

## Summary:

Department of Business,  
Enterprise and Regulatory  
Reform (BERR)

Title:  
Offshore Electricity Transmission – A joint Ofgem / BERR  
Policy Statement - Updated Impact Assessment (08/547)

Stage: Partial

Version: Final

Date: 10 January 2008

**Related Publications:** Government Response to Offshore Electricity Transmission – A joint Ofgem / BERR Policy Statement (08/546)

Available to view or download at:

<http://www.berr.gov.uk/consultations/page40627.html>

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

The Government is introducing a new regulatory regime for offshore electricity transmission to connect significant amounts of renewable offshore generation to the onshore electricity network, in a timely and cost effective manner whilst maintaining the integrity of the system as a whole and achieving best value to electricity consumers.

Government intervention is necessary to provide the standards, structure and certainty required by an emerging area of energy resource development where currently none exists.

**What are the policy objectives and the intended effects?**

To design a regulatory framework that will allow offshore electricity transmission networks to be built in an economic, efficient and co-ordinated manner so that they will enable generators located in offshore waters to deliver their generation to the onshore electricity grid, whilst maintaining the integrity of the system as a whole, at the best value to network users and consumers.

**What policy proposals are being considered?**

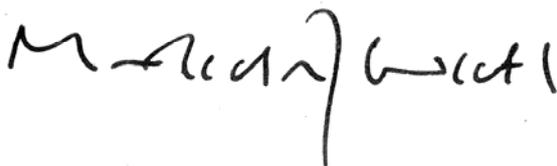
The consultation sought views on a number of specific proposals relating to the detailed workings of the proposed regime necessary to licence offshore electricity transmission. These included tender design, the regulated revenue stream, transitional arrangements, connection processes and associated technical requirements. This updated IA sets out Government decisions in a number of these areas and highlights areas where further work is required.

**When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?** The Government will undertake a review after the first round of tenders following the implementation of the enduring regulatory arrangements.

**Ministerial Sign-off** For consultation stage Impact Assessments:

*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 Minister:



.....Date: 10 January 2008

## Summary: Analysis & Evidence

<b>Policy Proposal 1</b>	<b>Description: Design of regulatory regime</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>	Description and scale of <b>key monetised costs</b> by 'main affected groups' The main costs will fall to Ofgem who will calculate the revenue stream for each project that is tendered for. It is proposed that this will then be set for a minimum of 20 years. The estimated total costs of assessing the revenue stream are based on a cost of c. £50k / project and a total of 24 projects.		
	<b>One-off</b> (Transition) <b>Yrs</b>			
	<b>Average Annual Cost</b> (excluding one-off)			
	<b>£0.2m / year</b> 6		<b>Total Cost (PV)</b>	<b>£ 1.1m</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may be performance related obligations including penalties/incentives relating to agreed performance targets. There may be costs for compliance with these.				

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>	Description and scale of <b>key monetised benefits</b> by 'main affected groups' There will be no regular 5-year reviews of the revenue stream as it is set for the life of a project. This will avoid at least 3 full price control reviews and therefore significant costs for Ofgem and OFTOs over the 20 year revenue stream period.		
	<b>One-off</b> <b>Yrs</b>			
	<b>Average Annual Benefit</b> (excluding one-off)			
	<b>£7m / 5 years</b> 20		<b>Total Benefit (PV)</b>	<b>£20.3m</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' As well as there being a benefit to generators and OFTOs in terms of certainty as a result of the revenue stream being set for the life of the project, this may also attract new entrants and investors in to the offshore transmission sector.				

**Key Assumptions/Sensitivities/Risks** The estimated costs of assessing the revenue stream are based on a cost of c. £50k / project and a total of 24 projects over a 6 year period. It is proposed that the revenue stream will be set for at least 20 years and this will avoid 3 five-yearly full price control views.

Price Base Year 2007	Time Period Years 20	<b>Net Benefit Range (NPV)</b> <b>£19.2m</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>£19.2m</b>
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What is the geographic coverage of the policy/option?		GB and REZ		
On what date will the policy be implemented?		December 2008		
Which organisation(s) will enforce the policy?		Ofgem / BERR		
What is the total annual cost of enforcement for these organisations?		£ Not known		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		N/A		
What is the value of the proposed offsetting measure per year?		£ N/A		
What is the value of changes in greenhouse gas emissions?		See Table 7		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)		
Increase of	£ Not known	Decrease of	Not known	<b>Net Impact</b> £ Not known

Key:      Annual costs and benefits: Constant Prices      (Net) Present Value

## Summary: Analysis & Evidence

Policy Proposals 2

Description: Enduring competitive framework

<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' Costs to OFTOs for bidding have been estimated to be between £0.25m - £1m / project. Average Ofgem costs for running the tender process are estimated to be c. £0.5m / project. The estimated total costs for 24 projects over 6 years are £31.7m – £133.7m are dependent on the complexity of projects and number of projects and bidders.
	<b>One-off</b> (Transition)	<b>Yrs</b>	
	<b>Average Annual Cost</b> (excluding one-off)		
	<b>£5.3m - £22.3m/yr</b>	6	
<b>Total Cost (PV)</b>			<b>£29.2m - £123m</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may also be costs to those in the supply chain who would be asked to tender for specific aspects of the projects by potential OFTOs.			

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' A competitive tender process may produce average efficiency gains of between 10% and 20%. This amounts to savings of between £250m-500m based on an estimated cost of transmission connections of c. £2.5 billion or £41.6m- £83.3m / yr.
	<b>One-off</b>	<b>Yrs</b>	
	<b>Average Annual Benefit</b> (excluding one-off)		
	<b>£41.6m – £83.3m / yr</b>	6	
<b>Total Benefit (PV)</b>			<b>£ 229.4m – £459.4m</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' There may be further savings if projects are tendered together. There will be benefits in terms of competition in allowing generator affiliates to bid. Allowing Ofgem to recover its costs will lead to a more effective tender process. Experience will improve the process for potential bidders, suppliers and Ofgem.			

**Key Assumptions/Sensitivities/Risks** There may be 3-5 bidders per project and a possible 24 projects tendered over 6 years. Further detail on the assumptions is at paragraph 5.15.

Price Base Year 2007	Time Period Years 6	<b>Net Benefit Range (NPV)</b> <b>£106.4m – £430.2m</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>£268.3m</b>
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What is the geographic coverage of the policy/option?		GB and REZ	
On what date will the policy be implemented?		December 2008	
Which organisation(s) will enforce the policy?		Ofgem / BERR	
What is the total annual cost of enforcement for these organisations?		£ Not known	
Does enforcement comply with Hampton principles?		Yes	
Will implementation go beyond minimum EU requirements?		N/A	
What is the value of the proposed offsetting measure per year?		£ N/A	
What is the value of changes in greenhouse gas emissions?		See Table 7	
Will the proposal have a significant impact on competition?		Yes	
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0
Are any of these organisations exempt?	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)	
Increase of	£ Not known	Decrease of	£ Not known
<b>Net Impact</b>		£ Not known	

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

<b>Policy Proposals 3</b>	<b>Description: Transitional arrangements</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>	Description and scale of <b>key monetised costs</b> by 'main affected groups' OFTOs bidding costs have been estimated at £0.25m - £1m / project. Average Ofgem costs for running the tender process are estimated to be c. £0.5m / project. The total costs of £11m – £39.8m are dependent on the complexity of projects and number of projects and bidders.
	<b>One-off</b> (Transition) <span style="float: right;">Yrs</span>	
	<b>Average Annual Cost</b> (excluding one-off)	
	<b>£ £5.5m – £19.9 m/yr</b> <span style="float: right;">2</span>	
<b>Total Cost (PV)</b>		<b>£ 10.8m – £39.1m</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may be potential costs to OFTO's/developers and affected 3rd parties under the transfer scheme proposals. Further thinking on transitional arrangements will be covered in Ofgem's Consultation Document.		

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>	Description and scale of <b>key monetised benefits</b> by 'main affected groups' The certainty these arrangements will bring may mean that projects are more likely to proceed more quickly. There may be savings £69.2m - £224m in terms of a competitive tender process, the shadow price of carbon and a reduced need for CCGT generation.
	<b>One-off</b> <span style="float: right;">Yrs</span>	
	<b>Average Annual Benefit</b> (excluding one-off)	
	<b>£34.6m- £112m/yr</b> <span style="float: right;">2</span>	
<b>Total Benefit (PV)</b>		<b>£68m – £220.2m</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' The generator being the OFTO of last resort reduces the chances of there being no OFTO willing to adopt the transmission assets. Implementing a compulsory transfer of assets if commercial negotiations between a developer and OFTO fail or fail to make adequate progress is likely to reduce potential delays and lead to reduced losses as a result of increased generator income. Developers will be guaranteed to receive 100% of the efficient costs they incur, therefore providing a key incentive for the development of efficient offshore windfarms.		

**Key Assumptions/Sensitivities/Risks** There may be 3-5 bidders for each of 7 transitional projects. Further details on the assumptions of the tender costs, benefits of a competitive tender process, shadow price of carbon savings and the reduced need for CCGT generation are at paragraph 5.33. The benefits of the competitive tender process here are the same as those already counted under the enduring tender arrangements.

Price Base Year 2007	Time Period Years 2	<b>Net Benefit Range (NPV)</b> <b>£28.9m - £209.4m</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>£119.1m</b>
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What is the geographic coverage of the policy/option?	GB and REZ				
On what date will the policy be implemented?	December 2008				
Which organisation(s) will enforce the policy?	Ofgem / BERR/ CAT				
What is the total annual cost of enforcement for these organisations?	£ 80k / appeal				
Does enforcement comply with Hampton principles?	Yes				
Will implementation go beyond minimum EU requirements?	N/A				
What is the value of the proposed offsetting measure per year?	£ N/A				
What is the value of changes in greenhouse gas emissions?	See Table 7				
Will the proposal have a significant impact on competition?	Yes				
Annual cost (£-£) per organisation (excluding one-off)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Micro <b>0</b></td> <td style="width: 25%; text-align: center;">Small <b>0</b></td> <td style="width: 25%; text-align: center;">Medium <b>0</b></td> <td style="width: 25%; text-align: center;">Large <b>0</b></td> </tr> </table>	Micro <b>0</b>	Small <b>0</b>	Medium <b>0</b>	Large <b>0</b>
Micro <b>0</b>	Small <b>0</b>	Medium <b>0</b>	Large <b>0</b>		
Are any of these organisations exempt?	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">No</td> </tr> </table>	No	No	No	No
No	No	No	No		

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)
Increase of	£ Not known	Decrease of
	£ Not known	<b>Net Impact</b>
		£ Not known

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

<b>Policy Proposals 4</b>	<b>Description: Connection application process</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>	Description and scale of <b>key monetised costs</b> by 'main affected groups' Deposits and user commitment fees required by Ofgem from generators to cover the costs of initiating the connection and running the associated tender process. The opportunity cash cost of this is £1.44m or £60k / project.				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;"><b>One-off</b> (Transition)</td> <td style="width: 30%; text-align: center;"><b>Yrs</b></td> </tr> <tr> <td style="background-color: #ffffcc; height: 20px;"></td> <td style="text-align: center;">6</td> </tr> </table>		<b>One-off</b> (Transition)	<b>Yrs</b>		6
	<b>One-off</b> (Transition)		<b>Yrs</b>			
			6			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;"><b>Average Annual Cost</b> (excluding one-off)</td> <td style="width: 30%;"></td> </tr> <tr> <td style="background-color: #ffffcc;">£0.24m / yr</td> <td style="text-align: center;">6</td> </tr> </table>	<b>Average Annual Cost</b> (excluding one-off)		£0.24m / yr	6		
<b>Average Annual Cost</b> (excluding one-off)						
£0.24m / yr	6					
<b>Total Cost (PV)</b>		<b>£ 1.3m</b>				
Other <b>key non-monetised costs</b> by 'main affected groups' The GBSO will also face additional costs of providing information to bidders, which will assist the selection process, and feeds into the connection process given that the final connection offer will be based on information from the OFTO.						

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>	Description and scale of <b>key monetised benefits</b> by 'main affected groups' If only serious players initiate the process it may reduce unnecessary delays and costs in the connection and tender process and may improve utilisation of the transmission system . Minimising connection delays may have benefits of £15.27m - £38.16m in terms of the shadow price of carbon savings and a reduced need for CCGT generation.				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;"><b>One-off</b></td> <td style="width: 30%; text-align: center;"><b>Yrs</b></td> </tr> <tr> <td style="background-color: #ffffcc; height: 20px;"></td> <td style="text-align: center;">6</td> </tr> </table>		<b>One-off</b>	<b>Yrs</b>		6
	<b>One-off</b>		<b>Yrs</b>			
			6			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;"><b>Average Annual Benefit</b> (excluding one-off)</td> <td style="width: 30%;"></td> </tr> <tr> <td style="background-color: #ffffcc;">£2.5m – £6.4m / yr</td> <td style="text-align: center;">6</td> </tr> </table>	<b>Average Annual Benefit</b> (excluding one-off)		£2.5m – £6.4m / yr	6		
<b>Average Annual Benefit</b> (excluding one-off)						
£2.5m – £6.4m / yr	6					
<b>Total Benefit (PV)</b>		<b>£13.8m – £35.3m</b>				
Other <b>key non-monetised benefits</b> by 'main affected groups' Keeping the process similar to that which is used onshore may also bring benefits in terms of time-savings and lower costs.						

**Key Assumptions/Sensitivities/Risks** Assumed that 24 projects seek connection over 6 years with 4 projects / year. The cost of seeking a connection is the opportunity cash cost. There is a risk that projects may fail during the tender process and there is a need to enable costs to be recovered via the generator commitment. Assumed that 3 projects are connected 3 months more quickly.

Price Base Year 2007	Time Period Years 6	<b>Net Benefit Range (NPV)</b> <b>£12.5m – £34m</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>£23.3m</b>
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What is the geographic coverage of the policy/option?		GB and REZ		
On what date will the policy be implemented?		December 2008		
Which organisation(s) will enforce the policy?		Ofgem		
What is the total annual cost of enforcement for these organisations?		£ Not known		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		N/A		
What is the value of the proposed offsetting measure per year?		£ N/A		
What is the value of changes in greenhouse gas emissions?		See Table 7		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)		
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b> £ Not known

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

<b>Policy Proposals 5</b>	<b>Description: Connection via distribution networks</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' It has not been possible to quantify the key costs of the proposals at this time. The costs of this work will need to be assessed in light of findings of the Embedded Transmission working group which will consider how the current arrangements for large embedded power stations should apply to embedded transmission connections.		
	<b>One-off</b> (Transition)	Yrs			
	£ Not known				
	<b>Average Annual Cost</b> (excluding one-off)				
	£ Not known			<b>Total Cost (PV)</b>	£ Not known
Other <b>key non-monetised costs</b> by 'main affected groups' Basing offshore arrangements on current onshore arrangements should minimise additional costs.					

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' It has not been possible to quantify the key benefits of the proposals at this time. These issues will be taken forward by the Embedded Transmission Working Group.		
	<b>One-off</b>	Yrs			
	£ Not known				
	<b>Average Annual Benefit</b> (excluding one-off)				
	£ Not known			<b>Total Benefit (PV)</b>	£ Not known
Other <b>key non-monetised benefits</b> by 'main affected groups' These arrangements will allow more design options for the connection of offshore transmission systems to be considered. Benefits are expected in terms of costs of connections given that distribution networks are generally closer to the coastline than the transmission network.					

**Key Assumptions/Sensitivities/Risks** There is not a direct equivalent in the onshore arrangements to an embedded transmission connection.

Price Base Year 2007	Time Period Years	<b>Net Benefit Range</b> (NPV) £ Not known	<b>NET BENEFIT</b> (NPV Best estimate) £ Not known
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What is the geographic coverage of the policy/option?				GB and REZ	
On what date will the policy be implemented?				December 2008	
Which organisation(s) will enforce the policy?				Ofgem	
What is the total annual cost of enforcement for these organisations?				£ Not known	
Does enforcement comply with Hampton principles?				Yes	
Will implementation go beyond minimum EU requirements?				N/A	
What is the value of the proposed offsetting measure per year?				£ N/A	
What is the value of changes in greenhouse gas emissions?				£ See Table 7	
Will the proposal have a significant impact on competition?				No	
Annual cost (£-£) per organisation (excluding one-off)		Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?		No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)				(Increase - Decrease)	
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b>	£ Not known

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

Policy Proposals 6

Description: Charging, Access and Compensation

<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' There may be costs to OFTOs and generators to comply with the requirements but these are likely to be consistent with those required onshore. It has not been possible to quantify the key costs of the proposals at this time. There is significant work ongoing in these 3 areas which will continue to be taken forward by Ofgem and NGET in consultation with industry.	
	<b>One-off</b> (Transition)	<b>Yrs</b>		
	<b>£ Not known</b>			
	<b>Average Annual Cost</b> (excluding one-off)			
	<b>£ Not known</b>		<b>Total Cost (PV)</b>	<b>£ Not known</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may be costs to generators and OFTOs in setting up systems to comply with the requirements and are likely to be similar to those onshore. Further work on these issues is being taken forward by Ofgem and NGET.				

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' The benefits of complying with the requirements in these 3 areas may be significant given the penalties for failure to do so. It has not been possible to quantify the key benefits of the proposals at this time. These issues will be taken forward by Ofgem and NGET in consultation with industry.	
	<b>One-off</b>	<b>Yrs</b>		
	<b>£ Not known</b>			
	<b>Average Annual Benefit</b> (excluding one-off)			
	<b>£ Not known</b>		<b>Total Benefit (PV)</b>	<b>£ Not known</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' There may be significant benefit in terms of time-savings, clarity of understanding and therefore lower costs in keeping the processes similar to those which are used onshore.				

**Key Assumptions/Sensitivities/Risks** Existing onshore arrangements will be used or adapted unless there is good reason not to do so. Further detail on the broad assumptions used in developing the proposals are set out in the July 2007 Policy Statement and in Ofgem's Consultation Document.

Price Base Year 2007	Time Period Years	<b>Net Benefit Range</b> (NPV) <b>£ Not known</b>	<b>NET BENEFIT</b> (NPV Best estimate) <b>£ Not known</b>	
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What is the geographic coverage of the policy/option?		GB and REZ		
On what date will the policy be implemented?		December 2008		
Which organisation(s) will enforce the policy?		Ofgem		
What is the total annual cost of enforcement for these organisations?		£ N/K		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		N/A		
What is the value of the proposed offsetting measure per year?		£ N/A		
What is the value of changes in greenhouse gas emissions?		See Table 7		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)				(Increase - Decrease)
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b>
				<b>£ Not known</b>

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

<b>Policy Proposals 7</b>	<b>Description: Technical Rules</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' There may be costs for generators to comply with offshore Grid Code; costs for OFTO to comply with GBSQSS and STC; costs for NGET to satisfy itself of compliance and provide information to allow others to achieve compliance. This level of these costs will be sought in further work with industry.
	<b>One-off</b> (Transition)	<b>Yrs</b>	
	£ Not known		
	<b>Average Annual Cost</b> (excluding one-off)		
	£ Not known		
		<b>Total Cost (PV)</b>	£ Not known
Other <b>key non-monetised costs</b> by 'main affected groups' There may be costs to generators and OFTOs associated with the allocation of technical requirements which currently apply to offshore developers at the onshore connection point.			

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by main affected groups A key objective of the technical rules is to protect the security of the electricity system and facilitate competition in generation and supply. The benefits of complying with the technical rules are significant given the penalties for failure to do so. Further information is needed to quantify the benefits of introducing a 10MW threshold for large power stations offshore and the lower security standard needed for offshore transmission systems.
	<b>One-off</b>	<b>Yrs</b>	
	£ Not known		
	<b>Average Annual Benefit</b> (excluding one-off)		
	£ Not known		
		<b>Total Benefit (PV)</b>	£ Not known
Other <b>key non-monetised benefits</b> by 'main affected groups' The approach of using existing onshore technical rules unless there is good reason not to do so is likely to have benefits in terms of minimising additional costs. The use of existing industry modification processes to implement changes to codes is likely to be beneficial to all players in terms of keeping costs down.			

**Key Assumptions/Sensitivities/Risks** The basic approach is that existing onshore technical rules should be applied offshore unless there is good reason not to do so. There is significant ongoing work to be done to review and consider the relevant technical rules and codes and their application to the offshore environment. The work is being led by Ofgem / BERR with assistance of industry participants familiar with normal governance arrangements.

Price Base Year 2007	Time Period Years	<b>Net Benefit Range</b> (NPV) <b>£ Not known</b>	<b>NET BENEFIT</b> (NPV Best estimate) <b>£ Not known</b>
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What is the geographic coverage of the policy/option?		GB and REZ		
On what date will the policy be implemented?		December 2008		
Which organisation(s) will enforce the policy?		Ofgem		
What is the total annual cost of enforcement for these organisations?		£ N/K		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		N/A		
What is the value of the proposed offsetting measure per year?		£ N/A		
What is the value of changes in greenhouse gas emissions?		See Table 7		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)		
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b> £ Not known

Key: Annual costs and benefits: Constant Prices (Net) Present Value

## Summary: Analysis & Evidence

Policy Proposals 8

Description: Implementation issues

<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' There will be costs to BERR to implement the regime via commencement of sections of the Energy Act 2004, and to Ofgem in assisting in developing detailed proposals and licence drafting for the new regulatory regime. Costs may also fall to owners of the industry codes who are assisting with legal drafting. It has not been possible to quantify the detailed costs at this time but it is likely that these costs will be caught under the 'Work Programme' and fall to BERR and Ofgem.	
	<b>One-off</b> (Transition)	<b>Yrs</b>		
	<b>£ Not known</b>			
	<b>Average Annual Cost</b> (excluding one-off)			
	<b>£ Not known</b>		<b>Total Cost (PV)</b>	<b>£ Not known</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may be costs to Ofgem, generators and OFTOs in complying with the new regime in terms of using the existing modification process to implement changes to codes and licences. However, these are likely to be similar to those associated with the onshore regime.				

