

Renewables Obligation (Scotland) – Statutory Consultation

Introduction

1. The Scottish Executive is fully committed to the continued development of renewable energy across Scotland. This commitment recognises the potential environmental and economic benefits that renewable energy can bring. Scottish Ministers have set clear targets for the generation of electricity from qualifying renewable energy sources - 18% of electricity generated in Scotland (as a proportion of consumption) to be from renewable sources by 2010, rising to 40% by 2020.

2. The Renewables Obligation (Scotland) or ROS, is the main legislative means through which this objective is being pursued. It has been in force since April 2002, running in parallel with near identical Obligations governing the supply of electricity in England and Wales, and (more recently) in Northern Ireland. The ROS operates by obliging licensed electricity suppliers to provide an increasing proportion of electricity which they supply to customers in Scotland from eligible renewable resources.

3. Since its introduction, we have conducted a number of consultative reviews with stakeholders examining the ways in which the ROS is structured and its performance. Subsequently, these reviews have led to a number of relatively minor amendments to the ROS. The most recent of these reviews took place last year, and a suitably amended ROS came into effect on 1 April 2006.

4. More recently, we have been examining whether the powers available under the ROS might be used to provide more direct support to emerging technologies. Our preliminary consultation paper, published in May this year, proposed amendments to the ROS aimed at providing additional support for output from wave or tidal generating stations. This statutory consultation sets out our detailed proposals for change. It is accompanied by a draft Order containing the provisions which will enable this support mechanism to work.

5. The ROS is mirrored by Obligations covering suppliers in England and Wales, and in Northern Ireland, all of which act to create a UK market for renewable electricity and ROCs. We work very closely with our colleagues in the Department of Trade and Industry (DTI) and the Department of Enterprise, Trade and Investment in Northern Ireland (DETINI). The DTI is also publishing a consultation paper this autumn (available [here](#)). This is in two parts; the first seeks views on potential longer term changes to the Obligation mechanism which would provide differentiated support levels to different technologies. We accept that consultees will have concerns regarding the links between our proposals and those contained in the DTI paper – the following section of this document addresses those concerns.

6. The second part of the DTI paper seeks views on a small number of more limited changes to the Obligation mechanism, covering the requirement for sale and buyback agreements, arrangements for smaller generators and the current co-firing rules. Consultees should note that the amendments proposed under part two of the DTI paper are fully supported by the Scottish Executive, and, subject to the outcome of the consultation, will also be made to the ROS.

7. Responses to the issues and the specific questions raised by this document and the accompanying draft Order should be sent by **Tuesday 12 December** to the following address:

James P Thomson
Renewables and Consents Policy Unit
2nd Floor
Meridian Court
5 Cadogan Street
GLASGOW
G2 6AT
Telephone: 0141-242-5895
Email: James.Thomson.ETLLD@scotland.gsi.gov.uk

8. We recognise that there will be a great deal of interest in these proposals, and a number of questions which recipients may wish to discuss with us directly. We plan to engage as fully and as openly as possible with all our stakeholders during this consultation period, and are happy to be approached directly at any time.

9. We would be grateful if you could clearly indicate in your response which questions or parts of the consultation paper you are responding to as this will aid our analysis of the responses received. This consultation, and all other Scottish Executive consultation exercises, can be viewed online on the consultation web pages of the Scottish Executive website at <http://www.scotland.gov.uk/consultations>. You can telephone Freephone 0800 77 1234 to find out where your nearest public internet access point is.

Handling your response

10. We need to know how you wish your response to be handled and, in particular, whether you are happy for your response to be made public. Please complete and return the **Respondent Information Form** (enclosed with this consultation paper at Annex B) as this will ensure that we treat your response appropriately. If you ask for your response not to be published we will regard it as confidential, and we will treat it accordingly.

11. All respondents should be aware that the Scottish Executive are subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

Next steps in the process

12. Where respondents have given permission for their response to be made public (see Annex A), these will be made available to the public in the Scottish Executive Library and on the Scottish Executive consultation web pages. We will check all responses where agreement to publish has been given for any potentially defamatory material before logging them in the library or placing them on the website. You can make arrangements to view responses by contacting the SE

Library on 0131 244 4565. Responses can be copied and sent to you, but a charge may be made for this service.

