UNEA
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Delivering on the 2030 Agenda

UNEA-2 FACT SHEET:

GREEN ECONOMY IN A BLUE WORLD

Why a green economy in a blue world matters

Oceans cover 71 per cent of the Earth's surface and provide us with food, oxygen and jobs. But they are probably the least understood, most biologically diverse, and most undervalued of all ecosystems. From deep oceans to coastal reefs, from mudflats to sea grass beds, ocean and marine systems provide us with essential services: carbon capture for climate mitigation, deep sea minerals, biotechnology, renewable energy and protection from storm surges, to name but a few. As the global population grows, we are probing deeper and further into the oceans—for fish, oil, gas, minerals and new genetic resources—in an attempt to keep pace with increasing consumption. This is damaging the oceans that sustain us. Valuing marine ecosystems will provide policymakers with a strong rationale to improve ocean management and invest in marine conservation. This would reduce environmental risks and ecological scarcities while boosting human well-being and social equity.

The state of play

- More than **30 per cent** of the world's fish stocks are overexploited, depleted or recovering from depletion and more than **50 per cent** are thought to be fully exploited.
- Aquaculture is the fastest growing food production sector in the world, providing almost **half** of all the fish we eat.
- Oceans are estimated to have absorbed approximately **one-quarter** of anthropogenic carbon dioxide since the commencement of the industrial revolution, resulting in a **26 per cent** increase in the acidity of the ocean.
- Pollution has created more than **500** oxygen-starved "dead zones" across **245,000 square kilometres** of the ocean.
- Human activities have destroyed more than **20 per cent** of mangroves, **30 per cent** of sea grass beds and **20** per **cent** of coral reefs.
- Only **2.8 per cent** of the oceans are protected.
- Between **one-quarter** and **one-fifth** of all fish caught across the world is simply thrown overboard as unwanted bycatch – that's roughly **20 million tonnes** of marine life discarded every year.
- **19 of 22 species** of albatross are threatened with extinction. The primary threat they face comes from longline fisheries.
- Nutrients deposited into oceans and coastal zones have increased roughly **threefold** from pre-industrial levels, primarily from agricultural run-off and poorly or untreated sewage.
- For the EU alone, the economic costs of damage to the aquatic environment from excess reactive nitrogen are estimated at up to **€320 billion** per year.
- The seabed currently provides **32 per cent** of the global supply of hydrocarbons. Exploration is expanding.
- CO_2 levels are undermining fundamental aspects of many marine ecosystems through ocean acidification, which is changing ocean chemistry at a speed faster than at any time in the last **300 million** years.
- **One billion** people in developing countries depend on seafood for their primary source of protein.

- The global market for marine biotechnology products and processes is currently estimated at **$2.8 billion** and projected to grow to around **$4.6 billion** by 2017.
- As much as **40 per cent** of the world's population now lives within **100 km** of the shore line.
- About **350 million** jobs are linked to oceans.
- The international trade in fish products spans **85** nations and involves an estimated **$102 billion** per year.
- About **$9 billion** is generated globally from ecotourism related to coral reefs.

The benefits of action

- Restoring fish stocks and reducing fishing could gradually claw back the estimated **$50 billion** lost to overfishing every year.
- On the energy front, algal biofuels offer promising prospects. The European Science Foundation claims that **20,000 to 80,000** litres of oil per hectare per year can be achieved from microalgal culture – the lower part of this range is considerably higher than terrestrial biofuel crops.
- The Intergovernmental Panel on Climate Change says that the technically exploitable potential for marine-based renewables, excluding offshore wind, ranges from **7 exajoules** per annum to **7,400 exajoules** per annum – the latter would exceed current global energy needs.
- Research indicates that at least **50 per cent** of fishmeal, **50-80 per cent** of oil in salmonid (the largest component of aquaculture production) and **30-80 per cent** of fishmeal, and up to **60 per cent** of oil in marine fish diets can ultimately be replaced with vegetable substitutes, greatly increasing the scope for aquaculture expansion.
- Marine-based renewable energy can provide an alternative electricity supply for oil importing countries. Developing countries that spend large amounts of their export revenues on oil imports can benefit from an alternative electricity supply to improve energy security.
- Green technology is key to green growth in fisheries and aquaculture – low impact, fuel-efficient fishing methods; innovative multi-trophic aquaculture production systems using environmentally-friendly feeds; reduced energy use and greener refrigeration technologies; and improved waste management in fish handling, processing and transportation will reduce the impact of aquaculture on marine ecosystems.
- Reducing fishing and increasing the use of non-destructive fishing techniques will reduce the negative impacts that fishing has on biodiversity while lowering greenhouse gas emissions and boosting economic growth, food security and poverty reduction.

Change across the globe

- The number of Marine Protected Areas (MPAs) is growing. With support from UNEP, Haiti last year designated its first **nine** MPAs and others are set to follow suit.
- The EU Common Fisheries Policy, which came into force in 2014, is phasing out the practice of throwing unwanted fish overboard and requires the industry to stick to quotas designed to achieve healthy fish stocks.
- UNEP's Regional Seas Programme aims to restore the health and productivity of oceans and marine ecosystems by promoting responsible stewardship. Over the last 40 years, this programme has helped countries to reduce land-based pollution, improve the management of coastal zones in the Mediterranean, East Africa, Pacific and Caribbean regions, and brought nations together to conserve the marine environment.
- The government of the Seychelles has pledged to expand Marine Protected Areas to cover **30 per cent** of its exclusive economic zone (400, 000 square kilometres), with **15 per cent** designated as no-take areas.
- Traditional fishers in Madagascar have carried out more than **250** temporary closures over about **450 kilometres** of coastline, a practice that has dramatically increased the size of their catch.