



BioPAD



Bioenergy Proliferation and Deployment





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Preface

The BioPAD project aims to improve our understanding of the links between supply and demand by looking at supply chains for a variety of bioenergy fuels and different ways of converting these fuels into sustainable energy. Understanding the supply chains and the ways bioenergy moves from fuel source to energy provision will help the establishment of robust and efficient supply services which can match local demand.

BioPAD is led by the Western Development Commission www.wdc.ie (Ireland) and is funded under the ERDF Interreg IVB Northern Periphery Programme (NPP) <http://www.northernperiphery.eu>. It has partners in Scotland (Environmental Research Institute, UHI <http://www.eri.ac.uk/>), Northern Ireland (Action Renewables <http://www.actionrenewables.org/>) and Finland (Finnish Forest Research Institute, Metla <http://www.metla.fi/>).



Policy Recommendations

Background

This report is focussed on the Policy recommendations that we recommend, to ensure that the opportunities from Bioenergy are realised in the partner countries of Finland, The UK, including Scotland and Northern Ireland, and Ireland. The situation in Northern Ireland and Scotland is slightly more complicated in that they have devolved Governments, which are responsible for energy matters. However, they are also bound by the UK targets, which are set at EU level.

Bioenergy policy does not exist in isolation from the policy initiatives which drive other sectors. The EU Renewable Energy Action Plans are sub-divided into three sectors, Electricity, Heating and Cooling and Transport. We have therefore considered the overall impact, of what is required in each partner country, before focussing on Bioenergy Policy Recommendations.

We have started by identifying the overarching Policy requirement at EU level.

EU Policy Recommendations

- The European Commission should continue to use the NREAPs as a measure of RE performance.
- Develop a number of energy policy indicators against which to assess member state energy policies to ensure coherence between EU and member states energy policy measures.
- The EU must develop an agreed common 'European concept of security of supply', based on an effective internal markets, but complemented by tools to ensure policy coherence (e.g. energy policy indicators) and measures to improve (strategic) network development and investment, deal with political risks, and supply disruptions.
- The European Commission should continue to develop further EU energy security externally through partnerships with supplier countries, notably acknowledging EU legitimate interests in reciprocity and security of supply and suppliers' legitimate interest in security of demand and stable investment conditions. The European Commission and member states must acknowledge that such partnerships can establish a real interdependence between the EU and its

suppliers, and thereby can enhance predictability and foster investment. This has already begun recently with the biomass agreement with Canada.

- In addition, member states could give mandates to the European Commission to negotiate on specific energy-related issues within particular EU policies with the aim of gradually building an EU that ‘speaks with one voice’. In order to better integrate energy and external policy and coherence in general, the EU must improve capacity to deal with these cross-cutting issues.
- The EU and its member states should pool their R&D efforts in the development of more efficient and new decarbonised energy technologies, especially in areas where there is EU added-value, i.e. because of economies of scale or cross-border externalities. This has been introduced within the new Horizon 2020 programmes
- In formulating further EU energy policy targets, the EU and its member states should be guided by available technologies and their deployment times.
- The European Commission should rigorously assess national implementation policies to reach EU legally binding targets as to whether they are likely to achieve the target and also in terms of their effects on the internal market. If needed, the EU should develop EU-wide frameworks to achieve such targets while minimising negative impacts on the internal market. The phasing-in of a European green certificates-market on top of existing national support policies is one option.

Partner Country Recommendations

Finland

Electricity sector

Feed-in tariffs for wind energy, biogas, small wood-fired CHP, and forest chip-CHP are currently being prepared. A FiT should also be established for geothermal in the future. The level of the tariff can be adjusted at a later stage if the targets are not met. No offshore wind specific FiT is foreseen.

Consequently, no offshore wind capacity is programmed in the NREAP. Without offshore deployment, reaching 2.5 GW of wind energy onshore is feasible yet ambitious.



Transport Sector

Legislation requiring the use of a certain percentage of biofuels in gasoline and diesel was adopted at the end of 2010. Several demonstration plants to produce second generation biofuels are currently in planning, and proposals for a NER300 call and

national investment subsidies will be prepared. Furthermore, incentives for electric vehicles are in preparation, mainly concerning the demonstration of several concepts.

Policy Recommendations

- **Incentivise the use of energy crops, straw and forestry, for electricity generation.**
- **Incentivise switching from fuel oil to bioenergy.**
- **Investment subsidies required for the demonstration of second generation biofuels.**
- **Develop policy which supports decentralised electricity generation, particularly from biomass.**
- **Incentivise electricity generation by farming sector.**
- **Raise awareness of sustainability issues with landowners.**
- **Provide support for research into use of stump extraction and increased use of logging residues.**

United Kingdom

Electricity sector

The growth in the RES-E sector will depend on the continuation and confidence in the FiTs and in the Renewables Obligation. Any reviews should focus on correcting any perversities and ensuring the schemes provide an adequate level of support. The government should encourage a strategic approach to investment in the grid. Industry therefore welcomes the government's research into smarter grids.



