

RENEWABLES OBLIGATION (AMENDMENT) ORDER (NORTHERN IRELAND) 2010 REGULATORY IMPACT ASSESSMENT

1. Title of proposal

Renewables Obligation (Amendment) Order (Northern Ireland) 2010

2. Introduction

This Regulatory Impact Assessment supports the implementation of the above Order which will introduce provisions for supporting the continued development of renewable electricity in Northern Ireland

3. Purpose and intended effect

3.1 Objective

The aim of this proposal is to introduce amending legislation to affect key changes:

- Extend the lifetime of the Northern Ireland Renewables Order (NIRO) from 2027 to 2033
- Restrict support for new entrants to 20 years
- Remove the 20% ceiling on the NIRO level to allow development beyond that level
- Increase headroom from 8% to 10%
- Allow for an interim solution to support a limited amount of small-scale generation in line with support offered under the proposed GB FIT.

The proposals largely mirror those contained in proposed amendments to the ROs in England and Scotland and will ensure consistency between the Obligations.

3.2 Background

The EU Renewable Energy Directive commits the UK to meeting 15% of its energy needs from renewable sources by 2020. To achieve this, renewable electricity supply from large-scale generation will need to increase from around 9% today to up to 40% by 2020. Further growth (around 1 to 2%) will need to come from smaller-scale generation, including microgeneration.

The Northern Ireland Renewables Obligation (NIRO) is the Department's main policy measure for supporting the development of renewable electricity in Northern Ireland. The NIRO was introduced on 1 April 2005 and has been the subject of amendment in 2006, 2007 and 2009. The current legislation governing the NIRO is the Renewables Obligation Order (Northern Ireland) 2009 which became effective from 1 April 2009.

The NIRO places a legal requirement on electricity suppliers to account for a specified and increasing proportion of their electricity as having been supplied from renewable sources or to pay a buy-out fee that is proportionate to any shortfall. Suppliers provide evidence of compliance by presenting Renewables Obligation Certificates (ROCs) which are issued to generators of renewable electricity for each unit of eligible output. The number of ROCs issued for each MWh unit varies depending on the technology involved.

3.3 Consultation

The consultation on policy for the NIRO 2010 detailed proposals to:

- 1) Remove the 20% cap on the NIRO;
- 2) Increase headroom from 8% to 10% over a four-year period¹;
- 3) Allow headroom-only to set the level of the obligation rather than using fixed targets from 2016/17 onwards;
- 4) Introduce a twenty-year time limit on support under the RO;
- 5) Extend the lifetime of the RO from 2027 to 2033;
- 6) Increase the ROC banding from 1.5 to 2 ROCs/MWh for offshore wind projects signing wind turbine contracts in 2009/10 and getting a foundation constructed before the end of 2011, and from 1.5 to 1.75 ROCs/MWh for offshore wind projects signing wind turbine contracts in 2010/11 and getting a foundation constructed before the end of 2012. (This aspect was consulted on by DECC but will also apply to NI waters)²;
- 7) Allow for an interim solution in the NIRO to the issue of increased support for small-scale generation under the proposed GB FIT; and
- 8) Retain the co-firing cap at 12.5%.

3.4 Intended Effect

The overall objective is to increase renewable electricity to the level required as the contribution towards increasing energy security, decreasing carbon emissions, reducing reliance on imported fossil fuels and helping to meet the UK's overall target of 15% renewable energy by 2020. DETI aims to do this in a cost-effective way, and in a way that is most compatible with Government's other policy objectives.

This increase in ambition to achieve up to 40% renewable electricity by 2020 will be driven by ensuring the NIRO incentivises the private sector to invest enough in renewable generation: projects built before 2020 get at least 18 years of NIRO support, headroom will have a stabilising effect on the ROC price and maintain confidence in the level of subsidy, and the removal of the cap on the level of the NIRO should provide this confidence.

