

# Press Release



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Cross-sector research to turn waste gas into valuable plastics

## European industry fosters CO<sub>2</sub> reutilization

- **Next step in collaboration of industrial and academic partners**
- **Evaluation of industrial-scale testing in southern France**

The pan-European research project Carbon4PUR takes the next step in investigating how waste gas from the steel industry can be turned into chemicals for valuable plastics. Now, the consortium starts evaluation of the ideal conditions for industrial-scale testing in southern France where a steel mill of ArcelorMittal and a chemical plant of material producer Covestro are close neighbours. On a laboratory-scale, the Carbon4PUR project has so far shown promising results with first plastic precursors having been obtained from flue gases such as CO<sub>2</sub>.

The consortium invites representatives from industry, politics, media and authorities to a field trip on March 20 in the port city of Fos-sur-Mer next to Marseille to inform about the status and discuss the future infrastructure needed to scale up research under real industrial conditions. Fos-sur-Mer could be an ideal location for such a pilot plant.

“We must consider waste as a resource. A cross-sector approach as pursued by the Carbon4PUR consortium is the right way to reach this goal”, says Dr. Markus Steilemann, CEO of Covestro. “Together, we can make more use of alternative carbon sources like CO<sub>2</sub> in order to close the carbon loop and save direct fossil resources such as crude oil.”

### Researching industrial symbiosis

Carbon4PUR is a consortium of 14 industrial and academic partners from seven countries, coordinated by Covestro. The cross-sector project, which runs until



2020, receives funding from the European Union and aims at researching and developing a new technology that can transform steel mill gas streams such as CO<sub>2</sub> and carbon monoxide (CO) into so-called polyols – chemical key components of polyurethane-based foams and coatings that are otherwise obtained from crude oil. The decisive idea is to avoid physical separation of CO and CO<sub>2</sub> to make the process particularly efficient and economical.

Carbon4PUR is unique because it brings together partners from the whole value chain to work collaboratively on processes and specifications. For each step, different sectors have to cooperate in ways they have never done before. To date, the project has shown first promising results: Test quantities of polyol intermediates have been obtained both from CO and CO<sub>2</sub>. The consortium will work on exploiting and transferring project results to key stakeholders and additional EU industries.

In the future, carbon as a feedstock in the form of mixed waste gases from the ArcelorMittal plant in Fos-sur-Mer could undergo catalytical transformations in the nearby Covestro plant to become a chemical intermediate. This could be further used by Belgium-based polyurethane foam manufacturer Recticel and Greek raw material supplier to the coatings industry Megara Resins to form end products. Academic and institutional partners are RWTH Aachen University, TU Berlin, Dechema, Imperial College London, the universities of Gent and Leiden, the French Commissariat à l'énergie atomique et aux énergies alternatives, South Pole Carbon Asset Management, Grand Port Maritime de Marseille and PNO Consultants. They investigate the sustainability and various technical and economical questions.

If you are interested in further information on Carbon4PUR: Please find this [video](#) online.

You can register for the stakeholder event on March 20, 2019, by sending an email to [man.carbon4PUR@covestro.com](mailto:man.carbon4PUR@covestro.com). Updated information about the event is available at <https://www.carbon4pur.eu/news-and-events/carbon4pur-stakeholder-event/>.

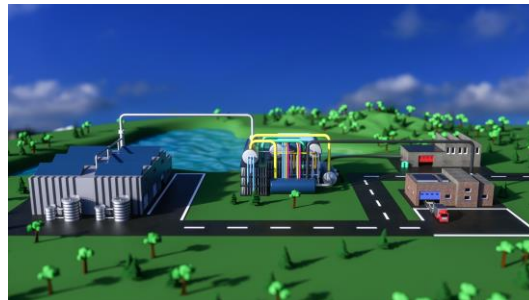
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employs approximately 16,200 people (calculated as full-time equivalents) at the end of 2017.

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Source: Covestro

*Caption: A new video explains the EU funded project Carbon4PUR.*

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#### **Disclaimer**

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