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GREBE

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WELCOME TO GREBE PROJECT E-ZINE

Welcome to the eighth e-zine for the GREBE Project. Since December we have continued to carry out the project activities and meet our objectives. Our 8th partner meeting in Kokkola was hosted by LUKE & Karelia UAS, and included a visit to the Vaasa Energy Week for attending SME's. The aim was to highlight the benefits of renewable energy for SMEs and start-up businesses, and also give participants the opportunity to meet with biomass experts from the Natural Resources Institute in Finland. Details can be found on Page 3. The GREBE Industry Advisory Group (IAG) held its third annual meeting in Finland and was organized by LUKE. Further details are on Page 3.

The two case reports on the transfer of technology and knowledge in the NPA have now been completed and further details are on Page 4.

The Environmental Research Institute held an important workshop for the further development of Orkney's Hydrogen Economy. Details can be found on Page 5.

The WDC along with Action Renewables attended the IrBEA Bioenergy Future Ireland Conference in February and details of the event are on Page 6.

We also have details of the 5.2 Report (Advice Notes) on Page 7 and Update of EES in partner regions on Page 8.

We have a number of upcoming events and will hold our final partner meeting in Thurso in Scotland in late May. We will hold our final conference 'Local opportunities through Nordic cooperation' in Thurso on Thursday 24th May 2018. Details can be found on Page 9. Action Renewables are holding a GREBE conference in Belfast on Thursday 21st June and details can also be found on Page 9.





8TH PARTNER MEETING IN KOKKOLA

The GREBE project arranged another possibility for the transfer of knowledge within the Northern Periphery area by hosting expert's sessions with SME's. The sessions were part of the GREBE project partner meeting from 20th to 22nd of March in Kokkola, Finland. Both the project partner meeting and knowledge exchange expert meetings took place in Kokkola during the event hosted by the Finnish GREBE partners LUKE and Karelia UAS.

Two SME's and an Associated Partner (IT Sligo) came from Ireland to Finland to meet with experts and share knowledge relevant for their business. Two experts, Paula Jylhä and Veikko Möttönen from Natural Resources Institute Finland (LUKE) were available to the participants for one-to-one meetings. In addition, Ville Kuitinen from Karelia University of Applied Sciences (Karelia UAS) shared his knowledge and ongoing activities in the renewable energy field.

Paula Jylhä, whose expertise is in forest technology and logistics, provided information to the Irish stakeholders on the topics. Paula is also coordinator of the project FOBIA and presented the project to all GREBE partners and SME's. FOBIA is funded also under the NPA programme. Veikko Möttönen, who has his area of expertise in wood mechanical properties and further processing of sawn wood, was able to provide information on practices to handle side streams and plans of companies for the production development.

This activity was part of the GREBE project's "Knowledge & Technology Transfer and Business Delivery" work package led by LUKE. The aim of the expert sessions were to facilitate transnational effective knowledge transfer and collaboration in the renewable energy business sector, and to promote knowledge sharing and information exchange between actors in renewable energy supply and demand.



THIRD GREBE INDUSTRY ADVISORY GROUP MEETING IN FINLAND

The GREBE Industry Advisory Group (IAG) contributes towards dissemination of GREBE outputs and learnings among their wider networks, including at local, regional and national policy level where possible. The third annual meeting was organized at LUKE, Metlatalo Joensuu on Thursday 22th of February 2018. Finnish GREBE project partners updated the IAG on the project developments, outcomes over the last year and presented GREBE deliverables (Robert Prinz, LUKE) and its business mentoring in Finland through the Entrepreneurship Enabler Scheme (Lasse Okkonen, Karelia UAS).

This was the last meeting of the GREBE IAG with representatives from the renewable energy SMEs, research and education, business development companies, regional authority and agricultural producers and forest owners union. The IAG discussed on how to disseminate the final deliverables, cooperate with future activities and how GREBE activities can most effectively be implemented in practice, based on their own experience of working in or supporting the renewable energy.

Following the GREBE IAG meeting, the regional Poveria Biomassasta project hosted a local workshop with over 20 participants at the same premises on energy business including IAG representatives, entrepreneur enabler scheme participants and other stakeholders from the field. The workshop focused on bioenergy business models and experiences of entrepreneurs in the business area with a main topic on heat entrepreneurship and biogas delivery. The event was targeted for farmers and possible heat entrepreneurs as well as other interested stakeholders.