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' A clear framework that sets out rights and obligations of all parties will protect the security of the system and facilitate competition. It has not been possible to quantify the key benefits of the proposals at this time. This issue will be taken forward by Ofgem and BERR.	
	<b>One-off</b>	<b>Yrs</b>		
	<b>£ Not known</b>			
	<b>Average Annual Benefit</b> (excluding one-off)			
	<b>£ Not known</b>		<b>Total Benefit (PV)</b>	<b>£ Not known</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' Where appropriate existing industry mechanisms should be used which will help to keep processes simple and transparent. Key benefits will be identified in the work taken forward over the coming months.				

**Key Assumptions/Sensitivities/Risks** Wherever possible, changes to codes and licences should be accommodated within the existing framework using existing structures and modification mechanisms. Ofgem is best placed to co-ordinate these issues.

Price Base Year 2007	Time Period Years	<b>Net Benefit Range (NPV)</b> £ Not known	<b>NET BENEFIT (NPV Best estimate)</b> £ Not known
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What is the geographic coverage of the policy/option?	GB and REZ			
On what date will the policy be implemented?	December 2008			
Which organisation(s) will enforce the policy?	Ofgem			
What is the total annual cost of enforcement for these organisations?	£ N/K			
Does enforcement comply with Hampton principles?	Yes			
Will implementation go beyond minimum EU requirements?	N/A			
What is the value of the proposed offsetting measure per year?	£ N/A			
What is the value of changes in greenhouse gas emissions?	See Table 7			
Will the proposal have a significant impact on competition?	No			
Annual cost (£-£) per organisation (excluding one-off)	Micro 0	Small 0	Medium 0	Large 0
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)			(Increase - Decrease)		
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b>	£ Not known

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

## Summary: Analysis & Evidence

<b>Policy Proposals 9</b>	<b>Description: Work programme</b>
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<b>COSTS</b>	<b>ANNUAL COSTS</b>		Description and scale of <b>key monetised costs</b> by 'main affected groups' The main costs will be Ofgem / BERR costs of taking forward the work programme and undertaking the necessary policy development over the next 12 months. This will include staff and legal and technical consultancy costs.
	<b>One-off</b> (Transition)	<b>Yrs</b>	
	<b>Average Annual Cost</b> (excluding one-off)		
	<b>£ 0.88m / year</b>	<b>2</b>	
<b>Total Cost (PV)</b>			<b>£ 1.73m</b>
Other <b>key non-monetised costs</b> by 'main affected groups' There may also be costs to NGET and industry as a result of engagement in the work programme via working groups on codes, licences and regulations and in responding to consultation documents.			

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		Description and scale of <b>key monetised benefits</b> by 'main affected groups' As the Government has decided to adopt a licenced approach, if this work were not carried out the regime as envisaged would not develop. This may mean total costs of c. £1bn based on shadow price of carbon savings and the extra costs of fuel needed for CCGT generation in lieu of 7 GW of offshore wind generation as projects may be slower to be developed.
	<b>One-off</b>	<b>Yrs</b>	
	<b>Average Annual Benefit</b> (excluding one-off)		
	<b>£142m</b>	<b>7</b>	
<b>Total Benefit (PV)</b>			<b>£900m</b>
Other <b>key non-monetised benefits</b> by 'main affected groups' The benefits of the regime as a whole will be felt by the offshore renewable generation sector and associated industrial sectors. There will be significant benefit to UK consumers in terms of renewable energy generation leading to reduced carbon emissions and increased security of energy supply through more diverse energy sources.			

**Key Assumptions/Sensitivities/Risks** It is assumed that the main costs in developing the regime are BERR / Ofgem staff costs and related technical and legal consultancy and NGET and code owner costs. It is assumed that industry will continue to play an active role in the development of the regime in terms of responding to consultations and participating in the work streams throughout the development process.

Price Base Year 2007	Time Period Years 10	<b>Net Benefit Range (NPV)</b> <b>c. £898m</b>	<b>NET BENEFIT (NPV Best estimate)</b> <b>c. £898m</b>
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What is the geographic coverage of the policy/option?		GB and REZ		
On what date will the policy be implemented?		December 2008		
Which organisation(s) will enforce the policy?		N/A		
What is the total annual cost of enforcement for these organisations?		£ Not known		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		N/A		
What is the value of the proposed offsetting measure per year?		£ N/A		
What is the value of changes in greenhouse gas emissions?		See Table 7		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro <b>0</b>	Small <b>0</b>	Medium <b>0</b>	Large <b>0</b>
Are any of these organisations exempt?	No	No	No	No

<b>Impact on Admin Burdens Baseline</b> (2005 Prices)		(Increase - Decrease)		
Increase of	£ Not known	Decrease of	£ Not known	<b>Net Impact</b> £ Not known

Key:

Annual costs and benefits: Constant Prices

(Net) Present Value

# Evidence Base (for summary sheets)

## 1. PURPOSE AND INTENDED EFFECT OF MEASURE

### Objective / Background

- 1.1 The Government is putting in place a framework to encourage the development of generation of electricity from offshore renewable energy sources. The Government expects significant amounts of renewable generation projects situated offshore will be necessary to contribute to the UK's targets and aspirations for increasing the proportion of the country's electricity supply from renewable sources. There are currently plans to develop more than 8 GW of offshore wind in UK waters under Round 1 (R1) and Round 2 (R2) offshore wind leasing rounds, but the Government is also supporting the development of wave and tidal renewable energy devices which are expected to come forward in the longer term.
- 1.2 On 10 December 2007, the Government also announced a Strategic Environmental Assessment of a Draft Plan<sup>1</sup> which will assess the objective of achieving up to 25 GW of offshore wind generation capacity by 2020, on top of the current plans for 8 GW of offshore wind generation. For offshore wind leasing, the SEA will cover the UK territorial waters and adjacent areas where the water depth is around 60m or less, but excluding Scottish and Northern Irish territorial waters, where it is considered that there is limited scope for development and consequently no overarching plan or programme for offshore wind farms.
- 1.3 In Great Britain, these new offshore generating stations will need to connect to the main onshore electricity network (transmission and distribution) in order for the electricity generated to be supplied to end-users, including domestic consumers.
- 1.4 The Energy Act 2004 (EA 2004) provides powers for the Secretary of State to make changes to the codes, agreements and licences for the purposes of regulating offshore electricity transmission and distribution.
- 1.5 Since taking the EA 2004 powers the Government has been working with the Gas and Electricity Markets Authority ("the Authority") to establish an offshore transmission licensing regime to regulate the conveyance of electricity along high voltage lines offshore (defined in the EA 2004 as those with a nominal voltage of 132kV or more) and associated plant and equipment which connect offshore generating stations to the onshore electricity grid.
- 1.6 The July 2007 Policy Statement<sup>2</sup> therefore formed part of the ongoing process by BERR and Ofgem to put in place a regulatory regime for the connection of significant amounts of renewable offshore generation to the onshore electricity network, in a timely and cost effective manner whilst maintaining the integrity of the system as a whole and achieving best value for electricity consumers.
- 1.7 Under the new regime Ofgem, as the regulator of the gas and electricity industries in Great Britain, will be responsible for regulating offshore transmission licensees as it does for onshore transmission network companies.
- 1.8 In March 2006<sup>3</sup> the Government decided that the appropriate model for the regulation of offshore electricity transmission was through a regulated price control approach, extending the principles of the onshore regulated price control approach into the offshore sector.

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<sup>1</sup> <http://www.offshore-sea.org.uk/site/index.php>

<sup>2</sup> <http://www.berr.gov.uk/files/file40629.pdf>

<sup>3</sup> <http://www.berr.gov.uk/files/file27137.pdf>

- 1.9 The Government concluded then that the extension of the current onshore regime offshore was the correct approach to take for licensing offshore transmission because it would:
- Ensure consistency with the regulatory arrangements onshore;
  - Provide assistance to offshore developers by recovering the costs of building offshore grid connections through NGET’s charging methodology – thus spreading the costs they would pay to connect to the onshore grid over a number of years, as happens onshore;
  - Mean that the responsibility for development of the offshore transmission network would not fall to generators alone and instead the risks and costs of developing offshore grid connections would be shared by the System Operator and OFTOs;
  - Ensure a co-ordinated approach to the development of the offshore network, providing an additional environmental benefit, by reducing the unnecessary duplication of transmission assets.
- 1.10 Post commencement of sections 89, 90, 91, 92 and 180 of the Energy Act 2004, participation in the transmission of electricity offshore at voltages of 132kV and above will be a prohibited activity without a licence.
- 1.11 In developing the regime, the Government announced in August 2006 that National Grid’s role as GB System Operator (GBSO) would be extended offshore<sup>4</sup>. As a result NG will be GBSO both onshore and offshore, once the relevant parts of the EA 2004 are commenced and appropriate modifications made to NGET’s licence for those purposes. Until then NGET is acting as offshore GBSO designate and is assisting in the development of the new regime.
- 1.12 In November 2006 DTI published an Open Letter to industry clarifying the regulatory position of high and low voltage offshore connections<sup>5</sup>. In the same month the DTI also published a consultation document which gave notice of, and invited views on, a proposal for the exemption by class of offshore electricity distributors from the requirement to hold a distribution licence<sup>6</sup>.
- 1.13 Also in November 2006 the DTI and Ofgem jointly published a consultation document on the options for licensing the offshore transmission connections between generators located in offshore waters and onshore electricity networks<sup>7</sup>. The document invited views on two possible models for licensing offshore transmission owner (“OFTO”) activities under a price control regime. The two options were (i) multiple non-exclusive licences issued for the offshore area with competition for the right to build, own and operate offshore transmission assets (“non-exclusive approach”), or (ii) awarding licences by competitive tender for specific areas offshore, with the OFTO responsible for connecting all projects in that area (“exclusive approach”).
- 1.14 On 1 March 2007, the Government announced its decision to grant a class exemption for offshore electricity distributors from the requirement to hold a distribution licence<sup>8</sup>.
- 1.15 Later in March 2007, the Government announced its decision on the model of licensing for offshore transmission<sup>9</sup>. The Government announced that it had concluded that the non-exclusive approach (licences awarded by competitive tender for specific offshore transmission assets) was the most appropriate model for licensing offshore transmission. In reaching its decision the Government concluded that this approach will deliver cheaper and more timely grid connections; encourage innovation through competition and enable

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<sup>4</sup> <http://www.berr.gov.uk/files/file32874.pdf>

<sup>5</sup> <http://www.berr.gov.uk/files/file35598.pdf>

<sup>6</sup> <http://www.berr.gov.uk/files/file35593.pdf>

<sup>7</sup> <http://www.berr.gov.uk/files/file35530.pdf>

<sup>8</sup> <http://www.berr.gov.uk/files/file38027.pdf>

<sup>9</sup> <http://www.berr.gov.uk/files/file38705.pdf>

new entrants to compete in the market; be more focused on generator's requirements than the onshore system or the exclusive approach; and enable generators to bid to own their transmission assets if they wish, subject to unbundling requirements compliant with EU legislation.

- 1.16 The day after publication of the March 2007 Government response, Ofgem published a second Scoping Document<sup>10</sup> providing a detailed overview of how it intended, in partnership with the Government and industry, to develop and deliver an offshore regulatory regime.
- 1.17 The Ofgem document set out a framework to deliver the appropriate changes in accordance with the Government's aims. Essentially it set out a proposed model or "straw man" for the proposed offshore regulatory regime. That straw man was further developed through discussion with industry through work shops and a series of work groups.
- 1.18 That process of discussion and development led to the publication by BERR and Ofgem of the joint Policy Statement on 25 July 2007, and invited stakeholders to comment on the proposals contained in it by 5 September 2007.

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<sup>10</sup>[http://www.ofgem.gov.uk/Networks/Trans/Offshore/ConsultationDecisionsResponses/Documents1/070330\\_2ndOffshoreScopingDoc\\_final\\_am.pdf](http://www.ofgem.gov.uk/Networks/Trans/Offshore/ConsultationDecisionsResponses/Documents1/070330_2ndOffshoreScopingDoc_final_am.pdf)

## 2. CONSULTATION

- 2.1 We will seek agreement from other Government departments before issuing the final consultation on the full detail of the proposed regime in summer 2008.
- 2.2 This consultation<sup>11</sup>, which was part of the ongoing process to introduce a regulatory framework for offshore electricity transmission, was issued on 25 July 2007 and the period for comment closed on 5 September 2007.
- 2.3 Views were sought from stakeholders including offshore wind developers, transmission owners, trade associations, manufacturers and materials and equipment suppliers, consumer bodies and other users of the electricity grid during a 6-week consultation.
- 2.4 The consultation sought further views on a number of specific issues relating to the detail of the tender design, revenue restriction, and connection process and associated technical requirements. This document updates the possible impacts of these options in the light of responses received during the consultation process.
- 2.5 We anticipate moving into a more detailed process of drafting of appropriate modifications to licences, codes and agreements such that final proposals and accompanying documentation may be completed by early next year. The Government will undertake a full consultation in summer 2008. We anticipate that sections 90 and 91 of the Energy Act 2004 should be commenced in October 2008. The Secretary of State will then direct the necessary changes to licences, codes and agreements to implement the new regime.

### Post-consultation update

*In total, we received 26 written responses to the July 2007 Policy Statement. A full list of respondents is at Annex A. Only one response was confidential. The other 25 responses may be viewed on the Ofgem website<sup>12</sup>. The written responses were supplemented by discussions with individual parties. A note of the 10 August 2007 consultation workshop is at Annex D. All responses received, views expressed and questions raised during this process were carefully analysed and considered against the Government's policy aims during the preparation of this IA and the Government Response. A summary of the responses is available in the Government Response.*

*Given the level of detail the consultation process has now reached and the content of responses received it is clear that, in many areas, BERR and Ofgem will need to work through possible approaches with stakeholders before the Government makes final decisions. To that end, Ofgem will publish shortly after the Government Response, a Consultation Document to supplement the decisions taken in the Government Response. The Consultation Document will provide further details of how the regime might work with proposals and options for comment and discussion. In the Government Response, when setting out decisions and highlighting the concerns raised in the consultation we also make clear what will be covered in more detail by the Consultation Document.*

*The need to take additional powers in the Energy Bill means that commencement of sections 90 and 91 of the Energy Act 2004 will now be tied to the Bill timetable, but it will be as close as possible to our original proposed date of October 2008 (which we currently expect to be no later than December 2008).*

### Previous Public Consultations

- 2.5 Details of previous related public consultations can be found on the BERR website<sup>13</sup>.

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<sup>11</sup> <http://www.berr.gov.uk/files/file40629.pdf>

<sup>12</sup> <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=58&refer=Networks/Trans/Offshore/ConsultationDecisionsResponses>

<sup>13</sup> <http://www.berr.gov.uk/energy/sources/renewables/policy/offshore-transmission/consultations/page42095.html>

### 3 REGULATORY BURDENS AND COMPENSATORY SIMPLIFICATION

- 3.1 There is a need to create regulation of electricity transmission in the marine environment. This will give the structure, standards and certainty required by an emerging area of energy resource development, and facilitate its connection to the onshore grid in a manner that ensures the integrity of the whole system is maintained.
- 3.2 Previous related RIAs have discussed the need for regulation in this area. Details of measures to reduce burdens and compensatory simplification in relation to previous decisions in the development of the offshore transmission regulatory regime are available on the BERR website<sup>14</sup>.
- 3.3 Whilst it is difficult to provide direct compensatory simplification measures, as offshore transmission is currently not regulated in any way, the Government remains committed to minimising the regulatory burden on business.
- 3.4 In designing the regime the Government is implementing a light-touch approach to ensure that regulatory burdens are kept to a minimum. Central to this is the competitive approach to the ownership of offshore transmission assets which the Government believes removes much of the need for regulatory intervention.
- 3.5 Similarly, the Government considers that the proposal to have a 20 year revenue stream for offshore transmission assets (through the price control), as opposed to revenue allowances that are reviewed every 5 years that operates onshore, will ensure that the administrative burden associated with setting of price controls is significantly reduced.
- 3.6 The Government also believes that the proposal that OFTOs will not have to sign up to individual agreements with parties but instead sign a simplified form of the System Operator - Transmission Owner Code (STC) (to allow the Great Britain System Operator (GBSO) to undertake these interactions on their behalf) will also reduce the burdens for those in the offshore environment.
- 3.7 The basic premise in designing the offshore regime is that it should, wherever possible, mirror the onshore regime. If the process remains recognisable and players are familiar with the operation of the regime, it is more likely that burdens, costs and delays will be minimised as they will not have to become familiar with new products, systems and mechanisms. For example:
  - The existing access product, Transmission Entry Capacity (TEC) will be adapted for offshore and any further access products that are required to reflect features of intermittent generation will be progressed outside of the project through existing industry change mechanisms as these are not offshore-specific.
  - National Grid Electricity Transmission (NGET), as onshore GBSO and offshore GBSO designate, will develop offshore charging arrangements, using the current GB charging methodology as a basis for developing offshore arrangements.
  - Compensation arrangements will be aligned with the access product and level of infrastructure available, using the principles of cost-reflectivity. Changes from onshore arrangements will be minimal.
- 3.8 In particular, it is the intention of the Government that the tender process should be streamlined to reduce the administrative burdens and potential costs.

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<sup>14</sup> <http://www.berr.gov.uk/energy/sources/renewables/policy/offshore-transmission/consultations/page42095.html>

- The tender process will have expressions of interest and pre-qualification stages which will ensure that not all bidders will have to submit full detailed responses to the invitation to tender;
- Clear and detailed instructions and information requirements will ensure that bidders are aware of exactly what information is required which will reduce the need for clarification which should reduce delays and costs;
- Provision of shared information to all bidders will reduce burdens of bidding. For example a single seabed survey will be carried out and provided to all bidders; and
- Use of an annual tender application window may reduce the burden as it will enable better planning of bids and reduce costs as opportunities to bid are condensed. It will also allow better co-ordination of the transmission system which will reduce costs in the longer term.

3.9 As a result of the 2006 Energy Review and 2007 Energy White Paper, BERR is engaged in a parallel process of wider simplification measures on a range of issues which will reduce the overall regulatory burden.

#### Post-consultation update

*The Government recognises the concerns that respondents had regarding the complexity of the regime that is being put in place. Whilst it must be recognised that any regulated regime is likely to be complex, the Government is keen to ensure that it is not unnecessarily so and that it enables the timely delivery of economic and efficient transmission connections. The Government remains of the view that the proposals outlined above will ensure that regulatory and administrative burdens are kept to a minimum.*

*The Government Response and Ofgem's Consultation Document set out in more detail how it is intended that the regime will operate and includes further detail on the tender process such as:*

- *The documentation required at each stage of the tender process;*
- *The key activities of each party;*
- *The criteria against which bids will be assessed;*

*The Government will also seek to ensure that the need to minimise regulatory burdens will be borne in mind during the development of the proposals and the work described in Ofgem's Consultation Document.*

## 4. PROPOSALS

4.1 In developing the policy proposals for each of the issues in the July 2007 Policy Statement, the Government was mindful of the issues and policy questions that need to be addressed as set out in Ofgem's March 2007 Scoping Document<sup>15</sup>. The Government took into account the responses received to this Scoping Document<sup>16</sup> and the subsequent development of these issues through work streams and industry work shops since the publication of the Government decision in March 2007.

### Description of proposals for consultation

4.2 The proposals that were consulted upon in the July 2007 Policy Statement were in the following areas;

- Design of regulatory regime;
- Enduring competitive framework;
- Transitional arrangements;
- Connection application process;
- Connection via distribution networks;
- Charging, Access and Compensation;
- Technical rules; and
- Implementation issues

### Post-consultation update

*The Government Response sets out further details and rationale on each of the key decisions which largely completes the high level design of the new regime for licensing offshore electricity transmission. The key decisions taken are:*

- *That Ofgem will be the body that runs the competitive tender process to determine who will be appointed as new licensed OFTOs;*
- *However, the current methods of recovering Ofgem's costs are not appropriate for the purposes of running efficient and effective tenders for offshore transmission assets. The Government is therefore seeking additional powers in the forthcoming Energy Bill to allow Ofgem to recover its costs of running the tender process and ensure sufficient commitment to the tender process from parties participating in the tender (in most cases the, generator-developer and potential OFTOs).*
- *There was general support for our proposals for transitional arrangements to enable projects already built or under construction by developers to move to the new regulatory arrangements, where a separate licensed offshore transmission will be responsible for operating and maintaining the offshore transmission assets;*
- *That the Government will also seek time-limited powers in the Energy Bill to enable the Authority, once an OFTO licence has been granted, to make a property transfer scheme in order to ensure that property is transferred from the developer to the successful OFTO in a fair, timely and effective manner. The Authority will only have the power to do so in certain circumstances (which it is envisaged will arise when commercial negotiations fail) and upon application;*

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<sup>15</sup> Offshore Electricity Transmission – Second Ofgem Scoping Document – March 2007  
[http://www.ofgem.gov.uk/Networks/Trans/Offshore/ConsultationDecisionsResponses/Documents1/070330\\_2ndOffshoreScopingDoc\\_final\\_am.pdf](http://www.ofgem.gov.uk/Networks/Trans/Offshore/ConsultationDecisionsResponses/Documents1/070330_2ndOffshoreScopingDoc_final_am.pdf)

<sup>16</sup> Offshore Electricity Transmission - Second Ofgem Scoping Document March 2007 - Responses  
<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=32&refer=Networks/Trans/Offshore/ConsultationDecisionsResponses>

- *That the new regime will Go-Active as soon as reasonably practicable after commencement of the Energy Bill provisions mentioned above. This will be as close as possible to our original intended Go-Active date of October 2008 (which we currently expect to be no later than December 2008); and*
- *If the date of Go-Active is delayed, then the date of Go-Live will also be delayed to allow one year for tenders to provide a sufficient period for developers meeting criteria for transitional projects to have comfort that relevant OFTOs will be appointed before the new regime comes into effect; and*
- *In addition, the Government considers that the offshore transmission regime should include an OFTO of last resort mechanism for transitional projects, subject to regulatory safeguards, in cases where the tender process fails to deliver a new OFTO to take over the assets. To that end, the Government has asked the Authority to design an appropriate regulatory framework to take this into account.*

*Ofgem will shortly be publishing a further Consultation Document which sets out the framework for the work to be undertaken and the detailed issues that remain to be resolved. Further development of the detail of the new regime will be addressed through further work streams and discussions with stakeholders.*

### **Do nothing option**

4.3 The Government had previously concluded that the option not to regulate i.e. do nothing was neither a practical nor a legal possibility<sup>17</sup>. This was further confirmed during the ‘Licencing Offshore Transmission’ consultation<sup>18</sup>. The Government remains of this view and this option should not therefore be considered further.

