spills** or major international actions, e.g. the 1997 offshore oil and gas conference.

There is an ever accelerating NGO timeline on addressing ocean issues. Actions can move relatively quickly, e.g. regulations banning single hull tankers, new shipping routes to avoid northern right whales. Actions increasingly have specific outputs and timelines, e.g. WSSD target to apply ecosystem approach by 2010. There are also increasing linkages and/or overlaps in locations and timelines pursued by different stakeholders, making it important to be aware of the connections between different processes.

It is difficult to identify all the NGOs addressing ocean issues, as there are many groups, many more emerge each year and the areas they focus on evolve. It is not possible to engage all ocean NGO stakeholders on all issues and processes. **The focus should be less on 'choosing' an NGO ocean partner and more on developing and using clear criteria for when and why to collaborate**. When partnerships are developed, these should be based on clear mutual understanding of the criteria for the interaction, the need and value of the relationship, the motives/interest of each side and what both sides are seeking to achieve. Agreeing on approaches, tools, metrics, indicators and outputs is critical. Science and data from agreed methods can provide a common 'language' and basis for collaboration.

The best NGO 'match' will depend on the process, issues and/or location under consideration. Partnership activities must be credible and substantive and preferably result in a long term relationship on substance, not just the funding of projects. Relationships that are primarily based on charitable contributions from companies to individual NGOs and do not address the way the industry operates in the ocean, thus having limited value in relation to legal/policy developments that will affect future industry operations in the ocean. It is not desirable to have a partnership with one NGO on all ocean issues. There is also always the potential of other groups challenging the involvement, action and substance of industry efforts.

Establishing **a coordinated industry approach for engaging the international ocean processes in which most of the key, credible NGOs participate (e.g. ICP, CBD) is the best opportunity to become familiar with different groups** and their interests and determine which are credible, science-based, respected and participating in key developments.

4.2 Ocean Industry Stakeholders

There are many other Industries competing for the use of ocean space and resources, including: shipping, fisheries, aquaculture, tourism, mining/dredging, submarine cables, offshore wind energy, etc. Ocean industry stakeholders impact upon, and are impacted by, oil and gas activities in the marine environment. There are also **marine issues that ocean industries have in common that provide the basis for engaging and addressing them in a coordinated, cost effective manner**, e.g. ship strikes on marine mammals, MPA network developments. There are **opportunities to develop common operating principles and 'best practices' on marine environmental issues** that can be reviewed by individual companies to ensure alignment with their processes and standards.

There is particularly clear potential for **collaboration among the ocean industries closely allied to the oil and gas industry**, e.g. tankers/transport, offshore support shipping, marine contractors, drilling contractors, etc. Within the oil and gas industry, ocean issues are being addressed individually, not systemically or holistically. There are numerous associations that provide for collaboration and communication. Some ocean issues are partly addressed through: a) IPIECA, e.g. biodiversity working group, SIAF, 2006 AGM ocean workshop and b) IAGC/OGP, e.g. Sound and Marine Life Joint Industry Project (JIP), MPA and Species

Subcommittee, Arctic environment guidelines, Decommissioning taskforce and the Marine Strategy Task Force of the EU committee. Within companies, there is a need to coordinate across business unit 'silos' relevant to ocean operations or policy roles relevant to oceans in order to improve the efficiency of marine operations and increase coordination of ocean related work.

The unique, connected, trans-boundary characteristics of oceans create the **need and opportunity for the ocean business community to address ocean issues in a more collective, comprehensive manner**, by interacting to:

- Raise awareness of the unique issues regarding the ocean sustainable development.
- Seek resolutions to the conflicts among private sector ocean uses and users.
- Define common marine environmental issues and collaborating on addressing them.
- Develop and share best practices in addressing common issues.
- Coordinate involvement in ocean legal and policy processes of priority to ocean industries, e.g. ICP.
- Share information on ocean issues, processes, stakeholders, and best practices.

The **World Ocean Council (WOC)** is establishing a structure and process for **inter-industry collaboration on ocean sustainability**. The WOC brings together ocean industries to catalyze leadership and collaboration on ocean sustainability, stewardship and science, address global marine environmental issues and develop "Corporate Ocean Responsibility".

