



Northern Ireland
Assembly

Public Accounts Committee

Report on Generating Electricity from Renewable Energy

Together with the Minutes of Proceedings of the Committee relating
to the Report and the Minutes of Evidence

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PUBLIC ACCOUNTS COMMITTEE

Membership and Powers

The Public Accounts Committee is a Standing Committee established in accordance with Standing Orders under Section 60(3) of the Northern Ireland Act 1998. It is the statutory function of the Public Accounts Committee to consider the accounts, and reports on accounts laid before the Assembly.

The Public Accounts Committee is appointed under Assembly Standing Order No. 56 of the Standing Orders for the Northern Ireland Assembly. It has the power to send for persons, papers and records and to report from time to time. Neither the Chairperson nor Deputy Chairperson of the Committee shall be a member of the same political party as the Minister of Finance or of any junior minister appointed to the Department of Finance.

The Committee has 9 members including a Chairperson and Deputy Chairperson and a quorum of 5.

The membership of the Committee since 20 January 2020 has been as follows:

Mr William Humphrey (Chairperson)

Mr Roy Beggs (Deputy Chairperson)

Mr Cathal Boylan

Ms Órlaithí Flynn

Mr William Irwin⁴

Mr David Hilditch

Mr Maolíosa McHugh

Mr Andrew Muir²

Mr Matthew O'Toole³

¹ With effect from 17 February 2020 Mr Harry Harvey replaced Mr Gary Middleton

²With effect from 31 March 2020 Mr Andrew Muir replaced Mr Trevor Lunn

³With effect from 19 May 2020 Mr Matthew O'Toole replaced Mr John Dallat

⁴With effect from 21 June 2021 Mr William Irwin replaced Mr Harry Harvey

List of Abbreviations used in the Report

AD	Anaerobic Digester
the Committee	Public Accounts Committee (PAC)
C&AG	Comptroller and Auditor General
the Department	Department for the Economy
DETI	Department of Enterprise, Trade and Investment
DfI	Department for Infrastructure
EA	Environment Agency
NIAO	Northern Ireland Audit Office
NIAUR	Northern Ireland Authority for Utility Regulation
NICS	Northern Ireland Civil Service
NIEA	Northern Ireland Environment Agency
NIRO	Northern Ireland Renewable Obligation Scheme
OFGEM	Office of Gas and Electricity Markets
RHI	Renewables Heat Incentive
ROCs	Renewable Obligation Certificates

Executive Summary

1. The Northern Ireland Renewables Obligation scheme (the NIRO scheme) was introduced by the Department of Enterprise, Trade and Investment (DETI) in April 2005 and while it formally closed to new applications in 2016, it continued to accredit new generating stations until 2018. The NIRO scheme financially supports accredited generating stations by issuing Renewable Obligation Certificates (ROCs) based on the amount of electricity generated from renewable sources e.g. wind. ROCs are subsequently sold in a UK wide market to electricity suppliers and will continue to be issued to accredited generators until around 2038 when the scheme will eventually be completely closed.
2. The Committee learned that in the absence of any official government calculations, the Northern Ireland Audit Office (NIAO) estimated that the total cost of the scheme, from ‘cradle to grave’ could be around £5 billion. This cost is initially met by all UK electricity suppliers but is then ultimately passed on to all UK electricity consumers.
3. While the cost of the scheme to date has undoubtedly been high for UK electricity consumers, it has brought significant benefits to Northern Ireland’s economy and contributes to wider energy targets set for the whole of the UK. From virtually a standing start in 2005, approximately 49 per cent of all electricity consumed in Northern Ireland is now generated from a renewable energy source and this has arisen as direct result of the NIRO scheme. The Committee heard that the renewables industry has created many local jobs, reduced reliance on imported fossil fuels and helped control electricity prices overall. There is no doubt that the scheme has been successful in achieving its key objectives (to incentivise renewables development in Northern Ireland and to increase the proportion of our electricity that is generated from renewable sources), however the Committee is of the opinion that this might have been achieved at a lower cost to UK electricity consumers.
4. Following the shortcomings of the Renewable Heat Incentive (RHI) scheme, concerns about certain aspects of the NIRO scheme were brought to the attention of the Comptroller and Auditor General (the C&AG). It was therefore

important for the scheme to have been independently reviewed. The C&AG considered whether the outcomes of the NIRO scheme have been achieved in the most efficient way, for the least cost and delivered in a joined up approach with the rest of government, so as to minimise any unintended consequences.

