Biogas Action: Objectives and results

Unlocking the potential of biogas for Cities and Regions

CoM Webinar
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Biogas deserve to be supported, but how?

- Biogas imply multiple benefits to society, but there are many barriers to harvest the full potential
- The challenge of exploiting biogas potentials is diverse and require a differentiated set of approaches
- Fortunately, the EU Commission (INEA) and H2020 is ready to help enabling such support!
- Biogas Action has comprised a team of partners motivated to pave way for accelerating sustainable biogas utilisation in Europe

Showing the way

- Giving directions and guidance for biogas development with focus on the regional level
- Exploring and demonstrating how to overcome technical and non-technical barriers for sustainable biogas utilisation
OBJECTIVES – PROJECT STRUCTURE

Tools and guidelines for biogas sector development

Intervention in target regions
Auvergne Rhône-Alpes and Bretagne of France, Wales/UK, Croatia, Czech Republic, Netherlands, Denmark, Latvia and South East Sweden

Replication and dissemination

Project number: 691755
Project period: From 01/01/2016 to 31/12/2018
Website: http://biogasaction.eu
Compilation of reports and tools for regional biogas deployment

- Overview of numerous European projects, national tools and biogas plant success stories
- Detailed description on: particular tools, proven results and outcomes, boundary conditions and limitations of the tool’s applications, geographical scope, target audience, list of the project partners
- Detailed description on: information on investors, investment and operational support and conditions, substrates used and energy provided, digestate usage, involvement of the region
Tools for biogas sector development (cont’d)

- Brochure on 10 successful biogas plants
- Data bank of existing incentives
- Comprehensive guidelines for biogas development
Tools for biogas sector development

- Identify and disseminate proven support strategies and guidelines in order to fulfil the potential for biogas and biomethane development in Europe

Tools compilation ➔ Interactive tool for development of a biogas project

Discover the best-fitting tools available to develop your project

Make use of the extensive Biogas Action database, providing existing tools and guidelines for biogas promotion in Europe to boost the development of your operating biogas plant or to find answers for your planned biogas project.

Navigate using numerous filters such as language, substrate, output, type of support and plant size. Find additional information and explanations (policy, technical, market, training and education) suitable for your expected application. The tools available include EU projects, national and regional projects, success stories, policy/legislation documents, maps, software, videos and more.

Find your optimal biogas project set-up!

This online tool will allow you to discover successful biogas installations across Europe and find the perfect match for your own local conditions. Make use of the Biogas Action toolbox. You can navigate between different plant categories based on the main substrate use, the production type and received support.

Information about the legal backgrounds of each European country and their influence on the development of the national biogas industry, along with NREAP targets tracking, are available.

Tool online http://tool.biogasaction.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691755.
Intervention in target regions

• Define and implement a specific biogas/biomethane intervention strategy in each target country/region aiming to boost the biogas development in the intervention regions/countries
  o Institutional-building of the key stakeholders
  o Strengthening the biogas sector framework
  o Optimising business models and financing of biogas projects
  o Optimizing biogas production
  o Assistance on specific high quality biogas project development

Accomplished

✓ Analytic reports on the intervention
✓ Dissemination oriented material on the achievements
✓ Five case studies per regions

Future prospects

✓ Ongoing work on shaping conclusions and recommendations for a future effort

http://biogasaction.eu/regional-biogas-development/country-profiles
Biogas Action in France
Auvergne-Rhône-Alpes

The starting point (2016);
Special development on biomethane with gas grid injection
Substrats available in farms and water treatment plant
Grid constraints restricting opportunities

The Chosen Route for Biogas Action;
Biomethane production from farms and local authorities
Innovations on biomethane (BioNGV, injection for smaller productions)
Message: Biogas/biomethane as source of economic development
Find solutions to produce and use biomethane as local resource

What has been achieved?
French Government changed the regulation.
Guideline on bioNGV refuelling station owned by farmers
Guideline on guaranties of origin of biomethane for Local Authorities
Support for project owned by 40 farmers->325 Nm3/h biomethane

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Biogas Action in West France (Bretagne – Pays de la Loire)