What happens next?

13. Following the closing date, all responses will be analysed and considered along with any other available evidence to help us reach a decision on the issues identified within this paper. The responses received will shape our final amendments to the ROS, which (subject to paragraphs 14 to 16) we plan to bring into force on 1 April 2007.

State Aid Position

14. In accordance with State aid rules, the current UK renewables obligation scheme was notified to the European Commission in July 2000 for its approval.

15. A State Aid is defined under Article 87(1) of the EC Treaty as any public resource given selectively to an undertaking that could potentially affect competition and intra-community trade. The Commission considered that the redistribution of buy-out funds to electricity suppliers, as under the Obligations at present, constituted State aid to electricity producers and potentially also to electricity suppliers. However, as the scheme met the criteria for green certificate schemes set out in the Commission's environmental guidelines, it was approved: **United Kingdom Renewables Obligation and Capital Grants for Renewable Technologies – N504/2000**. A number of amendments have since been made to the scheme, all of which have been notified to and approved by the Commission.

16. The detailed changes proposed in this document and its attachments require the approval of the Commission. We have already held preliminary discussions with Commission officials, and are now in the process of providing much more detailed information.

Comments and complaints

17. If you have any comments about how this consultation exercise has been conducted, please direct them to us using the contact details at paragraph 7.

A Banded Obligation for Wave and Tidal Generation

Response to our Consultation and Options

18. Our preliminary consultation paper, published in May, acknowledged the success of the ROS in terms of driving increases in renewable investment, capacity and output. But it also stressed the potential for the ROS to target support more directly at emerging technologies. Specifically, and in line with our Ministers' wishes as well as a direct recommendation from the Scottish Parliament, the paper focused on whether the ROS should be amended to provide an incentive for investment in wave and tidal technology.

19. Our May consultation paper set out three options for proceeding:

- Option A – Do Nothing
- Option B – Support “Carved Out” from the Buy-out Fund
- Option C – A Banded Obligation

We made it clear that we were not minded to pursue option B; respondents agreed with this view, and we have therefore ruled out that approach.

20. A majority of respondents to our consultation favoured option A over option C. A number of concerns were expressed. These included fears that an approach as set out under option C could have an adverse effect on investor confidence and returns for other technologies; objections on the grounds that such changes, if made to the ROS only, could have a destabilising effect across all three UK Obligations; concerns at the potential cost to consumers; and doubts over the marine sector's ability to deliver any new capacity in the short term, meaning that there would be no benefits to leaven the instability and additional costs that might arise.

The Energy Review Report

21. A further issue arose with the publication of the UK Government's Energy Review Report on July 11 2006. As part of that Review, an analysis was conducted on options for amending the Renewables Obligation mechanism to provide additional support for longer term and more expensive renewable technologies. The Energy Review Report concluded that a banded Obligation, based on the award of ROCs in multiples and fractions, provided the best means of delivering such support. The Scottish Executive welcomed this decision and announcement, as it is fully in line with the principle that we have been advancing for some time, and which formed the basis of our preliminary consultation.

22. A large number of respondents argued subsequently that our proposals for a banded ROS should now be deferred. They believed that support for wave and tidal developments in Scotland should be delivered using the multiple ROC approach outlined by the Energy Review Report, and applied on a consistent basis across the UK.

The Scottish Executive's Position

23. We have considered carefully the responses that we received to our consultation. In addition, we have also held a number of discussions with suppliers, device developers, potential investors and other stakeholders, and have listened closely to the concerns which have been expressed regarding our proposal for a marine supplier obligation (MSO) under the ROS.

24. We understand the concerns that consultees have advanced. However, we believe that the majority of these can be addressed through the detailed design of the MSO. The subsequent sections of this document set out in detail how our MSO will operate, taking into account the changes that we have introduced following our consultation.

25. As previously stated, we welcome the UK Government's decision (which is fully in line with Scottish Ministers' policy) that the Obligation should move away from its current technology neutral basis and adopt the principle of banding. However, this process is at a very early stage. The parallel consultation by DTI on banding and multiple ROCs is only a preliminary look at the principles involved under such an approach, and represents the first chance for stakeholders to examine and comment upon the DTI's proposals. There will then be a need to draft and table primary legislation to secure the necessary powers and so these changes would not be implemented until 2009 at the earliest. Finally, the detailed and consistent application of those powers across the UK will depend on the agreement of both the Scottish Executive and DETINI, as well as requiring the approval of the European Commission.

