



Increasing Social Awareness and ACceptance of biogas and biomethane

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INTRODUCTION

Although Italy is the second European biogas producer after Germany, counting more than 1650 plants and a total installed capacity of around 1400 MWe¹ [1], and has still a great potential for biogas production and market expansion, there are some non-technical barriers that prevent it from a more widespread diffusion.

THE ISAAC PROJECT

ISAAC ("Increasing Social Awareness and ACceptance of biogas and biomethane") is a project financed by **Horizon 2020** Programme under the Call for Competitive Low-Carbon Energy (topic LCE-14-2015) and coordinated by **Azzeroco2 (01/2016 – 06/2018)** in collaboration with Consiglio Nazionale delle Ricerche, Legambiente, Chimica Verde Bionet and Consorzio Italiano Biogas.

The main aim of ISAAC is to remove non-technical barriers to widespread production and use of biogas/biomethane in Italy.

WHAT ARE THE NON-TECHNICAL BARRIERS

Social	Legislative	Economic
<ul style="list-style-type: none"> • Lack of information among citizens, farmers and breeders • NIMBY Syndrome • Lack of interaction between different stakeholders • Reluctance of farmers, especially in Southern Italy, to cooperate in energy plants management 	<ul style="list-style-type: none"> • Lack of a clear national legislation for grid injection of biomethane and for the use of digestate • Fragmentation and multiplicity of regulatory framework on authorization and installation procedures 	<ul style="list-style-type: none"> • Lack of specific and efficient schemes of financing • Low profitability of small biogas plants and uncertainty about future incentive schemes

HOW TO OVERCOME THEM - THE ISAAC APPROACH

- ❖ **Participatory processes** in two pilot territories (interested in implementing biogas plants)
- ❖ **Information campaigns** in seven Italian regions
- ❖ **Public meetings with experts** for open confrontations

Barrier tackled: *Social*

- ❖ Use of a **calculation tool** for residual biomass availability assessment and biogas/biomethane production potential definition
- ❖ Use of innovative funding schemes (such as **crowdfunding**) to create new opportunities

Barriers tackled: *Social, Economic*

- ❖ **National law proposal** on participation processes related to local energy policies
- ❖ **Technical round tables** for the correct interpretation of the national legislation on themes such as by-products/co-products/waste (not yet fully defined in Italy)
- ❖ **Improvement of the actual Italian regulation** on biomethane use
- ❖ **Training courses** for municipal and regional technicians

Barrier tackled: *Legislative*

- ❖ **Socio-economic study** on the implementation, impacts and acceptability of biogas/biomethane in local areas



FOCUS ON THE CALCULATION TOOL

The calculation tool targets users interested in building biogas or biomethane plants, providing them with useful information, such as the possible plant size and the necessary investment, given available biomass types and quantities as inputs (i.e. a preliminary feasibility study).

Integration among different biomass sources is allowed to reach the minimum facility dimension needed.



OVERCOMING FRAGMENTATION

The tool will be applied in the selected areas of the project (Fig. 1).

- ❑ Information collected on these areas (exploitable biomasses, their distribution and quantification) will be used as input to the tool to calculate the biogas potential. Results obtained will be discussed during the awareness events to show to local farmers and stakeholders how a real collaboration can increase their business and maximise economic advantages.
- ❑ Workshops with farmers, breeders, investors and authorities will be held during the awareness events in order to promote biogas as an opportunity for economic development and revenue.



LEGEND
 ★ Pilot territories (participative processes)
 ■ Involved regions (information campaigns)

Fig. 1 - Involved areas

Fostering aggregation

During workshops, interested participants will use the tool with the support of the project partner representatives.

Tab. 1 - Input and output data

Input data	Output data
Plant location, land owner, financing system	Technical: Plant size, electricity (or biomethane) produced per year, area occupied by the plant
Biomass origin (livestock farm, farm, food company, municipal waste collecting company, mix of them)	Economic: Cost of the plant, Net Present Value (NPV) within 15 or 20 years, Pay-Back Time (PBT)
Type and quantity of cattle	Environmental: CO ₂ emissions avoided
Type of crop and size of the cultivated area, amount of biomass per unit of cultivated area	Social: Creation of job opportunities, increase in traffic
Type of industry and process products, amount of biomass per day	
Name of the Municipality (for the number of inhabitants producing OFMSW ¹)	
Distance to the plant	

¹ Organic Fraction Municipal Solid Waste

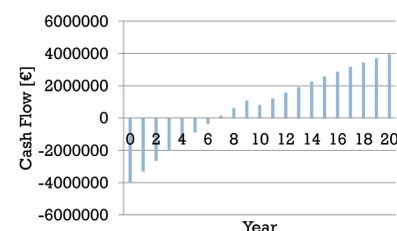


Fig. 2 - Graphic output (example)

In case biomass availability does not reach the minimal quantitative for an economically sustainable investment, individual biomass producers will be encouraged to make agreements and verify the benefits of aggregation with the tool.

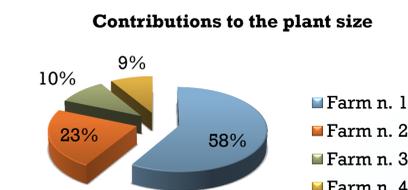


Fig. 3 - Graphic output (example)

EXPECTED RESULTS

- Increased knowledge, among stakeholders, of the social, environmental and economic benefits of biogas and biomethane production
- Increased public acceptance of the plants
- Increased cooperation among farmers and the other stakeholders (around 100 participants and 2 agreements signed, for each workshop)

References

[1] Terna, "Dati statistici sull'energia elettrica in Italia 2014 - Impianti di generazione"

Contact

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