

REPORT ON THE ACTIVITIES RELATED TO INDUSTRIAL SYMBIOSIS

CREIAMO PROJECT

CIRCULAR ECONOMY IN OLIVE OIL AND WINE SECTORS.

VALORISATION OF BY-PRODUCTS AND RESIDUES
THROUGH INNOVATIVE PROCESSES AND NEW
BUSINESS MODELS

December 2020



Progetto CREIAMO

Economia Circolare delle filiere olivicola e vitivinicola. Valorizzazione dei sottoprodotti e degli scarti tramite processi innovativi e nuovi modelli di business

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The project is being implemented by the following partners:

<p>Coordinator Beneficiary</p>  <p>UNIVERSITÀ DEGLI STUDI DI BRESCIA</p>  <p>Associated beneficiaries</p>  <p>Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile</p>  <p>UNIVERSITÀ DEGLI STUDI DI MILANO BICOCCA</p>	<p>Department of Civil, Environmental, Architectural Engineering and Mathematics-DICATAM</p> <p>Italian National Agency for New Technologies, Energy and Sustainable Economic Development</p> <p>Department of Earth and Environmental Sciences - DISAT</p>
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Partner:



Con il contributo:



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1 INTRODUCTION

This report was prepared in the framework of WP5 – Industrial symbiosis for the cross-sectorial valorisation of the residues of olive oil and wine sectors.

This WP aims at promoting industrial symbiosis pathways, bringing together the different industrial processes using the residues of olive oil and wine sectors. Industrial symbiosis is an association between two or more industrial facilities or companies in which the wastes or by-products of one become the raw materials for another. Industrial symbiosis can help companies to reduce raw material and waste disposal costs, earn new revenue from residues and by-products, divert waste from landfill and reduce carbon emissions, open up new business opportunities. These benefits will lead to an increase in the competitiveness of companies.

The WP includes the following activities:

- Companies involvement campaign;
- Industrial symbiosis events (matchmaking) with companies;
- Analysis and elaboration of data on possible synergies. Preparation of operative manuals.

2 INVOLVEMENT CAMPAIGN

Several activities were and are going to be carried out to involve and engage companies; some of them are described in the following paragraphs.

2.1 Meetings with wine producers

The partners of CREIAMO project organised two meetings with the wine producers of Lombardy Region:

- on 2 December 2019 with the wine producers from the Consorzio Lugana (Figure 1);
- on 10 December 2019 with the wine producers from the Consorzio Valtènesi (Figure 2).

During these meetings Mentore Vaccari (DICATAM, University of Brescia), Andrea Franzetti and Alif Chebbi (DISAT Microbiology, University of Milan - Bicocca), illustrated the objectives of the CREIAMO project, the planned research activities and the advantages for companies deriving from the implementation of innovative processes for the enhancement and use of wine production residues, as well as those deriving from the adoption of business models cooperatives, such as industrial symbiosis.



Figure 1. Meeting with the Consorzio Lugana



Figure 2. Meeting with the Consorzio Valtènesi

2.2 Stakeholder mapping

The Stakeholder Mapping Plan represents deliverable D6.1 of the Creiamo project, which includes the processes required to identify the people, groups and organizations that could affect or be affected by the project. The objective of this document is to describe CREIAMO project's stakeholder mapping and its applicability in the project. Stakeholder mapping helps to better understand the key stakeholders in the system, their needs and benefits the project can offer them, and whereby to start building the community which would ensure greater acceptance and wider applicability of the project results.

The stakeholder mapping in CREIAMO project identified seven broad categories of core stakeholders (Figure 1):

- wine and olive oil companies operating in the Lombardia Region;
- local and regional authorities and national bodies;
- scientific and industrial community (universities, professional associations, associated SMEs, research centers);
- collective bodies (e.g. associations, federations, organizations) and media at local level;
- companies which industrial symbiosis can be implemented with;
- international organizations: NGOs, platforms, initiatives and networks
- companies interested in the use of biosurfactants.