Technology / Knowledge transfer cases

Transnational sharing of knowledge is a key element of the GREBE project and special focus of working package 7 in order to facilitate transnational effective knowledge transfer and collaboration in the RE business sector and to promote knowledge sharing and information exchange between actors in renewable energy supply and demand. Two case reports are currently available on the transfer of technology and knowledge in the NPA:

A) NORDKRAFT – NORTHERN ENERGY EXPERTISE

Nordkraft is an energy group focusing on development, production and distribution of renewable energy. In addition, the group has power sales and other energy-related businesses. The business focuses on planning, construction and operating hydro and wind energy plants.

The energy business model of Nordkraft includes business operations in energy infrastructure planning, development, construction, operation, maintenance and trade. The focus on establishing and operating the systems, and avoiding or sharing the capital investment risks, provides growth opportunities. The long-term emphasis on local expertise and business diversity provides permanent jobs in the sector supports the local socio-economic development.

This is available on the GREBE Renewable Business Portal: [www.renewablebusiness.eu](http://grebeproject.eu/wp-content/uploads/2018/04/GREBE-Technology-Transfer-Nordkraft-Northern-Energy-Expertise-February-2018.pdf) and can be downloaded here: <http://grebeproject.eu/wp-content/uploads/2018/04/GREBE-Technology-Transfer-Nordkraft-Northern-Energy-Expertise-February-2018.pdf>

B) KNOWLEDGE SHARING EXPERT SESSIONS WITH SME'S

The GREBE project arranged a possibility for the transfer of knowledge within the Northern

Periphery area by hosting expert sessions with SME's, associations and land owner representatives in the sector of renewable energy supply and demand. The sessions were part of the GREBE project meeting events hosted by the Fermanagh and Omagh District Council from 6th – 10th November 2017. Two experts, Saija Rasi and Veikko Möttönen from the GREBE partner organization Natural Resources Institute Finland (Luke) were available to the participants for one-to-one meetings on Wednesday 8th November.

Knowledge on two main topics were shared between the experts from Finland and SME's:

- 1) Biogas production and utilization possibilities in rural areas
- 2) Further processing of sawn wood and side streams

The experts were also available during a networking event for businesses from Northern Ireland and the Republic of Ireland giving the opportunity to engage with one another or opening up the possibility of joint working opportunities in the future.

This is available on the GREBE Renewable Business Portal: [www.renewablebusiness.eu](http://grebeproject.eu/wp-content/uploads/2018/04/GREBE-Knowledge-sharing-expert-sessions-with-SMEs-March-2018.pdf) and can be downloaded here: <http://grebeproject.eu/wp-content/uploads/2018/04/GREBE-Knowledge-sharing-expert-sessions-with-SMEs-March-2018.pdf>

Further technology transfer cases are currently under development supporting the activity towards a guideline supporting enterprises in introducing new to market energy solutions. Supporting the transnational transfer of knowledge and technology, the Renewable Business Portal provides a platform to demonstrate the full potential of the renewable energy (RE) sector and showcase innovations in RE technology.



Building a Hydrogen Economy for Orkney

The Environmental Research Institute of the University of the Highlands and Islands, in conjunction with the European Marine Energy Centre and Action Renewables, organised a workshop on the 1st February 2018 in Kirkwall City Hall. Hydrogen is now an integral component of the Scottish Government's Energy Strategy, and the work which Orkney (along with many others) has undertaken in recent years has helped to inform and shape this strategy. Hydrogen has real potential to make a transformation to the energy system in Orkney.

The workshop consisted of two parts. The first began with an introduction to the GREBE project by Michael Doran, the Managing Director of Action Renewable and the objectives of the workshop, presented by Jon Clipsham, the Hydrogen Development Manager at EMEC. They were then followed by the presentations below:

- "Orkney's Energy System", by Neil Kermode, the Managing Director of EMEC.
- "Orkney Council hydrogen strategy and current projects update", by Adele Lidderdale, the Hydrogen Project Officer at Orkney Islands Council.
- "Orkney Energy Audit and the place for hydrogen", presented by Ian Johnstone, representing both Aquatera and the Orkney Renewable Energy Forum.
- "Hydrogen production / vehicles / refuelling stations", by Guy Verkoeyen from Belgium, representing Hydrogenics.
- "Hydrogen for domestic use / CHP units", presented by Bill Ireland, Managing Director at Logan Energy.

The second part of the workshop was more practical. The first part of it was led by Jon Clipsham where delegates were divided into groups, and asked to discuss and come up with the top five key priorities for the future development of Orkney's hydrogen future. The second part of the workshop was led by Michael Doran and delegates discussed how the Orkney Hydrogen Model can be replicated in other NPA Regions.

