

Triggering the creation of biomass logistic centres by the agro-industry

SUCELLOG: IEE/13/638/SI2.675535

D6.7c
Report on the local-scale meetings carried out within the auditing service in Italy

30.03.2017







# **About SUCELLOG project**

The SUCELLOG project - Triggering the creation of biomass logistic centres by the agro-industry - aims to widespread the participation of the agrarian sector in the sustainable supply of solid biofuels in Europe. SUCELLOG action focuses in an almost unexploited logistic concept: the implementation of agro-industry logistic centres in the agro-industry as a complement to their usual activity evidencing the large synergy existing between the agro-economy and the bio-economy. Further information about the project and the partners involved are available under www.SUCELLOG.eu.

# **Project coordinator**



# **Project partners**













#### **About this document**

This report corresponds to a part of the D6.7 Report on the local-scale meetings carried out within the auditing service in Spain of the SUCELLOG project. It has been prepared by:

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#### 1. Introduction

SUCELLOG supports the creation of biomass logistic centres inside agro-industries covering the gap of knowledge faced when willing to start this new activity. Within WP6, SUCELLOG provides an auditing service facilitating the decision making to agro-industries interested in becoming a logistic centre. As part of the auditing service and with the purpose of showing to the agro-industries the most promising paths to start-up their new activity, local-scale meetings have been carried out with interested stakeholders such as potential biomass suppliers and consumers, equipment manufacturers and so on.

This document includes a collection of these reports of these meetings classified by agro-industry and carried out in Italy with a total of 35 stakeholders-external companies/actors (46 participants).

# 2. Reports of local-scale meetings in Italy

# 2.1. Serragiumenta Agricola SNC

#### 2.1.1. Farmers in the area local-scale meetings

# 2.1.1.1. General data of the meetings

Dates: 06/06/2016; 30/06/2016

Auditor's data:Name: Marco Perrino Organization: D.R.E.Am Puglia

Place: Altomonte (CS) – Serragiumenta office

#### 2.1.1.2. Attendants

5 persons participated in this meeting.

#### 2.1.1.3. Summary of the meetings

In the audit activity for Serragiumenta Agricola SNC some local meetings have been organized.

A first one was held with the audited farm and three farmers (potential suppliers)
from Cosenza area: Guerino Aceto, Mario Aceto e Pasquale Aceto. They often
collaborate together and they conduct an individual farm each one, mainly
dedicated to the olive tree and vineyard plantations.

The meeting (photo below) allowed Serragiumenta Agricola SNC and the D.R.E.Am. Italian technician Marco Perrino to illustrate the strength of SUCELLOG project in order to create a production chain and to explain what



would be the function of the three companies as potential suppliers of biomass for Serragiumenta Agricola SNC.

A very involving debate followed about new opportunities and potentiality of the project. The conversation concerned the possible biomass sales prices and the quantities to be delivered to the agro-business.

At the end of the meeting, the three companies showed a positive interest in the potential selling of biomass to Serragiumenta Agricola SNC, by signing the letter of interest as suppliers.

- The three companies were together an agronomist and their technical advisor, very interested in the project. He has pledged to talk about the project to his other customers.
- A second meeting was held with Serragiumenta Agricola SNC owner and a
  farmer dealing with olive groves and orchards. The owner is going to buy a
  biomass boiler to heat his home and in the last months he is informed of the
  possibility to install a multi-fuel boiler in order to consume different type of chips
  (potential consumer).

For these reasons, we illustrated the main points of the project and a farmer seemed quite interested in the opportunity not only to be able to buy a chip at a low price, but also to be able to eventually recover biomass from agricultural pruning residues.

Therefore, the farmer showed his interest to buy chips from agricultural residues by Serragiumenta SNC, referring at a later moment to discuss about qualitative and quantitative parameters for the agreement, as soon as the agro-chips production will be set up.