The starting point (2016);
- Biogas sector has been growing in a linear way since 2006 (FiT) but challenges a stand-by with negotiations for a new support mechanism
- Significant number of AD plants, especially farm-scale based on co-digestion
- Slight development of biomethane injection

The Chosen Route for Biogas Action
- Set up a clear framework and rally public/private stakeholder
- Support innovative ways of biogas recovery: bioCH4 injection; mobility, gas collecting..
- Skill and quality arising to set up a favourable context for social acceptability

What has been achieved?
- Biomethane sector has been taken off
- Trainings and educational are being harmonised (on progress) alike the building standards are being set up

BUT…. There is still work to be done for insure public acceptance!
Biogas Action in the Czech Republic

**The starting point (2016);**
- 554 plants (360 MW installed); 25% of RES production
- NREAP reached; support scheme stopped in 2013
- No national or regional plan for further development
- Advanced biogas R&D

**The Chosen Route for Biogas Action;**
- Building a suitable communication platform
- Effective heat use
- To introduce the issues of biomethane
- National biomethane register
- Inicialize new projects – optimizing business models, financing and efficiency

**What has been achieved?**
Enhanced awareness of biomethane production in general
New support scheme is being prepared for biomethane – CoO
Helping new projects – biomethane and effective heat use
The starting point (2016);
• Significant growth in AD over recent years but a large number of plants based on energy crops
• Fiscal support for AD collapsing
• Grid constraints restricting opportunities

The Chosen Route for Biogas Action;
• Agricultural waste as feedstock with a major emphasis on the holistic benefits of digesting slurry and litter
• Convince decision makers of the merits
• Seek fiscal support for on-farm waste based AD (based on more than energy)
• Find solutions that reduce the cost of digesting animal wastes

What has been achieved?
Welsh Government has moved a long way and SWEA hopeful. Pilot scheme involving slurry tank conversion highly likely to proceed. UK is “watching Wales”
The starting point (2016);
• Change from feed-in system to market premium – Law is still pending for adoption
• Lack of system approach to development of biogas market
• Biogas used for electricity only, based largely on energy crops

The Chosen Route for Biogas Action:
• Interventions in legal framework: new Law on RES, digestate, grid balancing, fee
• Raising knowledge on AD at public sector (decision makers and officers)
• Development of future biogas market:
  - On farm biogas plants
  - Expanding waste management companies to waste-to-energy
  - Including CO2 emitters in biogas (industry)

What has been achieved?
Biogas Action provided background material for developing Energy Strategy in Croatia (biogas for electricity and biometane for transport) as well as in Rural Development Measures.
# Biogas Action in the Netherlands

## The starting point (2016);
- Difficult business case for co-digesters due to high feedstock prizes and low electricity prices and no heat valorization
- 110 co-digesters and 5 mono-digesters
- Only 40-50% of the initiatives with funding realized their project

## The Chosen Route for Biogas Action
- Better utilized the available funding using
- Get better legal framework for biogas and upgrading
- Support new business model development
  - Manure treatment, Biogas Hub, Biomethane

## What has been achieved?
- Better legal framework
- Industry standards for biogas installations
- 29 supported projects, 5 successful plants in operation, 13 plants planned production within 2 years
- Increased production of 7000 toe/yr
- Emissions saving 18,000 ton CO₂ eq/yr
Biogas Action in Latvia

The starting point (2016);
• A lot of changes in the country’s legislation have led to major uncertainty about new investments in the biogas market in the future. Government support for renewable energy production is on the decline in Latvia; thus, there is very little interest in developing new biogas projects.
• The general public tends to perceive electricity generation from RES, including biogas, with a great dose of scepticism.

The Chosen Route for Biogas Action;
• To motivate local municipalities to cooperate with local biogas operators and to search for mutual benefits in biogas production.
• To include the biogas sector in the municipal sustainable energy action plans for the next seven years.
• To promote biomethan as a potential way of reaching transport energy targets.