26. Our view remains that the wave and tidal sector needs a commitment to support now. If we were to defer our proposals, we would run the risk of incurring further significant delays in the development of the sector and the subsequent failure to capture the benefits of cost reductions, learning, diversity and carbon savings that early deployment could bring. We believe that an MSO, designed carefully (using existing powers) and pitched at an appropriate and realistic level, will send the necessary long term signal to developers concerning the Executive's belief in the potential for successful and significant development around Scotland.

27. We also recognise fully the need for clarity concerning the potential interaction of an MSO and the introduction at some point in the future of a banded approach at the UK level (based on multiple ROCs). The Energy Review Report commits the UK Government to liaise with the Executive and to promote complementarity between our respective approaches - we believe that this complementarity is achievable.

28. The MSO is designed to operate over more than one phase. A second phase would offer a lower level of support, building upon reductions in costs arising from successful deployment under the initial phase. However, we envisage that, in the event of a multiple ROC system being agreed and introduced, the practical effect of the support available under the first phase of an MSO would be kept in place under a suitably designed multiple ROC system operating across all three UK Obligations. Capacity installed before that date and receiving support under the MSO would

continue to receive support at that level. But, should multiple ROCs fail to materialise, then our MSO would continue into a second phase of support.

29. This is the basis upon which we intend to proceed. We will follow with interest the responses to the DTI consultation on multiple ROCs, and will remain in close contact with our DTI and DETINI colleagues as this work is taken forward.

The Marine Supply Obligation – MSO

30. With the preceding context in mind, we propose to introduce a Scottish Marine Supply Obligation under the ROS. We have also given careful consideration to the scope of an MSO; we believe that eligibility should be restricted to wave and tidal generating stations located in Scottish waters. This is on the basis that where additional costs (however small) are being met by Scottish suppliers and consumers, the direct benefits associated with an increase in generation from these sources should be retained in Scotland. We believe that this is fair and justifiable, not least on the grounds that the opportunity to deploy will be open to all developers.

31. We intend establishing an initial phase of support along the following lines:

- **MSO to form part of existing ROS;**
- **Capacity cap of 75 MW under phase I;**
- **MSO based on realistic capacity forecasts;**
- **MSO to operate on headroom principle;**
- **Separate obligations for wave and tidal power;**
- **High buy-out payment levels;**
- **Buy-out fund recycled on basis of compliance with MSO;**
- **Commissioning period for phase I of 2008-2015.**

Marine Supply Obligation within the ROS

32. A majority of respondents to our consultation felt that, if there was to be an MSO, that the levels decided upon and set out within the legislation should be additional to the existing obligation levels under the ROS. While we understand the reasons behind this view, our priority is to limit the overall potential cost of the MSO to consumers (these costs are explored in the Regulatory Impact Assessment to be published alongside this document). The report conducted for the Scottish Executive by FES/ Pöyry¹ states that the impact on ROC prices for other technologies would only become material in the event of a high level of compliance at an installed marine capacity of greater than 600 MW. In all other scenarios considered, the impact would be less than £1/MWh, and could potentially be positive in some years, with additional recycling credits exceeding the dilution effect on ROC values.

Capacity Cap

33. The sector is still in the very early stages of its development. We believe that there is a need to combine additional support for early movers under an MSO with a

¹ See: Additional Support for Marine Electricity Generation in Scotland; AEA Technology & Pöyry Energy Consulting, August 2006. Chapter 9, pg 73.

cap on the amount of capacity that can receive support. This will place a ceiling on the total cost of the support available through the Obligation. The maximum level of phase I capacity that will be supported (on an output basis in MWh) will be 75 MW. However, we also believe that the capacity installed (and thus the total cost of the support) by the time that a harmonised UK mechanism based on multiple ROCs is introduced is likely to be much less than this.

34. Any additional phases of support put in place beyond 2014/15 (i.e. in the event that a multiple ROC mechanism is not introduced) will be designed to develop additional capacity at a reduced level of buy-out payment, in order to reflect improvements in generation costs.