### **Post-consultation update**

*There was no significant evidence in the responses received to the Policy Statement that the ‘do nothing’ option should be seriously re-considered. The Government therefore continues to discount this option.*

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<sup>17</sup> <http://www.berr.gov.uk/files/file27138.pdf>

<sup>18</sup> <http://www.berr.gov.uk/files/file38704.pdf>

## **Costs and Benefits**

### **Sectors and groups affected**

- 4.4 In its broadest context, the new regulatory regime will affect all electricity suppliers and generators in Great Britain, particularly the renewable energy industry, offshore and onshore transmission and distribution companies and ultimately, all consumers of electricity in Great Britain. However, consumers are only likely to be affected by this measure to the extent that it leads to changes in the prices they pay for electricity.
- 4.5 Previous RIAs<sup>19</sup> concerning the development of the offshore electricity transmission regime have set out in detail the sectors and groups affected and the possible impact that the development of these policies may have.
- 4.6 The Government believes that as this latest consultation is concerned with further development of previously agreed policy decisions, the sectors and groups affected remain unchanged.

### **Post-consultation update**

*There were no responses to the consultation that suggested that the sectors and groups identified as being affected were incorrect.*

### **Costs and benefits of each consultation option**

- 4.7 A post-consultation update of the possible economic, environmental and social costs and benefits of each proposal consulted upon is available at Annex B.

### **Summary of the economic, environmental and social costs and benefits of each option**

#### **Economic costs and benefits**

- 4.8 The proposals being consulted upon will have significant economic benefits for all participants across the offshore renewable generation sector – generators, TOs, suppliers, users and consumers – in that they will allow the development of offshore renewable generation projects.
- 4.9 A light touch approach to regulation, which has the basic premise of applying onshore systems to the offshore environment where possible, will help to ensure that the costs are kept to a minimum and is more likely to ensure a timely delivery of the regulatory regime.
- 4.10 The proposals outlined in respect of the competitive tender process, where the Government has sought to reduce the number of stages, will ensure that offshore transmission connections are more likely to be delivered at the lowest cost, to an appropriate standard and in a timely basis by a process which encourages innovation in technical, financial and commercial approaches. The proposal to have a 20 year price control offshore will ensure that the ongoing administrative burdens traditionally associated with an onshore price control are significantly reduced. Furthermore, the Government believes that the proposed approaches to the technical aspects of the regime will benefit from being closely aligned to the onshore process in terms of lower costs and overall efficiencies.
- 4.11 There will be costs to those involved in the new regime in terms of participating in the competitive approach and complying with the technical requirement of the new regime. It is important that these costs are proportionate and do not discourage new entrants to the

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<sup>19</sup> <http://www.berr.gov.uk/energy/sources/renewables/policy/offshore-transmission/offshoretransmissionpreviouswork/page39714.html>

sector as this may impact on the ability of the regime to deliver a cost-effective, competitive solution to the required timescales.

#### Post-consultation update of key benefits of the regime

*The Government considers that the regime being developed provides considerable benefits to offshore generators and OFTOs. It provides certainty over technical, licence and regulatory requirements, clarity on the tender information required from bidders for OFTO licences as well as a transparent bidding process. Generators will not be required to finance their own transmission infrastructure under the enduring regime. Under the transitional regime, generators will not have to take responsibility for operating or financing the transmission assets after completion since these responsibilities will be passed to OFTOs. Once appointed, an OFTO will receive a stable and regulated income for the agreed period of the revenue stream. Successful OFTO bidders for transitional schemes will also have reduced construction risk.*

*The regime as developed also makes clear the allocation of risk between the three primary stakeholders - these are the OFTOs, the offshore generator and consumers / network users (via the GBSO). Under the enduring regime the OFTO will bear and manage design, construction, operational, financing and decommissioning risks related to transmission assets. For their part, consumers and network users, via the GBSO will provide payment security and share the stranding risk with the offshore generator.*

#### Post-consultation update of economic costs and benefits

*In quantitative terms the Net Benefit (NPV Best estimate) suggests, that for the areas of the regulatory regime, the enduring and transitional tender process and connection application process, the economic benefits of the proposals amount to c. £375m. It is recognised however, that the costs and benefits in a number of the more technical areas have yet to be developed but the Government is of the opinion that notwithstanding these, the regime is likely to deliver significant economic benefits.*

*In considering the responses to the consultation, the general view was that although the proposed regime was complex it was a workable solution and would deliver transmission connections within the necessary time frame. In terms of the design of the regulatory regime there were concerns about the period of revenue stream that was chosen. However, the Government and Ofgem will consider this issue further prior to publishing final proposals. There were also concerns regarding the balance of risk that each player would have to bear and similarly that it was important that any penalty/incentive regime was not too onerous.*

*In terms of the enduring competitive process respondents were generally supportive of the proposed process but that it could be further simplified which would also help to reduce the length of time required for the process. The key concerns were surrounding how the process would interact with the connection and application process, the merits of the annual tender application window and how costs would be borne amongst those involved in the process. There were also concerns regarding the level of involvement that the generator would have in the tender process and in particular generator-affiliates. However, the Government is of the opinion that these concerns can be resolved and these are discussed further in the Government Response and Ofgem's Consultation Document.*

*The key concern surrounding the transitional arrangements was that the 75% ex-ante guarantee was insufficient and that this would add unnecessary risk to projects. However, the Government remains of the opinion that a 75% ex-ante and a minimum of 100% ex-post costs will provide sufficient comfort to developers whilst ensuring that the interests of consumers are protected. This issue is discussed further in the Government Response.*

#### Environmental costs and benefits

4.12 The proposals are more likely to encourage offshore renewable generation which will have significant positive environmental impacts in terms of CO<sub>2</sub> emission reductions. A

competitive approach is more likely to deliver innovative solutions which may reduce negative environmental impacts.

- 4.13 The Government, however, remains aware that there is a need to ensure there is sufficient co-ordination to ensure that offshore transmission connections have a minimal environmental impact. The Government is mindful that this co-ordination does not lead to significant delays to early Round 2 offshore wind projects as this may lead to negative environmental impacts in terms of lost CO<sub>2</sub> emission reduction. Similarly, the Government is mindful of the negative impact that any delays in implementing the new regime will have and considers that the proposals strike the appropriate balance.

#### Post-consultation update of environmental costs and benefits

*The Government considers that the decisions taken and the further work identified will help to ensure that the significant environmental benefits possible through the deployment of offshore renewable generation are achieved. Whilst there were no new environmental costs and benefits identified in the consultation responses, the Government remains committed to ensuring that the environmental costs and benefits continue to be considered during the development of the regulatory regime.*

#### Social costs and benefits

- 4.14 The proposals which will encourage offshore renewable generation will have a significant social benefit through a reduction in CO<sub>2</sub> emissions and increased diversity of the energy mix both in terms of fuel type and geographic source. The Government believes that the proposals will minimize the costs of delivering offshore transmission assets and lower costs are less likely to lead to an increase in the numbers living in fuel poverty.

#### Post-consultation update of social costs and benefits

*Whilst there were no new significant social costs and benefits identified in the consultation responses, the Government remains committed to ensuring that the regulatory regime does not impose significant costs to consumers and these issues will continue to be considered during the further development of the regulatory regime.*

## **5. Analysis and explanation of costs and benefits outlined in the Summary Analysis and Evidence Pages**

- 5.1 This section focuses on an explanation of the key costs and benefits set out in the summary analysis and evidence pages which relate to the main Government decisions and areas where further work is required and decisions have therefore yet to be taken.
- 5.2 It describes the key costs and benefits in the summary analysis and evidence pages and then provides the background assumptions that have been used in developing those figures (the detailed rationale behind these assumptions can be found at Annex C). Where necessary, there is then further discussion and explanation of these costs and benefits. Please note that the figures and estimates used are based on best current information and in some cases final costs may differ. Only total combined costs for each set of proposals are presented in Present Value terms.
- 5.3 It also sets out in more detail the key non-monetised costs and benefits of the decisions taken or the proposed way forward.
- 5.4 The Government recognises that there is still significant work to be done, particularly in the more technical areas and this has meant that it has not been possible to take decisions on every proposal that was consulted upon. Consequently, it has not been possible to quantify the costs and benefits in as much detail as was hoped. However, this IA attempts to provide as far as possible the costs and benefits and an explanation of how these issues will be taken forward are given in the relevant paragraphs.

## Design of Regulatory Regime

5.5 The costs and benefits laid out in the Summary Analysis and Evidence page are:

- The costs of Ofgem assessing and setting the revenue stream; and
- The benefits of the revenue stream being set for at least 20 years.

### Assumptions

- A maximum of 24 projects (under Rounds 1 & 2) over 6 years may need an assessment and setting of a revenue stream (Annex C lists these projects).
- The revenue stream for projects will be set for a minimum of 20 years;
- A regular 5-year review of price controls as carried out onshore costs both Ofgem and the transmission licencees c. £3.5m / review each. Whilst it has been assumed that the costs offshore would be comparable to those onshore it is possible that there could be a greater number of TOs offshore than the three that exist onshore. While a five yearly review process for offshore transmission might be expected to be less complex than onshore given that there will be fewer assets, the costs of undertaking the process may still be significant given the different characteristics of each offshore transmission project;
- Ofgem estimate that their costs for assessing and setting the revenue stream will be c. £50k / project but this will be dependent on the size and complexity of a project;

5.6 As the revenue stream will be set for the lifetime of the project there will be no need for this to be re-assessed every 5 years as currently happens onshore. This may mean combined net present value savings of £19.2m for Ofgem and potential OFTOs when compared to an alternative approach where three full 5-year price control reviews would be required.

### Non-monetised costs and benefits / other issues

5.7 There will be some costs to OFTOs and generators in providing Ofgem with information required to enable the 20 year revenue stream to be calculated. However, it is anticipated that these costs will be negligible as the majority of the information will be available as a result of the tender process. There will also be some annual costs to OFTOs in complying with the requirements of the revenue stream but these are not expected to be significant.

5.8 There will be benefits in terms of certainty as generators will know earlier what the costs of their assets will be and the costs of re-paying them over their lifetime. The certainty of having a guaranteed revenue stream for at least 20 years is also more likely to make the offshore transmission owner market a more attractive proposition and may encourage new entrants which may lead to a more competitive market.

5.9 The Government considers that a penalty/incentive regime is more likely to lead to improved performance which will have benefits for generators as the loss of income as a result of poorly performing transmission assets is likely to be reduced. This issue is discussed further in Ofgem's Consultation Document.

5.10 The Government considers that maintaining a degree of flexibility in relation to pre-defined adjustment mechanisms will have significant benefits as it will enable the most effective solution to be delivered in relation to the particular circumstances. Ofgem will consult further on this issue.

5.11 The Government considers that further work is required on the allocation of risk. An updated risk matrix and further information is available in Ofgem's Consultation Document.

## Further work

5.12 The Government Response and Ofgem's Consultation Document will set out in further detail how the other issues surrounding the development of the regulatory regime will be taken forward. This will include issues surrounding the role of the OFTO, the period of the revenue stream, end of the licence period arrangements, pre-defined adjustment mechanisms, ring-fencing obligations, performance obligations and incentives, changes to generator requirements including incremental investment and allocation of risk.

## Enduring Competitive Process

5.13 The costs and benefits laid out in the Summary Analysis and Evidence page are focused on:

- Costs to Ofgem of running the enduring tender process;
- Costs to OFTOs of bidding in the tender process (internal costs);
- Benefits of a competitive tender process in terms of the potential reduction in the costs of building offshore transmission assets.

5.14 The Government is of the opinion that the benefits of a competitive tender approach for the provision of transmission assets run by Ofgem are significantly greater than the costs of the process as set out in the proposals.

5.15 The estimated total costs over 6 years are £31.7m – £133.7m (PV £29.23m - £123m) and the potential benefits are £250m – 500m (PV £229.4m – £459.4m). Tables 1 and 2 set out in more detail the possible range of these costs and benefits based on the assumptions below.

### Assumptions

- A maximum of 24 projects (under Rounds 1 & 2) may be put out for tender under the enduring arrangements (Annex C lists these projects). It has been assumed that these projects will be spread out evenly over 6 years. However, it is likely that of these up to 7 projects in 2008/09 and 2009/10 are likely to be tendered under the transitional arrangements outlined at paragraphs 5.29 - 5.42.
- OFTO internal bid costs are based on 3-5 bidders incurring costs of between £0.25m - £1m per bid per project. £1m has been estimated to be the maximum costs and the final costs are likely to be lower as a result of an effective and efficient tender process. It is estimated that the majority of costs will be at the ITT stage and it is envisaged that not all bidders will proceed to this stage.
- Ofgem will make assessments of the tender bids. Their costs include standing running costs for a core team, case team costs and tender assessment costs which include specialist technical, financial and legal costs. Ofgem's costs are likely to reduce as experience of running the tender process increases but we estimate that these average out at c. £0.5m / project over 24 projects. These figures include the costs for the assessment of the revenue stream which have already been mentioned in paragraph 5.5 – 5.12.
- Ofgem costs in 2008/09 are likely to be lower as they will not be for a full year.
- The administrative costs to another body other than Ofgem running the tender process will be significantly higher.
- NAO analysis in 2001 and 2002<sup>20</sup> concluded that the average efficiency gain in projects tendered under the PFI was between 10% and 20%.
- The investment required to connect existing Round 1 & 2 offshore wind projects has been estimated at c. £2.5 billion (c. £105m / project). Potential cost savings may therefore be in the range of £250m - £500m.

5.16 Table 1 outlines the potential costs of the enduring tender process.

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<sup>20</sup> The two National Auditing Office papers are available on its web site, *PFI Construction Performance* (2002) at: [http://www.nao.org.uk/publications/nao\\_reports/02-03/0203371.pdf](http://www.nao.org.uk/publications/nao_reports/02-03/0203371.pdf) and; *Modernising Construction* (2001) at: [http://www.nao.org.uk/publications/nao\\_reports/00-01/000187.pdf](http://www.nao.org.uk/publications/nao_reports/00-01/000187.pdf)

Year	Number of projects	OFTO's internal bid costs	Ofgem tender assessment costs	Total possible costs
2008/09	4	£3m – £20m	£1.8m	£4.8m - £21.8m
2009/10	4	£3m – £20m	£2.8m	£5.8m – £22.8m
2010/11	4	£3m – £20m	£2.8m	£5.8m – £22.8m
2011/12	4	£3m – £20m	£2.1m	£5.1m - £22.1m
2012/13	4	£3m – £20m	£2.1m	£5.1m – £22.1m
2013/14	4	£3m – £20m	£2.1m	£5.1m – £22.1m
<b>Total</b>	<b>24</b>	<b>£18m - £120m</b>	<b>£13.7m</b>	<b>£31.7m – £133.7m</b>

**Table 1: Possible costs of the enduring tender process (OFTO and Ofgem costs)**

5.17 Table 2 outlines the potential savings that may be made as a result of a competitive tender process based on the value of the assets that will be tendered for.

Number of projects	Total possible tender costs	Total transmission asset value (c£105m/project)	Potential savings via a competitive tender process (10%-20%)	Overall savings (potential savings – tender costs)
4	£4.8m - £21.8m	£420m	£42m – £84m	£20.2m - £79.2m
4	£5.8m – £22.8m	£420m	£42m – £84m	£19.2m - £78.2m
4	£5.8m – £22.8m	£420m	£42m – £84m	£19.2m - £78.2m
4	£5.1m - £22.1m	£420m	£42m – £84m	£19.9m - £78.9m
4	£5.1m – £22.1m	£420m	£42m – £84m	£19.9m - £78.9m
4	£5.1m – £22.1m	£420m	£42m – £84m	£19.9m - £78.9m
<b>24</b>	<b>£31.7m – £133.7m</b>	<b>£2520m</b>	<b>£252m - £504m</b>	<b>£119.7m – £459.3m</b>

**Table 2: Potential cost savings of a competitive tender process based on transmission asset value**

5.18 The Government considers that as it has decided that Ofgem should run the tender process it is important that it has sufficient powers to fulfil its role effectively. BERR and Ofgem wish to enable the Authority to have alternative cost recovery mechanisms for costs incurred in respect of offshore transmission tenders and to enable Ofgem to ensure that those who participate (generators and potential OFTOs) in the tender process provide some form of financial commitment to it. This may be required to discourage speculative participation and therefore reduce delay, the risk of increased costs and ultimately the risk of the tender process not being completed (for example, if a bidder withdraws at a late stage).

5.19 A key benefit of the proposed cost recovery mechanisms is that they will enable Ofgem to run the tender process in an efficient and effective way. We have measured the benefits against not having competitive tenders as proposed, while recognising that the cost recovery powers are not solely responsible for the benefits which would accrue from competitive tenders. The alternative approach would mean a price regulated approach which would remove the benefits of competition and add to Ofgem's (and ultimately the consumer's) costs as Ofgem would have to review and adjust price controls on a regular basis.

5.20 As stated above it is proposed that Ofgem will have powers to enable them to seek payments from participants to cover their costs of running the tender process. Ofgem's

costs may vary and the level will be dependent on the peculiarities of the individual tender process. However, it is anticipated that the payments will be provided in stages, to reflect Ofgem's increasing accrued costs as the tender process progresses.

- 5.21 Furthermore, there may be an opportunity cash cost to those involved in the tender process as a result of Ofgem requiring to hold sufficient funds to cover the costs of running the tender process from each bidder. However, at this stage it is not possible to state what this is likely to be.
- 5.22 Further detail on the scope of these powers, the issue of cost recovery and the flow of funds through the connection and tender process can be found in the Government Response and Ofgem's Consultation Document.
- 5.23 The Government is of the opinion that the benefits of a competitive tender approach for the provision of transmission assets run by Ofgem are significantly greater than the costs of the process as set out in the proposals.

#### Non-monetised costs and benefits / other issues

- 5.24 There are a number of other factors which will impact, albeit to a lesser degree, on the overall costs and benefits associated with the enduring tender process. For example, it is likely that there may be further cost savings if a number of projects are tendered together i.e. a single OFTO bids for 2 or more projects in the same bid thereby reducing its own bidding costs and potentially the costs of the transmission connection. However, in this IA the possibility of this occurring has not been taken into account and only the estimated maximum costs (i.e. all projects are successfully tendered for as single point-to-point connections) have been set out.
- 5.25 There may also be potential costs to those in the supply chain who would be asked by potential OFTOs to tender for specific aspects of the projects. However, this is dependent on the number of projects tendered for and as stated in previous IAs there is no requirement for companies to bid for projects should they not wish to do so.
- 5.26 The Government considers that allowing generator affiliates to bid in the tender process may increase the amount of competition which may lead to lower costs for transmission assets. However, it is recognised that issues of business separation must be in place to ensure that no unfair competitive advantage is obtained.
- 5.27 The Government believes that an having an OFTO of last resort in the enduring tender arrangements is likely to have significant costs in that it will undermine the principal tenet of the regime in that it is a competitive approach. An OFTO of last resort would be more likely to lead to higher costs as competition may be diluted. This issue is discussed further in the Government Response and in Ofgem's Consultation Document.

#### Further work

- 5.28 The Government will seek ways to ensure that costs of the tender process outlined in Table 1 are kept to a minimum for all parties. A lower cost solution as a result of a competitive tender process is more likely to benefit all stakeholders. Further information on the tender process is available in the Government Response and Ofgem's consultation Document. This includes issues such as an annual tender window and further detail on the recovery of Ofgem's costs, the tender stages, the roles of the tender panel, the Authority, developer, GBSO and OFTO, and interaction with the connection application process.

## Transitional Arrangements

5.29 The costs and benefits in the Summary Analysis and Evidence page are:

- Costs to OFTOs of bidding in the transitional tender process (internal costs);
- Costs to OFGEM of running the transitional tender process;
- Benefits of a competitive tender process in terms of the potential reduction in the costs of building offshore transmission assets for 7 offshore wind projects;
- Benefits in terms of shadow price of carbon savings as a result of 7 projects of 200-500MW of renewable generation connecting 3 months more quickly; and
- Benefits in terms of savings based on the additional costs of alternative electricity generation (CCGT) required to meet demand for 7 offshore wind projects of 200-500MW for 3 months.

5.30 Table 3 sets out the possible total costs of £11m – £39.8m (PV £10.8m – £39.1m).

5.31 The possible total benefits are between £69.2m - £224m (PV £68m – £220.2m) and are based on figures set out in Tables 2, 4 and 7.

5.32 The Government is of the opinion that the benefits of the transitional arrangements it intends to put in place are likely to be greater than the overall costs of these arrangements.