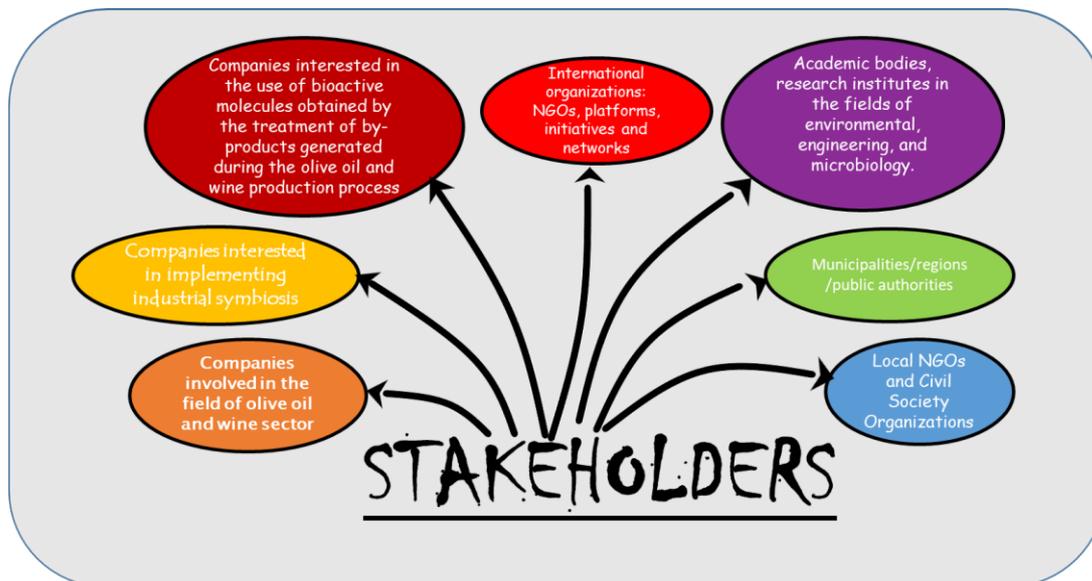


Figure 3. Categories of stakeholders for CREIAMO

The stakeholder mapping process aims to identify which stakeholders need to be engaged, in order to achieve the highest impact for the project. The stakeholders' selection is based on the content, the expected results and the impacts of the project, as well as the available resources, the objectives of the engagement, and the willingness or the ability of the stakeholders to engage and to be involved to the project.

It is noted that the participant selection strongly determines the results of an engagement process. Stakeholder mapping is a collaborative process of research, debate, and discussion that draws from multiple perspectives to determine a key list of stakeholders across the entire stakeholder spectrum.

Mapping can be categorized into three phases, which are presented in Figure 4:

- To identify all potential stakeholders;
- To assess and prioritise the stakeholders;
- To develop and understand stakeholders.
- The [video](#) and the [presentation](#) are available on the CREIAMO web site.

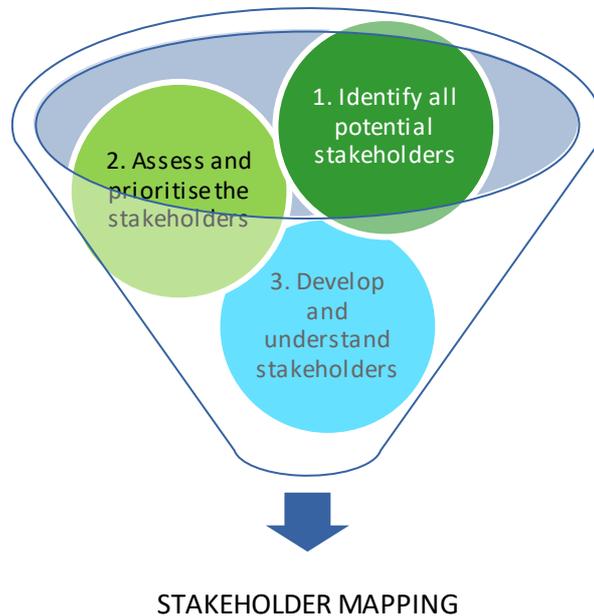


Figure 4. Stakeholder mapping methodology

2.3 First CREIAMO conference

The first CREIAMO conference “Economia Circolare e valorizzazione degli scarti di produzione di vino e olio di oliva” was organised in Brescia by the project partners on the 17th of June 2020.

