The mobilisation of agricultural solid biomass for local energy Brussels, 15th February 2017

Triggering a national awareness about the use of agricultural residues for the production of solid biomass in France

SERVICES
COOP DE FRANCE
AUDIT CONSEIL FORMATION

Co-funded by the Intelligent Energy Europe Programme of the European Union

This project is co-funded by the European Commission, contract N°: IEE/13/638/SI2.675535

SUCELLOG in France, in a nutshell

In France, the project has open a discussion on the opportunities of agriculture biomass to cover a part of the demand of heat in rural areas.

Targeted stakeholders :

> **Agro-industries** are essential actors to trigger this new market due to their influence in the territory.

> **Rural municipalities, departmental or regional institutions,** due to their size and their commitment with sustainable development seem to be the most interesting potential consumer for agricultural biomass processed by the agro-industries.

> SUCELLOG has spread the opportunities to the **government entities and agencies** to increase awareness.

> SUCELLOG worked with other important stakeholders like **chambers, ESCO or machinery manufacturers** to invest in the development of the agricultural solid biomass sector.

Co-funded by the Intelligent Energy Europe Programme of the European Union

SUCELLOG territories in France

SUCELLOG partners in France

> Agricultural cooperatives

> Forestry cooperatives

SUCELLOG regions in France

SUCELLOG impact : Better understanding between wood and agricultural sector to build together a sustainable bioenergy sector in a large area in France

Co-funded by the Intelligent Energy Europe Programme of the European Union

Main ressources in France

Supported agro-industries's sectors


Cereal driers


Caves


Distilleries


Alfalfa dehydration


Compound feed factories

Available resources (after competitive uses analysis)


Cereal straw


Silo dust


Prunings


Forest wood ressources

Targeted uses


Self-consumption


Production for the solid biomass market

SUCELLOG impact : Better understanding in available facilities and available resources in the targeted territories & characterization of the bioenergy sector from an agro-industrial point of view

Co-funded by the Intelligent Energy Europe Programme of the European Union

Main available ressources in France

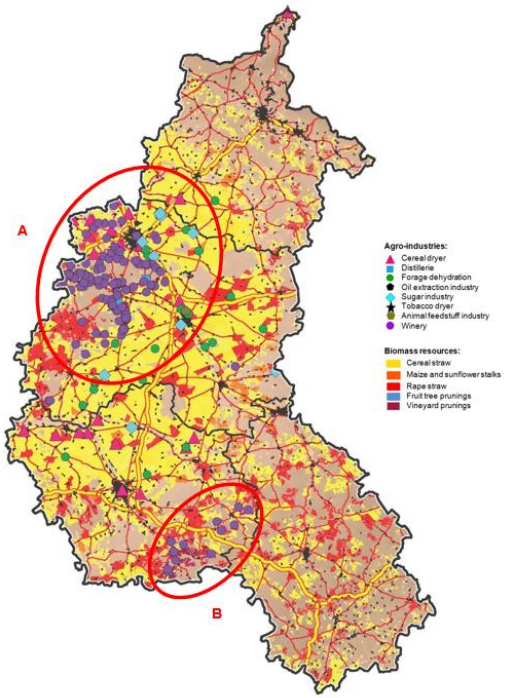


Figure 6: Localization and type of agro-industries and resources in Champagne-Ardenne.

Maps of targeted agro-industries and available ressources in Champagne-Ardenne – SUCELLOG project