Do you agree that the support available under phase I should be capped?

Calculating the Marine Supply Obligation

35. The accompanying draft Order sets out illustrative MSO levels, rising from 2008 until 2015 (the commissioning period for the first phase of support). These translate and map out a linear progression based on and up to the proposed capacity cap. However, we intend that these levels will be actually be revised and set on an annual basis. Where an MSO is introduced, then (as stated above) the standard Obligation level will be reduced by a corresponding amount.

36. Several consultees suggested modifications to our proposals that could reduce costs, increase confidence and thus make an MSO more ‘workable’. The Executive accepts that placing an MSO on suppliers in 2007 would be unrealistic as there needs to be a lead-in time for projects – essentially, we will not introduce an obligation unless there is capacity available which will allow suppliers to meet it. This will avoid generating unnecessary additional costs for suppliers and consumers. In practical terms, the MSO level will be calculated and set on the basis of two elements – a robust capacity forecast plus headroom.

37. The Executive agrees that the way in which MSO levels is set needs to be transparent, and that it will require the full participation of developers and suppliers. We envisage therefore an annual process which will take as its basis a review of activity in the sector and thus develop detailed capacity forecasts for the coming Obligation period.

38. This procedure will need to be based upon the best possible information regarding planned wave or tidal developments; for example, capacity may be considered eligible to form the basis of an MSO subject to its having received the necessary development consents and a formal offer of grid connection, as well as visible and demonstrable progress on manufacturing and installation (such as the awarding of contracts for manufacture / construction of devices). Should such capacity then be agreed to be “viable” it will be included in the calculation to establish the subsequent period’s MSO, and introduced via an amended Order.

**Is this is an acceptable basis for setting the actual Obligation for each period?
Who should be involved in this process?
What other factors should be considered?**

Headroom

39. Several respondents suggested that an MSO should incorporate headroom. They argue that to do so will greatly reduce uncertainty and volatility by making an MSO more realistic and transparent, helping to eliminate any disincentives to invest. The Executive accepts this argument. It is therefore our intention to adopt a headroom principle and apply it to the marine energy output (MWh) in a given year (subject to capacity caps applying to any individual phase). In reality, this will mean that after the first year of operation, subsequent years' output targets will be based on the actual output delivered in the previous year (as well as the forecast of new capacity arising from the procedure set out above). This would then be augmented by a level of headroom that will account for the variability of the resource, load factor and operational period of installed marine devices.

40. This will ensure that long-term value is maintained for ROCs produced from marine energy generation. It also provides a consistent basis for estimating the level of revenue that will be available through the recycling of marine buy-out payments. Moreover, adopting this principle will ensure that, should devices fail, suppliers will not be penalised until the end of the Obligation for the capacity and output that has been lost, as the supply target will be adjusted downwards in the year following the loss of the device(s) to account for this.

41. If the level of headroom is set at a low level it minimises the deadweight cost of the obligation to consumers, but does not provide the opportunity for the rapid development of market. Additionally, it will act as a cap or restraint on the ROC and buy-out recycle value that can be obtained as it limits the degree of shortfall against the supply target and thus the volume of buy-out payments that would be made. A high level of headroom provides an incentive for development of the market due to the greater levels of return that can be obtained, but will result in an increased deadweight cost.

42. The impact of headroom on additional costs can be reduced through balancing higher headroom levels with a reduced buy-out price for the technologies. This maintains the value of ROC and the buy-out recycle revenue streams, but limits the overall cost of the measure as a result of the lower buy-out price. Headroom could be set at an initially high level in order to stimulate the market, but be reduced in the future once there are a greater number of projects that will stabilise market values.

43. Our proposed level of headroom is 30%, which would be applied to both wave and tidal technologies. Illustrative scenarios explaining how headroom would operate are shown at Annex A. Your views are sought under paragraph 47 below on the extent to which this level of headroom should affect the buy-out prices under an MSO.

Do you agree that headroom offers the best basis on which to proceed?

Do you believe that the level of headroom proposed is appropriate?

Should the level of headroom vary over time, or be maintained over the life of the phase?