## Assumptions

5.33 The assumptions that have been used in deriving these costs and benefits are the same as those set out for the enduring tender process apart from:

- Current best information suggests that 7 projects may be eligible for the transitional tender process over a 2 year period based on the criteria set out in the Policy Statement. However, the final number may increase or decrease;
- The maximum potential cost savings of a competitive tender process for 7 projects under the transitional arrangements are between £33.6m - £135.1m. These have been assumed to be the same as for those under the enduring competitive regime as set out in Table 2. However, it is recognised that given the nature of the transitional projects, these savings may be lower. Savings for these 7 projects are included within the savings calculated for the 24 projects under the enduring tender process and therefore should be not counted as additional savings. They have been re-produced in this section to enable the benefits of the transitional arrangements to be more easily identified;
- Every 200-500 MW of renewable generation that comes online with a load factor of 30% is assumed to displace 200-500MW of CCGT generation producing 0.1 tC/MWh<sup>21</sup> or 0.35t/CO<sub>2e</sub>/MWh (carbon dioxide equivalent). Over a 3 month period an extra 131,000 – 328,000 MWh of renewable generation would result in savings of around 46 -115kt CO<sub>2e</sub>. Based on a shadow price of carbon of £25 per tonne in 2007<sup>22</sup> which increases by 2% every year thereafter. This equates to a monetary loss of roughly £1.15m - £2.87m per project over a 3 month period (£4.6m – £11.5m / year) at today's prices. For 7 projects the total savings would be c. £8m - £20m. Table 7 sets out the possible shadow price of carbon costs based on a range of offshore wind generation connected until 2015;
- A 3 month delay to the development of 200-500MW of offshore wind will mean extra costs of £3.94m - £9.85 in terms of fuel costs if alternative CCGT generation is required to meet demand (see Annex C for further detail). For 7 projects this would total £27.58m - £68.95m (see Table 4); and

<sup>21</sup> [http://stats.berr.gov.uk/energystats/dukes07\\_c5.pdf](http://stats.berr.gov.uk/energystats/dukes07_c5.pdf)

<sup>22</sup> <http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

- The costs to the Competition Appeal Tribunal (CAT) should the Authority's compulsory transfer scheme be challenged are estimated to be c. £80k / case and it assumed that one such case will be required each year.

5.34 Table 3 sets out the possible range of costs under the transitional tender process.

Year	Number of projects	OFTO's internal bid costs	Ofgem tender assessment costs	Potential CAT costs	Total possible costs
2008/09	3	£2.25m - £15m	£1.8m	£0.08m	£4.1m - £16.9m
2009/10	4	£4m - £20m	£2.85m	£0.08m	£6.9m - £22.9m
<b>Total</b>	<b>7</b>	<b>£6.25m - £35m</b>	<b>£4.65m</b>	<b>£0.16m</b>	<b>£11m - £39.8m</b>

**Table 3: Possible costs under the transitional tender process (OFTO, Ofgem & CAT costs)**

5.35 Table 4 sets out the possible range of costs as a result the additional fuel required for CCGT generation in lieu of 200-500MW of offshore wind generation.

Number of 200-500MW projects	Costs of additional fuel for 3 months CCGT generation
1	£3.94m - £9.85m
4	£15.75m -£39.4m
7	£27.58m - £68.95m

**Table 4: Possible additional costs of fuel required for 200-500 MW of CCGT generation in lieu of offshore wind generation**

#### Non-monetised costs and benefits / other issues

5.36 There is likely to be significant benefit in terms of giving confidence to those projects that fall into the transitional category by guaranteeing that developers will receive at least 75% of the ex-ante assessment of the capital cost of the project and at least 100% of the ex-post efficiently and economically incurred costs. This is more likely to ensure that projects will continue to be taken forward sooner as developers will have greater certainty and this may enable projects to reach financial close more quickly. This is likely to have significant benefits in terms of shadow price of carbon savings and a reduced need for alternative CCGT generation.

5.37 The Government believes that this approach has significant benefit in that it provides both an appropriate balance of risk between the developer and consumers (who would be funding this guarantee) and also a strong incentive on developers to ensure that all costs incurred are efficient. An ex-ante guarantee higher than 75% would also require a more onerous, costly and closer scrutiny of the estimates provided by generators.

5.38 The Government believes that the regime should have an OFTO of last resort mechanism in the transitional arrangements which will lead to greater certainty for developers that an OFTO will be in place for their projects in a timely fashion and that the new arrangements will not prevent projects from progressing. However, the Government recognises that there is the potential for a less than fully efficient tender process and has therefore asked Ofgem, in drawing up the transitional tender process to seek to ensure that the interests

of consumers, as well as other parties to the tender, are not undermined by this approach. The Government Response and Ofgem’s Consultation Document sets out further detail on this issue.

5.39 The Government considers that there will be costs and benefits as a result of its decision to implement a compulsory transfer of assets when, following the conclusion of a successful tender process, commercial negotiations between a developer and OFTO do not reach a conclusion or are severely delayed. As set out in the Government Response and Ofgem’s Consultation Document, powers are being sought in the Energy Bill.

5.40 The compulsory transfer scheme required under the transitional arrangements could add costs for the parties and any affected third parties if used, but it may also save the costs incurred if protracted commercial negotiation were to occur in the absence of the scheme. We have assumed these costs to be similar. If the Authority’s transfer scheme is appealed to the Competition Appeal Tribunal (CAT), costs to the parties and any third parties would increase. These costs would vary for the participants from case to case. CAT estimates that its costs would be around £80k per case and these have been factored in to the overall costs of the proposals.

5.41 In terms of benefits we have assumed that without the provision of the transfer scheme there is a possibility that one project is delayed per year in negotiation of property transfer. We have assumed that this delay would result in 3 months of lost income for a 200-500MW offshore wind farm which would lead to benefits in terms of lost income saved of £12.6m - £31.4m / year as set out in Table 5 below. This is calculated by taking the three month output from an offshore wind farm and multiplying by the income received (£95.70/MWh). However, this sum is not a loss to society as a whole because a CCGT generator (by assumption) would then produce the same volume of electricity and because ROC process would adjust to reflect this shortfall in renewable generation such that the incomes of existing renewable generators would be higher. In other words, this “loss” is only a distributional impact on the generator in question. This amount has therefore not been included in the Annual Benefits section of the summary sheet.

<b>Number of 200-500MW offshore wind projects</b>	<b>Potential savings to generators (in terms of lost income) by avoiding a 3 month delay</b>
1	£12.6m - £31.4m
3	£37.8m - £94.2m
7	£88.2m – £219.8m

**Table 5: Possible savings as a result of the transitional tender process to the generator**

Further work

5.42 The Government Response and Ofgem’s Consultation Document will set out in further detail how other issues surrounding the development of the transitional regime will be taken forward.

## Connection Application Process

5.43 The costs and benefits laid out in the Summary Analysis and Evidence page are focused on:

- Financial commitment fees required by Ofgem from generators to cover the costs of the connection and associated tender process; and
- Benefits arising from the reduction in delays as a result of only serious players initiating the connection application and tender process.

## Assumptions

- A total of 24 projects apply for connection and are tendered for over a 6 year period with 4 projects / year;
- Generators may be required to provide Ofgem a financial commitment, realisable in certain circumstances, at the point they sign the indicative connection offer to cover the costs of the connection and tender process. Ofgem's costs of this will be dependent on the individual tender process. If the financial commitment is not realised at the end of the tender process then the cost of providing it will be valued in opportunity cash cost terms. Opportunity cash cost is based on the assumptions as described in Annex C and is calculated at 12% of the absolute cash cost. These costs will be incurred under both the transitional and enduring tender arrangements.
- 3 projects of between 200MW - 500MW are connected 3 months more quickly with possible cost savings of £15.27m - £38.16m based upon:
  - A 3 month delay to the development of 200-500MW of offshore wind will mean extra costs of £3.94m - £9.85m in terms of fuel costs if alternative CCGT generation is required to meet demand (see Table 5 and Annex C for further detail); For 3 projects the total costs will be £11.82m – £29.55m.
  - Every 200-500 MW of renewable generation that comes online with a load factor of 30% is assumed to displace 200-500MW of CCGT generation producing 0.1 tC/MWh<sup>23</sup> or 0.35t/CO<sub>2e</sub> / MWh (carbon dioxide equivalent). Over a 3 month period an extra 131,000 – 328,000MWh of renewable generation would result in savings of around 46 -115kt CO<sub>2e</sub>. Based on a shadow price of carbon of £25 per tonne in 2007<sup>24</sup> which increases by 2% every year thereafter. This equates to a monetary loss of roughly £1.15m - £2.87m per project over a 3 month period (£4.6m – £11.5m / year) at today's prices. For 3 projects the total savings over 3 months would be c. £3.45m - £8.6m.

5.44 The generator would be liable to provide a financial commitment at the point they sign the indicative connection offer from the GBSO. This would be required to secure the developer's potential liability for the Authority's tender costs if the tender process can not be completed because of some act or omission on part of the generator and to demonstrate the generator's commitment to the tender process. The required commitment is likely to reflect the cost of the tender activities through a staged process as the application progresses. Further detail on the flow of funds through the connection and tender process are set out in the Government Response and Ofgem's consultation Document.

5.45 The possible level of these opportunity cash costs are outlined in Table 6. However, it must be noted that these are only indicative and final costs may differ.

<sup>23</sup> [http://stats.berr.gov.uk/energystats/dukes07\\_c5.pdf](http://stats.berr.gov.uk/energystats/dukes07_c5.pdf)

<sup>24</sup> <http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

Number of projects	Absolute cost of user commitment fee to generators of initiating the connection application process	Opportunity cash cost of the generator connection application user commitment fee
1	£0.5m	£0.06m
5	£2.5m	£0.3m
10	£5m	£0.6m
15	£7.5m	£0.9m
24	£12m	£1.44m

**Table 6 – Costs to generators of user commitment fee in absolute and opportunity cash costs**

Non-monetised costs and benefits / other issues

- 5.46 It is recognised that there may be other costs and benefits as a result of the Government’s approach to the connection application process. Whilst it is not possible to quantify them at this stage it is possible to make some broad assumptions about where they may lie.
- 5.47 There may also be similar savings as a result of the connection application process, if it reduces delays, to those outlined in paragraph 5.42.
- 5.48 Connection application fees are payable to National Grid in respect of applications for new connection agreements and modifications to existing agreements based on the reasonable costs the transmission licensees incur in processing these applications. However, these connection application fees levied by National Grid are not specific to the offshore transmission system and are consistent with the principle that the offshore regime should mirror the onshore system where possible.
- 5.49 There will also be costs to the generator involved in providing information to NGET to enable a connection application to be considered but this is the case onshore. The Government considers that, by proposing that the onshore arrangements should form the basis of the offshore connection application process with minimal changes, it may reduce costs.
- 5.50 There will be costs to Ofgem for running the tender process by the generator as outlined at paragraph 5.13 – 5.28.
- 5.51 There may be costs associated with National Grid producing a high-level assessment of the connection site possibilities around the coast of Great Britain equivalent to its onshore Seven Year Statement. However, these are not expected to be significant.
- 5.52 There is likely to be benefit in that if that renewable electricity generation targets were achieved more quickly there would be significant savings in terms of carbon emissions and the shadow price of carbon as outlined at paragraph 8.2.

Further work

- 5.53 National Grid, in its role as GBSO, has been working to develop the detail of the connection application process for offshore connections and how it will interact with the tender exercise. It will be holding a workshop on this issue in the New Year. A summary of the interactions between the connection application and tender processes is also set out in Ofgem's Consultation Document. The work that is being undertaken by National Grid will culminate in recommendations for changes to the relevant industry codes.

## Connection via Distribution Networks

5.54 The key proposals in the July 2007 Policy Statement focused on:

- Extend existing distribution licensee codes and agreements to define contractual relationships; and
- Treat embedded transmission connections in a way that is consistent with distribution connections for large power stations (with the overlay of the GBSO's coordination role).

5.55 At this stage in the development of the regime it has not been possible to set out in detail specific quantifiable costs and benefits relating to connection via distribution networks.

5.56 Further work on these issues is being taken forward during the further development of the regime over the coming months. This will enable more detail on costs and benefits to be set out in future consultations.

5.57 However, it is possible to make some broad assumptions about the key non-monetised costs and benefits of the approach that the Government is taking in this area.

5.58 The Government considers that basing offshore arrangements on current onshore arrangements should minimise additional costs. There may also be benefits in terms of lower costs of connections given that distribution networks are generally closer to the coastline than the transmission network.

5.59 It is anticipated that these arrangements will allow more design options for the connection of offshore transmission systems to be considered.

### Further work

5.60 The Embedded Transmission working Group has been established to consider the commercial and technical issues relating to the offshore connections via distribution networks. The group will provide recommendations that will lead to proposed changes to the relevant industry codes and agreements.

5.61 Ofgem have drafted and published terms of reference for the new working group which included a request for nominations for the group and there has been significant interest in participating in this working group. The Embedded Transmission Working Group is required to report to Ofgem by 5 February 2008.

5.62 Ofgem's Consultation Document sets out these issues in further detail.

## Charging, Access and Compensation

5.63 The key proposals in the July 2007 Policy Statement focused on:

### Charging

- NGET, as onshore GBSO and offshore GBSO designate, will develop offshore charging arrangements, using the current GB charging methodology as a basis for developing offshore arrangements; and
- The development of offshore charging arrangements should not constrain the ongoing development of the onshore market (e.g. Scottish Islands).

### Access

- The existing access product, Transmission Entry Capacity (TEC), will be adapted for offshore; and
- Any further access products that are required to reflect features of intermittent generation will be progressed outside of the project through existing industry change mechanisms as these are not offshore specific.

### Compensation

- Compensation arrangements will be aligned with the access product and level of infrastructure available, using the principles of cost-reflectivity. Changes from the onshore arrangements will be minimal; and
- A penalty payment is proposed to be included in the offshore regime in order to incentivise OFTOs to maximise availability of offshore transmission networks for use by offshore generators.

5.64 These issues have been taken forward since the July 2007 Policy Statement as follows:

5.65 In terms of charging arrangements, NGET issued a pre-consultation<sup>25</sup> in July 2007 which set out proposals to modify the use of system charging methodology. This sought views relating to the connection and use of system boundary, expansion factors and HVDC. NGET issued a further consultation document<sup>26</sup> in December 2007. These issues are described further in Ofgem's Consultation Document.

5.66 In terms of access, NGET was asked to take forward these issues and outlined a number of proposals at a workshop on 3 December 2007. These proposals build on the direction in the July 2007 Policy Statement as outlined above. Further information is available in Ofgem's Consultation Document.

5.67 In terms of compensation, Ofgem's Consultation Document sets out further development of the proposals outlined in the July 2007 Policy Statement and these will be considered further over the coming months.

5.68 At this stage in the development of the regime it has not been possible to set out in detail specific quantifiable costs and benefits relating to these areas. It is the Government's intention that these issues will be developed during the further development of the regime over the coming months. This will enable more detail on costs and benefits to be set out in future consultations.

5.69 However, it is possible to make some broad assumptions about the key non-monetised costs and benefits of the approach that the Government is taking in this area.

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<sup>25</sup> <http://www.nationalgrid.com/NR/rdonlyres/0DF19996-2131-406A-B6C2-28C31C5ABBE4/18307/OffshoreChargingPreconsultationGBECM08.pdf>

<sup>26</sup> <http://www.nationalgrid.com/NR/rdonlyres/5A5364ED-5EF5-4D37-9FA6-DEB41C16F717/22313/GBECM08OffshoreChargingConsultation.pdf>

- 5.70 There may be costs to OFTOs and generators to comply with the requirements set out for charging, access and compensation but these are likely to be consistent with those required onshore. Whilst it has not been possible to quantify the key costs of the proposals at this time there is significant work ongoing to develop these issues further.
- 5.71 There may be significant benefit in terms of time-savings, clarity of understanding and therefore lower costs in keeping the processes similar to those which are used onshore.
- 5.72 There may be benefits in terms of financing options to OFTOs and generators as a result of the greater certainty regarding costs that result from the charging methodology that NGET is developing.

#### Further work

- 5.73 The issues of charging, access and compensation are being considered by the industry through the established industry fora, facilitated by National Grid. An ongoing process of consultation and industry discussions has been initiated by National Grid to enable wider industry engagement. The recommendations that are brought forward from these discussions will inform our final consultation. Ofgem's Consultation Document sets out in further detail how these issues will be progressed.

## Technical Rules

5.74 The key proposals in the July 2007 Policy Statement focused on:

### Offshore security standard

- Introduce a new section to the GBSQSS that defines connection criteria for offshore transmission networks in planning and operational timescales;
- Develop the basis for the offshore security standard for wind generation connections to define the interface between the onshore and offshore generation connection criteria; and
- Develop proposals for an offshore security standard for offshore transmission connections to offshore generators fuelled by gas.

### Technical rules in the industry codes

- Accept the majority of recommendations from the Grid Code sub group subject to:
  - Findings of the assessment of the consequential impacts of the new classes of offshore generator recommended by the Grid Code sub group;
  - Our investigation of the options available to minimise impact of differences in offshore and onshore generator reactive power capability requirements;
  - Consultation with the Health and Safety Executive (HSE) about the Grid Code sub group's recommendation relating to safety coordination arrangements for offshore;
- Establish an industry group to consider the scope of the OFTO role, to review the relevance of STC Sections C and D offshore and to consider if there is a need to define additional technical standards for offshore transmission networks; and
- Review existing technical rules in other industry codes and assess if they are applicable offshore and if not, to initiate work to develop change proposals.

5.75 These issues have been taken forward since the July 2007 Policy Statement as follows:

- NGET has progressed work on the offshore security standard in a number of areas and have produced a number of recommendations. These are being reviewed by Ofgem and are set out in more detail in their Consultation Document;
- In terms of the grid code there was general support for the proposals and NGET was asked to develop draft legal text for changes to the Grid Code that would implement the Grid Code sub-group's recommendations. This has been submitted to Ofgem and further information is available in their Consultation Document; and
- An STC working group involving industry has been established to consider the scope and role of the OFTO and has reviewed the STC for changes which would be required to accommodate OFTOs. NGET has been asked to carry out further work.

5.76 At this stage in the development of the regime it has not been possible to set out in detail specific quantifiable costs and benefits relating to these areas.

5.77 However, it is possible to make some broad assumptions about the key non-monetised costs and benefits of the approach that the Government is taking in this area. For example using existing onshore technical rules unless there is good reason not to do so is likely to have benefits in terms of reducing costs. There may be costs to OFTOs and generators in complying with the technical rules. However, it is suggested that these are not likely to be any more onerous than those in the onshore environment.

## Further work

- 5.78 Further work will be taken forward during the development of the regime over the coming months which will enable more detail on costs and benefits to be set out in future consultations.
- 5.79 Industry working groups have been established to consider the need to develop and amend the existing technical rules. These groups have or are in the process of developing recommendations that will inform changes to the legal text of the codes. This is an area that is being facilitated by Ofgem and National Grid. Further information can be found in Ofgem's Consultation Document.

## Implementation Issues

5.80 The key proposals in the July 2007 Policy Statement focused on:

- The costs to Ofgem and BERR to implement the necessary changes to codes, licences, agreements and legislation to enable the regime to operate.
- The benefits of this work enabling the development of the offshore generation sector.

5.81 There will be implementation arrangements required in a number of areas:

- Changes to codes and licences through commencement of Section 90 of the Energy Act 2004;
- Extension of the role of the GBSO through commencement of Section 91 of the Energy Act 2004;
- Implementation of tender regulations through Section 92 of the Energy Act 2004
- Extension of the prohibitions of the Electricity Act 1989 into offshore waters under section 89 of the Energy Act 2004 and change the definition of transmission voltage in offshore waters under section 180 of the Energy Act 2004; and
- Implementation of cost recovery and transfer powers.

5.82 Whilst it is difficult at this stage to set out in detail specific quantifiable costs and benefits relating to these specific areas it is possible to make some broad assumptions about the key non-monetised costs and benefits of the approach that the Government is taking in this area.

5.83 It is likely that much of the costs of this work will fall to BERR and Ofgem and will be accounted for in the costs set out in paragraphs 5.87 - 5.91 which relate to the costs of the overall work programme required to develop the offshore transmission regime. This will include costs to BERR who are implementing the regulatory regime and to Ofgem who are assisting in developing detailed proposals for the new regulatory regime as well as licence drafting. Costs may also fall to the owners of the industry codes who are assisting Ofgem and BERR in developing the legal drafting.

5.84 The Government believes that this work will have significant benefits as it will lead to a clear framework that will set out rights and obligations of all parties, will protect the security of the system and facilitate competition.

5.85 There may be costs to Ofgem, generators and OFTOs in complying with the new regime in terms of using the existing modification process to implement changes to codes and licences. However, these are likely to be similar to those associated with the onshore regime.

## Further work

5.86 This work is being led by Ofgem and BERR and it is the Government's intention that these issues will be developed further over the coming months. This will enable more detail on costs and benefits to be set out in future consultations.

## Work Programme

5.87 The costs and benefits laid out in the Summary Analysis and Evidence page are focused on:

- The costs to BERR and Ofgem of developing the offshore transmission regime;
- The benefits of this work enabling the quicker development of the offshore generation sector in terms of shadow price of carbon savings and reduced requirement for alternative CCGT generation.

## Assumptions

- The main costs in developing the regime are BERR and Ofgem staff costs and the related technical and legal consultancy required.
- There will be costs to industry in terms of responding to consultations and participating in the work streams throughout the development process.
- If the currently planned 7GW of offshore wind were not developed this would have a cumulative shadow price of carbon cost of c. £600m by 2014 (see Table 7 for further detail).
- There are also likely to be significant costs in terms of fuel costs if alternative CCGT generation is required to meet demand in lieu of offshore wind generation. The possible additional costs of fuel required for CCGT generation in lieu of 1 GW of offshore wind generation is £78.8m/year. If the currently planned 7GW of offshore wind were not developed this cost would rise to £550m / year by 2014.

## Costs

5.88 The costs to Ofgem and BERR of taking forward the development of the regime until the 'Go-live' in December 2009 are estimated to be £880k / year. These costs are made up of BERR and Ofgem staff costs and associated legal and technical consultancy.

