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PRESS RELEASE

Renewable Materials Conference: Six Innovations Nominated and Final Program Available

Three bio-based innovations from Germany and from Sweden, two CCU innovations from Denmark and Hungary and one advanced plastic recycling technology from Canada are nominated for the “Renewable Material of the Year 2024” innovation award.

Hürth, 21 March 2024: The Renewable Materials Conference 2024 will take place from 11 – 13 June in Siegburg/Cologne (Germany). In just three years, the Renewable Materials Conference (RMC) has established itself as the world's leading event on chemicals and materials based on biomass, CCU or chemical recycling – the only alternatives to fossil-based chemicals and materials. The unique concept of presenting all renewable material solutions at one event hits the mark and covers the entire value chain of the renewable carbon economy. The last conference in 2023 was attended by almost 500 participants from 32 countries, 90% of whom were from industry. 500 to 600 are expected this year.

During three days, top speakers from industry, academia and policy will present the latest developments in technology, innovation, policy and markets to an international audience of experts: The final program with 80 presentations, 20 panel discussions and more than ten workshops is now available, and the innovations have been nominated for the award. Companies, associations and institutes are still invited to run one of the workshops and take part in exhibition and sponsoring.

The conference is the perfect place to network and partner along the entire value chain of the new renewable carbon economy:

"The Renewable Materials Conference (RMC) serves as a vital platform for collaboration and knowledge exchange in the renewable materials sector," says Michael Carus, CEO nova-Institute, and organiser of the RMC. *"Our comprehensive approach covers the entire value chain, from alternative carbon feedstocks, the chemical industry, the materials sector, product manufacturers to brand owners and investors, making the RMC the ultimate platform for networking and partnering in the new renewable carbon economy."*

The conference will cover a wide range of concepts and technologies from sustainable carbon cycles, renewable refineries, and chemical recycling to new process technologies. These represent technologies for the production of renewable chemicals, building blocks, polymers, plastics and fine chemicals based on renewable carbon.

Find all information about the conference here: https://renewable-materials.eu

The Innovation Award “Renewable Material of the Year 2024”

A jury consisting of representatives from the nova-Institute, the Advisory Board and the conference sponsors has nominated the outstanding Top 6 innovations from 38 submissions. Each of the six selected companies will present their innovation in a 10-minute pitch on the second day of the conference (12 June). Following the presentations, the three winners will be selected by the conference participants and announced shortly afterwards. The Innovation Award is organised by the nova-Institute and sponsored by Covestro (both from Germany).

The winners of the last three years report a great response from the market after receiving the award. These were Carbios (FR), Colipi (DE), Eastman (US), KUORI (CH), Lactips (FR), LanzaTech (US/CH), Plantics (NL) & Vepa (NL), traceless® (DE) and Twelve (US).

The Six Nominated Innovations

Aduro Clean Technologies (CA): Hydrochemolytic™ Technology (HCT) for Advanced Plastic Recycling

HCT deconstructs polymers at low temperatures (350-400°C), supporting controlled breakdown of molecules. The unique chemistry stabilises the newly formed short-chain molecules within the reaction itself. As the exothermic hydrogenation takes place together with the endothermic chain scission, the energy requirement of the process is lower than in other breakdown reactions. The following key summary observations relate to test runs of waste polypropylene using the Continuous Flow Plastic Reactor (R2) unit: Less than 5% of the carbon was lost to methane and char. Up to 95% of the carbon in the polyolefin feedstock is converted into potential hydrocarbon feedstock for production of new plastics and/or other chemicals. All feedstock is highly saturated, avoiding the need for costly post-hydrogenation.

Website: https://adurocleantech.com

Again (DK): Acetic Acid and Other Chemicals Derived from CO_2

By combining millennia-old bacteria with cutting-edge biotechnology, Again ferments waste CO_2 emissions directly from flue gas into CO_2-derived base chemicals such as acetic acid. Its novel biomanufacturing process captures unavoidable carbon emissions from industry and reuses them to produce valuable base chemicals for which there are currently few or no green alternatives, helping to defossilise some of the world's most challenging value chains. This biomanufacturing process represents a paradigm shift, eliminating the need for energy and cost-intensive CO_2 capture and purification.

Website: https://again.bio

amynova polymers (DE): Starch-Based Polymer Family Amylofol®

The starch-based polymer amylofol® is a platform technology that enables a switch from fossil to renewable carbon in a wide range of applications. Due to its viscous properties and film-forming ability, amylofol® can replace persistent polymers such as polyacrylates in personal care or fossil-based oils and surfactants in agriculture. The flexible modification of product properties enabled by amynova's process technology makes it possible to tailor the properties of amylofol® to many different applications. Furthermore, amylofol® is produced from locally sourced, renewable raw materials. In agriculture,

amylofol® is used as an adjuvant in tank mixes of crop protection and fertiliser products. As a film former, amylofol® significantly reduces the leaching of active ingredients from the leaf surface.

