

Deliverable D3.6:

Report on the participatory process in Andria (PP)

<i>Work Package:</i>	<i>WP3 - Overcoming social barriers</i>
<i>Task</i>	<i>WP3.2</i>
<i>Responsible Partner:</i>	<i>Legambiente</i>

Document history

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PREMISE

This work describes the overall activities performed during ISAAC project to overcome social barriers to the biogas penetration.

Initially the project team worked on the definition of a participative process framework model, described in deliverable “D3.1- Participatory process framework model”.

In the following months two participative processes were carried out in 2 pilot territories to promote discussion, information, sharing and co-planning in order to overcome the social conflicts that can arise in occasion of biogas plants, with all stakeholders categories.

The two territories, selected at the beginning of the project, are actually different from the locations indicated on the project proposal. The selection was made on the basis of the lack of biogas plants on the territory and the need for supply chain systems or because of a favourable environment for biogas development.

This deliverable describes the two participative processes in Andria (Puglia) and Arborea (Sardegna) performed during the ISAAC project.

1. THE PARTECIPATORY PROCESS IN ANDRIA

ISAAC partnership decided to realize a participatory process in Andria, in Puglia region (south Italy with a great unexpressed agricultural vocation), due to the fact that a low percentage of municipalities in Puglia region performs separate collection, and the only exception are actually the municipalities in the Andria province, where almost all districts reach the limits set by law with door to door collection. In addition to that, the municipality of Andria has issued a public notice to build a biogas plant to close the organic waste cycle.

In order to receive all information about the project submitted (only one company participated to the call for tenders) and to respect the need of local population to work during summertime (local economy is partially based on the income of the bathing season) the Participation Process in Andria had a delay at the beginning. Partners decided to wait the end of summertime 2017 to really start the process.

In September 2017, the jury of citizens of 20 members (chosen during the previous Spring season by random selection, entailing a stratified sampling of the population of the Andria Municipality) has been re-contacted by phone, to continue the participation process. Unfortunately almost a half of the members declined the invitation due to personal or work reasons.

New members have been involved.

Considering that the involvement of new random selected citizens would have required to start again the process in order to make the new comers up to date, the jury has been completed by representatives named by local associations, active in the field of civic participation and environment.

The following associations named their representatives:

- Ret'Attiva
- Consulta per l'Ambiente
- Italia Nostra
- Legambiente Andria
- Gruppo CON
- Movimento Consumatori

The model of PP chosen by the partners is described in details in D3.1 and D3.4. It is divided into the following phases:

1) A preliminary phase to define of the decision-making context, select the title, interview local experts and observers and map the stakeholders, create documents and leaflets to explain the participatory process.	ended the 28/2/2017
2) An initial phase to involve the stakeholders, share with them the model and the programme of the PP, name a PP Guarantee Committee, create information tools and documents, define the area and the population involved in the PP, appoint the jury of citizens.	ended the 30/4/2017
3) A central phase with 3 open door events, 2 sectorial round tables, meetings of the Jury of Citizens, guided tours of existing biogas plants	ended the 4/4/2018
4) A final phase with the presentation of the conclusion stated by the Jury of Citizens and an evaluation of the PP.	ended the 4/5/2018

1) The preliminary phase:

To define the decision making context and map the stakeholders, we interviewed a wide range of experts and local observers.

Thanks to face-to-face and collective interviews, we prepared a first survey that described the situation about waste management at regional level and the main actors to be involved in the participatory process in Andria.

The main issues are resumed below:

Puglia is not well performing about recycling: at regional level, since only the 36% of waste is separated. But some cities and towns are working progressively better. Andria is one of them, with the 65% of waste that is separated.

Last year in Puglia, the regional administration has established a new law about waste management (L. R. 20/2016). This document re-organises the governance of waste management, creating the Regional Agency for the Waste Cycle Management as main actor that will overcome the difficulties, the delay and the fragmentation of the previous Waste Management Institutions.

One of the main issues the Agency had to face is related to the lack of waste treatment plants, in particular concerning the treatment of the organic fraction. Only 5 plants in the Region treat the organic fraction. All of them run by private companies, located in the following towns:

- Modugno (name of the company: Tersan, 135,000 ton)
- Ginosa (name of the company: Aseco, 80,000 ton)
- Laterza (name of the company: Progeva, 45,000 ton),
- Manduria (name of the company: Eden94, 60,000 ton),
- Lucera (name of the company: Bioecoagrim, 232,000 ton)

Therefore, the Region needs new plants and a series of invitations to tenders is still in place.

Andria local administration already gave his permission to install such a plant within his territory. The local representatives (the Mayor of Andria and the Municipality Councillor in charge of the Environment Sector) underline that a part of Andria's waste has to be sent to a plant located in Pordenone (840 km north), this is one of the important issues that they mentioned to explain the reason of their acceptance of a new plant in their territory.

The main opposition to the idea of a new plant in Andria, as declared by many interviewed observers, is the possibility of bad-smelling. The concern is not about soil consumption, nor about the possible increase of traffic due to waste-trucks. It is more about the decrease of the value of the housing in the area around the site, and, first of all, the potential emission of unpleasant smells.

A very important feedback coming from the interviews is a big lack of knowledge about biogas and bio-methane and a sort of curiosity of people to understand new technologies.

Choice and involvement of interested actors:

The public institutions that by law are involved in the process of installing the new plant in Andria are:

- the Regional Agency for the Waste Cycle Management (Agenzia Territoriale della Regione Puglia per il servizio di gestione dei rifiuti)
- the ARO 2 Barletta- Trani (an Union of 4 Municipalities: Andria, Canosa di Puglia, Minervino Murge e Spinazzola that should have the task of managing the waste service, including sweeping, collecting and transporting urban waste)
- the local administrations (the Municipality Council of the city of Andria and the Province of Barletta-Andria-Trani)
- the Regional Agency for the Environment Protection (ARPA –Puglia)

Information activities:

A leaflet (D3.4) called “Scegliamo insieme lo sviluppo del biometano nei territori- Processo Partecipativo” (together we choose the development of biomethane in the territories – Participatory Process) addressed to the public, was created in order to explain the participatory process rules and objective and to give all information to the local populations.

Web-site and facebook page creation: Consulting local representatives of the civil society, the participatory process has been named “ANDRIA NE PARLA” (Andria speaks about it) and a dedicated web-site and Facebook page have been created: www.andrianeparla.it

<https://www.facebook.com/Andria-ne-parla-1362819823804222/>

The links have been sent to the local organisations, medias, local thematic groups, and online newspapers in order to let them take part to the process.

A dedicated press release informed the population about the starting of the participatory process and called to participation all citizens.

2) The initial phase to involve the stakeholders:

The area to be involved in the process is the Municipality of Andria (100.357 inhabitants, 402,89 Km²).

A first contact with the representatives of all the stakeholders to be involved in the process was set. These actors are informed about the PP model and programme and most of them will be actively involved in the participatory process, with different roles.

Stakeholders from the private sector are still out of the PP, but we count to involve them after the summertime.

