

Ragn-Sells and C-Green collaborate on circular sludge management

C-Green AB
www.c-green.se

PRESS RELEASE

2023-01-09

The Swedish clean-tech company C-Green and the environmental company Ragn-Sells, one of Sweden's largest sludge handlers, have signed a cooperation agreement with the goal of establishing 8–10 C-Green biorefineries in the coming years. The first facility will be located outside Norrköping and become operational in 2023, a project that is partly financed by the Swedish Energy Agency with about SEK 40 million.

Today, about one third of Sweden's sewage sludge is spread on arable land, to recover the vital phosphorus and nitrogen found in the sludge. To recover the phosphorus from the remaining two-thirds, the sludge must be incinerated. C-Green's technology uses hydrothermal carbonization (HTC) in a sustainable and energy-efficient way to convert sludge into hydrochar, which can then be used as biofuel. The resulting ash can be processed using Ragn-Sell's Ash2Phos technology to extract phosphorus and other substances from the ash. C-Green's technology also enables the recovery of the nitrogen from the sludge.

- If we are serious about creating a sustainable society, we must use the raw materials that we already have, over and over again. That is why we look forward to the collaboration with C-Green and to combining their technology with our other processes enabling us to capture vital nutrients such as phosphorus from even more sewage sludge, says Jonas Wibom, business development manager at Ragn-Sells.

The goal for the coming years is to evaluate and commercially establish C-Green OxyPower HTC™ biorefineries at Ragn-Sell's recycling facilities. The first facility will be located at Häradsudden outside Norrköping, south of Stockholm and is planned to be operational this year, a project partly financed by the Swedish Energy Agency with about SEK 40 million. The facility will also extract nitrogen.

- Together with Ragn-Sells, we are now taking a big step forward in the cyclic recycling of plant nutrients and energy from sewage sludge, says Michael Sjöberg, CEO of C-Green. In a single effort, we will eliminate many of the problems that municipalities have with their sludge management, while at the same time reducing negative climate impact and creating a cleaner environment. The 8-10 facilities that we aim to deliver in collaboration with Ragn-Sells will mean a significant acceleration of C-Green's growth on our home market.

The world's first OxyPower HTC™ facility is located at Stora Enso's mill in Heinola, Finland. It has the capacity to convert 18,000 tonnes of sludge per year into hydrochar and reduces the mill's climate impact by an estimated minimum of 2,500 CO_{2eq} per year.

- By including this technology in our offers to treatment plants, we will be able to guarantee the recovery of phosphorus even for sludge that is not suitable for spreading on arable land. The hydrochar can be incinerated in a way that enables the recovery of phosphorus from the ash through the technology Ash2Phos, which our innovation company EasyMining has developed, says Jonas Wibom.

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C-Green media for public publication:

Find images, videos, and documents at tiny.cc/cgreen

ABOUT C-GREEN

C-Green is a Swedish cleantech company offering a technology that converts organic wet waste into useful products in a cost-effective and climate-smart way. C-Green's technology converts sludge and other wet organic waste into hydrochar, a dry, sterile, bio-based, carbon-enriched product that can be used as biofuel or as soil improvement. C-Green's OxyPower HTC™ biorefineries offer waste managers, industries, municipalities, agriculture and food producers a safe and sustainable wet waste management solution while enabling nitrogen and phosphorus recovery and increasing biogas production. The global production and handling of sludge is a major contributor to greenhouse gas emissions. Compared to current methods of sludge management, as much as 80% of greenhouse gas emissions from sludge handling can be avoided with C-Green's technology.

www.c-green.se

ABOUT RAGN-SELLS

The environmental company Ragn-Sells transforms waste into clean raw materials so that they can be used again and again. Ragn-Sells drives the transition towards a circular economy through solutions that reduce the environmental and climate impact of other actors. Ragn-Sells wants to be a clear example of how growth and caring for the planet can go hand in hand. Ragn-Sells is a private, family-owned group company, founded in 1881. The company's operations are spread over five countries and include 2,300 employees, of which 1,500 in Sweden, and turnover of SEK 7.6 billion in 2021.

www.ragnsells.se

See also EasyMining's website with more information about the Ash2Phos technology:

www.easymining.se