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PRESS RELEASE

Detergents and Cleaning Agents Made From CO₂, High-Quality Textiles Made From Wood, and Bio-Based Coagulants in Wastewater Treatment: Innovations for the Defossilisation of the Chemical Industry

At the Renewable Materials Conference, held on 22–24 September 2026 in Siegburg/Cologne, experts discussed fundamental questions about the future of the European chemical industry, innovations were awarded, and the framework conditions to accelerate defossilisation were presented. Initial examples demonstrate the potential for this to be effective.

Hürth, 05 October 2026: At the world's largest "Defossilisation Summit" in Siegburg, near Cologne, 365 participants from 26 countries discussed how fossil carbon in the chemical and related industries can be gradually replaced by renewable carbon from biomass, CO₂ and recycling. This is the key pathway to simultaneously reduce fossil dependence, strengthen supply chain resilience, contribute to climate protection and ensure long-term competitiveness.

During three evening networking events and generous breaks throughout the conference, in-depth discussions took place, joint strategies were developed and business deals were initiated. The matchmaking programme registered a new record with 350 one-to-one meetings.

Quadruple System Shock

The chemicals and materials industry is facing a "quadruple system shock": geopolitical uncertainty, fragile supply chains and climate change are increasing the pressure to invest in resilience and the transition to renewable raw materials. At the same time, global overcapacity – particularly from China – is putting pressure on prices and margins, making precisely these investments more difficult.

"Three of the four shocks push us towards transformation to renewable carbon, but the fourth takes away the financial room to act. This 3:1 tension is the paradox the European chemical industry now has to resolve", says Lars Börger, CEO of nova-Institute.

How can industrial transformation still succeed under these conflicting conditions? And could these four shocks ultimately even become a catalyst for a defossilised and more resilient industry?

The panel discussion „Quadruple System Shock as Catalysts for Industrial Transformation“ on 22 September, moderated by Christopher vom Berg and [Michael Carus](#) from the Renewable Carbon Initiative and nova-Institute, brought together Joel Tickner from Change Chemistry (US), Shena Britzen

from Rheinmetall (DE), Jean-Paul Lange from University of Twente (NL), Janine van Kampen from Ministry of Economic Affairs and Climate (NL), Lars Boerger from nova-Institute (DE), Dr. Ivana Krkljuš from BASF (DE), Marc Borghans from ING Bank (NL) and Volker Strauss from German Environment Agency (UBA) (DE). The panel attracted a great deal of interest from the participants: even after a long day at the conference, the room was still fully packed at 6.00 pm, and the audience listened with great attention to the experts' contributions and perspectives on topics that are of pressing concern to everyone in the industry, but for which there is never enough time in day-to-day business.

From innovation to markets

What concrete measures should be taken to accelerate the chemical industry's transition towards renewable carbon? The participants agreed that research and development, as well as funding for initial pilot plants, are not enough. It is therefore crucial to stimulate market demand through appropriate mandates and quotas, establish new value chains and supply chains, and create the confidence needed for companies to invest.

Lars Börger continues: *"Europe has the technologies for defossilisation. Now we need to scale them. If we consider climate impact, resilience and strategic autonomy together, the transition to renewable carbon is already a real opportunity for Europe."*

Biodegradable and compostable stickers on fruit and vegetables represent a niche market, but demonstrate the potential for successful transformation. Today, many such stickers are made from fossil-based plastics and are not compostable, potentially contaminating compost with microplastics. Under the Packaging and Packaging Waste Regulation (PPWR), the EU has stipulated that sticky labels on fruit and vegetables must be compatible with industrial composting from 2028. Companies have responded remarkably quickly with suitable products. Customer enquiries from the USA and Asia show how such requirements can even help create global markets.

In terms of volume, quotas in the packaging sector – such as those already in force for recycled plastics – are particularly important. Similar market-pull measures for bio-based plastics could soon complement these targets, particularly in applications such as food-contact packaging.

Innovation Award "Renewable Material of the Year 2026"

Another highlight of the conference was the innovation award "Renewable Material of the Year", which has been sponsored by Covestro for the past five years. An international jury had previously nominated six innovations from the 19 entries submitted. These were presented to the participants in short talks, after which the participants voted for the three winners. We warmly congratulate the winners. With their developments, they are making a significant contribution to reducing fossil carbon in the chemical industry.

First place: Viridi (UK): Anionic Surfactant Made Using Upcycled CO₂

Vireya™ is the world's first anionic surfactant made using upcycled CO₂. Anionic surfactants are ubiquitous in home and personal care but leave a heavy product carbon footprint. Containing up to 33% CO₂, Vireya™ shows a PCF up to 70% lower than the incumbents, supports compliance with the EU Deforestation Regulation by avoiding the use of oil palm derived materials, and provides the highest levels of skin mildness. It is all made possible by Viridi's unique proprietary catalyst technology that enables CO₂ to be utilised as a carbon feedstock in polymers. Viridi's catalyst is readily scalable in existing chemical assets and is reuseable and recyclable. Vireya™ surfactants are being developed at major manufacturers and are on test at the biggest brand owners in the world.
<https://www.viriditech.com>

Second Place: AeonIQ Holding (CH): New Cellulosic Man-made Filament Yarn

AeoniQ™ is a revolutionary new cellulosic man-made filament yarn designed as viable alternative to polyester and nylon, retaining all of their positive physical attributes while eliminating their negative impacts. The fibre is made from renewable cellulose sources, such as wood pulp, textile waste or non-valorised agricultural waste. AeoniQ™ uses 100% renewable energy and has a 99.5% closed loop manufacturing process.

