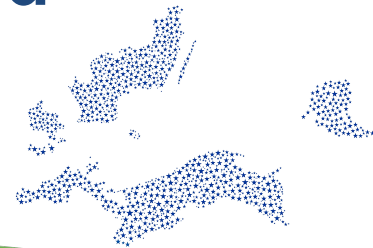




Cluster On Anaerobic digestion environmental Services and nutrients removal

Closing the nutrient loop by harvesting beach wrack and applying digestate on farmland

Jörgen Held
Baltic Energy Innovation Centre



Baltic macroalgae conference
6-7 May 2021

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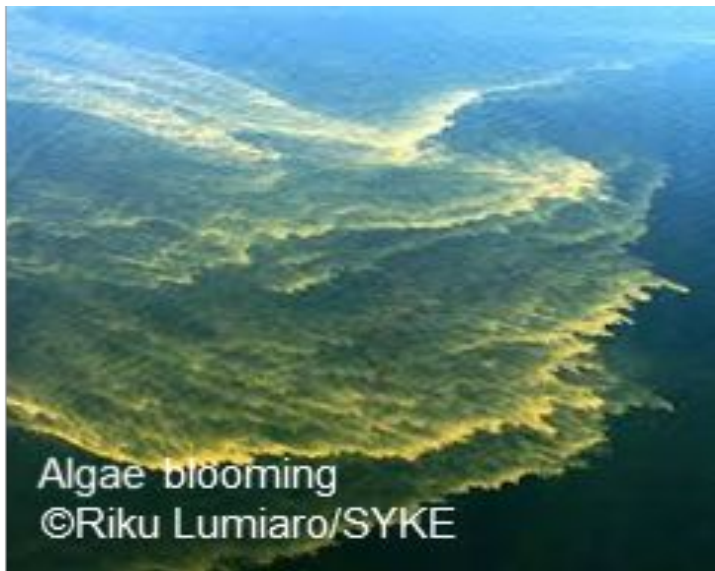
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The challenge



Eutrophication has both ecological and social consequences and is one of the major environmental problems in the Baltic Sea.

The COASTAL Biogas project is a response to this challenge.



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COASTAL Biogas



- Programme: Interreg South Baltic
- Budget: 1,666,820 €
- Duration: 42 months (07/2018 – 12/2021)
- Participation: 6 partners from 5 countries

