# EXECUTIVE NOTE

# THE RENEWABLES OBLIGATION (SCOTLAND) ORDER 2007 SSI 2007/267

## Introduction

1. Scottish Ministers are committed to the promotion of renewable energy in Scotland; as part of this, they have set a target that 18% of the electricity generated in Scotland (as a proportion of demand) should come from renewable sources by 2010, rising to 40% by 2020. This commitment is an important part of a package of initiatives aimed at tackling climate change. The Renewables Obligation (Scotland) Order, or ROS, is a key measure in terms of increasing the amount of renewable generating capacity in Scotland.

## Content of the Order

2. The ROS, an affirmative order, was first made in 2002 under powers in the Electricity Act 1989 which have been executively devolved (as regards Scotland) to the Scottish Ministers. It imposes an obligation on electricity suppliers to provide an increasing percentage of that supply from qualifying renewable energy sources. In line with agreed policy and the wishes of the relevant electricity market stakeholders, it was designed in almost identical terms to the Renewables Obligation Order (the ROO) covering England and Wales, which also came into force on April 1 2002. Following reviews of its early operation and to accommodate some minor changes, the ROS has been revised and replaced in April 2004, April 2005 and April 2006.

3. The ROS extends to Scotland only, and has an effect on all licensed electricity suppliers supplying electricity in Scotland. The amount of each such electricity supplier's renewables obligation is calculated by reference to its total supplies of electricity to customers in Scotland during the relevant obligation period. However, such an electricity supplier can satisfy its obligation by producing evidence to the Authority (Ofgem, the industry regulator) showing that it (or another electricity supplier) has supplied electricity generated from renewable sources to customers in Great Britain. Thus, in theory, an electricity supplier with an obligation under the ROS can satisfy all its obligation by supplying electricity generated from renewable sources to customers in England and Wales, or by producing evidence in the form of certificates that another electricity supplier has done so on its behalf. An electricity supplier can also discharge its renewables obligation by making a payment into the buy-out fund, by producing certificates (NIROCs) issued by the Northern Ireland Authority or by producing certificates concerning the supply of electricity to customers in Northern Ireland.

4. Regardless of where the electricity is supplied to customers, it can be generated anywhere within "the United Kingdom" as that term is defined in the order. The operator of a generating station situated in the United Kingdom has a free choice as to whether to apply for certificates issued by the Authority under the ROS or under the equivalent England and Wales Order. In the ROS, references to certificates issued under section 32B of the Electricity Act cover certificates issued under either that Order or its Northern Ireland or England and Wales equivalent, while references to SROCs relate only to certificates issued under the ROS.

**Enabling powers**

5. The ROS is being made under powers conferred by sections 32 to 32C of the Electricity Act 1989, as amended by the Utilities Act 2000, the Energy Act 2004 and the Climate Change and Sustainable Energy Act 2006. The powers were executively devolved to the Scottish Ministers as regards Scotland by means of Orders under the Scotland Act 1998.

**Consultation**

6. Prior to its introduction in April 2002, the ROS was the subject of two consultations, the first between November 2000 and February 2001, and a formal statutory consultation between August and October 2001. Statutory consultations also preceded the introduction of the ROS Orders in 2004, 2005, and 2006. A fresh consultation (available here) took place between September and December 2006, proposing the introduction of a Marine Supply Obligation (MSO). The MSO enables the introduction of a separate Obligation on suppliers to source output from wave or tidal sources located in Scotland. Additional changes proposed will enable small generators to amalgamate their output to qualify for ROCs, and to appoint agents to act on their behalf, as well as changes to the caps on co-firing using energy crops and regulations around the use of biomass. A full list of respondents is available on request from the Scottish Executive Renewables and Consents Policy Unit.

**European Directive**

7. The ROS, in tandem with the ROO, forms an important part of the UK's compliance with article 3.1 of the European Directive on the promotion of electricity produced from renewable sources (Directive 2001/77/EC). Article 3.1 provides that member states shall take appropriate steps to encourage greater consumption of renewable electricity in pursuit of national indicative targets. A copy of the Directive is attached to this Executive Note.

**State Aids**

8. All UK Renewables Obligation Orders require State Aid clearance as the recycling of buy-out funds to compliant suppliers is deemed by the Commission to constitute a State Aid. The UK Government has applied for the Commission's approval to the Executive's proposed Marine Supply Obligation, and understands that that approval will be forthcoming shortly. The ROS will not be made until the Commission's approval is received.

**Financial Impacts**

9. The ROS creates small additional costs for electricity suppliers, which are then passed through to industrial, business and domestic consumers. These issues are addressed in more detail in the Regulatory Impact Assessment which accompanies this Order.