The Guarantee Committee (GC) consists of the following members:

Beppe Cacciapaglia	University of Bari - Department of Earth and Geo-environmental Sciences
Lorenzo Angiuli	Chemist and expert in molesting emissions– ARPA Puglia (Regional Agency on Environmental Protection)
Nicola Giorgino	Lawyer, president of the BAT province, mayor of Andria
Michele Lopetuso	Lawyer, Andria’s municipal councillor for Environment, Quality of Life and Sport.
Sergio Piccinini	Chemist, Centro Ricerche Produzioni Animali (Research Centre for animal productions) and CIB – Consorzio Italiano Biogas (Italian Biogas Consortium)
Giuseppe Croce	Philosopher, Legambiente and Chimica Verde Bionet Association
Francesco Petracchini	PhD in Environmental Science, National Research Council (CNR – IIA)
Enrico Giovanni Facci	PhD in renewable energies, AzeroCO2

The GC already selected part of the experts that will be involved in the PP.

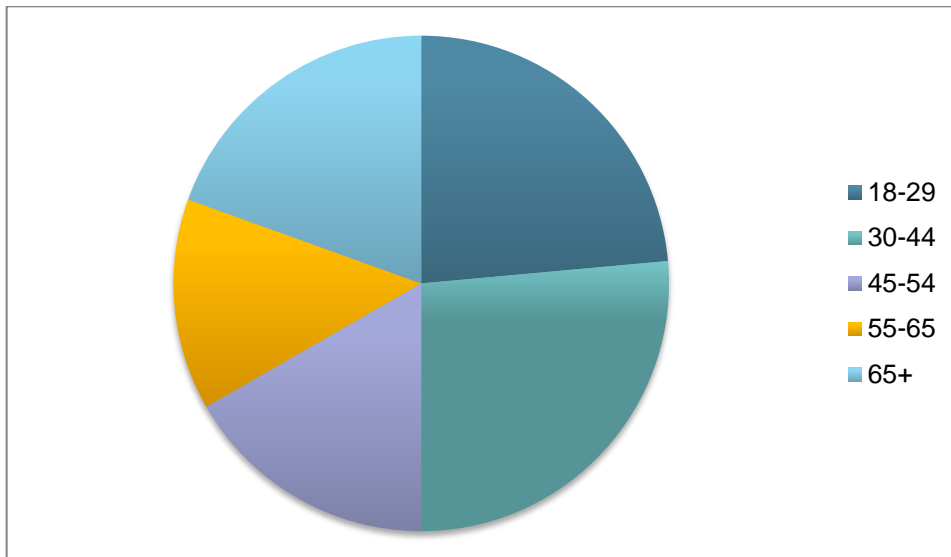
The jury of citizens consists of 20 members, chosen by random selection, entailing a stratified sampling of the population of the Andria Municipality.

In particular the following strata have been maintained:

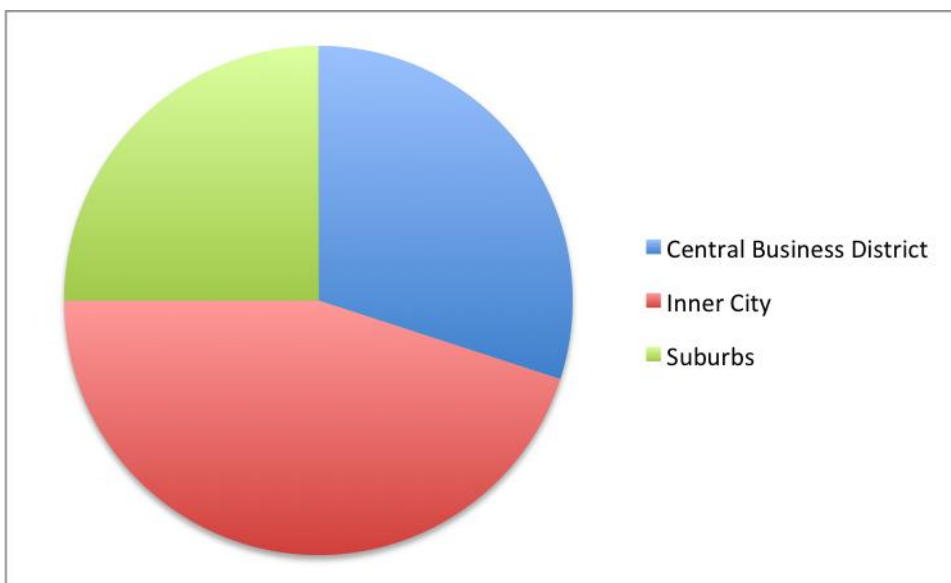
- age (see tab. 1)
- residence (see tab 2) .

The jury configuration is not conform to the real gender partition of the city.

The number of women called to take part to the jury was more than the double of men, but most of acceptances came from men. Unfortunately we found a lack of motivation in the women contacted by phone.



Tab. 1 - Breakdown of Andria's population by age



Tab 2 - Breakdown of Andria's population by residence

Step 3) The central phase:

The participatory process (PP) in Andria started on May 25th 2017 with the first open-door event (detailed information on the Preliminary Report).

After the first meeting, the PP had to be put in standby in order to:

- have all information about the project that won to the call for tenders and to find out details on the plant design,
- find a direct contact with the only company that submitted a project to the call for tenders and invite them to the PP,
- be able to focus one of the meeting of the PP directly on the characteristics of the plant, as designed.

The competent authorities were still evaluating the proposal and they didn't provide information before the end of the process.

The decision of waiting anyhow until the end of the summertime was also due to the local economy, partially based on the income of the bathing season. The population of Andria decreases a lot during summertime because they move to the coast, or they go to work to the coast, with few possibilities of having some time off to dedicate to the PP.

In September 2017, the PP started again with the following scheduling:

September 27 th 2017	October 19 ^h 2017	November 30 th 2017	January 27 th 2018	February 1 st 2018	May 4 th 2018
PP Open door Meeting: Biogas and Biomethane for Beginners (See annex 1)	Meeting of the jury of citizens	PP Open door Meeting: The specific situation of Andria (See annex 2)	Meeting of the jury of citizens and visit to a plant	Meeting of the jury of citizens	PP Open door Meeting: Presentation of results (See annex 3)

Despite the population of Puglia Region mistrust of everything dealing with the waste management sector, the recommendation of the population showed a positive welcome to biogas and biomethane technology.

In the first period of the PP, all members of the jury and citizens participating to the open doors meeting were sceptical to this technology, mostly because of scenarios of increasing traffic problems due to waste-tracks and the potential emission of unpleasant smells.

After the meetings with impartial scientists from the University, the argumentations have become more detailed and the questions addressed to the Company that will build and manage the plant in Andria, were related to:

- the costs and profit balance, focussing on the common benefit (in comparison with the private one)
- the use of well conceived technologies in order to assure the captation of unpleasant smell
- the involvement of local workers
- the observation of all steps of the Impact Evaluation Process (foresee by law)

The visit to the plant of Masseria del Duca in Crispiano (Province of Taranto), run by the Agricultural Farm Company “Fratelli Cassese” took place on the 27th of January 2018. It was foreseen before Christmas but for weather reasons the date was postponed.

The Fratelli Cassese Company was the first agricultural company in Puglia to build a biogas plant, totally fed by the company by-products. This is one of the most important local agricultural companies that deal with diversified production: agricultural, livestock, poultry, dairy, olive oil and recently also wine.

With the natural anaerobic fermentation of the by-products, biogas is obtained and transformed by a co-generator into electrical and thermal energy. From the residual digestate (appropriately separated between the liquid and the solid) an excellent soil improver is obtained, that can be used for the agronomic treatment of organic crops.



