

REPORT ON THE STUDY VISIT IN MAŁOPOLSKA REGION



30 -31 January 2019

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Organiser of the study visit:

Marshal Office of Małopolska Region – Regional Policy Department and Environment Department

1. Agenda of the study visit

Agenda of the study visit in Malopolska Region, Poland

30-31 January 2019
Cracow, Tymbark, Bukowno

Day 1: Wednesday 30th January 2019

Venue: Cracow, Hotel Park –conference room “Beta” (Monte Cassino 2)

- 8:30 – 9:00 Registration
- 9:00 – 9:10 Welcome and introduction - Anna Mlost, Deputy Director of the Regional Policy Department
- 9:10 – 9:40 The activities of the regional administration towards building the circular economy - Karolina Laszczak, Director of the Environment Department
- 9:40 – 10:00 Regional Operational Programme for Malopolska Region 2014-2020 - axis on environmental protection
- 10:00 – 10:10 Plan of the study visit and logistics - Dorota Leśniak, Regional Policy Department
- 10:00 – 10:30 Coffee break
- 10:30 – 12:00 transport by bus to Tymbark
- 12:00 – 14:00 Study visit in MASPEX S.A. – a company in the segment of food products
- 14:30 – 15:30 Lunch in Tymbark (Zajazd Dębowe Wrota, Tymbark)
- 15:30 – 17:00 Return to Cracow
- 18.00-19.30 Visiting the Underground Museum (Main Square) with the presentation of the waste management system
- 19.30-21.30 Official Dinner (Old town, Chata Gościenna, Sławkowska 10)

Day 2: Thursday 31th January 2019

- 7.45-9.00 transport by bus to Bukowno
- 9.00-13.00 Study visit in ZGH „Bolesław” S.A. - mining and smelting complex
- 13:00 – 14:00 Lunch (Restaurant Sorrento, Bolesław)
- 14:00 – 15:00 Return to Krakow
- 15:00 – 18:00 Steering Group Meeting (Hotel Park Inn, conference room “Beta”)

Wednesday 30th January 2019

The study visit took part on 30 and 31th of January 2019 in Kraków and in two places in Małopolska Region where the cases of industrial symbioses were visited.

2. Regional administration about the circular economy

The study visited started with the presentation of the characteristic of the Małopolska Region and the regional strategic programming context. The transformation towards building the circular economy is visible in the preparation of programming documents after 2020, at regional level in the regional development strategy development. These topics were presented by Anna Mlost, deputy director of the Regional Policy Department of Marshal Office. There are some initiatives undertaken as the result of the SYMBI project that were presented: CICERONE - CirCular Economy platfoRm for eurOpeaN priorities and Programme “Social and economic Poland development in the global markets creating– GOSPOSTRATEG”. Both projects received the co-financing and will be implemented in cooperation with Department of Regional Policy of the Marshall Office.



More activities showing the transformation of regional administration towards building the circular economy were presented by Karolina Laszczak, director of the Environment Department. They included some characteristic of the waste management system in the Małopolska for 2016-2022; presenting the project of national road map of transformation towards a circular economy, EkoMałopolska programme for improving the efficiency of selective municipal waste collection. At the end some other interesting initiatives were mentioned: information campaign promoting proper waste management, competition for the municipalities in cooperation with Provincial Environmental Protection and Water Management Fund, tasks in the field of municipal waste management, „Pass it on!” – subsidies for information campaigns and activities involving the exchange, repair and re-use of objects and Ecological campaign promoting recycling upcycling, repair network and reuse.



The last part of this session was focused on the presentation of Regional Operational Programme for Małopolska Region 2014-2020 - axis on environmental protection. Within this priority the projects on waste management could be supported from European funds (25 mln EUR) in the areas: building points of selective collection of municipal waste to collect large-size waste, building installations for recovery and recycling of municipal waste, projects connected with the removal of asbestos.

3. MASPEX S.A. in Tymbark

Maspex Group is one of the biggest companies in Central and Eastern Europe in the segment of food products. The company is the market leader in the production of juices, nectars and soft drinks in Poland, the Czech Republic and Slovakia and the main producer in Hungary, Romania, Bulgaria and Lithuania. Also it ranks leader market position of jams, ketchups and sauces and is a leading manufacturer in the segment of ready meals and processed vegetable in Poland.

For years, the company's unchanged strategy has been to build brands that are deeply rooted in consumer consciousness and to accomplish projects of acquisition that may expand and develop its range of brand products. Over the last 25 years the Maspex Group has completed 19 such acquisitions, including 11 abroad.

