

LIFE CONQUER PROGRESS UPDATE

Sustainably exploiting the side stream of the salmon processing industry for producing salmon peptides and oil

Since the project's inception, biomega® has been working diligently on various aspects of the LIFE CONQUER project. Progression on new and innovative logistics and technical solutions for the raw material is now in motion. The first evaluation to test the transport, offloading and processing is planned for Spring 24, while preliminary 3D models and a new process line has been established for extracting protein from the salmon bones.

In addition, there have been pilot scale tests completed for the installation of the spray drying in situ. Data was collected from several peptide productions and a preferred supplier has been selected from a pool of potential suppliers. This has been incorporated into a preliminary design for the building, equipment layout and more.

Outside of the technical development, a preliminary lifecycle analysis is in process, alongside the first economic reporting period. Market and stakeholder analysis has also been initiated with a new partner, our efforts towards being more sustainable are well recognized at various human nutrition tradeshows and conferences.

biomega® has since applied for an amendment to the project's timeline to deliver the project to satisfactory completion.

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life conquer

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ABOUT THE PROJECT

The LIFE CONQUER project aims at sustainably exploiting the side stream of the salmon processing industry for producing salmon peptides and oil, to be used as ingredients for human nutrition at large scale. A sustainable first of-its-kind biorefinery will be developed in Hirtshals (Denmark) based on know-how developed by biomega® Denmark, the Coordinator, in its DEMO plant, bringing the process from TRL 6 to TRL 8.

The building of such a big system is huge in terms of effort and investments. The beneficiary coordinator already started the work in autumn 2021, by using their own resources, to set-up all the external infrastructure and some of the equipment needed for producing salmon peptides and oil as ingredients for human nutrition. At the beginning of the LIFE project, the biorefinery will be ready to host and to demonstrate the innovative i) solutions for extracting proteins from bones ii) the in-situ spray drying iii) an innovative inbound logistics for raw material, the three main objectives of LIFE CONQUER project.

OBJECTIVES

Once the three systems will be set-up, tested and optimized the whole biorefinery will be ready to demonstrate at industrial scale the following environmental goals in line with the priority of LIFE programme:



Bio-waste reduction

Of app. 18.300 tonnes/year of salmon offcuts saved



GHG reduction

Of app. 1,600 tonnes of CO₂eq/year



Water efficiency

Of app. 30,000 tonnes/year



Thermal energy saving

Of app. 23.7 Gwh/year

The project will have the benefit of the creation of new jobs, as 17 FTE will be employed in the biorefinery starting from 2023.

IMPLICATIONS

The concept developed is deeply ingrained within the concept of circularity, as opposed to take-make-dispose model, and it is perfectly in line with the European Bioeconomy Strategy:

- preserve nature and restore healthy ecosystems (18,300 tonnes/year /year of side-stream from the fish processing industry will be exploited to produce high-value compounds closing the production cycle);
- create new green jobs in rural and coastal areas (employment of 17 new people in the coastal area of Hirtshals);
- turn waste into new added value products (undervalued raw material from the salmon processing industry will be transformed through biotechnology into nutritious premium food and premium pet food ingredients, generating an increased revenue);
- provide additional income for farmers, foresters and fishermen (the providers of side streams from fish processing industry will increase their business by establishing collaboration with biorefineries).