The conference, addressed to companies and operators in the field of wine and olive oil production, aimed to illustrate the advantages and opportunities deriving from the adoption of circular economy strategies and tools in the olive and wine supply chains, as well as the main technological solutions for the enhancement of waste of production.

During the conference, Silvia Scaffoni (ENEA), in her presentation “Strumenti per favorire la circolarità e nuovi modelli di business nel settore agro-industriale” illustrated the main industrial symbiosis principles, along with the advantages, barrier and opportunities deriving from its implementation by the wine and olive oil production companies.

The videos and presentations of the conference are available at: <https://creiamo-circulareconomy.com/index.php/convegno-circular-economy/>

2.4 Internal workshop on industrial symbiosis

The workshop (9 October 2020) aimed at training project partners, research fellows and Ph.D. students involved in CREIAMO on industrial symbiosis. The main topics covered were:

- principles of industrial symbiosis (Silvia Scaffoni, ENEA);



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- barriers, benefits and opportunities (Silvia Sbaffoni, ENEA);
- industrial symbiosis methodology developed and adopted by ENEA (Silvia Sbaffoni, ENEA);
- previous industrial symbiosis carried out at national level by ENEA and mail outcomes (case studies) (Tiziana Beltrani and Maria Velardi, ENEA).

2.5 Webinar “Lombardia Circolare - simbiosi industriale”

Unioncamere Lombardia and the Lombard Chambers of Commerce have created Lombardia Circolare, a project to facilitate the transition of Lombard small and medium-sized enterprises towards a circular economy model. Lombardia Circolare webinars are training and refresher meetings dedicated to companies operating in the area.

The seminar on industrial symbiosis, held on 18 November 2020 with the presentations by ENEA researchers (Silvia Sbaffoni, Erika Mancuso and Tiziana Beltrani), aimed to introduce the participating companies to the theme of industrial symbiosis, highlighting opportunities, application criticalities and barriers, also through the description of case studies and activities carried out in recent years by ENEA at a regional level.

The CREIAMO project was presented, with specific focus on the activities dedicated to industrial symbiosis.

The course included a moment of final discussion with the participants and their active participation; they will in fact be asked to fill in a questionnaire, drawn up by ENEA and the University of Brescia.

3 INDUSTRIAL SYMBIOSIS EVENTS (MATCHMAKING) WITH COMPANIES

3.1 First industrial symbiosis working table with companies

The first industrial symbiosis working table with companies will take place on 19 February 2021.

The first announcement of the event has been published and the first invitations have been sent with the link to the [registration form](#).

Due to the COVID-19 emergency, this event will be an on line virtual working table; this implies and adaptation of the ENEA’s industrial methodology, which was developed for physical working tables. The event will be carried out during the morning. There will be a brief introduction by UniBS on the CREIAMO project, followed by an intervention by ENEA, which will aim to introduce the fundamental concepts of industrial symbiosis and to illustrate the methodology that will be adopted; specifically, the form that each company will have to fill in online will be illustrated during the working groups to identify synergies. Participants will then be given time to make a short presentation of the company (maximum a couple of minutes each). At the end of this introductory



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phase, the activity will begin and each participant will be asked to fill in the form to express their interest / availability for the shared resources. At the end, after a short break that will allow ENEA to make an initial processing of the results, a brief summary of the day will be made and the next steps will be illustrated, to be carried out in collaboration with the companies concerned, for the flows of resources that will be evaluated significant in terms of quantity and economic significance.

3.2 Adaptation of the ENEA's methodology

Companies that register for the working table will be sent a form to fill in, in which they will have to enter information about the resources they want to share (type, quantity, availability, etc.). This activity, which each company must carry out before the working table, is essential for identifying potential synergies during the table with other companies; having received the information about the resources, ENEA will systematize them and collect them in a database. During the work table, each participant must fill in a form online and in real time, which contains the aforementioned database of resources shared by all the companies, in which he/she must express his/her interest or availability for the identification of potential synergies. Each company will be assigned an identification code, respecting the privacy and sensitivity of the data provided, so next to each resource there will not be the names of the companies that provide or receive the resource, but only the respective codes, known only by the company itself and by ENEA.

4 YOUNG RESEARCHERS

Five young researchers (3 research fellows and 2 Ph.D. student) are working on the methodology and will work on all the activities linked to industrial symbiosis.



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