AQUAPHOENIX
CLEAN AQUACULTURE | CIRCULAR WASTE

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AQUAPHOENIX is an EU-funded project that is working to capture and reuse aquaculture waste. The project draws on the diverse expertise of scientists, research institutes, fish farmers, industry actors and local, regional and EU organisations and institutions from Finland, Sweden, Belgium and the Netherlands. Together, they are working to further develop novel waste collection technologies, assess the environmental benefits of waste collection, and test the conversion of aquaculture waste into clean assets like renewable energy and sustainably sourced fertilisers. These activities are being undertaken to unlock sustainable growth for the aquaculture industry, promote healthy seas, and help advance the transition to a Zero Pollution Europe.

Aquaculture is the fastest growing food sector in the world. But this growth presents a challenge: fish farms release waste (sludge) that can emit harmful amounts of nitrogen and phosphorus (N+P) and risk pollution and food security.

NORCE (Norwegian Research Centre) is leading the scientific effort to measure the effects of sludge collection on the ecosystem. Framo, a leading pumping and aquaculture technology manufacturer, is contributing novel technologies for collecting, treating and storing sludge that can be easily integrated into existing open sea fish farms. Working with local fish farmers, Framo will optimise and demonstrate sludge collection technologies in active production sites in Norway and the Åland Islands.

The participating fish farming companies in Norway are Eide Fjordbruk and Lingalaks, both of which operate commercial aquaculture sites across Vestland County. Brändö Lax, Storfjärdens Fisk and Ålands fiskodlarförening represent the Åland Islands.

“We all want to operate fish farms as sustainable as possible to secure jobs, ensure a productive aquaculture industry and promote the long-term health of our fjord,” says Sondre Eide, third-generation fish farmer and CEO of Eide Fjordbruk.

“The AQUAPHOENIX project aligns perfectly with Lingalaks’s strategy to build a sustainable business, locally, with a minimum to zero footprint on our shared environment,” says Erlend Haugervoll, second-generation fish farmer and Managing Director of Lingalaks.

Collecting aquaculture waste is only the first step of AQUAPHOENIX’s ambitious work plan. In collaboration with the waste management and recycling company Ragn-Sells and other industry players, project partners will test and validate the conversion of sludge into renewable assets like clean energy. Ragn-Sells will contribute with technology to convert the sludge into phosphorus, which can be used as new feed ingredients and fertiliser in agriculture.

“Sludge from aquaculture is a resource gone astray. We see that sludge collection will become a major industry both locally and internationally in the future. Framo is strongly focused on developing industrial sustainable solutions and aims to become a leading player in this market,” says Martijn Bergink, Business Unit President Pumping Systems at Framo.

“Circular technology for aquaculture facilities reduces climate impact, lessens the burden on fjords, and produces more fish from each facility. At the same time, we utilise valuable raw materials and help reduce Europe's dependence on imported energy and nutrients," says Vidar Svenning Olsen, CEO of Ragn-Sells Norway.

By applying novel technological, environmental and circular economic principles, AQUAPHOENIX is working to reduce the environmental impact of aquaculture while ensuring sustainable growth for the industry and forging new pathways for nutrient management and recycling.