

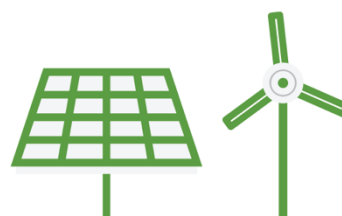


# GREBE

Generating Renewable Energy  
Business Enterprise



Northern Periphery and  
Arctic Programme  
2014-2020



## POLICY & FUNDING MECHANISMS

### 3.1.2 SHOWCASE EXAMPLES OF BEST PRACTICE POLICY INITIATIVES WORK PACKAGE 3



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## Introduction

GREBE is a €1.77m, 3-year (2015-2018) transnational project to support the renewable energy sector. It is co-funded by the EU's Northern Periphery & Arctic (NPA) Programme. It will focus on the challenges of peripheral and arctic regions as places for doing business, and help develop renewable energy business opportunities provided by extreme conditions.

Renewable Energy entrepreneurs working in the NPA area face challenges including a lack of critical mass, dispersed settlements, poor accessibility, vulnerability to climate change effects and limited networking opportunities are well recognised because of their peripheral location.

GREBE will equip SMEs and start-ups with the skills and confidence to overcome these challenges and use place based natural assets for RE to best sustainable effect. The renewable energy sector contributes to sustainable regional and rural development and has potential for future growth.

The key objective of this work Package:

- To identify and promote opportunities for policy to provide an effective supporting framework for sustainable renewable energy business (both new and emerging)

Throughout the "Summary report of the relevant policy initiatives and schemes in each of the partner regions study" GREBE has identified showcase examples for the best practice policy initiatives that can be used across the NPA region. The GREBE Project developed as a follow up to a previous Northern Periphery Programme (NPP) Project known as BioPAD. The BioPAD project carried out initial work regarding policy initiative analysis across Europe in support of the Renewable Energy sector and GREBE aims to further develop and refine this work and take it to the next level.

The policy page within BioPAD shows some examples of this prior work including a policy tour, policy gaps analysis and policy recommendations in this area and can be found at: <http://www.biopad.eu/what-is-biopad/policy/>.

While this project was mainly focussed on bioenergy, there is a lot of information for Heat, Electricity, BioFuels, Transport, Low-carbon etc. in other European countries in the <http://www.biopad.eu/wp-content/uploads/RASLRES-Policy-Toolkit.pdf>.

Based on feedback gathered from all partner regions there were a total of 67 policy initiatives in the "Summary report of the relevant policy initiatives and schemes in each of the partner regions study that help contribute towards supporting the renewable energy sector. The GREBE report will showcase examples of best practice policy initiatives under the following categories.

- **Carbon Tax**  
A tax on fossil fuels, especially those used by motor vehicles, intended to reduce the emission of carbon dioxide.
- **Communities**  
Supporting local communities and helping toward creating a better environment
- **Electricity**  
Help promote the generation of electricity
- **Heat**  
Contribution towards promoting heat from a renewable source.
- **Liquid Biofuels**

The most widely used liquid biofuels for transport are ethanol and biodiesel.

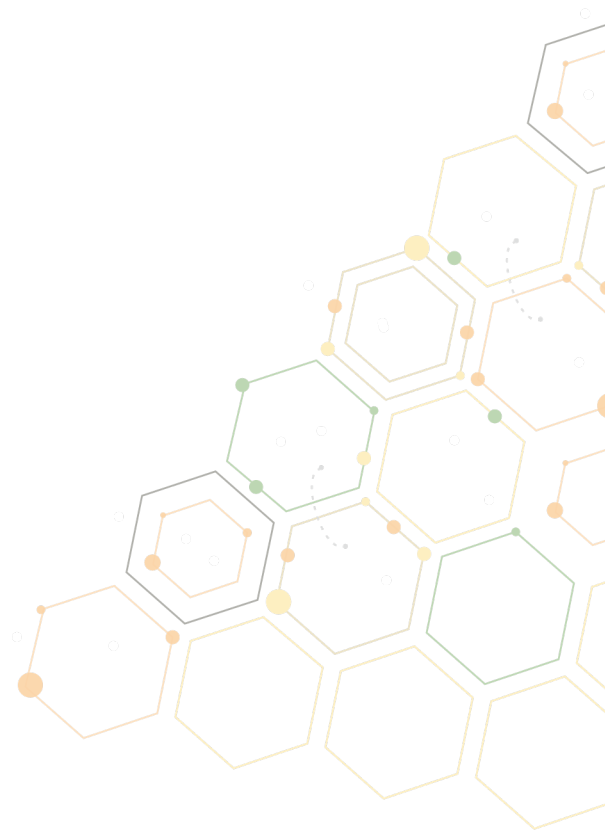
- **Research & Development**

Research and development (R&D) refers to the investigative activities a business conducts to improve existing products and procedures or to lead to the development of new products and procedures.

