

Bioenergy Innovation Award 2016

Antec Biogas

The award committee's citation:

This year's winner scored high on the three pillars of the Bioenergy Innovation Award, i.e. innovative thinking, research-based development and commercial potential.

The winner has developed a new type of biogas reactor based on plug-flow transport of the biodegradable material through the reactor. The process consists of several chambers mounted in series, enabling the optimization of the various sub processes in each separate chamber. In addition, the reactor is a biofilm reactor, which means that the microorganisms can live in the biofilm and will not follow the biomass leaving the reactor.

This represents a possible game changer within biogas production. Using this multi-chamber solution, biogas can be a profitable source for green energy, and a 50% reduction in production costs is expected.

This is ground-breaking news and will make production of biogas profitable within far more areas than today, hence creating new markets for biogas. The new reactor tolerates higher fraction of dry matter, and the residence time is significantly reduced, which means that the reactor can be much smaller than conventional reactors and the production costs per cubic meter gas is considerably lower. At the same time, the energy consumption is reduced to around 20% compared to conventional reactors.

The commercial potential of the new reactor is strong because it is robust, standardised, flexible, easy to upscale, and can produce cheaper biogas than the current alternatives. The company's strategy is to offer the market a reactor that can reduce the costs considerably and increase the production of gas from a variety of feedstocks like sewer sludge, municipal food waste, waste from agriculture and aquafarming, as well as from large kitchens.

This year's winner is a spin-off company from the research community at the Norwegian University of Life Sciences (NMBU) and the Norwegian Institute of Bioeconomy Research (NIBIO). The company has a close collaboration with NMBU and has a research agreement with NIBIO to test this new biogas reactor. Furthermore, an agreement has been signed regarding the building of a full-scale biogas plant in Slovakia. The plant is currently in the construction phase and its start-up is expected during fall 2016.

This novel biogas reactor can become a successful Norwegian export commodity that can create new business opportunities for many, both in Norway and internationally.

The 2016 Committee:

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