FULL REGULATORY IMPACT ASSESSMENT

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Statutory decommissioning scheme for offshore renewable energy installations under the Energy Act 2004

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Title of proposal

Statutory decommissioning scheme for offshore renewable energy installations under the Energy Act 2004

1. This Regulatory Impact Assessment (RIA) considers the potential impacts of the proposal for implementing, with guidance, a statutory decommissioning scheme for Offshore Renewable Energy Installations (OREIs). Under the scheme, the Secretary of State would require developers of OREIs to submit (and eventually carry out) a decommissioning programme (plan) for their installation. The scheme would set out, in guidance, decommissioning standards and financial security requirements. The Energy Act 2004 already contains the legislative provisions for this statutory decommissioning scheme for OREIs.

Purpose and intended effect

Objective

2. The objective of this proposal is to reduce, to an acceptable level, the risk that developers default on the decommissioning of their OREIs ("risk of default on decommissioning") without hindering the development of the offshore renewable energy sector.

3. This proposal is also intended to clarify OREI developers' obligations.

4. The policy would cover OREIs, i.e. offshore wind farms and wave/tidal devices, which are consented, under Section 36 of the Electricity Act 1989 or the Transport and Works Act 1992, after June 2006. Projects consented prior to June 2006 are therefore excluded from the scheme but remain under the decommissioning obligations included in their lease contract with The Crown Estate[1] and in the conditions attached to the electricity generation consent received from the Government.

5. The policy applies to territorial waters[2] in or adjacent to England, Scotland and Wales (between the mean low water mark and the seaward limits of the territorial sea, thereby including internal coastal waters and territorial waters) and to waters in the Renewable Energy Zone[3] (including that part adjacent to Northern Ireland territorial waters). The policy would therefore apply to OREIs being consented to post June 2006 either by the Secretary of State for Trade & Industry offshore from England and Wales, or by the Scottish Ministers in Scottish offshore waters. Additionally, it would apply to OREIs consented to post June 2006, under the Transport and Works Act 1992, by The National Assembly for Wales in Welsh

[1] See Glossary.
[2] See Glossary.
[3] See Glossary.

territorial waters. This policy does not apply to offshore development within Northern Ireland territorial waters.

Background

Current situation

6. Presently, OREI developers have to submit a decommissioning programme to The Crown Estate (effectively the landlord of the seabed) under the current terms of the lease.

7. Appendix A sets out details of what The Crown Estate requires regarding decommissioning programmes in the terms of the lease for Round 2 wind farms.

The proposal

8. The Energy Act 2004 already includes the legislative provisions for a statutory decommissioning scheme for OREIs.

9. Our proposal is to implement the statutory decommissioning scheme, supported by guidance (rather than through regulations). The guidance would outline decommissioning standards and the types of financial security which are likely to be acceptable.

10. Under this proposal, once the Secretary of State is satisfied that one of the necessary statutory consents for an OREI has been or is likely to be given, the developer would be issued with a notice requiring them to submit a costed decommissioning programme to the Secretary of State. This would need to be submitted before construction begins.

11. Developers of wave/tidal projects would also have to submit a costed decommissioning programme to the Secretary of State. However, given the early stage of development of this sector, it is difficult to provide guidance on appropriate forms of financial security. It would therefore be for developers of wave/tidal projects to propose, and for the Government to consider, proposals on a case-by-case basis.

Further information on OREIs in the UK

12. In December 2000, The Crown Estate initiated "Round 1", the first licensing round for offshore wind farms. As of October 2006, there are 300MW of capacity operating out of the (around) 1200MW that received consent in Round 1. Round 1 acted as a "demonstration round" and the submission of an acceptable decommissioning programme was not a statutory requirement. The Crown Estate requires from Round 1 wind farm developers a decommissioning plan one year before the expiry of the lease and a guarantor in the event of failure and for the purposes of decommissioning.

13. Under "Round 2", which started in 2003, 15 projects totalling between 5.4 and 7.2GW were offered an Agreement for Lease. As of October 2006, seven projects (totalling 2.8GW) have their application for consent under consideration. None yet has received all the consents necessary to build and operate. The terms of the

lease from The Crown Estate in Round 2 are more stringent and require the developer to submit a decommissioning programme before construction of the offshore wind farm and to deposit a "decommissioning sum" with The Crown Estate five years before the end of the lease (See Appendix A for details).

Experience of decommissioning OREIs

14. As no decommissioning of an OREI in the UK has taken place yet, it is difficult to evaluate how effective the current policy has been (i.e. to rely on Governmental consent conditions and The Crown Estate lease conditions requiring developers to decommission their offshore installations) in minimising the risk and consequences of default on decommissioning. It is however likely that it will prove ineffective in minimising this risk because of the inherent weakness of the current private contract between the developer and The Crown Estate (see the next section on the rationale for Government's intervention).