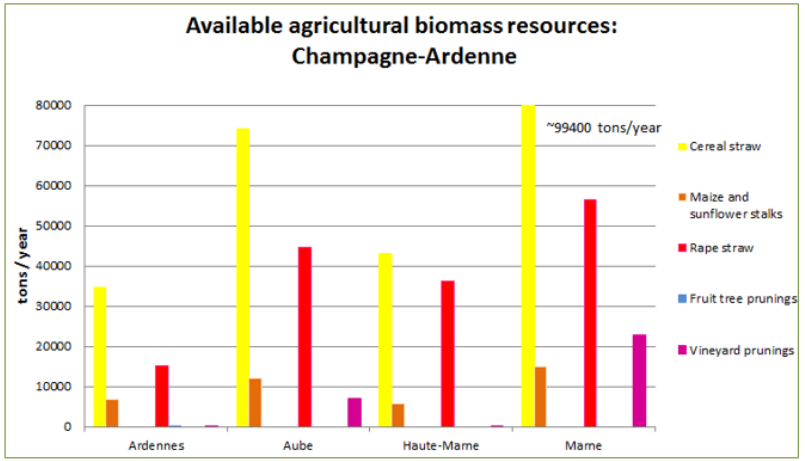


Figure 5: Summary of available agricultural biomass residues in Champagne-Ardenne.

SUCELLOG impact : public documents about available resources and competitive uses in France

Co-funded by the Intelligent Energy Europe Programme of the European Union

Communication in France

Achievements:

- **27 agro-industries diagnosed**
- **17 agro-industries supported** (11 feasibility studies)
- **293 participants in workshops** (still on-going)
- **30 stakeholders engaged in local meetings**
- **21 meetings with policy makers**
- **293 contacts with stakeholders** during the project

SUCELLOG impact : large communication to raise awareness with a large scale of stakeholders in the entire country

Co-funded by the Intelligent Energy Europe Programme of the European Union

Barriers for the development of SUCELLOG concept in France

1. Fossil fuel prices

➡ SUCELLOG showed that, optimizing the idle period, the production of competitive fuels from biomass is possible

2. Lack of information at biomass users

➡ SUCELLOG raised awareness in working with more than 200 biomass stakeholders : energy agencies, municipalities, ESCO, ministry, agricultural chambers etc.

3. The agrobiomass sector is not structured

➡ SUCELLOG worked with major bioenergy stakeholders in order to analyze barriers and needed to develop the bioenergy sector. As a first step, a group with cooperatives about this topic will be created

4. Lack of appropriate technologies in the market at a reasonable price

➡ SUCELLOG targeted municipalities, ESCO or agro-industries to develop local biomass value chain and trigger the solid biomass development sector

Co-funded by the Intelligent Energy Europe Programme of the European Union

Barriers for the development of SUCELLOG concept in France

5. Lake of pioneer spirit in the industrial sector

➡ SUCELLOG supported agro-industries in developing their project to create successful examples and show the opportunity to develop a biomass logistic center in other industries

6. No clear position from government

➡ SUCELLOG analyzed a list of technical and non-technical barriers, presented to Ministry and National Energy Agency representatives to increase awareness

SUCELLOG impact : raise awareness on agricultural biomass for energy opportunities in France, working with a large diversity of stakeholders

Co-funded by the Intelligent Energy Europe Programme of the European Union

SUCELLOG actions in France

11 agro-industries supported during the audit stage

> 1 is already a logistic center

> 1 project is very advanced

> 3 others will give steps in a short term period

→ 3 examples in the next parts

SUCELLOG impact : In FRANCE, SUCELLOG has triggered the mobilization of more than 16 ktoe of resources for energy production and an expected investment of almost 4 M€ in a short-term