End notes

(1) SeaWeb. 1996. Presentation of Findings from a Nationwide Survey and Focus Groups of Public Opinion on the Oceans. Conducted by the Mellman Group.

(2) The World Ocean Council (WOC) is the first comprehensive, global, inter-industry organization on ocean sustainability and stewardship, bringing together ocean industries to create an ocean business community that will catalyze leadership and collaboration in addressing ocean sustainability and stewardship, tackling global marine environmental issues and creating "Corporate Ocean Responsibility". WOC objectives are to:

- Coordinate collaboration in science-based solutions to shared marine environmental issues.
- Develop collective industry support for improved ocean science, especially on climate change.
- Organize constructive engagement of ocean industries with other ocean stakeholders.
- Assist ocean industries to improve environmental performance through best practices and standards.
- Facilitate interaction among sectors to reduce ocean use conflicts.

The WOC has been endorsed by an increasing number of international and business organizations, e.g. the UN Division on Ocean Affairs and the Law of the Sea, the International Chamber of Shipping. It is registered in the US a nonprofit project under the Trust for Conservation Innovation (an IRS tax-exempt 501 c 3 organization) and will become an independent non-profit non-governmental organization in the US and UK.

(3) Halpern, B.S. et al., 2008. A global map of human impact on marine ecosystems. Science 319 (15 February):948-952.

(4) Precautionary Approach: Principle 15 of the Rio Declaration 1992 states that: "in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation."

(5) Ecosystem-Based Management (EBM) is a management approach that:

- Integrates ecological, social, and economic goals and recognizes humans as key components of the ecosystem.
- Considers ecological- not just political- boundaries.
- Addresses the complexity of natural processes and social systems and uses an adaptive management approach in the face of resulting uncertainties.
- Engages multiple stakeholders in a collaborative process to define problems and find solutions.
- Incorporates understanding of ecosystem processes and how ecosystems respond to environmental perturbations.
- Is concerned with the ecological integrity of coastal-marine systems and the sustainability of both human and ecological systems. (from www.ebmtools.net)

Appendix: SUPPORTING TABLES

1. Issues

1.1 Oil and Gas Industry Ocean-Related Activities and Potential Impacts

Oil and Gas Activities include:	**Related Potential Impacts include:**
Exploration	Sound and vibration impacts on marine fauna from seismic testing
	Numerous kinds of impacts from exploratory and appraisal drilling
Offshore development/production	Direct physical impacts of drilling, installations, pipelines and operations
	Pollution from discharged drill muds, cuttings, chemicals, produced water, chronic oil and chemical spills, sewage, and marine debris
	Catastrophic oil and chemical spills
	Decommissioning and disposal of platforms
	Greenhouse gas emissions
Development and operation of shore based facilities	Direct physical impacts of habitat displaced by installations
	Degradation of adjacent areas from operations
	Noise from operations
	Pollution from effluent discharge and waste
	Chronic spills
	Greenhouse gas emissions
	Construction and maintenance dredging
	Possible cooling water discharge
Industry shipping activities and oil or gas transport	Catastrophic spills
	Chronic spills
	Bunker spills
	Marine mammal strikes
	Alien species introductions from ballast water and hull fouling
	Greenhouse gas emissions
	Tanker/ship decommissioning
Cumulative oil and gas industry activities	Impacts from all of the company, and/or all oil and gas industry, operations in a given marine area
Cumulative industry activities	Impacts from all of the kinds of industry in a given marine area, including, but not limited to, oil and gas

1.2 Levels of Potential Impacts on Marine Biodiversity and Natural Systems

Potential Impacts on Marine Biodiversity and Natural Systems at the level of:	**More Specifically including:**
Species	Marine mammals, marine turtles, other endangered species, seabirds/shorebirds
Habitats	Especially highly diverse and productive assemblages
	Coral reefs, mangroves, seagrass beds, wetlands, deep water/cold water reefs, seamounts, thermal vents and habitats that support fisheries (such as fish

	nursery areas)
Ecosystem functions	Animal migration patterns, fish spawning areas
Fish and other living resources with economic value	Food security and livelihoods