Separate Obligations and Buy-out Payments for Wave & Tidal Output

44. A number of respondents felt that there should only be one MSO, i.e. that it should not differentiate between wave and tidal power. However, the analysis provided by FES and Pöyry Energy Consulting confirms that there is a considerable difference in the level of support required by wave and tidal energy devices respectively. Whilst a combined obligation for wave and tidal generation would have the advantage of being comparatively simpler to operate, it would result in significant overcompensation of tidal generation due to the higher level of buy-out payment that would be required to support wave energy projects. It is therefore our intention to introduce separate wave and tidal obligations; the attached Order sets out the provisions necessary to deliver these.

Buy-out Payment Levels

45. The buy-out payment levels shown below have been set on the basis of the work carried out by FES and Pöyry Energy Consulting Ltd. They examined the level of market support that would be required through a **revenue-only** mechanism in order to stimulate marine energy development across a range of different marine energy devices. Further detail on how these levels of support have been derived can be found within sections 5, 6, 7 and Appendix 1 of the main FES / Pöyry report. The study did not consider the specific market mechanism through which the revenue would be delivered and, as such, the buy-out payment levels do not account for the option of providing 'headroom' within the MSO.

46. FES and Pöyry concluded that *in addition to* the revenues received through the existing Renewables Obligation, levy exemption certificates and brown power price, the support required to provide rates of return attractive to investors ranges from £210/MWh for wave to £105/MWh for tidal in the early stages. These would translate to £245/MWh for wave devices supported under phase I (inclusive of the existing ROC buy-out payment, currently set at £33.24/MWh), and a buy-out payment of £135/MWh for tidal devices supported under phase I (again inclusive of the existing ROC buy-out payment).

47. However, as stated above, the introduction of headroom provides a greater certainty in the ROC and recycle revenues available. As a result, the buy-out payment levels can be reduced to account for this. Based on the information and example provided in Annex A, it would seem reasonable to propose buy-out payment levels of £175/MWh for wave devices and £105/MWh for tidal devices (assuming a 30% headroom level under phase I). We would value consultees' input on this proposal, as well as on the relationship between buy-out price and level of headroom.

48. The initial (illustrative) year's supply targets for wave and tidal generation as set out under the draft MSO are split equally. However, actual and subsequent targets for each technology will be revised and established on the basis of the forecast and headroom principles described above. Any additional support will remain in place to 2027.

49. The buy-out payment levels that are set in the Order will not be linked to the Retail Prices Index (RPI). Whilst the buy-out payments will remain constant to the end of the obligation period, the value of the payments will reduce in real terms. The Executive retains the ability to adjust buy-out prices and levels accordingly through changes to the Order, should this prove to be an issue that impacts on marine energy development. However, we intend that the different phases proposed will mean that buy-out prices for output commissioned during a specific phase will not be reduced.

**What are your views on our proposals for buy-out levels under the MSO?
How and to what extent should the buy-out prices above be affected by our proposal for 30% headroom?**

Recycling of buy-out payments

50. The majority of respondents to the consultation supported option 3, i.e. that payments from the marine buy-out fund should be recycled in proportion to the number of marine ROCs presented by suppliers. After some consideration, the Executive supports this view. Buy-out recycling payments will reward those suppliers who are successful in presenting ROCs from marine generation against their MSO. We believe that this affords a much stronger incentive for the development of marine generation and the associated production / redemption of ROCs from these sources.

51. We also acknowledge the concerns expressed by some respondents that this approach might result in volatile and unpredictable returns. However, we believe that the combination of a guaranteed level of headroom with an overall capacity cap on phase I will reduce the volatility of the overall level of return in any given year from marine recycling payments, in addition to capping the overall cost of support.

52. The differentiation between wave and tidal support will lead to separate and almost certainly different supply targets for the technologies within any year, and developed in future years through the headroom approach. Moreover, because we are proposing separate buy-out recycling payments for wave and tidal technologies, there is a need for separate provisions within the draft Order governing the recycling of each separate pot (albeit in precisely the same manner).

53. The draft Order also contains a provision at new articles E(5) and J(5) intended to deal with the situation (should it arise) where there are no wave or tidal ROCs redeemed against an MSO during a given period. We believe that where this occurs, the fund should be allowed to accumulate, i.e. it should be carried forward to the subsequent period and the total fund recycled to suppliers redeeming ROCs (against their MSO) during that period.

