

TRIGGERING THE CREATION OF BIOMASS LOGISTIC CENTRES BY THE AGRO-INDUSTRY

SUCELLOG project (IEE/13/638/SI2.675535)

April 2014 - March 2017

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CIDE members meeting, 2 of June, 2016, Brussels



Aim of the presentation:

To inform EU multiplier organisations (in particular associations related to the specific agro-industries addressed by the project) about SUCELLOG project and to engage them in project activities.

Contents:

- Introduction to SUCELLOG project and opportunities it offers to CIDE members:
 - Project summary
 - Background
 - Objectives and main steps
 - Partnership and regions
 - Technical support to agro-industries
 - Presentation of 2 case studies
 - Opportunity to receive information and training
- Discussion of technical and non-technical challenges and barriers
- Discussion of interest for further cooperation



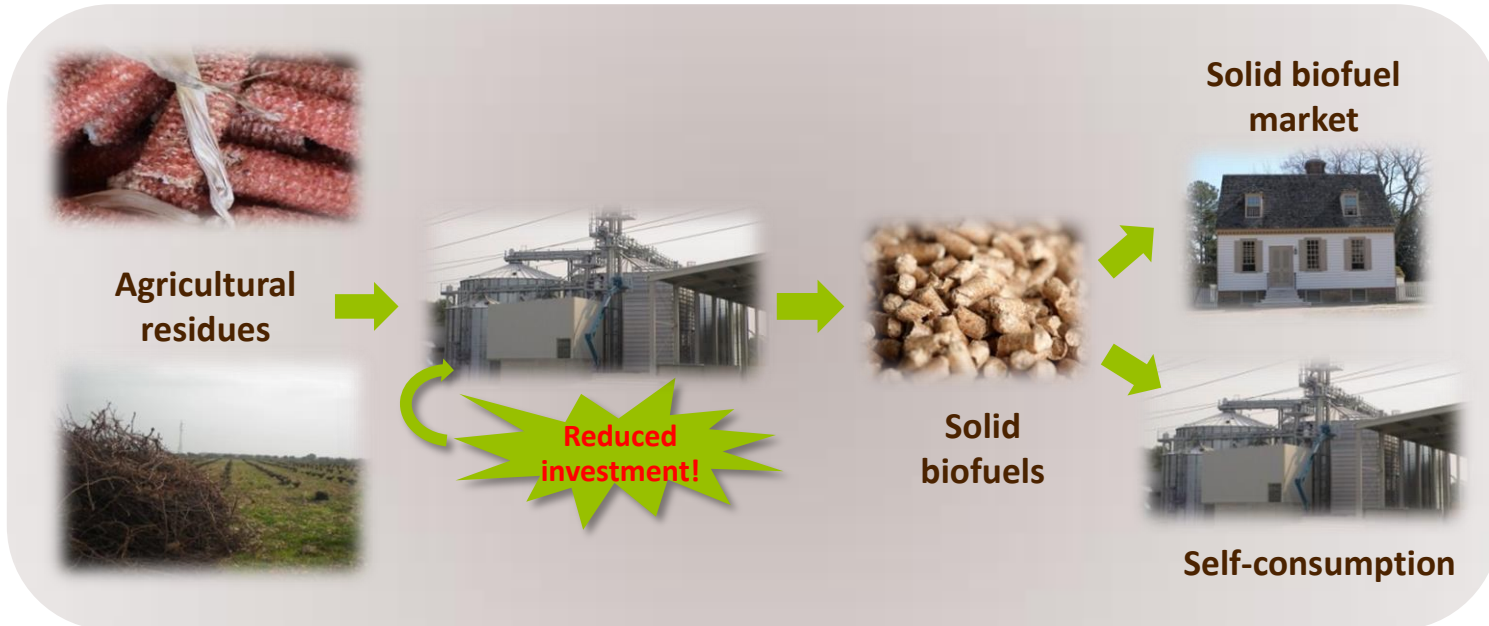
Project Summary

AGRO-INDUSTRIES as SEASONAL BIOMASS LOGISTIC CENTRE

Usual operation
(Nov-Feb)



Operation as
biomass logistic
centre
(Mar-Oct)



European energy scenario needs



New solid biofuels to fulfil demand

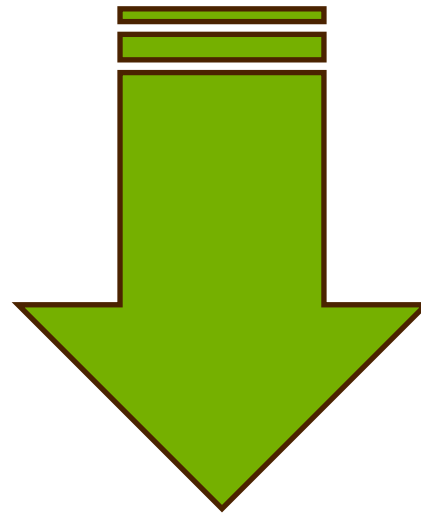


European agricultural sector needs



To diversify business activity

Take advantage of important SYNERGIES between bio-economy and the agro-industry sector