# 2.2. Ambiente e Territorio Soc. Coop.

#### 2.2.1. Consorzio Marche Verdi Soc. Coop. Agr. For. local-scale meeting

#### 2.2.1.1. General data of the meeting

Date: 10/06/2016;

Auditor's data:

Name: Marco Perrino Organization: D.R.E.Am Marche

Place: Ancona, Consorzio Marche Verdi headquarter

#### **2.2.1.2.** Attendants

Two persons participated in this meeting.



#### 2.2.1.3. Summary of the meeting

In the area around Ambiente e Territorio, a local meeting was organized with Consorzio Marche Verdi Soc. Coop. Agr. For. (photo below), which is a Consortium of 24 agricultural and forestry cooperatives in the Marche Region.

The purpose of the meeting was to advise the Consortium about SUCELLOG project and about the will of Ambiente e Territorio to start a production of agro-biomass for energy purposes. So as to enable Marche Verdi may inform its members, in order to identify potential consumers and suppliers of agricultural biomass to complete or enlarge the production chain.

#### 2.2.2. Local-scale meetings in EIMA energy fair

#### 2.2.2.1. General data of the meeting

Date: 12/11/2016;

Auditor's data:

Name: Marco Perrino Organization: D.R.E.Am Marche

Place: Bologna, EIMA energy fair

2.2.2.2. Attendants

2 external persons attended this meeting.

#### 2.2.2.3. Summary of the meeting

From the 9<sup>th</sup> to the 13<sup>th</sup> of November, 2016, in Bologna, there was the EIMA energy fair, dedicated to the renewable energy sources from agrarian and forestry origin, with demonstrative areas, conferences and seminars for experts and operators of the sector. During the fair, the D.R.E.Am. technicians participated to the seminar "Mechanical innovations for the pruning restoration for energetic purpose", and they met two of three lecturers: one from CREA-ING, one of the main research organisations in Italy, and another one from the Biomass Laboratory of Università Politecnica delle Marche.

To both of them the project was illustrated and descripted, with the high lightening of its potentiality in create new logistic chains for the reuse of the agrarian biomass residues.

The person from CREA-ING was very interested towards the project concept and opportunities for the agro-industries, also because he is an expert of the topic since he is involved in two European projects dealing with the pruning valorisation for biomass production: *EuroPruning*, for the development and implementation of a new and non-existent logistics chain for biomass from pruning, with new improved



logistics for pruning residues, including harvesting, transport and storage for agricultural pruning, and *UP\_Running*, for the enforcing of a sustainable supply of biomass from agro-pruning and plantation removal by creating real evidences that biomass from this kind of woody residues is feasible and can contribute to increase the competitiveness of agrarian exploitations.

The other participant too appeared very interested in the SUCELLOG Project, because he owns a laboratory for the biomass analysis and was one of the first experts in Italy to study, analyse and speak about the biomass from agrarian resources. He participated to technical tables for the ISO drawing up on the agricultural biomass quality, and he argues that Mediterranean raw materials have not been taken into account enough in the Standard. Furthermore, he participated to the European project MixBioPells, which analysed the agrarian residues potentiality in replace the forestry wood for pellet production.

### 2.3. Azienda Agricola Forestale Paolo Macchia

#### 2.3.1. Potential suppliers in the area local-scale meetings

#### 2.3.1.1. General data of the meetings

Date: 16/05/2016 - 18/05/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Pistoia – D.R.E.Am. headquarter

2.3.1.2. Attendants

2 external persons attended this meeting.

#### 2.3.1.3. Summary of the meeting

In both cases the meeting was attended by potential suppliers. The farms deal mainly with olive growing. They are interested in getting rid of prunings, rather than dispose of them in landfills, costly process. They would be willing to give prunings for free, if they can be collected at their fields. Therefore, on this occasion, both of them agreed to sign the letter of interest for the supply of prunings specifying the need to discuss of the matter once the cost-benefit assessments will be clearer.



# 2.3.2. Piergiovanni Bicocchi local-scale meeting

### 2.3.2.1. General data of the meeting

Date: 24/06/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Pistoia - D.R.E.Am. headquarter

2.3.2.2. Attendants

2 people participated in this meeting.