It is difficult to analyse and compare the success or impact of policy across different nations. While a policy may be a success based on local conditions it may not be when compared to another region. For example Finland created a policy to plant 100,000 Ha of trees. In Iceland a policy was put in place to plant 1,000 Ha of trees. 50,000 Ha of trees were planted in Finland and 2,000 Ha were planted in Iceland. So while Finland fell short of their policy target and Iceland exceeded the target set, when considering the total area covered in comparison there are different measurements of success.

For this reason it has been decided that several aspects of project must be assessed and analysed in considering whether a policy has been successful and for this reason the following four titles have been selected as representative of a wide range of factors that help show the impact of a policy.

- Strategy
- Purpose
- Unique features
- Funding technique



## Carbon Tax

Carbon tax is a tax on fossil fuels, especially those used by motor vehicles, intended to reduce the emission of carbon dioxide. Policy initiatives are required to encourage the uptake of Carbon Tax schemes as reducing the amount of Carbon used will require a large behavioural change. This change will be difficult to encourage as people are set in their ways and require an incentive to make the changes.

An example of best practice of a policy initiative for carbon tax is in place in Iceland.

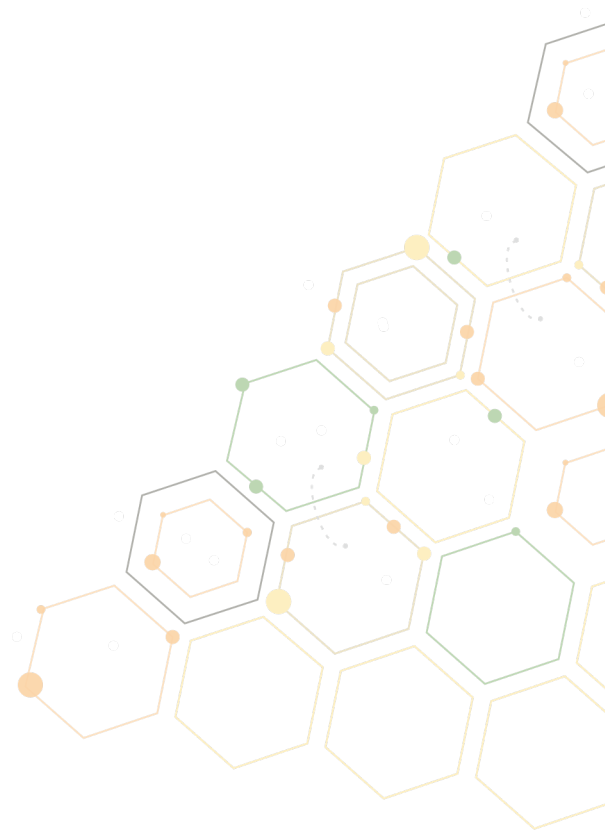
### Iceland - Carbon Tax

Strategy – A carbon tax is a tax based on greenhouse gas emissions (GHG) generated from burning fuels.

Purpose - It puts a price on each tonne of GHG emitted, sending a price signal that will, over time, elicit a powerful market response across the entire economy, resulting in reduced emissions.

Unique feature – A carbon tax is a fee intended to make users of fossil fuels pay for the climate damage their fuel use imposes by releasing carbon dioxide into the atmosphere and also to motivate switches to cleaner energy. Placing a tax on carbon gives consumers and producers a monetary incentive to reduce their carbon dioxide emissions while adjusting prices of fossil fuels to reflect the damages to our planet and society caused by releasing CO<sub>2</sub> into the atmosphere.

Funding technique – N/A





## Communities

Policy initiatives for renewable energy are aimed at supporting local communities and helping toward creating a better environment. While prices for renewable energy or heating infrastructure can be prohibitive on a private level, the creation of community led schemes help to offset this cost. Schemes may also bring profit to the community through energy that can be sold back to the grid.

An example of best practice of a policy initiative for development of community energy is in place in Scotland.

### Scotland - Community & renewable energy scheme (CARES)

**Strategy** - The CARES loan fund was announced by the Scottish Government on 15th February 2011. The scheme aims to provide loans towards the high risk, pre-planning consent stages of renewable energy projects which have significant community engagement and benefits. The scheme is managed on behalf of Scottish Ministers by local energy Scotland.

