

Renewable Energy in the Land Based Sector



A way forward

Renewable Energy Action Plan 2010



Department of
**Agriculture and
Rural Development**

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AN ROINN

**Talmhaíochta agus
Forbartha Tuaithe**

MÁNNYSTRIE O

**Fairms an
Kintra Fordèrin**

Contents

Foreword:	Minister's Statement.	2
Section A:	Overview.	3
Section B:	Response on the recommendations of the Agricultural Stakeholder Forum on Renewable Energy.	5
Section C:	Revised DARD Renewable Energy Action Plan.	12

Minister's Statement

I am pleased as Minister of Agriculture and Rural Development to present my response to the Report of the Agricultural Stakeholder Forum on Renewable Energy 'Renewable Energy in the Land Based Sector – A Way Forward 2009'.

I am grateful to the Forum, chaired by Pearse Buckley, for their recommendations and the support and interest of the stakeholders who contributed to the wider work of the Forum in the development of this report.

The report forms a valuable basis for the further development of my Department's policy on renewable energy within the agricultural and forestry sectors and is particularly timely in linking with the development of my Departments position on climate change.

I note that some of the barriers to the development of renewable energy that have been identified by the Forum are outside the remit of my Department and therefore it is my intention to ensure that my Department works closely with the policy makers across government, to represent the interests of the land based sector.

I share the Forum's view that the land based sector can benefit from exploiting the opportunities that the utilisation and production of renewable energy can offer. Since the publication of my Renewable Energy Action Plan in 2007, I have committed in excess of £9m to drive the development of renewable energy within the local land based sector.

They believe that if this is to happen it is important that the operating environment must be conducive to encourage the realisation of these opportunities. The Forum has outlined in their report how they believe this might be achieved.

This publication demonstrates our commitment and the importance that we place on the development of renewable energy. I am in agreement with the Forum that the development of renewable energy can and will contribute to other key objectives such as energy security, emission reductions and wider economic advantages.

I am pleased to announce the main actions that my Department will be taking to ensure that the development of renewable energy in the land based sector can flourish.



Michelle Gildernew MP MLA
Minister of Agriculture and Rural Development

Section A: Overview

Introduction:

1. The Department of Agriculture and Rural Development published a Departmental Renewable Energy Action Plan in January 2007 with the aim of providing a framework to enable the land based and rural sector realise the potential opportunities presented by the development of renewable energy and to assist with the contribution of delivery of targets for renewable energy production at a regional, national and EU level in a balanced and sustainable way.
2. This original Renewable Energy Action Plan encompassed 35 wide ranging actions spread across 12 work strands, however the changing policy and technology landscape dictates the need to define and refocus on specific areas where the Department can make the most impact.
3. Recognising this changing environment, the Department, established an Agricultural Stakeholder Forum on Renewable Energy (The Forum) to conduct a review of the Action Plan and to advise on a refreshed short to medium term Departmental Strategy for the further development of renewable energy within the land based sector.
4. During the latter part of 2009 the Forum presented their report 'Renewable Energy in the Land Based Sector – A Way Forward – 2009' to the DARD Minister.
5. With the recent publication of the EU Renewable Energy Directive and the UK Renewable Energy Strategy, the Forum's Report has come at an appropriate and beneficial time. Not only will its findings assist with the development of a revised Departmental Renewable Energy Action Plan but will also contribute to the development of other associated policies across government which are currently under consideration such as the review of the 2004 Strategic Energy Framework and the development of a Cross Departmental Bio Energy Action Plan.
6. In 2004 DETI published its Strategic Energy Framework, which aimed to shape the agenda, key priorities and principles within the energy sector here in the north for the coming decade. It recognised a number of the challenges that faced the sector , and set the "achieving of a competitive, sustainable, reliable energy market, at the minimum cost necessary in an all-island, UK and European context" as the primary energy policy objective for their department. The 2004 Framework is currently under review and the draft SEF 2009, details the north of Ireland's energy future over the next 10 years and illustrates the key energy goals in terms of competitiveness, security of supply, sustainability and infrastructure.

