EXECUTIVE NOTE

THE RENEWABLES OBLIGATION (SCOTLAND) AMENDMENT ORDER 2011

SSI 2011/225

Introduction

1. Scottish Ministers are committed to the promotion of renewable energy in Scotland; as part of this, they have set a target that 80% of the electricity generated in Scotland (as a proportion of gross consumption) should come from renewable sources by 2020, with an interim target of 31% by 2011. 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 electricity generating capacity in Scotland.

Background to the Renewables Obligation

2. The ROS, an affirmative order, was first made in 2002 under powers in the Electricity Act 1989 which were executively devolved (as regards Scotland) to the Scottish Ministers. The Order imposes an obligation on electricity suppliers to provide an increasing percentage of their supply to customers in Scotland from qualifying renewable energy sources.

3. In line with the wishes of the energy sector subject to the Order and those affected by its provisions, the ROS was introduced in almost identical terms to the Renewables Obligation Order 2002 (the ROO), covering England and Wales, which also came into force on April 1 2002. Following reviews of its operation and to accommodate the introduction of a number of changes, the ROS has been revised and replaced or amended each April from 2004 through to 2010. For example, the ROS was amended in 2007 to introduce a system providing higher levels of support to wave and tidal generation located in Scottish waters.

4. The UK Renewables Obligations work by awarding generators of electricity from eligible renewable sources a number of Renewable Obligation Certificates, or ROCs, for each MWh (megawatt hour) of electricity they generate. Following important changes introduced in April 2009, ROCs are awarded to renewable generators in different numbers or "bands", depending on technology. The certificates are a marketable commodity, and are bought by licensed electricity suppliers.

5. The market for ROCs is created by imposing an annual and increasing obligation on licensed electricity suppliers to provide a number of ROCs. Suppliers can demonstrate compliance with their Obligation by providing Ofgem with either the requisite number of ROCs, or by paying the buyout price, or by a combination of the two methods. The buy-out price is a fixed sum payable to Ofgem in lieu of providing ROCs; payments thus made constitute the buy-out fund.

6. The monies paid into the buyout fund are shared between those suppliers who have provided ROCs, and in proportion to the number of certificates they produce. This means that those suppliers who are unable to produce ROCs effectively reward their competitors, driving the market value of ROCs and thus providing income for renewable generators.

Background to the 2011 Amendment Order

7. The 2011 Amendment Order proposes a number of changes to the ROS. These comprise:

- The introduction of phased support for offshore wind projects;
- The introduction of mandatory reporting against greenhouse gas and land sustainability criteria for solid biomass and biogas;
- The introduction of mandatory sustainability criteria for bioliquids in accordance with the EU Renewable Energy Directive; and
- An amendment to the definitions of enhanced wave and tidal stream power.

8. The changes in respect of offshore wind recognise and are based on the length of time which it takes to manufacture, install and commission projects of this type and scale. Offshore wind generators will be able as a result to register numbers of turbines within a project in five separate phases, over a maximum period of five years.

9 The sustainability criteria for solid biomass and biogas electricity will result in mandatory reporting against specified criteria from April 2011 for all generators above a certain size. In addition to the mandatory sustainability for bioliquids, the Order also inserts a new definition for bioliquids derived from fossil fuel, and requires generators using bioliquid to provide sustainability audit reports.

10. The UK order also contains an additional change which extends to Scotland. It inserts a definition of "bioliquid" into the renewables part of the Electricity Act 1989, and excludes bioliquids produced from fossil fuels from the scope of the definition of fossil fuel. These necessary changes can only be made at Westminster, and we have agreed with the UK Department of Energy and Climate Change that the UK order should extend these changes to Scotland.

11 The amendments to the enhanced wave and tidal stream definitions will limit the exclusion from eligibility under those definitions to projects which have received a capital or revenue grant funding award on or before 19th September 2008, the point at which the proposed levels for the enhanced wave and tidal stream bands were published for consultation.

Enabling powers

12. The ROS is being made under powers conferred by sections 32 to 32M of the Electricity Act 1989, as amended and introduced by the Energy Act 2008.

Consultation

13. 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 all the revised ROS Orders from 2004. A consultation took place between September and December 2010 on the changes contained within the 2011 Amendment Order.

