

Press release

nova-Institut GmbH (www.nova-institute.eu)
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Winners of innovation award “Best CO₂ Utilisation 2019” by Covestro and nova-Institute chosen

First-time innovation award “Best CO₂ Utilisation 2019” goes to Carbicrete (Canada) for cement-free carbon-negative concrete. The second winner is Nordic Blue Crude (Norway), with synthetic kerosene, petrol and diesel, and the third winner is b.fab (Germany) with an innovative biotechnology based on synthetic biology.

After a short presentation of the six nominated companies, selected beforehand out of 20 applicants by a jury, the three award winners were chosen by the expert audience at the “7th Conference on Carbon Dioxide as Feedstock for Fuels, Chemistry and Polymers” (www.co2-chemistry.eu). With 200 participants, the conference was able to further establish itself as one of the world's most important meeting places for the young Carbon Capture and Utilization industry.

Dr Markus Steilemann, chairman of the board of the award sponsor Covestro AG, awarded the innovation prize together with Michael Carus, Managing Director of nova-Institut GmbH and organizer of this internationally renowned conference.

“The new award highlights the increasing importance of CO₂ as a sustainable new feedstock”, said Dr Markus Steilemann, CEO Covestro. “We are proud to sponsor the prize since we want to support and promote this important topic.”

Organizer Michael Carus, nova-Institute, was enthusiastic about the overwhelming response: *“The announcement of the first innovation award “Best CO₂ Utilisation 2019” attracted 20 applicants and an unexpected number of outstanding innovations in the field of Carbon Capture and Utilisation (CCU). This shows how active companies are in implementing industrial carbon use. We congratulate all winners!”*

nova-Institute is proud to announce the award recipients:

First place:

Carbicrete Inc. (Canada): Carbicrete

Carbicrete’s patented process enables the production of cement-free, carbon-negative concrete. Cement is replaced in the concrete mix with ground steel slag and the concrete is cured with CO₂ instead of heat and steam. Their concrete has lower material costs and better mechanical and self-healing properties than cement-based concrete. A standard-size 18 kg concrete masonry unit (CMU) made according to this process captures 1 kg of CO₂. In total, 3 kg of CO₂ emissions are avoided by the additionally lower energy requirement in production for each

block produced. Adoption of this technology by a plant producing 25,000 CMUs per day would result in the use of 25,000 kg of captured CO₂ per day. www.carbicarete.com

Second place:

Nordic Blue Crude AS (Norway): Nordic Blue Crude

Nordic Blue Crude AS (NBC) is the world's first company to produce synthetic kerosene, diesel and petrol, as well as naphtha for the chemical industry and waxes for the cosmetics industry from renewable energies, water and CO₂ on a large scale. Instead of producing these products from crude oil, Fischer-Tropsch technology is used to produce synthetic crude oil called "Blue Crude" from renewable energies, water and CO₂. For this purpose, the electrolysis technology of the German company Sunfire is used, with an exclusive license agreement for Scandinavia. The first plant is to be built in Herøya, Norway's largest industrial park. Norway with its cheap hydropower is an ideal location for NBC. CO₂-based kerosene in particular could fundamentally change the market for climate-friendly aviation fuels. www.nordicbluecrude.no

Third place:

b.fab GmbH (Germany): Process for Formate Bioeconomy

b.fab has developed a disruptive process technology to efficiently convert CO₂, water and renewable energy into value-added chemicals. Via electrochemistry, b.fab convert and store CO₂ and H₂ (made from water) in liquid form as formate. The formate is the feedstock for the bioprocesses and b.fab uses synthetic biology to convert formate into value-added chemicals. b.fab is dedicated to establishing a formate-based bioeconomy in the coming years, and thus, providing an economical and sustainable new way to produce chemicals for various industries. One of the first products will be lactic acid which can, among other things, be further processed to produce the biopolymer PLA. www.bfab.bio

International Meeting of the leaders of the CCU industry

With almost 200 participants, the Cologne-based conference has established itself as one of the world's most important annual meeting places for the new CCU industry (Carbon Capture and Utilisation). More than 30 leading companies and institutions presented and discussed their latest activities in this dynamic industry for the use of carbon dioxide as a sustainable source of raw materials. The conference was held under the patronage of Prof. Dr. Andreas Pinkwart, Minister for the Economy, Innovation, Digitalization and Energy of the State of North Rhine-Westphalia.

An interview with Dr. Steilemann and Mr Carus on the importance of Carbon Capture and Utilization for the future of a sustainable and climate friendly chemical industry can be found at <https://youtu.be/-oMn7yk6GU4>

The nova-Institut thanks Covestro AG (Germany) for sponsoring the first innovation award "Best CO₂ Utilisation 2019". Phytonix Corporation (USA) supports the conference as Gold Sponsor, Enviro Ambient (USA) as Silver Sponsor and EnergyAgency.NRW (Germany) as Premium Partner.

Responsible for the content under German press law (V.i.S.d.P.):

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nova-Institute is a private and independent research institute, founded in 1994; nova offers research and consultancy with a focus on bio-based and CO₂-based economy in the fields of food and feedstock, techno-economic evaluation, markets, sustainability, dissemination, B2B communication and policy. Every year, nova organises several large conferences on these topics; nova-Institute has 30 employees and an annual turnover of more than 3 million €.

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