

OUTPUT FACT SHEET

Pilot actions (including investment, if applicable)

Version 2

Project index number and acronym	CE1125, CIRCE
Lead partner	ARPAV
Output number and title	O.T3.1 PILOT ACTIONS TO TEST THE BUSSINESS MODEL AND QUALITY STANDARDS VERIFICATION
Investment number and title (if applicable)	
Responsible partner (PP name and number)	CISTOCA CETINSKE KRAJINE LTD., 8
Project website	https://www.interreg-central.eu/Content.Node/CIRCE2020.html
Delivery date	12.2019

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

The CIRCE2020 project analyzed an alternative way of managing fish by-products with the aim of valorizing the most valuable components of fish tissue, fish oil, which may be used as input material for the production of omega 3 concentrate, a high value product of the pharmaceutical and food supplement industry.

The project envisages simple and inexpensive methods to extract fish oil from the fish by-products and thus bridge the gap between the waste donor and the potential waste recipient companies.

Alongside environmental benefits, proposed solution may also bring considerable positive financial effects for the waste donor and waste recipient companies.

As concluded in the LCA and LCC report, further steps of CIRCE 2020 project development, need to focus on closing the gap between waste donor and waste recipient companies. Pilot action need to be directed toward raising awareness of potential waste donor companies regarding the possibility of by-products valorization and producing high value products (fish oil and protein meal) from fish tissue wastes (by-products). Furthermore, pilot action is directed towards raising awareness of waste recipient companies to evaluate and find possibilities for exploitation of the fish oil.

Campaign started on July 25, 2019, when a public invitation for expressing interest to fishing companies for participating in the pilot project was published on the Čistoća Cetinske krajine website. Conex Trade d.o.o., fish processing company, expressed interest in participating.

Conex Trade d.o.o. is one of the leading companies in the fish processing sector in the territory of the Republic of Croatia. The company is located in the City of Trilj in the Split-Dalmatia County and it is a state-of-the-art fish canning factory with a capacity of 25 million cans per year.

A representative sample of fish by-product (approximately 20 kg sample) was taken from Conex Trade in August 2019.

Laboratory analysis (laboratory extraction of fish oil, water and protein from the sample) was carried out at the Faculty of Chemical Engineering and Technology, University of Zagreb in September 2019.

Following the laboratory analysis, a report on the implementation of the laboratory processes was made, with expert analysis and commentary on the results.

In October 2019, the Croatian Chamber of Economy organized an environmental consultation and meetings that included stakeholders to discuss the most promising management of fish by-products in view of the pilot project on the valorization of fish by-products.

In November 2019, a circular economy week was held in Sinj and Split where case study results were publicly displayed. After the lecture, a visit was made to the Conex Trade company. The whole event was covered by national and local media and a news reportage was filmed

NUTS region(s) concerned by the pilot action (relevant NUTS level)

NUT region is Split - Dalmatia County (HR035). The chosen pilot area is the Split - Dalmatia County but with the accent on the largest settlement on the hinterland - Sinj, which is also the subregional center of the hinterland. Split - Dalmatia County (SDC) is located in the central part of the eastern Adriatic coast. The surface of the land area, with the surface of the island is about 4,540 km² (about 8% of the land area of the Republic of Croatia), and the surface of the sea part is 9,576 km² (about 31% of the sea surface of the Republic of Croatia).

Investment costs (EUR), if applicable

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

As concluded in the LCA and LCC report, further steps of CIRCE 2020 project development, need to focus on closing the gap between waste donor and waste recipient companies. Pilot action is directed toward raising awareness of potential waste donor companies regarding the possibility of by-products valorization and producing high value products (fish oil and protein meal) from fish tissue wastes (by-products). Furthermore, pilot action is directed towards raising awareness of waste recipient companies to evaluate and find possibilities for exploitation of the fish oil.

Campaign of raising awareness started on July 25, 2019, when a public invitation for expressing interest to fishing companies for participating in the pilot project was published on the Čistoća Cetinske krajine website. Conex Trade d.o.o., fish processing company, expressed interest in participating.

Laboratory analysis was carried out at the Faculty of Chemical Engineering and Technology, University of Zagreb in September 2019.

Following the laboratory analysis, a report on the implementation of the laboratory processes was made, with expert analysis and commentary on the results.

In October 2019, the Croatian Chamber of Economy organized an environmental consultation and meetings that included stakeholders to discuss the most promising management of fish by-products in view of the pilot project on the valorization of fish by-products.

In November 2019, a circular economy week was held in Sinj and Split. During the circular economy week in Sinj, case study results were publicly displayed alongside presentations on various topics regarding waste management and circularity issues. A sample of fish oil (semi-finished products) obtained by laboratory analysis is presented. After the lecture, a visit was made to the fish processing company Conex Trade, which is a donor of fish by-product in the CIRCE2020 Project. The whole event was covered by national and local media and a news reportage was filmed.

Sustainability of the pilot action results and transferability to other territories and stakeholders.

The pilot project sought to provide insight to stakeholders (primarily waste donor and waste recipient companies) about opportunities that may, in addition to environmental benefits, have significant positive financial effects for the stakeholders.

Among others, Croatian Chamber of Commerce and national news channel got involved in promotion activities. Croatian Chamber of Commerce helped spreading the conclusions made regarding the foreseen conceptual solution of fish wastes management to potential stakeholders and national television has broadcasted the envisioned solution on national level. Hopefully, fish industry will recognize its interests in implementation of the envisioned solution.

Furthermore, solution presented may be applicable for other coastal Counties besides Split-Dalmatia County.

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

Participation of experts and representatives of "PI RERA SD" and "Čistoća CK" on intensive transnational training for national trainers in BASSANO DEL GRAPPA (Italy), organized by the public multi-utility company "ETRA", in order to support and encourage the 5 new multi-utility companies from Central Europe in introducing the concept of circular economy by using tools developed through the Project.

Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-discrimination

Pilot project is aimed at raising awareness of fish processing companies on the waste management issue. Sustainable solution is presented to decision makers of the industry on local and national level. Among others, Croatian Chamber of Commerce and national TV news channel got involved in promotion activities. Croatian Chamber of Commerce helped spreading the conclusions made regarding the foreseen conceptual solution of fish wastes management to potential stakeholders and national television has broadcasted the envisioned solution on national level. Hopefully, fish industry will recognize its interests in implementation of the envisioned solution.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

Relevant deliverables concerned:

- D.T3.2.1 Closing the loop & activation of secondary raw material markets in the pilot areas
- D.T3.2.2 Pilot actions infographics (one per each waste/flow)
- D.T3.2.3 Report on implementation of the pilot actions

As concluded in the LCA and LCC report, further steps of CIRCE 2020 project development, need to focus on closing the gap between waste donor and waste recipient companies. Therefore, pilot action is directed toward raising awareness of potential waste donor companies regarding the possibility of by-products valorization and producing high value products (fish oil and protein meal) from fish tissue wastes (by-products). Furthermore, pilot action is directed towards raising awareness of waste recipient companies to evaluate and find possibilities for exploitation of the fish oil.

**FISH WASTE
(BYPRODUCT)**



 ČISTOĆA CETINSKE KRAJINE d.o.o.

