

The Essential Elements of the Marine Environmental Impact Assessment

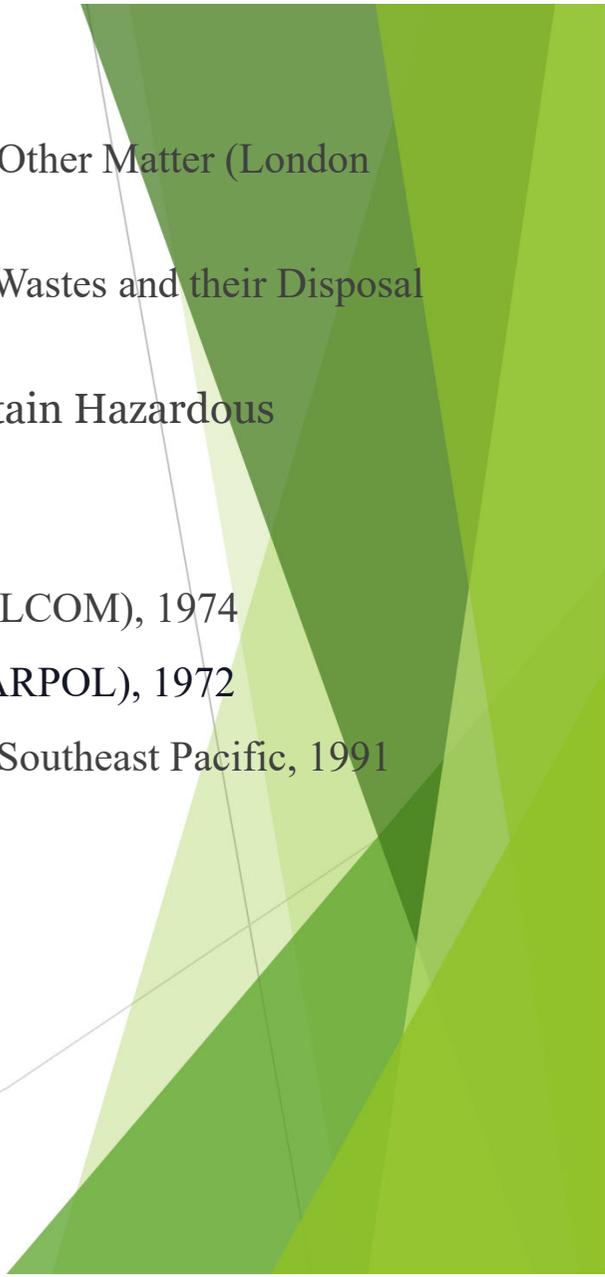
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International laws



International Laws on marine environment protection

- ▶ The Convention on Migratory Species
- ▶ The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973.
- ▶ The United Nations Convention on Biological Diversity (UNCBD), 1992.
- ▶ The United Nations Framework Convention on Climate Change (UNFCCC), 1992.
- ▶ The United Nations Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958.
- ▶ International Whale Commission (IWC), 1946
- ▶ International Convention for the Conservation of Atlantic Tunas (ICCAT), 1966
- ▶ Convention for the conservation of southern bluefin tuna, 1993.
- ▶ The South Pacific Tuna Treaty, 1988
- ▶ Commission for the Conservation of Southern Bluefin Tuna (CCSBT), 1993
- ▶ Inter-American Tropical Tuna Commission(IATTC), 1949
- ▶ Indian Ocean Tuna Commission(IOTC), 1996

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- ▶ The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), 1972
 - ▶ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention), 1992
 - ▶ The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998
 - ▶ Stockholm Convention on persistent organic pollutants (POPs), 2001
 - ▶ The Baltic Marine Environment Protection Commission(Helsinki Commission, HELCOM), 1974
 - ▶ IMO, The International Convention for the Prevention of Pollution from Ships (MARPOL), 1972
 - ▶ Agreement on the protection of the marine environment and the coastal area of the Southeast Pacific, 1991

UNCLOS, 1982

- ▶ Breadth of the sea
 - ▶ Territorial sea
 - ▶ Economic Exclusive Zone (EEZ)
 - ▶ The High seas
- ▶ Part XII, Protection and Preservation of the Marine Environment
 - ▶ Article 192.
 - ▶ “**States** have the obligation to protect and preserve the marine environment.”
 - ▶ Article 194.
 - ▶ State shall take all necessary measures to prevent, reduce and control pollution of the marine environment from any source.
 - ▶ Article 197.
 - ▶ States shall cooperate on a global basis for the protection and preservation of the marine environment.