1.3 Potential Impacts on Other Industry Users of the Ocean

Other Industry Users of the Ocean include:	**Concerns about Impacts and Resource Use Conflicts include:**
Fisheries	Effects of submarine pipelines on trawling fisheries and gear, effects of dredging or chronic pollution on fish larvae and critical habitat, effects of shoreline installations on access to fisheries
Aquaculture	Effects of oil spills on stocks and gear, such as shellfish lines or fish cages
Shipping	Effects on navigation from offshore installations
Offshore wind energy, tidal energy, submarine cables	Competition for use of offshore space or seabed
Tourism and recreation	Esthetic effects of platforms, clearing of mangroves for onshore development, effects of oil spills on beaches

2. International Conventions, Policy Arrangements and Intergovernmental Organisations

CONVENTIONS/TREATIES (and related UN Agencies or Secretariats)	
UN Convention on the Law of the Sea (UNCLOS)	Global legal and policy framework on oceans
UN Division on Ocean Affairs and Law of the Sea (DOALOS)	Secretariat for UNCLOS
States Parties to the Law of the Sea (SPLOS)	Annual meeting of parties to the LOS
UNCLOS related bodies or agreements	International Tribunal on the Law of the Sea
	International Seabed Authority
	Commission on the Limits of the Continental Shelf
	UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks
Informal Consultative Process on Oceans and the LOS (ICP)	Annual multi-stakeholder meeting on oceans established by UN General Assembly
ICP related developments include:	Global Marine Assessment (GMA)
Convention on Biological Diversity (CBD)	Covers species, ecosystems, and genetic diversity
Conference of Parties (COP)	Biennial meeting of parties to the CBD
Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA)	Intergovernmental scientific advisory body that provides COP with advice and recommendations
“Jakarta Mandate"	CBD marine and coastal biodiversity conservation and sustainable use framework
International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)	
MARPOL related developments include:	Annex 6 on air pollution

	Particularly Sensitive Sea Areas (PSSAs)
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention)	
International Maritime Organisation (IMO)	Secretariat for MARPOL and London Dumping Conventions
International Framework Convention on Climate Change (IFCC)	Includes Kyoto Protocol
OTHER KEY CONVENTIONS AND TREATIES	
Convention for the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	Scientific system for permanent protection of cultural and natural heritage of outstanding universal value
Convention on Wetlands of International Importance (Ramsar Convention)	Protection of wetlands, also covers nearshore marine areas
Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Regulates and monitors trade in listed wildlife species
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)	Framework for enhancing the conservation status of rare and threatened migratory species
International Convention for the Regulation of Whaling	Established the International Whaling Commission
UN AGENCIES	
UNESCO Intergovernmental Oceanographic Commission (IOC)	
IOC coverage and programmes include:	International marine science coordination
	Global Ocean Observing System (GOOS)
	Global Investigation of Pollution of the Marine Environment (GIPME)
UN Environment Programme (UNEP)	
UNEP coverage and programmes include:	Global Programme of Action on Land Based Sources of Marine Pollution (GPA)
	Regional Seas Programmes
	Division on Trade, Industry and the Environment (DTIE)
	World Conservation Monitoring Centre (WCMC)
UN Food and Agriculture Programme (FAO)	
FAO coverage and programmes include:	Fisheries and aquaculture
	Code of Conduct for Responsible Fisheries (CCRF)
UN Global Compact	
Global Compact coverage and programmes include:	Private sector interaction with UN, especially regarding Millennium Development Goals (MDGs)
	Enrolls several thousand businesses (including several IPIECA members) with UN agencies, labour, civil society and governments to advance MDGs
UN Interagency Groups related to oceans	
UN Oceans	Multi-agency body bringing together representatives