5. The Committee heard evidence from the C&AG that in some areas this was not the case and it is therefore important that the Department for the Economy (the Department), which is currently responsible for the NIRO scheme, learns from any weaknesses in the design and delivery of the NIRO scheme, when developing any future schemes.
6. It is notable that the NIRO scheme was designed and managed by the same Department responsible for the RHI scheme around the same time, involving the same consultants. While there are similarities between the two schemes, the Committee is satisfied that the NIRO scheme is not nearly as vulnerable to serious abuse as the RHI scheme. In particular, the manner in which the NIRO scheme was designed and operated means that electricity generated by accredited grid connected generators (the vast majority) is consumed for a useful purpose.
7. However, there are also some key points that are common to both schemes. The Committee is of the view that in any future energy scheme, it is crucial to set the incentive at the appropriate level, to encourage the early adopters of the technology and then to keep this under review as more potential operators come forward. This process could involve an element of what is known as degression which would automatically reduce the level of incentive to ensure that any scheme would not become too costly. The fact that degression was not included in the RHI scheme has been recognised as a serious weakness and the Committee is disappointed that there was also no degression mechanism in place in the NIRO scheme, even after it had been introduced for similar schemes in Great Britain from 2014.
8. The Committee was concerned by claims made by industry representatives that critical media reporting, alongside negative sentiment in Northern Ireland relating to government support for renewable energy, had impacted on renewable investment decisions. If this is true, then it should not be the case.

It is entirely proper that taxpayers and consumers are supported by independent scrutiny and that any lessons which can be learned from large publicly funded schemes are incorporated into any future energy related schemes. This should not influence future investment plans, nor the ambitious target which has been set by the Northern Ireland Executive to reach 70 per cent electricity consumption from renewable sources by 2030.

9. The Committee was shocked to hear that there had been a failure by the previous DETI and the current Department to formally engage with other public bodies and operate in a joined up way, prior to introducing the NIRO scheme. This meant that the Department did not adequately identify or manage a number of risks (for example, planning and environmental risks) from the outset. As a result, many of these risks materialised and went undetected and unmanaged. It was also surprised that formal engagement with the other relevant public bodies did not appear to take place until 2017 following concerns arising from the RHI inquiry.
10. The Committee is of the view that the previous DETI lacked the necessary skillset and experience to design and manage the NIRO scheme effectively. While the Committee was pleased to hear that the Department has taken steps since 2017 to strengthen its energy expertise, it remains concerned that prior to 2017 this does not appear to have been the case. The absence of such expertise meant that officials were not in a strong enough position to perform proper due diligence on information provided to them by various sources in the renewables industry, many of whom had a vested financial interest in the NIRO scheme. It also meant that it was difficult to challenge the conclusions presented to them by consultants and industry experts.
11. The Committee was surprised that, before the NIAO commenced its study in this area, the Department had been unable to establish an average rate of return for those accredited generating stations in receipt of the most financial support from the scheme¹. This had led the NIAO to perform its own calculation to estimate an average rate of return for small scale wind turbines

¹ These primarily include small-scale wind generating stations and small-scale generating stations using biogas produced by Anaerobic Digester (AD) plants.

which resulted in the conclusion that there was a risk returns could be potentially excessive for small scale wind and AD based generators.

12. The Committee heard that the Department had been unable to calculate rates of return as a result of not being entitled to access to key cost data from accredited generators. Following the Audit Office report additional information was made available from RenewableNI, a trade body in the renewables industry, which was analysed by a consultancy firm and reported a rate of return similar to that expected by the Department and lower than that calculated by the Audit Office.
13. In the initial evidence session held by the Committee the Department said it was going to carry out a detailed review of this work. This review has since been completed. However, the Committee is very disappointed that the effectiveness and value for money of the Department's work was severely curtailed, because the members of RenewableNI refused permission for the Department to access the underlying data and invoices, which were the basis for their calculations. This meant that the work of the Department has been largely limited to benchmarking and an assessment of reasonability.
14. The Committee considers that the uncertainty surrounding key cost data and the lack of information available to the Department under the ROC scheme demonstrates the importance of including a requirement for the provision of such detailed data as a condition of funding in any future scheme. In the past there has been too much reliance on the industry to provide high level information.
15. The Committee recognises that the lack of detailed cost data will make it very difficult for the Department to review the average rates of return for all technology types supported by the NIRO scheme which, in turn, will limit its ability to ascertain whether or not the scheme could have been delivered at a lower cost to consumers. This is an important lesson learned which should help inform its design and management of future energy schemes.
16. The Committee was not convinced by answers received when it asked Departmental witnesses how having a higher subsidy rate to encourage