**Scottish Executive Renewables and Consents Policy Unit**
**January 2007**

# Regulatory Impact Assessment for the Renewables Obligation (Scotland) Order 2007

## Title of Proposed Regulation

Renewables Obligation (Scotland) Order 2007.

## Purpose And Intended Effect Of Measure

### Objective

1. The objective of the Renewables Obligation (Scotland) Order 2007 is to simplify some of the processes which participants in the Renewables Obligation (Scotland) (the ROS) currently have to follow and to extend the financial benefits available to some generators, in particular small generators those co-firing energy crops. This will be achieved through some limited changes to the existing Renewables Obligation (Scotland) Order 2006.

2. The proposals will affect all licensed electricity suppliers, all ROS eligible electricity generators, and Ofgem, who administer the ROS.

### Background

3. The ROS was introduced in 2002, and is the Executive's main policy measure to encourage the development of electricity generation capacity using renewable energy sources. The ROS is a key driver towards the Executive's targets that 18% of the electricity generated in Scotland as a proportion of demand by 2010, rising to 40% by 2020. This commitment to renewables is at the heart of the Scottish Executive's Climate Change Programme and our desire to reduce greenhouse gas emissions.

4. The ROS mirrors near identical Orders in place covering England and Wales, and Northern Ireland. RIAs were produced for the implementation of the Obligation Scotland and in England & Wales and in 2002, and for subsequent amendments of the Order in 2004, 2005 and 2006.

5. The ROS requires licensed electricity suppliers to ensure that specified and increasing amounts of the electricity they supply are from renewable sources. For 2006/07, this level is 6.7% and under current legislation rises to 15.4% in 2015/16. Without the financial support provided by the ROS, most forms of renewable electricity would not be economic and the Executive would not achieve its targets for increasing the supply of electricity from renewable sources.

### Problem to be addressed

6. Where the Executive becomes aware of simplifications or changes to the ROS which will make it easier for generators and suppliers to participate,

it will aim to implement them. The individual proposals for change and the reasons behind them are addressed in Section 3 below.

**Regulatory Burdens & Compensatory Simplification**

7. The major regulatory burden imposed by the ROS is that, in order to provide additional support for the generation of electricity from renewable sources, costs to all electricity consumers are increased. These costs are capped by the level of the Obligation and the level of the "buyout" price in the ROS. The previous RIAs referred to in paragraph 2.4 above considered the costs and benefits of the introduction and subsequent extension of the ROS at the time that those measures were introduced.

8. Aside from issues of costs to consumers, the ROS imposes some regulatory burdens on renewable generators and the electricity supply industry arising from the administration that is required to benefit from and comply with the scheme. The amendments to the ROS will include a small number of detailed changes that will make it easier for renewable generators to benefit from the Obligation. This will reduce the regulatory burdens on business and reduce the administrative processes for microgenerators who can be individuals as well as businesses. There will be an increased administrative burden on Ofgem in the short term while they adjust their processes to take account of the changes; however, this may be offset in the longer term by the deregulatory nature of the changes being introduced.

9. In total, these changes aim to improve the operation of the scheme and its effectiveness in meeting the Executive's renewable generation targets. Some of the changes are deregulatory in nature and seek to reduce administrative costs for the Ofgem, renewable energy generators and electricity suppliers.

## Options, Costs and Benefits

10. This RIA is in two parts. Part I deals with amendments (listed as follows) which are to be made to all UK Obligations as well as the ROS:

- Allowing agents to act on behalf of small generators (50kW DNC or less) in all aspects of ROS participation;
- Requiring agents, for the purposes of claiming ROCs, to amalgamate the electricity generated by two or more small generators (50kW DNC or less);
- Removal of the requirement for a sale and buyback agreement for all generators;
- Changing the rules on co-firing to remove the cap on co-firing of energy crops and a minor amendment to the definition of an energy crop; and
- A change to the definition of biomass so that where more than one type of fuel which is not a fossil fuel (as defined in Article 8 of the ROO) is used in a power station, as long as 90% of the average energy content of those fuels is derived from biomass then those

fuels will be treated as biomass fuels for the purposes of establishing ROC eligibility.

Part II deals with further changes, being made only to the ROS, designed to introduce a Marine Supply Obligation (MSO).

## Part I

**Administrative arrangements for smaller generators**

11. The Executive proposes to introduce measures that will make it easier for small generators to benefit from the ROS (in this context small generators are those with a declared net capacity of 50 kW or less).

12. Two changes are proposed:

a) allowing agents to act on behalf of smaller generators in seeking accreditation and claiming of ROCs and that these ROCs are then issued to the agent; and
b) allowing ROCs to be issued to agents; and allowing agents to amalgamate the output of smaller generators for the purposes of claiming ROCs.

