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BOOK OF ABSTRACTS

Fertilizer quality of anaerobic digestate produced from marine residual resources (CIRCULIZER)

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The access to marine residual resources is large in Norway, yet its use in agriculture remains limited. **Circulizer project** aims to improve the circularity between the blue and green sector, by increasing the knowledge of the use of marine residues (i.e. fish sludge and fish silage) for biogas production and its effects on the fertilizer quality (digestate) and environment. While the quality of digestate from food waste and animal manure has been extensively studied, the impact of incorporating increasing proportions of new marine residual resources remains to be investigated. To be able to substitute mineral fertilizer with digestate derived from marine residues, farmers require knowledge of its nutrient composition and availability. In contrast, biogas plant operators need assurance of a market for both biogas and digestate before investing in new facilities. Circulizer will run lab and field scale experiments where the biogas process performance and digestate quality will be assessed. Expected outcomes are: (i) Enhancing the green transition and circularity of Norwegian food production by recycling valuable nutrients from fish production for agricultural use; (ii) Ensuring environmental safety by addressing concerns related to heavy metals and organic pollutants; (iii) Increasing the utilization of marine residual resources for biogas production; (iv) Supporting the growth of the fish farming industry in Norway by improving waste treatment and recycling options for unavoidable residual resources, thereby facilitating increased fish production and nutrient recycling.