15. The offshore oil and gas sector is the nearest industry with which one can compare the OREI sector. It is partly regulated by the Petroleum Act 1998, which allows the obligation for decommissioning offshore infrastructure to be placed on the owners and includes protection against default on decommissioning. Under the Petroleum Act 1998, the DTI requires financial securities in certain situations to ensure decommissioning is carried out. There has been only one instance of default. In 2005, a development failed and the developer and its partner went into receivership unable to meet their decommissioning liabilities. However, contractors separately owned some of the facilities in the field; they had a decommissioning liability for that equipment, which they have met. Liability for the remaining equipment has been placed on associate companies of the developers that went into receivership.

16. For information, the Dutch Government can require developers of offshore wind farms in their Exclusive Economic Zone to establish guarantees before construction, for the whole period of construction and operation of the installation, to secure the availability of sufficient financial means for decommissioning. However, no decisions have yet been taken on the form of the guarantee or when it will be required in practice (the only wind farm currently being built is a demonstrator).

17. Taking action will not change the spirit of the existing regulations/policies, but will reinforce them. This proposal would not change developers' existing obligations to submit a decommissioning programme and to eventually decommission. The proposal would merely implement the statutory scheme, for which there are provisions in the Energy Act 2004, by the Secretary of State issuing a notice to developers to submit a decommissioning programme to him. The scheme would be supported by guidance.

Rationale for Government intervention

Rationale

18. The Government's international obligations. The Government ratified the United Nations Convention on the Law of the Sea (UNCLOS), which requires abandoned/disused installations to be removed. Two of this convention's aims are to ensure safety of navigation and protection of the marine environment. The Government has also ratified the Convention for the Protection of the Marine Environment of the North-East Atlantic (known as the OSPAR Convention). Therefore, should a developer find it is unable to decommission its OREI, the Government may pay for the decommissioning as it is under international obligations to remove offshore installations. As a possible last resort payer and ultimate risk bearer, the Government has a duty to reduce the financial burden on the taxpayer and thus should endeavour to minimise the risk of default on decommissioning by developers.

19. Polluter Pays Principle. According to the Polluter Pays Principle, the polluter has to pay for the pollution occasioned by his activity. As the OREI has to be removed at some point, it should be the developer responsible for it that should pay for the installation's decommissioning.

20. The Government's policy. The Government is committed to a target of 10% of electricity coming from renewable sources by 2010. The 2003 Energy White Paper recognised that a key contributor to the Government target of 10% of UK electricity from renewable sources by 2010 would be offshore wind. In Future Offshore[4], it was calculated that offshore wind could be expected to provide 40-50% of the 2010 renewables target. Clarification of the current framework – one of the objectives of this proposal – may benefit the development of the offshore renewable energy industry.

21. Risk of default on decommissioning. An offshore wind farm developer has to submit inter alia a costed decommissioning programme. It is thus reasonable to expect the developer to be able to meet his decommissioning costs. However, there are several risks with non-negligible probabilities. First, developers could underestimate decommissioning costs in their decommissioning programme. Second, revenues from the wind farm may not be sufficient to cover decommissioning costs due to underperformance of the technology (the wind farm may not perform as well as expected or the difficulty of the marine environment could make operation and maintenance slow and expensive). Third, offshore assets might be transferred in the future to smaller companies with less financial standing than the ones currently in the market ("asset transfer risk"). These risks provide reasons for requiring financial securities.

22. Weakness of the private contract. At present, decommissioning is covered by the private contract between the developer and The Crown Estate. If the developer fails to decommission, The Crown Estate could in theory sue and get sufficient compensation to cover the decommissioning costs. However, many problems could arise because of relying on a private contract. For example, it could take years before the court reaches a verdict, which may not be favourable, and lawsuit costs could prove substantial.

[4] Published by the DTI in 2002.

Doing nothing

23. If the Government decides not to intervene, i.e. the current framework remains in place, it places itself in the position whereby there is a greater risk that a developer defaults on his decommissioning obligations, and the Government may have to pay, than under the proposed framework.

24. On behalf of the DTI, Climate Change Capital (CCC) studied the impact of imposing different financial securities upon the offshore renewable energy sector. In their report, they cite the industry's estimate of the cost of decommissioning for offshore wind at around £40,000/MW[5]. Industry estimates for the cost of decommissioning for wave and tidal devices varied between £25,000/MW and £100,000/MW depending on the technologies involved. Based on these costs, CCC calculated that, if 8.4GW of offshore wind farms and 2.5GW of wave/tidal devices were built by 2020 (which is an optimistic projection), and if all developers defaulted on decommissioning, this could create a maximum liability for the Government of £400-585 million[6].