**Rationale / Benefits**

13. In 2005, as part of the ROS Review, the Executive held two consultations – a preliminary consultation and a statutory consultation. In both these consultations, the Executive included the proposals to allow agents to act on behalf of small generators and to also allow agents to amalgamate the output of small generators. These proposals received strong support from those who responded to the consultations on these issues. Although many of the proposals in the Review were implemented from 1 April 2006 in the Renewables Obligation (Scotland) Order 2006, this was not possible for the small generator changes, as they required primary legislation. The primary legislation needed has since been through the Climate Change and Sustainable Energy Act 2006 and the Executive now intends to implement the proposals in the secondary legislation from 1 April 2007.

14. There are concerns within the microgeneration sector that there are significant barriers to microgenerators being able to access the benefits of the ROS due to the administrative requirements of the scheme. This can affect their ability to obtain ROCs in the first instance and then sell these on in the second.

15. The changes that allow agents to act on behalf of generators should reduce administrative burdens on small and microgenerators – and provide them with the option of an easier route to obtaining the benefits of ROC eligibility. It would also mean that ROCs could be issued direct to agents and so arrangements for trading of ROCs would pass to the agent rather than lying with the generator.

16. In terms of amalgamating generation, there are additional benefits. Under current rules, where a small generator is only generating very small amounts of electricity they may not even reach the threshold required to claim one ROC. Alternatively, although they are generating enough to be able to claim a small number of ROCs, the numbers involved do not make it worthwhile going through the processes required. Amalgamating generation will allow economies of scale in the administrative processes for small generators. It will also allow small generators (who may not otherwise be generating enough to claim ROCs) to combine their output with that of others and so access the financial benefits of the ROS. An example is set out below.

17. Scenario 1 – using existing rules: Generator A generates 0.3 MWh annually; Generator B generates 0.4MWh annually; Generator C generates 0.5 MWh annually; and Generator D generates 0.6MWh annually. Under existing rules generators can only claim ROCs for

generation over 0.5 MWh which for the purposes of issuing ROCs is rounded up to 1 MWh. Anything below 0.5 MWh is rounded down. This means that Generators C and D will receive 1 ROC each. Generators A and B do not meet the 0.5 MWh threshold and so will not be able to claim any ROCs.

18. Scenario 2 – using proposed rules: As before Generator A generates 0.3 MWh annually; Generator B generates 0.4MWh annually; Generator C generates 0.5 MWh annually; and Generator D generates 0.6 MWh annually. All four generators decide to use the same agent who will be required to amalgamate their output. The amalgamated output equals 1.8 MWh which when rounded up will result in 2 ROCs being issued. This means that where before only 2 generators were able to benefit from the ROS now all 4 generators will have access. Whilst Generators C and D are no longer benefiting from the rounding rules to such an extent they may feel the administrative advantages of using an agent outweigh this loss.

19. Scenario 3 – using proposed rules: As before Generator A generates 0.3 MWh annually; Generator B generates 0.4 MWh annually; Generator C generates 0.5MWh annually; and Generator D generates 0.6 MWh annually. Generators A and B decided to use the same agent who will be required to amalgamate their output. The amalgamated output equals 0.7 MWh which when rounded up will result in 1 ROC being issued. Generators C and D act independently of an agent and so received 1 ROC each as in Scenario 1. Generators C and D will be able to receive the same benefits as they do under existing rules whilst Generators A and B will also be able to claim a ROC and so benefit from the ROS which they are not able to do under the existing rules due to the 0.5 MWh threshold for claiming ROCs.

## Costs

20. These changes will operate in parallel with existing rules. There will be no compulsion to use an agent so, although for generators using an agent there may be transaction costs, those generators not wishing to use an agent will be able to continue as they do under current rules. Moreover, trade associations and smaller generators consider that the proposals have the potential to reduce costs and administrative burdens for smaller generators and increase access to the financial benefits of the ROS. In the short term there will be an increased administrative cost to Ofgem while they put in place new systems to accommodate these changes.

## Alternative Options

**21. Do nothing.** This would go against previous Executive commitments to take forward this policy. In addition, the benefits in terms of reduced administrative burdens for small generators will not be achieved with this option.

## Removal Of Sale And Buyback Agreements

### Proposal

22. That the necessity for generators to have a sale and buyback agreement to enable the electricity which they generate and consume to be eligible for ROCs is removed.

### Rationale / Benefits

23. In 2005, as part of the ROS Review, the Executive held two consultations – a preliminary consultation and a statutory consultation. As part of these consultations, the Executive included a proposal to remove the necessity to enter into sale and buyback agreements for small generators who consume the electricity which they generate and also asked whether it would be appropriate to extend this proposal to all generators. The proposal to remove sale and buyback for small generators was strongly supported, with more mixed support for its removal for all generators.