¹ As detailed in the Government response, it is intended to move to 10% headroom directly in 2011/12 rather than over a four-year period

² Following consultation, this proposal has been amended to increase offshore wind banding to 2 ROCs/MWh for all projects accredited between April 2010 and March 2014

It is intended that the following actions contained in the NIRO will contribute to Northern Ireland's renewable energy objectives:

Extend the lifetime of the NIRO from 2027 to 2033

Because of the long term nature of renewable electricity projects, if the NIRO were to expire on its current end date of 2027, it would be unlikely to incentivise new investment much beyond 2015. Extending the RO to 2033 will give long term certainty to investors to at least 2020 that they will receive support for renewable electricity projects. While the GB ROs are extending to 2037, DETI wishes to take account of the outcome of work currently being undertaken by the Department in conjunction with NIAUR on future renewables support mechanism, with reference to the DECC proposals to introduce a FIT arrangement for small-scale generation. The Department therefore intends to extend the NIRO to 2033. This does not preclude further extensions at a later stage.

Restrict support for new entrants to 20 years

By extending the NIRO to 2033, a time limit on eligibility needs to be set, as it would not be cost-effective to allow projects to continue to claim ROCs for the full life-time of the NIRO where that exceeds the amount of support they really need for economic viability. As NIRO support is based on a 20-year period, participation has been limited to 20 years. The introduction of the new time limit on participation will be grandfathered to protect existing investments.

Remove the 20% ceiling on the NIRO level to allow development beyond that level

Under the current NIRO, the level of the obligation cannot rise beyond 20 ROCs/100MWh. The current 20% limit on NIRO generation would restrict the UK's ability to reach the 2020 renewable energy target. Removal will ensure generation can grow and be guaranteed support from the NIRO.

Increase the level of headroom from 8% to 10%

The headroom mechanism is intended to help stabilise the price of ROCs by ensuring that there is always a positive gap between demand for ROCs (as expressed in the obligation level set by the RO) and supply (as determined by actual renewable electricity generation levels) and that that gap is kept at as steady a level as possible. As the price of ROCs is driven by the balance of this supply and demand, the headroom mechanism should therefore mean that the ROC price does not fluctuate too far in either direction.

Recent research and industry feedback indicates that the current level of headroom of 8% above deployment levels is too low to give investors confidence that a ROC price crash will be avoided. The level of headroom will therefore be increased from 8% to 10% in one step as of the 2011/12 Obligation period. The Government previously suggested stepping this up in four 0.5% point increments, but has decided that given the risks it should be increased directly to 10% from 2011/12.

Amend the RO so that some offshore wind projects qualify for an increase in ROC support.

Over the winter of 2008-9, DECC was approached by a number of offshore wind developers who argued that the economics of offshore wind projects had been particularly hard hit by the credit crunch, coming at a time when their supply chain costs were already rising. A study was commissioned to look into the costs faced by projects looking to achieve financial close in the next year. The results appeared to demonstrate that a combination of factors had led to significant increases in costs over a relatively short period.

These factors include: increased costs due to the immature supply chain; increased foreign exchange costs where the majority of capital costs are priced in Euros or Danish Kroner and increased cost of risk (reflected in increased borrowing costs) in the current financial climate.

An early review of the offshore wind banding was initiated, and following review by the Renewables Advisory Board (RAB) and statutory consultation, the Secretary of State for Energy and Climate Change has decided, subject to state aid and parliamentary procedure, that there should be an increase in offshore wind banding for stations or capacity receiving full accreditation between 1st April 2010 and 31st March 2014.

Because DECC is responsible for the legislation governing the issue of ROCs for offshore renewable generation, NI will be affected by these amendments in theory, but we believe that, in practice, there will be no offshore wind developments in NI waters that will be affected. Therefore this RIA does not go on to consider the Regulatory Impact of these changes for Northern Ireland.