This workshop had the following aims:

- Inform delegates about Orkney's progress with hydrogen technologies to date.
- Share information on the current projects and opportunities.
- Discuss the next steps which we can take to replicate the model in other NPA Regions.

It was astonishing to see all the relevant stakeholders, important for the further development of Orkney's Hydrogen Economy, gathered in one room, participating in an open discussion and displaying a willingness to work together.





GREBE ATTENDS THE IRBEA BIOENERGY FUTURE IRELAND CONFERENCE

The mood at the National Bioenergy Conference – Bioenergy Future Ireland Conference was extremely buoyant. The theme of 2018's event was to develop the continuous improvement, sustainability and operational excellence within the Irish Bioenergy sector and to create opportunities for sustainable growth. IrBEA had an extremely enjoyable day at Croke Park where organisers made a decision to bring it to a new level this year with in excess of 360 attendees & 32 exhibitors attended the conference. It included consumer groups and technology providers of biomass and bioenergy.

Bioenergy Future Ireland 2018 attracted senior-level executives and influencers from Irish industry & business, national grid, supply, finance and Government and created an environment in which to network, do business and access frontier knowledge on the latest developments, trends, strategies and policies relating to one of Ireland's most important energy sectors. Delegates heard engaging presentations from some of the most influential people in the Irish & International bioenergy sectors and there were multiple engagement opportunities with speakers, IrBEA CEO and President along with Government, Industry and Solution Supplier representatives.

Amongst the speakers were representatives from BNM, Diageo, Dairygold, ABP Food Group, GNI and CPL Industries which are all part of the potential consumers group of energy and are all active in this space – incorporating bioenergy technology and sustainability into their strategic plan and reducing their carbon footprint. Here we had real commercial activity in the sector represented – consumers and providers who are already using the technology and sharing their experiences.





GREBE Advice Notes

The Advice Notes aim to provide introductory material for entrepreneurs, start-ups and SME's, considering entering into the renewable energy sphere and based in the NPA regions partners to GREBE. The scope of the Advice Note covers regional, trade and industry, renewable energy (RE), and technology information from Ireland, Northern Ireland, Scotland, Iceland and Finland. Different partner regions have different level of deployment of the various RE technologies covered by the Advice Notes. Thus, the level of information will vary depending on the level of deployment for each technology. Different types of renewable energy technologies are deployed on different scales across the NPA. Some are not deployed on a large scale in all partner regions but each of them is deployed to a certain extent in most regions partners to GREBE.

The focus of the Advice Notes is to provide regional partner information on some of the main economic characteristics, cited as imperative, when making an informed choice, regarding which RE technology may be the optimal choice for the business:

- Costs and economics associated with the relevant technology
- Support schemes available, relevant to the technology
- Government allowance/exemptions, relevant to the technology
- Funding available for capital costs of the relevant technology
- List of the relevant to the technology suppliers/developers, with focus on local/regional suppliers/developers and the products and services they offer.


The technologies that are covered in the Advice Notes are the following:

- Biomass CHP
- Wind
- Solar PV
- Small – scale Hydro (SHP)
- AD
- Geothermal
- Air source heat pump
- Ground source heat pump
- Energy storage
 - Electrochemical (batteries)
 - Chemical (hydrogen – fuel cell and electrolysis)
 - Thermal (heat storage)

The selection of the right RE technology will also be determined by the balance of energy demand of the business, the prospect to exploit local natural resources and the existing supply network. Assessing the energy mix assists in determining which RE technology is apt for your business. Those matters will be discussed in depth in the Renewable Energy Resource Assessment Toolkit.

These are available for download on the GREBE website: <http://grebeproject.eu/publication/>





Update of EES in partner regions

SCOTLAND

The five businesses that were chosen to receive mentoring support through the EES (VE Energy, AES Solar, R&I Cruden, Gow's Lybster and Solo Energy) have successfully completed the mentoring scheme. All of them are very happy with the mentoring opportunity provided by GREBE and found it helpful for the further growth of their businesses.

Following the completion, a sixth company was chosen to receive support through the EES and this is Proterra Energy. Proterra Energy Ltd specialises in the design, installation and maintenance of micro hydro schemes, typically up to 100 kW. Proterra Energy is a family business. They are based in the Highlands and our focus is on delivering an efficient and innovative service. They operate throughout Scotland with a focus on the Highlands and Islands and are starting to expand into the international market. Their aim is to provide the customers with affordable, renewable energy solutions, designed to meet their specific needs. Whether they are an individual, rural business, estate or community group, local or international, Proterra Energy can help them to harness their natural resources and make them work for them.