**Purpose** - To support the development of locally-owned renewable energy projects which provide wider community benefits?

**Unique feature** - Any renewable energy project, up to 5 MW, requiring financial outlay prior to planning consent is, in principle, eligible

- Loans of up to £150,000
- Cover up to 90% of agreed costs
- Security not required
- Fixed interest rate at 10%
- Local advice and support available
- Competitive process
- Finance provided in stages according to agreed drawdown schedule

**Funding technique** - Loan finance will be available to cover the pre-planning consent (high risk) stage of project development, a high risk cost which is widely seen as a barrier to community groups and smaller businesses who would otherwise wish to develop a project.

## Electricity

Initiatives are created with the aim of helping to promote the generation of renewable electricity. The installation of renewable energy systems on an individual's property can require a large initial investment. Providing financial incentives is one way in which the risk involved can be negated to encourage private investment.

Examples of best practice of policy initiatives for the electricity sector is in place in Finland, Northern Ireland, Norway and in the Republic of Ireland.

### Finland - Feed in tariff

Strategy – The feed-in tariff scheme for electricity has been designed to increase the use of renewable energy sources in electricity production. The EU has set a requirement for Finland to achieve an increase in renewable energies whereby they will account for 38% of final consumption by the end of 2020. Feed-in tariff is granted by The Energy Authority.

Purpose - The single biggest reason for the booming of the Finnish wind power is the feed-in-tariff system that was implemented in spring 2011.

Unique feature - A feed-in tariff is available for

- New wind power plants
- New biogas power plants (gas produced by digestion)
- New wood-fuelled power plants which also produce heat for utilization
- Timber chip power plants

Funding technique - The target price is EUR 83.50/MWh. However, wind power plants receive an increased target price of EUR 105.30/MWh.

### Northern Ireland - Renewable Obligation Certificate (ROCS)

Strategy – Provides incentives for large-scale renewable electricity generation by making UK suppliers source a proportion of their electricity from eligible renewable sources. The aim is to increase the amount of electricity supplied by electricity suppliers from renewable sources.

Purpose - Renewable Obligation Certificates (ROC's) are green certificates given to generators that use accredited renewable systems to create electricity

Unique feature – These renewable obligation certificates can be traded. If suppliers of electricity do not present the correct amount of ROCs they are made to pay the equivalent amount into a buyout fund. This encourages them to source more of their electricity from renewable sources, instead of being fined for not meeting their obligation.

Funding technique – The number of ROCs issued to each generator depends upon the type of technology it uses (each type falls under a 'banding level') and the amount of electricity it generates.

The default position is that one ROC is issued per MWh generated. However, some technologies receive more ROCs and others receive fewer. For example, offshore wind receives two ROCs per MWh while onshore wind receives 0.9 ROC per MWh.

## Norway - Green Battery Strategy

Strategy – Norway is hoping to become the “green battery capital of Europe” by using its hydropower plants to provide instant extra electricity if production from wind and solar power sources in other countries fade.

Purpose - Norway has 937 hydropower plants, which provide 96% of its electricity, making it the sixth largest hydropower producer in the world despite having a population of only five million. Europe already has 400 million people in 24 countries connected to a single grid, with power surpluses from one country being exported to neighbours or imported as national needs change.

Unique feature - Without building any new power stations, engineers believe they could use the existing network to instantly boost European supplies and avoid other countries having to switch on fossil fuel plants to make up shortfalls

Funding technique - The customers who already exist in Norway will have to pay the bill for new lines connecting Norway to other countries.

## Republic of Ireland - REFIT Scheme

Strategy – The Renewable Energy Feed in Tariff (REFIT) schemes/supports are funded by the Public Service Obligation (PSO) which is paid for by all electricity consumers.

Purpose - The REFIT schemes have been designed to incentivise the development of renewable electricity generation in order to ensure Ireland meets its goal of 40% of electricity coming from renewable sources by 2020.

Unique feature - REFIT is designed to provide price certainty to renewable electricity generators. It has been in operation for wind and hydro power since 2006. It operates on a sliding scale, acting to ensure a guaranteed price for each unit of electricity exported to the grid by paying the difference between the wholesale price for electricity and the REFIT price

Funding technique – The support price under the government's Renewable Energy Feed in Tariff (REFIT) will range from 8.5 cent per kilowatt hour to 15 cent per kilowatt hour depending on the technology deployed. The technologies supported include Anaerobic Digestion Combined Heat and Power, Biomass Combined Heat and Power and Biomass Combustion, including provision for 30% co-firing of biomass in the three peat powered stations.