4. Rationale for Government Intervention

Since NI imports around 98% of its energy in the form of fossil fuels, energy security is a key risk for the region. In addition, there is a need to help address the negative emissions associated with this over-reliance on fossil fuels. The EU Renewables Directive commits the EU to meet 20% of its energy needs from renewable sources by 2020, with the UK's individual target at 15%. In order to address these challenges, DETI needs to support financially large-scale renewable electricity technologies, as current costs are higher than their conventional alternatives and deployment would not occur in the timescales required.

Renewable technologies are also needed as part of the global effort to reduce emissions – the need for urgency and the risk of higher damage costs in the future underpin the need for action now. In the electricity sector new technologies can struggle to compete with conventional technologies and policies to support early stage development and bring costs down longer term is critical. The cost of deploying new technologies typically falls as volumes increase, supply chains are established and commitments to further expansion rise.

The market on its own will not deliver the required development and deployment of renewable technologies to achieve the UK's 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.

The NIRO as it now stands is unlikely to result in the necessary amount of renewable generation by 2020. In order to increase the proportion of renewable electricity to the levels set out in the five scenarios in the draft Strategic Energy Framework, the RO will need to be modified and extended. Subject to Assembly procedure and State Aid approval, DETI plans to implement changes in April 2010 to make the NIRO more effective.

Not all of the uplift in renewable generation capacity will come from large-scale generation. Deployment of small-scale renewable generation can play a small part in involving communities and households in the process of weaning the region off its dependency on fossil fuels. Because NI does not have equivalent powers to those given under the Energy Act 2008 to allow for the establishment of a FITs scheme to subsidise new renewable generation of up to 5MW in size, the NIRO consultation proposed an interim solution with an uplift in ROCs being proposed for some small-scale generation up to 250kW. The intention is to introduce this scheme in April 2010, subject to State Aids clearance.

5. Analysis of the options and the costs and benefits

This RIA presents the analysis of the impact of the minimum change option to reach proposed renewable electricity targets in 2020, and separately analyses the impact of modifications announced in the consultation. All costs and benefits are reported in 2009 prices discounted to 2009, and using the assumption of updated carbon price projections. There are 2 main parts to the analysis of options and costs and benefits presented below. It is important to note that this analysis is done on a whole UK basis.

Minimum change (1A)

This RIA first looks at the costs and benefits of the first five modifications listed³ in comparison to a do nothing option of retaining the NIRO, but not extending the NIRO to meet increased renewable electricity targets for 2020. Minimum change keeps in place the fixed targets up to 2015/16, such that the level of the obligation in each annual period is set by the higher of one: the fixed target, and two: the ex-ante prediction of renewables generation for the period plus the level of headroom. From 2016/17 onwards, fixed targets are not increased, so it is expected that the level of the obligation will be set by the ex-ante prediction of renewables generation for the period plus headroom. The level of headroom in this option is assumed to be 10% from 2011 onwards.

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- 1) Remove the 20% cap on the NIRO;
- 2) Increase headroom from 8% to 10% over a four-year period;
- 3) Allow headroom-only to set the level of the obligation rather than using fixed targets from 2016/17 onwards;
- 4) Introduce a twenty-year time limit on support under the RO;
- 5) Extend the lifetime of the RO from 2027 to 2033;

Moving to 10% headroom from 2011/12 (1B)

This section of the analysis considers the difference between increasing the level of headroom to 10% in 2011 and staggering the increase from 8% headroom to 10% headroom in 0.5 percentage point increases over 4 years.

(1A) Increasing the effectiveness of the RO to achieve the renewable energy target – Minimum Change Option

The analysis of this option covers modifications (1) to (5) listed above. The analysis was conducted by Redpoint energy et al. for the UK, and the underlying assumptions are set out in the report published alongside the UK Renewable Energy Strategy. The Redpoint analysis aimed to set out the minimum changes necessary to achieve the higher levels of renewable electricity by 2020.