European Directive

14. 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.

State Aid

15. 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. An application has been submitted to the Commission by the Department of Energy and Climate Change for approval relating to the changes contained within the 2011 Orders across the UK, namely the measures proposed around offshore wind phasing and sustainability criteria for biomass and bioliquids. Separate approval for the Scottish Government's proposed amendment to the enhanced wave and tidal stream definitions was received from the Commission in 2010[1].

16. The Commission's response is expected at the beginning of February, and every indication is that it will be positive. As in previous years, however, Ministers will not make the Order, subject to its approval by the Scottish Parliament, in the absence of the Commission's approval.

Financial Impacts

17. The ROS creates additional costs for electricity suppliers, which they can then pass through to industrial, business and domestic consumers as part of their electricity bills. By way of illustration, estimates published in previous years by Ofgem, the industry regulator, have forecast that the Obligation added around £12 to annual electricity bills in 2009/10, and that these costs could rise to around £20 per year by 2015. However, the extent to which the additional costs incurred by suppliers are actually passed through to each consumer group is a matter for the suppliers themselves, meaning that robust estimates remain difficult.

Scottish Government Energy and Climate Change Directorate
March 2011

[1] http://ec.europa.eu/eu_law/state_aids/comp-2010/n259-10.pdf

Business and Regulatory Impact Assessment for the Renewables Obligation (Scotland) Amendment Order 2011

1 Title of Proposed Regulation

1.1 Renewables Obligation (Scotland) Amendment Order 2011

2 Purpose And Intended Effect Of Measure

Objectives

2.1 The prime objective of the Renewables Obligation (Scotland) Amendment Order 2011 (the ROS) is to ensure that the ROS is capable of driving the substantial increases in renewable electricity in Scotland which will be necessary to help meet Scottish Government targets. The Order will:

- Enable offshore wind capacity to be accredited in separate phases over a period of time;
- Introduce mandatory reporting and sustainability criteria for solid and gaseous biomass; and
- Introduce mandatory sustainability criteria for bioliquids, in accordance with the EU Renewable Energy Directive (RED).

Background

2.2 The Renewables Obligation mechanism was introduced in 2002, with separate Orders in England and Wales, Scotland (and later Northern Ireland). These combined to create an obligation on licensed electricity suppliers across the UK to source more power from eligible sources of renewable electricity, such as wind, biomass, hydro, wave and tidal power. The Obligation remains the primary instrument via which renewable electricity generation targets in Scotland (80% of gross electricity demand by 2020) and across the UK are being pursued.

2.3 From 1 April 2009, the UK obligation changed from a *percentage* of a supplier's sales to an obligation to present a number of ROCs per MWh of a supplier's sales. The introduction of this change removed the direct link between the level of the Obligation and the actual amount of renewable energy required to meet it. One ROC is no longer necessarily equivalent to 1 MWh of renewable electricity. This has changed the ROS from an Obligation to produce evidence that a percentage of electricity supplied to customers comes from renewable sources, to one where suppliers are obliged to present a specified number of ROCs.

2.4 The UK Obligations therefore combine to require licensed electricity suppliers to produce a certain number of renewables obligation certificates (ROCs) in respect of each megawatt hour of electricity that they supply to customers during a specified period. In 2010/11, this number was 0.111 ROCs per megawatt hour. Without the financial support provided by the Obligations, most forms of renewable electricity would not be economic and

the Scottish Government would not achieve its targets for increasing the supply of electricity from renewable sources.

Rationale for Government Intervention

2.5 The ROS is the key driver in terms of meeting the Scottish Government's renewable electricity targets. Achieving this will, particularly in light of the demands imposed by the EU Renewable Energy Directive, require the ROS and the other UK Obligations to move beyond the current cap in the legislation of 20%, and the creation of a longer term framework and incentive through the extension of the lifetime of the measure.

2.6 The market will not, without intervention or additional support as supplied by the ROS, deliver the required development and deployment of renewable technologies to achieve Scotland's renewables and carbon reduction targets. This is because the carbon price is not yet high enough or certain enough to support these higher cost technologies, and there are market failures such as positive externalities from innovation, asymmetric information and uncertainty, and increasing returns to scale in the power sector.