FINLAND

The roll-out of the GREBE EES in North Karelia took place in February-April. Three companies Eno Energy Cooperative, Rajaforest Ltd. and Havel Ltd. attended in mentoring sessions together with the Spiral Ltd. – an experienced SME mentoring and consultancy.

At Havel Ltd., the mentoring introduced LEAN quality management principles and production efficiency and potential of new raw materials. In Eno emphasis has been in cooperation with other heat enterprises and large-scale industry – discussions will continue in May. Rajaforest Ltd. has initiated a new technology and mentoring has supported business planning for this.

The experiences have been positive so far, and a report detailing the process and results is being compiled by local EES coordinator Karelia UAS.

IRELAND

Applications are still invited from all small to medium renewable energy businesses, based in the Western Region (Donegal, Leitrim, Sligo, Mayo, Roscommon, and Galway & Clare), and an Expression of Interest application form can be requested by email from paulineleonard@wdc.ie

The WDC are recruiting mentors for matching with SME's to meet their business needs, based on areas of specialism and scoring. Details on becoming a mentor can be sought from paulineleonard@wdc.ie





UPCOMING EVENTS

'REGIONAL HEAT STUDY MEETINGS' – 15TH MAY (BALLINASLOE) & 16TH MAY (DONEGAL)

The Western Development Commission (WDC) commissioned a regional renewable energy analysis on the use of biomass as a local contribution to the national renewable heat target and develop a range of actions to support the development of renewable energy in the region under the Action Plan for Jobs. The aim of this study is to inform how the WDC can support and develop biomass use in the Western region. This study is now complete and RE:HEAT will present their findings on Tuesday 15th & Wednesday 16th May.

If you would like more information on this, and are interested in attending, please contact TomasMahon@wdc.ie or PaulineLeonard@wdc.ie

'LOCAL OPPORTUNITIES THROUGH NORDIC COOPERATION' – 24TH MAY 2018 IN THURSO, SCOTLAND

On behalf of the GREBE project, the Environment Research Institute kindly invites you to attend the [Local Opportunities through Nordic Cooperation Conference](#). The conference will highlight the impact and opportunities of existing collaborative work. The free event will focus on existing projects which have worked to use and maintain local, natural resources in a sustainable way, to benefit local regions.

- **IMPACT:** The conference will showcase how cooperation with Nordic regions has resulted in positive impacts and opportunities in the North of Scotland.
- **OPPORTUNITIES:** This event will feature projects funded through the EU's Northern Periphery and Arctic Programme, and will demonstrate how this funding has resulted in real world impacts within remote and rural areas.
- **NETWORKING:** It will also allow networking with Scottish, Irish and Nordic organisations, to identify existing resources and future collaborative opportunities.
- Projects featured will include: GREBE, LECO, FREED, SECURE, SHAPE, FOBIA, RECENT, Circular Ocean, REGINA, APP4SEA.

Date: Thursday May 24th 2018
Location: North Highland College UHI, Thurso
Attendance: Free of charge

TO REGISTER OR FOR MORE DETAILS CONTACT:
E: DESISLAVA.TODIROVA@UHI.AC.UK P: 01847 889 597

'ACTION RENEWABLES GREBE CONFERENCE' - THURSDAY 21ST JUNE 2018 IN BELFAST, NORTHERN IRELAND

Action Renewables is hosting a GREBE Conference on 21st June 2018 in Belfast. The Conference aims to showcase policy in 7 EU Renewable Energy Projects in Northern Ireland with a particular focus on the GREBE EU Project. Guest speakers will demonstrate the most recent developments in Renewable Energy Technologies. An outline on how the GREBE project has identified elements of good policy which could be applied to Northern Ireland. GREBE Presentations will include:

- Pauline Leonard, Western Development Commission Lead Partner, will disseminate the overall results and impact of the GREBE EU project across the region.
- Roisin Deery, Action Renewables, will present GREBE Policy findings across the regions.
- Una Porteous, Fermanagh & Omagh District Council will provide an overview on the success of the SME mentoring scheme throughout all the partners regions in ROI, NI, Scotland, Finland and Iceland.

The second part of the Conference will showcase other EU Renewable Energy Projects currently running in Northern Ireland: RECENT, SEAFUEL, REDAWN, SPIRE2, GENCOMM and Renewable Engine.

If you are interested in attending this event, please contact Ian Gordon at ian.gordon@actionrenewables.co.uk



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About GREBE

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.

Project Partners

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