The modelling included some rebanding of the ROs from 2013 onwards. The impact is measured above a 'do nothing' option (status quo). Under this option the NIRO would not be modified to increase the amount of renewable deployment in the electricity sector, resulting in around 14% of renewable generation by 2020. This assumes no change to the NIRO beyond announced changes to the Renewable Obligation in the UK Government Response to the consultation on the long-term reform of the RO, published alongside the Energy Bill 2008.

The baseline costs and benefits of the do nothing option are given in Table 1 below:

Table 1: Characteristics of the Status Quo 'do nothing' option for whole UK, 2009 prices⁴

	2020	Lifetime to 2030
Generation costs	£18bn	£390bn
Carbon emitted	150Mt/CO ₂	2900Mt/CO ₂
Consumer cost	£21bn	£460bn

The main regulatory impact of the Renewables Obligation is the cost to consumer. In this context, DETI has already in place a special arrangement within the UK-wide operation of the Obligation in that the Obligation level imposed on suppliers here is much lower than that in GB and indeed is much lower than the actual renewables generation in NI. This arrangement was agreed with BERR in order to restrict the impact of the NIRO on consumer costs because of the average higher cost of electricity in Northern Ireland. So it is expected that, under this concessionary level of the NIRO which extends to 2012, there will be minimal short-term cost to the consumer as a result of these changes.

⁴ It should be noted that these are DECC figures for the UK as a whole. DETI is undertaking further work on the economics of renewable electricity support

Impact of Minimum Change

The Impact of the Minimum Change option, compared to the Status Quo scenario are given in Table 2 below:

Table 2: Quantified Costs and Benefits of the Minimum Change Option relative to the status quo counterfactual for the whole UK, 2009 prices

	2020	Lifetime to 2030
Gross resource costs (additional generation costs gross of carbon compared to counterfactual)	£2.6bn	£41bn
Reduction in Carbon Emitted	22 MtCO ₂	400 MtCO ₂
Value of Carbon Reduction	£380m	£10bn
Grid reinforcement costs ⁵	£230m	£3bn
NPV of monetised costs and benefits for UK economy (= net resource cost, that is net of carbon)	£2.5bn	£34bn
Additional consumer cost	£3.1bn	£42bn

Resource costs include all costs associated with the increase in renewable generation, over and above the costs of the the counterfactual fossil fuel technology. These estimates include the high cost of the renewable technologies, and other costs, for example, the grid connection costs. The separate cost, entitled grid costs, includes the costs of further reinforcement to the grid that would be necessary to support additional renewable generation. The estimate of grid costs is taken from the ENSG report taking account of overlapping costs included in the Redpoint analysis.

The minimum change option leads to an increase in generation costs compared to the status quo as a result of the increased proportion of renewable electricity, which costs more than the fossil fuel alternative. The consumer cost increases as well, mainly reflecting the increase in the renewables obligation needed to incentivise this additional generation.

In addition to the carbon-related benefit quantified above at around £10 billion from 2010 to 2030, minimum change is likely to have other benefits which have not been monetised. These include encouraging innovation, economic benefits in developing new industries and jobs, and security of supply benefits through diversity of supply and reduced dependence on imported fossil fuels compared to the dependence that would pertain in the status quo counterfactual. However, there are also non-monetised costs of minimum change, especially the macroeconomic costs of higher electricity prices, as well as displacement and crowding out effects. RO administration costs are not included in the monetised costs either, but are expected to rise with the increasing size of the RO.

⁵ Again it should be noted that these are UK figures which do not appear to have taken NI grid reinforcement into account

In some sectors such as electricity generation - where new technologies can struggle to compete with conventional technologies due to increasing returns to scale, multi-faceted uncertainty and knowledge spillovers - policies to support the market for early-stage technologies are critical. The cost of deploying new technologies typically falls as volumes increase, supply chains are established, and commitments to further expansion get firmer.