#### 2.3.2.3. Summary of the meeting

A third meeting was held with a retailer of solid retail biomass. He was made aware of the project and of the intentions of the company to evaluate the production of chips from olive tree prunings or mix chips from forest wood and olive tree prunings. He declares to have already heard about solid biomass from agricultural residues and about the existence of multi-fuel boilers that can burn it. If this type of product will be able to take a slice of the market, it would definitely be interested in selling it in his store.

#### 2.3.3. Potential consumer local-scale meeting

#### 2.3.3.1. General data of the meeting

Date: 07/07/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Pistoia – D.R.E.Am. headquarter

2.3.3.2. Attendants

2 people participated in this meeting.

### 2.3.3.3. Summary of the meeting

A fourth meeting was held a potential consumer. To him are explained the project and the opportunity to see on the market solid biomass for energy purposes from agricultural sources. In this regard he declares to be aware of the use of olive pits and hazelnut shells in other Italian regions and, being originally from the Friuli



Venezia Giulia, he remembers that his family was using corn cobs to the coals and the fireplace, common practice in the regions producing corn.



He is therefore interested to try the chips, based on the investigations on product quality and on indications of boiler management.

Figure 1: Meeting with a potential suppliers

### 2.4. Azienda Agricola II Bello

#### 2.4.1. ONG snc local-scale meeting

#### 2.4.1.1. General data of the meeting

Date: 15/05/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Stazione Masotti (PT) - Il Bello warehouse

2.4.1.1. Attendants

2 external persons participated in this meeting.

#### 2.4.1.2. Summary of the meeting

The first meeting was with the audited farm and the owners of ONG snc, an equipment manufacturer company. The owners of ONG snc, are currently testing a chipper to chip agro-prunings directly in field. They realized the equipment within the activities of another European project, EuroPruning. The manufacturer is interested in testing the machinery on different farmland, in order to refine its operation in the vineyards, olive groves and orchards, with the final purpose to place it in the Italian market. For this reason, he came to see the fields of II Bello farm, as it's showed in the photos below. The agro-industry owner and the manufacturer agreed that it is not always sufficient the space between the olive trees for the operations of the machine or that the slopes are excessive, in such cases it will be necessary to bring the prunings in a point of the field that is wider.





Figure 2: Meeting with ONG snc in the area of Azienda Agricola II Bello

The manufacturer showed agro-pruning chips processed by his chipper. He explained that the equipment can cut prunings with different sizes, adjusting the distance between blades. Despite this, he suggested to keep prunings as long as possible, to prevent rotting. In this regard, he showed also a breathable big bag used with the chipper, to facilitate the natural drying of the chips.

Finally, the agro-industry asked ONG for prices, production capacity and maintenance costs of the equipment. The manufacturer will send some data relating to the tests he carried out in the EuroPruning project.

#### 2.4.2. Potential supplier local-scale meeting

#### 2.4.2.1. General data of the meeting

Date: 06/06/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Stazione Masotti (PT) – Il Bello warehouse

#### 2.4.2.2. Attendants

2 external persons participated in this meeting.

#### 2.4.2.3. Summary of the meeting

A second meeting was held with II Bello owner and two people from a local cooperative, Soc. Coop. Valleriana, which deals with grass cutting, olive trees pruning, gardens maintenance, tree-climbing, naturalistic engineering interventions, etc. The cooperative is interested in getting rid of prunings, rather than dispose of them in landfills, costly process. The Valleriana would be willing to give prunings for free, if II Bello goes to get them at the cooperative store. Therefore, on this occasion, The Valleriana agreed to sign the letter of interest for the supply of pruning and the two companies decided to talk again of the matter once the cost-benefit assessments will be clearer for both.



# 2.4.3. AiEL Associazione italiana Energie Agroforestali local-scale meeting

#### 2.4.3.1. General data of the meeting

Date: 30/06/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Stazione Masotti (PT) – Il Bello warehouse

2.4.3.2. Attendants

2 persons participated in this meeting.