smaller scale generating stations, provided UK electricity consumers with value for money. It heard evidence that small scale wind turbines only generate about 13 per cent of all renewable electricity consumed, yet receives approximately 40 per cent of the total financial support available from the NIRO scheme.

17. The Committee believes that the contrast between 4 ROCs for a wind generating station turbine up to 250kw versus 1 ROC over 250kw has influenced investor decision making, particularly when combined with wind technological advances since the NIRO scheme was introduced. This is reflected in a growing trend in Northern Ireland to replace existing wind turbines up to 250kw with larger, but more efficient, turbines that have been restricted to limit their output to 250kw. It also noted that there was only one support band for AD based generators up to 500kw and that this too impacted on investment decisions, as well as leading to some undesirable environmental consequences. It is disappointed that neither DETI, nor the consultants it placed reliance on, anticipated that the number of banding levels and the levels of financial support provided by them, could have such a significant effect on investor behaviour.

18. The Committee learned of the provision of a £9.3 million Invest NI loan to a company based in Donegal to part finance an AD plant which processes chicken litter from Northern Ireland and sells the biogas back to accredited biogas generating stations in Northern Ireland. This is an unusual arrangement, even if it may be justifiable in terms of benefits to industry in Northern Ireland. The fact that this loan and interest due (totalling £14.2 million) has now been written off as a result of the company having to restructure, is very concerning and the Committee has asked the C&AG to examine this further.

Recommendations

Recommendation 1

19. The Committee is very concerned at the lack of formal engagement by the Department with other public bodies at the outset of the NIRO scheme. The Committee believes that had this been done, then many of the unintended consequences arising from the NIRO scheme could have been avoided.

The Committee recommends that consideration is given, at the outset of all new energy initiatives by the Department, to identify potential environmental, planning and other risks and ensure these are discussed and mitigated in consultation with other public bodies.

Recommendation 2

20. Despite the overall success of the NIRO scheme in reaching and exceeding Executive targets, as well as its wider contribution to UK targets, the Committee believes that there are important lessons to be learned for future energy schemes going forward. This is particularly relevant considering the Department is currently drafting a new Energy Strategy for Northern Ireland.

The Committee recommends that, in developing a new energy strategy, and supporting energy policy, the Department learns from any lessons from the NIRO scheme and specifically addresses potential impacts on areas such as the environment and planning and how these will be managed and resourced. This will require significantly more formal engagement and agreement with other public bodies than has previously been the case.

Recommendation 3

21. Having adequate human resources, in particular having the correct skill mix and experience has been a regular theme in the Committee's recent inquiries. The Committee disagrees with the Department's assertion that the Energy team was adequately resourced when it introduced the NIRO scheme and

during its operation right up until 2017. This assertion is at odds with evidence produced during the RHI Inquiry.

The Committee recommends that the Department should perform an immediate skillset analysis of its Energy team, to identify and address any current skills gaps with the aim of reducing any overreliance (perceived or real) on private sector consultants and experts.

Recommendation 4

22. The Committee recognises and accepts that there will continue to be a need to seek assistance from and place reliance on, specialist consultants and other industry experts. However, there needs to be an awareness that some submissions will come from organisations with vested interests and these need to be treated with an appropriate level of professional scepticism.

The Committee recommends that all Departments, when seeking information via a call for evidence, recognise that submissions from individuals or organisations with vested financial interests carry greater risks, particularly if they are accepted at face value. This includes the potential that incorrect conclusions drawn from such submissions could lead to flawed policy decisions. Appropriate due diligence should therefore be performed on all such evidence and, where possible, information from independent sources without vested financial interests should be given much more weight in informing policy decisions.