24. Although many of the proposals in the ROS Review were implemented from 1 April 2006 in the Renewables Obligation (Scotland) Order 2006, it was not possible to do this for the removal of sale and buyback agreements, as this required primary legislation. The primary legislation needed has now been secured through the Climate Change and Sustainable Energy Act 2006, and the Executive intends to implement this proposal in the secondary legislation from 1 April 2007.

25. During previous consultations on this issue, it has been argued that it is not just small generators who experience administrative burdens and difficulty in obtaining sale and buyback contracts with suppliers, but that it is a problem that extends to larger generators as well. We are keen to encourage deregulatory measures within the ROS where possible, and view sale and buyback agreements as an unnecessary administrative burden.

### Costs

26. The purpose of sale and buyback agreements is to allow generators to claim ROCs for electricity they consume themselves. The primary legislation has been amended so that generators who have generated their own electricity will, when claiming ROCs, no longer have to demonstrate supply by entering into sale and buyback agreements. ROCs will be able to be issued; (i) if the electricity generated has been consumed by the generating station or; (ii) that it has been provided to the distribution or transmission system in circumstances in which its supply to customers cannot be demonstrated. The removal of a requirement for sale and buyback agreements means that

electricity generated and sold and purchased back in this way will no longer form part of any supplier's obligation, so in effect making the size of the obligation smaller whilst the number of ROCs in the market is likely to stay about the same or increase.

27. Analysis suggests that this could have a very small impact on ROC prices. However, the amounts of generation currently included under sale and buyback agreements, termed 'non-billed supply', is very small (see next paragraph) and so the impact on ROC prices is likely to be minimal and will remain so unless growth in generation for self consumption is significantly greater than the overall increase in the level of the RO.

28. The table below sets out data on electricity generation covered by sale and buyback agreements, termed 'non-billed supply', in absolute and relative terms. This is taken from the information suppliers submitted to Ofgem for compliance purposes. Non-billed supply also includes supply made through an exempt distribution network (i.e. non-article 10 supply, representing supply made to customers independent from the operator of the generating station but through a licence exempt network).

| | | **Total non-billed electricity sales (MWh)** | **Proportion of total electricity sales** |
|---|---|---|---|
| 2003/04 | Eng & Wales | 1,768,470 | 0.61% |
| 2003/04 | Scotland | 23,823 | 0.08% |
| 2004/05 | Eng & Wales | 618,663 | 0.21% |
| 2004/05 | Scotland | 12,760 | 0.04% |
| 2005/06 | Eng & Wales | 711,073 | 0.24% |
| 2005/06 | Scotland | 43,657 | 0.15% |
| 2005/06 | Northern Ireland | 18,278 | 0.22% |

**Alternative Option**

**29. Do nothing.** This would go against previous Executive announcements to take forward this proposal. In addition, the deregulatory benefits would not be gained.

**Co-Firing Interim Changes**

**Proposal**

30. To allow co-firing of energy crops outside the current cap on co-firing in the ROS and to make a minor amendment to the definition of an energy crop.

**Rationale**

31. One possible long-term approach to co-firing is to allow un-limited co-firing within a banded Obligation but at a reduced support level.

32. This approach is contingent on the introduction of a banded Obligation. However, allowing co-firing of energy crops outside the cap in the interim would allow co-firers to progress contracts with energy crop planters without concerns about restrictions on co-firing arising from the cap. The Executive believes that the impact of this change on other renewables should be small, as there are unlikely to be significant volumes of energy crop co-firing in the interim period prior to the introduction of banding, and that there should be no impact on other biomass-using industries.

33. As energy crop co-firing will be allowed outside the caps, we propose to remove the minimum requirements on energy crop co-firing that currently apply from 2009 onwards. The Executive believes this is a lighter touch regulatory approach, incentivising companies to use energy crops but not requiring them to do so.

## Costs

34. The Executive does not consider that there are any significant costs associated with this proposal. It is not our expectation that the co-firing of energy crops outside the co-firing cap should have a significant impact on ROC prices in the interim period. Current levels of planting and contracting for energy crops suggest that any impacts will be very limited. Nonetheless, we will monitor this, and if evidence were to emerge that energy crop co-firing was impacting negatively on the wider market then we would consult further on the case for any additional actions to reduce this impact.

## Alternative Options

**35. Raise the cap on co-firing.** This would allow a greater amount of co-firing and could potentially benefit the energy crop market. However, the amount of co-firing permitted under the ROS already stands to increase by around 40% by 2009/10, because of the rising level of the Obligation, and changing the cap could have some negative effects. These could be:

- A significant loss of investor confidence and financial damage to other renewable projects and technologies.
- A significant increase in support for the cheapest technology in the ROS, in direct contrast to the Government's policy of reducing any over-subsidisation over time.
- Potential damage to other biomass-using industries.