Masseria del Duca(TA)

The visit was the most effective mean to overpass all non-technological barriers to biogas and biomethane acceptance. The jury, together with a group of environmental association members that visited the plant, met the owner and in order to understand the positive aspects of the treatments they provide.

At the end of the visit, the jury’s members felt comfortable in writing their conclusions and submit a list of well-conceived observations to the attention of authorities and to the public.

Public institutions and organisations of the civic society congratulated the members for their work, that showed a deep understanding of the issue.

During the process an info-line was available for any questions and the website and Facebook-page constantly updated. The main communication tool was phone calls and WhatsApp messages. Only few arrangement on the final part of the jury members’ work was done by email.

The jury of citizens didn't ask for consultation of the Guarantee Committee. Anyway, after the meeting with the Company that will build the plant in Andria, the opinion of the Guarantee Committee has been asked to deeply analyse the information provided. Comments and observation were provided to the jury and discussed before compiling the final recommendations.

Step 3) The final phase:

The final phase including the presentation of the conclusion, the communication to the local community and a formal commitment by local institution to take into account the recommendations was developed as described below

- Press release (6 articles about the participatory process's results have been reported in local newspapers); several interviews into the main local TV-channels (such as Andria News, Tele Sveva, Andria News 24)
- Presentation of the results to the Representatives of the Local Governments (i.e. the Mayor, President of the Province and the Deputy Mayor in charge of Environment)
- Formal engagement of the Mayor of Andria to observe the recommendation of the jury during the authorisation process.
- Engagement of the representatives of the Consulta per l'Ambiente (the permanent Consultative Committee for the Environment of the City of Andria) to follow up the issues raised during the PP.
- Direct contact with the Company Managers that will be in charge of the building and 25 years management of the plan to be sure they are informed of the issues raised by the jury of citizens.

2. LESSON LEARNT

Through the process of evaluation presented in the following lines, was possible to collect feedback from the local community and reflect on the PP.

The evaluation of the PP was done through the following means:

- 1) **Collection of the feedback from the members of the jury during the last meeting for an evaluation based on the person centred approach (Carl Rogers)**

The **duration** of the process was considered appropriated by most of the participants (the participants who gave up during the process were not asked).

The voice of participants:

<<The complexity and the amount of information to be acquired are so relevant that less time could make participants filling under pressure>>. <<It's important to know since the beginning that the number of meeting can be changed, if required>>.

The **coordination** of the process was evaluated positively.

The voice of participants:

<<To lead a PP is important to be flexible but sure about "what to do", we found it in our coordinator>>. <<Initially it was wired to use coloured paper and some sort of "game" to speak together but it was very effective>>.

The **participation** of the local community was considered as a problem. The change in the group members, and the few external participants in the Open Door Events were seen as negative aspects.

The voice of participants:

<<There is a lack of participation culture: people delegate but always claim>>. <<People don't trust this kind of process because they don't know them>>.

The participation within the jury was considered very positive, even if the participants that joined the group in the second phase maintained the feeling to be a bit "apart" of the group.

The voice of participants:

<<I felt I was not only hearing information but I was also heard by the coordinator and by other participants>>. <<It's important to have in a group such big diversification: old and young people, experts and beginners...>>

The **entire PP** was evaluated positively and the group asked for possibilities to start similar processes focussing other environmental issues.

2) Analysis of the participation and communication tools

All internet tools (web page, Facebook) didn't had a big impact on the PP. People from Andria do not deepen information through the web. They have been useful for stakeholders.

The use of Posters and word of mouth is more common in the community of Andria.

Very positive was the support of local newspapers and TVs, following the process step by step.

A widespread delivery of brochures was very positively welcomed: local organisations asked for more copy to give to their associated. The leaflets in English have been used only with stakeholder and criticized by locals and by jury members.

The participation and engagement of local institutions was beyond expectation and ensure the achievement of durable results. The Regional Authorities, the Chief of the Province and Members of City Council were present and followed the works of the jury during the entire process. They have been positively impressed by methods, products and outcomes and they expressed their interest in putting in place always more often participatory experiences.

The jury of citizens took part in the process not only through the participation to the meetings and open-door events. Even if some of the participants couldn't directly follow the meeting, due to work reasons, they stayed in touch through calls and mailing.

Participants at the open-doors events			
date	participants	male	female
25/05/17	36	22	14
27/09/17	15	13	2
30/11/17	26	23	3
27/01/18	36	25	11
04/05/18	19	17	2

Participants at the meeting of the jury of citizens			
date	participants	male	female
19/10/17	9	6	3
27/01/18	6	6	0
01/02/18	8	7	1

SHORT PHOTO GALLERY



19th October 2017 – Jury of citizens' meeting



30th November 2018 – Open door event



27th January 2018 – Visit to a plant - Masseria del Duca, Società Agricola F.Ili Cassese, Crispiano



1st February 2018 – Presentation of the jury's recommendations

3. ANNEX 1- Andria

ANNEX 1-Andria. 27th of September 2017 - Programme

ANDRIA NE PARLA

WEDNESDAY 27 SEPTEMBER 2017

6.00 pm at Officina San Domenico

Via Sant'Angelo dei Meli, 36 - Andria

DEEPENING THE SITUATION OF WASTE IN PUGLIA REGION AND THE REGIONAL PLAN PARTICIPATION PROCESS MEETING

Participants:

GIANFRANCO GRANDALIANO -EXTRAORDINARY COMMISSIONER OF THE REGIONAL AGENCY FOR WASTE CYCLE MANAGEMENT

PROF. MASSIMO MONTELEONE - UNIVERSITY OF FOGGIA

Giorgio Zampetti (Isaac project) Introduction

Alessia Maso (Participation process Coordinator) Facilitator

Nicola Giorgino (Mayor of Andria) will follow the works

Questions and answers from citizens.

ANNEX 2- Andria. 30th of November 2017 – PROGRAMME

ANDRIA NE PARLA

THURSDAY, 30TH OCTOBER 2017

6.00pm at the Council Chamber of the Municipality

Piazza Umberto I - Andria

THE BIOMETHANE PLANT PROJECT PRESENTED FOR THE CITY OF ANDRIA PARTICIPATION PROCESS MEETING

An opportunity to deepen the project presented by Green Project and Bioener concerning the development of a plant in the Municipality of Andria but also and above all to ask questions and discuss with the various stakeholders.

Participants:

Beppe Croce - Isaac project

Nicola Giorgino - Mayor of Andria

Filippo Caracciolo - Councilor for the Environment of Puglia Region

Ing. Rossano Degl'Innocenti and Alessandro Massone - GreenProject

Alessia Maso - Participation process Facilitator

ANNEX 3- Andria. 4th of May 2018– PROGRAMME

ANDRIA NE PARLA

Saturday 4 May 2018

10.30 am at the Council Chamber of the Municipality

Piazza Umberto I - Andria

PRESENTATION OF THE RECOMMENDATIONS OF THE JURY OF CITIZENS PARTICIPATION PROCESS MEETING

The Members of the jury of citizens of the Municipality of Andria meet the press together with:

Nicola Giorgino, Mayor of Andria

Michele Lopetuso, Councilor for the Environment of the Municipality of Andria

Francesco Tarantini, President of Legambiente Puglia

Alessia Maso, coordinator of the participatory process

5. THE PARTICIPATORY PROCESS IN ARBOREA

The participatory process in Arborea was launched during a public event held in Arborea the 7th of December 2017 and was completed the 31st of May 2018.