Regional regulations



EU DIRECTIVE 2011/92/EU

- ▶ Directive on the assessment of the effects of certain public and private projects on the environment.

- ▶ Article 4. 2 & Annex II, 3 (Energy Industry) (i)
 - ▶ Annex II, Energy Industry : (i) Installations for the harnessing of wind power for energy production (**wind farms**);
 - ▶ Article 2, Member States shall determine whether the project shall be made subject to an assessment in accordance with Articles 5 to 10. Member States shall make that determination through:
 - a) a case-by-case examination;
 - b) thresholds or criteria set by the Member State.

UK MEIA experiences and legal frameworks



UK Marine EIA

- ▶ The Marine Works (EIA) Regulations 2007, No. 1518. (Amendment 2015, S.I. No. 446)
 - ▶ an Environmental Statement
 - ▶ a Preliminary Environmental Information Report (PEIR)
- ▶ Assessing impacts on marine environments
 - ▶ The pathways of effect and **Zone** of Influence of the project must be identified.
 - ▶ **The existing marine environment** must be defined in the Study Area.
 - ▶ any **identified effects** need to be understood.
 - ▶ **Evaluate and mitigate the adverse effect** of the proposed measures, and also the residual effects.
 - ▶ A **cumulative impact assessment**
- ▶ Water Framework Directive (WFD) assessments,
- ▶ Habitat Regulations Assessment (HRA),
- ▶ Marine Conservation Zone (MCZ) assessment,
- ▶ Biosecurity Risk Assessment and Biodiversity Net Gain (BNG) assessments.

UK Marine EIA Principles

- ▶ Avoidance
 - ▶ Seek options that avoid harm to ecological features
- ▶ Mitigation
 - ▶ Negative effects should be avoided or minimized through mitigation measures
- ▶ Compensation
 - ▶ offset by appropriate compensatory measures
- ▶ Enhancement
 - ▶ Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

UK Marine EIA Procedures

- ▶ Initial project design
- ▶ Scoping
 - ▶ A process of determining the environmental and ecological issues to be addressed in the marine EIA.
- ▶ Screening
- ▶ Impact assessment
- ▶ Evolution of project design and mitigation
- ▶ Identify significant residual effects and their legal, policy and development management consequences
- ▶ Reporting

Marine Impact Assessments Elements

- ▶ predict changes to flows, waves, sediment transport and scour
- ▶ the dispersion of thermal, saline and other marine discharges and their impact on water quality
- ▶ Underwater sound propagating during construction
- ▶ how **ecological receptors** such as fish and plankton react to marine activities

Marine renewable energy EIA

- ▶ Strategic environment impacts assessment (SEA)
- ▶ Marine environment impacts assessment (MEIA)
 - ▶ Bring technologies and science into evaluation
 - ▶ Deploy and Monitor approach
 - ▶ Adaptive Management approach
 - ▶ Rochdale Envelope approach
- ▶ Marine Spatial Planning (MSP)



Conclusions

- ▶ Several European Union member states established legal framework for marine renewable energy development.
 - ▶ France, Portugal, Ireland, Spain, United Kingdom: England, Wales, Scotland, Northern Ireland

- ▶ Few EU member states established legal system for marine EIA.
 - ▶ UK, Belgian, German, Netherland

- ▶ New development trends of marine renewable energy in APEC economic region.

- ▶ Enhancing awareness in essential and necessary.
 - ▶ Considering strategic EIA
 - ▶ Bring technologies into evaluation
 - ▶ Deploy and monitor approach