**Do you agree with our proposals for recycling?
Is the draft Order sufficiently clear on the separate processes for the wave and tidal elements of an MSO?
Are you content with the proposal at paragraph 53 governing a situation where no wave or tidal ROCs are redeemed?**

Commissioning Period for Phase I

54. The commissioning period for devices installed under our first phase will run from 2007 – 2015 (although as paragraph 36 states, we don't envisage an MSO applying until 2008 at the earliest). The buy-out payments for the obligation that covers this period will be set at the levels stated above. The practical effect of the legislation will be to ensure that any projects commissioned before the end of the Obligation period 2014/15 are eligible for support at these levels. Moreover, projects commissioned under this phase will also be grandfathered for the lifetime of the ROS (i.e. until 2027). The FES/Pöyry report supports this approach as initial projects are assumed to be financed over a 15 year period post commissioning and thus require guaranteed support maintained from their commissioning date to the end of the return period, or 2027 if this is sooner.

Do you have any views on the duration of this first phase of support?

Administration

55. We have held a number of discussions with Ofgem regarding our proposal. Although they advise that an MSO will increase the complexity of the Obligation, they have not at this stage identified any administrative obstacles to its introduction.

56. The accompanying draft Order contains provisions governing the making and recycling of buy-out payments under each separate element of an MSO. It also replicates the current late payment procedures and extends them to cover late payments in respect of an MSO. We take the view that there is no need at this stage to extend mutualisation to cover MSO payments. We base this on the fact that the initial size of an MSO will be extremely small, and that the risk of any shortfall arising will be similarly small.

57. We have also placed a duty on Ofgem to include details of compliance with an MSO as part of its annual report.

Do you have any views on these issues?

Does the draft Order take sufficient account of these matters?

Conclusion

58. We accept that there are concerns amongst stakeholders regarding the effect that our proposals might have both on the sector more widely and upon the interaction of the Obligations at a UK level. However, we believe that our proposals for an MSO are robust and proportionate, and that they will help deliver initial wave and tidal capacity by bridging the gap until a harmonised UK mechanism can be agreed and introduced.

59. Consultees should also bear in mind that the wider changes to the UK Obligations mentioned at paragraph 6 and contained in the parallel DTI consultation paper will also apply in Scotland under the ROS.

HEADROOM - ANNEX A

The benefit of introducing support for marine energy generation under the principle of a forecast headroom approach is that it reduces the volatility of market revenues and reduces the total cost of the measure (in comparison to a revenue only scheme).

The MSO in its first year will be based on forecast capacity plus headroom, rather than actual capacity. From then on, supply targets for future years will be set on the basis of the level output in previous years, combined forecast output figures from marine energy projects to be commissioned in the coming year, and a level of headroom (%) applied above this.

As the supply targets are generated internally within the marine energy market based on existing and forecast new capacity, annual supply targets will rise and fall to account for project commissioning as well as periods of outage, maintenance or loss of capacity. This approach ensures that the market bears only the additional costs of capacity that exists, however as supply targets are set on an annual basis, improvements in output or capacity losses within a year can only be reflected in the supply target for the following year.

The information presented in the table and graph below illustrate the basic principles of the forecast headroom approach for 5 projects commissioned during the period 2008-2015 against the phase I, 75 MW target, with 30% headroom. The projects are rated at 5, 10, 15, 20 and 25 MW respectively with a 33% load factor and are commissioned in consecutive years, each project commissioning its capacity equally over 2 years.

