

**EXPLANATORY MEMORANDUM ON THE AMENDMENTS TO THE 1996  
PROTOCOL TO THE CONVENTION ON THE PREVENTION OF MARINE  
POLLUTION BY DUMPING OF WASTES AND OTHER MATTER, 1972 (LONDON  
PROTOCOL) TO REGULATE MARINE GEOENGINEERING**

**TITLE OF TREATY**

Amendments to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, 1972 (London Protocol) to Regulate Marine Geoengineering.

**Command Paper Number:** 8965

**SUBJECT MATTER**

1. The London Protocol was agreed in 1996 with a view to modernising and eventually replacing the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Convention).
2. The London Convention entered into force in 1975, with the objective that Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. There are currently 87 Contracting Parties to this Convention.
3. The London Protocol entered into force in 2006 and prohibits all dumping at sea, except for certain wastes or other matter listed in annex 1, for example dredged material. These may be considered for dumping but must undergo an assessment and permitting process to ensure that any adverse environmental effects are minimized. There are currently 45 Contracting Parties to this Protocol.
4. In October 2013 the 35<sup>th</sup> meeting of Contracting Parties to the London Convention and 8<sup>th</sup> meeting of Contracting Parties to the London Protocol adopted, in accordance with article 21 of the Protocol, resolution LP.4(8) on the Amendment to the London Protocol to Regulate Placement of Matter for Ocean Fertilisation and Other Marine Geoengineering Activities.

**MINISTERIAL RESPONSIBILITY**

5. The Secretary of State for Environment, Food and Rural Affairs is responsible for negotiation, representation and policy formation in relation to the London Convention and London Protocol.
6. The Secretary of State for Foreign and Commonwealth Affairs has overall responsibility for the conclusion and implementation of treaty obligations and responsibility for their application in Overseas Territories.

## INTEREST OF OTHER DEPARTMENTS AND THE DEVOLVED ADMINISTRATIONS

7. A cross-government working group on geoengineering, chaired by the Department of Energy and Climate Change, brings together those Government departments with an interest in geoengineering research or deployment activities as well as interested devolved administrations. Other members of the group include the Foreign and Commonwealth Office, Department for Environment, Food and Rural Affairs, Government Office for Science and Department for Business, Innovation and Skills, with Scottish Government, and Welsh Government as associate members. The working group has contributed to the UK Government's negotiating positions for the London Protocol and evaluation of possible impacts from the amendments.

## POLICY CONSIDERATIONS

### (i) General

8. Geoengineering can be described as the deliberate intervention in the planetary environment of a nature and scale intended to counteract man-made climate change and/or its impacts. The UK Government's view<sup>1</sup> is that it is premature to consider geoengineering as a viable option for addressing climate change. The priority is, and must be, to tackle the root cause by reducing emissions of greenhouse gases from human activities and adapting to those impacts that are unavoidable. However, the Government also recognises that geoengineering proposals are attracting growing attention and, should the need ever arise to deploy geoengineering techniques in the future, a thorough understanding of all the options available to counteract dangerous climate change and knowledge of their risks and benefits will be needed. This understanding can only be developed through relevant, careful and responsible multi-disciplinary research.
9. Recognising that international regulation of geoengineering is currently inadequate, the Government has supported the Secretariat of the Convention on Biological Diversity (CBD) in its work to prepare an update on the regulatory framework of climate related geoengineering relevant to the CBD, and contributed actively to work under the London Protocol to regulate ocean fertilisation research and develop a framework to assess its potential impacts on the marine environment.
10. Ocean fertilisation involves adding nutrients to nutrient depleted areas of the open ocean with the aim of increasing plankton production. As a potential climate geoengineering technique it could be used to absorb atmospheric carbon dioxide

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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/120688/Government\\_view\\_on\\_geo-engineering\\_research.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/120688/Government_view_on_geo-engineering_research.pdf)

(which would be stored below the surface layers of the ocean when plankton dies). Ocean fertilisation could also be used to stimulate fisheries, but on either count there is international concern that these techniques are unproven and, in the absence of effective regulation, could have significant adverse impacts on marine ecosystems.

