



Renewable Energy Regions

4th Newsletter

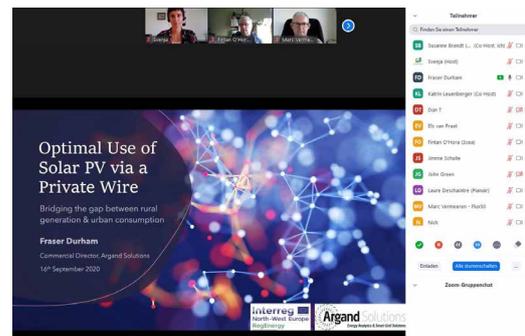


5th RegEnergy Project Meeting

Green Electricity

From 15 – 17 September the 5th RegEnergy project meeting took place virtually in Plymouth, England (due to the ongoing pandemic). More than 30 partners and friends of the project met this time to explore deep the issues of green electricity procurement, infrastructure problems and the creation and future of energy communities.

Fraser Durham of Argand Solutions presented the exciting local project of the Creamcombe Solar Farm located close to Plymouth. The aim of Argand Solutions' study is to optimally combine the rural green energy generation of the farm with the urban demand from Plymouth City Council buildings in Plymouth. A first result of the study showed that the energy generation and demand match up nicely in the summer months. However, a mismatch in peak demand/generation power was identified, which in turn raised the question of whether to invest in energy storage. However, as Fraser Durham pointed out, at this stage it is unfortunately not financially viable to rely on the savings and the benefits of balancing urban demand and rural production through a battery energy storage system.



Then Dr. John Green gave an insightful presentation about the procurement of green electricity from the point of view of a local authority. He presented options and discussed problems and possible solutions. Besides reducing consumption and improving the building fabric, a direct wire with a new construction, REGOs, a Contract for Difference or Green Gas, he presented the option of a sleeved Power Purchase Agreement. Here a generator enters into an agreement to supply electricity over the distribution network. This allows supporting a specific

Would you like to learn more about Green Electricity?

John Green
Plymouth City Council

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project, though not necessarily a new project.

Finally Alistair Macpherson (Plymouth Energy Community PEC) provided a very interesting update on community energy organisations and presented the general framework for setting up a community energy (CE) organisation. Usually a group of people with a will to change get together to realise a renewable energy project. The local authority took the lead in helping to set up a CE organisation, PEC, which is managed by the community.



Its mission is to bring to bring local people and organisations together to tackle fuel poverty and the climate crisis as well as to increase local ownership. According to Alistair MacPherson, the recipe for success in the cooperation between a municipality and an energy community lies in a good relationship of trust. In Plymouth, this has been achieved, but this relationship must always be maintained.

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Web meeting

Procuring Green Electricity

As the majority of RE electricity is generated in rural areas while the main demand is located in (sub-) urban and industrial areas, it is useful to match supply and demand. To do so questions like “Is the tariff green?”, “How much energy is needed, how much can be supplied?” and “What to do if locally generated RE is not available?” need to be answered.

To encounter these issues, Plymouth City Council (PCC) investigated and assessed the various options for procuring renewable energy:





Option 1:

Reduce Consumption - Improve Building Fabric

Plymouth City Council's estate is large, old, costly to run and inefficient. Currently the top ten biggest sites (excluding street lighting) in Plymouth account for approximately 75% of the electricity consumption. Improved energy efficiency can help to protect the Council from high bills and reduces the environmental impact.

- + Lower energy needs, reducing annual energy bills and protection from energy price increases
- + Lifetime payback through energy savings
- Difficulty to predict future employee working patterns
- High costs for retrofitting entire buildings
- Implementation takes a long time
- There will still be emissions resulting from the remaining energy consumed



COSTS

Costs vary according to the scope of the audit, from a simple audit to a detailed one per building.

The investment costs can be amortised in the long term through lower energy costs.



Option 2: **REGOs**

In the UK, the system of “RE guarantee of origin” (REGO in UK) is currently in place which certifies electricity generated from RE sources. A Guarantee of Origin (GO) certificate is an instrument defined in EU legislation that certifies that electricity generated is from renewable energy sources 1 GO = 1 MWh of electricity from renewable energy. A customer can thus buy 100 % “green tariffs” from suppliers.

- + Low cost
- + Certificates to demonstrate supply matching our demand
- + Easy to explain

- Low demand for REGOs means their purchase is widely considered to be accounting exercise, providing no additionality (i.e. buying REGOs does not lead to new renewable energy generation)
- There will be times of the day/year when generation from renewables does not match the implied demand (i.e. the demand from organisations stating that they purchase green electricity will be greater than supply at certain times)

COSTS

The costs are low, approximately €0.5 per REGO.