25. However, these estimates of decommissioning costs are very rough and could change substantially once experience in OREI decommissioning is gained.

26. Wind farm developers that are currently involved in Rounds 1 and 2 have on average very solid credit ratings, suggesting that the risk that developers default en masse is very low.

27. This proposal would affect developers of OREIs. All projects (except those which received consent prior to June 2006 and those which were put into operation prior to June 2006 but which did not require a consent) would have to submit a decommissioning programme in line with the principles laid out in the guidance. It could also affect, positively or negatively, Government as new procedures are introduced.

Consultation

Informal consultation

28. The proposal has been developed within the DTI. Informal consultation was begun at the start of the project with policymakers and specialists within the DTI, Defra, DfT, HMT and the devolved Administrations. The DTI also consulted The Crown Estate, the offshore renewable energy industry, the fishing industry, bodies representing navigational interests and environmental bodies.

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[5] In response to the consultation on this policy, two respondents commented that decommissioning costs could be significantly higher than this.

[6] The offshore wind farms sector could create a maximum liability of £335 million and the wave/tidal sector a maximum liability of £63-250 million.

Formal public consultation

29. The Government has indicated to its stakeholders (The Crown Estate, the offshore renewable energy industry, the fishing industry, bodies representing navigational interests and environmental bodies) that it intends to implement the statutory decommissioning scheme for which there are provisions in the Energy Act 2004.

30. The formal public consultation took place between 9 June and 1 September 2006 for 12 weeks. Two consultation seminars were also held during this period.

Options

31. The objective is to reduce, to an acceptable level, the risk of default on decommissioning, while not hindering the development of the offshore renewable energy industry.

32. The Government has considered four options, which are:
    - Option A: Do nothing
    - Option B: Establish a scheme without guidance
    - Option C: Establish a scheme with guidance
    - Option D: Establish a scheme through regulations

Description of the options

33. Option A (do nothing): The Government continues to rely on the Government consent conditions and The Crown Estate lease conditions requiring developers to decommission. Effectively, under this option, the industry provides decommissioning programmes to The Crown Estate, with the financial securities specified by The Crown Estate in the terms of the lease. The main problem with the status quo is that the contract between The Crown Estate and a developer is private (see the section on the rationale for Government intervention). There is also the risk of delay in meeting our international obligations. The Government is ultimately responsible, but under this option it has no control in terms of the decommissioning programme or financial security.

34. Option B (scheme without guidance): The Secretary of State issues notices under the Energy Act 2004, requiring relevant persons to submit a costed decommissioning programme to the Secretary of State, after he is satisfied that at least one of the necessary statutory consents is likely to be given or has been granted. However, this option would lead to uncertainty and could impose additional burdens by leaving the industry "testing the water" as to what decommissioning programme might be acceptable and what financial security to provide. This could in turn delay the construction of OREIs, as developers may not be able to secure finance and start construction before approval for their decommissioning programme has been granted, given the lack of guidance on what would be acceptable.

35. Option C (scheme with guidance): The Secretary of State issues notices under the Energy Act 2004, requiring relevant persons to submit a costed decommissioning programme to the Secretary of State, after at least one of the

necessary statutory consents is likely to be given or has been granted. Additionally, the Secretary of State lets the industry know through guidance what decommissioning standards and financial security requirements he would expect to see in a decommissioning programme to make it acceptable. It is proposed that cash, letters of credit, bonds and segregated decommissioning funds (early accelerated, early, middle life, continuous and intermediate accrual) would all be acceptable. An advantage of guidance is that it would reduce uncertainty for businesses about what is acceptable in a decommissioning programme. **This is the approach we are proposing.**

36. Option D (scheme through regulations): The Secretary of State issues notices under the Energy Act 2004, requiring relevant persons to submit a costed decommissioning programme to the Secretary of State, after at least one of the necessary statutory consents is likely to be given or has been granted. Additionally, the Secretary of State introduces regulations about decommissioning standards and financial security requirements to be included in a decommissioning programme. The main problem about regulations is that they are harder to modify and less flexible than guidance.

Costs and Benefits

Cost to the Industry

37. The impact of guidance/regulation on the industry will depend primarily on how prescriptive it is. Decommissioning standards included in any new guidance/regulation might not change substantially from the current framework (the guidance/regulation would clarify rather than significantly change current expectations for decommissioning standards), but the acceptable financial securities may impose an additional cost on developers. In addition, the costs involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments may be higher than those incurred under the current framework.