Recommendation 5

23. The Committee was shocked that that the Department had not been able to monitor actual rates of return by generating stations accredited to the NIRO scheme. Such monitoring would have enabled the Department to determine whether investors and consumers were receiving good value from the scheme and adjust financial support accordingly. It was also surprised at some of the Departmental witnesses' early evidence, which appeared to draw heavily on the industry report from RenewableNI, before it had carried out its own assessment of those conclusions. This inquiry has shown the constraints on

the ability of the Department to monitor the outworking of its policies and properly assess value for money, when it does not have ongoing, transparent access to critical industry cost data. This is particularly important when it comes to designing schemes which are publically funded and aimed at encouraging private financial investment.

The Committee recommends that in any future energy schemes, the Department should build in a mandatory requirement for investors to confidentially share cost information as part of any accreditation process. This level of transparency would ensure that the rates of return returns being achieved are fair, both to the investor, the consumer and taxpayers. Regular monitoring of the datasets by the Department would assist in informing any changes to the levels of support for those schemes.

Recommendation 6

24. The Committee was surprised to learn that some owners of accredited generating stations continued to receive financial support from the NIRO scheme, despite not complying with planning and environmental regulations. This undermines credibility and public confidence in such schemes. It learned that the Department had no legal power to prevent this from occurring.

The Committee recommends that going forward, thorough consideration is given to the possibility of wider negative impacts, particularly in relation to compliance with planning and environmental regulations, when developing any future energy related legislation and policy. This should include more robust accreditation requirements, which should include penalties and appropriate action, such as with-holding financial support, if conditions of the scheme are not fully complied with.

Recommendation 7

25. The Committee also learned that the absence of any legal powers to withhold or suspend financial support from the NIRO scheme for non-compliance with planning or environmental regulations also existed in the RO schemes in Great

Britain. It arose as a result of Northern Ireland having to adopt identical legislation from GB in order to avail of the NIRO scheme.

The Committee recommends that the Department needs to consider the wider impacts of adopting GB based legislation and policies being introduced. The Department should ensure that, when appropriate, it engages with equivalent bodies in other UK regions from an early stage, to feed into their legislative process to ensure that, if it is to be adopted in Northern Ireland, it is fit for purpose.

In addition, the Committee recommends that the Department specifically considers impacts on the environment and planning in the new energy strategy and includes methods to penalise renewable energy providers where there is non-compliance.

Recommendation 8

26. The Committee was surprised that information and data relating to the NIRO scheme was not routinely being shared across government. This included information about planning and environmental compliance and also impacted on the collection of rates. The Committee has seen this problem in several of its inquiries. It believes the tendency to work in silos and not adequately consider the work of other parts of the public sector has been endemic and that there is now an opportunity to realise significant efficiency and economic benefits from enhanced data sharing across government.

The Committee recommends that all Departments and their Arm's Length Bodies are reminded of the requirement to share information and discuss the development of new policies across government. This work should be facilitated at the centre of government in order to ascertain what datasets exist that could and should be shared across government and if there are any legal obstacles in preventing this.

Introduction

27. The Public Accounts Committee met on 18 March 2021 and 22 April 2021 to consider the Comptroller and Auditor General's (C&AG's) Report "Generating Electricity from Renewable Energy". The main witnesses were:

18 March 2021

- **Mr Mike Brennan**, Permanent Secretary, Department for the Economy
- **Richard Rodgers**, Head of Energy Group, Department for the Economy
- **Trevor McBriar** - Principal Officer, Department for the Economy

22 April 2021

- **Steven Agnew** - Head of RenewableNI
- **Michael Thompson** - Managing Director, Everun
- **Russell Smyth** - Partner, KPMG
- **Professor Gordon Hughes** - University of Edinburgh

Background

28. The Northern Ireland Renewables Obligation scheme (the NIRO) was established on 1 April 2005 and mirrored other Renewable Obligation schemes in Great Britain (GB). The primary objective was to incentivise renewables development and increase the proportion of electricity consumption generated from renewable sources, keeping costs to consumers at a minimum.

29. The NIRO scheme provides ongoing financial support to accredited generators of electricity from renewable sources. The Committee heard that without financial support, adoption of these technologies would have been much slower. The cost of this scheme is being paid indirectly by all UK electricity consumers and is not funded by taxation or other public funds.