Option 3

Direct Wire With New Construction

PCC could invest in a large scale renewable energy project on its own land, perhaps supplying electricity directly to buildings on the site - e.g. a solar farm at Chelson Meadow next to a recycling.

- + Supports a specific project, ensuring additionality
 - + The carbon emission reductions achieved are clearer to communicate than where electricity is sourced from the grid
 - + On-site demand for electricity behind the electricity meter reduces network fees and charges, which improves the economics of the project
 - + There may be opportunities to export electricity from the site for sale either to electricity suppliers, or for our own consumption in other buildings, either through a sleeved Power Purchase Agreement (PPA) or other contract
-
- High cost
 - Difficult to achieve due to land availability and constraints near to existing demand
 - It is likely that any investment will take several years to implement



COSTS

Very dependent upon the site, scale and technology used.

A sleeved PPA could be used to enable other PCC buildings to purchase the electricity exported from the site, with a fee for supply to other sites over the distribution network.



Option 4

Sleeved PPA

A sleeved Power Purchase Agreement (PPA) is where a generator enters into an agreement to supply electricity over the distribution network. The generator agrees the PPA contract with a licenced supplier, with terms of the contract mirroring the terms that PCC has with the supplier.

- + Supports a specific project, though not necessarily a new project
- + Half-hourly balancing of supply with demand can be demonstrated for some of the time
- Not clear whether there is additionality in cases where the project is already generating and perhaps even receiving a Feed-in-Tariff



COSTS

Where supply and demand are not matched on half-hourly basis, an additional balancing fee is paid to supplier.

An additional cost above the price that is being paid for grid electricity, at a rate to be agreed driven by the requirements for a specific technology type, new or existing build, length of contract and pricing structure.

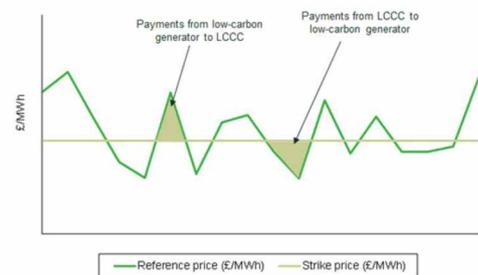


Option 5

Contract for Difference

Contracts for Difference (CfD) can be structured as a pure financial instrument. It can serve to smooth changes to components of the long term electricity price. A strike price is agreed, with payments being made between the buyer and seller dependent upon the difference between this strike price and the market price for electricity

- + Provides certainty in the long term (e.g. 15 years) for some component of the electricity price
- + Ensures that there is additionality if it leads to a new project being constructed
- It is not easy to explain a CfD to the public
- It does not in itself require generation from renewable energy, nor a new project



COSTS

It could reduce long term costs for electricity.

Forecast in UK is for wholesale component of electricity prices to remain constant or even fall.

Source: Oxaera.



Option 6

Green Gas

Green gas is made from biodegradable materials, is renewable & virtually carbon neutral

- + The Green Gas Certification Scheme (GGCS) tracks green gas through the supply chain
- + It tracks the contractual flows via Renewable Gas Guarantees of Origin (RGGOs)
- + Each unit of green gas injected into the grid receives a RGGO and displaces a unit of conventional
- + Provides a way to secure a carbon neutral gas supply
- Some suppliers only match a percentage of demand with supply and use carbon offsets for the remainder
- Sustainability of the source material is not made clear when purchasing RGGOs

COSTS

The costs vary significantly due to the emerging nature of the market.

Would you like to learn more about the procurement of green electricity?

John Green
Plymouth City Council
john.green@plymouth.gov.uk





Events

Online seminar | 9 July 2020

Future Energy Sharing, Communities and the Cloud: Irish & EU Perspectives

This seminar explored elements of the EU's Clean Energy Package (CEP) and the initiatives set up as part of that, such as the Renewable Energy Directive and the Internal Electricity Market Directive, what they mean for the Smart Grid of the future, how prosumers can be at the heart of it as well as looking at developments in some EU jurisdictions to date.

Speakers:

Frederik Loeckx, Flux50, Belgium

Jonathan Sandham, SANDHAM CONSULTING LIMITED, Ireland

Sean Lyons, Waterford Institute of Technology, Ireland

Missed the webinar and want to learn more?

Find the recording [here](#)

Find the presentations [here](#)

Online seminar | 16 September 2020

Procuring Green Electricity

This session compared the various green electricity offers, highlighting their benefits and the issues around which buyers should be made aware. It also explored the use of Contracts for Difference arrangements to support new renewable energy projects, along with a discussion of procurement arrangements.