**36. Do nothing.** This would reduce the incentives on co-firers to progress contracts with energy crop planters prior to the introduction of banding.

## Fuel to be Treated as Biomass

### Proposal

37. Where more than one type of fuel that is not a fossil fuel (as defined in Article 9 of the ROS) is used in a power station, as long as over 90% of the average energy content of those fuels is derived from biomass then those fuels will be treated as biomass fuels for the purpose of establishing ROC eligibility.

### Rationale / Benefits

38. Under existing rules, if a power station burns two fuels for example, one where 94% of the energy content derives from biomass and the other where 88% of the energy content derives from biomass the station is unlikely to be eligible for ROCs (except, for example, where the generating station was a qualifying combined heat and power generating station as defined in the ROS) .

39. Under the proposed amendment, allowing the energy content averaged across both fuels to be considered, ROCs could be claimed based on the average energy content of the two fuels as long as over 90% of the average energy content of those fuels is derived from biomass In the example given above ROCs could be issued on that basis (if an equal tonnage of each fuel was used and each fuel had the same biomass and fossil fuel energy contents) as the average energy content of the two fuel streams would be 91%. This approach will allow burning of a wider range of biomass fuels by these generators, that for example might have otherwise gone to landfill.

### Costs

40. There are no additional costs to the Executive or industry associated with this change. Companies affected by the change would benefit financially as they would be able to claim more ROCs than is the case under the current legislation.

### Alternative Option

**41. Do nothing.** Power stations could continue to have single fuel streams measured for ROC eligibility purposes, however, this approach discourages generators from using more diverse biomass fuel streams and therefore does not maximise electricity generation from biomass fuel.

## B**usiness Sectors Affected (Including Small Business)**

General

42. The main business sectors affected by the ROS are companies involved in the generation of renewable electricity and companies involved in the supply of electricity to all electricity consumers. Users of biomass materials for non-energy generation purposes may be affected through increased competition for these materials. Large consumers of electricity may be particularly affected, given that the ROS increases the cost of electricity.

43. The Executive's proposals on Obligation levels are designed to be cost neutral to the electricity consumer. However, the precise outcome will depend on the impact of the changes on renewables generation, which in turn relies on a number of uncertainties, such as future generation costs and electricity prices. Some of the proposed changes will ease the administrative burden on companies who benefit from or must comply with the ROS.

Small Business

44. The major regulatory impact on the large majority of small businesses arising from the ROS comes from the increased costs of electricity that affect all electricity consumers. These changes are of a limited and technical nature and should not give rise to further increases in electricity costs, for small businesses or any other consumers of electricity.

45. A much smaller subset of small businesses active in the generation of renewable energy and/or the supply of electricity to customers in the UK and producers of energy crops are likely to be more affected by the changes to the ROS. During the consultative process, the Executive has held meetings with many relevant stakeholders, companies and trade associations in the renewable energy sector.

46. The range of administrative simplifications have also been welcomed by smaller generators of renewable electricity – which in many cases will also be small businesses. Allowing agents to act on behalf of small generators and to amalgamate generation will achieve economies of scale in the administrative processes involved as well as allowing small generators who may not have previously felt it worth their while to participate in the ROS to now benefit. The removal of sale and buyback agreements and changes to the definition of an energy crop removes a further administrative complication and, again, allows easier access to the benefits of the ROS.

47. Removing energy crops from the co-firing cap should further stimulate the market for the small businesses that supply these crops, as there will be no restrictions on the amount of ROCs produced from this source. ROCs from co-firing have recently been traded at prices below regular ROCs; uncapping energy crops should therefore allow small business access to a

higher price for the energy crops they supply relative to other co-fired materials.

## Part II - Marine Supply Obligation

### Objectives

**48. Part II covers changes to the ROS designed to introduce a Marine Supply Obligation (MSO). The MSO aims to provide an incentive which increases the amount of wave and tidal electricity generating capacity in waters around Scotland. It will be introduced via changes to the ROS due to come into effect in April 2007, although the MSO itself will not become active until April 2008 at the earliest. The changes will apply only to suppliers with an obligation under the ROS, and can be met only by electricity generated from stations located in Scottish waters.**

### Rationale for Intervention

**49. The Scottish Executive believes that renewable energy has a vital role to play in underpinning a more secure and sustainable energy future. Scotland has tremendous potential to generate more power from renewable sources, using energy from the wind, hydro and biomass, but has a particularly large wave and tidal resource. Scottish Ministers believe that Scotland can lead the world in the development of these technologies, and that the ROS can provide the long term market pull required for serious investment to take place. Success will deliver a more diverse renewable generation mix and further reductions in greenhouse gas emissions.**