2.7 The ROS, in tandem with the other UK ROs, needs to increase the proportion of renewable electricity to the levels required to meet the EU target. To do this, it needs to be structured in order to deliver the right levels of support over the right period. Subject to Parliamentary procedure and State Aid approval, the Scottish Government plans to implement changes in April 2011 to increase the effectiveness of the ROS.

3 Consultation

Within Government

3.1 The Order and the related consultation have been subject to discussions within Business, Enterprise and Energy Directorate, and circulated to colleagues in other Departments with an interest, notably Environment, including Forestry Commission (Scotland). The UK wide nature of the Obligation mechanism has been reflected in regular discussions with colleagues in the Department of Energy and Climate Change, and the Department of Enterprise, Trade and Investment in Northern Ireland.

Public Consultation

3.2 A consultation paper, *Renewable Energy: Changes to the Renewables Obligation (Scotland) Order 2010: Consultation*[1]), ran for 12 weeks between September and December 2010. This consultation sought views on the following proposals:

A – No change to existing wave and tidal ROC bands
B – Grandfathering for biomass, and review of future support for biomass stations
C – Biomass sustainability criteria
D – Sustainability criteria for biofuels
E – Offshore Wind Phasing
F – Refurbishment and Replacement
G – Renewable Heat Support
H - Mutualisation

3.3. We received 44 responses to our consultation, our response to which was published on December 23rd2 .

3.4 Our response explained that we have decided to proceed with the following:

- Retention of existing enhanced wave and tidal ROC bands, but with amended definitions;
- Introduction of phasing for offshore wind, subject to certain limitations;
- Introduction of mandatory reporting against greenhouse gas and land sustainability criteria for solid biomass and biogas;
- Introduction of mandatory sustainability criteria for bioliquids in accordance with the EU Renewable Energy Directive.

4 Options, Costs and Benefits

4.1 Do Nothing – under this option, the ROS would not be modified to enable phased offshore wind accreditation, to enable the necessary

[1] http://www.scotland.gov.uk/Publications/2009/08/07092158/0
[2] http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17612/ROSC1210R

amendments to our enhanced wave and tidal stream definitions, or to deliver mandatory and other important sustainability criteria. This would result in an Order which was out of step with the rest of the UK, risking future investment in offshore wind and marine renewables in Scottish waters and threatening the achievement of our binding renewables and climate change targets.

4.2 The costs and impacts of introducing the changes contained in the 2011 Order are set out within this paper at a pan-UK level; this reflects both the combined nature of the Obligations and their creation of a single market for renewable electricity across the UK, and is consistent with the way in which electricity supply businesses are likely to share their compliance costs across a UK customer base.

Amendment to Enhanced Wave and Tidal Definitions

4.3 The proposed amendments to these definitions are designed to prevent the current limit within the legislation on projects receiving both Government grant support and enhanced ROC levels from applying to projects which received or receive Government grant awards after September 19th 2008 – the date at which Scotland's enhanced marine ROC bands were published for consultation.

4.4 Our successful application to the European Commission for State Aid approval for this amendment recognised that the early costs of developing these projects are such that a project receiving a capital grant in addition to its enhanced ROC bands will not breach relevant State Aid thresholds.

4.5 Because the proposed amendment does not alter the size of the enhanced ROC bands, it does not affect the Obligation's costs.

Offshore Wind Phasing

4.6 As things stand, the UK Obligations provide less than 20 years support to the later phases of large offshore wind stations, since these developments, given their scale and complexity, will be constructed in multiple stages. Under the legislation at present, generators can choose to wait until all their generating capacity is built before seeking accreditation, which is a perverse incentive; the alternative would be to accredit when the first phase (or group of turbines) is commissioned, thus receiving less than twenty years of support for the subsequent phases as they are commissioned.

4.7 Since the ROC bands for offshore wind are calculated on the basis that 20 years of support be available, there is a significant risk that without that level of support for all of the relevant output, multi-phase offshore wind developments may not go ahead. The changes contained in the 2011 Order are designed to eliminate this risk, and to ensure that investment in such developments is not threatened.

Costs and Benefits of Offshore Wind Phasing

4.8 Allowing phasing for large offshore wind developments would remove the present dilemma facing developers over the choice of accrediting up front (and receiving income which could meet subsequent project costs) or waiting to accredit, thus ensuring a longer period of support for their projects.

4.9 Through enabling phased accreditation, the 2011 Order will remove this dilemma, and thus deliver a small improvement in the project economics of proposed new multi-phase offshore wind developments. This could be sufficient to deliver projects otherwise considered marginal, bringing about greater progress towards our binding renewable energy targets.

4.10 In terms of costs, there are two possible scenarios, for any individual multiphase offshore wind farm, depending on whether phased accreditation takes them 'above the line' in terms of profitability that allows investment to proceed.

4.11 Where phasing results in additional deployment due to improved project economics, this deployment will displace investment in other electricity generating capacity and there will be an additional resource and ROC subsidy cost. Where plants would have gone ahead with the same deployment even without the phased accreditation, there will be a small transfer from consumers to producers. The direct net welfare effect of this impact would be zero.

4.12 The following provides illustrative estimates of costs associated with increased offshore wind deployment. It is assumed that "Allowing Phasing of Offshore Wind Accreditation" could bring on an additional 200-400 MW of offshore wind capacity to be deployed within the UK from 2012 to 2016 (on top of an assumed 13 GW in current scenario). 2016 is chosen as a cut-off point as, **under the current arrangements**, the end date of the Obligations is 2037 and the maximum support period is 20 years. This means that from 2017 the phasing of support will cease to be an issue, as things stand.

4.13 The assumption of an additional 200-400 MW of offshore build from 2012 to 2016 represents 4.3%-8.7% of the total assumed offshore wind build over that period. This is based on judgement rather than on hard evidence, used to illustrate the potential impact of allowing phasing of offshore wind accreditation. If the additional 200-400 MW were to displace equivalent investment into and generation from combined cycle gas turbine generation, a resource cost of between £0.76 to £1.5 billion would be placed on the UK economy (cost of offshore generation minus cost of CCGT generation excluding carbon cost), offset by 5.1-10.2 Mt of carbon savings valued at £117-236 million (range of £59 to £338 million).

4.14 However, if it were to displace small biomass generation (>50 MW plants), a resource cost of between £230 to 470 million would be placed on the UK economy, but there would be no additional carbon savings assumed. Similarly, if it were to displace onshore wind generation, a resource cost of

between £390 to £790m would be placed on the economy, and there would be no additional carbon savings. However, CCGT generation would not contribute to hitting the UK's 2020 renewables target.

4.15 On the assumption that any additionally incentivised offshore wind generation across the UK displaces equivalent generation from small biomass and onshore wind, in equal proportions, then this gives an illustrative additional resource cost of between £310 to £630 million.

4.16 The cost to electricity consumers across the UK of the deployment of an additional 200-400 MW of offshore wind displacing generation from a combination of small biomass and onshore wind plant would be around £490-990 million in Obligations' subsidy. An illustrative estimate of potential cost to consumers associated with increased support for projects that would be built and commissioned without it, can be calculated by looking at a fictional 300 MW offshore wind farm which commissions one third of all their offshore wind capacity in 2012, one third in 2014, and one third in 2016. Without being able to phase accreditation, the first third of the capacity would get 20 years of ROC support, the second 18 years of ROC support, and the last third 16 years of ROC support. This would imply a £1.075 billion Obligation subsidy cost.

4.17 Getting phased support for this offshore wind park instead would imply an Obligation subsidy cost of £1.100 billion. Therefore, implementing phasing for a 300 MW plant, where the plant would have gone ahead anyway, implies a transfer from UK consumers to producers of £25m (a 2.4% increase of Obligation subsidy cost). It should be stressed again that these scenarios are illustrative; there are other possible outcomes and combinations via which generation could be displaced, and different geographical weightings and contributions which might apply. This short summary provides a snapshot of one such plausible outcome, coupled to an estimate of the costs which would be likely to arise and which would be spread across all UK consumers.

Sustainability Criteria for Solid and Gaseous Biomass

4.18 The 2011 Order introduces mandatory reporting against sustainability criteria for biomass generators of 50 kW and above. The objectives behind this are to optimise greenhouse gas (GHG) savings, and to prevent adverse land use change (e.g. deforestation), thus ensuring that biodiversity and other environmental interests are protected. Incorporating these criteria within the ROS can also help minimise indirect adverse impacts arising from use of biomass as a fuel – such as on global food supplies, and indirect land use change.