38. In **Option A** (do nothing), the industry has to comply with The Crown Estate's requirements set out in the terms of the lease (the private contract between The Crown Estate and the developer). Theoretically (under The Crown Estate's current lease arrangements), this is the least costly option for the industry: developers will choose the most efficient financial security for their OREI (within the boundaries put in place by The Crown Estate).

39. **Option B** (scheme without guidance) requires developers to submit a costed decommissioning programme to the Secretary of State, but without guidance on what acceptable financial securities might be. The Government would probably require the financial securities explained under option C, but as there would be no guidance, OREI developers would not know what would be acceptable to the Government. Option B would impose three kinds of costs. First, the costs involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments may be higher than those incurred under Option A. Second, the timetable for preparation and approval of the decommissioning programme may be increased as developers are left "testing the water" (which might delay construction). Third, the

cost of the financial security itself, assuming the Government imposes more costly financial securities than The Crown Estate (see the following paragraphs for estimates of costs).

40. **Option C** (scheme with guidance) requires developers to submit a costed decommissioning programme to the Secretary of State; the developers would base their decommissioning programmes on guidance issued by the Government. The cost to the industry arises from the fact that Option C requires developers to provide financial security with their decommissioning programme that may be more onerous than that which The Crown Estate requires at the moment; this cost will depend on how prescriptive the guidance is. **It is proposed that cash, letters of credit, bonds and segregated decommissioning funds (early accelerated, early, middle life, continuous and intermediate accrual) would all be acceptable.** There would also be costs involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments, which may be higher than those incurred under Option A.

41. There are various types of financial securities: segregated decommissioning funds, collective schemes, insurance schemes, bonds, letters of credit and parent company guarantees.

Collective scheme: Developers that are part of a collective scheme would pay an annual fee to provide partial coverage against default by any member(s) of the scheme. This option would be inexpensive for the industry, as only the risk of default is covered. However, there is the problem that some members might "free-ride", i.e. not adequately address the decommissioning risk because they know the collective fund will cover their liabilities. Besides, developers would still have to set aside money for their own decommissioning liabilities. Additionally, the scheme may not provide insulation against the risk that decommissioning costs might increase over time.

Insurance: Insurance might, in future, be available to cover the risk of default or the risk of an increase in decommissioning costs. However, the nature of insurance is such that many exclusions are likely to apply. It is also likely to be expensive. As such, this instrument is inadequate and currently does not exist in an appropriate form in the offshore renewable energy sector.

Bonds: An underwriter could guarantee the developer an amount equal to the decommissioning sum in return for annual instalments plus a premium. The maturity of the bond would probably be shorter than the life of the installation. It might also be a costly instrument as the premium may be quite high, and would not provide insulation against an increase in decommissioning costs.

Letter of credit: This has been used in the offshore oil & gas industry but it is quite an expensive instrument because it affects companies' borrowing ability.

Parent Company Guarantee (PCG): The Crown Estate required PCGs from developers in Round 1. PCGs may however offer limited protection against

default because it would be difficult to monitor the creditworthiness of the parent company providing the guarantee. Besides, the implementation of a PCG if the parent company is registered overseas might prove difficult. For information, PCGs are no longer accepted in the offshore oil & gas industry.

Segregated decommissioning fund: The developer makes annual deposits for a specified period of time into a segregated fund, the sum at the end is supposed to cover decommissioning liabilities. Depending on the accruing method, it can be more or less expensive and can more or less well insulate against an increase in decommissioning costs (see paragraphs below for more details regarding the cost to the industry).

Type of fund	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
-I- Continuous accrual																				
-II- Early accelerated accrual																				
-III- Early accrual																				
-IV- Intermediate accrual																				
-V- Middle life accrual																				
-VI- Late accelerated accrual																				

Source : Climate Change Capital.

42. Climate Change Capital (CCC), on behalf of the DTI, has calculated the potential costs of some of the segregated decommissioning funds to the industry. CCC considered four types of segregated fund: continuous accrual fund, whereby a sum would be deposited annually in the fund for the duration of the operation of the OREI (CCC assume 20 years), intermediate accrual fund, middle life accrual fund and late accelerated accrual fund.

43. Assuming a decommissioning cost of £40,000/MW[7], the cost of a fund to a developer will depend on the type of the fund. See the table below[8] (the present values are calculated with a discount rate of 10%, with no interest, and over a period of 20 years):

[7] In response to the consultation on this policy, two respondents commented that decommissioning costs could be significantly higher than this.

[8] The early accelerated and early accrual funds are included for comparative purposes, although Climate Change Capital did not include these schemes amongst the options investigated in detail, as the costs for developers were considered disproportionate.