	of UN agencies concerned with ocean issues to coordinate their efforts
Group of Experts on the Scientific Aspects of Marine Protection (GESAMP)	Multi-agency sponsored scientific group
UN AND SUSTAINABLE DEVELOPMENT	
UN Conference on Environment and Development (1992)	Rio Summit on environment and development, promulgated Agenda 21, with Chapter 17 on oceans and coasts
Conference on the Sustainable Development of Small Island Developing States (SIDS) (1994)	Promulgated Barbados Plan of Action for SIDS
Millennium Development Goals (MDGs) (2000)	UN goals for 2015 on poverty, health, education, gender, environment and development
World Summit on Sustainable Development (WSSD) (2002)	Developed Johannesburg Plan of Action and targets for sustainable development
UN Commission on Sustainable Development (CSD)	UN process to follow up on Agenda 21 and the WSSD; a different theme cluster is addressed each 2 years, oceans are scheduled for review in 2014
REGIONAL CONVENTIONS, POLICY ARRANGEMENTS AND ORGANISATIONS	
UNEP Regional Seas Programmes	Covering many regional ocean areas, often with a legal convention among the member states to regulate use of the marine area
Other regional marine area programmes, including:	Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
	Convention/Commission on the Conservation of Antarctic Marine Living Resources (CCAMLR)
Regional Fishery Management Organisations (RFMOs)	Covering most major fishing areas, including in areas beyond national jurisdiction

3. Non-Government Organisation (NGO) Stakeholders

NGO's with marine programmes or interests	**Including, but not limited to:**
	IUCN - World Conservation Union
	IUCN regional and national programmes, international commissions
	World Wild Fund for Nature (WWF) International
	WWF National Programmes in many countries
	TRAFFIC
	Conservation International (CI)
	the Nature Conservancy (TNC)
	Wildlife Conservations Society (WCS)
	Greenpeace
	Friends of the Earth International (FOI)
	Natural Resources Defense Center
	World Resources Institute (WRI)
	Worldwatch Institute
	Environmental Defense

	Fauna and Flora International (FFI)
	Wetlands International
	Defenders of Wildlife
	Bellona Foundation
	Center for Biological Diversity
	International Foundation for the Conservation of Natural Resources
	IWMC World Conservation Trust
	International Fund for Animal Welfare
	Food and Water Watch
NGOs focused wholly on the marine environment	Including, but not limited to:
	Ocean Conservancy
	SeaWeb
	Oceana
	International Ocean Institute
	Marine Conservation Biology Institute
	Global Ocean
	Sustainable Fisheries Partnership
	National Marine Sanctuaries Foundation
	Global Forum on Oceans, Coasts and Islands
	Northsea Foundation
	Ocean Champions
	Sea Shepherd Society
	Seakeepers Society
	World Ocean Network
	Ocean Futures Society
	Cousteau Society
	Earth Echo
	Tethys Research Institute
	Whale and Dolphin Conservation Society
	American Cetacean Society
	Marine Conservation Society
	Algalita Marine Research Foundation
	Blue Planet Society
	Center for Oceans Law and Policy
	Seas at Risk
	Bluewater Network
	The Ocean Project
	W2O.net
	Living Oceans Network
	Marine Conservation Alliance
	Planetary Coral Reef Foundation
	Reef Check
	Reef Relief
	Center for Marine Biodiversity and Conservation
	National Coalition for Marine Conservation
	Coral Cay Conservation
	Center for Ecosystem Survival
	Coral Reef Alliance
	Save the Manatee Club

	Global Coral Reef Alliance
	Pacific Marine Mammal Center
	Seal Conservation Society
	Friends of the Sea Otter
	Caribbean Conservation Corporation
	Sea Turtle Restoration Project
	The Manta Network
	Shark Foundation
	Shark Trust
	Coastal Ecosystem Research Foundation
	Dolphin Care UK
	Center for Cetacean Research and Conservation
	Marine Mammal Center
	Marine Connection
Other national and local NGOs	Those with marine programmes
	Those formed solely to address marine issues
Significant NGO trends on marine issues	Engaging on global ocean issues via the UN ICP and with the UN agencies and processes
	Calling for oceans to be addressed more comprehensively, e.g. an IPCC for the oceans
	Coalitions and joint campaigns, including:
	- Deep Sea Conservation Coalition
	- Sustainable Seafood Initiative
	- International Ocean Noise Coalition
	- Census of Marine Life
	- Global Marine Species Assessment
	- Shark Alliance