Website: http://www.amynova.com/

eChemicles (HU): SolarCO2Value – Captured CO_2 to CO

The SolarCO2Value™ technology uses renewable electricity to convert captured CO_2 into CO, a precursor for commodity chemicals and transportation fuels. It is currently the only proven and patented stack-based CO_2 electrolyser technology similar in design to today's fuel cell/PEM water electrolyser. The stacked design allows easier transition to larger scales without the need for redesign. The technology can be directly coupled to solar PV. The electrolyser stack is capable of converting CO_2 into CO, which can either be consumed directly on site as a feedstock in certain industries, or further processed into a range of valuable chemicals such as synthetic fuels, e-chemicals or as a reducing agent in metallurgical processes.

Website: https://echemicles.com/

Reselo (SE): Reselo Rubber – Rubber Made from 100% Birch Bark

Reselo addresses the need for alternative fossil-free rubber polymers driven by external and internal pressures across the rubber industry. Reducing the climate impact of materials is a priority, but so far there has been little innovation in more sustainable solutions, especially in the rubber segment. Reselo Rubber is therefore very attractive as it is 100% made from birch bark, a waste stream from the forestry industry. The polymer can be processed in existing equipment and is compatible with current vulcanisation systems, elastomers and additives. Reselo Rubber is currently being used in a number of applications in collaboration with global companies to bring more sustainable products to the market.

Website: https://reselo.se/

VAUDE Sport (DE): First-ever Wood-based Polyester Textile Product

Until now, recycled PET has been favoured for textiles, but criticism is growing over quality concerns. With this first milestone, VAUDE, in cooperation with UPM (Finland), demonstrates the feasibility of tapping new European bio-based sources. The MEG in this demonstrator is made from wood residues and is intended as a drop-in solution without compromising on quality. The goal for the commercial version is a 100% bio-based solution, which contains, besides bio-based MEG, fully bio-based purified terephthalic acid (PTA). VAUDE is demonstrating a scalable commercial approach to renewable PET and shows what such a solution could entail.

Website: https://www.vaude.com

Thanks to RMC Sponsors

The nova-Institute would like to thank UPM Biochemicals (FI) for supporting the conference as Platin Sponsor, NESTE (FI), TÜV Austria Belgium (BE), Sugar Energy (CN), Zhongke Guosheng Technology (CN) as Gold Sponsor, as well as Alfalaval (SE), B4Plastics (BE), REDcert (DE) who support the event as Silver Sponsors. The innovation award “Renewable Material of the Year 2024” is sponsored by Covestro (DE).

Partners

The Renewable Materials Conference is supported by industry and trade associations, non-profit organisations, research institutions and interest groups that are thematically linked to the conference: AVK - Federation of Reinforced Plastics (DE), BCNP Consultants (DE), B4C - Bioeconomy For Change (FR), C.A.R.M.E.N. (DE), ChemCologne (DE), CLIB – Cluster industrielle Biotechnologie (DE), CO_2Value Europe (EU), CSCP – Collaborating Centre on Sustainable Consumption and Production (DE), Enterprise Europe Network – Zenit (DE), European Bioplastics (EU), FNR - Fachagentur Nachwachsende Rohstoffe (DE), GO!PHA – Global Organization for PHA (International), IBB – Industrielle Biotechnologie Bayern Netzwerk (DE), ITA – Institut für Textiltechnik der RWTH Aachen (DE), kunststoffland NRW (DE), ÖGUT – Österreichische Gesellschaft für Umwelt und Technik (AT), Plastics Europe (DE) und Renewable Carbon Initiative (International).

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nova-Institut GmbH has been working in the field of sustainability since the mid-1990s and focuses today primarily on the topic of renewable carbon cycles (recycling, bioeconomy and CO_2 utilisation/ CCU).

As an independent research institute, **nova** supports in particular customers in chemical, plastics and materials industries with the transformation from fossil to renewable carbon from biomass, direct CO_2 utilisation and recycling.

Both in the accompanying research of international innovation projects and in individual, scientifically based management consulting, a multidisciplinary team of scientists at **nova** deals with the entire range of topics from renewable raw materials, technologies and markets, economics, political framework conditions, life cycle assessments and sustainability to communication, target groups and strategy development.

50 experts from various disciplines are working together on the defossilisation of the industry and for a climate neutral future. More information at: nova-institute.eu – renewable-carbon.eu

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