Scheme	Present Value (PV) of the decommissioning cost of 1MW (£)	PV of the decommissioning cost of 7.2-8.4GW[9] (£ million)
No Fund	6,000	43-50
Early accelerated accrual	30,000	218-255
Early accrual	24,000	176-206
Continuous accrual fund	17,000	122-143
Intermediate accrual fund	15,000	108-126
Middle life accrual fund	9,500	68-80
Late accelerated accrual fund	7,000	50-59

Source : Climate Change Capital.

44. Segregated cash funds do not necessarily provide an efficient use of capital. The earlier the accrual period, the less efficient/more costly for the industry, as companies could have invested the extra revenues in more profitable ventures.

45. Assume 7.2GW are installed by 2020 and that, under the current framework, developers would normally opt for a late accelerated accrual fund. From the table above, if the Government asks them to adopt a middle life accrual fund, it would represent an additional cost to the industry of £18 million.

46. The annualised cost is equivalent to the constant annual payment that is required over a fixed number of years discounted at a common discount rate (the calculations are based on a discount rate of 10%). The table below shows the annualised cost for the industry, assuming 7.2 and 8.4GW are built by 2020[10].

Type of fund	PV of the decommissioning cost to the industry (£million)		Annualised cost (£million)	
	7.2GW installed	8.4GW installed	7.2GW installed	8.4GW installed
No Fund	43	50	5	6
Early accelerated accrual	218	255	26	30
Early accrual	176	206	21	24
Continuous accrual	122	143	14	17
Intermediate accrual	108	126	13	15
Middle life accrual	68	80	8	9
Late accelerated accrual	50	59	6	7

Source: Climate Change Capital and DTI calculations.

47. The table below shows the impact of different funds for a 100MW wind farm. It should be mentioned that the annualised costs are small compared with the operating and maintenance costs.

Present Value costs of a representative 100MW offshore wind farm

Scheme	Total decommissioning costs (£million)	Total annual cost (£ / year)	Average annual cost (£ / MWh)

[9] Assuming the capacity is installed by 2020.

[10] The early accelerated and early accrual funds are included for comparative purposes, although Climate Change Capital did not include these schemes amongst the options investigated in detail, as the costs for developers were considered disproportionate.

No fund	0.6	70,500	0.24
Early accelerated accrual	3	352,000	1.22
Early accrual	2.4	282,000	0.98
Continuous accrual	1.7	199,700	0.69
Intermediate accrual	1.5	176,200	0.61
Middle life accrual fund	0.9	106,000	0.39
Late accelerated accrual fund	0.7	82,200	0.28

Source: DTI calculations from Climate Change Capital data.

48. The table below shows the magnitude of the decommissioning costs under the proposed funds.

Relative cost of decommissioning (as % of levelised cost of generating electricity from offshore wind)[11]

Scheme	Low (£56/MWh)[12]	Base (£83/MWh)	High (£89/MWh)
No fund	0.4%	0.3%	0.3%
Early accelerated accrual	2.2%	1.5%	1.4%
Early accrual	1.7%	1.2%	1.1%
Continuous accrual	1.2%	0.8%	0.8%
Intermediate accrual	1.1%	0.7%	0.7%
Middle life accrual fund	0.7%	0.5%	0.4%
Late accelerated accrual fund	0.5%	0.3%	0.3%

Source: DTI calculations based on previous table, and data in Annex B of "The Energy Challenge", July 2006.

49. The costs to the industry should **option D** (scheme through regulations) be implemented would depend once again on how prescriptive the regulation is and would be the same as under option C (scheme with guidance). A disadvantage compared with option C is that regulations are harder to modify than guidance.

[11] Assumptions: 100 MW capacity, 20 year life, 10% discount rate, 33% load factor, in 2006 prices.

[12] Differing scenarios are based on sensitivity testing around capital costs: low is a low capital cost, base is high capital costs, and high is based on very high capital costs.

Cost to the Government

50. Costs to the Government could arise from three sources:
    - assessing decommissioning programmes;
    - monitoring the financial securities provided by the developers over the lifetime of the OREI;
    - the actual decommissioning costs that could befall the Government because some operators defaulted.

51. Under **option A** (do nothing), the Government would not assess decommissioning programmes nor monitor them. The risk adjusted exposure is the magnitude of the decommissioning defaulted liability, adjusted by the likelihood of the event of default of the liable entity. The Government's risk-adjusted exposure increases as the developers' creditworthiness deteriorates. Option A could be associated with all developers adopting a late accelerated fund, and if all developers acquired a credit rating of "C" (equivalent to poor) and built 8.4GW by 2020, the Government's risk adjusted exposure would be £85 million (as calculated by Climate Change Capital).

