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REPLACE 3rd Interregional Event 2nd Circularity Tour

Crete, Heraklion (Greece)
7th of October 2021

The event, hosted by Crete Region, is structured in 3 days: the first day an internal learning and exchange meeting (mixed format, allowing the connection of partners that did not travel), the second day is dedicated to the Circularity Tour and the last public event is open to regional stakeholders, followed by an internal Steering Committee session.

Report of the 2nd Circularity Tour

2nd day of the 3rd interregional event; Heraklion, Crete, Greece

Agenda

08.30 - 09.00	Bus pick-up (Venizelos statue – Heraklion)
09.00 - 10.00	Travel to the Southern part of Heraklion Prefecture
10.00 – 12.00	Visit to the cheese industry “Steiakakis”
12.00 – 13.00	Travelling back
Lunch break, Ella and Diosmos Restaurant, Skalani	
14.30 – 16.30	Visit to the company “Vioaerio Kritis”, Heraklion Industrial Area
16.30 – 17.00	Bus arrival (Venizelos statue – Heraklion)

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The second circularity tour of REPLACE project, lasting a full working day, takes place in Crete on 7th of October 2021: it includes two study-visits to the facilities of Steiakakis cheese industry and Bioenergy Crete biogas plant.

Steiakaki's factory is a modern Cheese Industry, situated in Gagales village, in the southern part of the Crete Island, in Heraklion Prefecture. It is one of the leading companies of the Cretan cheese-making industry and it employs a circular procedure by making available the factory's waste-water, which is whey in liquid form, to the local stock breeders (mainly sheep farmers). In fact, this left-over, generated as a by-product of the cheese production process, is inserted into the animal's feeding chain, while a collaboration is activated and exploited with the relevant local actors that can valorise such waste-stream.

Whey is a nutritious by-product of the cheese-making process, that could easily be included to conventional animal feed. This circular and cooperative practice represents a win-win solution because it helps farmers' in reducing the cost of the animal feed, while providing a reliable solution for the Cheese Industries' waste-water management. In addition, considered the geographical proximity between the animal farming sites and Steiakaki factory, there aren't any substantial environmental costs derived from the transportation of the feeding product.

REPLACE group is welcomed by the company's owner, that offers a delicious taste of the cheese production and introduces the idea underlining the development of the circular procedure, connecting the transformation industry with the primary sector through a virtuous and sustainable practice. The visit proceeds with a tour of the facilities: a particular focus is paid to the separate pipe lines and storage tanks that are created as a pick-up point, granting an easy access for the farmers to the whey.

Moreover, Mr. Stefanakis, president of Geotechnical Chamber-Branch of Crete, is also invited to the study-trip in order to offer a technical and specialized point of view on the circular economy solution developed by Steiakaki factory.

The company owner and Mr. Stefanakis collaborated in a positive and effective manner to ensure the adoption of the sustainable and circular practice: since the president is a well-know and recognized figure among the farmers, he had an essential role in facilitating the up-taking of this solution to valorize the waste-water.

Mr. Stefanakis presents the joint effort employed to engage local breeders and cheese-making industries, with the aim of implementing this important circular economy good practice.

Mr. Stefanakis clarifies also that a legal barrier had to be overcome in order to put in practice the circular value-chain: thanks to his direct intervention with the competent Ministry, on behalf of the Geotechnical Chamber-Branch of Crete, and in collaboration with the Directorate of Veterinary of the Region of Crete, the normative issue was adjusted. In fact, the usage of whey to feed sheep needed an official approval by the relevant public authority since its use was allowed only for pigs (especially in Greece mainland).

Such an important result has been achieved by activating an important cooperation among all the public actors responsible, namely the competent Ministry, the Geotechnical Chamber-Branch of Crete, the Directorate of Veterinary of the Region of Crete and the Region of Crete.

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The second part of the circularity tour brings REPLACE team back in Heraklion industrial district, situated near the city center, to visit the facilities of the Sychem group Biogas Power Plant.

This state of the art Power Plant produces biogas from organic waste gathered from all over the Region of Crete; in fact, the company has organized a well-established network for the collection of organic waste, employing its own trucks (offering to regional companies the disposal service of organic garbage).

The Plant has developed a complete and innovative production line, capable of managing efficiently the daily intake of waste, ensuring a smooth and ongoing generation of biogas, through the exploitation of the various organic waste-streams coming from the economic activities located in the Cretan territory. The disposed materials, used to generate power, derive from regional enterprises, such as slaughters, butcher shops, fish and vegetable residuals from the local market, food-waste generated by both the hospitality industry and the supermarkets, as well as the excess of whey resulting from the cheese transformation.

The factory outputs are diversified in order to ensure that every process is maximized and every resource is optimized. Sychem main product is the electric power, contractually provided to the local Power Distributor, accompanied by the soil compost (solid and liquid form) that is sold in the relevant local market.

A crucial characteristic of the Plant allows its positioning within Heraklion city center: in fact, the factory's production line exploits an innovative method that prevent the circulation of bad smell in the nearby area. This is possible thanks to a particular technology applied at the roof top that filters the air coming from inside: the smell comes out of the industry only when the trucks enter the building through the main door. REPLACE partners have the opportunity to verify first-hand the absence of the typical pungent and strong scent that usually complement the biogas production.

The Plant successfully showcase how to optimize the main waste-streams produced in the area, accounting also for geographical factors: in fact, the economic landscape of the Region of Crete is characterized by the importance of the agri-food sector, which generates mainly organic waste streams that can enter the Sychem business model to be transformed into electric power, which is employed in the nearby industrial district.

The plant manager provides detailed information, accounts for environmental benefits of the company and explains the business model, he gladly replies to all questions raised.

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Picture of the study-trip to Steiakaki factory, Crete 07/10/2021



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Picture of the study-trip to Sychem group Biogas Power Plant, Crete 07/102021



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Picture of REPLACE 2nd Circularity Tour, Crete 07/102021



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