For 6 months the main stakeholders, citizens and students of the area had the possibility to be part of various activities aiming to better understand the ongoing project that the 3A Cooperative is running for producing biogas and biomethane.

The fact that the project designed by the 3A Cooperative is based on the circular economy, involving local farmers and their resources, created a strong level of attention by the community of Arborea and Terralba, a nearby municipality.

The participatory process included the following activities:

1. A preliminary phase to define the decision-making context, select the title, interview local experts and observers and map the stakeholders, create documents and leaflets to explain the participatory process.
2. During the initial phase, stakeholders have been involved, the model and the PP program have been shared with them, a PP Guarantee Committee has been named, information tools and documents have been created, area and population involved in the PP have been defined, the jury of citizens has been appointed and named : **“Citizens Consultation Committee”**.
3. A central phase with 3 open door events, 2 sectorial round tables, meetings of the Citizens Consultation Committee, guided tours of existing biogas power plants, as reported in the following table and in the annex.
4. A final phase with the presentation of the recommendations stated by the Citizens Consultation Group.

The list of the participatory events is given in the table below:

Date	Topic	Typology	Where
07/12/2017	Presentation of the ISAAC project	Open door event	Arborea
20/01/2018	The 3A Cooperative project on biogas and biomethane	Open door event	Arborea
06/02/2018	1 st Citizens Consultation Committee meeting	Citizens Consultation Committee	Arborea
03/03/2018	Technical and health Security	Awareness Raising Campaign //	Oristano

Sectorial Round Table			
03/03/2018	2 nd Citizens Consultation Committee meeting	Citizens Consultation Committee	Arborea
06/04/2018	Biogas: development in Sardinia	Awareness Raising Campaign // Sectorial Round Table	Cagliari
07/04/2018	Visit of the Strovina cooperative Biogas power plant	Field visit	Sanluri
18/04/2018	3 rd Citizens Consultation Committee meeting	Citizens Consultation Committee	Arborea
31/05/2018	Presentation of the Recommendations by the Citizens Consultation Committee	Open door event	Arborea

Table 1. The participatory process events

5.1 “Arborea ne parla”

“Arborea ne parla”: open-doors events, round tables and the Citizens Consultation Group meetings

The 3 open door events, 2 sectorial round tables and the meetings with the Citizens Consultation Group were organized following the needs of the project, combined with the topics, doubts, fears and suggestions that raised up during the meetings by the various participants.

In the present report the focus is about the participatory process, describing also all the activities linked to it that are explained in the deliverable D3.7 “report on events”.

All the meetings have been realized involving online and offline mass medias for the public events and email, phone calls, SMS and WhatsApp. Regarding the web tools a specific website (<http://biometano-arborea.it/>) and Facebook page (<https://www.facebook.com/arboreaneparla/>) have been created.

The activities started the [7th of December 2017 with a public presentation of the ISAAC project](#) by Lorenzo Maggioni (CIB), introduced by the Mayor of Arborea Manuela Pintus that explained the participation process in Arborea (OR), Andrea Ram (CNER-IRCRES) and Biagio Bergesio (Legacooop agroalimentare) that presented some data and facts about the biogas and bio-methane situation highlighting.

This event has been followed by a specific open-door meeting on [January, 20th, aiming at presenting the Project for the production of biogas-biomethane by the 3A Cooperative](#). Among the speakers there were experts, representative of the municipality of Arborea and of the ISAAC project, the General Director of the 3A Cooperative, Francesco Casula and the project engineer Nello Corrao. After the speeches, a long questions

& answers session started involving most of the participants of the event (around 70). The questions were mostly focused on the effective production of biogas and biomethane in order to ensure an healthy process.

This event was followed by the [first meeting of the Citizens Consultation Committee on the 6th of February](#), facilitated by Emanuela Manca (the facilitator who followed the pp in the Arborea) and supported by Rosella Manconi (Legambiente).

The discussion was facilitated with the Metaplan® moderation method, a technique that pays a very close attention to the management of communication processes in working groups. The visualization techniques enable to manage a discussion, collecting, selecting and homogenizing different contents which come from participants. With this approach the discussion was effective and valuable. The main objective was to highlight different points of view on a given topic to achieve a shared vision, which takes into account the views of all participants, keeping the richness of the individual proposals but with the aim of building a shared mental map.



Figure 1: Citizens Consultation Committee meeting

The discussion has been very useful to clarify some topic emerged during the previous open door meeting.

All the contributes of the participants were displayed on a board with the aim of openly trying to give an answer to each topic and looking for the best way to deal with some problems highlighted, as we can see in the Figure 2.