The Forum's Report - Renewable Energy in the Land Based Sector – 'A Way Forward – 2009':

7. It is pleasing to see that the implementation of the DARD Renewable Energy Action Plan 2007 has made progress in focusing minds on the opportunities that the development of renewable energy presents to the land based sector over the last 2 years. However we agree with the Forum's overriding conclusion that more must be done if we are to achieve successful and sustainable development of bio energy within the land based sector.
8. The Forum has made a number of recommendations for refreshing and refocusing the Renewable Energy Action Plan over the next 3 years. The primary objective of their recommendations centre on how the Department can contribute to the creation of a favourable operating environment which will enable the agricultural and forestry sectors to exploit the opportunities that the uptake of renewable energy has to offer in terms of business competitiveness, energy security and greenhouse gas mitigation.
9. The Forum's recommendations focus on the following key priorities:
 - a. Research Based Commercialisation of Renewable Energy
 - b. Sustainable Scale Anaerobic Digestion
 - c. Heat Based Businesses
 - d. Self Sufficient in Renewable Energy
 - e. Integrated Business Opportunities
 - f. Implementation
10. This statement and the practical actions based on the recommendations of the Forum as set out in Section C, indicate how the Department will act on the Forum's findings and deliver the Department's revised Renewable Energy Action Plan.

Section B: Response on the Recommendations of the Agricultural Stakeholder Forum on Renewable Energy.

11. The Forum has indicated, within their Report, the need for a prioritised approach to take forward renewable energy within the land based sector. We endorse this view and this document, Section C, contains the Department's revised Renewable Energy Action Plan which sets out our proposed activities to support the future development of renewable energy within the agricultural and forestry sectors.
12. The Renewable Energy Action Plan of 2007 provided a sound platform for the Department, in conjunction with others, to initiate and support renewable energy technologies. Activities carried out by the Department to date have raised the profile and awareness of what can be achieved within the sector. It is important that we build on this and step up to the challenge as identified by the Forum.
13. We see our role very much as one of facilitation, through providing direct and indirect incentives, such as funding to support the establishment of SRC Willow and the Supply Chain Development Programme offered through the Rural Development Programme 2007 - 2013, research and development, knowledge exchange and industry training. It is for those involved in the land based sector to determine the best way forward for their enterprise. However, through our Renewable Energy Action Plan we will focus our efforts to encourage a culture which is conducive to the future exploitation of renewable energy by the land based sector.
14. We will base our activities on the 6 key priorities as set out by the Forum and focus our attention on the following key cross cutting themes:

Policy

15. Renewable energy policy landscape must be developed in such a way to enable policies to be effective yet flexible to the demands of a constantly changing environment. We recognise the requirement for joined up government and the need for DARD policy and activities associated with renewable energy to contribute to existing and emerging policies across government such as those involved with the development of sustainable energy. We must ensure that policy development in this area is aligned to those developing in Britain and the north of Ireland and Europe whilst recognising our policies must remain current and effective within the local environment. We will continue to contribute across government to ensure that the interests of the land based sector are represented.

Supply Chain Development

16. We will ensure that the agriculture and forestry sectors are aware of the opportunities available to them along the various elements of the renewable energy supply chain.

Market Understanding

17. It is acknowledged that there is an immediate need to build confidence within the sector. It is within this context that we propose to ensure the sector has ready access to the most current information based on research and development relevant and tailored to the local need to drive the appropriate practical renewable energy activities.

Capability Development

18. The College of Agriculture, Food and Rural Enterprise (CAFRE) is the Department's centrepiece in raising awareness and delivering industry training and knowledge exchange in energy efficiency and renewable energy activities to the land based sector. It is important that this programme of work continues to roll out across the sector to maintain a skilled and enabling environment.

Research and Innovation

19. Research and Innovation is a fundamental requirement to inform the future development of bio energy. It is important that the outputs from research delivered through Agri Food Biosciences Institute (AFBI) and others is relevant and accessible to our agricultural sector. Innovation should be encouraged to drive the sector forward.

Implementation

20. Effective implementation of the Action Plan is critical to success. The Department recognise that utilising independent expertise has the potential to add value and impetus to the implementation process. It is important that stakeholder engagement continues and is built in as an inherent part of the implementation of the Action Plan so that a proactive approach can be taken in meeting the needs of the sector by way of co-ordinated activities.

Detailed comments on specific recommendations

Recommendation 1

Exploit investment in the development of emerging technologies which can be supplied by the agricultural sector and/or which are suitable for adoption within the agricultural sector to accelerate the adoption and stimulate the market.