5.89 There will also be costs as a result of NGET's work in delivering the various technical issues associated with the regime.

5.90 There may also be costs to industry as a result of engagement in the work programme via working groups on codes, licences and regulations and in responding to consultation documents. The Government recognises the importance of the contribution that industry has made in the development of the regime to date and continues to welcome input into the development of the regime going forward. The level of these costs will be dependent on the extent to which industry players wish to become involved.

5.91 The Government has decided that offshore transmission will be a licenced activity which requires a series of regulatory arrangements to be put in place. Consequently the Government considers that there will be significant benefits to the UK as a whole and the offshore renewable generation sector as without this development work proceeding, the proposed regulatory regime would not be implemented. This may, in the extreme, result in a loss of benefits through the failure of the offshore renewable electricity generation market, which is valued at c. £12 billion, over the next 10 years based on 8GW at a cost of c. £1.5m / MW installed, to develop fully. It could also have other associated impacts in terms of carbon dioxide savings not being realised as described throughout this IA.

## 6. Competition Assessment

6.1 In considering the impact that the proposals would have on competition, the Government has considered the proposed options for the new regime as a whole.

6.2 The Government has considered the four initial questions outlined in the OFT guidance<sup>27</sup> as follows:

In the affected market, would the proposals:	Government response
Directly limit the number or range of suppliers?	No
Indirectly limit the number or range of suppliers?	No
Limit the ability of suppliers to compete?	No
Reduce suppliers' incentives to compete vigorously?	No

6.3 The Government therefore considers that the proposed policy options are unlikely to raise any significant competition concerns in terms of market entry and ability to compete or innovate.

6.4 Furthermore, the Government's energy policy regulates where necessary and encourages competition where possible. The introduction of an element of competition in this new market for offshore transmission has been the Government's intention throughout the regime's development. The November 2006 Consultation Document reaffirmed this by setting out two approaches that both contained varying degrees of competition for the award of offshore transmission licences. By deciding to implement the non-exclusive approach in March 2007, the Government has selected the most competitive option. Further background to this approach and the decision to adopt it can be found on the BERR website<sup>28</sup>.

6.5 In this latest consultation, the Government is setting out in more detail how it will design the regulatory regime to facilitate this increased competition with the associated economic, environmental and social benefits this will bring.

6.6 The Government is therefore satisfied that the proposals set out in the consultation document will not have any adverse impact on competition.

### Post-consultation update

*The Government does not consider that the responses received to the consultation offer any evidence to suggest that its original assertions are incorrect. In the Government Response and Ofgem's Consultation Document, BERR and Ofgem set out in more detail how the competitive tender process will operate and the steps that will be taken to ensure that it is a fair and effective competitive process. This includes issues such as generator-affiliates as OFTOs and the OFTO of last resort under the transitional arrangements.*

<sup>27</sup> [http://www.ofg.gov.uk/advice\\_and\\_resources/resource\\_base/guidelines/](http://www.ofg.gov.uk/advice_and_resources/resource_base/guidelines/)

<sup>28</sup> <http://www.berr.gov.uk/energy/sources/renewables/policy/offshore-transmission/Licencing%20Offshore%20Electricity%20Consultation%20-%20Nov%202006/page35525.html>

## 7. Small Firms Impact Test

- 7.1 This consultation is a further stage in the development of the regulatory regime for offshore electricity transmission. Previous RIAs<sup>29</sup> have considered the possible impact that this new regime may have on small firms and concluded that the measures were unlikely to impact disproportionately on them.
- 7.2 These assertions were tested through the previous consultations and through a wide range of meetings with relevant stakeholders, companies and trade associations including organisations that represent small firms active in these sectors. No responses were received to suggest that there was likely to be any significant impact on small and medium size enterprises (SMEs)<sup>30</sup>. BERR and Ofgem remained committed to this open dialogue approach.
- 7.3 The vast majority of SMEs are only likely to be affected by this measure to the extent that it leads to changes in the prices they pay for electricity. The sectors directly affected are made up almost entirely of large businesses. There is the potential for a small increase in electricity prices due to higher cost recovery of transmission revenues, although this is expected to be less than 1% and should have no significant impact on SMEs as a group or between each other.
- 7.4 A much smaller subset of small businesses active in the generation of renewable energy and/or the manufacture of materials required for offshore generation or transmission might be more affected by the regime. However, the Government does not consider that the impact of this will be disproportionate. Indeed the Government considers that the competitive approach being introduced offers a significant opportunity for SMEs in this sector.
- 7.5 Whilst developing this consultation we have consulted the Small Business Service and they have agreed that the proposed regulatory measures are unlikely to have a disproportionate effect on small firms. However, this assertion will be further tested by the consultation process.

### Post-consultation update

*No responses to the consultation were received to suggest that there is likely to be any significant impact on small or medium size enterprises.*

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<sup>29</sup> <http://www.berr.gov.uk/files/file18059.pdf> & <http://www.berr.gov.uk/files/file27138.pdf>

<sup>30</sup> <http://www.berr.gov.uk/files/file35531.pdf> & <http://www.berr.gov.uk/files/file38704.pdf>

## 8. Carbon Assessment

- 8.1 The development of the offshore transmission regulatory regime will enable at least 7.2 GW of offshore wind under Round 2 to connect to the onshore electricity transmission grid.
- 8.2 Every 200-500 MW of renewable generation that comes online with a load factor of 30% is assumed to displace 200-500MW of CCGT generation producing 0.1 tC/MWh<sup>31</sup> or 0.35t/CO<sub>2e</sub> (carbon dioxide equivalent) / MWh. Over a 3 month period an extra 131,000 – 328,000 MWh of renewable generation would result in savings of around 46 -115kt CO<sub>2e</sub>. Based on a shadow price of carbon of £25 per tonne in 2007<sup>32</sup> which increases by 2% every year thereafter. This equates to a monetary loss of roughly £1.15m - £2.87m over a 3 month period (£4.6m – £11.5m / year) at today's prices.
- 8.3 Table 7 below sets out the shadow price of carbon costs for a range of offshore wind generation connected up until 2015.

	2008	2009	2010	2011	2012	2014	2015
Amount of offshore wind	1GW	2GW	3GW	4GW	5GW	7GW	10GW
M/tonnes CO <sub>2e</sub> replaced	0.9	1.8	2.7	3.6	4.5	6.3	9
Shadow price of carbon £/tCO <sub>2e</sub>	25	26	27	28	28	29	30
Costs £m/ year	22.5	45	67.5	90	112.5	157.5	225

**Table 7 - Shadow price of carbon costs based on a range of offshore wind generation connected up until 2015.**

- 8.3 The Government considers that each of the proposals consulted upon are an essential element of the whole regime and that without any one of these proposals the regime will be unable to function. Consequently each set of proposals has a significant contribution to make in terms of the overall carbon savings.

<sup>31</sup> [http://stats.berr.gov.uk/energystats/dukes07\\_c5.pdf](http://stats.berr.gov.uk/energystats/dukes07_c5.pdf)

<sup>32</sup> <http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

## 9. Other regulatory impact issues

- 9.1 The Government does not consider that any of the proposals give rise to any significant impacts in relation to health, environment, gender, race equality, legal aid, human rights and sustainable development issues, or are likely to have a material impact on the rural economy.

### Post-consultation update

*No responses to the consultation were received to suggest that the proposals are likely to have any significant negative impact in relation to health, environment, gender, race equality, legal aid and sustainable development issues, or are likely to have a material impact on the rural economy.*

### Human rights issues

- 9.2 The Policy Statement set out that a developer must agree to transfer the offshore transmission assets to the selected OFTO under the terms set out in its request for the appointment of an OFTO. It also stated that appropriate arrangements would need to be put in place to ensure that a transfer could occur.

### Post-consultation update

*The provisions being sought in the Energy Bill as set out in more detail in the Government Response and Ofgem's Consultation Document may engage Article 1 of the First Protocol to the European Convention on Human Rights ("ECHR"). However, the provisions pursue a legitimate aim and are proportionate to the achievement of that aim. The making of a property scheme may also involve a determination of a person's civil rights and obligations and therefore engage Article 6(1) of the ECHR, which protects the right to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law. The Department considers that the opportunities to make representations and the remedies available will provide an adequate safeguard of the rights which may arise under Article 6(1). Finally, the Authority will have a power to obtain information to assist it in considering an application for a property scheme, which may engage Article 8 of the ECHR. However, the Authority needs to be in possession of all relevant facts before making decisions concerning property, rights and liabilities which belong to others. This information power is therefore justified under the terms of Article 8(2) as being in the interests of protecting the rights and freedoms of others.*

## Specific Impact Tests: Checklist

Use the table below to demonstrate how broadly you have considered the potential impacts of your policy options.

**Ensure that the results of any tests that impact on the cost-benefit analysis are contained within the main evidence base; other results may be annexed.**

Type of testing undertaken	<i>Results in Evidence Base?</i>	<i>Results annexed?</i>
Competition Assessment	Yes	No
Small Firms Impact Test	Yes	No
Legal Aid	No	No
Sustainable Development	No	No
Carbon Assessment	Yes	No
Other Environment	No	No
Health Impact Assessment	No	No
Race Equality	No	No
Disability Equality	No	No
Gender Equality	No	No
Human Rights	No	No
Rural Proofing	No	No

## Annexes

### **Annex A – Respondents to July 2007 Policy Statement**

BERR / Ofgem would like to thank the following for their responses to the Policy Statement.

Airtricity  
Balfour Beatty  
British Energy  
British Wind Energy Association  
Centre for Distributed Generation and Sustainable Electrical Energy  
Centrica  
Denton Wilde Sapte  
Dong Energy  
EDF Energy  
ELEXON  
Energywatch  
E.ON UK  
Highlands & Islands Enterprise  
Joint Nature Conservation Committee  
London Array  
National Grid  
National Grid (GBSO)  
RWE npower  
Scottish Power Energy Networks  
Scottish Power Energy Wholesale  
Scottish & Southern Energy  
Siemens  
United Utilities  
Warwick Energy  
Western Power Distribution

## Annex B

### POST-CONSULTATION UPDATE OF THE COSTS AND BENEFITS OF EACH OPTION

(Paragraph numbers correspond to those in the original Impact Assessment)

#### Design of Regulatory Regime

##### Economic Benefits

- 4.32 The proposals which replicate onshore arrangements may lead to lower costs as market participants will be familiar with the existing onshore arrangements.
- 4.33 OFTOs should be able to recover their costs over a period consistent with the expected life of the offshore generation assets. This is less likely to lead to stranded assets than an alternative approach where the cost recovery would be based on the life of the transmission assets. The Government considers that a revenue stream for a period of 20 years post-construction is consistent with the anticipated asset profile of offshore generators. As such, this provides an appropriate balance between the interests of consumers and the ability of the OFTO to finance its investment over a reasonable period.

##### Post-consultation update

*A number of respondents questioned the 20 year period for the revenue stream and suggested that a longer period was required, that it should be linked to the lifetime of the generation assets or considered on a case-by-case basis. This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

- 4.34 Removing the requirement to have regular five year price control reviews for offshore networks will lead to lower administrative costs. In coming to this view, the Government considers that the nature of offshore networks is likely to be very different to that onshore, with bespoke assets being constructed to serve typically only one or two users. There is unlikely to be much scope for incremental capital investment.
- 4.35 The costs of Ofgem undertaking five yearly onshore price control reviews can amount to several million pounds, both in relation to the costs of external and internal resources. Similarly, regulated companies also incur significant costs in engaging with the price control process. While a five yearly review process for offshore transmission might be expected to be less complex, the costs of undertaking the process may still be significant given the different characteristics of each offshore transmission project.

##### Post-consultation update

*It was suggested that regular 5 year price control reviews as for onshore will reduce risks.*

- 4.36 Regular reviews of the price control may also dilute the effectiveness of a competitive bidding process, where there is less certainty over long term revenues. The proposed regime of long term revenue commitments is expected to provide greater certainty and deliver a more efficient cost for construction and maintenance of assets. Ofgem noted in the March 2007 Consultation Document, however, that a long term regime may be less flexible to changing circumstances. If the regime is considered too rigid then it is likely that generators and consumers may pay a higher price for the provision of assets given that the OFTO is likely to reflect appropriate risk premiums into the revenue streams which they bid. An additional one per cent premium for increased risk would be expected to cost consumers approximately £20 million per year (assuming an investment of £2 billion).
- 4.37 We consider that performance incentives and penalties are likely to lead to a more robust and efficient system. However, it is important that we strike an appropriate balance between risks and rewards. If the incentives are too inflexible then it is likely that

generators and consumers will pay a higher price for the provision of assets. The OFTO will again reflect appropriate risk premiums into the revenue streams which they bid.

#### Post-consultation update

*Of those who commented on performance incentives and penalties, a majority supported them. However, it was suggested that these should be large enough to ensure best practice and encourage performance but not be so onerous as to become a disincentive to bidding. There were contrasting views concerning the inclusion of losses in any incentive / penalty regime.*

4.38 For onshore networks, performance incentives typically provide for small revenue adjustments (approximately 1 to 5 per cent) based upon performance relative to a target.

4.39 A ring-fencing obligation to allow offshore generator affiliates to bid for OFTO licences will have an economic benefit as it is more likely to increase competition which is likely to reduce overall costs of transmission assets. It is also more likely to ensure that the competitive tender process is viewed as fair and transparent which is also more likely to increase competition.

#### Post-consultation update

*There was support for generator-affiliates being allowed to bid for OFTO licences provided that there was sufficient business separation or ring-fencing in place.*

4.40 The consultation provides an overview of the likely risks that may arise during the lifetime of an offshore transmission asset and considers which of the three parties (offshore generator, OFTO or GBSO/consumers) should be responsible for bearing and managing these risks. Appropriate allocation of risks may encourage new entrants to the market which will increase competition, encourage innovation and ultimately reduce costs.

#### Post-consultation update

*A number of respondents questioned the balance of risks as outlined in the July 2007 Policy Statement. Developers felt that more risk should lay with the OFTOs whilst OFTOs suggested that the risk they bore should be reduced. A number of respondents requested additional clarity on these issues. Ofgem's Consultation Document, which includes an updated risk matrix, discusses this issue in more detail.*

#### Environmental benefits

4.41 Proposals which are more likely to lower costs, increase competition and ensure a fair allocation of risk are more likely to lead to an increase in the amount of offshore renewable generation. This is more likely to have significant benefits in terms of CO<sub>2</sub> emission reduction.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

4.42 Proposals which will encourage offshore renewable generation will have significant social benefits through a reduction in CO<sub>2</sub> emissions and increased diversity of the energy mix both in terms of fuel type and geographic source. These proposals which may minimise the costs of delivering offshore transmission assets and lower overall costs are less likely to lead to an increase in the numbers living in fuel poverty.

4.43 The proposed approach is less likely to lead to stranded assets, the costs of which may be borne by the consumer.

### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

### Economic Costs

4.44 The costs of developing a different approach to that which is currently used onshore is likely to lead to increased costs in terms of the resources and time required to develop the process which may mean that offshore projects have to wait longer to connect to the onshore system. Delays to the implementation of the new regime are likely to lead to cost increases for offshore generators and potential OFTOs.

### Post-consultation update

*There were concerns that the regime was overly complex and that this was likely to cause delays to projects. This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

4.45 Inappropriate allocation of risks may discourage new entrants to the market which may decrease competition, reduce the likelihood of innovation and ultimately increase costs.

4.46 A lack performance incentives and penalties are more likely to lead to a system that is less robust and more inefficient.

4.47 An approach in which OFTOs recover their costs over a period consistent with the expected life of the offshore transmission assets is more likely to lead to stranded assets as transmission assets may have a longer life than the generation assets with limited scope for utilisation by other parties. This is more likely to lead to higher costs.

### Post-consultation update

*It was suggested that the risk of stranded assets appears to be with the generator pre-construction and with the consumer via TNUoS charges after construction. The issue of the length of the revenue stream is discussed further in the Government Response and Ofgem's Consultation Document.*

4.48 The Government is aware that if the regulatory regime is considered too rigid then there is a risk that generators and consumers may pay a higher price as OFTOs build risk premiums into the revenue streams which they bid.

### Post-consultation update

*Respondents questioned the balance of risks as outlined in the July 2007 Policy Statement. Developers felt that more risk should lay with the OFTOs whilst OFTOs suggested that the risk they bore should be reduced. A number of respondents requested additional clarity on these issues. Ofgem's Consultation Document, which includes an updated risk matrix, discusses this issue in more detail.*

4.49 A requirement to ring-fence may increase costs which may deter some new entrants and ultimately reduce competition and increase costs.

### Post-consultation update

*It was noted that there was no proposal that generator affiliates should not also hold a current onshore transmission licence. It was suggested that this may lead to generator affiliates having a competitive advantage in bidding for projects and this potential for competitive advantage could make non-affiliated OFTOs cautious about bidding as they would not want to incur bid costs if there was a reduced chance of winning the contract.*

## Environmental costs

- 4.50 Inappropriate or unfair allocation of risk will reduce competition and lead to higher costs which may lead to fewer projects being developed with the associated negative environmental affects.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

## Social costs

- 4.51 An alternative approach based on the life of the transmission assets as opposed to generation assets is more likely to lead to stranded assets, the costs of which would be borne by the consumer by higher electricity prices. This is more likely to lead to an increase in the numbers living in fuel poverty
- 4.52 Proposals which are more likely to lead to higher costs will lead to a reduction in the volume of offshore renewable generation. This is more likely to have significant social costs through a loss of CO<sub>2</sub> emissions reduction and a reduction in the diversity of the energy mix both in terms of fuel type and geographic source.

### Post-consultation update

*It was suggested that the risk of stranded assets appears to be with the generator pre-construction and with the consumer via TNUoS charges after construction.*

## **Enduring Competitive Process**

### Economic Benefits

- 4.53 The Government has previously concluded that a competitive tender approach will have significant benefits. The National Audit Office's (NAO) analysis in 2001 and 2002 studies<sup>33</sup> concluded that the average efficiency gain in projects tendered under the PFI was between 10% and 20%. If a similar range of efficiency gains is applied to the lower end of the estimated costs of offshore transmission assets (ca. £2.5 billion) then the savings would be in the region of £250m to £500m<sup>34</sup>.
- 4.54 In the March 2007 Scoping Document Ofgem detailed eight stages in respect of an offshore transmission licence tendering process. Since this time, feedback from interested parties has indicated a preference to have fewer stages. The Government and Ofgem are therefore proposing a tender process with four stages. We believe that the proposed approach will be effective in attracting bidders, while ensuring an effective competition and providing the certainty of delivery from the successful bidder.
- 4.55 The proposed phased approach will ensure sufficient interest in the project from a wide range of suitable bidders as it will be designed to keep costs to a minimum.
- 4.56 The initial expressions of interest stage will provide the basis from which unsuitable bidders may be 'screened' against pre defined evaluation criteria to ensure only those with sufficient technical acumen, legal credibility and financial strength are invited to incur the costs associated with detailed bid submission. The Government considers that this will

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<sup>33</sup> The two National Auditing Office papers are available on its web site, *PFI Construction Performance* (2002) at: [http://www.nao.org.uk/publications/nao\\_reports/02-03/0203371.pdf](http://www.nao.org.uk/publications/nao_reports/02-03/0203371.pdf) and *Modernising Construction* (2001) at: [http://www.nao.org.uk/publications/nao\\_reports/00-01/000187.pdf](http://www.nao.org.uk/publications/nao_reports/00-01/000187.pdf)

<sup>34</sup> <http://www.berr.gov.uk/files/file38705.pdf>

reduce costs in the long-term as it will ensure that only those serious bidders with the capability to provide OFTO services will proceed to the next stage of the process.

- 4.57 The pre-qualification stage will further ensure that costs are kept to a minimum by only allowing a smaller number of bidders to proceed to the Invitation to Tender phase of the tender process. It will ensure that not all bidders will have to produce full detailed bids at the next stage which will be where the majority of a bidder's costs will be incurred.

Post-consultation update

*A number of respondents suggested that the tender process could be further simplified by the removal of the Best and Final Offer (BaFO) stage.*

- 4.58 Providing bidders with clear and concise instruction and high quality information when inviting them to provide detailed project delivery solutions will further reduce costs as bidders will have a clear understanding of what information they are expected to provide in their bids. This will ensure that correct information is supplied first time and that resources are not wasted on providing unnecessary information. Furthermore using standardised PFI-type documentation which is easy to understand and clearly set out is more likely to reduce the costs of the tender process.

Post-consultation update

*One respondent suggested that the use of standardised documentation was unlikely to foster innovation or development of the most economic solution.*

- 4.59 Developing evaluation criteria prior to the issue of ITTs will ensure that all bidders are treated equitably once solutions are received. Bidders will know the basis on which their bids have been assessed which will ensure that the process is fair and transparent.
- 4.60 The Government believes that there are merits in the optimised and efficient delivery of offshore transmission networks that avoids unnecessary duplication of infrastructure if this is practicable, in particular where an annual tender application window for OFTO bids could cover adjacent projects. The Government believes that the proposed approach will allow expressions of interest to encapsulate more than one offshore transmission project so efficiencies might be obtained through joint bidding for combined offshore transmission infrastructure with more than one offshore connection. This may lead to cost savings in terms of bidding costs and overall costs of building the transmission assets as it may help to avoid unnecessary duplication of infrastructure<sup>35</sup>.