30. The Northern Ireland Executive established a target to achieve 40 per cent of all electricity consumed, to be generated from renewable sources by 2020. Despite an initial slow uptake by the industry and after a number of changes to the scheme electricity to encourage more small scale generation, consumption

from renewable sources reached almost 49.2 per cent for the 12 month period ended 31 December 2020, and the 40 per cent target by 2020 was exceeded in 2019. The success in meeting this target has undoubtedly been a major achievement and has led to many benefits for Northern Ireland. However, there were also issues identified and a number of important lessons can be learned in taking forward any similar schemes.

31. The Department for the Economy (the Department) has overall responsibility for energy policy and legislation, including the NIRO scheme. The responsibility for its administration rests with the Northern Ireland Authority for Utility Regulation (NIAUR), which it fulfils through an Agency Services Agreement with the Office of Gas and Electricity Markets (OFGEM).
32. In 2017, concerns relating to the operation of small - scale wind generators which were not connected to the grid (off-grid generators) were brought to the attention of the Comptroller and Auditor General (C&AG) and the Department by an anonymous source. Following this, and prompted by a NI Assembly debate on the Renewable Heat Incentive (RHI) scheme, the Minister for the Economy tasked the Department with producing a risk assessment and audit plan of “other aspects of renewable energy”. This was to ensure that all potential vulnerabilities could be identified and proportionate action planned and executed, to ensure that public confidence in the system was restored.
33. In response, the Department established the ‘NIRO Assurance and Risk Management Steering Group’ (comprising the Department, the Northern Ireland Authority for Utility Regulation and OFGEM) to identify, understand and address risks associated with the NIRO scheme.
34. Subsequently, a number of concerns associated with possible abuse of the NIRO by some accredited generating stations fuelled by biogas produced from AD plants began to emerge in the media towards the end of 2018. In addition, following concerns from the Northern Ireland Environment Agency (NIEA) and the Department for Infrastructure (Dfi) that they did not have all the data required to identify operating AD plants, the Department instigated a review of all AD plants in March 2019. This engaged the NIAUR, OFGEM, the NIEA and the Dfi (with assistance from the local councils) to compile a list of all AD

plants and generating stations, in order to identify the environmental and planning requirements for each one.

35. An investigation and subsequent report by the Northern Ireland Audit Office (NIAO) in 2019-20 identified additional risks and unintended consequences associated with the NIRO:

- a) The speed of uptake, (particularly in the two years leading up to the closure of the NIRO) created significant additional environmental and planning impacts, which could have been avoided had there been better joined up thinking across government from the outset of the scheme.
- b) A significant number of renewable generating stations had not been identified for rates assessment.
- c) A risk that some investors in small scale wind and small scale biogas generating stations investors may be achieving a higher financial return than was required to encourage adoption of these technologies.

A failure to formally engage with other public bodies and operate in a joined up way, meant that the Department did not adequately identify or manage a number of risks which subsequently materialised

36. In establishing the NIRO scheme, the Department did not give adequate consideration of the identification and management of wider negative impacts in areas such as planning, the environment and rates collection. This appeared to have arisen as a result of a lack of early formal engagement by the Department with other public bodies.

37. While the Committee heard from Departmental witnesses that generating stations cannot be connected to the electricity grid without evidence of planning permission, there were numerous instances identified by the NIAO of planning compliance breaches, including an example of accredited generating station operating without any planning permission. These breaches were only identified after these generating stations had been grid connected and accredited.