21. DARD recognises that the mainstreaming of renewable energy technologies can provide the agricultural and forestry sectors with the opportunity for increased competitiveness, energy security and to assist with the offsetting/reduction of greenhouse gas emissions.
22. The Department agrees with the view of the Forum that to ensure that the agricultural and forestry sectors can maximise the opportunities available they must have easy access to the most relevant information on which to base their business decisions around the most appropriate renewable energy activities and technologies to meet specific needs. This information must be based on the analysis and dissemination of sound research pertinent to the local environment.
23. The Department is aware that mapping studies are underway in relation to the potential development of renewable heat and anaerobic digestion. These studies will further develop the information base on renewable energy. We intend to await the outcome of these mapping studies and to build on them if necessary to further develop renewable energy in the land based sector.
24. The Department accepts the recommendation that an innovation model is created with the capability of scanning for current and developing technologies that can be applied across the region.
25. AFBI is responsible for delivering the Renewable Energy Research Programme. It is the intention of the Department to continue to support this programme, which will not only provide a sound evidence base on which to develop further policy in this area, but will also provide information relevant to the roll out of continued knowledge exchange and industry training programmes through CAFRE. The Renewable Energy Centre of Excellence will be developed further to create a visitor and demonstration centre at the AFBI Hillsborough site. This facility will be utilised to provide targeted information sessions and associated literature to encourage the continued development of production and utilisation of renewable energy in the land based sector.
26. DARD accepts the target of conducting one significant knowledge exchange event per year. The Department will take this forward and measure the effectiveness of this

event in terms of uptake of renewable energy activities within the land based sector. This event will also contribute to the development of the Innovation Road Map. This Innovation Road Map will set the direction for research into new technologies and also provide an evidence base indicating which renewable energy technologies are most appropriate for adoption within the land based sector.

Recommendation 2

Exploit the opportunities associated with Sustainable Scale Anaerobic Digestion and associated technologies, and ;

Recommendation 3

Exploiting opportunities relating to the production of heat, particularly with the development of the Energy Supply Company (ESCo) model.

27. DARD agree with the rationale proposed for recommendations 2 and 3, particularly in relation to heat as currently we are more dependent on oil fuelled technologies than Britain.
28. We are aware of the opportunity for the land based sector to provide biomass feedstock which will displace the requirement for fossil fuel. This in turn will contribute to the reduction of the carbon footprint of agricultural activities.
29. The Department notes the Forum's highly ambitious targets and we will take steps to address working towards these targets.
30. To assist with meeting the Forum's targets on installed capacity of electricity and heat utilising farm and forestry derived biomass resource, the Department is launching a Biomass Processing Challenge Fund. The purpose of this scheme is to support the purchase of various technologies that improve business efficiency and sustainability at farm level utilising cost effective and sustainable methods of processing agricultural wastes and other appropriate biomass material to generate renewable energy.
31. The Department is currently supporting the establishment of SRC Willow to the maximum allowed by regulation and therefore it would not be appropriate to increase the rate to 75% as suggested by the report. The Department will make this grant available until 2013. The Department has grant available for forestry processing and marketing to support the forestry supply chain.
32. The Department is aware that woodland expansion is dependent on the transfer of agricultural land to woodland. To assist with this activity the Department provides support under the Woodland Grant Scheme and Farm Woodland Premium Scheme.

Support for these activities has recently been increased by 30% and 50% respectively to encourage further afforestation.

33. To support greater participation and acceleration of anaerobic digestion technology, the department will develop and establish an Anaerobic Digestion Portal which will focus on providing sources of information and case studies relevant to the land based sector. DARD will liaise with the National Non Food Crops Centre and DEFRA to build on what already exists on the National Portal and will offer a tailored area specific to the local environment. Although initially this portal will focus on Anaerobic Digestion technologies it is our intention to expand the scope of the local facility to include other relevant renewable energy technologies as the portal develops.
34. Support for supply chain development of ESCos will be implemented through our Supply Chain Development Programme to encourage the development of renewable heat at farm level. In line with this activity best practice guides and case studies relating to the production and supply of renewable heat will be developed by the Department for dissemination. The mapping studies currently underway will inform the opportunity for ESCo models within the land based sector. The Department will consider if further work is required on the basis of these studies to exploit opportunities for the agricultural and forestry sectors.