Post-consultation update

*There were conflicting views on the merits of an annual tender application window. Opponents stated that it would create unnecessary delays and that competition by itself would ensure sufficient co-ordination. It was also suggested that the use of windows may be discriminatory in comparison with onshore users. However, supporters suggested that in principle it should enable the benefits of shared connections to be achieved and that it shouldn't necessarily be annual. It was suggested that this issue should be re-visited in the light of experience gained from tenders made after the 'go-active' and 'go-live' dates which would, in effect, be annual tender windows. Some respondents also raised concerns over how the tender process would interact with the processes of obtaining consents and licenses and how bids covering more than one generator would be evaluated.*

- 4.61 Ofgem, as the independent regulator, may be best placed to run the tender process as it will be the Authority that will ultimately approve the regulatory income for the successful OFTO. It will ensure that the process is fair and transparent and that this will encourage

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<sup>35</sup> <http://www.berr.gov.uk/files/file35531.pdf>

organisations to submit bids. This will ensure that the benefits of the competitive process are more likely to be realised and will ensure that the best all round tender wins which should lead to the most efficient and economic connections. This in turn is likely to lead to lower costs.

- 4.62 It is more likely that administrative costs will be kept to a minimum if the assessments are done by Ofgem rather than an independent panel or body set up specifically to undertake this role. As Ofgem is already established it would not have to recover its overheads and set up costs.

#### Post-consultation update

*There was general support for Ofgem running the tender process. However, the issue of resources and the possible effect on Ofgem's existing areas of work would need to be considered. The issue of a possible conflict should Ofgem evaluate the tenders and also hear any appeals from developers over subsequent connection offers was also raised.*

#### Environmental benefits

- 4.63 The proposed approach is more likely to lead to reduced bidding costs which may encourage bids and lead to a more effective competitive process. This is more likely to lead to lower transmission connection costs which will encourage offshore renewable generation which will bring environmental benefits in terms of a reduction in CO<sub>2</sub> emissions.
- 4.64 The use of standardised PFI-type documentation, which is easy to understand and clearly set out, throughout the tender process, may reduce the time that the tender process takes. This may lead to projects being developed quicker which the Government believes could have significant benefits in terms of CO<sub>2</sub> savings – each GW of offshore wind that replaces conventional CCGT generation leads to a saving of 350kt/CO<sub>2e</sub> per year.
- 4.65 This approach which may allow bids to cover adjacent or combined projects may speed up the tender process and deliver offshore generation more quickly.
- 4.66 If connections were tendered for together, there is likely to be less negative environmental impact as works for a number of cables would be more likely to be carried out by a single OFTO at the same time rather than a number of individual OFTOs repeating similar work in the same area.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

- 4.67 Lower transmission connection costs which may lead to an increase in the volume of offshore renewable generation will have social benefits through a reduction in CO<sub>2</sub> emissions. Furthermore, lower costs may be less likely to lead to increases in electricity prices which will help to reduce the numbers of people living in fuel poverty. Other things being equal, it has been estimated that a 1% rise in residential electricity prices increases the total number of British households in fuel poverty by some 20,000, although this rise can in principle be mitigated by an improvement in the dwelling's quality of insulation.

#### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## Economic costs

4.68 The proposed process may be seen as potentially complex as there are a number of stages through which potential OFTOs will have to go. There may be a number of potential OFTOs who will be put off by the proposed approach which will reduce the number of bidders and reduce the effectiveness of the competitive approach that has been adopted. This may, in the long-term, lead to higher costs as there is less competition to provide the offshore transmission assets. However, it must be recognised that not all potential OFTOs who bid will have to go through all the stages.

### Post-consultation update

*Respondents had concerns about the timescales envisaged for the process and how the process would interact with the consents and licences and suggested there was potential for further simplification.*

4.69 The possible high-level costs of a competitive tender process were discussed in a previous consultation<sup>36</sup>.

4.70 Each tender process is likely to involve a fixed cost of securing appropriate internal and external resource at each of the anticipated stages, both for Ofgem and bidders. The most significant will be the ITT stage of the process when detailed submissions are required from each bidder and must be evaluated. It is expected that costs will increase relative to the number of bids that Ofgem has to consider and by encouraging bids the process may become expensive to administer. However, the incremental cost of preparing bids for several projects will be lower as there are opportunities to exploit economies of scope and scale. Similarly, Ofgem can exploit efficiencies from evaluating more than one bid for each project.

### Post-consultation update

*There were a number of different views with regard to who should bear the tender costs and how these might be recovered. A number suggested that the costs should sit with the generator making the application and not the OFTO as paying application fees signifies seriousness of intent. However, it was also suggested that it would be unfair for a generator to pay a fee as they would not know what the final offer would be. Furthermore it was stated that the generator being responsible for both an application fee and for the costs associated with the tender process is discriminatory when compared to the onshore connection process and that the tendering costs should be borne by the consumer. It was suggested that the prospect of application fees could act as barrier to projects being developed. It was also suggested that tender costs should be borne by either consumers or the generator and winning bidder. Respondents said that there was a need for more information on the data room and the fees that will be levied to cover tender costs*

*The issues of the level of tender costs, to whom they should fall and how they may be recovered are discussed further in the Government Response and Ofgem's Consultation Document.*

4.71 Costs are more likely to increase if the tender assessment panel has to sit a number of times. Similarly, assessment costs will increase if bids are allowed to include significant variations on specific criteria.

4.72 There is a risk that if there is not a clear understanding of the information required to be submitted during the tender process, the costs will increase for both bidders and Ofgem as clarification will be necessary. Ofgem hopes to mitigate these costs by establishing clear and agreed instructions ahead of the process.

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<sup>36</sup> <http://www.berr.gov.uk/energy/sources/renewables/policy/offshore-transmission/Licensing%20Offshore%20Electricity%20Consultation%20-%20Nov%202006/page35525.html>

- 4.73 The requirement to ring-fence their businesses may increase the costs of participating in the bidding process. This may discourage bidders but we do not expect these costs to be so significant as to reduce the number of bidders substantially.
- 4.74 There is a risk that Ofgem, despite being the independent regulator will not be seen as sufficiently independent to enable the correct decision on the winning bid to be made. If this were the case, this is likely to mean that fewer companies would bid to become OFTOs. This would reduce the effectiveness of the competitive process which is more likely to lead to higher costs. However, the Government considers that the proposals which provide for the availability of judicial review for appeals provide sufficient mitigation against this risk.
- 4.75 There is a risk that Ofgem does not have sufficient expertise to oversee the tender process and approve the selection of bidders at each stage in the process. If this were the case, there is a risk that the most appropriate bid were not chosen which may lead to higher costs. This risk may be mitigated by the use of external resources to assist in the evaluation of tenders and advise Ofgem until it develops sufficient in-house expertise if that is viewed as being more cost-efficient.
- 4.76 There may be a cost if less experienced companies were to become OFTOs as they may not have sufficient technical, commercial or financial knowledge to undertake an OFTO role. This could lead to less reliable connections, increased cable failure rates and delays to projects which, in the longer-term may lead to higher costs. However, it is envisaged that those companies wishing to be OFTOs will have to meet specific criteria laid out in the tender documentation to demonstrate that they have sufficient knowledge and experience to undertake an OFTO role to the required standards.

#### Other issues raised in the consultation responses

##### Generator involvement in the tender process

*There were concerns about the level of generator involvement and clarification was sought on how much the generator would be able to influence the tender process given its clear interest in ensuring a successful tender exercise.*

##### OFTO of last resort

*A number of respondents were opposed to the proposal that there should be no OFTO of last resort in the enduring regime. A key issue was the time delay involved with running a second tender process. It was noted that generators require confidence that their projects will be provided with connections to the onshore transmission system, and this confidence will be removed if there is no OFTO of last resort. Other concerns were the technical risks and the added costs of re-tendering. This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

##### Generator affiliates as OFTOs

*There was some support for generator-affiliates being allowed as OFTO's, but there were concerns. A common concern was that generator-affiliates will have a competitive advantage. Reasons include or relate to:*

- *The generator-affiliated OFTO would have access to all local knowledge held by the generator-developer (rather than the inevitable subset transferred via the data room and intellectual property purchases);*
- *The transaction costs and information aspects associated with negotiating generator-OFTO bilateral contracts for additional transmission services; and*
- *Cost of managing operational risks (Enhanced co-ordination between generator and OFTO, including the proposal that performance penalties on the OFTO will be paid to*

*the affected generator, will mean that the portfolio of generator and OFTO will be less risky than if either was kept separate.)*

*Furthermore, the potential for a competitive advantage could make non-affiliated OFTO's cautious about bidding, as they would not want to incur the bid costs if there was a reduced chance of winning the contract.*

*There were some comments that, provided there were sufficient business separation proposals in place, a generator-affiliate could act as an OFTO.*

*However, most of these concerns were supported by comments that suggest this position is workable, providing appropriate measures to ensure fairness are implemented. However, the Government continues to note the potential for future UK or EU legislation which may prohibit common ownership of transmission and generation assets.*

*This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

### Environmental costs

4.77 If the tender process is complicated and expensive, there may be fewer bidders which would lead to a less competitive process. If competition were reduced it is less likely that an optimum bid would win. This may lead to higher costs which may mean that less offshore renewable generation would connect and there would be costs in terms of CO<sub>2</sub> emissions savings.

4.78 Any aspect of the tender process which increased costs disproportionately is more likely to lead to negative environmental impacts. Each GW of offshore wind that does not proceed would lead to lost emissions savings of 350kt /CO<sub>2</sub>e per year.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

4.79 There may be social costs in terms of reduced CO<sub>2</sub> emission reduction, if the cost of the tender process led to a reduction in the number of renewable generation projects proceeding. This may lead to a decrease in terms of the diversity of energy supply and associated security of supply.

4.80 A reduction in competition as a result of a complex and expensive tender process may lead to higher transmission costs. In this event there is an increased risk that these higher costs would be passed on to the consumer by way of higher electricity prices and therefore may increase the number of people living in fuel poverty.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Transitional Arrangements**

### Economic benefits

4.81 The Government believes that the proposals will allow projects that require adoption to be developed more quickly as developers will have greater certainty that the transmission assets they are developing will be adopted by a licenced OFTO on their completion. This

greater certainty may enable projects to reach financial close quicker which in turn will ensure that project delays are minimised.

Post-consultation update

*It was questioned whether or not there was sufficient time between the 'Go-active' and 'Go-live' dates to complete the first round of OFTO tenders and appointments. The risk of there being no OFTO in place in sufficient time would be increased in the event that no bids for a tender were received.*

4.82 Enabling projects who will require adoption to enter the tender process (if they meet the relevant criteria) as soon as possible after the 'Go-Active' date is likely to encourage projects to construct more quickly as they will have more confidence that an OFTO will be in place to adopt their assets on completion of construction.

Post-consultation update

*There was general support for the proposals on dealing with transitional projects.*

4.83 The 75% ex-ante assessment provides an appropriate balance of incentives for developers and risks to consumers. The proposal retains a strong incentive on developers to keep costs low which will help achieve economic and efficient development of transmission assets. This will have a benefit for the offshore wind sector in terms of lower overall costs by providing a commitment that would give financiers greater comfort and certainty and may therefore assist in the development of smaller projects.

Post-consultation update

*A number of respondents considered that they should be guaranteed 100% of assessed ex-ante costs rather than 75% as proposed. Generators considered that the current proposal added significant risks to their projects as they are already under strong pressure to produce economic and efficient projects, with no certainty that the costs will be recoverable. It was suggested that extra costs may be factored in to mitigate this risk. It was suggested that where a financial investment decision has been achieved then the contract prices constitute the best prices that could have been obtained in the market and therefore guaranteeing 100% of ex-ante costs is appropriate. This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

4.84 The Government believes that the sooner projects are built, the more likely this is to bolster confidence in the offshore renewables market which may in the longer-term bring in more players and reduce costs.

4.85 Having specific criteria which projects must meet before being considered under the transitional tender process will ensure that only those projects that realistically require adoption will be considered. The Government is mindful of the need to avoid having a significant 'queue' of projects which require adoption given the resource implications that this would have for Ofgem and the impact on the enduring regime. The cost of engineering assessments may be expected to amount to between £50,000 and £150,000 per project, although these may vary depending upon the complexity of each transitional scheme and need for further specialist advice.

Post-consultation update

*Respondents said that further explanation and clarification of the requirement to demonstrate full unconditional financial close and how this would be interpreted by Ofgem was needed. One respondent said that projects may operate on a balance sheet basis and would not experience financial close as set out in the July 2007 Policy Statement and that it was unlikely that 'unconditional parent company support' would be granted for any project. Further information on the likely costs can be found in Chapter 5 of this Impact Assessment.*

- 4.86 Furthermore Ofgem would not have sufficient certainty on those projects who do not meet the specific criteria to be able to make a sufficiently robust assessment of the economic and efficiency of the assets that they were being asked to pass through to the RAV.
- 4.87 The stages described in the transitional tender process will have similar benefits to those described at paragraphs 4.53-4.67 in terms of increasing competition, reducing the costs of the process and ensuring that a suitably qualified OFTO is in place in a timely manner.

#### Post-consultation update

*It was suggested that if a pre-qualification stage were to be included in the tender process, the assessment should also include the capability to design, construct and manage assets in potentially harsh environments as well as financial health.*

- 4.88 The proposal that under the transitional arrangements there should be an OFTO of last resort (the offshore generator) should no bidders come forward following a second invitation to tender is likely to provide comfort to offshore generators whose projects may be completed before the 'go-live' date to ensure that they can operate legally offshore once 132kV lines are defined as high voltage lines.

#### Post-consultation update

*The majority of respondents were in favour of having an OFTO of last resort under the transitional arrangements. It was suggested that consumers may require assurance that if the generator were to take on this role, the connection project had been undertaken efficiently and not increased the risk to consumers. It was also suggested that whilst this acknowledges that the generator may be the OFTO of last resort it does not address the possibility of all prospective OFTOs bidding unreasonably high prices or prices at a level above that which the generator is prepared to be the OFTO. Unless the process allows the generator to nominate a reserve price, it will need to submit its own bid to ensure that if all other bids are more expensive it would be chosen to be the OFTO. It was also suggested that incentives should be placed on the generator to ensure that they do not take decisions that will result in them being the OFTO of last resort. This issue is discussed further in the Government Response and Ofgem's Consultation Document*

- 4.89 The increased certainty, if the terms for the transfer of assets are set out so that they can be considered by prospective bidders, is likely to encourage bidders to submit tender bids. This increase in competition is likely to lead to a more efficient outcome. Similar benefits would be enjoyed if developers agreed to transfer assets to the winning OFTO bidder following a tender process.

#### Post-consultation update

*It was suggested that consideration needs to be given to the consequences of the OFTO failing to comply with its obligations close to the hand over of the assets and that the generator should not be penalised for events outside its control. It was suggested that assets should be assessed as fit for purpose. This issue is discussed further in the Government Response and Ofgem's Consultation Document.*

#### Environmental benefits

- 4.90 This approach to transitional arrangements may have significant environmental benefits. If the process allows more offshore renewables projects to begin generating earlier it will reduce overall CO<sub>2</sub> emissions. Every 1GW of renewable generation that is not developed (which is assumed to displace 1 GW of CCGT generation producing 0.1 tC/MWh) would result in lost savings of around 350kt/CO<sub>2</sub>e if the annual load factor is 40%. Based on a social cost of carbon (SCC) of £70 per tonne in 2000 which increases by £1/tC in real

terms every year thereafter<sup>37</sup>, this equates to a monetary loss of roughly £30 million per year at today's prices in present value terms<sup>38</sup>.

#### Post-consultation update

*From August 2007 the SCC has been replaced by the shadow price of carbon (SPC). The SPC is different from the previously used SCC in that it takes more account of uncertainty, is based on a stabilisation trajectory, and is in line with the marginal abatement costs of reaching the stabilisation goal. Potential costs based on the SPC can be found at paragraphs 8.1 – 8.3. Further background on the SPC can be found on the Defra website<sup>39</sup>.*

*In this IA the annual load factor has been taken to be 30% rather than the 40% previously used. This is based on operational data from a number of Round 1 offshore wind farms.*

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

4.91 An increase in offshore renewable generation will have significant social benefits in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

4.92 This approach will ensure that transmission connection costs are economically and efficiently incurred. This will help to ensure that overall costs are lower which is more likely to benefit consumers in terms of lower electricity prices.

#### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

#### Economic costs

4.93 There may be extra costs to Ofgem as a result of having to do ex-ante and ex-post assessments of projects. The cost of engineering assessments may be expected to amount to £50,000 to £150,000 per project, although these may vary depending upon the complexity of each transitional scheme and need for further specialist advice. There may also be extra costs to developers who will have to provide Ofgem with the information required to conduct these assessments. The Government intends that these costs will be kept to a minimum and considers that the costs involved will be marginal in relation to the overall size of an average project.

#### Post-consultation update

*Respondents said that there was a need for more information on the data room and the fees that will be levied to cover tender costs and whether or not these form part of the costs that can subsequently be included in the adopted assets.*

4.94 In undertaking an ex-ante assessment there may be a risk that the final costs of unconstructed transmission assets will not be known. Should these costs increase to an extent that Ofgem do not deem them to be economic and efficient it is more likely that the costs, which will not be recoverable by the generator through the RAV, will be borne by the generator. This may lead to higher overall costs which may mean that fewer offshore renewable generation projects will proceed.

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<sup>37</sup> <http://www.hm-treasury.gov.uk/>

<sup>38</sup> Strictly, the present value loss declines every year, although it remains close to £30 million up to 2011.

<sup>39</sup> <http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

### Post-consultation update

*Those that responded agreed that there was a need for an ex-post assessment of costs to determine that any differences in price between the contract and out-turn prices were economic and efficiently incurred. It was suggested that there was already significant pressure on generators to ensure that designs were economic, efficient and fit for purpose. Therefore, ex-post assessments were likely to demonstrate that the costs were incurred economically and efficiently. Respondents expressed the desire to understand more fully the process and criteria on which Ofgem would determine whether costs were efficient and economically incurred.*

4.95 There is a risk that if the transmission assets to be adopted are not built to the required standard as described during the tender process, the winning OFTO may refuse to adopt them. In this event it is likely that this will have a negative effect on confidence in the transitional arrangements and in the offshore renewables market in general. This may increase costs in the long-term.

### Post-consultation update

*It was suggested that the costs of operating offshore assets (particularly the risk and cost of failures) will depend strongly on their design and construction. OFTOs must have the opportunity to verify that assets are actually constructed as originally declared and all warranties are valid.*

4.96 There may also be a risk that offshore transmission assets may be unattractive to potential OFTOs which may mean that there is no OFTO willing to adopt the assets. In the circumstances the generator will be given an OFTO licence to operate the assets. However, there is a risk that costs may increase if inexperienced generators are required to operate transmission assets.

### Post-consultation update

*It was suggested that generators may not be willing or able to be the OFTO of last resort.*

4.97 The reduced certainty, if the terms for the transfer of assets are not set out so that they can be considered by prospective bidders, may discourage tender bids. The consequent reduction in competition may lead to higher costs. Similar costs would be incurred if developers did not agree to transfer assets to the winning OFTO bidder following a tender process.

### Post-consultation update

*It was suggested that assets should be assessed as fit for purpose. The issue of transfer of assets is discussed further in the Government Response and in Ofgem's Consultation Document.*

### Environmental costs

4.98 There is a significant risk that if projects that will require adoption do not have sufficient confidence that their assets will be adopted there is a greater likelihood that a project will fail, with a loss of offshore renewable generation and negative environmental impact through loss of carbon savings as discussed at paragraph 4.90.

4.99 Similarly, there is a risk that the final costs of these transmission assets will not be known and, should these costs increase to an extent that Ofgem do not deem them to be economic and efficient, it is more likely that the costs, which will not be recoverable by the generator through the RAV, will be borne by the generator. This may lead to higher overall costs which may mean that fewer offshore renewable generation projects will proceed which may have social costs in terms of a loss of CO<sub>2</sub> reduction.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

4.100 There may be significant social costs if projects were to fail as a result of adoption issues through a reduction in the amount of offshore renewable generation and associated loss of CO<sub>2</sub> emission reduction. Similarly, there will be a decrease in terms of the diversity of energy supply and associated security of supply issues.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Connection Application Process**

### Economic benefits

4.101 Keeping the process as close as possible to the onshore system will be beneficial as this should minimise the need for new systems and associated periods of learning which should help to keep costs down and reduce timescales.

### Post-consultation update

4.102 A two-stage approach designed around the tender process is the most appropriate approach to take account of the additional design and development work required offshore. This will better enable connection applications to be accommodated within the existing framework.

### Post-consultation update

4.103 There will be a benefit in terms of time savings if the first stage of the indicative offshore offer process were run in parallel with the onshore connection process.

4.104 There will be benefits in allowing information relevant to the indicative connection offer from the first stage being fed into the tender process and used by OFTOs in the development of a bid in the second stage of the process.

### Post-consultation update

*Respondents stated that an indicative (Stage 1) connection offer could be provided within 3 months and would be consistent with the onshore arrangements.*

*Those respondents that commented on the final offer process (Stage 2) had no major objections to the process outlined. As it was suggested that the sub-sea survey would be done in Stage 2, there was a need for clarification of when the preparatory work would be undertaken as the timing would be dictated by issues outside the control of the connection application process such as weather conditions and the availability of suitable vessels.*

4.105 Costs to bidders will be reduced by the party who is undertaking the tender providing a single seabed survey to all the bidders during the second stage. The Government believes that this will better enable an efficient process for connection applications. The costs for a seabed survey are dependent on the level of detail required and typical costs can range from £10k-200k. The value of any savings made will therefore be dependent on the level of detail required and the number of bidders it is provided to.

### Post-consultation update

Further clarification on who would be responsible for undertaking the seabed survey was requested.

- 4.106 A 'pre-application' stage will help to ensure that all parties have a clear understanding of the connection requirements and the associated costs at the earliest possible stage in the process. The production by the GBSO of a document equivalent to a Seven Year Statement will help to ensure that the correct information is available as early as possible which will help to reduce costs and allow indicative connection offers to be made in a timely manner.