38. The Committee heard that there were a significant number of operating accredited Anaerobic Digester (AD) generating stations supplied with biogas from associated AD plants operating without waste management licences. This arose as a result of the Environment Agency (EA) not having sufficient data to identify the number or location of AD plants, data which was held by OFGEM and local councils but not shared with the EA until 2017.
39. The Committee recognises that these types of issues can cause substantial distress to individuals negatively affected, particularly those living and working in close proximity to these generating stations. The Committee considered submitted written evidence from various parties who claimed that they had been negatively impacted on as a direct result of these shortcomings.
40. The Committee was surprised that no action can be taken to stop or suspend financial support to generating stations accredited to the scheme in cases where there are potential breaches of planning and/or environmental regulations. The Committee heard from witnesses that this was also an issue in the equivalent Renewable Obligation schemes in Great Britain and arose as a result of Northern Ireland having to adopt identical legislation from GB in order to avail of the NIRO scheme. However, this does not absolve the Department from considering the wider impacts of legislation and policies they are introducing, by taking appropriate action to identify and mitigate any associated risks.
41. The Committee was also surprised to learn that a significant number of accredited generating stations had not been assessed for rates until 2020, increasing the rate burden for other ratepayers. This arose from inadequate sharing of information, both by the owners of those generating stations, who failed to notify Land and Property Services of their existence and by other public bodies.
42. The need to share this information across public bodies is a legislative requirement and should have been identified by the Department from the outset, had the relevant public bodies been working together effectively. The Committee was also very concerned when it heard that that the NIAUR took

legal advice that the duty of confidentiality placed on it by the Energy Order overrode the requirement for it to share information which would ultimately facilitate the collection of rates.

43. While the Committee was pleased to hear that the rates assessment issue is being resolved, there are lessons to be learned going forward, particularly in relation to the sharing of data between government bodies and ensuring that this is properly supported in legislation.
44. It is the Committee's view that, going forward, thorough consideration is given to the possibility of wider negative impacts, particularly in relation to planning and the environment, when developing any future energy related legislation and policy, for example the forthcoming new energy strategy for Northern Ireland. This should include specific and legal accreditation requirements, along with subsequent penalties and appropriate action, such as with-holding financial support, if conditions are not fully complied with.
45. It is also this Committee's view that any Department intending to introduce legislation originally drafted in another UK region must proactively engage at the outset with equivalent public bodies in those regions, to ensure that all legislation is fit for purpose for Northern Ireland.
46. It has been a theme in many of the reports produced by this Committee over the last year that Departments too often act within their own silos without any consideration of how other areas of government are impacted. This also applies to this inquiry. The Committee heard that it was only after concerns emerged during the RHI inquiry in 2017 that formal, collaborative working with other public bodies was instigated. It quickly became clear that there were numerous other risks that needed to be addressed in relation to off grid generating stations, rates, planning and environmental compliance.
47. During its evidence to the Committee, the Department outlined the steps that it had undertaken since 2017 to identify and address some of these issues. However, it also heard that, despite this work by the Department, it took an investigation by the NIAO to identify additional risks and issues.

48. The Committee was concerned that there was no evidence of joined - up risk identification and management before the NIRO scheme was introduced. This would have made for a more efficient and economic scheme. In developing the future energy strategy it is important that consideration is given to potential impacts right across all of government and how these intend to be identified and managed.

49. The Committee also learned from the C&AG, that following information received from whistleblowers he discovered that rural diversification grants of up to £50,000 were paid to small scale renewable generators by the previous Department for Agriculture and Rural Affairs (now DAERA), prior to 2013. The total amount paid for these projects was £2.47 million. While DAERA have said that they considered the income received under the NIRO scheme as part of the grants approvals there was no record of any discussion or correspondence between DAERA and DFE on this matter. The Committee was very concerned that two Departments each provided separate sets of financial support for the same generating stations and that there was no evidence to show that they were aware of this potential funding overlap or that it had been properly considered.

The Department lacked the necessary skillset and experience to design and manage the NIRO scheme effectively

50. The Committee heard from Departmental witnesses that the NIRO scheme was adequately resourced from the outset. However, this conflicted with evidence submitted during the RHI inquiry which indicated that the Energy team within the Department was under resourced, under experienced and lacked energy specialists, at the time of its introduction. The evidence appeared to point to an apparent overreliance placed on energy consultants particularly in the retention of the ROCs banding rates² in 2014 for small scale generating stations.

² Banding determined the amount of financial support for accredited generating stations, which was dependent on the technology type and maximum generating output per hour.

