



## Minutes - Peer Learning Workshop (PWS2)

### *Business models and financial tools*

| London 07.12.2017

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#### TARGETS AND WORKSHOP DESIGN

*Project partners will be able to learn from each other through peer learning activities and thus strengthen their capacities required for the implementation of the collaboration models.*

*The workshop focused on one of the three competence areas proposed by project partners for peer learning activities: Institutional building, **business models and financial tools**, advanced biogas/biomethane applications.*

*PWS2 was organized by **Arthur Wellinger from EBA** in close coordination with RAEE (WPL) and other experienced partners.*

*The peer learning workshop provides concrete examples and testimonies from experienced partners, it highlighted local initiatives and needs, it provides information about the tools and methodologies available and it allows project partners to share success factors and transferability conditions based on concrete experiences.*



## Introduction and welcome: Arthur Wellinger – EBA

2<sup>nd</sup> peer learning workshop dedicated to Business models and financial tools

This peer learning workshop aims at:

- providing concrete examples and testimonies from experienced partners,
- sharing local initiatives and needs,
- providing information about the tools and methodologies available,
- sharing success factors and transferability conditions.

## 1. Introduction of business models and financials tools

### ➤ Lessons learnt from Biogas projects about business models and financial tools

Valérie Borrioni – RAEE ([ppt](#))

Valérie provided an overview of the lessons learnt from former biogas European projects (Biogas Regions, Biomethane Regions...)

State of departure: French model built on waste treatment (with gate fee), energy efficiency (heat used) and manure, no energy crops, includes subsidies at regional level

Lessons for plants in operation: the business model in a farm with a small CHP plant <200 kWé is quite operational now.

The model has to be adjusted §.





Fore biomethane, there is a new market of guaranty of origin and a strong demand for the transport sector.

Farmers are more interested by the production of biomethane and much less interested by CHP plants.

The regulation framework changed in 2016 and new business models are to be developed.

### Lessons learned

- **New business model : in development**
  - - - CHP > 500 kWé -> market without feed in tariff : most of project in farms are reduced in size (< 500 kWé) or turned into gas grid injection
  - + Energy crops are OK if <15%
  - + Gas grid injection for project > 60 Nm3h
    - the feed in tariff quite profitable : but need subsidies for territorial plants
  - - - - Lack of subsidies in my region

- **Different types of business models and financial tools for biogas projects, including example calculations based on former biogas projects (BiogasIn, FABbiogas)**  
Arthur Wellinger - EBA ([ppt](#))

Arthur has presented different interesting tools developed in former IEE projects since 2008, such as:

- **Guidelines and Handbook (BiogasIn, GreenGasGrid, FABBiogas)**
  - Highlights of biogas and land use in 28 target regions
  - Capacity building for administrative bodies
  - Development of biomethane feed-in projects (Aspects of management, technology and project financing)
  - Assessment of biogas production from FAB waste in partners countries (*from the FAB biogas project, available in 6 languages EN, CZ, PL, IT, FR, DE*)
- **SWOT Analysis (Alternative ways of biomethane production; GGG)**
- **Cost-Energy Models – Calculation tools:**
  - General planning and building tool (Big East)
  - Online feasibility calculator (Bio Energy Farm: *very simple and efficient tool but not transparent*)
  - **Cost of Renewable Energy** (NREL, USA)
  - **Biomethane calculation tools** (BiogasMax)
  - **KTBL biogas calculator** (*in German only, cost calculation limited to Germany EEG (FiT)*)

## 2. Best practice examples from European regions

- **Adeline Haumont – AILE ([ppt](#))**

Adeline has presented a project called “AGRIBIOMETHANE” managed by a group of 10 farmers.

A biogas plant operating since 2014, collecting slurry and vegetables from 4 farms.

Biomethane injection: 90 m<sup>3</sup>/h into the gas grid of the town of Mortagne-sur-Sèvre in the Vendée « Département », Pays de la Loire region, France.

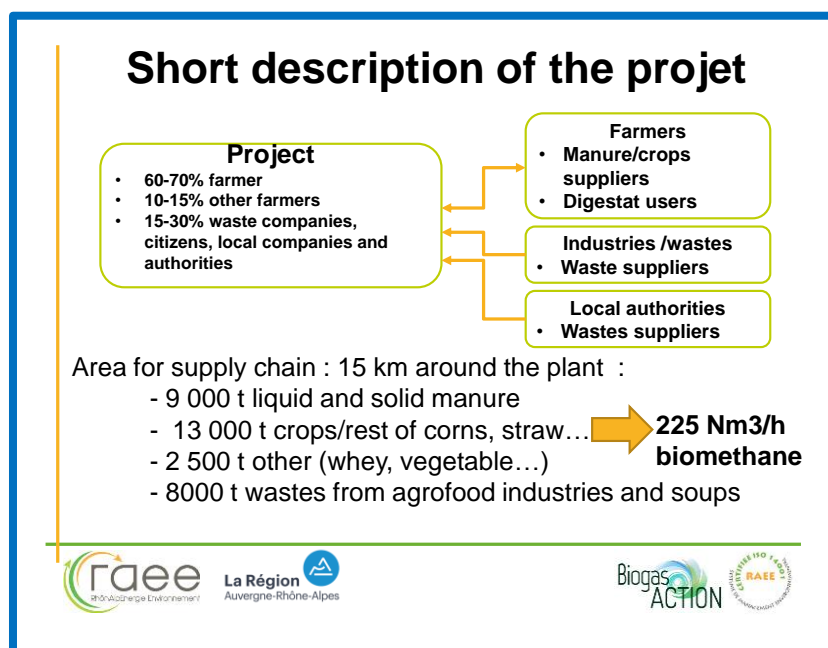
What is highlighted is that the project benefits from a very good team building, good communication and public acceptance. Also the team plans to develop a biofuel station in 2017. It will be the first one in France.