Scheme	Risk-adjusted exposure[13] (£million)
No Fund	2-106
Late accelerated accrual	1-85

Source: Climate Change Capital.

52. Under **options B** (scheme without guidance), **C** (scheme with guidance) and **D** (scheme through regulations) the Government would have to assess and monitor decommissioning programmes. The Secretary of State could draw on the expertise within Government (for example in the Oil & Gas section in the DTI, which has to assess the decommissioning programmes provided by oil companies). A rough estimate would be that the Government would have to employ "forever" at least one person full-time for the assessment of decommissioning programmes and reviewing of the financial securities provided by developers.

Cost to the Environment

53. Costs to the environment could arise from two sources.

54. The first is that implementation of the scheme without guidance could delay the construction of wind farms and thus affect CO_2 emissions reduction.

[13] The first value shows the risk-adjusted exposure for developers that are all very creditworthy (with a credit rating of A) and 7.2GW installed; the second value shows the risk-adjusted exposure for all developers with poor credit rating (C) and 8.4GW installed. The numbers also depend on assumptions such as technical failure rates, etc.

55. The second potential cost to the environment is that default on decommissioning, should it occur, would be likely to delay decommissioning of the OREI, possibly harming the marine environment.

56. Concerning **Option A** (do nothing), we consider that there is a greater risk (than under the other options) that developers may default on decommissioning, thus delaying decommissioning.

57. In **Option B** (scheme without guidance), the industry is left "testing the water". This might delay construction as developers may not be able to secure finance and start construction before approval for their decommissioning programme has been granted, given the lack of guidance on what would be acceptable.

58. As guidance/regulation would be available under **Options C** (scheme with guidance) and **D** (scheme through regulations), this would reduce uncertainty for business about what is acceptable in a decommissioning programme, and our judgement is that implementing these Options would not delay construction. Concerning the risk of delay in decommissioning, this would be smaller than under Option A as the risk of default on decommissioning would be reduced.

Benefits

	Option A Do nothing	Option B Scheme without guidance	Option C Scheme with guidance	Option D Scheme through regulations
Industry			-Clarifies the industry's obligations	-Clarifies the industry's obligations
Government		-Government's risk adjusted exposure is limited[14]	-Government's risk adjusted exposure is limited	-Government's risk adjusted exposure is limited

[14] For example, Government's risk adjusted exposure would vary between £0 (all developers have a credit rating of A) and £21 million (all developers have a credit rating of C) if developers adopted middle life accrual funds, whereas Government's risk adjusted exposure would vary between £1 million (all developers have a credit rating of A) and £85 million (all developers have a credit rating of C) if developers adopted late accelerated accrual funds.

Summary of costs and benefits

	Option A Do nothing	Option B Scheme without guidance	Option C Scheme with guidance	Option D Scheme through regulations
Costs	-Government's risk-adjusted exposure varies between £1-85 million -Delay of actual decommissioning could harm marine environment	-Timetable for preparation and approval of decommissioning programme is lengthened -Additional cost of financial security (PV of the additional cost of at least £18 million if 7.2GW are installed by 2020) -Additional cost involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments -One person full-time for assessing and monitoring of decommissioning programmes -Possible delay of construction of OREIs (because of the fact that developers "test the water")	-Additional cost of financial security -Additional cost involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments -One person full-time for assessing and monitoring of decommissioning programmes	-Additional cost of financial security -Additional cost involved in preparing, consulting on and reviewing decommissioning programmes and their supporting Environmental Impact Assessments -One person full time assessing and monitoring decommissioning programmes
Benefits		-Government's risk adjusted exposure is limited	-Clarifies the industry's obligations -Government's risk adjusted exposure is limited	-Clarifies the industry's obligations -Government's risk adjusted exposure is limited

Small Firms Impact Test

59. To our knowledge, there are few small firms (i.e. firms that employ less than 250 people full time) that act as developers in the offshore wind farm sector at the moment.

60. There are around fifty firms in the UK involved in the development of wave/tidal devices. This industry comprises small and large companies.

61. Impact on small firms in the wave/tidal sector: Under the current framework, developers of offshore renewable energy installations have to submit a decommissioning programme to The Crown Estate. The proposal would require developers to submit their decommissioning programme to the Government before construction takes place. However, regarding financial security, it would be for wave/tidal project developers to propose, and for the Government to consider, proposals on a case-by-case basis given the early stage of development of this industry. The proposal is not thought to have a disproportionate effect on small firms.

Competition Assessment

Market definition

62. Offshore wind sector: The product/service in question is the decommissioning of offshore installations. The market associated with this service comprises the firms responsible for the service, which are the offshore installation developers in the UK. Developers would not necessarily undertake the decommissioning themselves, they might sub-contract the work, but they are ultimately responsible for the completion of the decommissioning.