4.19 Do nothing option – this would run the risk of biomass being used to generate energy which is from unsustainable sources, and where the GHG savings on a life cycle basis are minimal or non-existent.

4.20 The sustainability criteria consulted upon, and those which have been selected for implementation via the 2011 Order, are built upon the

recommendations contained within the European Commission report published on February 25th 2010.[3] It should be noted that these are not binding, but were intended by the Commission to act as a guide for member states.

4.21 Sustainability reporting was first introduced to the ROS in April 2009. This was done to help prepare stakeholders and regulators ahead of a (potentially more rigorous) EU wide reporting scheme. The legislation at present requires generators to submit an annual report on biomass feedstocks, such as the country of origin and any land use change since 2005, but doesn't set a minimum standard to be achieved.

4.22 The 2011 Order goes further than this, requiring biomass generators to assess their lifecycle GHG emissions savings relative to fossil fuel (taking into account the energy conversion efficiency of their generating station). Generators will also be required to confirm that relevant biomass materials are not sourced from raw materials obtained from land important on carbon or biodiversity grounds. Following this introduction of mandatory reporting, the intention is that compliance with agreed sustainability criteria will be required from April 2013.

Costs and Benefits of Sustainability Criteria for Biomass

4.23 At the administrative costs level, the EU has a standard cost model to estimate the cost of chain of custody certification for biomass station operators, suggesting a cost of between £700-2,500 per year. The model suggests that when operators have also to show actual GHG savings, costs could be 10-20% higher, implying an additional cost per annum for biomass producers (arising from GHG calculation and reporting) of between **£70-500**. Our proposal to exempt small-scale biomass generators (less than 1 MW) from the sustainability criteria means that the administrative burden on this group of generators will be significantly reduced.

4.24 Studies have suggested that the implementation of sustainability criteria could have an effect upon the supply of sustainable biomass feedstocks, or on prices, or both. Analysis carried out at a UK level examining the impacts of sustainability criteria and varying levels of GHG saving found that the potential impacts of the criteria are strongly influenced by future supply projections, and the lifecycle analysis of the feedstocks which comprise the relevant supply curves.

4.25 This means that the costs and benefits underlying the introduction of these criteria are very difficult to quantify – although work done to date suggests that, while the Net Present Value for the UK is likely to be negative by 2020, adopting the sustainability criteria is likely to produce additional carbon savings. Meanwhile, Scotland will be represented on the new UK Biomass and Biogas Sustainability Implementation Group, due to meet for the

[3] http://ec.europa.eu/energy/renewables/transparency_platform/doc/2010_report/com_2010_0011_3_report.pdf

first time in January 2011, which will consider how the criteria will work in operation, and at ways to ensure that small scale users of biomass are not unduly burdened.

4.26 The position in Scotland is likely to be further affected by a review of biomass support under the ROS which has been proposed for 2011; we expect to undertake further analysis as part of and to underpin that review process.

Sustainability Criteria for Bioliquids

4.27 The Renewable Energy Directive[4] requires that electricity generated from biofuels must meet the mandatory sustainability criteria as set out in articles 17 and 18 of the Directive. In order for it to continue to receive financial support under the ROS, or to count towards renewable energy targets more widely, bioliquids must comply with the RED.

4.28 Biofuels and bioliquids have the potential to play a role in helping meet our renewable energy and climate change targets; however, this needs to happen in a way that delivers genuine GHG savings and avoid carbon leakage or adverse environmental impacts elsewhere. Doing nothing could also result in infraction proceedings by the EU.

4.29 In order to be RED compliant, bioliquids used in the electricity sector must demonstrate lifecycle GHG savings of:

(a) 35% from the introduction of the criteria, unless produced in an installation in operation on 23 January 2008 when it will start from 1 April 2013

(b) 50% from 1 January 2017 and

(c) 60% from 1 January 2018 where produced in installations in which production started on or after 1 January 2017.