FNR – coordinator

Gdansk University of Technology

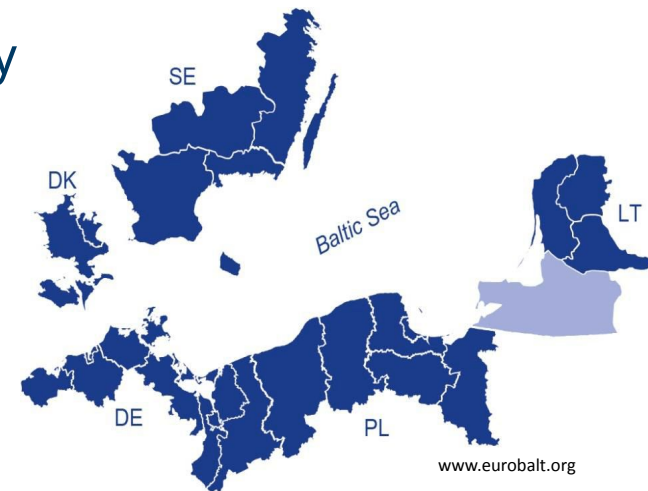
Baltic Energy Innovation Centre

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+ 11 Associated partners



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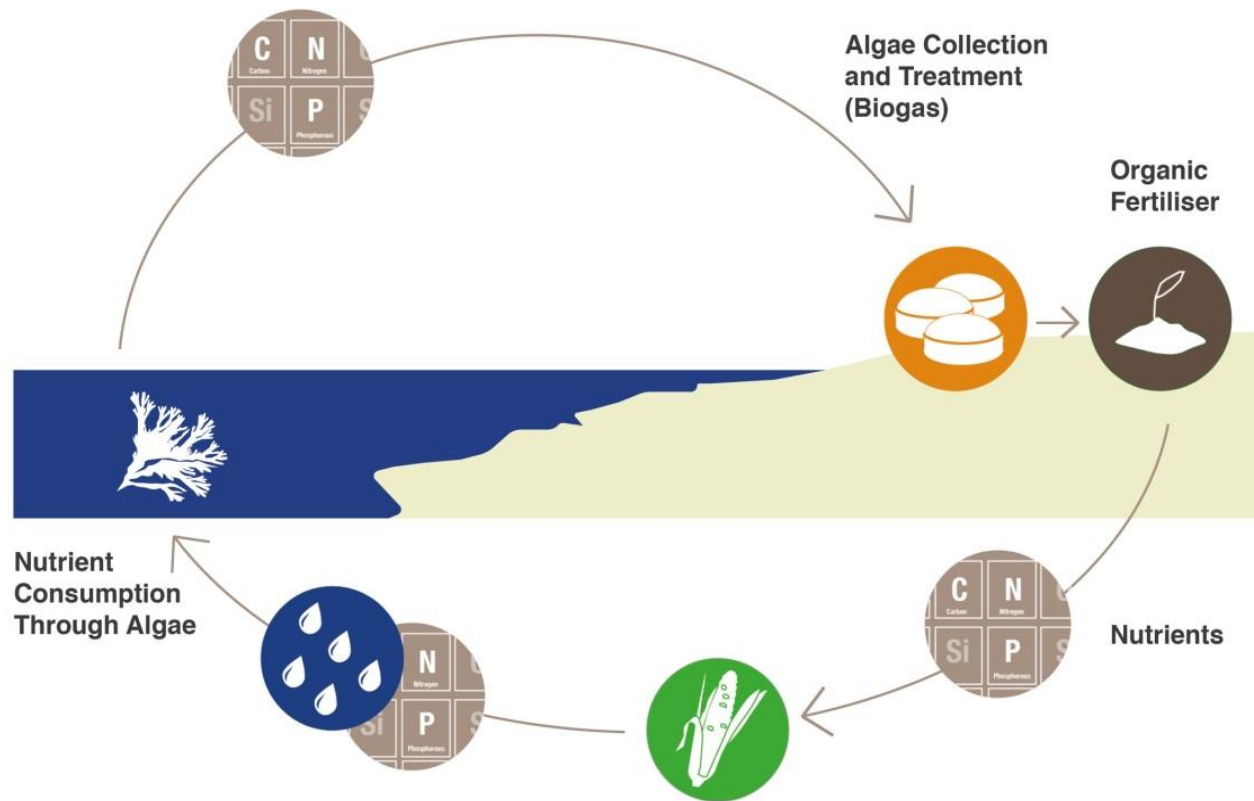


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What the project is about...



Provide solutions based on anaerobic digestion of cast seaweed to coastal regions to tackle eutrophication, contribute to the transition to a circular bio-economy and improve prosperity.