11. While ocean fertilisation has been the most commonly tested option for geoengineering in the marine environment, there are other geoengineering techniques that could be considered also to counter climate change. Examples are deposition of crop wastes on the deep seabed, enhancing ocean alkalinity, and mineralisation of rocks in the seabed.
12. Parties to the London Convention and London Protocol first expressed concern about ocean fertilisation in 2007. In 2008, the Parties adopted Resolution LC-LP.1 deciding ocean fertilisation activities other than legitimate scientific research should be considered as contrary to the aims of both instruments. In 2010, by Resolution LC-LP.2, the Parties adopted an Assessment Framework for Scientific Research Involving Ocean Fertilisation. However, whilst these Resolutions set out political commitments, they are not legally binding.
13. In the absence of appropriate international mechanisms, Parties to the CBD adopted Decisions IX/16 (2008) and X/33 (2010) which form a *de facto* moratorium on deployment and most forms of research into ocean fertilisation and other forms of geoengineering "in the absence of science-based, global, transparent and effective control and regulatory mechanisms for geoengineering".
14. London Protocol Resolution LP.4(8) is designed *inter alia* to meet the concern expressed in CBD about lack of effective controls. It amends the London Protocol to regulate ocean fertilisation activities, and enables the Parties to regulate other marine geoengineering activities within the scope of the Protocol, in future. This would be done by listing them on a new annex 4. The amendments are detailed below.
  - A definition of "marine geoengineering" is inserted as new subparagraph 5bis in article 1.
15. This describes what kind of intervention in the marine environment amounts to "marine geoengineering". It will be used to determine what activities might be listed in new Annex 4 and regulated under new Article 6bis. The definition is necessarily broad so as to provide for the flexibility to respond to new activities and techniques in the future. Its scope is not, however, unlimited. In order to be considered for listing on the new annex 4, a proposed activity must come within the scope of the Protocol - that is because it involves the introduction of matter into the sea which has the potential to cause pollution. To come within the terms of the definition, the activity must be deliberate, designed to manipulate natural processes for a desired outcome, and have the potential to result in deleterious environmental effects.

16. The amendment is not intended to apply to other established legitimate uses of the sea that have effects on the marine environment, such as the direct harvesting of marine organisms, the placement of artificial reefs, oil spill response, or the production of energy from the wind, currents, waves, tides, or ocean thermal energy conversion. Such activities are either already regulated under the Convention or the Protocol or other international instruments, or they fall outside the “marine geoengineering” definition.

- *adding a new article 6bis on “Marine Geoengineering Activities”;*

17. This new article sets out the regulatory controls for activities listed on new Annex 4. It provides that Parties shall not allow placement of matter into the sea for a marine geoengineering activity listed in new annex 4 except where the listing provides for the activity or sub-category of the activity to be authorised under a permit. This is a positive list approach; activities not listed in annex 4 would not be regulated by the new article 6bis.

18. Article 6bis provides that a permit shall only be issued if (on assessment) the activity is not contrary to the aims of the Protocol. To avoid an overlap with the dumping regime article 6bis provides that article 4 (the core provision in the Protocol regulating dumping) does not apply to activities listed in annex 4.

- *adding a new annex 4 to list types of marine geoengineering activities;*

19. New Annex 4 lists marine geoengineering activities. Placement of matter into the sea for such activities is regulated under new Article 6bis. The Annex 4 listing of an activity may itself specify whether that activity (or a sub-category of it) is permissible. Annex 4 currently contains one listing, namely ocean fertilisation, but could be amended in the future to list further activities, as appropriate. The definition of ocean fertilisation in Annex 4 is taken from the definition agreed by the Contracting Parties in resolution LC- LP.1(2008). The listing provides that an ocean fertilisation activity assessed as constituting legitimate scientific research is permissible. All other ocean fertilisation activities are prohibited.

- *adding a new annex 5 (Assessment Framework for Matter that may be Considered for Placement under annex 4);*

20. New annex 5 contains a generic Assessment Framework, which Parties must use before issuing permits pursuant to new Article 6bis. It provides for assessment of the placement of matter into the sea for activities listed on new annex 4, and can also be used as a basis for developing specific assessment frameworks for particular activities listed on annex 4. Under article 6bis Parties must adopt measures to ensure that their permitting regime complies with annex 5 and takes into account any specific assessment framework adopted by a Meeting of the

Parties to the Protocol. For ocean fertilisation activities, the specific Ocean Fertilisation Assessment Framework adopted in 2010 will continue to apply.

- *consequential amendments.*

21. Amendments have also been made, consequential to those discussed above.

22. The amendments adopted by Resolution LP.4(8) will provide Contracting Parties with a mechanism to regulate ocean fertilisation activities. The amendments will also make it possible to extend the permitting regime, through subsequent amendments to new annex 4 to the Protocol, to list other marine geoengineering activities when required. Future amendments to annex 4 can be adopted by a two-thirds majority vote of the Contracting Parties present and voting at a Meeting of the Parties.