Minimum change is likely to encourage renewables innovation and hence reduce the future costs of reaching the UK's long-term greenhouse gas emission targets. A recent report from the UK Energy Research Council⁶ illustrated this effect of innovation in low-carbon technologies, including renewables. It compared the cost of meeting the 2050 carbon target with and without the accelerated development of seven low-carbon technologies, of which 4 are renewable. UKERC found that accelerated development of low-carbon technologies could reduce the cost of meeting the 2050 target by £36bn over 2010-2050.

The Committee on Climate Change report⁷ suggests that renewable technologies will play an important role in decarbonising the electricity sector without an unduly high cost penalty. In addition, macroeconomic modelling by HMRC has found that a higher rate of cost reduction (an increase in the learning rate from 5% to 6%) in wind generation could reduce the GDP losses associated with climate change policies in 2020 by around 0.05% of GDP, or around £1bn.

Renewable energy will play an important role in global carbon abatement. Accelerated development of zero / low carbon emissions technologies could have a considerable impact in reducing global marginal abatement costs in the medium term.

Analysis of the costs and benefits of minimum change stops in 2030, as that is the last date in Redpoint's model. At this date there will still be operational renewables plant that was incentivised by minimum change. This plant will be associated with continued resource costs post-2030 (annuitised capital costs, operation and maintenance costs etc. over and above the level in the status quo scenario) and continued offsetting benefits including carbon-related benefits.

The minimum change option has a net present value (social) cost per tonne of CO₂ abated which is greater than the comparator carbon cost. This means the extension and expansion of the ROs is counted as a cost-ineffective method of carbon abatement. However, minimum change will imply additional benefits beyond carbon reduction (for example, in terms of meeting the renewable energy target, increasing the diversity of our energy supply and promoting innovative technologies) which is not reflected in the analysis of cost-effectiveness.

1B) Moving from 8% to 10% headroom as of the obligation period 2011/12

Modelling by Redpoint for DECC looked at moving from 8% to 10% headroom as of the obligation period 2011/12, instead of moving gradually from 8% to 10% by 0.5 percentage points a year, finally reaching 10% headroom in 2014/15, as was previously modelled by Redpoint for DECC.

⁶ UKERC, 2009, Decarbonising the UK Energy System: Accelerated Development of Low-Carbon Energy Supply Technologies

⁷ <http://www.theccc.org.uk/reports/>

It found that there was no net resource cost or carbon benefit to the UK economy as a whole from the change, but the small increase in size of the Renewables Obligation would lead to a transfer of £39 million discounted over three years from consumers to producers, that is to say there would be a cost of £39 million spread over electricity consumers, which would be a shared benefit between electricity suppliers and renewables generators.

The profile of costs is £19 million in 2011/12, £15m in 2012/13 and £8m in 2013/14 (all values discounted to 2009 at the social discount rate). This increase in subsidy cost is included in the total subsidy costs of minimum change above.

The result in the Redpoint modelling that an early move to 10% headroom has no net cost or benefit is because there is no change in the level of renewables deployment. In practice, however, moving from 8% to 10% headroom early will reduce the chances of a ROC price crash in those years, and this will increase investor confidence and in practice could marginally increase the level of renewables build from 2011/12 to 2013/14 and reduce investor hurdle rates. Any extra renewables build will be associated with a resource cost, since renewables generation is more expensive than conventional electricity generation, but this effect is likely to be small for this minimal change. RO and NIRO administration costs should not be affected by the early move to 10% headroom.

Effect of increase in NIROCs for small-scale generation

Economic work on the cost of supporting small-scale generation in the way suggested in consultation is continuing and will be presented in the Assembly debate. While it is expected that there will be small additional cost to the consumer from the proposal, it is important to note (a) that this will be spread across the UK as a whole and (b) the rate of take-up will be limited by the fact that it is a short interim solution, pending a long-term decision on the future of electricity microgeneration support in Northern Ireland.