Angela Clinkscales,
UROS

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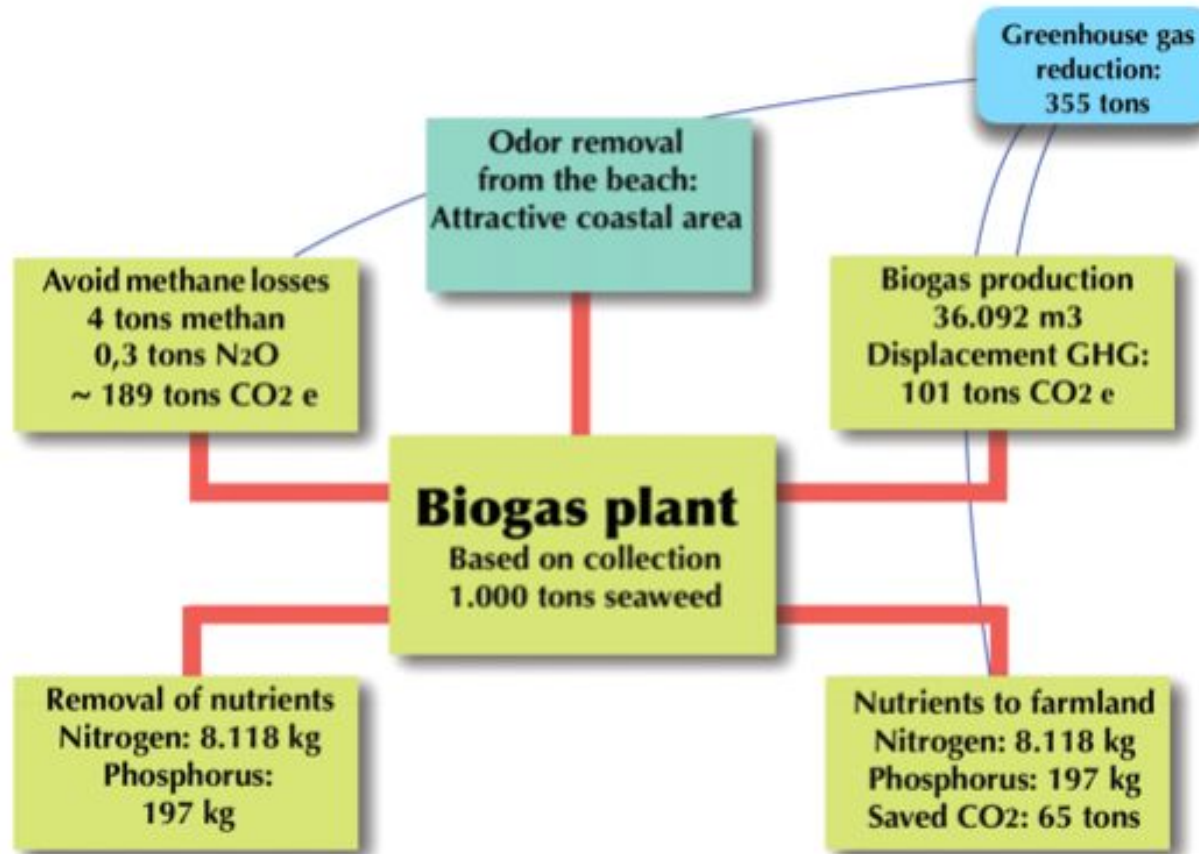
Cast seaweed as substrate



Cast seaweed is co-digested in industrial scale at Solrød Biogas plant in Denmark.

1,522 tons of cast seaweed was processed in 2019. The total capacity of the biogas plant is 226,000 tons of substrate.

Environmental benefits



Source: Prof. Tyge Kjær, Roskilde University. Presented at 4th COASTAL Biogas conference.

Cast seaweed as substrate



The biogas yield depends on how fresh the cast seaweed is.
The fresher, the better!

The sand content is challenging - increased wear on biogas equipment and sand accumulation in the digester.

Digestion of cast seaweed as single substrate is not feasible
-> co-digestion

Contributes to a more stable process (trace elements, nutrients)

Increased biogas yield – synergies (seems to have a positive impact on the process conditions)

Socio-economic benefits



Reduce eutrophication - close the nutrients cycle – circular bio-economy and organic farming – less need for synthetic fertilisers

Eliminate the inconveniences with rotten seaweed on the beaches (smell, flies, GHG emissions and release of toxic H_2S) and improve water quality for the benefit of recreation, tourism and value of coastal residential properties



Socio-economic benefits



Create local value chains – regional development and new job opportunities

Cost efficient solution compared to direct reduction of fertiliser on farm land (nitrogen directive, water framework directive)

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Save the
date

Biogas and digestate from cast seaweed - anaerobic digestion

17.06.2021 | 10:00-15:30 CEST

Online – free of charge- limited to 100 participants

[Registration and agenda: https://www.coastal-biogas.eu/events/conference-poland](https://www.coastal-biogas.eu/events/conference-poland)