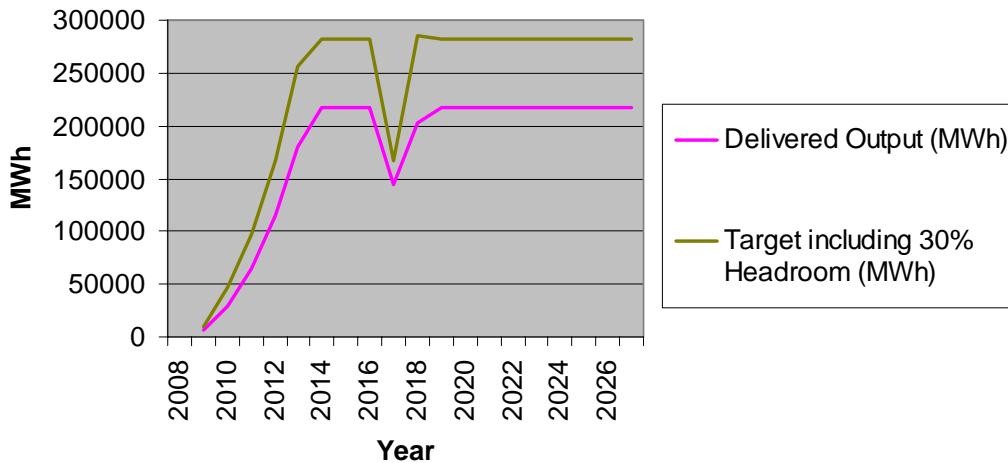
For simplicity, the information assumes that all projects produce output at 100% of annual capacity and that all new capacity impacts on supply targets within the year it is commissioned.

Year	Forecast new capacity in year (MW)	Achieved new capacity (MW)	Cumulative capacity installed (MW)	Delivered Output* (MWh)	Forecast headroom calculated for current year (MWh)	Target Output + Headroom (MWh)
2008	5	2.5	2.5	7,227	4,336	11,563
2009	10	7.5	10	28,908	10,841	39,749
2010	15	12.5	22.5	65,043	21,681	86,724
2011	20	17.5	40	115,632	36,858	152,490
2012	25	22.5	62.5	180,675	56,371	237,046
2013	0	12.5	75	216,810	54,203	271,013
2014	0	0	75	216,810	65,043	281,853
2015	0	0	75	216,810	65,043	281,853
2016	-25	-25	50	144,540	43,362	187,902
2017	25	20	70	202,356	65,043	267,399
2018	0	5	75	216,810	60,707	277,517
2019	0	0	75	216,810	65,043	281,853
2020	0	0	75	216,810	65,043	281,853
2021	0	0	75	216,810	65,043	281,853
2022	0	0	75	216,810	65,043	281,853
2023	0	0	75	216,810	65,043	281,853
2024	0	0	75	216,810	65,043	281,853
2025	0	0	75	216,810	65,043	281,853
2026	0	0	75	216,810	65,043	281,853

*Load factor assumed to be 33% for all projects.

In 2016, the 25 MW project undertakes maintenance of all the devices, removing them from the water for 1 year. The 25 MW is subsequently reinstalled in two tranches of 20 MW and 5 MW.

Illustrative Marine Supply Obligation

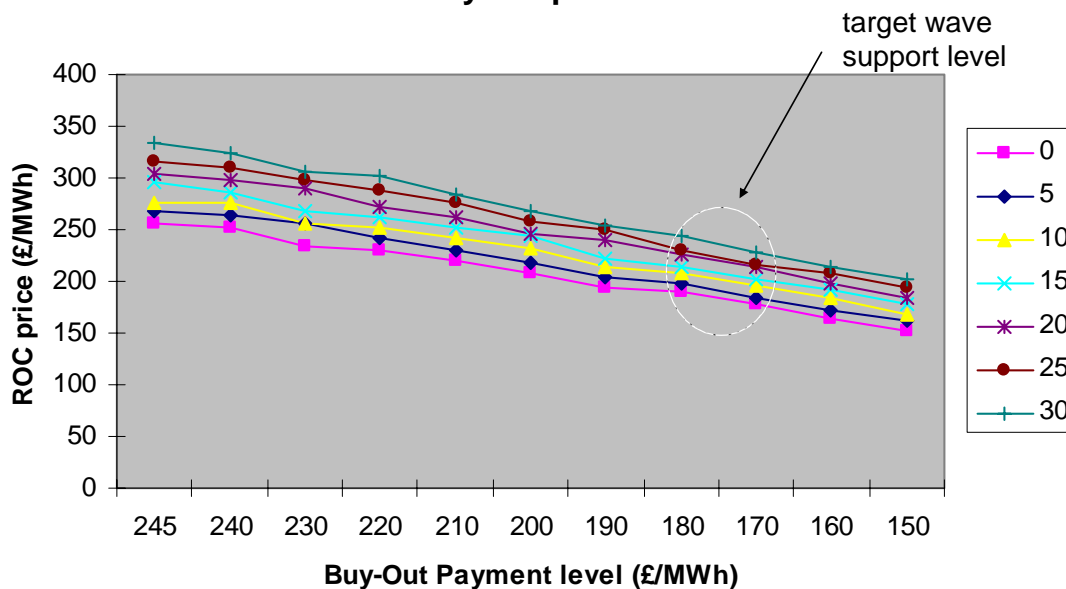


The graph above illustrates the both the maintenance of the MSO target at a constant level above the delivered output, and the response of the target to changes in capacity.