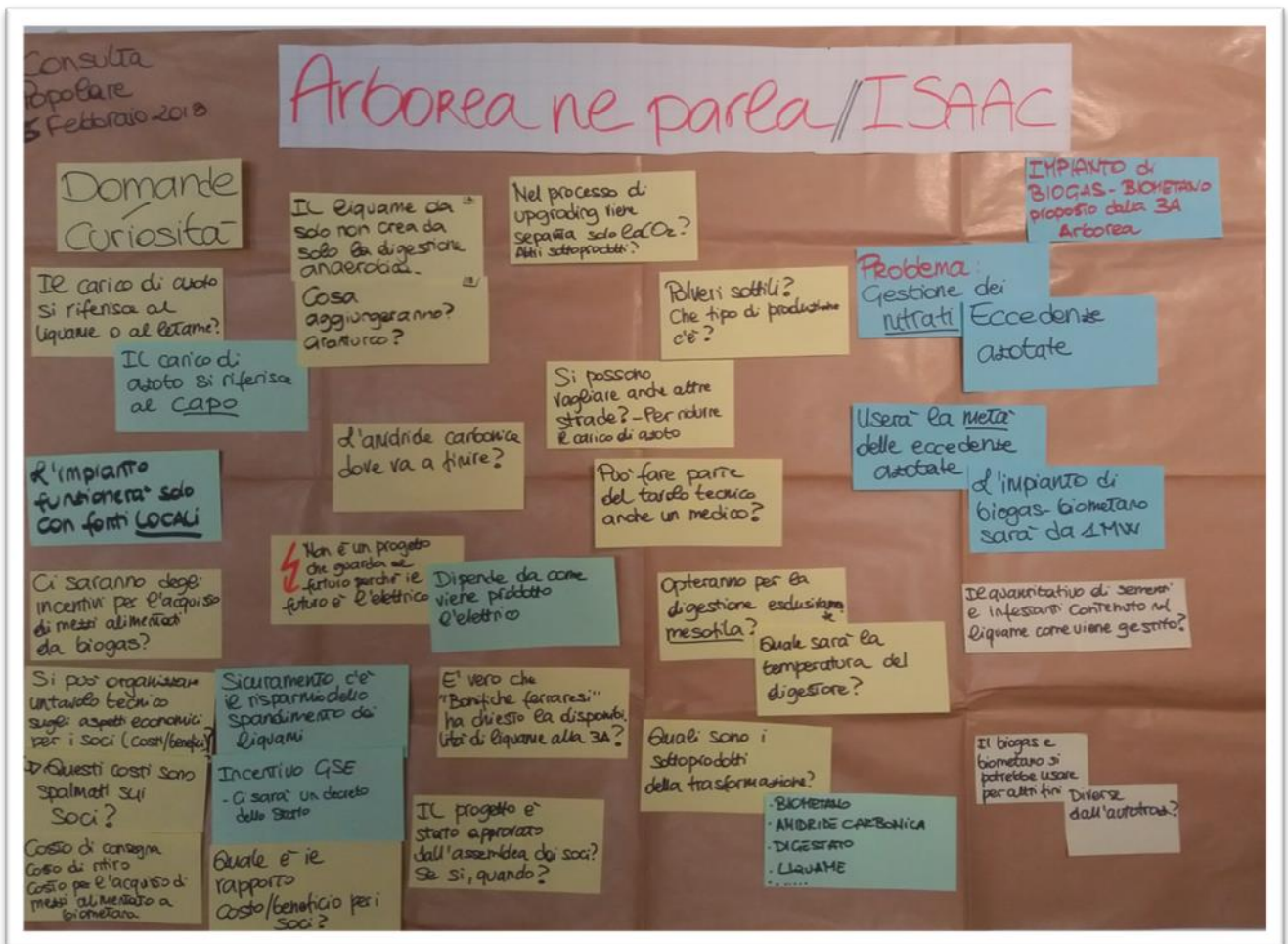


Figure 2: Board of the first Citizens Consultation Committee meeting

Summarizing the topics displayed on the boards, the questions made up by the participants were various aiming to better understand:

- technical aspects of the power plant process;
- the economic impact of the project
- the sustainability and innovation characteristics of the 3A project
- the eventual health risks.

This meeting ended with the common decision to invite, in the following meeting, a representative of the 3A Cooperative, in order to answer to the doubts related to the economic impact of the project and an expert on the health and security aspects.

In order to find the best experts that could answer to the questions raised during the first Citizens Consultation Committee meeting, a deep scouting has been done at national level. The most appropriate expert to invite to

present and discuss about health and security aspects resulted Mr. Fabrizio Anniballi of the Istituto Superiore di Sanità | ISS, Department of Food Safety and Veterinary Public Health, who recently published the research: “Investigation of Clostridium botulinum group III's mobilome content”.

Considering that this topic it's very relevant also for the general public, Mr Anniballi was invited both for an sectorial round table and for the second meeting of the Citizens Consultation Committee.

The sectorial round table on the [“The production of biogas / biomethane: technical aspects and health safety”](#), held the 3rd of March, was hosted by the “High School Othoca” in Oristano and saw the participation of about 100 people. The agenda, as we can see in the Annex 3, included:

- the introduction by Franco Frongia, Director of the School, Abinnalisa Columbu, President of Legambiente Sardinia,
- a presentation of the ISAAC project by Giorgio Zampetti (Legambiente)
- the overview of the participatory process and by Emanuela Manca
- a specific focus on the technical aspects of the biogas production by Carla Asquer (Sardegna Ricerche)
- an excursus on the “Microbiological safety of the biogas production cycle” by Fabrizio Anniballi (ISS – Istituto Superiore di Sanità).

The public showed interest above all on the microbiological aspects, asking several questions to Mr. Anniballi, who highlighted that various researches confirmed that the formation of botulinum is not directly attributable to biogas production.



Figure 3. Sectorial Round table “The production of biogas / biomethane: technical aspects and health safety

During the afternoon of the same day, Mr Fabrizio Anniballi Anniballi (ISS – Istituto Superiore di Sanità), Mrs. Carla Asquer (Sardegna Ricerche) and Mr. Massimo Ferniani of the 3A Cooperative joined the [Citizens Consultation Committee for the second meeting](#).

Recapping the doubts raised during the previous meeting, the experts offered to the Citizens Consultation Committee members the opportunity to chat in an unformal context about botulism, health and security aspects, as showed in the figures below.