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Contact:

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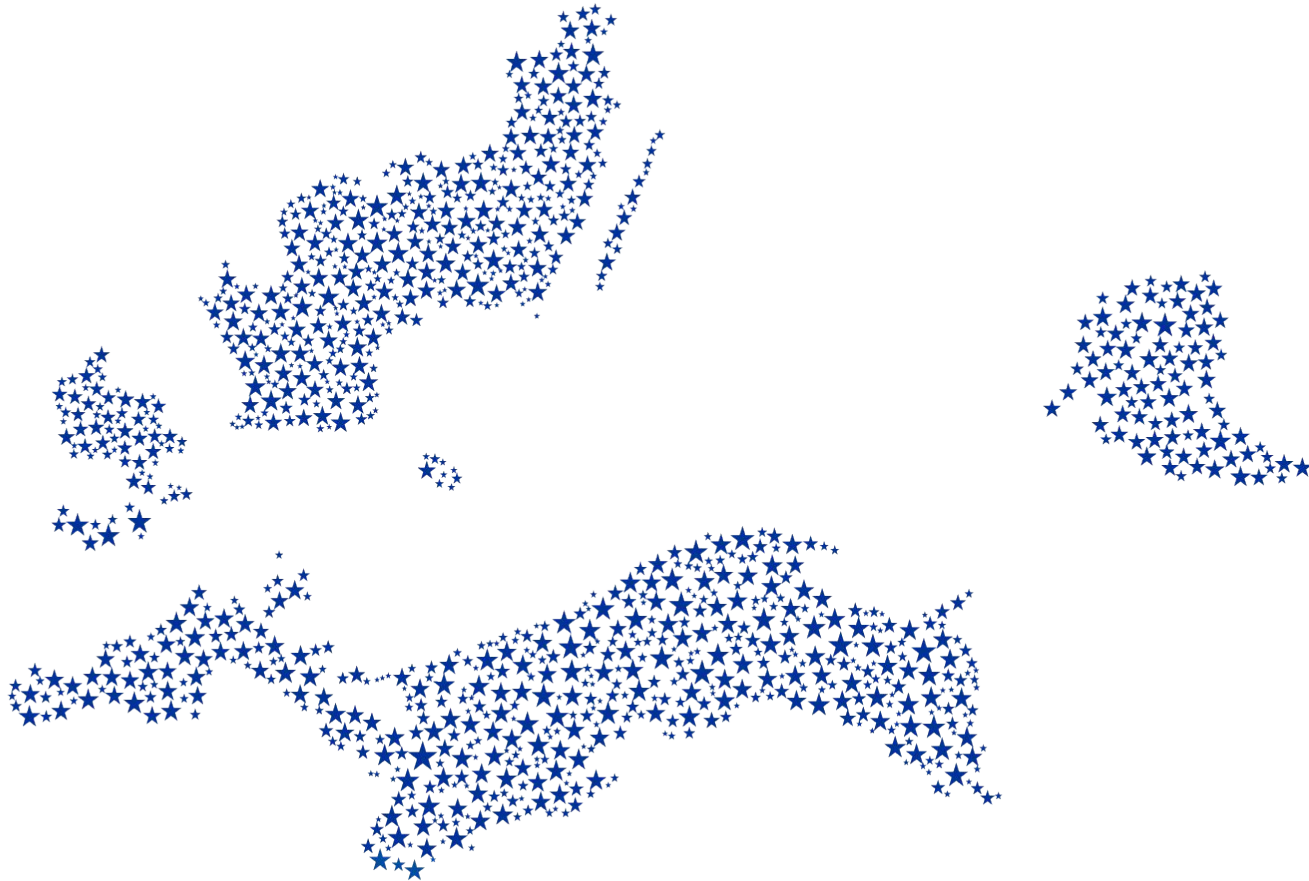
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Thank you!



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