4.30 For bioliquids the savings are applied on an input basis and apply against reference values of 91 grammes CO2/MJ for bioliquids used in electricity generation and 77 grammes CO2/MJ for use in heat, set out in Annex V(C).19 of the RED. The following table summarises the implied maximum carbon intensity under the proposed sustainability standards

gr. CO2/MJ	**35%**	**50%**	**60%**
Electricity	59.15	45.5	36.4
Heat	50.05	38.5	30.8

4.31 There are further provisions which are designed to prevent:

- conversion of land with a high biodiversity value (eg primary forests, grassland);
- change to the status of land with high carbon stock (forest and wetlands);
- the drainage of peatlands. (Bioliquids from wastes and residues other than those derived from agriculture, forestry, aquaculture and fisheries, are excluded from these provisions).

4.32 The RED prevents the UK as Member State from making additional sustainability criteria; moreover, Member States cannot refuse to award on sustainability grounds bioliquids which comply with the criteria. The RED also considers as renewable biofuels and bioliquids manufactured from a process which requires the use of fossil fuel and results in the chemical incorporation

[4] http://ec.europa.eu/energy/renewables/biofuels/sustainability_criteria_en.htm

of fossil derived elements within the renewable fuel. One such process is the production of Fatty Acid Methyl Ester – derived biodiesel – FAME. We are therefore, in compliance with the RED, extending the ROS to biodiesel made partly from fossil fuel.

Costs and Benefits of Bioliquids' Sustainability Criteria

4.33 Information on current prices for virgin oil feedstocks and even waste oils suggests that generating electricity from bioliquids would appear to be a rather expensive option compared to using solid feedstocks or other forms of renewable energy. This would explain the small proportion of such feedstocks currently being used (mostly tall oil which has the lowest price due to limited competing uses).

4.34 Nevertheless, where interest may exist in expanding the use of bioliquids in CHP applications is in certain 'niche' markets; their advantage is claimed to lie in their higher energy intensity and lower air pollutant emissions compared to solid biomass. In dense urban areas with high concern over air quality and where storage facilities are limited, bioliquids may offer the only bioenergy solution.

4.35 Information prepared by the National Non-Food Crops Centre (NNFCC[5]) looking at different scenarios for potential uptake of the various technologies and feedstocks across the UK by 2020, based on existing plants, projects currently in the planning process and the stated intention from industry. The scenario considered most realistic estimated that stations (including industrial and CHP) using bioliquids may amount to over 650 MW by 2020. We do not have a capacity forecast for Scotland alone.

4.36 Bringing FAME (Fatty Acid Ethyl Ester) into the Obligations could potentially have a significant impact on the size of the bioliquid sector. Based on current costs estimates, however, it would not appear to be an economically attractive feedstock and technology choice. If this was to change, it may displace certain other bioliquid feedstocks.

4.37 FAME may for example be an option for existing diesel generators which could use that feedstock in the form of a blend or conversion of kit to run on 100% biodiesel. According to the NNFCC (based on discussion with the industry), any additional uptake on this feedstock should be limited in the absence of strong additional financial incentives.

4.38 Based on the potential generation of co-firing with FAME found in the NNFCC "realistic" scenario, and support equivalent to 1 ROC per MWh, the subsidy cost of including this in the UK Obligations could be around £9m in 2020 and £140m cumulative to 2030. However, support levels for all technologies will be reviewed over the coming year as part of the Obligations' banding review.

[5] NNFCC report forthcoming.

4.39 The NNFCC work has enabled the production of resource cost forecasts, using information on biofuel plant and feedstock costs, working on the assumption that any shortfall of renewable energy generated from liquid biomass needs to be met by an expansion of an alternative renewable technologies, in order to stay on track towards our renewables targets.

4.40 The analysis assumes wind energy (on or off shore) to be the replacement technologies as these provide a range for potential cost impacts and there is spare deployment potential for these technologies up to 2020. Since onshore wind currently qualifies for one ROC per MWh generated while offshore installations receive 2 ROCs/MWh, a MWh generated by 'average' wind thus receives the same 1.5 ROCs as bioliquids, thus the subsidy cost of switching between the two technologies is zero.