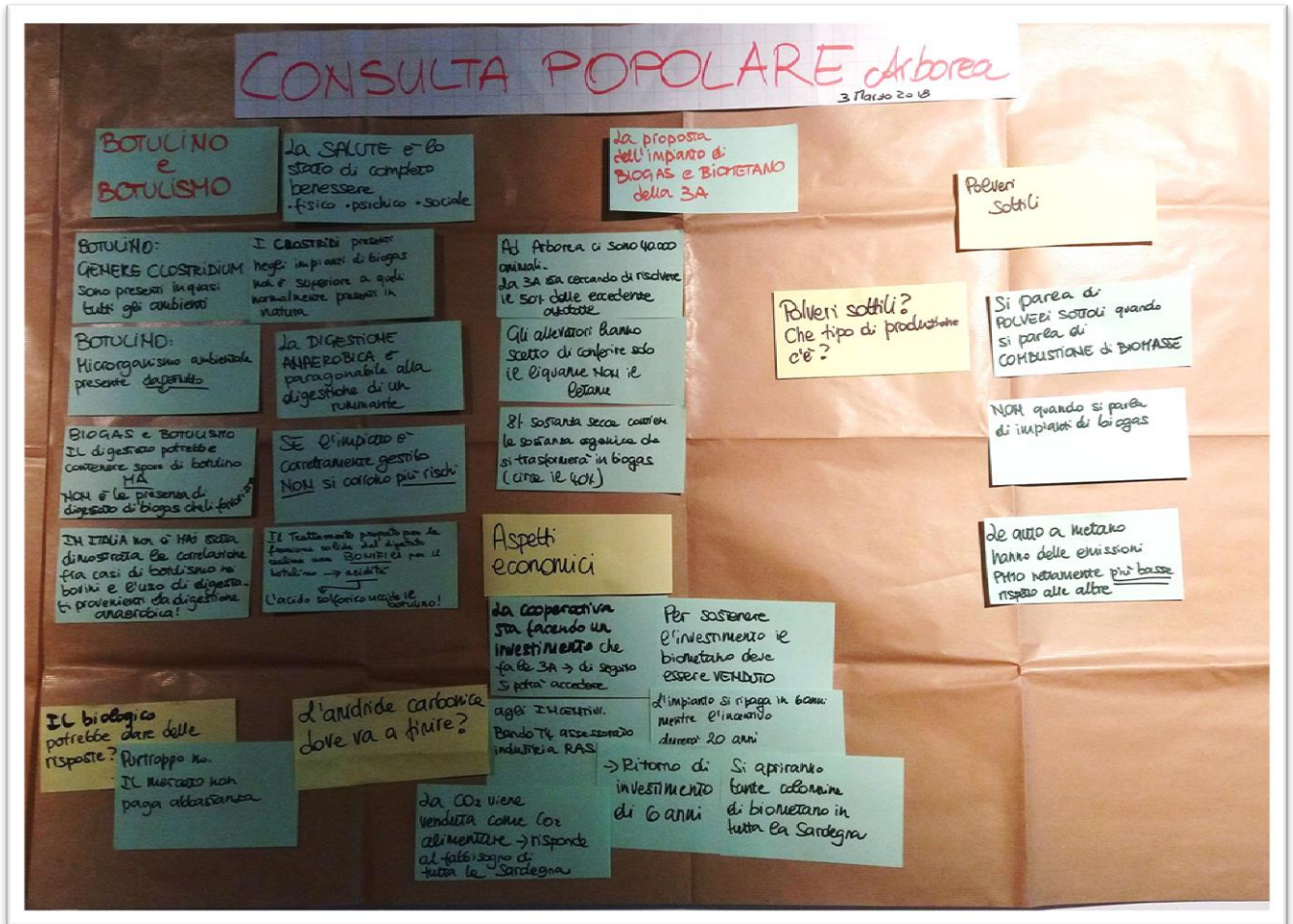


Figure 4: Board of the second Citizens Consultation Committee meeting

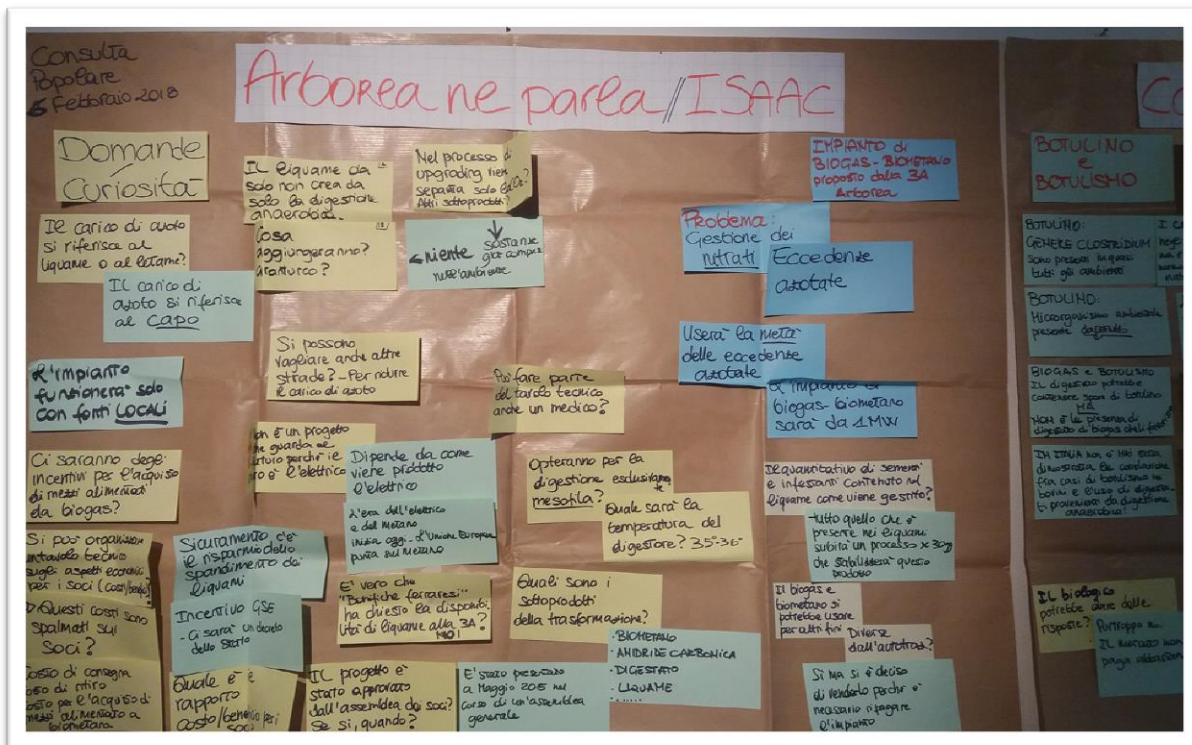


Figure 5: Board of the first Citizens Consultation Committee meeting updated during the second meeting

The discussion was concentrated into two main topics: economic aspects of the 3A project and the ones related to the health safety.

Regarding the **economic** topics, Mr. Ferniani explained that:

- the project is going to solve 50% of the problem generated by the nitrates spreading;
- the investment of the cooperative is planning to sell part of the biomethane produced;
- the plant will be paid in 6 years of activity, the incentives will last 20 years;

Concerning the health safety issues, Mr. Anniballi highlighted that:

- There is no risk if the plant is properly managed;
- The proposed treatment for the solid digestate fraction produces a remediation for botulinum because it creates acidity. The sulfuric acid kills the botulinum;
- In Italy the correlation between cases of botulism in cattle and the use of digestate from anaerobic digestion has never been demonstrated.

The members of the Citizens Consultation Committee welcomed the discussion about the safety issues and took the occasion to express to the 3A representative the relevance of a proper management both for the economic and safety aspects.

The activities carried on with the [second Round table, held in Cagliari the 6th of April on the “Development biogas and biomethane in Sardinia”](#). It was a great success, with the participation of 120 people.

The occasion was followed by the regional press and television and reached most of the citizens of Arborea and Terralba, giving to them one additional occasion to learn about the opportunities of biogas and biomethane.

The day after, [7th of April, a group of more than 40 people visited the biogas agricultural plant of the Strovina Cooperative in Sanluri](#). Among the participants there were lots of the members of the Citizens Consultation Committee.



Figure 6. Field visit at the Strovina cooperative Biogas power plant in, Sanluri, 07/04/2018

On [April 18th the Citizens Consultation Committee met for the third time](#) and, recapping again all the lesson learned during the ISAAC project, wrote the first draft of the Recommendations.

During the meeting the poster of the previous reunions were displayed to keep in mind all the process.

The discussion regarding the recommendations has been focused on the real need of the territory, that is first of all to solve at least 50% of the nitrates spreading that all the local farmers are now facing.

During the meetings of the participatory process, the consensus about the development of the biogas and biomethane in Arborea, raised up strong but it's important to follow the indications for a correct management of the plants. Moreover, the 3A Cooperative is invited to create periodic meetings with the citizens in order to keep up-to-date with the activities and innovations that will be carried out.

The recommendations has been shared and reviewed through informal meetings, phone calls and emails shared with the members of the Citizens Consultation Committee, arriving to the [final version of the recommendations](#) presented by the Citizens Consultation Committee members and read by the Mayor of Arborea, Mrs. Manuela Pintus during the [third open doors event held in Arborea the 31st of May](#).



Figure 7. Third open doors event held in Arborea the 31st of May, 2018

Overall the events involved more than 350 participants as showed in the figure below.

Among them some citizens followed the all process supporting the activities with their curiosity, doubts and above all the need of knowledge.

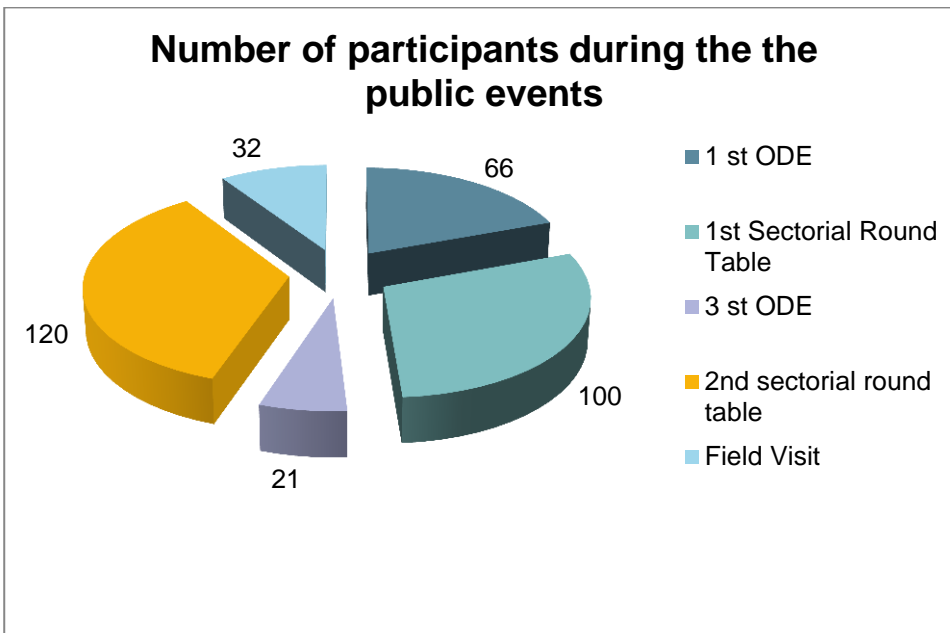


Figure 8: Number of participants during the public events

6. LESSON LEANT

The participatory process realized in Arborea clearly shows the relevance of implementing an awareness raising process based on shared knowledge with citizens and taking advantage of facilitated meeting in small groups.

