



A compilation of UNEP's work on marine renewable energy and developments in the field of ocean affairs and law of the sea for a report by the Division of Ocean Affairs and the Law of the Sea (DOALOS)

The following paragraphs (each no more than 400 words long), summarize UNEP's work on marine renewable energy. The paragraphs are organized by regional contributions.

### **OSPAR Commission for the Oslo and Paris Conventions for the protection of the marine environment of the North-East Atlantic**

In the OSPAR Maritime Area (North-East Atlantic) offshore wind energy production is predicted to increase rapidly. In 2011, OSPAR Contracting Parties admitted the European Wind Energy Association as an Observer to the Convention. The EU is committed to having 20% of its energy production from renewable sources by 2020.

The OSPAR Quality Status Report 2010 quantifies existing and projected wind farm development. Around 800 turbines were expected to be operational as of 2010. Many proposed wind farms are more extensive than those currently in operation. OSPAR has developed a database for information exchange. Most existing and planned offshore renewable energy projects are within OSPAR Region II (North Sea) and III (Celtic Seas).

OSPAR has agreed guidance (Reference number 2008-3) to minimise environmental impacts, recognising that impacts arise throughout the life cycle of wind farms (site selection, construction, operation, decommissioning and removal). OSPAR has agreed to keep under review measures to mitigate effects such as noise (from pile driving during construction), electromagnetic fields, bird displacement and physical damage to the seabed. This extends to consideration of impacts of power cables including, for example, the settling of non-indigenous hard substrate species on unburied cables.

Monitoring to date has concentrated on these potential effects, in particular displacement of seabirds in the vicinity of wind farms, in relation to reference populations of species affected. Mitigation can often be achieved by national licencing regimes and all OSPAR Contracting Parties have national approval procedures.

Commercial scale development of technologies for harnessing energy from waves, tidal streams and salinity gradients is currently limited. Test sites have been operating off Scotland and Ireland for several years.

This new use of coastal and shallow offshore waters is a major driver for the development of marine spatial planning, with a need to consider transboundary issues and integrated management.

Understanding the relative and cumulative environmental impact of marine renewable energies remains a challenge. A key consideration is underwater noise. OSPAR is working with other international organisations (e.g. the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas, ASCOBANS) to identify problems and identify future actions to address underwater noise. OSPAR is facilitating sharing of information on noise reduction guidelines and regulatory controls on levels and frequencies of noise generated by specific activities such as pile driving.

### **Regional Office for Europe – The Caspian Sea**

The isolation of the Caspian Sea from the world's oceans for thousands of years together with the Sea's climatic and salinity gradients have formed a unique ecosystem with some 400 species endemic to it. The exploration and exploitation of the significant oil and gas reserves in the Caspian basin have brought growing economic activities and an unprecedented 'oil boom' to the region, exposing the environment of the Caspian Sea to increasing threats from pollution.

Within the framework of the Tehran Convention, and notwithstanding the absence of an agreement on the legal status of the Caspian Sea, the five Caspian littoral countries concluded the Aktau Protocol Concerning Regional Preparedness, Response and Cooperation in Combating Oil Pollution Incidents in August 2011, and are close to finalizing three further Protocols towards the protection of the marine and natural environment of the Caspian Sea region.