Do Nothing

**50. This would involve no changes being made to the ROS to deliver a MSO. Instead, we would maintain consistency with the other UK Obligations for the time being. This would involve awaiting the outcome of steps being taken by the UK Government's Department of Trade and Industry (DTI), following the recent Energy Review Report, to secure powers which would allow the award of multiple ROCs to emerging and expensive technologies. In the meantime, the sector could receive additional support through the provision of increased capital grants from the public sector.**

**51. Scottish Ministers' view is that, whilst the ROS has been successful to date, it is capable of supporting greater diversity.**

**Specifically, Ministers believe that support should be targeted more directly at wave and tidal power. The sector is at a very early stage of development, with a great deal of innovation and promise but very little operational experience.**

**52. Scottish developers are already exporting full scale prototypes for deployment in other parts of Europe, but also wish to deploy their devices in Scottish waters where the resource is at its greatest and the necessary manufacturing capability and research / academic expertise is close at hand. Developers and potential investors believe that certainty regarding the availability of returns on investment over a long period will be crucial to the deployment of early, pre-commercial arrays. This would allow these technologies, where Scotland has a huge potential resource and development edge, to prove their viability, come down in cost, and thus help to reduce carbon emissions and address climate change.**

**53. If we do nothing at this stage, then the signal regarding the availability of long term returns which we believe to be necessary to attract significant investment into the sector will not be sent. This would result in a missed opportunity for the devices to prove themselves and to bring down costs, and could thus delay significantly the development of the sector and its contribution towards Scotland's renewable electricity targets and the reduction of greenhouse gases.**

## Consultation

**54. The Scottish Executive consulted in the summer of 2006 on options and preliminary proposals to establish a MSO. That consultation document was published in May 2006 (available here). A 12 week period of consultation and discussion with stakeholders followed, prompting a total of 36 responses.**

**55. Following the completion of that consultation, plus further and continuing liaison with stakeholders here and across the UK, a Statutory Consultation (here) was published setting out detailed proposals for amendments to the ROS regarding how the MSO will operate.**

## Options

56. The statutory consultation presented two options.

- **Do Nothing – this is set out and considered in paragraphs 50-53 above.**

- **Introduction of an MSO – the detail surrounding the operation of the MSO is set out below.**

Marine Supply Obligation

**57. The Marine Supply Obligation (MSO) provides revenue support for marine energy (from eligible wave and tidal sources) in the form of an additional payment per MWh of qualifying generation output. It would require electricity suppliers in Scotland to purchase specified amounts of electricity generated from eligible wave and tidal sources, with these amounts increasing from a small initial level through a number of phases.**

**58. The maximum level of phase I capacity that we propose to support will be 75 MW. Support will be on the basis of the generation output, i.e. per MWh. In the event that the banding of the Renewables Obligations suggested by the UK Energy Review Report is *not* introduced, additional phases of support will be put in place beyond 2014/15, at a reduced level of buy-out payment to reflect generation cost reductions.**

**59. A high level of support (high £/MWh) would be given to early projects under phase one, with the support level falling as the size of projects increase and the costs of generation fall: the level of support would be fixed at the start of an individual project's life and continue until the end of the project life or 2027 (whichever is the earlier date). In practical terms, the MSO level will be calculated and set on the basis of two elements – a robust capacity forecast (produced annually) plus headroom, with separate obligations for wave and tidal generation. Essentially,** we will not introduce an obligation unless there is capacity available which will allow suppliers to meet it**. When an MSO is introduced, the standard Obligation level will be reduced by a corresponding amount.**

**60. The support level is designed to provide investors the rate of return required to bring forward projects. The level of generation output target and the timing of changes in the support level is designed to change in a series of steps over the period 2007 to 2027.** As soon as possible after a banded obligation is introduced across the UK (not likely until April 2009, at the earliest) the MSO will be "locked" so that no new projects will be eligible**.**

Risks

**61. There are risks involved in establishing a MSO.**

i) Deadweight – there is a risk that the MSO will be put in place but that no new wave or tidal electricity generating capacity will come forward which will enable suppliers to meet it. If this were to happen,

the higher costs of the MSO which would be borne by suppliers in Scotland and passed onto consumers would not be matched by the benefits of new generation sources and the cost reductions expected to arise due to learning. Deadweight will be minimised through our adoption of a robust market approach with detailed annual forecasts of new capacity.

ii) Instability – some stakeholders are concerned that the existence of a MSO under the ROS, which is not mirrored in the other UK Obligations, will cause instability in the sector and threaten the success of the UK renewables market. This risk can be constrained by locking off the MSO when banding of the RO is implemented, such that no new projects are eligible under the MSO at that point. Existing projects would continue to receive support under the MSO until the end of the project life, or 2027, whichever is the earlier.

## Costs and Benefits

Option One (Do nothing)

Sectors and Groups Affected

62. This option will impact on manufacturers of wave and tidal energy converters and their component suppliers. It will not have any race equality impacts.