Involving experts, local administrators, farmers and citizens has been challenging but also very successful because put everybody in the condition to access to an adequate level of information.

The experience lived in Arborea started with some doubts and fear about the biogas and biomethane project. All this element were based by a very low understanding on the biogas and biomethane production process, a knowledge that the citizens asked to actively increase.

The acquisition of a concrete overview drove the citizens to write some recommendations that are certainly useful for the specific case of Arborea but they could be easily extended to other territories.

As we can see in the Figure 9, the recommendations of the citizens, starting from the indications for a correct management of the plant, take into consideration the relevance of the circular economy created by the exploitation of biomass for energy production, provided that those are sustainable from a social, economic and environmental point of view and use local resources.

The Citizens Consultation Committee indicates that it would be desirable that the agriculture sector takes into account the opportunity of converting agricultural productions in organic farming, in order to promote an agricultural sector that is less impacting on the environment and healthier for citizens.

Recommendations // The production of biogas and biomethane: the point of view of citizens

See the original version in ANNEX- Arborea

Annex 1- Arborea. Recommendations by the Citizens Consultation Committee

Thanks to the participation process of the ISAAC-Arborea project, we talked about the project that 3A intends to carry out in relation to the production of biogas and biomethane using the wastewater from the farms of the members of the 3A cooperative.

We now have a clearer view from a technical / management point of view and on the processes used by these kind of plants. We have also had clarifications on some concerns regarding the abatement of the problem of nitrates, we know that in addition to the objective of producing biogas and biomethane we will solve the problem of nitrate spreading by 50%.



It is important that the plant is implemented respecting the following recommendations.

Convinced of the need to carry on with this project, we recommend:

- To assess adequately the costs and benefits so that they do not be a burden on the members of the 3A cooperative.
- The control of traffic volumes leading to a reduction in CO₂ emissions (in terms of efficiency of the movements that in terms of reducing emissions due to the use of biomethane).
- Working on a territorial strategy for a sustainable mobility plan (starting from the biogas to raise awareness on a "traffic plan" that goes beyond the project of production and use of energy).
- To develop a traffic plan that regulates traffic, where possible also through investments for proper road maintenance, possibly using the profits produced by the plant, so that the costs do not burden only on the municipal administration.
- Make sure that this system does not create unpleasant smells and noises.
- The storage and supply areas of the material are adequately insulated to prevent percolation in the stratum, emissions of strong unpleasant odors.
- The management of sewage in the countryside is carried out with care. For example, today there are systems that allow the use of sewage without spreading sun burst because there are injectors with direct burial. It is recommended that the management of the sewage, even in the company, will be adequately managed with the possibility of landfill waste sludge, using the appropriate equipment.

Certain of a correct management of the plants, 3A is invited to create periodic meetings with the citizens in order to keep up-to-date with the activities and innovations that will be carried out.

We believe it is important to exploit biomass using it for energy production, provided that they are sustainable from a social, economic and environmental point of view, using local resources and creating a circular economy at the local level.

The Citizens Consultation Committee indicates that it would be desirable that the agriculture sector takes into account the opportunity of converting agricultural productions in organic farming, in order to promote an agricultural sector that is less impacting on the environment and healthier for citizens. Therefore, future projects for the enhancement of local resources are welcome, as long as they are sustainable for the environment, companies and the wellbeing of the citizens, in line with the following Objectives for the UN Sustainable Development - United Nations Organization:

- Objective 3: Ensure healthy lives and promote well-being for all at all ages;
- Objective 7: Ensure access to affordable, reliable, sustainable and modern energy for all;
- Objective 8: Promote sustained, inclusive and sustainable economic growth, full and productive

employment and decent work for all;

- Objective 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation;
- Objective 11: Make cities and human settlements inclusive, safe, resilient and sustainable;
- Objective 12: Ensure sustainable consumption and production patterns;
- Objective 13: Take urgent action to combat climate change and its impacts

Figure 9. Recommendations // The production of biogas and biomethane: the point of view of citizens

7. ANNEX- Arborea

Annex 1- Arborea. Recommendations by the Citizens Consultation Committee



La produzione di biogas e biometano: il punto di vista della cittadinanza

Grazie al percorso di partecipazione del progetto ISAAC- Arborea ne parla, abbiamo avuto delle informazioni sul progetto che la 3A intende realizzare relativamente alla produzione di biogas e biometano utilizzando i reflui delle aziende zootecniche dei soci della cooperativa 3A.

Ora abbiamo una visione più chiara da un punto di vista tecnico/gestionale e sui processi utilizzati da questi tipi di impianti. Abbiamo inoltre avuto dei chiarimenti su alcune perplessità che riguardano l'abbattimento del problema dei nitrati, sappiamo infatti che oltre all'obiettivo di produrre biogas e biometano si arriverà a risolvere de 50% il problema dello spandimento dei nitrati.

E' importante che l'impianto venga realizzato rispettando le seguenti raccomandazioni.

Convinti della necessità di portare avanti questo progetto, si raccomanda:

- Di valutare adeguatamente i costi e benefici affinché non comportino un peso sui soci della cooperativa 3A.
- Il controllo dei volumi di traffico portando ad una riduzione delle emissioni di CO₂ (in termini di efficientamento degli spostamenti che in termini di riduzione delle emissioni per via dell'utilizzo del biometano).
- Lavorare su una strategia territoriale per un piano della mobilità sostenibile (partendo dal biogas sensibilizzare anche sul un "piano del traffico" che vada oltre il progetto di produzione ed utilizzo di energia).
- Arrivare ad un piano della viabilità che regoli il traffico, laddove possibile anche attraverso investimenti per una corretta manutenzione delle strade, utilizzando eventualmente gli utili prodotti dall'impianto, così che i costi non gravino solo sull'amministrazione comunale.
- Fare in modo che questo impianto non crei odori e rumori molesti.
- Le aree di stoccaggio ed approvvigionamento del materiale siano adeguatamente isolate onde evitare percolamenti nelle falde, emissioni di forti odori sgradevoli.





- La gestione dei liquami nelle campagne sia realizzata con cura. Ad esempio, oggi ci sono dei sistemi che permettono l'utilizzo dei liquami senza lo spandimento a raggera perché ci sono gli iniettori con interrimento diretto. Si raccomanda che la gestione dei liquami, anche in azienda, venga adeguatamente condotta con la possibilità dell'interrimento dei liquami di scarto, mediante l'apposita attrezzatura.

Certi di una corretta gestione degli impianti, si invita la 3A a creare dei momenti di confronto periodici con la cittadinanza al fine di tenerci al corrente delle attività ed innovazioni che verranno realizzate.

