



EU LIFE project "ALGAE – ECONOMY-BASED ECOLOGICAL SERVICE OF AQUATIC ECOSYSTEMS" (AlgaeService for LIFE) filling gaps in a circular economy





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INTRODUCTION



Accumulation of excessive amounts of micro- and macroalgae biomass in aquatic ecosystems worldwide has caused environmental damages and socioeconomic losses encouraging attention in harvesting of algal agglomerations.

The goal of the project AlgaeService for LIFE (2018–2023) is to test and demonstrate innovative complex system that has three interlinked elements:

- > prototypes for cyanobacteria and macroalgae biomass harvesting to improve water quality and provide ecosystem service;
- > validation of distant methods to define hot-spots of algal agglomerations in real conditions;
- redesigning of harvested waste biomass into valuable bioproducts for recycling of environmental resources and restitution of ecosystem service costs.



The circular economy project seeks:

- > to address integrated management of nutrients and organic pollution caused by agriculture,
- > suggest measures applicable at catchment scale,
- > supports green economy concept by testing harvested biomass for high value bioproducts, biogas production, slow release fertilizers.

ECOLOGICAL SERVICE

APPLICATION for BIOPRODUCTS

Low value bioproducts **Optimisation of harvesting** Testing & Demonstration harvesters methodoly of blooms Fertiliser for forest replanting and/or large AS-L & small AS-S monitoring biomass plantation Satellites Large (AS-L) The Curonian Lagoon DISTANT Cyanobacteria scums METHODS Slow release natural fertilisers for agriculture UAV Dubysa Chl-a (mg/m³) **Biogas** production Curonian Lagoon Oporzyńskie **High value bioproducts** Harvested biomass from lakes & rivers Small (AS-S) lakes and rivers scums & mats **Cosmetics** Natural dyes - phycocyanin

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