

Title: Proposals to replace the Health and Safety at Work etc. Act 1974 (Application outside Great Britain) Order 2001 (the Order) with a 2013 Order IA No: Lead department or agency: Health and Safety Executive Other departments or agencies: N/a	Impact Assessment (IA)			
	Date: 01/12/2011			
	Stage: Final			
	Source of intervention: Domestic			
	Type of measure: Order			
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Summary: Intervention and Options	RPC Opinion: Awaiting scrutiny
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Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as One-Out?
£0.018	£0m	£0.002	YES In

What is the problem under consideration? Why is government intervention necessary?

When the Health and Safety at Work etc Act. 1974 (Application outside Great Britain) Order 2001 (the 2001 Order) was first introduced; it was not envisaged that the application of the Health and Safety at Work Act. Etc 1974 (HSWA) would have to be further extended to regulate new offshore emerging energy technologies (EET) occurring within the territorial sea, Renewable Energy Zones (REZ) and designated areas. In 2009 and 2011, Variation Orders with sun setting provisions were introduced to give HSE the jurisdiction to regulate energy structures (e.g. wind farms) in the REZ under health and safety legislation. A new Order must now be introduced to ensure the statutory protection for workers involved in offshore work activities beyond our territorial waters is maintained and to ensure that certain other areas of EET activity are also capable of being regulated..

What are the policy objectives and the intended effects?

To consolidate the requirements in the 2001 Order and the 2011 Variation Order, with a new 2013 Order that will maintain HSE's jurisdiction to regulate new energy structures within a REZ. To provide legal clarity for duty holders that HSE has the power to regulate offshore work activities associated with new emerging energy technologies (e.g. combustible gas storage, carbon dioxide and underground coal gasification) and clarify various definitions with the Order based on the lessons learnt from operational experience.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Consideration was given to whether non legislative options could be adopted. The key point is that without the introduction of the 2013 Order HSE would not have the power to regulate certain Emerging Energy Technologies (EET's) (for e.g. wind farms beyond the territorial sea). Many of the other EET's are by virtue of interpretation of the 2001 Order covered, but given that this is a high risk area, employers need legal certainty and HSE has chosen to put the matter beyond doubt with the introduction of this Order. Guidance is not an option as it would not be legally effective to ensure HSE has the power to regulate EETs. In addition, there is an EU Framework Directive which covers offshore work activities. If the UK does not ensure the HSWA and some regulations under the Act apply to some of these offshore work activities there is a risk of infraction proceedings.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: April/2018

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: Nil	Non-traded: Nil	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Chair:

_____ Date: _____

Summary: Analysis & Evidence

Policy Option 1

Description: Do Nothing

FULL ECONOMIC ASSESSMENT

Price Base Year NA	PV Base Year NA	Time Period Years NA	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate: NA

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	NA	NA	NA

Description and scale of key monetised costs by 'main affected groups'

The "Do Nothing" option continues with the status quo and there are therefore no additional monetised costs.

Other key non-monetised costs by 'main affected groups'

The "Do Nothing" option continues with the status quo and there are therefore no additional non-monetised costs.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	NA	NA	NA

Description and scale of key monetised benefits by 'main affected groups'

The "Do Nothing" option continues with the status quo and there are therefore no additional monetised benefits.

Other key non-monetised benefits by 'main affected groups'

The "Do Nothing" option continues with the status quo and there are therefore no additional non-monetised benefits.

Key assumptions/sensitivities/risks N/a	Discount rate (%)	NA
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BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: NA	No	NA
Benefits: NA		
Net: NA		

Summary: Analysis & Evidence

Policy Option 2

Description: Introduce a new Order

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2013	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate: -£0.018

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	£0.018	NA	£0.018

Description and scale of key monetised costs by 'main affected groups'

There is an expected familiarisation cost of £18 thousand. HSE has validated the assumptions behind this estimate at consultation.

Other key non-monetised costs by 'main affected groups'

HSE do not expect there to be any compliance costs for industry. The reasons for this are set out in paragraphs 63-76. This assumption has been validated at consultation.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	NA	NA	NA

Description and scale of key monetised benefits by 'main affected groups'

HSE have not been able to identify any monetised benefits

Other key non-monetised benefits by 'main affected groups'

There will be long run health and safety benefits as companies in the sector learn from incidents that occur and seek to drive risk as low as is reasonably practicable. The introduction of a new Order will also create legal clarity for firms, a benefit that industries have informed HSE is essential.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5

HSE have assumed that firms shall undertake the requirements of HSWA as part of their business as usual. The large majority of those who responded at consultation agreed with this assumption, although there were a few who did not. However, those that did agree included the two large trade associations, Oil and Gas UK and Renewables UK; the Institute of Occupational Safety and Health and representatives from the trade unions. The weight of evidence is in agreement with the assumptions used and on the grounds of proportionality, no further validation analysis is thought to be necessary.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: £0.002	Benefits: £0	Net: -£0.002	Yes	IN

Evidence Base

Problem under consideration

1. The Health and Safety at Work Act. 1974 (HSWA) applies to all work activities in Great Britain. The Health and Safety at Work etc Act 1974 (Application outside Great Britain) Order 2001 (the Order) extends the “prescribed provisions” of the HSWA beyond the mainland of Great Britain to specified offshore areas and work activities. By virtue of the Order, regulations made under the Act can also be extended offshore.
2. It is worth noting that the Order differs to all other Health and Safety Regulations in that rather than adding detailed requirements to general duties established in sections 2 to 9 of the HSWA, it extends the geographical application of the HSWA beyond the mainland of Great Britain to specified offshore areas and work activities. If the 2001 Order did not do this effectively, HSE would not have the power to enforce legislation governing these activities and workers involved would not be afforded the protection the requirements of the HSWA delivers, despite working in some of the most dangerous working conditions.
3. The 2001 Order does not, however, extend the HSWA to these areas wholesale. Instead it only extends the HSWA to specific places and work activities governed by legislation that HSE is responsible for enforcing offshore e.g. offshore installations, wells, mines and pipelines and activities at those places. There is also an article (Article 8) which is drafted in more general terms in order to cover a variety of activities within the territorial sea. This general provision does not apply beyond the territorial sea into the UK Continental Shelf because while the territorial sea is sovereign territory, the UK Continental Shelf has a different status and HSE only wishes to enforce health and safety legislation governing relevant worker activities in that area.
4. When the Department for Energy and Climate Change (DECC) began issuing consents for offshore wind turbines to be constructed in a Renewable Energy Zone (REZ), with work beginning in summer 2009, HSE introduced the Health and Safety at Work etc. Act 1974 (Application outside Great Britain)(Variation Order) 2009 to fill two legislative gaps. The first was to give HSE the jurisdiction to regulate health and safety associated with energy structure work activities in a REZ and the second was to maintain HSE’s jurisdiction to regulate offshore installations which were to be used for other purposes. However, this Variation Order contained a sun setting provision which meant that these additions only applied until 6th April 2011.
5. HSE had planned to produce a new Order by 2011. However the Government introduced a new approach to regulation and HSE undertook a review of all its legislative proposals to ensure they were

appropriate under the new rules and processes. As a result, a decision was taken to delay the introduction of a new Order to allow time for HSE to gather further information on the processes and risks associated with offshore emerging energy technologies (EET) and seek clarification on when, if at all these activities would start in UK waters.