There will be additional cost to Ofgem to administer the proposal.

It should also be noted that all the above measures require State aid approval from the European Commission to proceed.

Conclusion

As indicated, the figures quoted above relate to the UK as a whole. The size of the whole Northern Ireland electricity market within the UK is approximately 2.5% of total consumption and the relative costs and benefits associated with the above options must be seen within this context.

The special arrangement that Northern Ireland has within the UK-wide operation of the Obligation means that the Obligation level imposed on suppliers here is much lower than that in GB and indeed is much lower than the actual renewables generation in NI, thus restricting the impact of the NIRO on consumer costs because of the average higher cost of electricity in Northern Ireland. Therefore, under the concessionary level of the NIRO, which extends to 2012, there will be minimal short-term cost to the consumer as a result of the Minimum Change option.

In addition the early move to 10% headroom will have no negative effect on generators or on administrative costs. Finally, any additional costs to the consumer associated with the increase in NIROCs for small scale generation in NI must be regarded in the context that costs are spread across the UK as a whole and small scale generators will receive additional support.

6. Competition Assessment

The NIRO is a market-based instrument that operates in a competitive market for electricity. It is open to all participants in renewable generation. The way in which the NIRO recycles money from the buy-out fund should act as a positive incentive to competition between suppliers, and reduce barriers to entry for renewable electricity generators.

7. The Small Business Impact Test

The major impact of the NIRO on the majority of small businesses is likely to come from increased costs of electricity which are likely to represent a larger proportion of income for smaller companies, as they are less likely to have their own generation compared to – particularly - larger industrial users with heavy electricity requirements..

The amendments proposed in the Order will benefit those small businesses involved in renewable electricity generation through greater investor confidence arising from the extension to the lifetime of the NIRO and increase in headroom.

8. Environmental Impact and Sustainable Development

The NIRO is aimed at increasing the deployment of renewable electricity generation in order to move Northern Ireland away from fossil fuel dependency towards an economy less reliant on the often volatile price of such imported fossil fuels. As such it supports mitigation of climate change and more sustainable and secure energy. Individual projects supported under the RO that are deemed to have the potential to cause significant adverse impacts are required to undertake an Environmental Impact Assessment (Directive 85/337/EEC) as part of the planning process. The NIRO includes sustainability reporting requirements for the use of biomass in electricity generation. This will be reported annually and will help inform policy on sustainable use of biomass for electricity generation.

9. Rural proofing

A large proportion of renewable energy is produced in rural areas and affects businesses involved in the generation of renewable energy and rural communities living in the vicinity of new developments. Increasing the proportion of energy from renewable sources will mean more renewable energy developments in rural areas. Certain forms of renewable development impact disproportionately on rural areas and there can be resistance to new developments. However, any resistance needs to be viewed in the light of the need to increase renewable energy to meet longer term energy security goals and in order to tackle climate change. Although there has been no separate or explicit assessment of the needs of rural areas, the proposals are set within this wider policy context and aim to ensure that the impacts on consumers and their bills are reasonable.

Development of NIRO policy has been subject to extensive consultation. This has previously included business interests within the renewables sector and consumer interests. It has also included relevant rural business groups (including UFU) but has not sought to engage rural community groups in particular.

10. Enforcement and Sanctions

The NIRO is administered and enforced by Ofgem on behalf of NIAUR. Ofgem reports annually on their administration of the NIRO and conduct regular audits in relation to compliance with the NIRO.

11. Monitoring and Review

DETI is responsible for monitoring the impact of the NIRO on the development of renewable energy in Northern Ireland. In conjunction with NIAUR, DETI will shortly be undertaking a review of the NIRO to determine the best approach to incentivising renewable electricity generation in Northern Ireland.

12. Ministerial Sign-off

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

Signed by the responsible Minister



Date...14th January 2010.....

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