Recommendation 4

Exploiting opportunities relating to energy security by displacing fossil fuel derived energy with renewable energy within the agricultural and forestry sectors – with a view to growing the demand and having a positive impact on energy security and carbon footprint.

35. The Department agrees with the Forum's view that the agricultural and forestry sectors should aim to become more sustainable by encouraging energy efficiency and utilising renewable energy pathways. Displacing the use of fossil fuel with renewable energy will assist in reducing carbon emissions and contribute to energy security on farm.
36. To address the Forum's target of a 5% increase in adoption of renewable energy activities at farm and forestry levels we clearly need to establish the renewable energy that is currently being generated at farm and forestry level to identify the baseline and most effective activities. Whilst this scoping exercise is underway the land-based sector should be encouraged to exploit the programmes within the NIRDP such as the SRC Establishment Grant, the Farm Diversification Scheme, the Forestry Processing and Marketing grant and those initiatives delivered by CAFRE.

37. It is essential that full benefit is made of the Focus Farm initiative and we will build on the success of this initiative by considering the introduction of further technologies within the focus farm programme which drill further across the supply chain to demonstrate the utilisation of renewable energy technologies at farm level.
38. Subsequently, the creation and dissemination of a database of exemplars and best practice guides will assist in building confidence across the sector to accompany a directory of DARD support for renewable energy activities in the land-based sector.
39. Dissemination of information to all involved in the renewable energy supply chains within the land based sector will continue to be delivered through CAFRE and AFBI.

Recommendation 5

Exploiting opportunities associated with integrated business solutions – enhancing energy security and increasing competitiveness.

40. The Department agrees that the formation of strategic business agreements and collaborative partnerships is vital to stimulate growth across the supply chain and develop business opportunities.
41. To exploit the potential of existing structures DARD will work closely with Invest NI and other government departments through, for example, the Industry Advisory Panel Energy and Waste subgroup to identify and integrate business opportunities which have the ability to add value across the renewable energy supply chain.
42. The identification of business opportunities will be disseminated through various routes including knowledge exchange events, workshop activity best practice guides and published case studies.

Recommendation 6

The Forum recommend that to ensure timely delivery of this strategy DARD must put in place an effective implementation mechanism based on the appointment of a group of external stakeholders to oversee the delivery of this strategy.

43. As the Forum points out, DARD must focus its efforts on how it can best create a favourable operating environment to enable the land based sector to exploit the opportunities that renewable energy offers in the context of the overall policy framework.
44. The Department acknowledges the importance of robust implementation of the Action Plan to drive the proposals in the report forward. It is important that we build on progress to date and engage more closely with those on the ground to get a

firmer idea of what is and isn't working.

45. In this context, and to ensure the way in which we implement the Action Plan is effective, the Department will establish an External Stakeholder Group.
46. This External Stakeholder Group will also engage with stakeholders, agencies and government as required. In addition they will be tasked with reviewing and adding value to the delivery actions on a yearly basis and, based on the first three years' progress, set the direction for future actions.

Section C: Revised DARD Renewable Energy Action Plan 2010-13.

Recommendation 1

Exploit investment in the development of emerging technologies which can be supplied by the agricultural sector and/or which are suitable for adoption within the agricultural sector to accelerate the adoption and stimulate the market.

Proposed Impact Target

Output of the Renewables R&D Programme to be shared with 250 Farmers each year.

Action	What we plan to do :	By when :	Intended Outcomes :
1	Host/Organise a knowledge exchange event targeting production and utilisation of renewable energy.	Autumn 2010	Increased adoption of Renewable Energy technologies at farm level. Inform an Innovation Roadmap which will include the development of a three-year growth plan for the development of on-farm Anaerobic Digestion in the north of Ireland.
2	Development of an Innovation Roadmap based on the knowledge exchange event.	End 2010	Provision of tailored information on which to base business decisions within the land based sector.
3	Further develop the Renewable Energy visitor experience at AFBI, Hillsborough.	Ongoing (Review progress in April 2011)	Greater access to demonstration of Renewable Energy technologies across many areas such as planning, design and build specifiers, procurement by members of the land based sector to maximise opportunities within the agricultural sector. Greater opportunity to disseminate DARD programmes through the visitors' centre.
4	Continue to support the Renewable Research Programme carried out at AFBI.	Ongoing	Provision of relevant information specific to the north of Ireland land based sector and identification of new opportunities.