4.41 At the level of administrative costs, Ofgem estimates that implementing the scheme might incur initial IT and staff costs of around £1m. The ongoing staff requirement during operation is expected to be 1-2 FTEs for the first two years rising to 2-3 FTEs thereafter. Using average salary and overhead costs, this would imply approximate costs of £75,000 per year initially, increasing to £125,000 per annum.

4.42 To qualify for ongoing support, it is expected that operators will have to verify the sustainability of their feedstocks on an annual basis. Estimates from the Renewable Fuels Agency (RFA) suggest that those verification costs could amount to less than £15,000 for large generators, and around £1,500 for smaller stations. There would also be some small administrative costs for operators, estimated at £500 per annum.

4.43 The main benefit of the sustainability criteria is to limit the risk of environmental degradation through negative land use change, and to ensure that bioliquid feedstocks produce significant net increase in carbon savings. Additional environmental and social effects, both positive and negative, are likely to occur. There are sustainability concerns which fall outside the mandatory criteria, although the Commission has a commitment to continue monitoring, and to propose action if appropriate.

4.44 These concerns include effects on air, soil and water, food prices and indirect land use change (ILUC). ILUC occurs when an overall increase in demand for a feedstock displaces land which would otherwise be used for food, therefore causing additional conversion of land elsewhere. If the land converted was of high carbon stock, the net greenhouse gas emissions could be higher in the short term than burning the equivalent fossil fuel.

4.45 The Commission has recently consulted on the likely relevance of the problem posed by ILUC and on potential ways of addressing it.[6]

[6] http://ec.europa.eu/energy/renewables/2010_10_31_iluc_and_biofuels_en.htm

5 Small / Micro Firms Impact

5.1 The major impact of the Obligation on the large majority of small businesses is likely to continue to come from increased costs of electricity which, while affecting all electricity consumers, will represent a larger proportion of income for smaller companies.

5.2 Small businesses involved in licensed electricity supply should not experience any additional burdens from this set of proposed amendments.

6 Legal Aid Impact Test

6.1 This test is not considered relevant to the changes to the ROS.

7 'Test Run' of Business Forms

7.1 The changes to the ROS do not involve business forms.

8 Competition Assessment

8.1 The ROS is a market-based instrument that operates in a competitive market for electricity. The rules of the ROS apply in a non-discriminatory way to all participants in the renewables industry and electricity sector. It is intended that this will remain the case. The proposed changes, coupled with the retention of the mechanism which recycles money from the buyout fund, should act as a positive incentive to competition between existing and new renewable generators, as well as licensed electricity suppliers.

9 Enforcement, Sanctions and Monitoring

9.1 The ROS, like all UK Renewable Obligations, is administered and enforced by Ofgem. Non-compliance is considered a breach of a 'relevant requirement' of the Electricity Act and Ofgem may impose appropriate sanctions. Ofgem reports annually on its administration of the Obligations and conducts regular audits in relation to compliance.

9.2 The changes proposed do not introduce any new powers of sanction. Allowing phasing of offshore wind support might lead to Ofgem having slightly more accreditations to process, but this would add only marginally to their administration costs. There will also be limited IT and staff costs for Ofgem arising from the introduction of biomass and bioliquid sustainability criteria and reporting, as covered in section 4.

10 Implementation and Delivery Plan

10.1 The Renewables Obligation (Scotland) Amendment Order 2011 will be laid before the Parliament at the beginning of February 2011, and is due to come into force with effect from April 1.

11 Post-Implementation Review

11.1 The legislation requires the Scottish Government to carry out reviews of the ROS on an agreed timetable. Subject to the triggers for an early or "emergency" review set out in the ROS, the legislation which accompanied the introduction of banding proposed that the first review of the banding levels may commence in October 2010, and that subsequent reviews should operate at four yearly intervals. In accordance with that provision, a review of technology costs is currently underway, with consultation on the outcomes expected to take place later in 2011.

11.2 The Scottish Government will continue to work closely with Scottish stakeholders, the other UK administrations and with Ofgem on future changes to the mechanism.

12 Summary and Recommendation

12.1 The recommendation is that the proposed changes be made to the ROS, thus consolidating the ROS and its effectiveness as part of a UK renewable electricity market while supporting progress towards and the achievement of the Scottish Government's renewable electricity targets.

13 Declaration and Publication

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