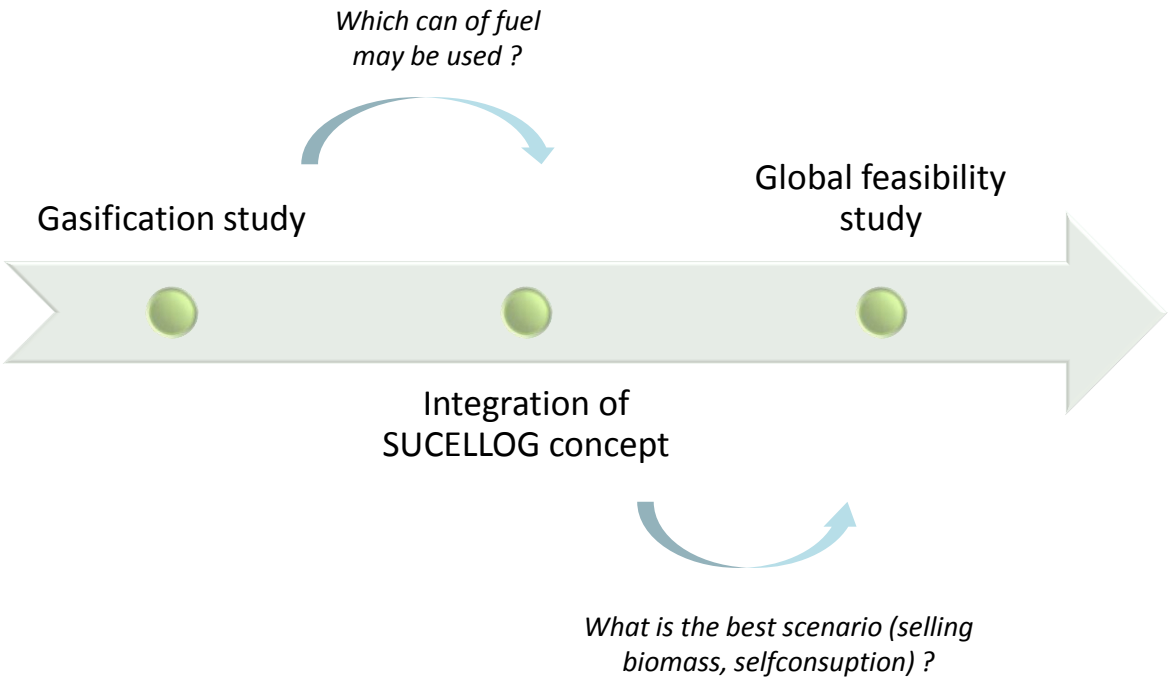
Co-funded by the Intelligent Energy Europe Programme of the European Union

La Cavale successful case

Region: Occitanie (Languedoc Roussillon)

Sector: Distillery

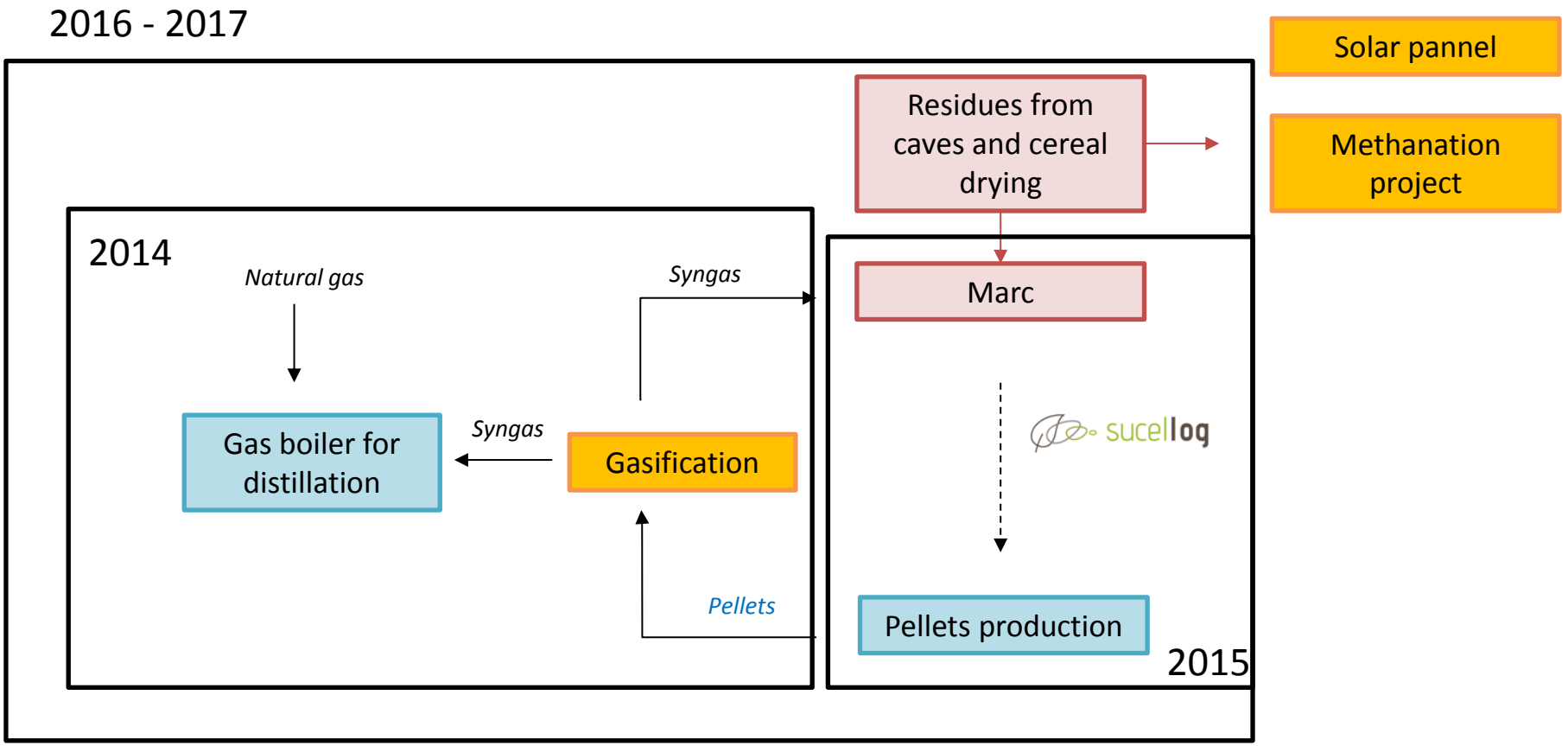
PROJECT: Become a positive energy industry