6. HSE then introduced the Health and Safety at Work Act. 1974 (Application outside Great Britain)(Variation Order) 2011 which was drafted in similar terms to the 2009 Variation Order, (without which the requirements would have expired). This ensured that work activities associated with energy structures; (including wind farms) other related activities within a REZ; and structures within a designated area¹ that had ceased to be offshore installations remained subject to the HSWA. The 2011 Variation Order also contains a sun setting provision which means that the work activities within its scope are only subject to the HSWA up to April 2013.
7. The work activities currently covered by the Order have major hazard potential (e.g. work associated with offshore installations and the construction of wells and pipelines) or are high risk (e.g. the construction of offshore wind farms). The new EETs can also be classed as high risk, and where combustible gas is involved (e.g. underground coal gasification) they may also have major hazard potential. It is also important to note that any work activities taking place at sea involve working in challenging and dangerous working conditions.
8. Offshore EET activities such as storage of combustible gas in man made reservoirs, wind farms and carbon dioxide storage were not envisaged when the Order was first drafted. However, although it could be argued that the work activities associated with these new technologies in certain areas are already within scope of the existing Order, HSE has only limited information about the processes involved in these EETs and the associated risks to health and safety. Due to some of these EET work activities commencing within the next 12 - 24 months (e.g. survey and exploration), HSE believes that urgent action needs to be taken to provide it with oversight for health and safety in these EET areas and to provide workers with protection and duty-holders with legal clarity and certainty.
9. HSE is therefore proposing steps that maintain its jurisdiction to regulate these EET activities under the HSWA. In the longer-term, HSE will need to consider the most appropriate regulatory approach for such activities, including considering the case for classing them as major hazard activities and including them within the offshore safety case regime.

Rationale for intervention

¹ “Designated area” means any area designated by order under section 1(7) of the Continental Shelf Act 1964 (d) and “within a designated area” includes over and under it/

10. Statutory protection for relevant workers will expire and HSE will lose regulatory jurisdiction unless the proposed 2013 Order is in force on or before the 6th April 2013, as this is when the sun setting provisions in the 2011 Variation order take effect. In addition, this is when new work activities associated with EET's are expected to commence. Without the 2013 Order HSE will not have the power to enforce health and safety legislation in relation to these high risk activities and employees will not have the protection provided under HSWA.

11. The new Order will also ensure;

- Risks to health and safety associated with these new offshore work activities are assessed and suitable controls are put in place;
- Such activities can be brought within the scope of relevant offshore major hazard regulations when appropriate;
- Additional independent verification or examination is in place when appropriate;
- Emergency response plans are in place;
- Effective offshore safety cultures continue to evolve;
- Industry continuously improves;
- The risk of workers being killed, injured or made ill by their work are reduced;
- The introduction of appropriate health and safety control measures will help to mitigate the risk of environmental incidents offshore;
- Non-legislative approaches, such as providing advice and guidance can be explored;
- If new offshore EET activities are effectively regulated, this will increase public confidence in new energy and climate change technologies; and
- Burdens on duty holders, and HSE inspectors, when it comes to deciding whether a particular activity is, or is not, within scope of the AOGBO, are reduced.

12. HSE has also used this opportunity to take account of both HSE's operational and stakeholder views in relation to some of the definitions within the Order which need updating (e.g. to clarify what structure/activities are included within the definition of an offshore installation).

Policy Objective

Description of options considered (including do nothing)

13. These proposals are designed to give HSE the jurisdiction to enforce health and safety legislation in certain areas and put the matter beyond doubt in others. Therefore it is not appropriate for HSE to consider non-legislative options (e.g. advice and guidance). This section of the Impact

Assessment details the three options HSE has considered for how to progress this work:

14. **Option 1** – Do Nothing. Retain the current position, which will see the current 2011 Variation Order expiring in April 2013. As a result HSE (and any other regulator) may not have the jurisdiction to enforce health and safety legislation associated with new EET offshore work activities. In addition, from 2013 statutory protection will not be in place for relevant workers and HSE will not have the jurisdiction to enforce health and safety legislation associated with energy structures (e.g. wind farms) work activities in a REZ.
15. **Option 2** – Introduce a new Order which will come into force from April 2013. This will give legal clarity that HSE has the power to enforce health and safety legislation in respect of new EET work activities (e.g. combustible gas storage and recovery, underground coal gasification and carbon dioxide storage) and energy structures in a REZ. Statutory protection will remain in place for relevant workers and HSE will maintain its jurisdiction to regulate. The new Order will also take account of operational experience (e.g. by clarifying what activities are included within the definition of offshore installation).
16. **Option 3** – Introduce a new 2013 Variation Order to replace the existing 2011 Variation Order. This will enable HSE to continue regulating the areas in accordance with the status quo, but will not give HSE legal certainty that it has jurisdiction to regulate new offshore EETs.

Preferred Option

17. The preferred option is **Option 2**.
18. This is because **Option 1** will reduce health and safety protection for workers in certain offshore industries (wind farms). This could result in increased work related fatalities, injuries and ill health and detrimental impacts on the environment, and could lead to infraction proceedings.
19. **Option 3** is not believed to be a viable option. Due to HSE's commitment to the Merits Committee that it will consolidate the current 2001 Order and the 2011 Variation Order with a new Order by 2013 (when the 2011 Variation Order sun-setting provisions come into effect). This will also be in line with the government regulatory policy to reduce the overall stock of legislation. Given that **Option 3** is not believed to be a realistic option, it has not been considered in any more detail in this impact assessment.
20. **Option 2** – **Option 2** is preferred as it will realistically deliver the policy objectives whilst maintaining health and safety protection for workers. In this Impact Assessment **Option 1** is compared to **Option 2** as **Option 1** is the baseline case.

Costs and benefits

Risk and Assumptions

21. The IA is prepared in accordance with the Impact Assessment guidance provided by the Department for Business, Innovation and Skills. (BIS)²
22. Costs and non-health and safety benefits are discounted at a rate of 3.5%, in accordance with treasury guidelines.
23. Any quantified Health and Safety benefits should be discounted at a rate of 1.5%. This lower discount rate reflects the fact that there is no decline in the value we derive from health compared to our income, as our incomes rise.
24. The period over which costs and benefits have been appraised is 10 years. We cannot predict how long the proposed Order will be in force, and there is too much uncertainty beyond a period of 10 years to enable robust estimation of impacts. Thus, as per BIS guidance an appraisal period of 10 years has been used.

Analysis of the options

25. **Option 1 – Do Nothing:** This is the baseline case. In order to allow an appropriate analysis of the impacts of extending the 2001 Order, the costs and benefits of ‘doing nothing’ are assumed to be zero.
26. **Option 2 – Introduce a new 2013 Order.** It is proposed that HSE will revoke both the 2001 Order and the 2011 Variation Order and replace them with a new 2013 Order that will consolidate the 2001 Order and the 2011 Variation Order and give legal clarity around new and offshore emerging energy technologies. The new Order will come into force in April 2013, as this is the date on which the sun-setting provision in the current 2011 Variation Order takes effect.
27. If HSE did nothing, the 2001 Order will remain in place and the offshore work activities specified in it will remain in scope of the HSWA. However, as HSE will not be consolidating the requirements of the 2011 Variation Order within a new Order, then work activities associated with energy structures in a REZ will cease to be covered by the HSWA due to the current sun setting provisions in the 2011 Variation Order.
28. By introducing a new Order in 2013 to consolidate the requirements in the 2001 Order and 2011 Variation Order, HSE will maintain its jurisdiction to regulate offshore work activities currently covered by these instruments. The new Order will also give HSE the opportunity to give legal clarification in relation to new offshore EETs within the Order and to

² IA Toolkit: How to do an Impact Assessment. Available at: www.bis.gov.uk/assets/biscore/better-regulation/docs/i/11-1112-impact-assessment-toolkit.pdf

take account of operational experience (e.g. simplify definitions within the Order).