63. Wave/tidal sector: the product is the decommissioning of offshore installations. The market associated with this product comprises the companies responsible for the decommissioning, that is, the developers of wave/tidal projects in the UK.

64. Offshore installation developers are/could become a heterogeneous group: developers could either manage offshore wind farms, or wave/tidal projects, or possibly both.

Market structure

65. The offshore wind energy industry is characterised by several large vertically integrated utility companies, a number of oil and gas companies seeking to diversify and several niche market players who specialise in renewable energy. It is a multinational industry with participation by a number of European-based energy companies. The sector is a dynamic one and has seen a number of recent acquisitions and mergers.

66. In the wave and tidal industry, there are 50-odd companies actively developing the technology, which is not yet commercial. The wave and tidal sector is less developed than the offshore wind industry.

67. In the offshore wind industry, developers tend to form consortiums when the size of the project is several hundreds of MW or more. Thus, for Round 1, (where the average size of projects is relatively small at below 100MW) the development of projects has tended to be undertaken by a single company. Whereas, for Round 2, the size of projects averages several hundreds of MW and, possibly to minimise risks and costs, many projects are being developed by a consortium of developers.

68. The proposed guidance/regulation would apply only to developers that have not received consent before June 2006, which is presently around 20 companies who are taking forward projects either individually or in consortia.

69. The table below shows the annualised cost for each type of fund for a 100MW wind farm.

Scheme	PV of the decommissioning costs (for a developer with a 100MW wind farm) (£)	Annualised cost (£)
No Fund	600,000	70,000
Continuous accrual fund	1,700,000	200,000
Intermediate accrual fund	1,500,000	176,000
Middle life accrual fund	900,500	106,000
Late accelerated accrual fund	700,000	82,000

70. The cost of the proposal is not thought to affect disproportionately the sector covered by the proposed policy as it represents a small proportion of total costs borne by developers. The proposal is not thought to lead to significantly higher set-up and ongoing costs for new developers. Finally, it is not considered likely that the proposal will change the current market structure.

Enforcement and sanctions

71. Before construction begins, the Government would receive decommissioning programmes for assessment.

72. The Government would review the financial securities provided by the developers of OREIs, at key stages during the life of the installations, to ensure that sufficient funds will be available to meet decommissioning liabilities.

73. The Government would receive reports on the decommissioning of OREIs, ensuring that standards are respected.

74. Sanctions for non-compliance are laid out in the 2004 Energy Act.

Implementation and delivery plan

75. The objective of the legislation and guidance is to reduce, to an acceptable level, the risk that developers default on the decommissioning of their OREIs, without hindering the development of the offshore renewable energy sector.

76. Overall success would mean:

- new OREIs are built and operated, with developers not deterred by the potential costs of their decommissioning obligations; and

- at the end of their life, OREIs are decommissioned effectively, with any costs to Government arising as a result of default by developers at an acceptably low level.

77. Interim measures of success include:

- developers in receipt of a decommissioning notice submit their decommissioning programmes before constructing their installations;

- Government is able to approve the decommissioning programmes submitted.

78. The key milestones for introduction of this policy are:

- Energy Act 2004 (which introduces legislative provisions relating to the decommissioning of offshore renewable energy generating stations) received Royal Assent: **July 2004**

- Energy Act decommissioning provisions came into effect: **October 2005**

- Guidance on Energy Act decommissioning provisions (along with this Regulatory Impact Assessment) is published: **December 2006**

- Developers of offshore renewable energy installations, including developers of Round 2 wind farms which are currently seeking consents, use the guidance to understand their decommissioning obligations and draw up their decommissioning programmes: **December 2006 onwards**

79. Informal and formal consultation with developers, which has taken place over the course of the last year and more, should ensure that developers have been able to plan for meeting their decommissioning obligations.

80. Ongoing dialogue and engagement with stakeholders will be continued. This will include dialogue through the offshore renewable energy stakeholder groups established by the Department: Fisheries Liaison with Offshore Wind and Wet renewables Group (FLOWW); Nautical and Offshore Renewables Energy Liaison Group (NOREL); and Offshore Renewables Energy Environmental Forum (OREEF).

81. DTI will provide a 'one stop shop' for developers, so that, as far as possible, they have a single point of contact for dialogue with Government on decommissioning matters.

82. It is estimated that implementing the scheme requires at least one additional person to manage the process of issuing decommissioning notices to developers and assessing, approving and reviewing developers' decommissioning programmes. There will also be a need to draw on the expertise which is already available in the team dealing with decommissioning programmes for oil and gas installations and in DTI legal services.