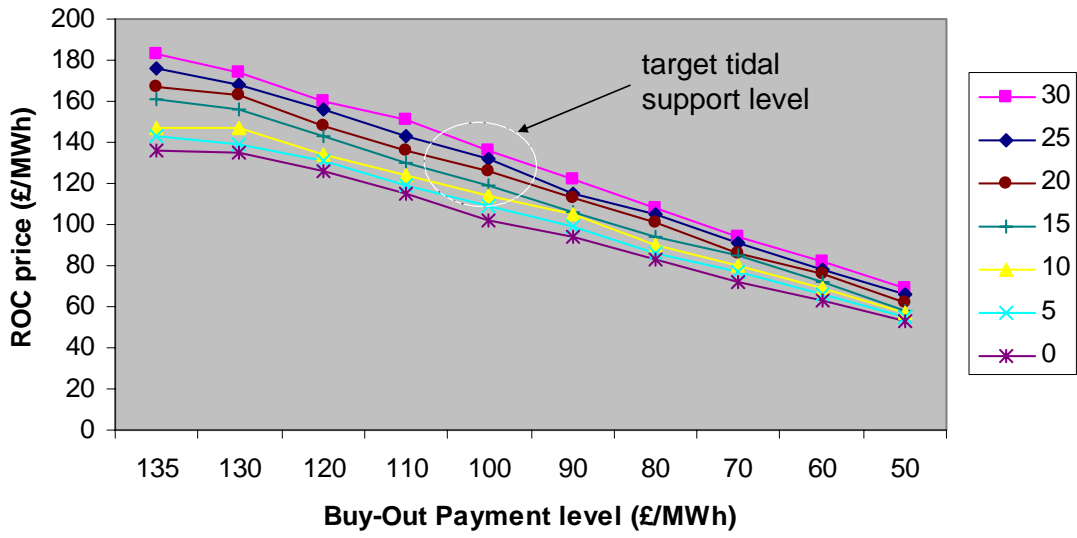
Impact of headroom on buy-out price levels.

Implementing headroom impacts on the market revenues available to wave and tidal technologies. The following graphs illustrate the potential support in the market (ROC price) that would become available under varying levels of headroom, thus enabling setting of correspondingly lower buy-out prices.

Average ROC prices for varied % headroom levels and Buy-out prices



Average ROC prices for varied % headroom levels and Buy-out prices



RESPONDENT INFORMATION FORM - ANNEX B

Please complete the details below and return it with your response. This will help ensure we handle your response appropriately. Thank you for your help.

Name:

Postal Address:

1. Are you responding: (please tick one box)

(a) as an individual (go to Q2a/b and then Q4)

(b) on behalf of a group/organisation (go to Q3 and then Q4)

INDIVIDUALS

2a. Do you agree to your response being made available to the public (in Scottish Executive library and/or on the Scottish Executive website)?

Yes (go to 2b below)

No, not at all (We will treat your response as confidential).

2b. Where confidentiality is not requested, we will make your response available to the public on the following basis (please tick one of the following boxes):

Yes, make my response, name and address all available

Yes, make my response available, but not my name or address

Yes, make my response and name available, but not my address

ON BEHALF OF GROUPS OR ORGANISATIONS:

3 The name and address of your organisation **will be** made available to the public (in the Scottish Executive library and/or on the Scottish Executive website). Are you also content for your **response** to be made available?

Yes

No (We will treat your response as confidential)

SHARING RESPONSES/FUTURE ENGAGEMENT

4 We will share your response internally with other Scottish Executive policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for the Scottish Executive to contact you again in the future in relation to this consultation response?

Yes

No