Speaker:

Dr. John Green, Plymouth City Council, United Kingdom





**Climate Alliance
Digital Days**
**LOCAL SOLUTIONS
TOWARDS A GREEN
RECOVERY**

online from 6–9 October | #CADigitalDays

Online workshop | 6 October 2020

Climate Alliance Digital Days

Urban-rural partnerships – Key to the energy transition

A greener Europe means that local and regional authorities will have to increase the share of renewables in their production and consumption mix. This workshop explored how they can join forces with rural communities to create renewable energy partnerships, helping cities meet demand for renewables from reliable, regional supplies while strengthening economic resilience in rural communities.

Speakers:

Anne-Marie Cabon, Brest métropole, France

Dr. John Green, Plymouth City Council, United Kingdom

Katrin Leuenberger, Infrastruktur & Umwelt, Darmstadt and Potsdam, Germany

Missed the webinar and want to learn more?

Find the presentations [here](#)

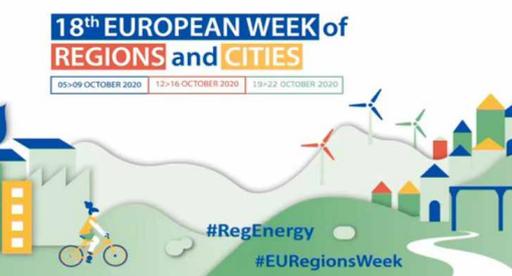
Online workshop | 15 October 2020

EURegionsWeek

Partnerships for Renewable Energy Regions

The RegEnergy Workshop “Partnerships for Renewable Energy Regions” explored how regions and cities can join forces with rural communities to create renewable energy partnerships. Such partnerships help cities meet their demand for renewable energy from reliable regional supplies while strengthening the economic resilience of rural communities.

Frederik Loeckx (Flux50, Belgium) and Paddy Phelan (3 Counties Energy Agency, Ireland) explained the legal framework and gave insights in the paths towards a supporting EU legislative. Anne-Marie Cabon (Brest





métropole, France), Els van Praet (Ecopower, Belgium) and Ivanka Pandelieva-Dimova (Sofia Energy Centre, Bulgaria) then shared best-practice examples from North and Eastern Europe and shed light on how to overcome regulatory and other barriers.

Speakers:

Frederik Loeckx, Flux50, Belgium

Anne-Marie Cabon, Brest métropole, France

Ivanka Pandelieva-Dimova, Sofia Energy Centre, Bulgaria

Paddy Phelan, 3 Counties Energy Agency, Ireland

Els van Praet, Ecopower, Belgium

Missed the webinar and want to learn more?

Find the recording here: [EU Regions Week 2020](#)

Internal online workshop | 30 November 2020

CO₂-Monitoring - rough concept for an analysis of regional renewable energies potential

The session presented the Climate Protection Planner, a widespread municipal CO₂ monitoring tool in Germany which measures the reduction of CO₂ / greenhouse gas emissions on a yearly basis according to a standardized approach for municipalities. Focus was placed on the planned application which should make regional expansion potentials for renewable energies (RE) transparent. The objective is to create an application which visualizes different regional (spatial) scenarios. This shall support climate protection / energy managers and decision-makers to stimulate discussions and exchange processes within regions, to create synergies between urbanized and surrounding rural territories, and if necessary, make municipal or regional decisions for the further expansion of RE.

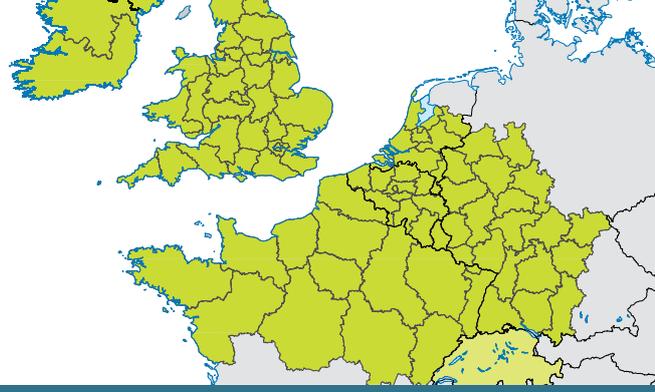
Speakers:

Edgar Bazing, Climate Alliance, Germany

Carsten Kuhn, Climate Alliance, Germany

Would you like to learn more about the RegEnergy events?

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Facts & Figures

The Partnership

Climate Alliance (Lead Partner, DE)
Brest metropole (FR)
Flux 50 (BE)
Plymouth City Council (UK)
Waterstromen (NL)
3 Counties Energy Agency (IE)
Planair (CH)
Waterford Institute of Technology (IE)
Ormonde Upgrading Limited (IE)

Upcoming Events

**MIDTERM CONFERENCE &
6TH WORKING GROUP MEETING**
19 – 21 May 2021
Brest métropole
Brest, France

Project Facts

Duration:
October 2018 – September 2022

Funding:
€11.08 million total project funding
€6.1 million funded via ERDF

Contact

Climate Alliance

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