Crediamo che sia importante valorizzare le biomasse utilizzandole per la produzione di energia, a patto che siano sostenibili da un punto di vista sociale, economico ed ambientale, utilizzando risorse locali e creando un'economia circolare a livello territoriale.

La Consulta popolare indica come auspicabile da parte dell'intera cittadinanza ed in particolare degli allevatori ed agricoltori, lavorare per un comparto agricolo meno impattante sull'ambiente, più sano e salubre anche per i cittadini, valutando la possibilità di convertire le produzioni verso l'agricoltura e l'allevamento biologico.

Ben vengano quindi progetti anche futuri per la valorizzazione delle risorse locali purché sostenibili per l'ambiente, le aziende, il benessere dei cittadini, in linea con i seguenti Obiettivi per lo Sviluppo Sostenibile dell'ONU – Organizzazione Nazioni Unite¹:

- Obiettivo 3: Assicurare la salute e il benessere per tutti e per tutte le età;
- Obiettivo 7: Assicurare a tutti l'accesso a sistemi di energia economici, affidabili, sostenibili e moderni;
- Obiettivo 8: Incentivare una crescita economica duratura, inclusiva e sostenibile, un'occupazione piena e produttiva ed un lavoro dignitoso per tutti;
- Obiettivo 9: Costruire un'infrastruttura resiliente e promuovere l'innovazione ed una industrializzazione equa, responsabile e sostenibile;
- Obiettivo 11: Rendere le città e gli insediamenti umani inclusivi, sicuri, duraturi e sostenibili;
- Obiettivo 12: Garantire modelli sostenibili di produzione e di consumo;
- Obiettivo 13: Promuovere azioni, a tutti i livelli, per combattere il cambiamento climatico.

Per informazioni: <http://www.isaac-project.it/> - <http://biometano-arborea.it/>

¹ <https://www.unric.org/it/agenda-2030>



Annex 2- Arborea. Agenda of the event: The Project for the production of biogas-biomethane by the 3A Cooperative. Arborea, 20/01/2018



ARBOREA NE PARLA

Il progetto per la produzione di biometano della Cooperativa 3A

- ***Il incontro del processo partecipativo*** -

SABATO 20 GENNAIO 2018 ore 10.30 - 13.30
presso il Teatro dei Salesiani di Arborea
Piazza Maria Ausiliatrice (lato sinistro chiesa)

Introduce

Manuela Pintus, Sindaca di Arborea

Introduzione al processo partecipativo e coordinamento dei lavori

Emanuela Manca, sociologa

Presentazione del progetto Isaac

Lorenzo Maggioni, ISAAC

11.00 Il Biogas e biometano e la digestione anaerobica

Dott. Efsio Antonio Scano, Ph.D., Professore a Contratto,
Dipartimento di Agraria, Università degli Studi di Sassari

11.25 Il progetto per la produzione di biometano della Cooperativa 3A (Assegnatari Associati Arborea)

Introduce: Dr **Francesco Casula**, Direttore generale 3A

Interviene: Ing. **Nello Corrao**, progettista dell'impianto

12.00 Sessione aperta per le risposte alle domande dei cittadini

Segreteria organizzativa:

partecipazione@biometano-arborea.it - tel. 3939345150

Per maggiori informazioni:

<http://www.isaac-project.it/> - <http://biometano-arborea.it/>



Annex 3- Arborea. The production of biogas / biomethane: technical aspects and health safety.

Oristano, 03/03/2018



La produzione di biogas/biometano: aspetti tecnici e sicurezza per la salute *- Evento pubblico -*

SABATO 03 MARZO 2018 ore 10.15 - 13.00
presso Aula Magna
Istituto Tecnico Industriale Statale OTHOCA –
Via Zara – Zona Industriale - Oristano

Ore 10:15 - registrazione partecipanti

Ore 10:30 - Saluti del Dirigente Scolastico, Dott. Franco Frongia

Introduce e coordina: Annalisa Colombu, presidente di Legambiente Sardegna

Intervengono:

- Il progetto ISAAC e il biometano come opportunità per il territorio - Giorgio Zampetti - *Legambiente*
- Il processo partecipativo "Arborea ne parla" – *Manuela Pintus, Sindaca di Arborea e Emanuela Manca, sociologa*
- Biogas: il processo produttivo - Ing. Carla Asquer – *Sardegna Ricerche*
- Sicurezza microbiologica del ciclo di produzione del biogas - Dott. Fabrizio Anniballi – *Istituto Superiore di Sanità*

12.00 Sessione aperta per le risposte alle domande dei cittadini

Segreteria organizzativa:

partecipazione@biometano-arborea.it - tel. 3939345150

Per maggiori informazioni:

<http://www.isaac-project.it/> - <http://biometano-arborea.it/>



Annex 4– Arborea. The development of biogas and biomethane in Sardinia. Cagliari,
06/04/2018



Immagine fonte <http://www.isaac-project.it/>

Prospettive per lo sviluppo del biogas-biometano in Sardegna

6 aprile 2018
ore 10.00-13.00

Aula Magna della Facoltà di
Ingegneria e Architettura
Via Marengo 2, Piazza d'Armi

Progetto Europeo ISAAC
(691875) – Horizon 2020

<http://www.isaac-project.it/>



Segreteria organizzativa:
Rosella Manconi
cell 393 93 45 150
ing.rosella.manconi@gmail.com

Programma:

Ore 9.45 Registrazione partecipanti

Coordina gli interventi Vincenzo Tiana – Presidente del Comitato Scientifico di Legambiente Sardegna

Prospettive e opportunità di valorizzazione biologica dei residui biodegradabili- *Introduzione a cura del Prof. Aldo Muntoni - Dipartimento di Ingegneria Civile, Ambientale e Architettura, UniCA*

Opportunità e vincoli allo sviluppo del biogas e biometano: il progetto ISAAC - *Beppe Croce, Legambiente*

Prospettive del biogas e biometano in Sardegna: il nuovo decreto 2 marzo 2018 – *Lorenzo Maggioni, Consorzio Italiano Biogas*

Ore 12.00 Dibattito

A tutti i partecipanti verrà rilasciato un attestato di partecipazione



Annex 5- Arborea. The production of biogas and biomethane: the citizen's point of view of the.
Arborea, 31/05/2018



La produzione di biogas e biometano: il punto di vista della cittadinanza

Evento pubblico

Giovedì 31 MAGGIO 2018 ore 11 - 13.00

Sala interna dei Salesiani
Piazza Maria Ausiliatrice, Arborea

Ore 11:00 Introduce e coordina:

Vincenzo Tiana, presidente del Comitato Scientifico di Legambiente Sardegna

Intervengono:

Lorenzo Maggioni CIB (Consorzio Italiano Biogas) e Beppe Croce - Legambiente
Il progetto ISAAC e il biometano come opportunità per il territorio

Emanuela Manca, sociologa

Il processo partecipativo "Arborea ne parla"

Fabrizio Murru, Responsabile settore Ambiente della cooperativa 3A

Il progetto per la produzione di biometano della Cooperativa 3A (Assegnatari Associati Arborea)

Manuela Pintus, Sindaca di Arborea

Le raccomandazioni da parte della cittadinanza, a cura della Consulta popolare

12.00 Sessione aperta per le risposte alle domande dei cittadini

Segreteria organizzativa:

partecipazione@biometano-arborea.it - Rosella Mancani - tel. 3939345150

Per maggiori informazioni:

<http://www.isaac-project.it/> - <http://biometano-arborea.it/>