During the study visit in Maspex in Tymbark there was the possibility to visit the cogeneration (CHP) system in fruit and vegetable processing plant in Tymbark.



The CHP system in Tymbark was launched in May 2012. It produces electric and heat energy in association as well as process steam and chilled water for the needs of the apple juice production plant

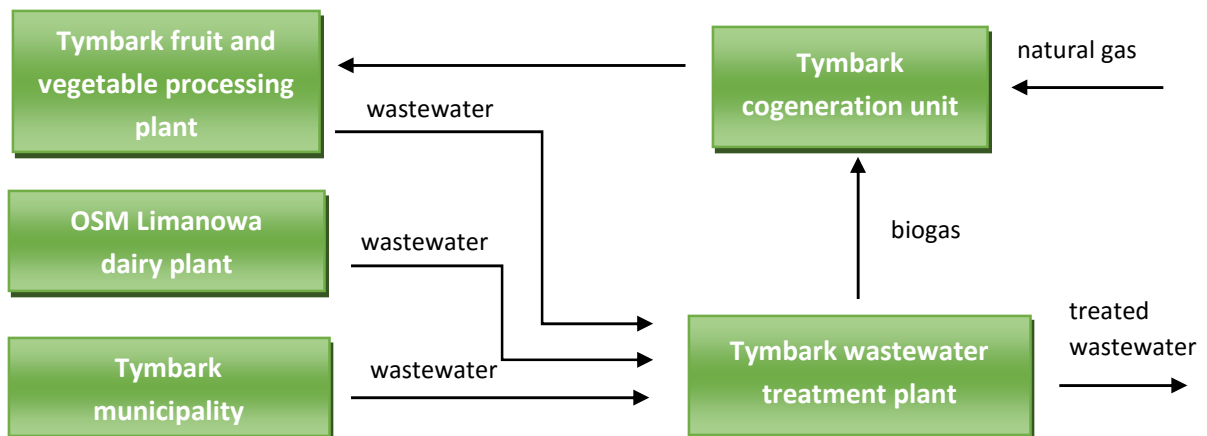
in Tymbark. The purpose of developing this system was to reduce the total demand for electricity and technological heat of the juice production plant through the use of biogas generated in the wastewater treatment plant (WWTP) and natural gas as the main fuel for electricity, process steam, chilled water and heating water production. In order to achieve the designated goal the CHP system, based on the aggregate cogeneration with an electricity capacity of 1.0 MWe, fed with bi-fuel (biogas and high-methane natural gas).

The Tymbark plant has its own WWTP equipped with a biogas reactor in the anaerobic zone in which from the treated wastewater around 300 000 m³ of biogas is produced per year, which corresponds to the accumulated energy in the amount of approximately 2350 MWh.



In order to optimally use the total amount of biogas (35 m³/h) for energy purposes, there is a biogas tank included with a working capacity of 1500 m³, which stores produced biogas for 5-6 hours of cogeneration unit operation. In the remaining 18 hours of the day, the unit automatically switches to high-methane natural gas.

The heating water, generated from the CHP motor water jacket of the cogeneration unit (temp. 80-92°C), is used for chilling water production in summer season and to cover the need for the plant heating system and to produce the processing steam in winter time.



The industrial symbiosis aspect is also realized by the Tymbark processing plant agreement for wastewater treatment received from Tymbark municipality and a local dairy plant OSM Limanowa which corresponds in about 15% of the total wastewater flow in the WWTP.

4. Historic Museum of Cracow

The last point of the programme of the day was a visiting the Historic Museum of Cracow where we could see the exhibition “Following the traces of European identity of Kraków”. The Rynek Underground exhibition presents not only Kraków’s rich history, but also the connections between the city and mediaeval Europe’s chief centres of trade and culture. Visiting the exhibition, you can get to feel the atmosphere of a mediaeval market. The exhibition is enriched with interesting models and multimedia – touchscreens, holograms, projections and documentary films presented in the spaces of the cellars under the Cloth Hall arranged especially for that purpose. During the guided tour through the exhibition there were also some information about the waste management system in the city presented.

Thursday 31th January 2019

5. ZGH „Bolesław” S.A. - mining and smelting complex

ZGH Bolesław S.A. is the largest company processing zinc in Poland and a producer of Special High Grade Zinc and its products. Company conducts zinc and lead ore mining in the Olkusz-Pomorzany mine. The excavated output is transported to the mechanical processing, where concentrates of zinc and lead are obtained in a flotation process. Zinc concentrates are directed to the smelters, where with pyro and hydrometallurgical process ZGH obtains metallic zinc and zinc alloys.