Co-funded by the Intelligent Energy Europe Programme of the European Union

La Cavale successful case

Integration of the SUCELLOG concept, producing 2000 tons of mixed pellets from wood and grape marc.



Co-funded by the Intelligent Energy Europe Programme of the European Union

La Cavale successful case

SUCELLOG supported this project by opening the possibility to use their own residues and their own facilities during their available periods (drier and storage) to produce the fuel for the gasification plant.

- **1,710 t of sawdust** from local sawmills
- **1,496 t of grape marc** (own residues)

Produced in partnership with an additional company owning a pelletizer (800 kg/h capacity)

Self-consumption with the gasification process
2,5 MW

€

The possibility to sell solid biomass has been also considered as possible business line to be developed.
500 tons

A further detailed study and the investment needed (1 400 000 €) have been accepted to be partly funded by the French Environmental and Energy Agency.

SUCELLOG impact : the SUCELLOG concept is integrated in a global energy concept as a very interesting successful case of self-consumption in France

Co-funded by the Intelligent Energy Europe Programme of the European Union

Sofragrain successful case

Region: Rhône-Alpes
Sector:compound feed factory

PROJECT: Develop a new activity as energy producer

SUCELLOG support in 2014 :

> Were looking for new activities to diversify its main businesses
> Started to implement SUCELLOG concept once they attended one of the project workshops with an ESCO also attending the meeting

SUCELLOG support beyond the audit :

> Focused on looking for other potential consumers to increase their production and on analysing the option of self-consumption : introduce to ESCOs.
> Introduce to potential suppliers of raw materials
> Work together with an energy project developer to implement a project of autoconsumption
> Introduce personally to research/technological centres promoting innovation actions on agriculture

Co-funded by the Intelligent Energy Europe Programme of the European Union

Sofragrain successful case

The current situation :

Sofragrain is already a logistic center : produce 500 tons of pellets (Silos dust / maize dust / oleaginous)

> From its own residues (silo dust) and from other agro-industries besides

> Use the facilities of its normal activity during their idle periods : pelletizer (6 t/h) and storage places