51. The Committee noted that the NIRO banding rates for generating stations fuelled by biogas were based on the costs associated with constructing and operating an associated AD plant as well as the generating station itself. These bands appeared to have been decided upon on the basis of a call for evidence in 2010, which was largely answered by those who had a vested financial interest in the NIRO scheme.
52. In this case it was shocking that some evidence provided as part of the call for evidence which indicated support for additional bands up to 500kw or for reducing the level of ROCs after a ten year period, did not appear to have been considered. In particular, the NIAO report ³states that one of the submissions was made from AFBI, a public body which operated NI's only AD plant at that time. Given its independence and experience of actually running a small plant, the information it provided should have had a much stronger influence over the decision making process than information received from others with a vested interest in achieving as high a return as possible. Had such additional, smaller bands been adopted, it could have promoted smaller, more affordable and sustainable AD projects which would have had less environmental consequences.
53. While the Committee welcomes that the Department has taken steps since 2017 to strengthen its energy expertise, it remains concerned that prior to 2017 this does not appear to have been the case. The absence of such expertise meant that officials were not in a strong enough position to authenticate or challenge the data, information, conclusions and recommendations presented and recommended to them.
54. The number of staff in key areas who do not have the necessary specific skills and experience related to these policy matters is something that was referred to in the RHI inquiry and more recently in the Committee's inquiry relating to the Capacity and Capability in the NICS. The Committee was pleased to note that the Department has taken some steps since 2017 to address the shortage of skills relating to the Energy area specifically, however it considers that there is further

³ Paragraph 4.31

opportunity going forward for the Department to continue to strengthen skillsets and experience.

Since 2014 the Department has not monitored the average rates of return achieved by investors across each of the technologies supported by the NIRO scheme

55. The Committee learned that the average rate of return that is likely to be achieved by investors in the different types of renewable technologies, has been extremely difficult to verify. This is because while data relating to the potential income earned is publicly available, the information relating to both capital and operating costs is commercially sensitive and only held by the individual operators of the generating stations.
56. There is no doubt that in the latter years of the scheme and going forward, both small scale wind turbines and biogas generators supplied by AD plants are in receipt of considerably greater financial support than is the case in Great Britain. The generating stations accredited between 2016 and 2018 are receiving a subsidy for 20 years which is between two and four times what they would have received, had they been based in Great Britain. There was also an increase in the numbers of small scale wind generating stations and small scale AD based generating stations rushing to gain accreditation to the scheme before it closed. This may have led to some of the planning and environmental issues outlined earlier in this report.
57. The Committee was surprised to hear that the Department had not been monitoring the actual average rates of return since 2014 and that this had then led the NIAO to attempt to calculate an average rate of return for small scale wind turbines. The NIAO concluded that there was a risk that returns could be potentially excessive. However, because of the absence of any current data held by the Department and the difficulty in obtaining privately held cost information, the NIAO's conclusion was based on a limited amount of cost data.
58. The Committee heard that the reason the Department had been unable to calculate rates of return was because it did not have access to cost data from accredited generators nor was it entitled to require this data from them. Following

the Audit Office conclusion that rates of return could be excessive, a new report was prepared by RenewableNI, a trade body in the renewables industry, who provided cost data from some of their members to be analysed by a consultancy firm. This report found a rate of return similar to that which had been expected by the Department and lower than that calculated by the Audit Office.

59. In the first evidence session on this topic the Department said it was going to carry out a detailed review of this work. This review has since been done but the Committee was very disappointed that the Department was unable to access the underlying data and invoices that had been the basis for the in the RenewableNI report. This was because the members of RenewableNI refused permission for the Department to access that data and has meant that the review work of the Department has had to be limited to benchmarking and an assessment of reasonability.
60. As a result of this continuing lack of cost data the Committee was far from convinced that the Department can say with any degree of certainty what the average rate of return from the ROC scheme is for generators across a range of renewable technologies. This lack of insight into the returns provided by a scheme which is paid for by consumers across the UK is not acceptable.
61. The Committee considers that the uncertainty surrounding key cost data and the lack of information available to the Department under the ROC scheme demonstrates the importance of including a requirement for the provision of such detailed data as a condition of funding in any future scheme. In the past there has been far too much reliance on the industry to provide high level information.
62. The lack of detailed cost data will make it very difficult for the Department to review the average rates of return for all technology types supported by the NIRO scheme which, in turn, will limit its ability to ascertain whether or not the scheme could have been delivered at a lower cost to consumers. This is an important lesson which should help inform its design and management of future energy schemes.