Costs

63. Option one will not provide the additional support necessary for Scotland's vast marine energy resources to begin to be exploited – this will have an impact on the emerging wave and tidal generation industries. As other markets (overseas) have financial support mechanisms which are more attractive to developers, it could be expected that over time, manufacturing facilities will locate closer to those markets. The lead which Scottish marine energy companies have, and their rationale for creating or retaining manufacturing facilities in Scotland, will diminish over time.

64. Without marine energy projects coming forward, there will be a loss to the potential diversity in electricity generation, alongside failure to capture the benefits of cost reductions, learning and carbon savings.
As the industry moves abroad, there will be impacts throughout the industry's supply chain, with reduced benefit through orders for supplies of components and ancillary equipment.

Benefits

65. Some respondents to our earlier consultation suggested that amendments such as the proposed Marine Supply Obligation would signal the Executive's willingness to make other fundamental changes to the ROS. Stability and confidence in long-term support is vital to retain investor confidence. A benefit of the "business as usual" approach under the do-nothing option is that this would not endanger confidence in the stability and long-term future of the ROS.

Option Two (Introduce Marine Supply Obligation)

Sectors and Groups Affected

66. The proposal will impact on licensed electricity suppliers with an obligation under the ROS; renewable generators; manufacturers of wave and tidal energy converters and their component suppliers; the regulator (Ofgem); power engineering service providers and all consumers of electricity. The proposal will not have any race equality impacts. It will impact upon the global population.

Costs

67. The proposal will increase the costs of electricity for all consumers by setting a higher buy-out price under a MSO. However, the Executive anticipates a capping of those costs as the recommendations of the UK Government's Energy Review on banding the Obligation are implemented, with support from the MSO being frozen at the current level as the ROS moves to harmonise with proposed changes to the Obligations of the rest of the UK. The maximum theoretical cumulative costs of support to 2010-11 (when a banded Obligation is expected to be in place) are detailed in the table below.

Table 1. Maximum Theoretical Cumulative Costs of support to 2027.

| Year | Maximum cost |
|---|---|
| 2008-09 | £6,508,755 |
| 2009-10 | £19,526,265 |
| 2010-11* | £39,052,530 |

The total cost of support in 2027 (with capacity frozen at the 2010 level) is estimated to be £351,472,770.

68. The MSO will also impose an additional administrative burden on Ofgem. However, our discussions with Ofgem to date have indicated that the scale of the burden is not beyond solution.

Benefits

69. The proposal will:

- help bring new technologies to market which would not otherwise come forward without the higher level of support, driving down costs;

- help attract investment from banks and elsewhere within the private sector;
- give impetus to an emerging industry in Scotland with the potential for economic benefits, including new jobs and increased receipts for local and national taxation;
- create new business for suppliers of materials and components used by device developers;
- give rise to an increase in renewable generation, displacing more fossil fuelled generation;
- enhance security of electricity supply by reducing reliance on imported fuels;
- benefit the global population by reducing the carbon emissions associated with electricity generation, widely acknowledged to be a contributor towards climate change.

Summary costs and benefits table

| **Option** | **Total benefit per annum: economic, environmental, social** | **Total cost per annum:**<br>• **Economic, environmental, social**<br>• **Policy and administrative** |
|---|---|---|
| One | • No change – business as usual | • Slowed development of new renewable technology, with consequent reduction in potential for carbon emissions reduction through lengthier development cycle.<br>• Scotland could lose lead in marine energy industry: marine energy businesses will relocate closer to more attractive overseas markets.<br>• Loss of orders for Scottish component suppliers, manufacturers, fabricators as manufacturing follows business overseas.<br>• Loss of tax revenues and business rates. |
| Two | • Provides sufficient incentives so that Scotland maintains the lead in marine energy, with manufacturing potential less likely to be lost to overseas.<br>• Could trigger creation of an estimated 630-2,340 jobs by 2020*.<br>• Could result in 330-650 MW | • Could depress ROC values, slowing development of more marginal renewables e.g. biomass and offshore wind. Worst case scenario is displacement of 500 MW of onshore wind from 2015 onwards, with consequent loss of less than 0.1% of anticipated total renewable |

| | | |
|---|---|---|
| | of new capacity by 2020*.<br>• Could displace 287,000 – 550,000 tonnes $CO_2$ per annum from combined cycle gas turbine generation by 2020*. This is equivalent to a monetary saving of £10M - £77M.<br>• Enhanced security of supply.<br>• Early commercialisation of the technology could lead to faster adoption of the technology world-wide, where emissions savings could be far greater. | generation. Under other scenarios, however, the MSO leads to additional development.<br>• Increased cost of electricity generation above current levels – an additional £1.1 – 1.7 billion over the period 2008-2027. This is expected to be borne by consumers: estimates range from a 2.9% - 13.9% increase by 2027 for industrial users, and a 1.9% - 7.3% rise for domestic users.<br>• The cost of carbon savings has been estimated at £71 – 141 $TeCO_2$ per MWh. |

