

Press Release



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New process for CO₂ use among the best

Covestro AG
Communications
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Germany

In the finals for the German President's Award

- **Team from Covestro and RWTH Aachen University nominated**
- **Winner will be honored by Federal President Steinmeier**
- **Technology saves crude oil in plastics production**

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A team from the materials manufacturer Covestro and RWTH Aachen University has reached the finals for the German Future Prize with a new process for using CO₂ as a raw material. The prestigious award will be presented by Federal President Frank-Walter Steinmeier on 27 November in Berlin. Dr. Christoph Gürtler and Dr. Berit Stange from Covestro as well as Professor Walter Leitner, teacher and researcher at RWTH Aachen University and the Max Planck Institute for Chemical Energy Conversion, are hoping for a victory. They have become instrumental in the development and market launch of a technology for using the CO₂ exhaust gas in plastics production.

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The team has now presented the innovation to the public in Munich. Covestro researcher Gürtler emphasized that the process makes a contribution to sustainability and resource conservation by partially replacing the conventional raw material crude oil with CO₂ as a carbon supplier. In addition, the reuse of CO₂ contributes to the recycling economy. "We see considerable value creation potential for industry in the use of CO₂," added Gürtler, who is responsible at Covestro for the development of new processes and products.

Sustainable platform technology

His colleague, Ms. Stange, emphasized that this is a platform technology that allows the CO₂ to be used for a wide range of high-quality plastics (polyurethanes). "Chemical preproducts with CO₂ to produce soft foam for mattresses and upholstered furniture are already available on the market," says



Stange. At Covestro, she is responsible for recycling management in a managerial function and has played a decisive role in the marketing of the new technology.

“As alternative carbon sources, carbon dioxide as well as plants and plastic waste have the potential to revolutionize production in the plastics industry,” stressed Covestro CEO Dr. Markus Steilemann. “Covestro is a pioneer in this field. Fossil raw materials such as oil can no longer be the main resource of our industry if the world embarks on a more sustainable future.”

Breakthrough in catalysis research

The use of CO₂ took off with a breakthrough in catalysis research, as Professor Leitner explained: “It takes a lot of effort for CO₂ to form chemical compounds. The major challenge was to develop a tailor-made catalyst in order to control the reaction so that it is both economical and efficient”.

Experts from Covestro and the CAT Catalytic Center, a research facility jointly operated by the company and RWTH Aachen University, have succeeded in this – for Leitner an “exemplary cooperation between application-oriented science and research-based industry”. Experts had been searching for such a catalyst for decades.

“Professor Leitner's research activities on the catalytic conversion of carbon dioxide are like a condensate of the excellence strategy of RWTH Aachen with the motto 'Knowledge. Impact. Networks', making them a prime example of our university, non-university and industrial research,” said Professor Ulrich Rüdiger, Rector of RWTH Aachen University. “Just as the university strategy describes the knowledge creation process and its transfer into integrated and interdisciplinary networks, Professor Leitner's innovations create substantial knowledge that has an enormous impact on science, society and the climate.”

About Covestro:

With 2018 sales of EUR 14.6 billion, Covestro is among the world's largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 16,800 people (calculated as full-time equivalents) at the end of 2018.



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