➤ **Valérie Borroni – RAEE (ppt)**

Valérie has presented a project called “AGRO-METHA”, situated in the municipality of Eyzin Pinet, in the Isère “Département”, Auvergne Rhône-Alpes region, France.

The project owner, a farmer, wants to build an anaerobic digestion plant in order to produce biomethane and inject it into the grid. He’s aiming at producing fuel at the scale of his territory, to serve farmers, neighbors, local businesses and the local authority.



The project has 2 scenarios: the first one with biomethane transportation by trucks to a gas grid injection point (because of the lack of grid in the municipality) and the second one with direct gas grid injection (more profitable) possible since the new ordinance of May 2016.

RAEE is a member of the steering committee of the project and gives advises on numerous aspects: strategy, draft of documents for public financiers etc....

➤ **Andy Bull – SWEA ([ppt](#))**

Andy has presented an opportunity study for a potential project in a large estate which includes 175 hectares of land that is used for a music festival and other events. The grass is cut and dumped in the woods!

SWEA recommended a digester with 350 kW CHP engine. The feedstock would have been grass silage and cattle manure.

The owner liked the idea of AD so much that the project expanded. The proposal moved to around 2 MW, changed sites, incorporated gas-to-grid and, of course, required the growing of large volumes of energy crops and increased cost.



Several years later and following the input of a lot of time and finance by the Welsh Government, the estate decided not to proceed.

### 3. Interactive Working groups

#### Aim

Analyze and define what partners need to develop and implement their institutional building activities.

Design Group Work:

PPs split into 2 groups – Each group was moderated by EBA (Jan and Arthur). The following questions were discussed by the groups and listed on a flip chart:

Questions discussed within the groups:

#### *Moderator 1*

- 1- Was the foregoing of the projects presented adequate?
- 2- Were preliminary assumption correct?

#### *Moderator 2*

- 3- Were the tools and models applied accepted? Did they support decision?
- 4- What were the major obstacles and how did you (try to) solve it?
- 5- Possible improvements



In half-time the groups changed place to discuss the other questions (moderators stayed the same)

### Feedback from working groups

- **Regarding Project n°1 “Agro-Metha”**

A remark from the group

Not so much logic between the location of the plant and the feed stock, and the location is far away from the grid (5km). Collecting waste within 20 km in the region. Why not pick up the plant and build it where the grid is? The transportation won't change and we will cut the costs. Switch the plant to the pipe line.

Valérie: the main problem is the public acceptance (location of the plant), there is a plant for composting, the project has to be situated near the plant, far away from local housing.

The investment cost of the biogas pipe line could have been avoided. Valérie imagines that the local authority in charge of energy distribution could pay this part of investment.

- **Regarding Project n°2 “Glanusk Estate”**

It is a pity that the project expanded due to the intervention of a biogas expert who advised the project owner to go for bigger, and finally grew too big and was abandoned.

And now they are still throwing all the grass in the wood (which causes GHG emissions).

Jacob: in Denmark, we hire developers for the first steps with a clear contract. Once the first study is carried out, we work continues with another developer (new eye to the project).

- **What do we learn in general?**

- Involving local authorities, elected representatives and neighborhood as much as possible, as they often play an important role in the development of the projects
- Stakeholders are important: who are they? Identify them, see what their needs are. Important to understand “who has to talk to whom?”
- The approach becomes more and more important
- Identifying convincing arguments: creation of jobs, gas emissions, money and ecological consideration...
- The use of existing communication tools and calculation tools developed within former projects are highly recommended

**List of Participants**

No	Participant organisation name	Name of delegate
1	EC Network (ECNet)	Nils Daugaard
2	European Biogas Association (EBA)	Jan Stambasky Arthur Wellinger
3	Danish Technology Centre for Biogas (DFFB)	Jakob Lorenzen
4	Rhônealpiénergie-Environnement (RAEE)	Valérie Borroni Marina Naït
5	Cornelissen Consulting Services (CCS)	Jan Willem Bijnagte
6	The International Biogas and Bioenergy Centre of Competence (IBBK)	N/A (no participation in this meeting)
7	Fedarene	Filip Dumitriu
8	Ekodoma	Liga Poznaka
9	Czech Biogas Association (CzBA)	Lada Uskobova
10	Energy Institute HrvojePozar (EIHP)	Biljana Kulišić
11	Severn Wye Energy Agency (SWEA)	Andy Bull Margaret Keville Rachel Smith
12	Association d'Initiatives Locales pour l'Energie et l'Environnement (AILE)	Adeline Haumont
13	Energy Agency for Southeast Sweden (ESS)	Hannele Johansson