During mining and processing operations, production and storage waste is produced. In the Olkusz-Pomorzany mine the content of zinc and lead in the ore is approx. 5%. After mechanical processing in Olkusz, the ore is converted into concentrates which are sent to the smelters, but almost 60% of total material are flotation tailings (combination of water with crushed rock) that are later transported to the tailing ponds - a waste facility. In the metallurgical process, all generated waste is almost entirely used within the ZGH Boleslaw capital group.

The primary objective pursued by ZGH Boleslaw S.A. waste management is to maximize the use of waste from its own production lines at all stages of production to recover zinc and associated metals within ZGH Boleslaw S.A. capital group. This approach maximizes amount of the main metal used by the company (zinc) and associated metals in the framework of its technical and technological potential.

Therefore, the company started industrial symbiosis with other companies, which were established by ZGH Bolesław and created the whole capital group. An example of efficient processing of own and foreign zinc wastes (sludge of zinc and metallurgical dust) is a zinc-lead concentrate (zinc oxide) produced in the re-rolling process in rotary kilns (Waelz process) in Bolesław Recycling Sp. z o.o. The concentrate is an additional input of raw materials for the zinc production in RLE (Roast-Leach-Electrowin) and ISP (Imperial Smelting Process) technologies in zinc smelter in Miasteczko Śląskie S.A. (the company is part of the ZGH Bolesław capital group). During this visit we could see the flotation waste processing plant presenting the case of industrial symbiosis in mining sector.

6. Museum “Mind of knowledge about zinc” in Bukowno

Together with the visiting the mining and smelting complex in ZGH there was a chance to see the exhibition in the Museum “Mind of knowledge about zinc” in Bukowno. The Museum is located in historic administration building of the mine Ulysses and is dedicated to the history of mining and metallurgy. This was an interesting and interactive way of perpetuating the world that will soon be gone.



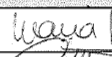

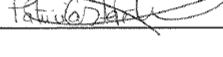

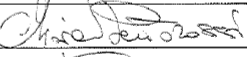


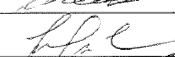
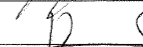


7. Participants

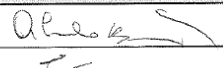



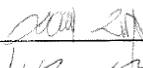


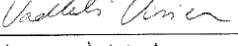
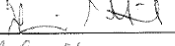
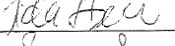
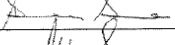
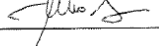
In total, during both days, 30 persons took part in the study visit in Małopolska Region.

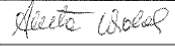


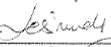






Except the project partners, there were stakeholders present from Hungary, Slovenia and Poland (together 8 institutions/companies).

ATTENDANCE LIST

Nº	NAME	ORGANIZATION	SIGNATURE
1	Maria Gracia Benitez	FUNDECYT – PCTEX	
2	Maika Diaz Aguilar		
3	Patricia da Costa Felix		
4	Raúl Vega	Junta de Andalusia / Environment and Territory Regional Ministry	
5	Francesca Cuna	Chamber of Commerce of Molise	
6	Miriam Pettorossi		
7	Francescopaolo Oriente		
8	Dejan Hribar	Government Office for Development and European Cohesion Policy	
9	Vladimir Vrečko	Company Cinkarna Celje	
10	Nevenka Ferfila	University of Ljubljana Faculty of Health Sciences	
11	Vladimir Vrečko ALJA DRAŽUŠERIC	government office for development and European cohesion policy	

Nº	NAME	ORGANIZATION	SIGNATURE
12	Burja Alenka	Environmental consultancy	
13	Eleni Trikilidou	Municipality of Kozani	
14	Vasilis Papatthanasiou		
15	Ioanna Liakou		
16	Zoltán Kalcsú	Pannon Novum	
17	László Vatics		
18	Róbert Musits	ÖKO-INNOVA	
19	Vivien Vadkerti	MINISTRY OF INNOVATION AND TECHNOLOGY	
20	Harri Mattila	Häme University of Applied Sciences	
21	Iida Holck		
22	Karolina Laszczak	UMWM	
23	Anna Mlost	UMWM	

Nº	NAME	ORGANIZATION	SIGNATURE
24	Aneta Widak	UMWM	
25	Kinga Dulemba	UMWM	
26	Agnieszka Piątek	UMWM	
27	Dorota Leśniak	UMWM	
28	BIOTR KARERA	TYMBARU	
29	Andrzej Płuda	CEŚ	
30	Paweł Wojcik	ZGM	
31	Paweł Grynajew	ZGM	



For more information please visit our webpage: www.malopolska.pl