Heating and cooling sector

The RHI to be introduced this year must be simple for the end-user and stable to encourage long term confidence. The incentive also needs to be high enough to drive widespread deployment. A new framework that incentivises the gas distribution companies to support the injection of biomethane is also required.

Transport sector

There should be a linear target trajectory from 2010 to 2020 covering all RES technologies which can be deployed in the transport sector. Carbon linkage (by which the use of biofuels is reward according to carbon saved) should be introduced in the

implementation of the FQD. The UK lags far behind many Member States in the share of RES-E in the overall power sector. The UK should therefore use its own share to calculate the contribution from electricity produced from renewable sources and not the average share in the Community when taking into account electric vehicles.

Policy Recommendations

- **Provide a greater level of assurance that the ROCs system will be supported at an adequate level after 2017.**
- **The RE targets are aspirational with little evidence of how they can be achieved, other than electricity from wind.**
- **Ensure greater co-ordination between the raft of support measures on offer.**
- **Provide support to the bioenergy supply chain, in terms of analysis and targeted financial intervention.**

Scotland

Scotland has a potentially huge wood fuel resource arising from its forests and associated timber resource. The Scottish Government have already recognised that electricity from biomass could be extremely valuable in Scotland, given its ability to be scheduled, its ability to meet local and small-scale energy needs and its potential to provide and sustain jobs.



Policy Recommendations

- **Certification standards should be agreed for Scottish forestry and wood fuel.**
- **Develop sustainable policy initiatives to use the forestry that has been developed on the west coast.**
- **Develop a strategy for the sustainable use of marine biomass, including added value products.**
- **Develop policies for the establishment and use of energy crops.**

Northern Ireland

The primary objective for the Northern Ireland Renewable Heat Incentive is to increase the uptake of renewable heat to 10% by 2020. The 10% target for renewable heat equates to 1.6TWh. Phase one for RHI was launched for non-domestics on 1 November 2012 and RHPP for domestics in May 2012. Consultation for Phase 2 was launched in July 2013 and concluded on 14 October 2013. It is uncertain when it will be launched.



Electricity from biomass is incentivised through the NIROCs scheme, but is currently being hindered by the issue associated with connection to the grid.

Policy Recommendations

- **Address issues associated with Grid connection, including cost and time.**
- **Confirm the status of emissions form Biomass boilers.**
- **Confirm status of sustainability criteria and introduce wood fuel quality certification scheme.**
- **Reintroduce energy crops establishment scheme.**
- **Co-ordinate the activities of DETI, DARD and DoE, in developing bioenergy strategy.**
- **Provide support for bioenergy supply chain development.**
- **Introduce higher levels of support for afforestation.**
- **Improve Public Procurement strategy for biomass heating options, including ESCo's**
- **Increase funding for bioenergy research.**
- **Provide mechanisms for leveraging investment in bioenergy projects.**

Ireland

Electricity sector

The NREAP must be supported by an effective implementation framework. The plan must reflect legal obligations in particular priority dispatch. A stable market for investments must be put in place. The interaction between EU directives needs to be clarified. Ireland should ensure that a



robust framework for exports is developed. Robust mechanisms to ensure the timely delivery of infrastructure must be introduced.

There are currently significant risks affecting renewable investments with respect to non dispatch, constraints, volatile Transmission Loss Adjustment Factor, changes in Transmission Use of System charges and other market rules. There is an interaction between these elements and REFIT. REFIT support levels can be minimised where risk uncertainty in the market for renewable generation investments have been addressed as a package. However, if those uncertainties are not addressed, it will be necessary to increase the base support level in REFIT to deliver the intended investment signal. There needs to be flexibility in the REFIT scheme so that changes in the market conditions can be taken into account in the REFIT price being paid to ensure that projects remain financially viable.

Heating and cooling sector

A key driver of Energy policy and utilisation of bioheat, on a large scale is District Heating. Planning for district heating infrastructure needs to be integrated into local authority development plans, and backed at national level as a strategic priority in urban areas. District Heating infrastructure should be part-financed by the tax-payer and have measures to allow it to be more easily financed over a long time horizon. New multi-unit housing developments should be obliged to be ready for DH, as this will future-proof them in terms of energy supply options. Furthermore, County development plans should include DH infrastructure in urban areas in their planning guidelines, and steer development towards an energy-efficient integrated heating network based on RES.

Legislation on geothermal energy is in preparation and a new bill should be published soon. Such a bill will clarify the situation, especially for deep geothermal, by simplifying the licensing procedure, establishing support measures and presenting a development roadmap.