## Heat

Policy initiatives and schemes provide a contribution towards promoting heat from a renewable source. Initial costs for renewable energy installations can be off putting, and policies initiatives in this area can help promote the renewable heat.

An example of best practice of a policy initiative for development of the renewable heat sector is in place in Northern Ireland.

### Northern Ireland - Renewable Heat Incentive

Strategy - Financial incentive to encourage the uptake and use of renewable heat such as biomass systems, ground/air source heat pumps, geothermal and biogas below 200kWth.

Purpose – Businesses must meet the eligibility criteria when applying for accreditation. There must be at least 1 non domestic use for the heat being produced and the installation must meet other requirements; being new at time of installation and the heat being produced must be metered correctly etc.

Unique feature - Department of Enterprise, Trade and Investment set the policy and tariff rates, with payments being guaranteed for 20 years. Ofgem administer the scheme on behalf of DETI.

Funding technique - When the RHI commenced a boiler ranging from 20 – 199 kW would receive 6.4p per kW heat generated. There was no upper usage cap. The tariff changed on the 4<sup>th</sup> of November 2015 with the introduction of a cap where the first 1314 peak hours (1314 x boiler kWh) are paid at the Tier 1 tariff. Any additional heat is paid at the Tier 2 tariff up to a maximum of 400,000 kWh.

Unfortunately the Renewable Heat Incentive has been discontinued due to a range of financial mismanagement issues.



## Liquid Biofuels

The most widely used liquid biofuels for transport are ethanol and biodiesel. Biofuels have been selected as a policy initiative area due to several factors – they are cleaner than fossil fuels and can be developed from local crops reducing dependence on imported fuels and increasing energy security.

An example of best practice of a policy initiative for development of liquid biofuels is in place in the Republic of Ireland.

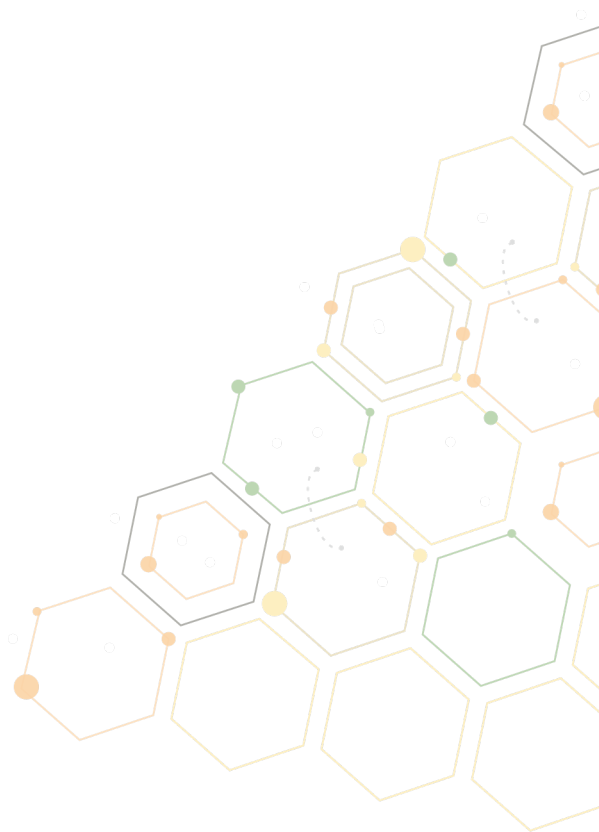
### Republic of Ireland - Biofuels Obligation

Strategy – Ireland's target for the share of its gross final consumption of energy to come from renewable sources, by 2020, is 16%.

Purpose - The BOS Scheme places an obligation on suppliers of mineral oil to ensure that 6.383% (by volume) of the motor fuels (generally Gasoline and Motor Diesel) they place on the market in Ireland is produced from renewable sources, e.g. Ethanol and Biodiesel.

Unique feature - This means that at the end of each year an obligated road transport fuel supplier must hold six biofuel obligation certificates for every 94 litres of petroleum based fuel it has placed on the market. Certificates are issued for biofuels that have been demonstrated to have complied with the sustainability criteria of the Directive.

Funding technique – N/A



## Research and Development

Research and development (R&D) refers to the investigative activities a business conducts to improve existing products and procedures or to lead to the development of new products and procedures. R&D can be beneficial in many ways including driving technological advances and bringing down prices and also helping to change the outlook on reliance for fossil fuels.

Finland, Norway and Scotland provide examples of best practice of policy initiatives for research and development.

### Finland - BEST (Sustainable Bioenergy Solutions for tomorrow)

Strategy – The research program joins the strengths of the different players within the Finnish bioenergy field to answer to the critical research and development needs of tomorrow.