#### 2.4.3.3. Summary of the meeting

A third meeting was held after a workshop about solid biomass heating in greenhouses, organized by AIEL, an Italian association for agro-forestry energy. Il Bello owner took part at the event "Efficientamento e riscaldamento a biomasse per le serre", in order to find potential consumers contacts, as the auditor suggested. In that occasion, the Technical Manager of AIEL was contacted and he explained his willing to produce agro-biomass and asking about the current market. They exchanged few words quickly and their personal contacts, agreeing to postpone their face-to-face conversation, alone at a time of greater peace.

#### 2.5. Azienda Agricola Rapaccio

#### 2.5.1. Potential consumers in the area local-scale meetings

#### 2.5.1.1. General data of the meetings

Dates: 05/07/2016 - 07/07/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Pistoia – D.R.E.Am. headquarter

2.5.1.2. Attendants

3 external persons participated in this meeting.



#### 2.5.1.3. Summary of the meetings

Three local meetings have been organized concerning the potential agro-biomass production of Rapaccio company.

The meetings were attended by three different potential consumers, two households in Prato area and a mountain retreat responsible, member of Legambiente Prato. The association manages the retreat and organizes educational activities on environmental issues, for children, teenagers, etc.

The meetings have been carried out by the auditors, explaining to the stakeholders the concept of SUCELLOG project and the possibility of the creation of a logistic centre by Rapaccio company for the production of olive tree pruning chips.

All potential consumers have biomass boilers, fueled mainly with firewood, and they are aware of the existence of multi-fuel boilers. The auditors explained to them that the company already uses its chips from olive tree prunings but does not sell it because they do not have verified the characteristics of quality and they do not know how widespread boilers there are fed by agro-chips for domestic or agro-industrial use. The three potential consumers are therefore interested to try the chips of Rapaccio company, based on the investigations on product quality and on indications on functional boilers to be purchased.

#### 2.5.2. Potential supplier in the area local-scale meetings

#### 2.5.2.1. General data of the meetings

Dates: 29/11/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Toscana

Place: Pistoia – D.R.E.Am. headquarter

2.5.2.2. Attendants

2 persons participated in this meeting.

#### 2.5.2.3. Summary of the meetings

One meeting was attended by a potential supplier of olive tree pruning (Coop. Ali Blu). The Cooperative has been clarified that the Rapaccio might be interested in producing and selling pruning chips after checking the quality of the raw material and the state of agro-biomass boilers on the market. Given the interest to dispose of the



olive tree pruning, they agreed to sign the letter of interest for the supply of pruning once the cost-benefit assessments will be clearer.



Figure 3: Meeting with potential supplier for Rapaccio company

# 2.6. Società Agricola Leo Verde

#### 2.6.1. Potential consumer in the area local-scale meetings

#### 2.6.1.1. General data of the meetings

Date: 08/07/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am. Toscana

Place: Pistoia – D.R.E.Am. headquarter

2.6.1.2. Attendants

2 external persons attended this meeting.

#### 2.6.1.3. Summary of the meetings

The first meeting was with a representative of one household, who is interested in the purchasing of the biomass products produced by Leo Verde for heating. This person is also an ex manager of the Unione dei Comuni Montani Amiata Grossetana, so during the meeting also a discussion about the market of the solid biomass for energetic purpose in the area has took place, to better analyse the new product potentiality on the local market.

The second meeting was with another household consumer, which owns a property in the company surrounding area, with a pellet stove for the heating. Both of them are potential consumer, with seasonal needs for heating purpose.



# 2.6.2. OL.MA. S.a.c. Collegio Toscano degli Olivicoltori local-scale meeting

#### 2.6.2.1. General data of the meetings

Date: 28/04/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am. Toscana

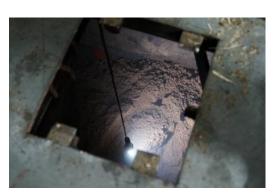
Place: Grosseto – OL.MA. headquarter

**2.6.2.2.** Attendants

2 persons participated in this meeting.