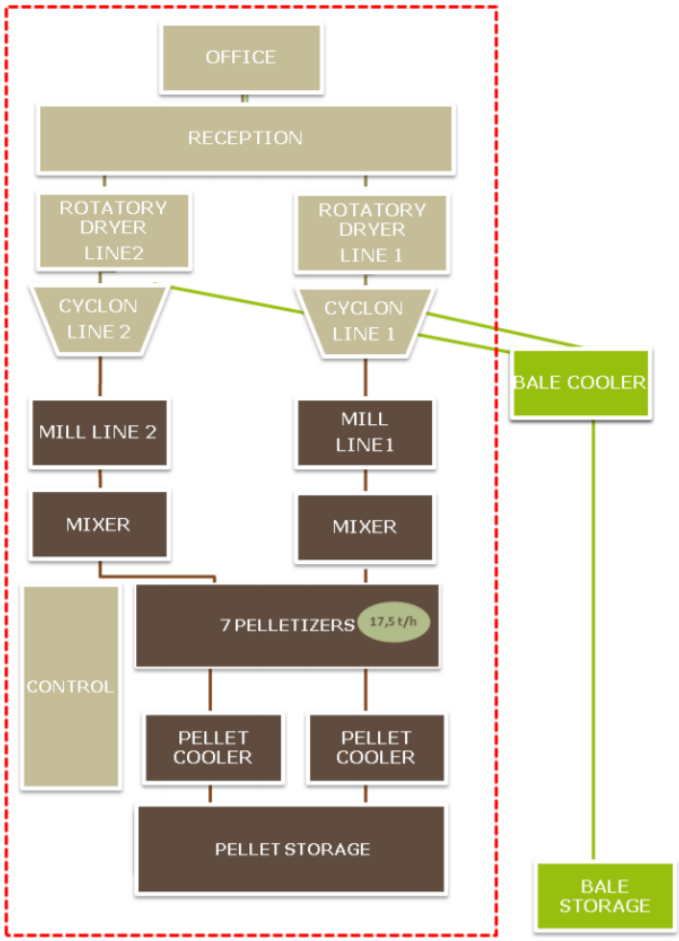
> 5 000 € of investment for small adaptation

> Objective to grow till 5 000 t/yr

SUCELLOG impact : show the feasibility to produce a low price – good quality pellets from only agricultural residues, use in real condition (working boilers)

Co-funded by the Intelligent Energy Europe Programme of the European Union

Luzéal successful case



Region: Champagne-Ardenne
Sector: Forage dehydration

PROJECT: diversify its activities, using the equipment of the Saint-Remy site during its idle periods

> Take advantage of their whole pelletising line (capacity to produce 17,5 t/h, including drier, pelletiser, storage places) during their idle periods.

> Available ressources : miscanthus (from its members), straw (bought to a cereal straw association contacted by SUCELLOG), sawdust (from local sawmills).

> No real market in the area.

> Needed investment : Straw grinder and dies (103 000 €)

Co-funded by the Intelligent Energy Europe Programme of the European Union

Luzéal successful case

Analysed scenarios

- Scenario MSM-A: Production of mixed cereal straw (60 %) and miscanthus (40 %) Class A
- Scenario MSS-A: Production of mixed cereal straw (60 %) and sawdust (40 %) Class A **(Analysed by RAGT)**
- Scenario MSW-A: Production of mixed cereal straw (60 %) and wood (40 %) Class A
- Scenario MSMS-A: Production of mixed cereal straw (50 %), miscanthus (25 %) and sawdust (25 %) Class A
- Scenario SP-B: Production of cereal straw (100%) Class B **(Analysed by RAGT)**

Development of the market

> Realization of combustion analysis with RAGT énergie : very good quality pellets.

> On going : combustion tests in real operating facilities with important ESCOs in France : first step to develop a global market from agricultural biomass in France.

SUCELLOG impact : Raise awareness with major ESCO in France about agricultural biomass opportunities

Co-funded by the Intelligent Energy Europe Programme of the European Union

Contribution of SUCELLOG to SCDF

SUCELLOG was the first complete biomass project from our company :

- **Generate a new line on activities on biomass opportunity,** working with agricultural cooperatives to develop their bioenergy project and anticipates future issues.
- **Open additional projects about agricultural biomass** at national level working with various stakeholders to develop markets and opportunities for all the value chain.
- **Interact with policy makers** in various projects and being recognized as a national referent on the biomass field.
- **Work with regional associations** of Coop de France for the first time in biomass issues.

Co-funded by the Intelligent Energy Europe Programme of the European Union

THANK YOU FOR YOUR ATTENTION

Co-funded by the Intelligent Energy Europe Programme of the European Union