29. The impacts of replacing the 2001 Order, and the 2011 Variation Order and clarifying HSE's jurisdiction to cover new EET's will now be covered in detail. **Annex 1** provides background on the current emerging energy technologies operating offshore, and the activities that are anticipated to begin over the appraisal period.

Emerging Energy Technologies

Information sources and background assessment

30. The 2013 Order will address and give legal clarity in the following areas:

- The storage and recovery of combustible gas
- The storage of Carbon Dioxide
- Underground Coal Gasification (UCG)
- Production of Energy from Water or Winds

31. It is important to note that some of the EET areas are new and developing (e.g. energy from water) and as such there is little information on which to base an impact assessment. Current intelligence suggests that some of these activities such as the storage of combustible gas in man made reservoirs, may start soon (e.g. within the next 12 months) but others may take longer. Therefore HSE is proposing to update the Order now, so that when work commences, there is no legal doubt that HSE has the jurisdiction to enforce legislation governing these work activities e.g. to ensure that duty holders take appropriate steps manage the risks they create and to give workers and the public reassurance that these work activities are covered by an appropriate regulatory regime.

Evidence from Consultation

32. It should be noted that there has been informal consultation with key stakeholders during the preparation of this IA, notably Renewables UK (RUK)³ and Oil and Gas UK⁴, who represent a large proportion of the relevant industry.
33. This IA formed part of the consultation package on the proposals to replace the 2001 Order. The consultation took place from the 11th April 2012 to 4th July 2012 and stakeholders including industry were asked to comment on the assumptions made and the information on which the

³ RenewableUK is the leading trade and professional body for the UK wind and marine renewables industries. Its primary purpose is to promote the use of wind, wave and tidal power in and around the UK.

⁴ Oil & Gas UK is the leading representative body for the UK offshore oil and gas industry. Its aim is to strengthen the long-term health of the offshore oil and gas industry in the United Kingdom by working closely with companies across the sector, governments and all other stakeholders.

assessment is based. The consultation was targeted at those who would be affected by the proposal and their views have been carefully considered when this IA was updated following the consultation exercise.

34. HSE received 22 responses in total to the consultation. While this is a relatively small number of responses, it does include the two most relevant trade associations that cover a large proportion of the industry (see paragraph 32).
35. More details on the responses received at consultation are provided below.

Costs and Benefits

36. The proposal to introduce a new Order in 2013 would mean that the HSWA continues to apply to work activities associated with energy structures in a REZ. Without the new Order, these activities would cease to be covered by the HSWA due to the current sun setting provisions in the 2011 Variation Order.
37. The HSWA puts general obligations on employers to secure the health, safety and welfare of persons at work and for protecting others against risks to health and safety in connection with the activities of persons at work.⁵
38. Thus, in the absence of a new 2013 Order, industries operating energy structures in REZs offshore would not have to comply with the HSWA and regulations made under it. It could be argued therefore that the impact of the new Order is the cost to these industries of complying with HSWA. However, for the reasons described in detail below, HSE expects that the compliance obligations of the HSWA are seen as business as usual costs for the established companies operating these energy structures, and so there will be minimal additional costs to industry created by the new Order. What the 2013 Order will deliver however, is legal certainty, and give HSE the jurisdiction to regulate these activities. Both of these are very important reasons for introducing the new Order as it will deliver crucial benefits to the industry and to the workers. The view from consultation responses on these assumptions is discussed in more detail below.
39. The following sections consider firstly the benefits that the 2013 Order will deliver and the reasons why it is essential, followed by the expected costs of introducing the 2013 Order.

Benefits

Option 1 – Do Nothing

⁵ See HSWA at: <http://www.legislation.gov.uk/ukpga/1974/37/contents>

40. There are no benefits associated with this option, being the baseline case.

Option 2 – Introduce a new Order

41. Introducing the new Order once the 2011 Variation Order expires will ensure that all the named activities and those which are beyond the territorial sea will be covered by the Health and Safety at Work Act (HSWA) and regulations made under it.

Health and Safety benefits

Wind farms

42. Due to the growth in wind farm projects in REZs, it is important that HSE maintains its jurisdiction to regulate energy structures within REZs. The construction of such wind farms offshore in particular is a high risk activity. Without this jurisdiction HSE (and any other regulator) will not be able to enforce health and safety legislation in this area or explore non legislative options such as guidance. HSE are therefore proposing that the wind farm provisions in the 2011 Variation Order are consolidated within the new 2013 Order.

43. The Crown estate has already held two competitive rounds in 2001 and 2003 for lease options for offshore wind farms. If the new Order was not brought into force by 2013 then the round 2 wind farms which are all situated beyond the UK territorial sea will no longer fall within the scope of the HSWA. Added to this the Crown Estate has announced the results of Round 3 and all nine of the new wind farm zones approved will be beyond the territorial sea.

44. Consequently, it is important that HSE retains the ability to regulate beyond the territorial sea in case an accident occurs at wind farms that will be sited there in the future. Not only will this allow the regulator to hold any firms to account that for one reason or another are not compliant with the law, but it enables investigations into any accidents to be conducted. This enables the continuous improvement of health and safety performance across the sector as lessons for improvement in health and safety that result from investigations can be shared, allowing effective safety cultures to evolve and so driving down levels of risk. It is therefore expected that in the long run, this information sharing could improve health and safety outcomes.

45. Health and safety outcomes will also be improved in the long run through the requirement in HSWA for risks to be reduced “As Low As is Reasonably Practicable” (ALARP). This means that as technology improves and new methods of working are adopted, risk can be reduced without the need for further regulation. If HSE has the jurisdiction to regulate EETs beyond the territorial sea, then they will be able to share

best practice guidance with that industry in order to assist them with ALARP. Reducing risks to ALARP on a continual basis could result in ongoing health and safety benefits for industry.

46. Informal consultation with the industry group representing the offshore wind farm sector (RUK) highlighted that when personnel work on wind turbines and associated structures it always carries a number of hazards and this is no different offshore. However, the personnel working beyond the territorial sea will be exposed to greater environmental hazards and RUK believe that **legal clarity** around jurisdiction and enforcement is **essential**.
47. For reasons set out in the cost section, HSE does not believe that there will be any direct increase in compliance with HSWA by the offshore wind farm sector and so there is not expected to be any direct reduction in compliance – related health and safety outcomes.
48. Overall, HSE believe that there will be long term health and safety benefits if a new Order is introduced so that HSE has the jurisdiction to enforce the HSWA outside of the UK's territorial waters. These will derive from improved application of ALARP and risk reduction through the sharing of good practice and HSE guidance, rather than any increase in compliance with HSWA (explained further in the cost section below). However, given that these improvements are likely to be long term and are uncertain, HSE has not attempted to quantify them in this impact assessment. This is due to both the likelihood that they will be small over the ten year appraisal period, but more significant over the long run, as well as the difficulty of appraising them.