The cost of supporting small scale generation is proportionally much higher than larger scale generation and provides less value for money to UK consumers

63. The Committee heard evidence that small scale wind turbines only generate about 13 per cent of all renewable electricity consumed, yet receive approximately 40 per cent of the total financial support available from the NIRO scheme. It was not convinced by answers given by witnesses to explain how having a higher subsidy rate to encourage smaller scale generators (such as small scale wind and small scale AD based generators), provided consumers with value for money.
64. The Department told the Committee that because of economies of scale, the smaller generators required a considerably higher level of financial support compared to larger generators. It also explained that one of the objectives of the NIRO scheme was to encourage rural diversification, suggesting that a policy decision was taken to support the small scale generation, even though that meant higher costs to consumers. However, it was not clear to the Committee that this objective was actually one of the key objectives of the scheme. Neither was it convinced that the benefits within the rural community outweighed the higher additional costs incurred by UK consumers, particularly when some developers were already in receipt of other government grants from DAERA.

The large step change in ROC support for small wind turbines above 250kw appears to have encouraged de-rated turbines and there is no evidence that these provide consumers with better value for money

65. The Committee learned that, under the NIRO scheme, all accredited generating stations earn Renewable Obligation Certificates (ROCs) which are then sold to electricity suppliers in a UK open market. Small scale wind turbines accredited after 2010 with a generating capacity of up to 250kw or less, are entitled to 4 ROCs for every megawatt hour (Mwh) of electricity generated. Any turbines with capacity more than 250kw will only get 1 ROC or less for each Mwh. In the Committee's opinion this 'cliff edge' in financial support was always going to influence investor behaviour, particularly as equivalent levels of support in GB began to significantly fall from 2014. The NIAO report shows that around 94 per

cent of wind generating stations were less than 250kw in size although they only generate 13 per cent of all electricity generated by wind.

66. The Committee also noted a growing trend in Northern Ireland to replace existing small scale wind turbines with larger and more efficient wind turbines which have been de-rated. De-rating the generator within these larger turbines reduces the maximum generating capability to enable it to receive 4 ROCs per Mwh generated, rather than only 1 ROC. However, because they are larger and more efficient they will generate more electricity at lower wind speeds. This effectively increases the amount of electricity that can be generated, while still qualifying for the higher ROC band.
67. The Committee noted that the amount of renewable electricity generated from the de-rated turbines would be less than would have been the case had they not been de-rated. However, because de-rated turbines qualify for the higher ROC banding, the financial return from the scheme is significantly increased.
68. The Committee heard from witnesses that there are several reasons⁴ for this growing trend, which is occurring disproportionately in Northern Ireland. It also heard from industry and Department witnesses that they felt that de-rating was within the spirit of the NIRO scheme.
69. The Committee believes that the contrast between 4 ROCs to 1 ROC for a turbine greater than 250kw appears to have significantly influenced investor decision making, particularly when combined with wind technological advances since the NIRO scheme was introduced. It is disappointed that neither the Department, nor the consultants it placed reliance on, anticipated that such a large differentiation in subsidy levels could have a significant effect on investor behaviour. While acknowledging that de-rated turbines can provide a greater contribution towards government targets, the Committee was concerned at the absence of any current evidence to support industry and Departmental assertions that these behaviours are within the spirit of the scheme, or that it provides UK consumers with better, or at least the same, value for money.

⁴ Witnesses indicated derating can occur due to grid connection restrictions or when it is impossible to source a turbine below 250kw.

The loan by Invest NI to the Donegal AD plant, which has now been written off, needs to be examined in more detail

70. The Committee noted the position regarding a large AD plant that was established in County Donegal, primarily to deal with waste from the poultry industry in Northern Ireland. Biogas from this plant is distributed and sold to biogas generating stations in Northern Ireland. This plant was supported by a loan of £9.3 million from Invest NI made in 2016. The Committee now understands that the loan, which would be around £14.2 million including unpaid interest, has been written off following a refinancing of the plant.
71. The provision of a loan to a company outside the jurisdiction is something that is unusual, even if it may be justifiable in terms of benefits to industry in Northern Ireland. The fact that this loan has now been written off, is very concerning and this is an issue the Committee would like the C&AG to investigate further in the future.

List of Appendices

Minutes of Proceedings can be viewed [here](#)

Minutes of Evidence can be viewed [here](#)

Correspondence can be viewed [here](#)

Other Documents relating to the report can be viewed [here](#)

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