## Business Sectors Affected (Including Small Business)

**70. Two consultations were conducted during 2006 (see paragraphs 54 and 55). No specific concerns were expressed by small businesses but option two may affect small businesses in two ways:**

(a) Where small businesses are large consumers of electricity. **Since the additional cost of the MSO is based on p/kWh, it is likely that the increased costs to suppliers in meeting the MSO will be passed on to consumers on a similar basis. Since large consumers typically enjoy lower average electricity unit prices than other consumers, the impact of the MSO as a percentage of electricity prices may be greater for large consumers than others. Some small businesses may be very energy-intensive, such as certain manufacturing firms, but we do not believe that the increase in costs due to the MSO will significantly affect many small businesses.**

(b) Where small businesses are involved in the design, development and deployment of renewable generation. **Many of the firms involved in the wave and tidal renewable energy sector are small businesses. The MSO will significantly increase the size and security of the wave and tidal generation market, and support the development of the industries that supply it.**

Micro-business

**71. The proposal will have no impacts on micro businesses that are not also felt by small and larger businesses.**

Conclusion

## Competition Assessment

**72. The electricity supply industry in Scotland is dominated by a small number of large vertically integrated utilities with correspondingly large market share. However, following the implementation of the British Electricity Transmission and Trading Arrangements (BETTA) which opened the market in Scotland to a wider number of players, competition is now increasing. The proposals contained in this RIA will not alter the structure of the electricity market. Any effect on competition will be negligible.**

73. Under Part I, there is a restriction on the way in which small generators may change the agents appointed to act on their behalf (i.e. only at the start of

an Obligation period can such a change be made). This restriction needs to be viewed in the context of the administrative burden which would be placed on Ofgem, the generator concerned and any agents were switching to be unlimited.

## Enforcement, Sanctions and Monitoring

Compliance and Enforcement

**74. The ROS (and its UK equivalents) are administered and enforced by Ofgem. Non-compliance with the ROS is considered as a breach of a 'relevant requirement' of a supplier's licence and Ofgem may impose appropriate sanctions. Ofgem reports annually on its administration of the ROS and conducts technical audits of generators as part of its fraud prevention strategy. The Scottish Executive is responsible for monitoring the impact of the ROS on the development of renewable energy and does so through the collection by Ofgem and the DTI of detailed information on renewable energy capacity and generation of projects under development across the UK.**

**75. There are no proposals in Parts I or II which will increase the burdens on business through imposition of additional enforcement or inspection measures. Nor are there any new powers of sanction proposed.**

Monitoring

**76. There are regular consultations which review the effectiveness of the ROS, typically on an annual basis. These reviews will continue whichever option is chosen. There will be no additional monitoring arrangements if the "do nothing" options are implemented. If the MSO option is implemented, there will be an additional annual review of the wave and tidal capacity which is expected to come forward for connection in the year.**

## Implementation and Delivery Plan

**77. The changes contained in Parts I and II of this RIA will be brought about by amending the Renewables Obligation (Scotland) Order 2006, with the new order to come into force in April 2007. The MSO will not be activated until it is known that there is a strong likelihood of wave and /**

**or tidal generation to be connected which will enable suppliers to meet it (see paragraph 79).**

## Post Implementation Review

**78. The Scottish Executive will closely monitor the implementation of its proposals. Once the MSO option is implemented, there will be an annual review of the wave and tidal capacity which is expected to come forward for connection in the year. It is proposed that this be achieved by monitoring projects which have planning consent and have a grid connection agreement in place. No eligible projects will come forward without both of these in place, and there is a limited time period in the year where weather conditions are suitable for deployment. This enables prediction of installed capacity by the end of the year. The Executive will continue to work closely with Ofgem and DTI on these matters.**

## Summary and Recommendation

79. Whilst the MSO might be viewed as a significant intervention, and whilst it extends only to Scotland, Scottish Ministers have said that it will be locked at the point that a banded obligation is satisfactorily introduced (anticipated in 2009 or beyond). In the meantime, the MSO represents a controlled and proportionate attempt to stimulate investment in the sector and to create new capacity in pursuit of Scottish Ministers' targets.

80. The relatively limited changes in Part I will have benefits in terms of increasing renewable generation from co-firing, whilst also simplifying some of the administrative processes relating to the Obligation.

## Ministerial Declaration

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

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**Nicol Stephen, Deputy First Minister and Minister for Enterprise and Lifelong Learning**

## Contact Point

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