23. The UK already has appropriate legislation in place providing relevant regulatory mechanisms to support these amendments, principally under the Marine and Coastal Access Act 2009, and the Marine (Scotland) Act 2010. An ocean fertilisation activity, when conducted in the UK marine areas, or conducted anywhere on the sea from a British vessel or a vessel loaded in the UK, is a licensable activity under these Acts.

24. The Marine and Coastal Access Act also covers Wales and Northern Ireland inshore but their appropriate licensing authorities are the Welsh Ministers and the Department of the Environment Northern Ireland, respectively. The Marine Management Organisation regulates licensable activities in England's inshore and offshore and Northern Ireland's and Wales' offshore and would be responsible for regulating licensable activities conducted on the high seas by British vessels or any vessel loaded in the UK (excluding Scotland) marine areas. Under the Marine (Scotland) Act and the Marine and Coastal Access Act Scottish Ministers are licensing authority for licensable marine activities in the Scottish marine area and the Scottish offshore region, respectively.

25. International regulation will provide the necessary conditions for CBD Parties to consider lifting the *de facto* moratorium on deployment and research into ocean fertilisation and other forms of geoengineering and enable research to proceed with proper control measures to protect the environment.

**(ii) Financial**

26. An Impact Assessment No. DEFRA1495 has been carried out in relation to UK ratification (attached). Ratifying these amendments will create opportunities for the UK to gain scientific understanding and assess the scientific potential of marine geoengineering techniques; reduce risks and uncertainties for researchers conducting such research outside UK territorial waters; and help to ensure Parties to the London Protocol reduce risks of adverse impacts from marine geoengineering

activities on the marine environment. It is not envisaged that there would be any additional costs to industry (nor research bodies) as a result of the UK ratification of these amendments, except to the extent that compliance with the environmental assessment requirement of Annex 5 (or any specific assessment framework developed under it) would go beyond the regulator's normal requirements. The cost to government from the enforcement and reporting obligation is estimated to be negligible as it is anticipated that there will be no more than one or two licensing applications a year at most.

**(iii) Reservations and declarations**

27. None

**CONSULTATION**

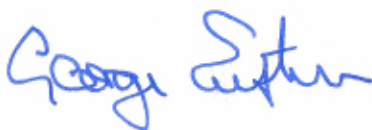
28. The Government departments, Devolved Administrations and Executive Agencies that have interests in the ratification of these amendments to the London Protocol were consulted and have approved of the ratification. These include the Department of Energy and Climate Change, the Government Office for Science, the Department for Business, Innovation and Skills, the Foreign and Commonwealth Office, the Department for Transport, the Welsh Government, the Scottish Government, the Department of the Environment Northern Ireland, the Marine Management Organisation, the Maritime and Coastguard Agency, and the Natural Environment Research Council.

29. The UK ratification of the London Protocol has been extended to certain Crown Dependencies (the Bailiwick of Jersey, Bailiwick of Guernsey and the Isle of Man) and Overseas Territories (Bermuda, British Virgin Islands, Cayman Islands, Falkland Islands, Montserrat, St. Helena, Ascension Island, Tristan da Cunha, and South Georgia and South Sandwich Islands). Once Parliament endorses this proposed ratification by metropolitan UK of amendments to the London Protocol, these Overseas Territories and Crown Dependencies will be consulted on whether those having local legislation in place to support these amendments wish the UK's ratification to be extended to them. Those which do would be included in the UK's instrument of ratification deposited with the International Maritime Organisation.

**IMPLEMENTATION**

30. These amendments will enter into force for the Contracting Parties which have accepted (ratified) them on the sixtieth day after two-thirds of the Contracting Parties have deposited an instrument of acceptance with the International Maritime Organisation. It is estimated to take between 5 and 10 years for the amendments to enter into force.

31. The above-mentioned CBD Decisions and London Protocol Resolutions on ocean fertilisation and marine geoengineering set out political commitments made by their respective Contracting Parties (including the UK). Once the amendments to the London Protocol have entered into force, Protocol Contracting Parties will have legal obligations to regulate ocean fertilisation activities. Until then, Resolution LP.4(8), re-affirms that Resolutions LC-LP.1(2008) and LC-LP.2(2010) continue to apply, pending entry into force of the London Protocol amendments.
32. For the UK, if an ocean fertilisation activity is conducted on the high seas from a British vessel or from any vessel loaded in the UK the implementing authority will be the Marine Management Organisation, through licensing functions delegated to it under the Marine and Coastal Access Act 2009. Though unlikely, if ocean fertilisation activities were to be conducted within UK marine areas, the implementing authorities would be the Marine Management Organisation and devolved administrations (as described in paragraphs 23 to 24 above). International regulation would not require changes to domestic legislation, but would provide the necessary conditions to enable research to proceed with proper control measures to protect the environment.



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