Wave and Tidal Energy Production

49. The UK has the best wave and tidal resource in Europe, an asset that has the potential to provide a considerable proportion of the UK power market in years to come. Coupled with this is a strong history of innovation that has produced some of the leading marine energy devices in the world today. These devices face a number of challenges before they can meet their potential and reach large-scale commercialisation ahead of their global competition, but the rewards will be great
50. Supporting innovation early is the key to developing a globally competitive manufacturing industry in renewable energy, as Denmark and Germany have learnt from their experiences of wind energy. The UK is now fully committed to developing the next generation of commercial renewable energy technologies in the emerging wave and tidal energy market.
51. HSE believes that the situation in the wave and tidal energy production sector is similar to that of offshore wind farms. It is expected that given the challenges of working offshore that if the new Order is introduced, the sector will benefit in the long run from the adoption of better practise

and the reduction of risk ALARP. However, as with wind farms, it is not expected that overall compliance with HSWA will be altered, the rationale for which is further explained in the cost section below.

Other offshore activities

52. HSE believe that all other relevant offshore sectors, such as the storage and extraction of combustible gases, carbon dioxide storage, underground coal gasification and cable laying etc are all already covered under the existing Order. However this needs to be unambiguous and the new Order will deliver this legal clarification. Thus, because these industries should already be complying with HSWA under the current Order, it is not expected that there will be any change in compliance levels under the new 2013 Order and so no improvement in health and safety outcomes. Similarly, HSE does already have the jurisdiction to regulate these industries, and so it is not likely that there will be significant benefit from information sharing and guidance from HSE, as this can currently happen under the old Order. Consequently, it is not expected that there will be any health and safety benefits to offshore firms other than for those in the wind farm, wave and tidal sectors.

Evidence from consultation

53. At consultation HSE asked the public what they thought the impacts would be on health and safety performance in the sector if the Order were not introduced.
54. Of the 18 responses (including Oil and Gas UK) 4 responses noted that there would be little impact because the industry already operates as though HSWA applies and standards are already high.
55. Eight of the responses note that health and safety standards would deteriorate over time if the AOGBO were not introduced, which backs up HSE's assumptions above, that overall the Order will deliver long term health and safety improvements. One of the responses provides more information on this, stating that the deterioration in health and safety over time would be slow, because many duty holders follow current good practice and expect all contractors to do the same. However with all the cost pressures on business, there would inevitably be some erosion of standards over time if the Order were not introduced.
56. The remaining six responses did not directly answer the question that HSE was asking.
57. HSE can therefore conclude that in theory the introduction of the Order could deliver health and safety benefits over time, due to the fact that in the absence of the new Order there would be no requirement to continue to reduce risk to ALARP and no ability for HSE inspectors to share good practice. However, due to the complex causality between any health and

safety intervention and outcomes, it is not possible to robustly quantify any health and safety benefits from introducing the Order.

Other benefits

Offshore Wind Farms, Wave and Tidal Sectors

58. At the same time as this ongoing reduction in risk over time having a positive impact on health and safety outcomes, as mentioned above, it is also possible that environmental incidents could also be avoided. For instance, any injury accident could also result in damage to the structure or equipment, which even for wind farms could have environmental consequences e.g. debris in the sea from broken equipment, or damage to local bird and aquatic populations.
59. A further benefit from extending the Order comes from the fact that it will mitigate against the potential reputational risk for the regulator were a major accident to occur in the offshore wind farm sector. If such a situation occurred and HSE was not able to regulate due to the fact that it had not extended the Order, it could be severely criticised for its lack of action. This could diminish trust in the ability of the regulator and have negative implications for health and safety generally. Extending the Order means that the chance of such reputational damage will not occur, as HSE will be seen to have taken the steps necessary towards regulating the industry.

All Sectors

60. The Order ensures there is legal clarity for those firms operating offshore. This creates a potential benefit in that it may reduce the amount of time that businesses in the offshore renewable sector spend dealing with their health and safety obligations. Whilst this reduction in time is clearly a benefit, it has not been possible to quantify the benefit of legal clarity. This is due to the uncertainty surrounding the potential time saving that will result as well as the number of firms that will be affected. It should be stressed however that this is a benefit that industry has specifically mentioned in correspondence to HSE that it is keen to observe.
61. Such legal clarity and the ability for HSE to regulate beyond the territorial sea will also help to boost public confidence in these industries, so enabling them to operate successfully without challenge offshore. This is important, along with the help and advice that HSE will provide on safety matters, to help towards ensuring the industry can continue to operate offshore and generate the renewable energy supply that the UK needs to guarantee security of its energy supply.
62. By introducing the new Order, it also covers the possibility that HSE in the future might regulate the major accident potential side of these renewable offshore activities, which would bring them into line with other

offshore hydrocarbon industries and could potentially improve health and safety outcomes further. The 2013 Order would also make it possible, when appropriate to include a verification scheme in the future, similar to the hydro carbon schemes in place. Whether this will happen is uncertain, and any action taken along these lines will be in line with Better Regulation Principles. However, the proposed new Order allows HSE to keep its options open on this matter, and so the potential for future risk reductions is considered to be feasible.

63. It would also be possible under the new Order to consider non-legislative approaches to share information with industry, such as producing guidance for industry on managing risk. Again, this would be in line with Better Regulation Principles while at the same time potentially improving health and safety outcomes.

Evidence from consultation

64. Of the 22 responses received to the consultation, none disagree with the analysis of 'other benefits' presented in this IA.

Costs

Option 1 – Do Nothing

65. There are no costs associated with this option, being the baseline case.

Option 2 – Introduce a new Order

66. Introducing the new 2013 Order once the 2011 Variation Order expires will ensure that all the named activities and those which are beyond the territorial sea will be covered by the Health and Safety at Work Act and regulations under it.

Costs to industry

Compliance Costs

67. As noted in paragraphs 33 – 36, it is not expected that there will be significant costs to industry as a result of introducing the new Order. The reasons why are set out in detail below.

Wind Farms, Wave and Tidal Structures

68. HSE believe that the nature of the activities involved in the offshore wind farm, wave and tidal markets means that industry will conduct health and safety as part of their business as usual. This is due to the fact that these firms are already established operators, (see below) not only working within the territorial sea (inshore⁶), but also operating onshore

⁶ Inshore being any waters within the territorial sea.

wind farms. The health and safety procedures for onshore and inshore wind farms are broadly the same as those for offshore wind farms, although because weather conditions offshore can be much harsher than inshore and onshore, additional health and safety precautions may need to be taken. However, HSE would expect that these additional measures would be conducted as a matter of good business practise by these established companies, even in the absence of the new Order. Thus no additional costs compared to business as usual are expected.