#### 2.6.2.3. Summary of the meetings

A third meeting was held with the head of production of the OL.MA. oil mill. The company currently supplies to Leo Verde the olive pomace, residue of its own activities, for the biogas cogeneration plant, and purchases the olive pits. During the meeting, he confirmed the quantities of the current supply and purchase, after a negotiation to discuss the new olive pit price due to its higher quality. Furthermore, the need of the olive trees' leaves disposal emerged during the meeting, and an evaluation analysis of a possible use of this raw material in the biogas plant will be carried out. During the encounter a visit of the oil mill was done (photos below) also to see the needed equipment for the olive pomace and olive pits management.











**Figure 4**: OL.MA. facilities: the olive pomace storage, the transport cochlea for olive pomace to the loading area of the trucks, olive pits boiler, olive pits storage.

# 2.7. La Matrecina Soc. Coop.

# 2.7.1. Potential consumers in the area local-scale meetings

#### 2.7.1.1. General data of the meetings

Dates: 07/07/2016 - 12/10/2016

Auditor's data:

Name: Chiara Chiostrini and Marco Perrino Organization: D.R.E.Am Marche

Place: Pistoia – D.R.E.Am. headquarter and Fabriano

#### 2.7.1.2. Attendants

2 external participants attended this meeting.

#### 2.7.1.3. Summary of the meetings

In the surrounding area of the agro-industry La Matrecina two meetings with local potential consumers have been organized.

The meetings allowed La Matrecina and the D.R.E.Am. Italian technicians to illustrate the strength of Sucellog project in order to create a new logistic chain for energetic purpose from agrarian residues and to explain what would be the potentiality of the new biomass products.

Besides being two potential consumers, the persons we met are a forestry engineer and an agronomist. Both of them work in the cooperative society Promoter in Fabriano, Marche Region, which offers consultancy services to agrarian-forestry firms.



They would be consumers in the household, with seasonal needs for heating purpose. After the illustration of the main points of the project, the consumers seemed quite interested in the opportunity not only to be able to buy a solid biomass product from agrarian resources, but also to spread the project concept between the agro-industries they work with, and that could be potential suppliers of agrarian raw materials and potential consumers of the new products too.

After the exploration of the project characteristics, a debate about the actual Sucellog opportunities in the region was held with a municipal councilor of Fabriano. The main consideration was about the high forestry density of the Marche region: in the area a lot of woody biomass is available at a quite low price, and this fact can represent a barrier for the achievement of a good position in the energy local market of the agrarian biomass.

# 2.8. Oleificio Cooperativo Produttori Agricoli di Molfetta

# 2.8.1. Potential cooperative working group in the area local-scale meetings

#### 2.8.1.1. General data of the meetings

Dates: 19/07/2016 - 27/09/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Puglia

Place: Molfetta

2.8.1.2. Attendants

7 persons attended this meeting.

#### 2.8.1.3. Summary of the meetings

In the surrounding area of Oleificio Molfetta there were some meetings with the above mentioned representatives of different stakeholders, to make arrangements for the construction of a funding application to constitute a Cooperative Working Group of the European Partnership for Innovation. The group would be funded by the Measure 16.1 "Sustain for the Operative Group constitution of the European Partnership for Innovation in the field of agriculture productivity and sustainability" of the Rural Develop Program 2014-2020 of Puglia Region.

The requested financing would be used for the creation of a cooperative working group formed by the oil mill Molfetta, 3 other cooperative oil mills in the area, Legacoop, the agrarian association of Puglia Region, (to disseminate results and ensure the replicability of successful experiences in the rest of the region), Ing. For.



Eco., an office of designers, professional agronomists and environmental engineers, ATS Montemaggiore, biomass logistics operator, and CREA (Research Council and the agrarian economy analysis). This group will realize a cogeneration plant fuelled with chips from olive trees pruning for the energy consumption of the four oil mills and their members and for energy sales.

The cooperative group will study also the plow machine prototype harvesting and chipping pruning and how to redeploy the whole plant ash for the fertilization of the fields.

The partners would like to create a working cooperative for the management of the cogeneration plant.

One of the meetings was the partnership signature moment for the presentation of the new project on the Rural Development Plan, September 27<sup>th,</sup> 2016.