In addition to being environmentally sustainable, AeoniQ™ is also biodegradable, and has been confirmed to fully degrade within 12 weeks in soil at the end of its lifecycle. AeoniQ™ is suitable for performance, fashion, home textiles, automotive, and technical applications. The first blue print industrialised production plant will be up and running in Portugal in Q4/2026. <https://www.aeoniq.org>

No 3: Kemira (FI): Renewable Polymer Technology for Wastewater Treatment

KemAlpha® is a breakthrough renewable polymer technology for wastewater treatment, enabling the replacement of fossil-based organic coagulants at industrial scale. Derived from alpha-glucan produced from renewable sugar feedstocks, KemAlpha is built entirely on biogenic carbon. Proprietary polymer design delivers the charge density, molecular weight and robustness required for efficient clarification and fine particle removal in demanding municipal and industrial systems. Supplied in liquid and powder formats, KemAlpha integrates seamlessly into existing plants. Commercialised through a joint venture between IFF and Kemira, the technology has proven full-scale performance at a northern European dairy producer, demonstrating renewable materials deliver climate impact and reliability. <https://www.kemira.com/>

Participants of the conference

The Renewable Materials Conference brought together a broad mix of stakeholders from across the value chain. Large enterprises and brands make up the largest share of participants at 38 %, followed by start-ups and scale-ups at 16 % and SMEs at 14 %. Research institutes and universities account for 14 % of participants, while associations, clusters and NGOs represent 8 %, and policy makers 8 %. Investors make up 3 %.

A selection of well-known companies and institutions are: ++ ACTEGA ++ ADM International ++ AeoniQ ++ AGRANA ++ Alfred Talke ++ Algenesis ++ Armacell ++ Arteco ++ Asahi Kasei ++ B4Plastics ++ BASF ++ Beckers Group ++ Beiersdorf ++ Bioextrax ++ Biotope Ventures ++ BLOOM ++ Braskem ++ Cargill ++ CellUranics ++ Chempolis ++ Clariant ++ Colesco Capital ++ Covestro ++ CropEnergies ++ D-CRBN ++ DCM Shriram ++ dm-drogerie markt ++ DSM-Firmenich ++ Dutch Ministry of Economic Affairs and Climate ++ ECHA ++ ENI ++ Essity ++ European Commission ++ Evonik ++ Far Eastern New Century (FENC) ++ FECC ++ Freudenberg ++ Futerro ++ GS Biomats ++ Haltermann Carless ++ Henkel ++ Heraeus ++ Holland Colours ++ Honeywell ++ IFF ++ INERATEC ++ ING Bank ++ JDE Peet's ++ Jiangsu Celluranics New Materials ++ Kemira ++ Kimberly-Clark ++ KLEIBERIT ++ Klüber Lubrication ++ Kobelco Eco-Solutions ++ Krones ++ KUORI ++ Kuraray ++ Lactips ++ LEAF BIOTECH ++ LEGO ++ LinkedIn ++ Lixea ++ Logitech ++ L'Oréal ++ Lux Research ++ Metsä Spring ++ Mevaldi ++ Michelin ++ Mosca ++ Neste ++ Nippon Shokubai ++ Normec OWS ++ Novamont ++ Novonesis ++ Omya ++ On ++ Peter Greven ++ Plantics ++ Praj ++ Primient ++ Relement ++ Rheinmetall ++ Saltigo ++ SandboxAQ ++ SBTi ++ Schneider Electric ++ Senbis Polymer Innovations ++ Smithers-Oasis ++ SNF ++ Stahl ++ Sustainea ++ Sustanix ++ Syensqo ++ Synthomer ++ Technip Energies ++ UB FIGG ++ Umicore ++ UPM ++ Verbio ++ Volvo Cars ++ Welland Medical ++ WEPA ++ Zeton ++

Thanks to Sponsors and Partners

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Belgium (BE) as Silver Sponsors. The innovation award “Renewable Material of the Year 2026” is sponsored by Covestro (DE).

More sponsors are welcome: <https://renewable-materials.eu/sponsoring/>

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 (DE), BCNP (DE), BIC - Bio-based Industries Consortium (EU), BioBase (AT), bündnis mikroplastikfrei (AT), C.A.R.M.E.N.(DE), ChemCologne (DE), ChemieClusterBayern (DE), CLIB (DE), CO2Value Europe (EU), Enterprise Europe Network.NRW (DE), European Bioplastics (EU), FECC - European Association of Chemical Distributors (EU), GO!PHA (International), IBB Netzwerk (DE), INAK (DE), kunststoffland NRW (DE), NRW.Energy4Climate (DE), ÖGUT - Österreichische Gesellschaft für Umwelt und Technik (AT), Plastics Europe (DE), Renewable Carbon Initiative (International).

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Since the mid-1990s, the nova-Institute has been dedicated to sustainability and today focuses primarily on renewable carbon cycles. As an independent research institute, it supports companies – particularly from the chemical, plastics, and materials industries – in the use of renewable carbon derived from biomass, direct CO₂ utilisation (CCU), and recycling.

With a multidisciplinary team of scientists, the nova-Institute participates in international innovation projects and provides science-based management consulting. The institute follows a holistic approach: its experts analyse which technologies and raw materials are suitable for specific products, in which markets their application is feasible, which regulatory frameworks apply, how sustainable the solutions are, and how they can be successfully positioned in the market.

Based on these analyses, the team develops tailored strategies to support the transformation from fossil to renewable carbon. Around 50 experts from various disciplines work together to drive the defossilisation of industry – for a climate-neutral future.

More information: www.nova-institute.eu – www.renewable-carbon.eu

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