69. The businesses involved in the development/operation of offshore wind farms are typically large, established firms with an existing health and safety culture. Many of the firms taking part in Round 3 construction of wind farms are already operating within the REZ and are already carrying out the health and safety procedures that the new Order would require under the 2011 Variation Order.
70. This is due to the fact that the 2011 Variation Order extends the HSWA offshore for these industries, and the new Order simply means that the HSWA continues to apply beyond 2013. So it is expected that because the companies who will be operating energy structures in a REZ will already be established players in the renewable energy market, that Health and Safety will be embedded in their cultures and it would possibly be more problematic and costly to undo established procedures that are followed onshore and offshore currently, around risk assessment and training, than to continue with these procedures.
71. This again suggests that introducing the new 2013 Order will not imply additional costs for companies operating energy structures in a REZ.
72. Furthermore, many of the requirements for health and safety when working offshore are simply common sense or good business practice. For example, whilst working on a wind turbine, it is necessary for employees to wear a harness, not only because it protects them from falling but also to enable them to access the areas that they need to in order to do their job. Likewise, companies operating in a REZ may make the decision on commercial grounds, to provide temporary living quarters for employees offshore rather than transporting them to and from shore every day.
73. It could also be argued that given the hazardous nature of offshore work there is the potential for many companies to attract employees partially based on welfare issues such as the level of health and safety protection they provide.
74. The offshore wind farm sector, led by RUK, has already demonstrated its commitment to high standards of health and safety performance. Examples of this include the wealth of guidance produced by RUK, along with the fact that the majority of its members have signed up to a safety accord for offshore wind, as a commitment to maintain high levels of health and safety.

75. HSE has discussed its assumptions around compliance with HSWA as a result of the new 2013 Order with RUK. RUK has publicly stated that their members are committed to ensuring that Health & Safety is top priority in the wind, wave and tidal industry and that best practice is applied to ensure the good reputation of renewable generation is maintained⁷. From information provided by RUK to HSE for the purpose of this impact assessment, it is clear that industry support high levels of health and safety. RUK have also explained to HSE that they do not expect that any of their members would “cherry pick” their health and safety obligations if the new Order was not applied.
76. However, RUK have stated that they believe if there were gaps or perceived gaps in legislation there is the *potential* for new entrants to the market to *compromise* the high existing health and safety standards. However, given the nature of the offshore renewable market and the extensive planning and development process for setting up an offshore wind farm. HSE is not aware of any new entrants or plans to construct more wind farms beyond those already announced by the Crown Estate in Round 3⁸ (and as noted in paragraph 65). The high financial entry costs and long development time required before production can begin; mean that any firms entering the market are more likely to be larger firms already established in other sectors of the economy.
77. Thus, it is thought to be unlikely that over the appraisal period, any new players will enter the market other than those already granted a licence by Crown Estates, and indeed, given the current economic climate it is uncertain whether or not even those developers already granted a licence will go ahead in the planned timescales
78. However, if new entrants were assumed to enter the market and therefore they did not already have established procedures around health and safety, then there could be a compliance cost for these firms. However, given that HSE does not expect any new entrants to the market over the appraisal period and coupled with the fact that many health and safety measures make good business sense (as discussed below) this cost is not quantified but expected to be zero over the appraisal period.
79. It must be remembered that although industry may indicate they would comply with health and safety in the absence of the Order, the offshore wind farm sector remains a potentially high hazard industry, due to the nature of the environment and the work activities taking place. Many of the areas that the REZs are located in are hostile environments, such as off the northern coast of Scotland, where weather conditions can be dangerous with high winds etc. Not only that, but workers are frequently exposed to risks such as working from heights and being struck by

⁷ <http://www.bwea.com/safety/>

⁸ <http://www.thecrownestate.co.uk/news-and-media/news/2010/the-crown-estate-announces-round-3-offshore-wind-development-partners/>

moving objects. In Round 3 personnel will work on larger more complex structures along with exposure to challenging sea conditions. It is therefore important that HSE has the jurisdiction to regulate health and safety, inspect, investigate incidents and have the ability to take action where appropriate.

80. Finally, it must be noted that the regulations that are being extended offshore are not ones that place continuous and significant burdens on employers. Many of the requirements of the regulations simply aid employers in reducing risks ALARP, as required under HSWA and it is these minimum requirements that are being extended offshore. The offshore major hazard regulations, such as the safety case regulations, are not being extended to renewable energy structures under the new Order. By not extending these regulations to wind, wave and tidal structures, the associated costs, which are often in magnitudes of millions of pounds, are not incurred by industry.

Other Sectors

81. As highlighted in the benefit section, the extension of the Order will not introduce any new requirements on a number of sectors operating offshore such as cable laying and underground coal gasification. The 2013 Order will simply provide legal clarification, reducing any uncertainty and queries from industry that arises from these sectors. Consequently, these industries will not be subject to any additional compliance costs following the implementation of the new Order.

Evidence from consultation

82. At consultation, the majority of responses agreed with the analysis presented in the impact assessment. Of the 19 people who responded to the question: "Do you agree with the analysis presented in the impact assessment" 16 agreed with the analysis. This group included both Oil and Gas UK Ltd and the Institution of Occupational Safety and Health (IOSH)⁹. Renewables UK did not express any concerns with the analysis in the IA.
83. A free text box for comments was provided for respondents. One of the respondents who disagreed with the assumptions did not provide a reason why. The other respondents who disagreed either referred to matters which are outside the scope of the consultation, or misunderstood the concept of additionality in the IA. The weight of evidence from the consultation, including from three trade organisations

⁹ The institution of Occupational Health and Safety is the only chartered body for health and safety professionals in the world. IOSH work with a range of organisations (national and international) to raise awareness – and standards, developing training for schools and businesses and running [campaigns](#) that are relevant to millions of working people.

and two trade unions, is in agreement with HSE's assumption that there will not be additional compliance costs to business. It is not therefore proportionate to attempt to validate this assumption further.

Familiarisation Costs

All Sectors

84. There is the potential for businesses in all sectors that operate offshore to observe some familiarisation costs following the extension of the Order. Information gathered on the number of firms that send people offshore (third party data base, see paragraph 91), shows that for the three month period of June to September 2011, approximately 1,200 UK based firms sent people offshore. It is unlikely that each of these firms will spend time familiarising with any changes to the Order, especially given that for the vast majority there will not be any changes. However, this figure is also unlikely to cover exhaustively all the firms that will work offshore in a given year (for example firms that only make a few offshore trips each year) or those who are likely to be involved in constructing offshore renewable energy structures (due to the fact that in the vast majority of cases, construction has yet to begin). This estimate of 1,200 is therefore used as the best estimate for the number of firms that will familiarise themselves with the change.
85. HSE has assumed that in each organisation, one person will spend half an hour familiarising themselves with the change. This low estimate for familiarisation time is due to the fact that the change is relatively straight forward and in the vast majority of cases will not result in firms having to change their behaviour. It is assumed that those familiarising themselves will be of a managerial level and at a time cost of £30 per hour¹⁰. Based on these assumptions, the overall familiarisation cost will be approximately £18 thousand.

Evidence from consultation

86. Nineteen people responded to the question: "Do you agree with the assumptions on how long it will take industry to familiarise themselves with the 2013 Order?" Two of the consultees said they disagreed with the assumption about the time it would take to familiarise with the regulations. However, a free text box was available for people to provide comments on this question, but only one of those who disagreed with the assumption provided a free text response but this did not provide an alternative assumption that would be more appropriate. The weight of evidence from the consultation supports the assumptions around familiarisation costs. On the grounds of proportionality, HSE proposes no further validation of this assumption is necessary.