### Post-consultation update

*There were a range of views on the publication of potential connection information by the GBSO. Some respondents believed that information such as potential onshore connection sites and connection corridors would benefit all developers of all types of generation but that it may be resource-intensive and there is a need to understand the costs involved and how these would be apportioned. Others suggested that this information could be made available as part of the offshore connection process (Stage 1) rather than at a pre-application stage. Other respondents suggested that the pre-application stage should be optional.*

*It was recognised that the risk of connection offers being based on generic design assumptions (needing revision once more information was made available which could de-value the offer as it would not reflect the most efficient connection agreements) could be mitigated by pre-application feasibility studies.*

- 4.107 The proposals for adapting the existing structure of connection application fees will ensure that the generator pays a fee that reflects the cost of the connection works and tender activities it causes through a staged process of ramping-up the level of commitment as the application progresses.
- 4.108 An annual tender application window may allow a number of connections to be bid for together in a single tender. This may mean that the costs involved may be lower for both bidders and the bodies assessing the bids than if the connections were bid for in a number of individual tenders. The Government also believes that shared connections may lead to lower overall connection costs. Previous RIAs estimated that potential cost savings of shared connections were significant<sup>40</sup>.

### Environmental benefits

- 4.109 Keeping the process simple will reduce costs for offshore renewable generators. This is more likely to encourage the development of offshore renewable generation which will have environmental benefits in terms of reduced CO<sub>2</sub> emissions.
- 4.110 A 'pre-application' stage in which involves a high-level assessment of the onshore connection site may have significant environmental benefits. It may allow a more co-ordinated approach to the siting of onshore connections and associated routes and help to identify where environmental impacts can be minimised. If this were to reduce the number of connections required, there may be a reduction in negative environmental impacts.
- 4.111 An annual tender application window may offer significant benefits as a single OFTO developing a number of connections simultaneously may reduce negative environmental impacts. For example, this may mean fewer cables or laying a number of cables at the same time.

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<sup>40</sup> <http://www.berr.gov.uk/files/file35531.pdf>

### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

### Social benefits

4.112 As set out previously an increase in offshore renewable generation will have benefits in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

### Economic costs

4.113 Developing a different approach to that which is currently used onshore is more likely to lead to increased costs in terms of the resources required to develop the process. This is also more likely to increase the time required to develop the process which may mean that offshore projects have to wait longer to connect to the onshore system. Delays to the implementation of the new regime are more likely to lead to cost increases for offshore generators and potential OFTOs.

4.114 A two-stage process may take longer to deliver a final connection offer than the existing onshore system, given that there is a need to run a tender process.

### Post-consultation update

*It was recognised that as connection offers will be provided within 3 months, they may be based on generic design assumptions and require revision once more information was made available, potentially devaluing the offer and not reflecting the most efficient connection agreements. There were also concerns that as the final connection offer may be fundamentally different to the indicative offer it may have time and cost implications for the generator. For example a low initial connection offer may encourage developers, who may then struggle to meet the final offer price and it was suggested that there should be a cap on the variation between indicative and final offers.*

*There was also a concern that if the OFTO decided to make a connection in a different location to that which is selected by the generator in the tender, the generator is then exposed to multiple connection application fees. It was suggested that this risk needed to be mitigated. One respondent sought assurance that onshore TEC rights will be guaranteed once the offer is accepted, otherwise the developer could incur costs and not necessarily secure the connection.*

*It was suggested that the release of an expression of interest should be optional to maintain confidentiality.*

*Whilst there was some support for the three-month timescale some respondents suggested that the GBSO may struggle to stick to this limit with tender windows. There were also concerns that the final connection offer may be fundamentally different to the indicative offer which may have time and cost implications for the generator.*

4.115 There may be costs associated with the pre-application stage. These will be dependent on the scope of such studies, the level of detail required in accompanying documents, the number of such studies required and the regularity with which information will need to be updated. This is discussed further in Chapter 6 of the Policy Statement. Initial estimates of the cost of the GBSO producing a document equivalent to the Seven Year Statement are £30-60K.

### Post-consultation update

*As stated at paragraph 4.106 some respondents believed that providing this information may be resource-intensive and there is a need to understand the costs involved and how these would be apportioned.*

- 4.116 The use of an annual tender application window may lead to some projects being delayed if they have to wait for the annual tender application window to open once they have their indicative connection offer. This delay may increase costs.

### Post-consultation update

*Of those who responded the majority of respondents were in favour of Option 2 which suggested ruling out an annual tender application window and allowing generators to realise cooperation benefits independently and optionally.*

*One respondent suggested that a mandatory annual tender application window, to be incorporated into the offshore connection application tender process may work, but with some flexing of the pre-application process. One generator had no clear preference and suggested the final decision should be informed by the first two waves of applications during the 'Go active' and 'Go live' periods.*

*The primary concern with the annual tender window is that it may cause delays, and that market forces would encourage cooperation regardless of the window. Furthermore, it was suggested that tender windows may inadvertently present onshore generators with an unfair advantage over offshore users.*

### Environmental costs

- 4.117 There may be increased costs and delays within the connection application process, for example if an annual tender application window is used. This may be more likely to lead to less offshore renewable generation which will have negative environmental impacts.
- 4.118 A less co-ordinated approach in which the information available to all parties is reduced is more likely to lead to greater negative environmental impacts through increased numbers of cable connections which may involve multiple routes and connection points.
- 4.119 The benefits of a more structured approach to co-ordination via an annual tender application window may not be realised if generators were left to realise the benefits of such co-operation independently and optionally. There may be some projects at a more advanced stage that might not find it sufficiently beneficial to wait for other projects to allow them to be tendered for together. This lack of co-ordination may lead to increased negative environmental impacts as outlined in paragraph 4.118.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

- 4.120 A reduction in the volume of offshore renewable generation will have costs in terms in terms of energy diversity and a loss of reduction in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## Connection via distribution networks

### Economic benefits

- 4.121 The Government considers that using existing mechanisms may be beneficial as this should minimise the need for new systems to be developed and associated periods of learning which should help to keep costs down and reduce timescales.
- 4.122 The proposals in facilitating connection to the onshore distribution network may have significant benefits as the nearest point of connection to the onshore transmission network may be some distance away and connecting to this, rather than to the distribution network, may be substantially more costly in terms of building transmission assets.
- 4.123 An approach that leads to lower costs and a more efficient system is more likely to lead to the development of a greater volume of offshore renewable generation which may in turn lead to lower overall costs.

### Post-consultation update

*There was general support for the proposals which identified the possible types of comparable connection. One respondent suggested that offshore users should be given the option to specify either a direct transmission or embedded transmission connection arrangement in their connection application.*

*In terms of charging arrangements those that responded agreed with the proposals although one respondent said the mechanism for the recovery of DGUoS charges was unclear.*

### Environmental benefits

- 4.124 These proposals which may reduce overall costs are more likely to lead to an increase in the environmental benefits associated with an increased volume of offshore renewable generation.

### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

### Social benefits

- 4.125 An increase in offshore renewable generation will have positive benefits in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

### Economic costs

- 4.126 The costs of developing new approaches are more likely to be higher, in terms of developing the methodology, explaining it and implementing it than extending the existing mechanisms. This would be more likely to increase the costs of offshore renewable generation. If existing arrangements are to be extended it is important that the arrangements are appropriate and do not discriminate against offshore generators.
- 4.127 An approach that leads to higher costs is more likely to lead to a reduction in the volume of offshore renewable generation.

### Post-consultation update

*In terms of the connection process, it was stated that it was not necessary to have longer time-scales (>3 months) for the connection process if a DNO is involved. Two respondents raised concerns regarding the governance arrangements. One respondent stated it may not be able to meet its obligations to offer terms within three months without a change to distribution companies' obligation or the exclusion of Embedded Transmission solutions from initial connection offers.*

### Environmental costs

4.128 An approach that leads to higher costs is more likely to lead to a reduction in the volume of offshore renewable generation with the associated negative environmental impacts in terms of loss of CO<sub>2</sub> emission reduction.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

4.129 A reduction in the volume of offshore renewable generation will have costs in terms in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Charging**

### Economic benefits

4.130 Using the current approach as applied onshore to develop the offshore charging arrangements will ensure that it is consistent with onshore. The system will be recognisable by developers and OFTOs and therefore more likely to be cheaper to implement than if a new approach were developed which will reduce costs.

4.131 Asking NGET<sup>41</sup> to take the approach currently specified in their licence which will incorporate industry input and consultation at key stages. The Government considers that the use of regular fora such as the Transmission Charging Methodology Forum (TCMF) is a suitable mechanism to ensure that a consensus on an appropriate charging methodology is reached. This should enable a non-discriminatory approach to be developed in time and to an appropriate quality. This approach is more likely to ensure an efficient and effective system which is more likely to reduce costs.

### Post-consultation update

*There was support for NGET's role in developing the charging methodology. Respondents stressed that there should be sufficient consultation and scrutiny to ensure that all aspects are covered. It was stated that some decisions resulting from NGET's pre-consultation may impact the design of the regulatory regime offshore.*

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<sup>41</sup> <http://www.nationalgrid.com/NR/rdoonlyres/ODF19996-2131-406A-B6C2-28C31C5ABBE4/18307/OffshoreChargingPreconsultationGBECM08.pdf>

### Environmental benefits

- 4.132 Developing the charging methodology in this way may reduce overall costs for users of the system. This may have a positive impact on development of the offshore generation which in turn will bring increased environmental benefits.

### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

### Social benefits

- 4.133 An increase in offshore renewable generation will have positive benefits in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

### Economic costs

- 4.134 The costs of developing a charging methodology different to that which is currently used onshore would be higher in terms of developing the methodology, explaining it and implementing it. This would be more likely to increase the costs of offshore renewable generation.

### Post-consultation update

*It was stated that onshore users should not incur charges as a result of developers choosing to locate offshore.*

### Environmental costs

- 4.135 Developing a charging methodology significantly different from that used onshore is likely to be more expensive. Higher costs are more likely to lead to less offshore renewable generation which will have greater negative environmental impacts in terms of a loss of reduction in CO<sub>2</sub> emissions.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

- 4.136 A reduction in the volume of offshore renewable generation will have costs in terms in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Access**

### Economic benefits

- 4.137 There may be significant benefits in keeping the same or very similar access products for offshore as are currently used onshore. Whilst it is recognised that access products will have to take account of differences offshore, there may be a benefit in using existing

onshore products which will be cheaper than developing entirely new offshore access products. Furthermore as participants may be familiar with existing onshore products it is more likely that their costs will be lower as a result.

- 4.138 As the impacts of any changes to the access products may not be limited to either onshore or offshore, there will be a benefit in any changes being progressed via industry parties and by proposing amendments to the Connection and Use of System Code (CUSC). This will ensure that all views are taken into account and that efficient and suitable access products can be developed.

#### Post-consultation update

*There was general support from a number of respondents for proposals to extend onshore access products offshore and the minimum security standard for offshore connections. Others commented that generators without circuit redundancy should not receive compensation if the onshore circuit is unavailable and the principle of access and compensation being proportionate to the standard of connection is correct.*

#### Environmental benefits

- 4.139 Using similar access products is more likely to reduce costs for offshore generators which may lead to an increase in renewable generation with the associated environmental benefits.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

- 4.140 Adopting an approach which is more likely to reduce costs may mean an increase in the volume of offshore renewable generation. This will have social benefits in terms in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

#### Economic costs

- 4.141 If the existing access products are to be used offshore it is important that these are appropriate and do not discriminate against offshore generators as this may lead to increased costs and delays.

#### Post-consultation update

*It was suggested that access products should ensure efficient use of the connection when it is available.*

- 4.142 Developing significantly new access products for offshore may be a more expensive process than varying those that currently exist for onshore. This approach would be more likely to increase costs and cause delays to the connection of offshore renewable generation. This may have costs in terms of loss of social cost of carbon savings as outlined in paragraph 4.90.

#### Post-consultation update

*There was concern that flexibility may be lost if higher security standards were negotiated outside the standard contract.*

## Environmental costs

- 4.143 Undertaking an alternative approach to developing access products may increase costs for offshore renewable projects which may mean that they are less likely to proceed. This may lead to increased negative environmental impacts as there may be less offshore renewable generation.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

## Social costs

- 4.144 An approach which leads to a reduction in the volume of offshore renewable generation will have social costs in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Compensation**

### Economic benefits

- 4.145 Having compensation arrangements with minimal changes to those in place onshore may reduce costs as players who are familiar with the existing arrangements will not have to learn, understand and develop processes for interacting with a new system.
- 4.146 Aligning compensation with the access product and level of infrastructure available using the principle of cost-reflectivity is more likely to lead to a more efficient solution.

### Post-consultation update

*Some respondents would support a penalty mechanism unless the connection had comparable security to an onshore connection. One respondent stated that there needs to be flexibility within the regime to allow developers to design for a higher security standard offshore and believe this arrangement should form part of the standard regime and should not sit outside it as a bi-lateral agreement between the OFTO and the generator.*

- 4.147 It is more likely offshore compensation arrangements which are similar to onshore will encourage offshore wind generation as it may provide a benefit to offshore generators should their transmission connections fail.
- 4.148 An incentive mechanism to maximise the availability of offshore transmission networks is likely to lead to a more reliable transmission system. Increased reliability is likely to lead to lower costs in terms of maintenance which may lead to lower overall costs.

### Post-consultation update

*Respondents who commented were supportive of the concept of reward and punishment dependent on performance. It was also suggested that incentives on the OFTO should be sufficiently strong to ensure faults are rectified quickly. One respondent suggested that a sliding scale for compensation could be used where the generator is compensated up to a specified level of service, followed by a reward for the OFTO for performance beyond this level. It was also suggested that the level of reward or penalty in any given year should be capped to prevent the incentive mechanism having a disproportionate impact.*

4.149 The proposals could lead to benefits for OFTOs as they may seek new ways to deliver transmission connections to reduce their liability for compensation. Increased reliability of their transmission connections would reduce the amount of compensation payments and may allow OFTOs to charge a premium for this extra reliability. This may reduce long-term overall costs as this extra reliability would reduce the maintenance costs associated with transmission assets but may be more expensive in the short term.

#### Environmental benefits

4.150 The proposals where generators are provided with compensation will lead to an increase in offshore renewable generation as the risks to generators may be reduced. This increased renewable generation would have environmental benefits in terms of a reduction in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

4.151 An approach which may lead to an increased amount of offshore renewable generation will have benefit in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

#### Economic costs

4.152 In determining the compensation arrangements it is important that the balance of risks between the generator and OFTO is appropriate as this may otherwise lead to higher costs for one particular party over another. If this occurs it may lead to fewer projects being developed. Similarly, inappropriate penalties and incentives for OFTOs may lead to an inappropriate risk profile which may lead to higher overall costs.

#### Post-consultation update

*As stated previously there was support for an appropriate penalty / incentive regime based on performance. It was also suggested that the level of reward or penalty in any given year should be capped to prevent the incentive mechanism having a disproportionate impact.*

4.153 If there were no compensation arrangements offshore the costs to the generator of having to get insurance to cover the potential losses due to failure of transmission assets may lead to higher overall costs. Conversely, if offshore generators were to get the same level of compensation as onshore, OFTOs may reflect this in their costs to cover this potential liability so costs may be higher.

#### Post-consultation update

*Some respondents stated that the level of any penalty would need to balance the loss that a generator may face against the potential for an OFTO to build in a risk premium that would be paid for via TNUoS charges thus becoming a form of self-insurance.*

4.154 Providing compensation may reduce innovation as generators would be less willing to consider new transmission arrangements or methods which are not tried and tested. This may mean that costs will not be reduced to the same extent as under a situation where innovation was encouraged.

### Environmental costs

- 4.155 Higher costs associated with similar compensation arrangements as onshore may lead to fewer offshore renewable generation projects with the associated loss of reduction in CO<sub>2</sub> emissions and increased negative environmental impacts.

#### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

- 4.156 If similar compensation arrangements apply offshore then ultimately these higher costs may be borne by electricity consumers through higher electricity prices. Consumers may therefore bear a higher proportion of the risks of offshore renewable generation. This may have implications for the number of people living in fuel poverty.

#### Post-consultation update

*No new social costs were identified as a result of the consultation.*

### **Technical Rules**

- 4.157 The basic approach that the existing onshore technical rules would be extended offshore unless there is good reason not to do is more likely to minimise costs.
- 4.158 Any changes to the various codes, licences and agreements that are required to enable offshore projects to comply with the requirements are likely to have significant economic benefits. These changes which will ensure that offshore projects are able to connect to the onshore transmission system are likely to lead to an increase in the number of offshore wind projects that proceed which is more likely to lead to overall costs being reduced.

#### Post-consultation update

*Those respondents who commented generally supported the proposals.*

### Environmental benefits

- 4.159 The changes to the technical rules required to enable offshore projects to comply with the requirements are likely to lead to an increase in the numbers of offshore wind projects that proceed. This is likely to have significant environmental benefits in terms of a reduction in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

### Social benefits

- 4.160 An approach which may lead to an increased amount of offshore renewable generation will have social benefits in terms of increased energy diversity and reductions in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

### Economic costs

- 4.161 Any changes to the various technical rules that are required will be necessary to ensure that projects are able to comply with the licence conditions that are placed upon them and to ensure the safety and security of the wider GB transmission system. Failure to take proper account of the technical requirements is likely to lead to costs in terms of penalties for failure to comply with the required technical rules.
- 4.162 Failure to make the required changes to the technical rules will lead to offshore renewable generation projects being unable to connect to the onshore transmission system. This is likely to lead to significant losses in terms of 'sunk' development costs for offshore renewable generation projects that are unable to connect to the onshore grid to transmit their electricity.
- 4.163 There will be cost implications in terms of complying with the various technical rules. However, the Government intends to keep these to the minimum required in line with the onshore system to ensure the safe and efficient operation of the system.

### Post-consultation update

*There was general support for the development of the various technical rules through consultation with industry via both existing channels and issue-specific industry sub-groups.*

### Environmental costs

- 4.164 If the required changes to the technical rules are not made, offshore renewable generation projects are unlikely to proceed. This is likely to have significant environmental impacts in terms of loss of reduction in CO<sub>2</sub> emissions and increased negative environmental impacts.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

### Social costs

- 4.165 If the required changes to the technical rules are not made offshore renewable generation projects are unlikely to proceed. This is likely to have significant social costs in terms of reduced energy diversity mix and a loss of reduction in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Implementation Issues**

### Economic benefits

- 4.166 The Government is aware that changes to licences, codes and agreements are necessary to ensure that offshore generation is able to proceed but believes that the proposals will ensure that the costs involved are kept to a minimum. This is more likely to reduce overall costs of offshore transmission connections.
- 4.167 Working with relevant code owners and other industry participants is more likely to lead to an agreed consensus on any changes that are required. This is more likely to ensure that any changes to licences, codes and agreements are fit for purpose and will lead to a more efficient system where burdens are more likely to be reduced.

- 4.168 The benefits of implementing changes to licences, codes and agreements are significantly greater than the costs associated with these changes as if the necessary changes were not implemented it is likely that offshore generation projects would be unable to proceed.
- 4.169 It is necessary to require that holders of offshore transmission licences do not also hold a current onshore transmission licence. This would ensure that existing licensees operate their offshore transmission activities as a separate legal entity. This is necessary to ensure that the tender process is fair and transparent and that existing onshore TOs do not have an unfair competitive advantage.
- 4.170 The Government recognises that where required changes will reflect the different requirements of offshore transmission owners.

#### Post-consultation update

*Those that responded expressed support for the general way forward outlined in the proposals and stressed that where possible industry processes should be used and changes should be kept to a minimum and be simple and transparent.*

#### Environmental benefits

- 4.171 An efficient process that produces an agreed consensus on any changes that are required is more likely to lead to lower costs. Consequently, lower overall transmission connections costs are more likely to lead to a greater volume of offshore wind generation connecting which will have significant environmental benefits in terms of CO<sub>2</sub> emission reductions.

#### Post-consultation update

*No new environmental benefits were identified as a result of the consultation.*

#### Social benefits

- 4.172 Adopting an approach which may lead to an increased amount of offshore renewable generation will have social benefits in terms of energy diversity and reductions in CO<sub>2</sub> emissions.

#### Post-consultation update

*No new social benefits were identified as a result of the consultation.*

#### Economic costs

- 4.173 Changes to licences, codes and agreements are likely to place extra costs on affected parties which may increase costs of offshore renewable generation. However, the costs of not undertaking these changes would be significantly higher to developers and OFTOs in terms of lost development costs should offshore renewable generation not proceed.

#### Post-consultation update

*One respondent said that no risk assessment of the cost and time implications had been carried out and that as they suspect that the proposals will have these implications for developers, these need to be set against the revised RO in determining the economic viability of offshore wind.*

## Environmental costs

4.174 If the changes to licences, codes and agreements were not implemented, there is a risk that offshore generation would not proceed. This is likely to have significant negative environmental affects in terms of loss of CO<sub>2</sub> emission savings.

### Post-consultation update

*No new environmental costs were identified as a result of the consultation.*

## Social costs

4.175 If the required changes to licences, codes and agreements did not occur, this may lead to a reduction in the volume of offshore renewable generation which will have social costs in terms of energy diversity and a smaller reduction in CO<sub>2</sub> emissions.

### Post-consultation update

*No new social costs were identified as a result of the consultation.*

## **Work Programme**

4.176 We anticipate that the earliest date for commencement of sections 90, 91 and 92 of the Energy Act is October 2008 and of sections 89 and 180 is October 2009. However, this is dependent on there being no significant change of scope or slippage in the timetable. Delays are likely to push the commencement date further into the future. Please note these dates are for indicative purposes only.

The key dates we envisage are as follows:

July 07	Publication of this Policy Statement
October 07	Publication of Government Response to this document Publication of initial proposals for licences
January 08	Publication of draft of licences Publication of draft of code modifications Publication of final policy proposals
June 08	Final consultation for licences begins Final consultation for codes begins
September 08	Consultations end
October 08	'Go-active' (Secretary of State designation) - s90, 91 and 92 of the Energy Act 2004 commence
October 09	'Go-live' (subject to approval by Ministers and Authority) - s89 & 180 of the Energy Act 2004 commence

### Post-consultation update

*Overall respondents had concerns about the ambitious timescales set out but were generally supportive of the work programme and the work streams set out to further develop the regime. Respondents welcomed the engagement that they had had in the process to date and expressed a view that this consultation with industry should continue. It was suggested that*

publication of further timetable information would help to minimise uncertainty over financial arrangements.