Action	What we plan to do :	By when :	Intended Outcomes :
5	Focus on Renewable Energy industry training and knowledge exchange programmes at CAFRE.	April 2010 onwards	Increase the skills base on land based Renewable Energy technologies, which includes the dissemination of AFBI research findings.

Recommendation 2

Exploit the opportunities associated with Sustainable Scale Anaerobic Digestion and associated technologies, and ;

Recommendation 3

Exploiting opportunities relating to the production of heat, particularly with the development of the Energy Supply Company (ESCo) model.

Proposed Impact Target

20 successful Renewable Energy technologies funded and installed on farm by 31 March 2013, including at least one AD Project.

Action	What we plan to do :	By when :	Intended Outcomes :
6	Launch a Biomass Processing Challenge Fund.	Mid 2010 subject to successful designation of EU Funding	Accelerated adoption of biomass technologies. Increased demand for biomass feedstocks. Displacement of fossil fuels with renewable energy.
7	Renewable Energy Portal for the Land Based Sector – focusing initially on Anaerobic Digestion.	Mid 2010	Raised awareness and confidence in anaerobic digestion technologies. Forging stronger and strategic links with NNFFCC.
8	Supply Chain Development Programme promoted as including Renewable Energy projects and case studies published.	Early 2011	Improved supply chain collaboration. Identification of supply chain efficiencies. Greater dissemination of information along the supply chain.

Recommendation 4

Exploiting opportunities relating to energy security by displacing fossil fuel derived energy with Renewable Energy within the agricultural and forestry sectors – with a view to growing the demand and having a positive impact on energy security and carbon footprint.

Proposed Impact Target

Encourage acceleration of Renewable Energy activity at farm level. Conduct a baseline study of those farms/forestry enterprises meeting own energy needs by end 2010. Encourage a 5% uplift in adoption by end 2012.

Action	What we plan to do :	By when :	Intended Outcomes :
9	Include Focus Farms which showcase Renewable Energy supply chains.	Mid 2011	<p>Raised awareness of potential to meet own energy needs utilising Renewable Energy technologies on farm.</p> <p>Increased adoption of whole Renewable Energy supply chain approach (from generation of biomass to utilisation of renewable energy) at farm level.</p> <p>Decrease in fossil fuel usage within the farm/forestry sectors.</p> <p>Increased energy security and a reduction in CO₂ footprint.</p>
10	Scoping exercise to establish a baseline of those farms/forestry enterprises meeting their own energy needs.	Mid 2010	Baseline on which to develop targets for increased adoption of Renewable Energy at farm and forestry level.
11	Development of a database of exemplars.	2011	Improved provision of information.
12	Development of a directory of DARD support, to be published and disseminated.	Mid 2010	Improved and targeted information on DARD Support for Renewable Energy activities.

Recommendation 5

Exploiting opportunities associated with Integrated Business Solutions – enhancing business security and increasing competitiveness.

Proposed Impact Target

Encourage 2 Business Alliances per year to add value to Renewable Energy activities on farm.

Action	What we plan to do :	By when :	Intended Outcomes :
13	Formalise links with InvestNI (Energy team) to explore potential integrated business solutions.	Early 2010	Identification of real integrated business opportunities for the farm/forestry sector. Increased opportunity to utilise all outputs from renewable energy generation.
14	Work with the Industry Advisory Panel - Energy and Waste Sub group and other government groupings to identify and explore opportunities for linkages to relevant business activities.	Ongoing - Review progress mid 2011	Increased opportunity to integrate Renewable Energy supply chain with others e.g. food, waste management. Stimulation/maturity of the Renewable Energy supply chain.

Recommendation 6

The Forum recommend that to ensure timely and effective delivery of this strategy DARD must put in place an effective implementation mechanism based on the appointment of a group of external stakeholders to oversee the delivery of this strategy.

Proposed Impact Target

Establishment of an External Stakeholder Group comprising of 3 experts to conduct a yearly review of progress, determine success of first 3 years and set direction for future departmental activities by Autumn 2010.

Action	What we plan to do :	By when :	Intended Outcomes :
15	Establish an External Stakeholder Group to provide advice which will progress effective delivery of the Action Plan.	Autumn 2010	An informed delivery by DARD that will encourage the adoption of Renewable Energy approaches in the land based sector. The Department will be well informed as to what is working on the ground and adjust the Action Plan accordingly.

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