¹⁰ Source: Annual Survey of Hours and Earning 2011; mean hourly wage for a manager in mining and energy (code 1123) uprated by 30% to reflect non-wage costs

Costs to HSE

87. The costs to HSE of any work associated with facilitating the introduction of the 2013 Order have not been included in this impact assessment. This follows on from advice received from the Regulatory Policy Committee when the impact assessment for the removal of the Adventure Activity Licensing Authority was being considered, prior to the RPC giving its opinion (on 4/1/2012).
88. If the Order is amended to include the named activities that take place beyond the territorial sea, then HSE has the jurisdiction to investigate accidents that occur, on a reactive basis only. As HSE cannot estimate how many investigations would occur under this option (any inspection or investigation is an additional cost relative to the baseline scenario of no investigations) it has not been possible to estimate the size of this cost.

Rationale and evidence that justify the level of analysis

89. The analysis is based on discussion with the industry (Oil and Gas UK and Renewables UK) and evidence collected at consultation, with responses from IOSH and two trade unions. HSE proposes that this is a proportionate level of analysis, given that the trade bodies consulted represent a large portion of the industry and it is not expected that the new Order will create additional costs for industry other than familiarisation.

One In One Out

90. Under the One In, One Out (OIOO) rule, any new regulatory measure (either primary or secondary legislation) that imposes a net cost to business cannot be enacted unless a regulatory measure equal in cost is removed¹¹. The extension of the AOGBO will impose additional costs to society and therefore counts as an IN for the purposes of OIOO.
91. The overall cost to society of the proposal to extend the AOGBO is £18 thousand, which falls entirely to industry. This is the figure of relevance for OIOO.
92. The value of the IN the extension of the AOGBO will result in is calculated by looking at the Equivalent Annual Net Cost to Business (EANCB); the cost that would give the same present value as the one calculated were it to be incurred every year of the appraisal period. For this regulatory proposal, the EANCB is £2.1 thousand. The corresponding OUT will be taken from that calculated in the Impact Assessment for "Implementing the Common Sense, Common Safety Recommendation to Amend RIDDOR Regulation 3(2)", which was rated fit for purpose by the Regulatory Policy Committee on 1/11/2011."

¹¹ <http://www.bis.gov.uk/policies/bre/better-regulation-framework/one-in-one-out>

Evidence from consultation

93. The overall cost on business is estimated to be £18 thousand, which is attributable to the time it takes industry to familiarise themselves with the changes being proposed. As noted above, the majority of respondents agreed with the assumptions behind this estimate. While there were a few respondents who didn't agree with the IA, they did not provide sufficient detail in their response to provide an alternative assumption. Given those in agreement included large trade associations representing a large proportion of the industry, HSE is content that the consultation supports the IA, and on the grounds of proportionality does not recommend any further validation of the assumptions.

Wider impacts

94. Wider impacts per the impact assessment guidance have been considered, with no substantial impacts expected, see Annex 2. The Impact on Micro Businesses is covered in more detail below.

Micro- businesses

95. The introduction of a new 2013 Order will in the main impact on larger companies, but due to the use of sub-contractors to carry out offshore activities this will almost inevitably mean that a number of micro – businesses (in fact 15% of all the companies sending workers offshore, see paragraphs 91 – 93) will be involved in this work. HSE is therefore committed to working with large companies to ensure they both inform and support the small businesses that form part of their supply chain and sub-contracting arrangements about the appropriate health and safety legislation.

96. The introduction of the 2013 Order would ensure that certain high risk work activities offshore continue to be subject to the HSWA. Any exemption for micro - businesses from the 2013 Order would therefore not be appropriate, as this would mean that no health and safety legislation would apply to micro - businesses working offshore whilst the exemption was in place. The potential impact of an exemption would mean that these micro- businesses would not have a duty to comply with health and safety legislation which helps to ensure the health and safety of their employees or others involved in these high risk activities. Subsequently, in the event of a serious accident or incident involving a micro business, neither HSE would have no jurisdiction to investigate or take enforcement action. At the same time, the micro businesss would not have any criminal liability under the HSWA for the accident.

97. It is important to note that health and safety is of paramount importance in order to protect workers in micro-businesses who operate in the UK's high hazard offshore environment, especially as the development of new energy technologies is seeing industry expand into deeper water, more extreme weather and undertake larger projects. In terms of exposure the

the risk is not proportional to the size of the business or the number of employees. Rather it is the work activity that determines the appropriate level of regulatory protection.

98. To continue to apply HSWA to micro businesses working offshore would enable the UK's existing strong offshore safety culture to continue to develop as it would not be reduced in its effectiveness; offshore health and safety requirements relating to information sharing, consultation and workforce involvement would apply to **all** employers. Following informal consultation with key stakeholders, the approach to ensure microbusinesses are not exempted is broadly supported. This is especially the case for those firms involved in the offshore extraction of hydrocarbons, who have voiced strong concerns around the exemption of microbusinesses from the suite of offshore major hazard regulations.
99. As well as the risk posed by micro- businesses operating offshore to their own workers, there is also a risk posed to the environment and integrity of the larger installation they are working on. For instance, an accident that harms a worker involved in the offshore extraction of hydrocarbons can also have serious negative consequences for the environment, and operation of the installation. Such consequences can have serious financial implications for the operators of such installations, which could in turn impact on energy security for the UK.
100. Provisional statistics from 2010/11 show that during this period there have been 42 major injury reports by working working offshore, six of which were offshore windfarm related. There were also 430 dangerous occurrences, (of which 40 were well-related).

Number of Micro businesses sending employees offshore

101. HSE conducted a piece of work in an attempt to estimate the number of micro businesses that operate offshore in the UK. Through a third party (Oil and Gas UK) HSE were able to gain access to a database containing the information of all the companies that had sent people offshore in the UK. Looking at a three month period from 1st July 2011 to 30th September 2011 it was possible to identify a total of just over 1,400 companies that had sent people offshore in the UK ranging from one trip to 8,088 trips. Of these companies, 1,195 were based in the UK.
102. HSE conducted a random sample of the above businesses, and of the 120 different firms contacted to gather data from, 106 provided details of their workforce. Of the 14 firms who did not give details of their workforce, six companies were un-contactable, six contact numbers were un-obtainable, one company no longer existed and one company refused to provide any information. This gave a response rate of 88%.
103. Of the 106 firms contacted, 16 confirmed that they were micro businesses, 15.1% of the total. Applying this figure to the 1,195 UK based firms that sent people offshore, we can conclude that there are

180 micro businesses in the UK that have sent people offshore. Given the sample size, there is a sampling error of 6.6%, meaning that HSE can be 95% certain that between 8.5% and 21.7% of the 1,195 firms identified are micro-businesses, a total of between 100 and 259. These would be the micro businesses affected by the new 2013 Order.

Evidence from consultation

104. All of the responses received at consultation, agreed that micro businesses should be covered by the 2013 Order, which included the response from Oil and Gas UK.
105. HSE is therefore content that its view that health and safety is of paramount importance in order to protect workers in micro-businesses who operate in the UK's high hazard offshore environment is fully supported.