The Government and Ofgem will continue to develop the detailed legal and policy framework required to implement the offshore electricity transmission regulatory regime in the light of comments received and as outlined in Ofgem's Consultation Document.

BERR and Ofgem will also hold an external communication session on 25 January 2008 at the BERR Conference Centre, 1 Victoria Street, London, SW1 to discuss the Government decision and Ofgem's Consultation Document in more detail. If you would like to reserve a place please send an email to [offshore.transmission@berr.gsi.gov.uk](mailto:offshore.transmission@berr.gsi.gov.uk)

The Government values the significant contribution that the industry has made during the development of the regime. To ensure that this continues, in addition to the external communication session, there will be further opportunities for engagement through National Grid events and consultations, industry working groups, bi-laterals with Ofgem and BERR and via forthcoming consultations on licences and codes and a final consultation on the regulatory regime as a whole.

As set out in the Government Response, the Government is seeking additional powers in the forthcoming Energy Bill to enable the Authority to run an effective tender process.

As a result the implementation date of the new regime will be dependent on the commencement of those powers which we expect to come into effect two months after Royal Assent of the Energy Bill in 2008. The Government recognises the significant work required to enable this timetable to be achieved particularly in relation to the proposed Go-Active date in December 2008 and the dependence on the Energy Bill timetable. The Government is sensitive to the impact that any delay in the commencement of the regime may have on offshore generation projects and in the light of this the Government is considering that the final consultation planned for June 2008 may, if necessary, be shortened to an eight week period of consultation. The Government considers that this option, whilst still allowing an appropriate period for consultation, may have significant benefits in ensuring that the timetable is adhered to. It must be stressed that the Government recognises the importance of an appropriate consultation period and would welcome stakeholders' views on this issue.

The key high level milestones and currently anticipated dates are set out below:

<b>January 2008</b>	- Publication of this document and Ofgem's Consultation Document - BERR / Ofgem External Communication session
<b>January – April 2008</b>	- Consultation on draft licence, code and agreement modifications
<b>April 2008</b>	- Publication of final policy proposals
<b>June 2008</b>	- Consultation on full regime (subject to the completion of consultations on draft licence, code and agreement modifications)
<b>September 2008</b>	- Consultation closes
<b>December 2008*</b>	- 'Go-Active' commencement of ss. 90, 91 & 92 of the Energy Act 2004. - Modifications made to licences and associated codes & agreements. - First tender process commences, including for those with connections to be adopted
<b>December 2009*</b>	- 'Go-Live' commencement of ss. 89 & 180 of the Energy Act.

\* The implementation date is dependent on the adoption of those powers which we expect to come into effect two months after Royal Assent of the Energy Bill in 2008.

## Annex C

### Detailed background to the assumptions outlined in Chapter 5

#### Offshore wind generation projects

Barrow
Docking Shoal
Dudgeon East
Greater Gabbard
Gunfleet Sands I & II
Gwynt-y-Mor
Heysham
Humber Gateway
Lincs
London Array
Ormonde
Race Bank
Rhyl Flats
Robin Rigg (2 projects)
Shell Flats
Sheringham Shoal
Thanet
Triton Knoll
Walney
West of Duddon Sands
Westermost Rough

#### Opportunity cash costs to OFTO and generator initiating and entering the tender process

- Opportunity cash cost is broadly the return available from other uses of the cash were it not required to be held by Ofgem as a 'financial commitment' as described at paragraph 5.43, which we have assumed to be 12 percent (this is the return required by financiers of generation projects);

By way of an example and for illustrative purposes only, if a refundable generator / OFTO commitment/deposit mechanism is used, the total opportunity cash cost for generators and OFTOs would be c. £0.2m / project. This is based upon:

- There will be between 3-5 potential OFTO bidders per project and each bidder would provide deposits of £50k each;
- 2 short-listed OFTO bidders would provide further amounts of c. £0.45m each for the full tender exercise cost (a total of c. £0.5m each);
- A generator will be liable for a refundable deposit / commitment of c. £0.5m (£50k deposit plus £0.45m generator commitment) / project;
- This gives a total of £1.65m per project in fees / deposits from the generator and potential OFTO bidders;
- If generator commitment / bidder deposits are refundable, the cost of this process to any generator-developer or OFTO bidder who complies with the rules of the tender process would be the opportunity cost of the cash provided. This is broadly the return available from other uses, which we have assumed to be 12 percent (this is the return required by financiers of generation projects);
- Any generator-developer or bidder who does not complete the tender process would have the additional cost of losing its Generator Commitment / bidder deposit;

- As the tender process may last up to a year, the cost of these new provisions to generators and OFTO bidders would be around c. £0.2m / project tendered (12% of £1.65m) or up to c. £60k per participant.

#### The costs of fuel for alternative CCGT generation

A 3 month delay to the development of 250-500MW of offshore wind will mean extra costs of £3.94m - £9.85m in terms of fuel costs if alternative CCGT generation is required to meet demand. This is calculated by taking the three month output from an offshore wind farm and multiplying by the extra cost of CCGT generation based on:

- An offshore wind farms variable cost of generation is zero;
- The principle alternative is a CCGT generation station whose variable costs are the fuel consumed;
- Therefore, the extra cost of CCGT generation is approximately £30/MWh based on the current year-ahead gas price of £0.50 / therm (November 2007) and a deduction of £3/MWh for system balancing costs;
- A thermal conversion rate of over 50%.
- An annual load factor of 30%

#### Shadow price of carbon costs

This is calculated by taking the three month output from an offshore wind farm and multiplying by the shadow price of carbon based on:

- Every 200-500 MW of renewable generation that comes online with a load factor of 30% is assumed to displace 200-500MW of CCGT generation producing 0.1 tC/MWh<sup>42</sup> or 0.35t/CO<sub>2e</sub> (carbon dioxide equivalent) / MWh.
- Over a 3 month period an extra 131,000 – 328,000 MWh of renewable generation would result in savings of around 46 -115kt CO<sub>2e</sub>.
- The shadow price of carbon is £25 per tonne in 2007<sup>43</sup> which increases by 2% every year thereafter.
- This equates to a monetary loss of roughly £1.15m - £2.87m over a 3 month period (£4.6m – £11.5m / year) at today's prices.

#### The value of lost income to the generator-developer of a 3 month project delay

The value of lost income is estimated to be between £12.5m - £31.4m / project / 3 months based upon:

- A typical offshore wind project is around 200-500MegaWatts (MW) and has a load factor of 30%
- Electricity prices for an offshore generator:
  - Year ahead (April 2008 – March 2009) electricity price of £51.7/MWh
  - Renewables Obligation Certificate (ROC) “value” assumed to be around £44 per ROC (i.e. MWh). This value is determined by the sum of the current buy-out price (£34.30) and assumed return from buy-out fund (~£10 in 2006).
  - This suggests that an offshore renewable electricity generator will (at the moment) receive an income of electricity plus ROC prices of £95.7/MWh.
- The average annual benefit of our proposal is expected to be the costs of the delays that we expect will be avoided by enabling projects to proceed more quickly;

<sup>42</sup> [http://stats.berr.gov.uk/energystats/dukes07\\_c5.pdf](http://stats.berr.gov.uk/energystats/dukes07_c5.pdf)

<sup>43</sup> <http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

- We have assumed that a project would be able to proceed 3 months more quickly as a result of the transitional arrangements;
- In addition, there would also be an increased possibility that carbon reduction is not achieved due to the project delay.

## Annex D

### Note of 10 August 2007 Consultation workshop

**Licensing Offshore Transmission  
External Communication Sessions #2  
10 August 2007, BERR  
1 Victoria Street, London  
Note of Meeting**

This note has been taken by BERR / Ofgem to capture the key points made and to inform further debate. This note will concentrate on the issues raised during the question and answer sessions and subsequent discussion.

Speakers:

Duarte Figueira, BERR  
Robert Hull, Ofgem  
Colin Green, Ofgem  
Graham Knowles, Ofgem

John Greasley, National Grid  
Hedd Roberts, National Grid  
Tom Ireland, National Grid

#### **Introduction – Duarte Figueira**

1. Duarte Figueira (DF) opened the session with a brief overview of the aims of the day. He stated that the session sought to provide additional clarity on the framework set out in the Policy Statement, the scope of further work and the key stages in the implementation process. He also encouraged discussion and stated that he would welcome responses from all interested parties.

#### **Overview of the Joint Policy Statement – Robert Hull**

2. Robert Hull (RH) discussed the recent Joint Policy Statement on the licensing of offshore transmission. He outlined where were in the process, the principles behind the creation of an offshore regime and the key proposals detailed in the recent Policy Statement. He then discussed the next steps in the process.

#### **Transitional Offshore Projects – Colin Green**

3. Colin Green (CG) presented a summary of further thoughts on transitional offshore projects, as detailed in the Policy Statement. He provided a summary of how the tender process for these assets may look. He then outlined how Ofgem intended to assess the value of the assets and possible certain pre-conditions it would insist upon for entering the transitional tender process. Finally, he discussed the main issues that needed to be resolved for these projects, stating that we intended to progress on these through bi-lateral meetings with developers, working groups and workshops.

During the discussion the following points were made:

- It was questioned whether a potential Offshore Transmission Owner (OFTO) would have to go through the European Utilities Directive in order to secure the licence, given the fact that Ofgem are not subject to EU procurement rules for public bodies.

CG stated that Ofgem's legal advice suggested that tenders for a potential OFTO would not be subject to the European Utilities Directive. (Follow-up response confirmed that it is tenders for work requested by an OFTO from its supplier that would be expected to be subject to the European Utilities Directive).

- It was questioned why it has been proposed that transitional assets be classified according to the development of the project and not according to its connection agreement.

CG stated that as connection agreements were relatively easy to secure, Ofgem would require evidence of more commitment that a project would proceed.

- It was questioned what arrangements would be in place for projects that did not have financial close but had secured a connection agreement.

CG stated that this process would apply to transitional projects only and that other projects would become part of the enduring regime.

- It was questioned whether current projects that wished to enter the bidding process would have to pay a fee to do so.

RH stated that while there were administrative costs to be covered, he did not envisage these to be significant. However, he said he recognised that as there would be many different parties involved in the tender process, each would be required to show a sufficient commitment. CG stated that he recognised that the risk of stranding is an issue.

- It was questioned whether offshore assets that are embedded into the onshore distribution system would have to comply with transmission standards.

CG stated that they would, if they were deemed to be a transmission asset, operating at 132kV or above, following commencement of section 180 of the Energy Act 2004. Bridget Morgan (Ofgem) stated that there were significant differences in onshore and offshore standards and recognised the problems involved in this issue.

- The issue of competition in the tender of transitional assets was raised and it was asked how competition would be introduced in the bidding process.

CG said that potential OFTOs could compete on how they propose to manage and maintain the asset. He said there was also scope for competition in how projects could be financed.

- Regarding the RAV determination of transitional assets, it was queried where the seventy-five per cent ex ante estimate would take effect.

CG stated that the “efficient” ex post costs (as determined by Ofgem) of the assets subject to transitional arrangements would determine the RAV.

- It was questioned how a potential bidder in the tender process for the transitional assets would compete for income streams and capital costs before the transfer of the asset from the developer to the OFTO at the end of the project.

CG stated that Ofgem would determine income streams against capital costs based on information provided.

- It was asked what arrangements would be in place if the standard of the transitional assets subject to a competitive tender was not compliant with criteria set down by Ofgem.

CG said that this would depend on what work was required for the asset to meet the standards in comparison to how willing the generator was to fund the work. He stated that while he recognised this would not be easy, he envisaged that Ofgem would determine how much the generator should pay for this.

- It was questioned how Ofgem would determine “efficient” ex ante costs.

CG stated that this would be done in a manner similar to how it is done onshore and recognised the need to have specialist support to do this. RH stated that how we proposed to do this is still in development and cited examples of how it was done in previous price controls. He discussed various approaches in how this could be done, such as analysis of efficient contracts or potential bench-marking.

It was stated that the party best suited to do this would be those letting the contracts and suggested that one hundred per cent *ex ante* costs should be used instead.

- It was asked whether the OFTO of last resort would be able to set a reserve price for the transitional asset.

CG said that he did not consider that this would occur.

- It was questioned how a revenue stream for assets in the enduring regime would be determined.

CG stated that Ofgem would be responsible for this and that to do it, we would examine the efficiency of the proposed bids.

- It was suggested that Ofgem would be using *ex ante* costs and questioned why a “pure” OFTO would be treated differently to a potential OFTO for a transitional asset.

CG said that as the potential OFTO for transitional assets was not originally engaged in the bidding process and that as *ex post* information on capital costs was now available, Ofgem would determine a revenue stream based on this.

- It was suggested that it would be in the interest of the offshore developer to bid for the transitional asset, even if its bid had little value and therefore the notion of seventy-five per cent *ex post* cost recovery would become redundant.

CG stated that Ofgem would be able to insist on minimum criteria for a bid and to test how efficient a potential bid would be. He said that a key difference between assets subject to transitional arrangements and those in the enduring regime is that in the former, the potential developer has no control over the assets that have been installed and that the seventy-five per cent notion would provide discipline in the control of costs.

- It was questioned whether Ofgem had considered what liability the transitional asset OFTO would be subject to, for example, in the event of a fault.

CG said that Ofgem was looking at this issue and suggested it may be possible to use warranties. He said he recognised this was a risk for potential OFTOs in the transitional arrangements.

#### **GB System Operator Issues – John Greasley**

4. John Greasley (JG) outlined the role of National Grid (as GBSO) in the design of a regime for offshore transmission. He welcomed feedback from all interested parties and discussed the possible publication of an Offshore Opportunities Statement.

#### **Transmission Charging arrangements – Hedd Roberts and Tom Ireland**

5. Hedd Roberts (HR) provided an introduction to the GB transmission charging arrangements. He discussed NG’s model in determining the Transmission Network Use of System charges and outlined the steps involved in determining the locational and residual element. He also suggested how this could apply to an offshore charging methodology.

6. Tom Ireland outlined the main issues that would be involved in offshore transmission charging. Anyone wishing to respond to the formal charging consultation should forward contact details to: [thomas.ireland@uk.ngrid.com](mailto:thomas.ireland@uk.ngrid.com)

During the discussion the following points were made:

- It was stated that the option to treat offshore transmission assets as connection assets, with costs recovered from the offshore user via an asset based charge, would be a significant change from the onshore arrangements and could be considered to be discriminatory.

HR stated that National Grid had received a range of views on this topic. Some users agree that this option would be discriminatory, whilst others believe that the additional costs associated with offshore transmission assets justify a different approach.

- It was suggested that the proposed charging methodology does not show a preference for security/ predictability, such as that provided by marine technology and that it should.

HR said that the approval of the charging methodology during the BETTA project included a requirement to investigate the treatment of intermittent generation. National Grid concluded that the same charge was appropriate since the access rights provided are the same. The appropriate access arrangements for intermittent generation are currently being reviewed by the industry in various forums.

### **Enduring arrangements – Graham Knowles**

7. Graham Knowles (GK) presented an overview of further thoughts on the enduring regime, as detailed in the Policy Statement. He discussed the basic features of the regime, how the tender process may look and issues that require consideration. (Follow up response – a diagram of an example of how a potential connection/tender process has been published in response to a request from a seminar participant).

During the discussion the following points were made:

- It was stated that Ofgem should run the tender process as they are best placed to do so.

RH said that this was an important issue for us and that we were keen to hear feedback on it.

- It was stated that the penalty for performance should work both ways, and not just for a generator in the event of a fault with the OFTO.

RH stated that under the regulatory approach of the proposed regime, the revenue stream of the OFTO will not be affected by the performance of the generator.

- On the issue of managing the connection process, it was stated that there is a conflict between the discipline of the regime (which developers welcomed) versus the creation of queue issues when certain projects are delayed. The example of a possible conflict between CCGT and OFTOs in obtaining an onshore connection was cited. It was argued that this represents a potential risk to all developers.

RH said that this was an important issue and required careful consideration in order to avoid long queues for connection. However, he pointed out that the regime must be minded to avoid discrimination between onshore and offshore users. He stated that the possibility of discussing scenarios had been considered and said he appreciated views on this. JG stated that NG would be happy to consider looking into this.

- It was questioned where the terminal point of the regulated asset would be.

RH said that that this was an issue currently being consulted upon at the various technical fora and was a key consideration. HR ([hedd.roberts@uk.ngrid.com](mailto:hedd.roberts@uk.ngrid.com)) stated that it would be important that all parties were consulted upon on this issue and welcomed any discussion on the matter. RH stated that Ofgem would have to approve a methodology statement presented by NG in this respect.

- It was questioned whether any comfort would be provided to developers in respect of an increase in construction costs from that which was presented in its bid.

RH stated that Ofgem would conduct an expert assessment of costs to determine what is efficient but that we would take account of mitigating factors.

- It was asked whether Ofgem would look at specific issues in the contract, such as *force majeure*.

RH stated that at this stage, it was difficult to look at all possibilities but that onshore, Ofgem have looked at historic expenditure.

- It was asked whether the risk profile would be seen by all prospective OFTOs. It was suggested that a feasibility study could represent an exposure to risk and called on Ofgem to provide more clarity on possible risks developers may face.

RH said he recognised the importance of this issue. He stated that Ofgem could decide at the pre-construction stage what costs will be recoverable, though it was a challenge in the regime to decide what pre-works will be required. He stated that Ofgem will work with interested parties to do this and suggested we could make available an appropriate flow-chart to illustrate our thoughts on this.

- It was questioned what criteria would be used in imposing a penalty performance and queried whether loss of income or a loss of ROCs would be included.

RH said he wanted to avoid the use of bilateral contracts to determine penalties.

- It was stated that the GBSO should administer the potential scheme to address penalty performances and suggested that the regime must avoid having the OFTO subject to all the risk.

RH stated that he did not envisage all risk sitting with the OFTO.

- A question was raised on the possibility of extending the 20 year licence.

RH said that it may be preferable to obtain a new licence although this was one of the issues still under consultation.

### **Other issues/Next steps – Colin Green**

8. CG discussed the proposed timetable and the next stages in the creation of an offshore regime. He provided a main list of contacts for the offshore transmission teams at both BERR and Ofgem and stressed the importance of continued engagement between BERR and Ofgem and the various industry engagements.

### List of attendees

Reg	Ajuonuma	Argus Media Group
Charles	Davies	
Simon	Hobday	
Malcolm	Taylor	AEP
Robert	Longden	Airtricity
Chris	Veal	Airtricity
Mike	Eggleton	Alderney Renewable Energy
Sian	McGrath	Aquamarine Power
Richard	Cooke	AREVA T&D Systems
Sean	McLachlan	Balfour Beatty Capital
John	Sinclair	Balfour Beatty Power Networks
Carol	Gould	Bank of Tokyo-Mitsubishi
Andy	Brown	BayernLB
Richard	Daniels	BERR
Duarte	Figueira	BERR
Paul	Hawker	BERR
Benjamin	Rees	BERR
Chris	Towner	Bond Pearce/Law firm
Rachel	Lockley	British Energy Power & Energy Trading
Graeme	Cooper	BWEA
Peter	Madigan	BWEA
Laura	Jeffs	Centrica Energy
Bob	Brown	Cornwall Energy
Louise	Macleod	Dundas & Wilson
Guy	Phillips	E.ON UK PLC
Paul	Mott	EDF ENERGY
David	Scott	EDF ENERGY
Jonathan	Priestley	Elexon
Sundeep	Klair	Energy Networks Association
Dragana	Popvic	Energy Networks Association
Josef	Bleckenwegner	European Investment Bank
Cheryl	Fisher	European Investment Bank
Gary	Kruger	Eurus Energy UK
Lyndon	Greedy	Garrad Hassan & Partners Ltd.
Bob	Bruce	Glenton Bruce Ltd.
Aily	Armour-Biggs	Global Energy
Richard	Marshall	Hammonds
Nick	Aked	IBM
Matteo	Di Castelnuovo	Imperial College
Stephen	Foward	Infinis Ltd
Paul	Whitehead	International Newsletters Platts
Simon	Baker	Lewis Wind Power
Richard	Rigg	London Array
Max	Cairnduff	Morgan Stanley
Mike	Evans	National Grid
John	Greasley	National Grid
Jo	Habberley	National Grid
Tom	Ireland	National Grid
Sean	Kelly	National Grid
Hedd	Roberts	National Grid
Graham	Stein	National Grid
Charles	Ruffell	Npower
Michael	Brooks	Oceanteam Power and Umbilical Limited
Steven	Argent	Ofgem

Siobhan	Carty	Ofgem
Richard	Clay	Ofgem
Dan	Farmiloe	Ofgem
Colin	Green	Ofgem
Elizabeth	Hillman	Ofgem
Saf	Ismail	Ofgem
Graham	Knowles	Ofgem
Andrew	Mann	Ofgem
Bridget	Morgan	Ofgem
Jenny	Swan	Ofgem
Min	Zhu	Ofgem
Tim	Tutton	Oxera
Joe	Duddy	RES
Paul	Neilson	Scottish and Southern Energy
David	Arnold	Scottish Power
Jocelyn	Wessling	Sinclair Knight Merz
Richard	Smith	Sterling Contract Solutions
Philip	Merson	Talisman Energy Ltd
Nichola	McLaughlin	The Natural Power Consultants Ltd
Mike	Attree	United Utilities Plc
Anna	Chard	V E Law
Bridget	Woodman	Warwick Business School
Mark	Petterson	Warwick Energy
Neil	Budd	Watson, Farley & Williams