Purpose - Based on these global drivers, BEST aims at:

1. Radically improving the value/cost ratio, reliability and flexibility of supplying different bio-based raw materials
2. Enabling the increased availability of biomass raw materials in a sustainable way
3. Creating different local energy concepts and new conceptual designs for process integration
4. Boosting the ability to tailor bioenergy solutions to meet the specific requirements of each market
5. Creating ways to systematically assess the development of the business environment and developing abilities for adopting both proactive and reactive strategies
6. Actively disseminating the results and taking part in the international bioenergy discussion

Unique feature - Sustainable Bioenergy Solutions for Tomorrow (BEST) is a research program launched in early 2013. The program partners currently consist of 21 companies and 13 universities or research institutes.

Funding technique - The planned duration is four years (2013-2016) with an annual budget of roughly 4 MEUR. The program is coordinated jointly by CLEEN Ltd.

### Norway - Centres for Environment / friendly Energy Research

Strategy - This will conduct long-term research at a high international standard, with the aim of tackling energy-related challenges.

Purpose - The objective of the scheme for Centres for Environment-friendly Energy Research (FME) is to establish time-limited research centres which conduct concentrated, focused and long-term research of high international calibre in order to solve specific challenges in the field.

Unique feature - Encourage enterprises to innovate by placing stronger emphasis on long-term research and by making it attractive for enterprises that work on the international arena to establish R&D activities in Norway.

- Facilitate active alliances between innovative enterprises and prominent research groups.
- Promote the development of research groups that are on the cutting edge of international research and are part of strong international networks.

- Stimulate researcher training in fields of importance to the user partners and encourage the transfer of research-based knowledge and technology.

Funding technique - The total budget allocation from the Research Council for the 11 centres of FME-scheme will amount to about 1200M NOK over the life span of eight years.

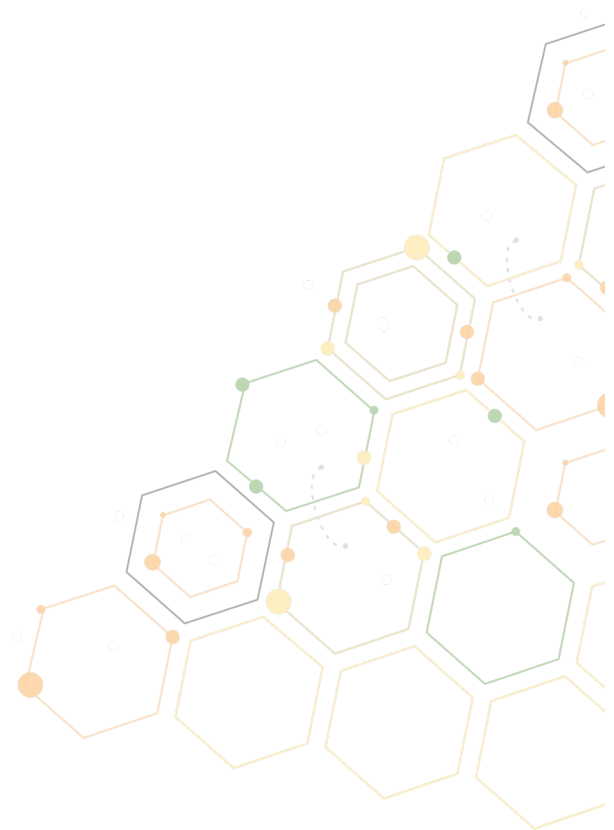
## Scotland - SMART Scotland

Strategy - Provides grants too Small to Medium Enterprises (SMEs) based in Scotland. The grant helps you undertake technical feasibility studies and research and development (R&D) projects that have a commercial endpoint.

Purpose - SCOTLAND Research and Development Grant (R&D grant) of up to 35% of the eligible project costs, up to a maximum grant of £600,000, may be available to help you develop a pre-production prototype of a new product or process

Unique feature - seeks to achieve its objectives by providing grants on a discretionary basis for, technical and commercial feasibility studies and research and development (R&D) projects.

Funding technique - Supports up to 70% of the eligible costs for a small SME and up to 60% of the eligible costs for a medium SME. Studies must last between 6 and 18 months, and the maximum grant is £100,000. One third of the grant is paid upfront when the project starts. The remainder is paid quarterly in arrears against claims submitted.





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EUROPEAN UNION

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# GREBE

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Business Enterprise

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f GREBEProject

Visit  
[www.grebeproject.eu](http://www.grebeproject.eu)

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## About GREBE

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## Project Partners

GREBE will be operated by eight partner organisations across six regions:

