

EU – U.S. Conference Series
Sustainable Oceans: Reconciling Economic Use and Protection
Conference No. 3
‘Good Governance for Sustainable Marine Development’
Cascais, Portugal, June 3 to 5, 2013

Session Background Paper
Managing the world’s oceans – Securing ‘blue’ growth, jobs, and a sound maritime environment
Prepared by: Paul Holthus, CEO, World Ocean Council

In discussing “Good Governance for Sustainable Marine Development” it is critical to have a clear understanding of the status and trends in economic use of marine space and resources – as well as the potential new kinds and areas of use. Achieving a balance between ‘blue’ growth, jobs, and a sound maritime environment will largely be based on addressing the opportunities and challenges facing the diverse, extensive set of existing ocean activities outlined below. Success in improving ocean governance and sustainable marine development will require coordinated leadership and collaboration by the diverse ocean business community.

Ocean Economic Activity

Shipping

International shipping traffic growth has been twice that of economic activity for the past 60 years, during which time world trade more than trebled to 45% of global GDP. There are approximately 50,000 internationally operating merchant ships in service. Globally shipping is generally either as liquid cargo, e.g. oil, petroleum products, chemical, or as dry cargo/bulk goods, for which the most important are: iron ore, coal, grain, phosphates, bauxite, non-ferrous metal ores, feed and fertilizers. The most significant cargo worldwide is crude oil, which makes up about 25% of all goods transported by sea. Most goods otherwise travel by container ship and since 1985 global container shipping increased by about 10% annually, with about 137 million containers transported in 2008. There are a relatively small number of principal transport routes, and the busiest are the approaches to the ports of Europe, US and East Asia, particularly Japan but also Shanghai, Singapore and Hong Kong. Narrow straits concentrate maritime traffic, e.g. Straits of Dover, Gibraltar, Malacca, Lombok and Hormuz, and the Cape of Good Hope. The heavy traffic to N Europe and the Eastern US, and between these 2 areas, makes the N Atlantic an area of especially high shipping traffic, with associated challenges.

Offshore Oil and Gas

Offshore oil and gas industry fields explored in the past were relatively shallow and limited in size. Now, 45% of the 2,700 billion barrels of recoverable oil left is offshore and energy firms will gradually move to deeper waters as shallow waters reservoirs are depleted. By 2035, deep-sea production will almost double to 8.7 million barrels a day, driven by developments in the US Gulf of Mexico, Brazil, West Africa and Australia (mainly for gas).

The Gulf of Mexico remains the world's most valuable deepwater province, despite the many recent large finds elsewhere. Since the discovery of ultra-deep oil reserves under a thick layer of salt off Brazil, the offshore oil and gas industry is exploring ever deeper and drilling further under the sea bed - exploring the subsalt layers 7 km below sea level (below 2.5 km of ocean water, 3 km of rock, and 2-3 km compacted salt). "Ultra-deep" wells, drilled in water at least 1.5 km deep, now account for more than half of all the world's new discoveries. Pre-salt reserves in Brazil were already producing over 14,000 barrels of oil a day, less than four years after their discovery.

Addressing the technological and safety challenges requires significant capital, with investment in the global deepwater and ultra deepwater exploration and production market expected to be worth US\$3.2 billion in 2013 in an industry where a single offshore well may cost US\$70,000,000 to drill. In a global fleet of over 1,200 rigs and drilling vessels, more than 80 rigs now have the ability to work in ocean depths of more than 2.5 km. That compares to fewer than 10 in the year 2000 and double the number at work just two years ago.

Fisheries

The world's most productive fishing grounds are largely confined to areas that make up less than 10% of the global ocean, often associated with areas of strong primary production of biomass in the oceans, i.e. continental shelves and upwelling areas. Marine fishery catches increased from 16.7 million metric tons (MT) in 1950 (86% of total world production) to a peak of 87.7 million MT in 1996. Since then, global landings of fish and seafood have declined, with fluctuations reflecting the variation in catches from a few highly productive areas, particularly the NW and SE Pacific that account for a large portion of pelagic species catches. Marine fisheries stabilized at about 80 million MT in 2009, and now represent 49% of the world's fish production.

Based on average catches in the 2005–2009 period, the most productive fishery areas are the NW Pacific (25%), SE Pacific (16%), Western Central Pacific (14%), NE Atlantic (11%), and Eastern Indian Ocean (7%). All other marine fishing areas contribute less than 5% of the global total catch. This includes the other six areas that make up the Atlantic: NW, W Central, E Central, SW, SE, and the Atlantic Antarctic. The proportion of overfished stocks has increased from 10% in 1974 to 26% in 1989. After 1990, the number of overfished stocks continued to increase, but the rate slowed, reaching about 30% in 2009.

The patterns of marine fisheries landings differ over time. Some areas have oscillations in total catch but a declining trend is not evident. In the Atlantic, this includes the E Central and SW areas. Many other have a decreasing trend in catch; this includes four of the Atlantic fishery areas: NW (down 55%), W Central (down 46%), and NE (down 35%), with the SE down somewhat less. Thirdly there are areas that have shown a continual increase in catch since 1950 - none in the Atlantic. In the ABNJ migratory tunas and related species are the most valuable high-seas fishery resource, with production highest in the Pacific, followed by the Atlantic and Indian Oceans. The harvest of high-seas fishery resources increased from less than 0.5 million MT in the early 1950s to 5.5 million MT in 2006.

Aquaculture

Aquaculture provides half of the 15.7% of the animal protein consumed globally. Aquaculture has grown at 6.6% per annum, making it the fastest-growing animal-food-producing sector - much faster than the 1.8% annual global population increase. While aquaculture production (excluding aquatic plants) was less than 1 million MT per year in the early 1950s, production in 2008 was 52.5 million MT, with a value of US\$98.4 billion. Aquatic plant production through aquaculture in 2008 was 15.8 million MT, with a value of US\$7.4 billion. By 2030 aquaculture will account for 65% of fish protein production.

World aquaculture is heavily dominated by the Asia–Pacific region, which accounts for 89% of production in terms of quantity and 79% in terms of value, and is growing at more than 5% a year. This is mainly because of China, which accounts for 62% of quantity and 51% of value. Aquaculture production bordering the Atlantic is a minor component of global totals: Europe (3.6%), South America (2.2%), North America (1.5%), and Africa (1.4%). In the EU aquaculture currently provides 25% of fish protein and more than 90% of aquaculture businesses in the EU are SMEs, providing around 80,000 jobs.

Mineral Resources

The seabed contains precious metal deposits, in polymetallic sulfides, cobalt-rich crusts, or manganese nodules. By 2020, 5% of the world's minerals, including cobalt, copper and zinc could come from the ocean floors, and this could rise to 10% by 2030. Global annual turnover of marine mineral mining may likely grow from virtually nothing to €5 billion in the next 10 years and up to €10 billion by 2030. There may be significant deposits of these mineral resources in the international areas of the Atlantic Ocean, and a number of leases for exploration of deep-sea sites have been applied for by several companies and countries. Within the EEZs are several other mineral resources: methane hydrates, a growing area of interest as countries look for new natural gas reserves; sand and gravel, which continue to grow in use as the demand for construction materials increases with industrialization; and nearshore phosphates, which are being pursued as land-based sources begin to decline.

Offshore Wind and Ocean Energy

Offshore winds tend to blow harder and more uniformly than on land, providing higher potential for electricity generation and smoother, steadier compared to land-based wind energy. Globally, total installed offshore wind capacity was 3,117.6 megawatts (MW) in 2010, with 1,161.7 MW added in that year alone. The growth rate of 59% in 2010 was far above the growth rate of the wind sector overall. The share of offshore facilities in wind capacity worldwide went up from 1.2% in 2009 to 1.6% in 2010. The North Atlantic has the potential to generate considerable renewable energy from offshore wind, especially during the northern winter. As of 2010, offshore wind farms had installed by 12 countries, 10 of whom were in Europe. A total of 10 gigawatts (GW) of capacity had been installed, led by the UK, Denmark, the Netherlands, and Sweden. The EU has a target of 40 GW of offshore wind power capacity by 2020 and 150 GW by 2030.

The world's ocean waves, currents, and tides are estimated to contain more than 5,000 times current global energy demand, with estimates that marine resources could feasibly provide 20,000 terawatt-hours (TWh) of electricity per year, which is more than the entire global generation capacity. A variety of mechanisms are under development to convert ocean energy efficiently from these sources

into electrical power, and several devices are being tested, but the engineering challenges for technology to survive for long periods of time in the harsh marine environment presents many challenges. The maturation of ocean power technologies depends upon deployment of substantial demonstration and commercial projects in nearshore areas. In the Atlantic, some of the greatest potential and need for ocean energy is in the NE, and this is where the majority of the research and development is taking place. Currently, there are only a few hundred MW worth of projects installed around the world, mostly in European waters.

Marine, coastal and cruise tourism

The number of cruise ship passengers has grown nearly twice as fast as world international tourist arrivals from 1998-2008. With about 14 million passengers in 2010, the industry is expected to grow at 8.5% per year over the next decade. The 100 plus ships of the main international cruise industry association account for about two-thirds of the world's cruise ships, comprise less than 5% of all passenger ships and only 0.2 percent of the world's trading fleet. About 70% of cruise destinations are in the Caribbean, Mediterranean, Western Mexico and the South Pacific. In 2001, the N American cruise industry contributed US\$20 billion to the US economy, a US\$2 billion increase over 2000. Within Europe cruise tourism employs nearly 150,000 people and generates direct turnover of €14.5 billion, with the European market growing rapidly. Still, about half of the world's cruise passengers depart from US ports for the Caribbean.

In the Caribbean, tourism overall provides over 18% of regional gross domestic product (and more than 50% in several individual nations), approximately 16% of employment, and 25% of foreign exchange earnings. Total tourism demand in the Caribbean region is currently US\$40.3 billion and expected to grow to US\$81.9 billion by 2014. Tourism receipts directly account for more than 75% of total exports and indirectly contribute to the growth of other sectors including agriculture, construction, and manufacturing. Capital investment in the industry is estimated at US\$7.4 billion, or 21.7% of total investment and generating one in seven jobs in the Caribbean. In Europe, the coast is the preferred holiday destination of 63% of European tourists and the maritime and coastal tourism is the largest single maritime economic activity, employing 2.35 million people, equivalent to 1.1% of total EU employment. Cross-border coordination as part of a sea-basin strategy can contribute to the development of high-value tourism areas.

Ocean Industry Sustainability Challenges and Opportunities

Leadership and collaboration by the diverse, international ocean business community is essential to addressing ocean governance and sustainability in of the dynamic, interconnected global ocean. Ocean industries are increasingly held accountable for their impacts and are being confronted on a sector, incident, or local basis (e.g. oil spills, deep sea trawling, port expansion). Ocean sustainability concerns are increasingly being pursued through globally coordinated efforts and unfortunately there is often not a corresponding coordination of effort by the sectorally fragmented ocean business community to engage these cross-cutting issues. Ocean stakeholders are pushing for increased regulation in a variety of international venues where international ocean rules are established. Strategic, coordinated industry

participation in these processes is lacking, as is balanced, comprehensive information regarding industry efforts to address marine issues. Marine industries are often portrayed only as the cause of ocean problems, and are unable to create any other perception if they are not “at the table” and constructively engaged in ocean developments.

Ocean governance regimes and policies are emerging from processes in which industry is not well engaged. As a result, private sector access to ocean resources, services and space - even by companies with the best environmental record - is increasingly at risk from the loss of access and social license from the ocean governance emerging from processes in which industry is not well engaged. There have been efforts by responsible companies to differentiate themselves from poor performers and try to do business in a more environmentally responsible way. However, the efforts of one company or even a whole sector are not enough to address collective global impacts by a diverse range of industries in a shared global ecosystem.

As the principle users of the marine environment and with the marine environment subject to increasing commercial use, ocean industries have the most to gain by developing and delivering solutions to sustainability. Responsible industry performers are well positioned to develop and drive business-oriented solutions to marine environmental challenges to address marine environmental issues, differentiate themselves from poor performers, collaborate with like-minded companies within and across sectors, and engage ocean stakeholders and policy processes. Cross-sectoral leadership and collaboration by the diverse mix of ocean industry sectors can result in significant business value for the operators committing to a healthy and productive ocean that supports sustainable use by the responsible ocean business community.