Transport Fuels

To facilitate the achievement of 10% RES-T, an amendment will be needed to the relevant standards (e.g. EN590, EN224) to permit the use of 10% blends in unmodified engines.

Substantial amounts of renewable energy could also be produced from municipal and industrial waste. Urgent waste disposal problems could also be resolved by the use of these types of waste for energy production and the disposal of waste digestate on energy crops.

Policy Recommendations

- **More focus required on an implementation framework for the NREAP.**
- **Swifter decision making required.**
- **More realistic timescales for the delivery of specific measures, which take into consideration planning and grid connection issues.**
- **Deferring a new Renewable heat Incentive to 2016, with no indication of the level of support, is a disincentive.**
- **The significant risks associated with RE uncertainty will require a raised level of REFIT**
- **REFIT scheme needs to be more flexible to take account of changes in market conditions.**
- **Introduce equitable tax incentives for energy crops to match those of forestry.**
- **Provide support, both financial and in terms of analysis for supply chain development.**
- **Reintroduce the Energy Crops scheme at a level and in a way which incentivises a change in land use and behaviour.**



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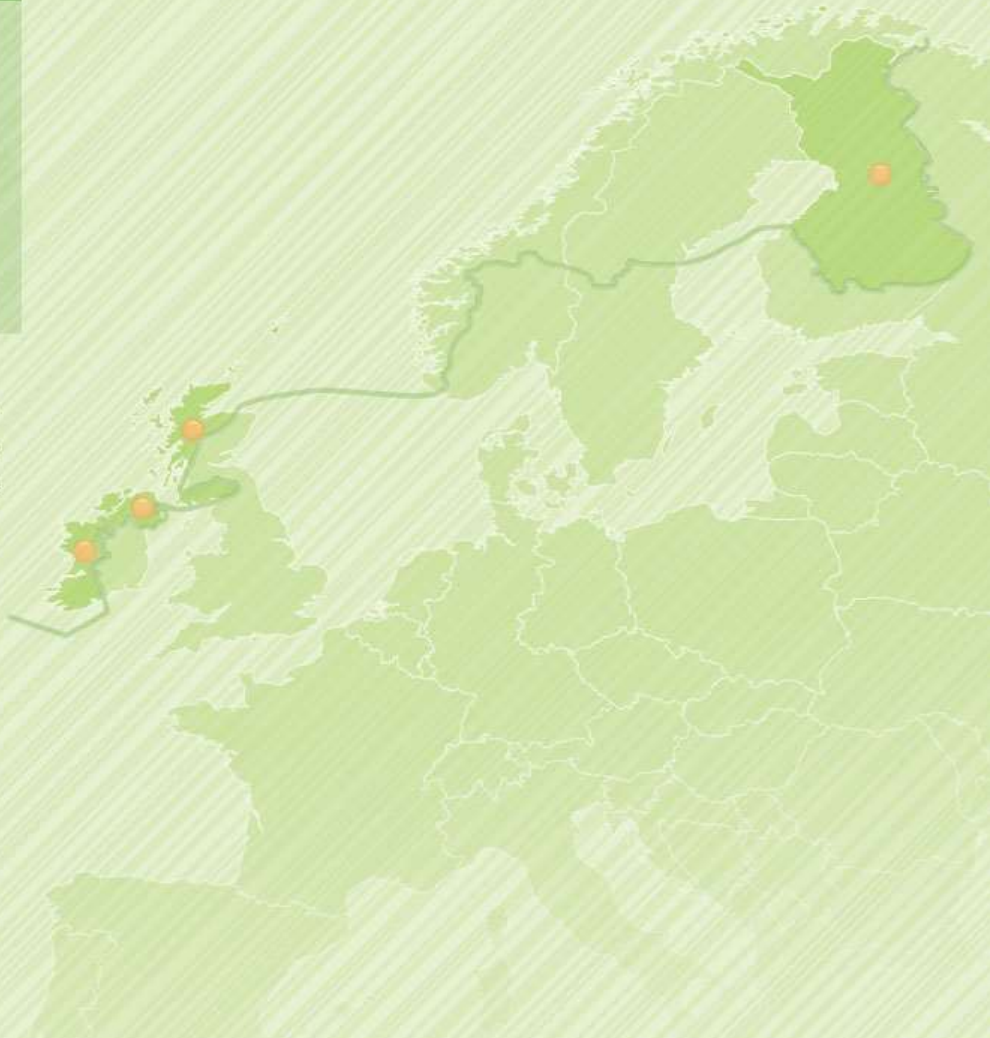
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BioPAD is promoting the wider use of bioenergy and developing applications targeting the whole process from supplying fuel to producing energy.

The project is led by the Western Development Commission (Republic of Ireland) and brings together partners from Northern Ireland (Action Renewables), Scotland (Environmental Research Institute) and Finland (Finnish Forest Research Institute, Metla).

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