- Compatibility with existing equipment/facilities for conditioning of raw biomass
- Work under seasonal regime
- They produce residues or surrounded by residues
- Experience with organic feedstocks
- Concern about product quality

Let's adapt agro-industries to operate as logistic centres of quality solid biofuels with low investment



Objectives and main steps

SUCELLOG goal is to foster the participation of the agrarian sector in the supply of sustainable solid biofuels.

SUCELLOG will make it by:

- **Providing technical support, helping decision-making and accompanying agro-industries** willing to start operating as solid biofuel logistic centres.



- **Creating capacity building** in regional and national agrarian associations to provide this service to their associates beyond the end of the project.



Main areas of interest: Spain, France, Italy and Austria

Partnership



>we are future



The SUCELLOG project **supports 4 agro-industries in Europe to become biomass logistic centres using agricultural residues as raw material**. A feasibility study and a complete business model have been conducted for them.

The selected agro-industries are:

- **Cooperativa Agraria San Miguel** - Aragón region - Spain
- **Luzéal-Saint Rémy** – Champagne-Ardenne region - France
- **Società Cooperativa Agricola Le Rene s.r.l.** – Toscana region – Italy
- **Tschiggerl Agrar GmbH** – Styria region – Austria



Cooperativa Agraria San Miguel, Spain

Current activities	Existing equipment that can be used	Available agrarian residues	Outcomes of the feasibility study	Outcomes of the market assessment
Production of fodder pellets and bales from alfalfa	Two alfalfa production lines can be used for the pre-treatment of the solid biomass	Cereal straw >11,000 t/year Maize stalks >8,000 t/year	Straw is the most interesting raw material	Price of the product: <ul style="list-style-type: none"> • 117 €/t • 0.027 €/kWh
Cereal drying (mainly maize)			Blending with wood is required	The price is positioned in the middle range local solid biomass market
Production of fodder pellets from agro-industrial food residues			The most competitive product is a Class B agro-pellet with a maximum 70% share of straw	Secondary benefits should be offered to consumers: <ul style="list-style-type: none"> • ash as low-cost fertiliser, • reduction of Cl content of the soil

Recommended business strategy

Development of internal self-consumption chain targeted on the pig farmers (the members for cooperative) – being the suppliers of the straw and the consumers of the solid biomass. Biomass logistic centre should purchase the straw from pig farmers only under the condition that as well the annual or plurennial agro-pellet sale contracts are made.

- Pelletizing tests have been performed using two different mixtures:
 - 70% straw/30% wood
 - 50% straw/50% wood
- Combustion tests have been performed in several surrounding pig farms using existing boilers (originally designed for combustion of wood pellets and olive pits) finding some performance problems.
- Current test are being carried out in different boiler models adapted to agrarian fuels in collaboration with boiler manufacturers.



Tchiggerl Agrar GmbH, Austria

Current activities	Existing equipment that can be used	Available agrarian residues	Outcomes of the feasibility study	Outcomes of the market assessment
Corn harvesting, treatment and trading	Drying facility that is currently used for drying the cobs (afterwards used in animal bedding)	Cereal straw 5,190 t/year	Corn cobs are the most interesting raw material due to the lack of competitive uses	Only corn cob-derived products are feasible. Grits offer large potential market and chance of good profit. Price of the corn cob products: Loose cobs <ul style="list-style-type: none"> • 58 €/t • 0.017 €/kWh Grits <ul style="list-style-type: none"> • 144 €/t • 0.038 €/kWh Pellets <ul style="list-style-type: none"> • 192 €/t • 0.044 €/kWh
Logistic operating of straw		Hay 200 t/year		
Pelletizing of corn cobs and straw for animal feeding and bedding		Corn cobs 15,249 t/year		

Recommended business strategy

The main consumers are expected to be farms and industries using wood chips and pellets. The market would be extended to households, but they are currently not allowed to use corn cobs by law in Styria. The best strategy for the company would be also to produce a small amount of corn cob pellets to be proposed to the consumers as test products in order to facilitate the transition to grits.

- Biomass logistic centre started operation end of 2015
- Fuel production tests have been performed. In general it works well with some minor issues to be solved.
- Combustion tests have been performed in several surrounding farms using existing boilers (originally designed for combustion of wood pellets and wood chips).