Summary and preferred option

106. The preferred option is Option 2. Unless the 2013 Order is in force on or before 6th April 2013, statutory protection for relevant workers will expire and HSE will lose regulatory jurisdiction due to the sunset provision in the 2011 Variation Order. In addition, this is when the new work activities associated with EET's are expected to commence. Without the 2013 Order HSE will not have the power to regulate these high risk activities and employees will not have the protection provided under HSWA.
107. The cost to industry in relation to the introduction of the 2013 Order is £18,000. There is an unquantifiable cost to Government from increased inspections and investigations and there could also be some health and safety benefits which cannot be quantified.
108. The conclusions in the IA have been validated at consultation, with the majority of respondents agreeing with the assumptions used. On the grounds of proportionality, HSE do not propose that any further validation of responses is necessary.

Annex 1

Emerging Energy Technologies – Industry Profiles

The storage of Carbon Dioxide

1. Carbon dioxide (CO₂) is considered to be the main cause of global warming and experts agree that a range of actions will have to be taken in order to reduce the amount of CO₂ entering the atmosphere. Part of the solution could be to capture CO₂ produced by industrial processes and store it deep underground – which will be known as Carbon Capture and Storage (CCS).
2. CCS is an emerging industry and the hazard classification of CO₂ is such that it does not specifically attract the duties of major hazard legislation normally required to control those activities. The key challenge is obtaining a consensus on the major accident potential of CO₂ and defining the qualifying criteria so that existing industries are not adversely affected.
3. HSE is working with others and contributing its expertise to enable the safe introduction of this new industrial process to ensure that all reasonably practicable control measures to mitigate against a major hazard incident are put in place by the operator. The consideration of health and safety issues will compliment its effective introduction.
4. As the processes have yet to be demonstrated together at commercial scale for power generation, in 2007 the Government launched a competition to develop the UK's first full-scale demonstration of CCS.
5. HSE has been working closely with the Department of Energy and Climate Change (DECC) throughout the competition. Within the competition documents, it is clearly stated that HSE requires developers to give a health and safety compliance demonstration as if CO₂ was classified as a dangerous substance or fluid under COMAH and PSR, and (for offshore installations) as if all relevant offshore regulations applied, in order to satisfy the requirements of the HSWA. In addition, the successful competitor must provide technical information to HSE throughout the project, to inform the development of appropriate health and safety standards.
6. However, on the 19th October 2011 the Government announced that it will not be proceeding with the Longannet demonstration project. The Government's long term vision for CCS deployment together with an industry action plan will be set out when the selection process for further CCS projects is published. It is therefore not clear at this time as to how many CCS projects will take place during the period covered by this IA.

Underground Coal Gasification

7. The UK is well placed within Europe by having large reserves of indigenous coal both onshore and offshore in the Southern North Sea. These reserves have the potential to provide security of future energy supplies long after oil and natural gas are exhausted.
8. Traditional mining methods however are not suited to working offshore reserves and development and infrastructure costs of new mines can render the exploitation of landward reserves uneconomical. The concept of gasifying coal underground and bringing the energy to the surface as a gas for subsequent use in heating or power generation has considerable attraction. Underground coal gasification (UCG) has the potential to provide a clean and convenient source of energy from coals seams where traditional mining methods are either impossible or uneconomical.
9. UCG is the partial in-situ combustion of a deep underground coal seam to produce a gas for use as an energy source. The gas can be processed to remove carbon dioxide, before it is passed onto end users, thereby providing a source of clean energy with minimal green house gas emissions.
10. Government policy is to encourage the development of cleaner coal technologies for application both at home and in overseas markets. The potential for UCG in the UK relates not only to reducing environmental emissions, but also to ensure security of energy supply and maintaining an acceptable level of diversity of energy supply.
11. Interest levels in UCG had been increasing and in 2009/2010 the Coal Authority received applications for and granted some 14 conditional near offshore UCG licences to companies, keen to pursue the technology further in Great Britain. These conditional licences enable prospective operators to secure the rights to the coal while projects are developed but do not permit UCG operations to commence until all other rights and permissions are in place¹².
12. HSE believe that the work related activities in relation to UCG currently fall within scope of the Order. At present HSE has only limited information about the processes involved in these activities and the associated to risks to health and safety. However, as these work activities may commence within the next 12 - 24 months (e.g. survey and exploration), HSE believes that action needs to be taken to provide duty-holders with legal clarity and certainty.
13. It is not yet clear whether there will be any such projects that take place. If there are any, these might occur within the territorial sea to

¹² Paragraphs 7 to 11 excerpts taken from the DECC website :
<http://coal.decc.gov.uk/en/coal/cms/publications/mining/gasification/gasification.aspx>

take advantage of the facilities close to shore. HSE's best estimate is that one such project may start over the next 10 years beyond the territorial sea, and as noted the Order would just provide legal clarity and certainty to such a project, but no further obligations.

Production of energy from wind

14. Due to the growth in wind farm projects in REZs, it is important that HSE maintains its jurisdiction to regulate energy structures within a REZ. The construction of such wind farms offshore in particular is a high risk activity. Without this jurisdiction HSE (or any other regulator) will not be able to enforce health and safety standards in this area or explore non legislative options such as guidance. It is proposed that the wind farm provisions in the 2011 Variation Order are consolidated within the new 2013 Order.

15. The Crown Estate¹³ has already held two competitive rounds for lease options for offshore wind farms. The first round was held in 2001 and allocated 14 lease options totalling just over 1 GW. The Round 1 full term leases are for 22 years (including one year for removal and decommissioning). In 2003, the Crown Estate held Round 2 for commercial scale offshore wind projects, allocating leases to 15 commercial scale projects totalling 7.2GW. For the largest Round 2 projects, the full term lease is for 50 years including decommissioning.

16. A search of the Crown Estates website¹⁴ highlights that there are potentially 4 wind-farms in round 2 which are beyond the UK's territorial sea. The details on these are as follows:
 - Triton Knoll – this is within the Great Wash Strategic Area and is located off the East Coast of England, approx 20 miles off the coast of Lincolnshire and 28 miles off North Norfolk. If completed this could have power of 1,200 MW and power 850 000 average households per year. Construction would not start until 2017 and there would then be a phased energisation of the wind farm from 2018¹⁵.
 - Race Bank – approximately 17 miles from the north Norfolk coast at Blakeney Point, and 17 miles from the Lincolnshire Coast at Chapel St Leonards. Annual capacity could be to power 410,000 British homes. Range of turbines could be 88 to 206, capacity 620MW.¹⁶ Estimated the project will be complete by 2015.¹⁷

¹³ More information available at: <http://www.thecrownestate.co.uk/>

¹⁴ See Round 1 and 2 Offshore Wind farm Sites map at:

<http://www.thecrownestate.co.uk/energy/offshore-wind-energy/>

¹⁵ <http://www.rwe.com/web/cms/en/306902/rwe-innogy/sites/wind-onshore/united-kingdom/in-development/the-proposal/>

¹⁶ http://www.centrica.com/files/pdf/centrica_energy/racebank_newsletter.pdf

¹⁷ <http://www.4coffshore.com/windfarms/race-bank-united-kingdom-uk18.html>

- Dudgeon – 560MW, located 32km offshore¹⁸. If consent is obtained for this project it could be operational by 2015.¹⁹
- Great Gabbard – estimated to be 25km out to sea, with approximately 240 turbines generating 504MW of power per annum. It is expected that this wind farm will be completed and generating power by 2012.²⁰

17. If a new Order was not brought into force by 2013 then the round 2 wind farms which are beyond the UK's territorial sea would no longer be within scope of the HSWA.