Oleificio Molfetta will be the coordinator of this project and the project idea was born mainly in order to solve the problem of disposal of its members pruning residues. The other 3 oil mills would participate to the project for the same purpose.

# 2.9. Cooperativa Agricola Rinascita Oliena

# 2.9.1. Cogeneration project partner meeting - Cooperativa Olivicoltori Oliena - Graziano Pau

#### 2.9.1.1. General data of the meeting

Dates: 16/11/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Sardegna

Place: Oliena(NU)

2.9.1.2. Attendant

2 people participated in this meeting.

### 2.9.1.3. Summary of the meeting

During the meeting with the president of the cooperative oil mill Oliena, adjacent to the dairy Oliena, the possibility of realising a cogeneration plant fuelled by agrarian biomass managed by the both cooperatives was discussed. The dairy currently works with diesel and the oil mill with self-produced olive pits. With the new plant they would save money and solve the residuals disposal problem. For the terrains fragmentation and their multiple use, the members of the two cooperative are quite



the same, which are at the same time, shepherds, who carry the milk to the dairy, and olive growers, who carry the olives to the oil mill. This fact would help the supply chain constitution, because the cooperatives' members can carry the pruning, before harvested and stored by their own facilities, with their products to the logistic centre. The pruning would then be stored in the cooperatives' service area, potentially under a canopy that could be realised for this purpose.

The oil mill president is not so confident towards the chipping production from pruning to feed the cogeneration plant, because he is not sure about the functionality and efficiency of this biomass format and for the large market availability of a good quality wood pellet (although with an elevated price). Since he is an olive pits producer too, he would rather prefer to install a co-generator which can be fuelled both with olive pits and agrarian pellet, or wood pellet, when pruning is not available.

However, they should buy a pelletizing line, beyond the cogeneration plant, and they ask for technical support to find the requested technologies (with related budgeting) and for assistance for the funding application on the Rural Development Plan of the Sardinia Region, to cover the machineries costs.

#### 2.9.2. Potential supplier local-scale meeting - Santa Maria La Palma

#### 2.9.2.1. General data of the meeting

Dates: 17/11/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Sardegna

Place: Alghero

2.9.2.2. Attendants

2 people participated in this meeting.

#### 2.9.2.3. Summary of the meeting

Santa Maria La Palma cooperative was diagnosed in the SUCELLOG project, but it was not interested in becoming an agrarian biomass logistic centre, despite the considerable residuals amount from their wine production (pictures below). So they contacted us to know if in Sardinia any agrarian biomass logistic centre was born following the project, to whom delivery their grape pomace and stems. During the dairy Oliena audit, the technical and economic feasibility of the pellet production has been verified, not only from pruning but even from grape pomace and stems of the winery, which signed the letter of intent for these resources supply.







Figure 5: residual of grape pomace from the pressing – aspiration system from the grape receipt

# 2.9.3. Harvesting and pre-treatment equipment manufacturers local-scale meetings

#### 2.9.3.1. General data of the meetings

Dates: 18/11/2016 - 01/12/2016

Auditor's data:

Name: Chiara Chiostrini Organization: D.R.E.Am Sardegna

Place: Pistoia – D.R.E.Am. headquarter and Treviso – Costruzioni Nazzareno

headquarter

#### 2.9.3.2. Attendants

2 external participants attended this meeting.

#### 2.9.3.3. Summary of the meetings

CAEB commercial agent came to DREAm office to give us some information about prices and productive capacity of the required machines for the pellet production from olive pruning and possibly from grape pomace and stems. We asked for the same information during the visit to the Costruzioni Nazzareno facilities, about the machineries for the agrarian pruning pelletizing. They showed us the pelletizing line, a video of the working briquetting machine, and some pellet and briquettes samples from pruning of the local vineyards, which they are currently selling.







Figure 6: pellet and briquettes from vineyard pruning, produced by Costruzioni Nazzareno



Figure 7: pelletizing line (movable-for field use) for agrarian pruning – Costruzioni Nazzareno