Trainings to agrarian sector

Regional agrarian associations have received specific training on how to make technical and economic feasibility study of an agro-industry willing to become a biomass logistic centre:

- 9 & 14 February 2016 in Paris, France
- 4 March 2016 in Böheimkirchen, Austria
- 29 - 30 March 2016 in Valladolid, Spain
- 20-22 April 2016 in Florence, Italy



In September-October, 2016 3 days training course will be organised by CIRCE for AGRARIAN ASSOCIATIONS in EU-28.

The training will include following topics:

- Concept of logistic centre
- Experiences in Europe
- How to support an agro-industry willing to become a logistic centre

Make your request: <http://www.sucellogconsultationtool.com>



Results up to now: Are you interested in?

Knowing the potential of available biomass in your region and the existing agro-industries compatible with the production of solid biomass?

DOWNLOAD OUR REPORT ON REGIONAL SITUATION, BIOMASS RESOURCES AND PRIORITY AREAS

Consult real feasibility studies made to 4 agro-industries that benefit from our services?

DOWNLOAD OUR FEASIBILITY STUDIES & BUSINESS MODELS

Understand the key messages to bear in mind when evaluating the possibility to become a biomass logistic centre?

DOWNLOAD OUR HANDBOOK WITH BASIC INFORMATION

Check your potential to become an agro-industry logistic centre?

DOWNLOAD OUR DIAGNOSIS GUIDE

Main steps to make a techno-economic study on how to build a logistic centre in an agro-industry?

DOWNLOAD OUR HANDBOOK

ALREADY AVAILABLE AT
www.sucellog.eu

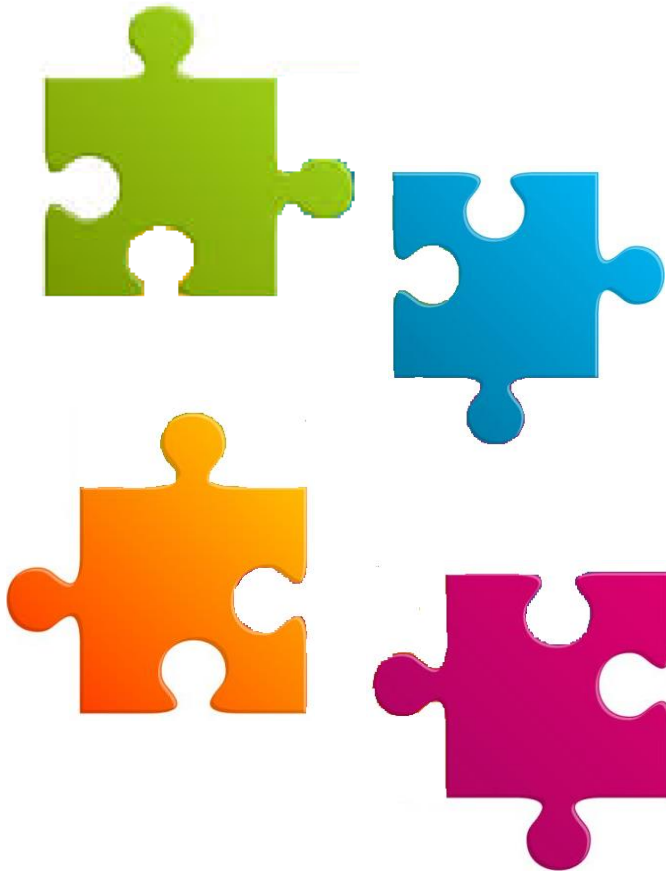
Available languages:
DE, EN, ES, FR, IT



Expected impacts

4 agro-industries logistic centres created. Direct technical support to 44 European agro-industries starting new agro-industry logistic centres. More than 1320 advice services provided to the agrarian sector.

88 workshops and engagement events in participating countries to create awareness about opportunities for the agrarian sector



15 regional and 4 national skilled teams to carry-out auditing and dissemination activities in Spain, France, Italy and Austria. Training of agrarian associations in other 3 countries in EU28

Elaboration of 3 handbooks and 2 technical guidelines to provide support beyond the project



What do you think about SUCELLOG concept – is it interesting for your industry?
Do you see any challenges?

Example of barriers identified in the project:

- Technical
 - Properties of the raw material not appropriate to be used in existing equipment
 - Risk of contamination while switching production line from bioenergy to regular activities
 - Lack of appropriate combustion equipment at customers
- Regulatory
 - «waste» origin of the product prohibits using it as fuel for households
 - Different taxing rates (raw material, product, fuel)
- Non-technical
 - Lack of funding
 - Complexity of new value chains (need for logistics, many actors involved, takes long time, purchase and sales contracts)
 - Customers acceptance of the new product (e.g. dark pellets vs light)
 - ...





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