18. The Round 3 programme comprises nine offshore wind zones. The zones vary in size, distance from the coast, water depth, environmental characteristics and their existing commercial uses. All of which will be beyond the territorial sea. The nine developers who have signed exclusivity zone agreements for Round 3, are as follows²¹:

- ZONE 1: Moray Firth Zone - Moray Offshore RENEWABLES Ltd. 75% owned by EDP Renovaveis and 25% owned by Sea Energy Renewables – 1.3GW. Anticipated to be 260 turbines.
- ZONE 2: Firth of Forth zone - SeaGreen Wind Energy Ltd. Equally owned by SSE Renewables and Fluor - 3.5 GW.
- ZONE 3: Dogger Bank zone - Forewind Consortium. Equally owned by SSE Renewables, RWE Npower Renewables, Statoil and Statkraft - 9 GW
- ZONE 4: Hornsea zone - Siemens Project Ventures and Mainstream Renewable Power. A consortium equally owned by Mainstream Renewable Power and Siemens Project Ventures and involving Hochtief Construction - 4 GW
- ZONE 5: Norfolk Bank zone - East Anglia Offshore Wind Ltd. Equally owned by Scottish Power Renewables and Vattenfall Vindkraft - 7.2 GW
- ZONE 6: Hastings zone - Eon Climate and Renewables UK - 0.6 GW
- ZONE 7: West of Isle of Wight zone - Eneco New Energy - 0.9 GW
- ZONE 8: Bristol Channel zone - RWE Npower Renewables, the UK subsidiary of RWE Innogy - 1.5 GW
- ZONE 9: Irish Sea zone - Centrica Renewable Energy and involving RES Group - 4.2 GW.

19. Of the nine developers four have not been involved in round 1 or 2 projects, as follows:

¹⁸ <http://www.4coffshore.com/windfarms/dudgeon-united-kingdom-uk04.html>

¹⁹ <http://www.warwickenergy.com/offshore/dudgeon.htm>

²⁰ <http://www.rwe.com/web/cms/en/310134/rwe-innogy/sites/wind-offshore/under-construction/the-proposal/>

²¹ This list of round 3 wind farms has been taken from the Crown Estates website, see <http://www.thecrownestate.co.uk/news-and-media/news/2010/the-crown-estate-announces-round-3-offshore-wind-development-partners/>

- Moray Renewables - ZONE 1: This is a joint venture comprising of two companies, EDP Renewables (EDPR) and Sea Energy Renewables Ltd. Both have a worldwide track record in wind power and proven offshore expertise. EDPR is the world's third largest wind energy company.²²
- Mainstream Renewable Power - ZONE 4: This Company have been operating for 2 decades and have delivered 2,500MW of plant across four continents for many different companies. They claim to be Europe's leading offshore developer.
- Scottish Power Renewables - ZONE 5: This Company is part of Iberdrola S.A, the world's largest developer of renewable energy. They claim to be the leading developer of onshore wind, with over 30 wind farms fully operational and under construction or in planning.
- ENECO New Energy - ZONE 7: Eneco is one of the leading energy companies in the Netherlands.

20. Although these companies listed in paragraph 19 above have not been involved in round 1 or 2 of offshore wind in the UK, they are all companies that are well established and have proven track records in wind generation.

Production of energy from water

21. The UK has the best wave and tidal resource in Europe, an asset that has the potential to provide a considerable proportion of the UK power market in years to come. Coupled with this is a strong history of innovation that has produced some of the leading marine energy devices in the world today. These devices face a number of challenges before they can meet their potential and reach large-scale commercialisation ahead of their global competition, but the rewards will be great.

22. Supporting innovation early is the key to developing a globally competitive manufacturing industry in renewable energy, as Denmark and Germany have learnt from their experiences of wind energy. The UK is now fully committed to developing the next generation of commercial renewable energy technologies in the emerging wave and tidal energy market.

²² <http://morayoffshore Renewables.co.uk/>

Annex 2 – Wider impacts

Statutory Equality Duties

1. A statutory equality assessment has been performed in accordance with the equality legislation.

Economic Impacts

Impact on Competition

2. The Office for Fair Trading's advice on competition provides four filter questions. Does the policy:
 - Directly limit the number or range of suppliers – No. It is not expected that the replacement of the 2001 Order will limit the range of suppliers in the offshore industry. For instance it will not award exclusive rights to a supplier or create closed procurement or licensing programmes.
 - Indirectly limit the number or range of suppliers – No. It is not expected that the replacement of the 2001 Order will limit the range of suppliers in the offshore industry. For instance, it will not raise costs to smaller entrants relative to larger existing suppliers.
 - Limit the ability of suppliers to compete – No. It is not expected that the channels available to suppliers will be reduced or reduce the geographic area in which they can operate.
 - Reduce supplier's incentives to compete vigorously – No. It is not expected that it will encourage or enable the exchange of information on prices, costs, sales, or outputs between suppliers.

Impact on Small businesses, Charities and Voluntary Organisations

Micro- businesses

3. See paras 91 to 101 of the main Impact Assessment document.

Greenhouse Gas assessment

4. The proposals to replace the 2001 Order are to ensure that EET's are covered by the HSWA. This will ensure that HSE's risk framework is sufficiently comprehensive and flexible to deal with new risks and hazards while achieving sensible risk management. It is not expected that the additional regulatory requirements placed on this industry will be a barrier to entry and will enable the industry to operate with acceptable health and safety standards, thus assisting in meeting renewable energy targets. It is not possible to quantify the positive effect, if any that this enabling regulator role might have on greenhouse emissions.

Wider environmental issues

5. Ensuring adequate protection for the environment is one area that will be addressed by legislative change under the Energy Act 2008. Replacing the 2001 order to extend the prescribed provisions of the HSWA to specified work activities (such as the storage and recovery of combustible gas, storage of carbon dioxide and UCG) will help to ensure that such work activities are appropriately controlled and reduce the risk of a catastrophic incident adversely affecting the environment. Due to the fact that information on the dangers of emerging energy technologies to the environment, and the environmental risk reduction that might be achieved by bringing them under the HSWA is not available at this time, it is not possible to quantify the possible environmental benefits of replacing the 2001 Order.

Social Impacts

Health and Well being

6. It is expected that the replacement to the 2001 Order will ensure the health and safety of those people working on or in the vicinity of emerging energy technologies is appropriately safe guarded. Given the lack of experience with these new technologies, accurate predictions of the risk associated with them is not possible, and so it is not possible to quantify the risk reductions that the 2013 Order might deliver and the consequent benefits in terms of health and safety.

Human Rights

7. Everyone's life must be protected by law. Thus, the proposal to replace the 2001 Order will assist duty holders in protecting the lives of their workers.

Justice

8. It is not expected that the proposal will have any impact on justice. However, if the proposals do not go ahead and an accident happened in these areas offshore it will be difficult for the injured party to argue a breach of statutory duty.

Rural Proofing

8. It is not expected that the proposals will have any impact on the quality of rural lives.

Sustainability

9. The sustainability principle is that the current generation satisfies its basic need and enjoys an improving quality of life without compromising the position of future generations. HSE is proposing to replace the 2001

Order in the capacity of an enabling regulator, enabling the EET industry to operate in a manner that is in the best interests of its workers. This will ultimately contribute to increasing the energy security for the UK and reducing our CO2 emissions. The extent to which HSE's role will contribute to these objectives is difficult to quantify however.