What has been achieved?
• Cooperation and local support activities has been included in 16 local SEAPs.
• Discussion of biomethan potential has been started at governmental level.
• Biogas promoted as a sustainable system of waste utilization and energy production.
Biogas Action in Denmark

Situation of the biogas sector

• Due to favourable conditions biogas is experiencing a booming development
• A key trend is to upgrade biogas for the national gas network
• The booming development has created a new situation where bigger players have entered the market and the biogas sector is undergoing organisational changes accordingly
• There are yet considerable biogas potentials and the challenge is to find the most ‘clever’ ways to exploit those
• Danish regions and cities are positive to seek exploiting these potentials and the current focus is on household waste

Main achievements and lessons learned of the Biogas Action intervention

• Different networks related to biogas have been established. This goes for network between educational institutions, network between municipalities, network between operators aiming to optimise the operation of the plants and a network between boards. The networks have explored new ways of working together and finding new opportunities - it is all about trust and showing that you are able to perform!
• Tools for modelling biogas plants are challenging to use – you need to combine them with experience numbers from plans in operation. It can be difficult to get the figures – you need a very good network
• A linked initiative has been to identify opportunities for joining forces of educational institutions to improve the training for the biogas industry, resulting in a vocational and a diploma education fitted to the biogas business
• Biogas business is unpredictable. From the beginning of the project, we had ideas on which projects to assist but this changed during the project and new possibilities showed up. We have to be ready for new solutions!
Biogas Action in Sweden

The starting point (2016)
- Growing interest in biomethane due to successful investments in recent years & ambitious goals.
- Many farmers wish to start to produce biomethane from manure due to big environmental benefits but market for compressed biogas not big enough. Electricity and heating not an option.

The Chosen Route for Biogas Action
- Input to regional, national strategies as well as European directives.
- Cooperation with existing and new regional partners. Exchange of experiences and ideas
- Pre-studies, roadmaps, workshops and seminars

What has been achieved?
- Biomethane in public procurement of buses in Kalmar County. Result 65 % or 54GWh biomethane per yr. 75 % reduction of CO$_2$-emissions.
- New production of in total 187 GWh biomethane/yr planned. One plant 7 GWh/yr under construction; Letter of Intent for a LBG-plant of 120 GWh/yr; third plant (60GWh) investigated
- 20 M€ from Swedish Government to LBG due to road map from RFKL, Swedish Gas Ass & ESS
Replicate project partners’ experience to other project developers outside the BiogasAction consortium

- Open call at EU level (April-July 2017) and selection based on list of criteria
- Bi-lateral exchanges with 11 developing partners (2x 2 days face to face and participation in final conference) almost accomplished
- Reporting and evaluation of the replication effort

“Developing partners” outside the consortium chosen through open call and pairs agreed with PPs
Dissemination and Communication

Website

Social Media

#BiogasAction

www.BiogasAction.eu

Regional dissemination

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What did BiogasAction achieve?

• BiogasAction has been a journey where 9 regions worked on improving multiple aspects to pave the way for sustainable biogas utilisation and exchanged experiences underway.

• This was guided by the Toolbox compiled by EBA that enables using results of numerous EU projects in a structured manner.

• BiogasAction has given ‘hardcore’ results in form of supporting new high-quality biogas plants on the ground. We triggered around double the investments and CO2 savings than the target of the contract.

• BiogasAction has given numerous other results ranging from engaging national and local authorities, improving public acceptance, building capacities of stakeholders and integrating biogas in the regional/local planning process (as this webinar will show examples of).

• Much more information on the BiogasAction achievements and recommendations can be found in the project’s Final Booklet.

http://biogasaction.eu/the-biogasaction-final-booklet-has-been-released/
Thank you for attention!

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Partners

- AILE
  Local Energy Agency of Western France

- Ekodoma
  Latvia

- GBA
  Czech Biogas Association
  Czech Republic

- energikontor sydost
  Energy Agency for Southeast Sweden
  ESS | Sweden

- Cornelissen Consulting Services
  CCS Energy advice | Netherlands

- Fedarene
  Belgium

- Danish Technology Centre for Biogas

- The International Biogas and Bioenergy Centre of Competence
  IBBK | Germany

- European Biogas Association
  EBA | Belgium

- Rônalpénérige-Environnement
  RAEE | France

- Energy Institute Hrvoje Pozar

- Severn Wye Energy Agency
  SWEA | United Kingdom