Compensatory simplification

83. The Government has contingent liabilities by virtue of international obligations.

84. It should be borne in mind that we are introducing guidance for existing statutory provisions introduced in the 2004 Energy Act (that is, we are not introducing any new statutory provisions).

85. We will integrate the process for approval of decommissioning programmes as smoothly and seamlessly as possible with the existing consents regime. Implementation of the statutory decommissioning scheme will allow us to simplify the decommissioning provisions in future electricity generation consents. The Government would require operators to submit a decommissioning programme only after at least one of the necessary consents is likely to be given or has been granted.

86. The Government is introducing guidance to help the industry concerned to understand its obligations.

87. Decommissioning does not only concern the offshore renewable energy industry but also, for example, the offshore oil & gas sector. Expertise, especially in the assessment of the soundness of the submitted decommissioning programmes, may be drawn from, for example, the DTI's Oil & Gas Team.

88. The Government and The Crown Estate will work together to avoid duplicating decommissioning requirements imposed on developers. The Government has agreed with The Crown Estate that developers covered by this statutory decommissioning scheme will only need to prepare one costed decommissioning programme, which will be submitted to DTI. The Crown Estate will be involved in considering this decommissioning programme, and will not require an additional programme to be submitted to them. The Crown Estate may have small financial requirements to cover residual liability issues, such as

third party claims. DTI and The Crown Estate will be pleased to work with the industry to develop an industry fund to minimise the financial impact of residual liability requirements. If an appropriate fund were established, The Crown Estate would be prepared to take on the operator's residual liability at the end of The Crown Estate lease.

Post Implementation Review

89. The guidance will be kept under review and may be amended from time to time, as necessary, in order to keep the detailed content up to date.

90. We anticipate conducting a review of the operation of the statutory decommissioning scheme as a whole at an appropriate future date. An appropriate date could be linked to any future licensing round for offshore renewable energy installations (but it will be dependent on policy decisions about any future licensing round). The review will involve consulting stakeholders for their views on the implementation of the policy and on whether there have been any unintended consequences. Proposed and accepted financial security provisions will also be reviewed, to assess whether estimated decommissioning costs are likely to be sufficiently well covered.

Summary and recommendation

91. A summary of the costs and benefits of the different options is provided in the table below paragraph 58.

92. We recommend that Option C (scheme with guidance) be accepted.

93. Option C reduces the risk to Government without substantially hindering the development of the offshore renewable energy sector.

94. Option C, as opposed to option B (scheme without guidance), reduces uncertainty for industry over what the Government expects in a decommissioning programme.

95. Guidance is more easily changed than regulations. Option C, as opposed to option D (scheme through regulations), would be simpler to modify should the need arise.

Declaration and publication

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

Signed by Lord Truscott
Parliamentary Under Secretary of State for Energy

Date 4 December 2006

Glossary/Abbreviations

The Crown Estate	The land and assets are the Sovereign's property "in right of the Crown" and The Crown Estate acts as trustee and makes all decisions regarding their management. Thus, The Crown Estate manages the seabed included in the territorial waters and the Energy Act 2004 vested rights to The Crown Estate to licence the generation of renewable energy in the territorial waters and the Renewable Energy Zone. The Crown Estate issues leases and licences for the construction of offshore windfarms and the deployment of wave and tidal energy devices. However, the planning and consenting process is the responsibility of Government.
FEPA	Food and Environment Protection Act 1985. OREI developers need to obtain a FEPA licence in order to proceed with construction. The FEPA licence authorises the deposit of materials associated with the construction of OREI.
MW	Megawatt.
MWh	Megawatt hour.
Renewable Energy Zone	Area beyond the 12 mile limit (territorial waters) and out to 200 miles (international boundary lines).
Risk-adjusted exposure	Magnitude of the decommissioning of the defaulted liability, adjusted by the likelihood of the event of default of the liable entity.
Territorial waters	Area out to 12 nautical miles. The Crown Estate owns the seabed in this area.

Appendix A: Crown Estate's requirements

- The operator must submit a draft decommissioning programme to The Crown Estate after the grant of all necessary consents for the development.
- The Crown Estate assesses the decommissioning programme and may require the operator to amend it.
- Once approved, the draft decommissioning programme becomes the decommissioning programme.
- The Crown Estate and the operator have to agree the amount of the Decommissioning Sum (sum equal to the estimated cost to The Crown Estate of procuring the decommissioning of the installation) six years before the expiry of the lease (40 to 50 years).
- The operator has to pay the amount of the Decommissioning Sum to The Crown Estate five years prior to the expiration of the lease.
- If at any time after the payment by the operator The Crown Estate considers that the Decommissioning Sum is insufficient, the operator has to make up the difference.