

## **RESEARCH AND INNOVATION IN THE TRANSITION OF THE CHEMICAL INDUSTRY – ROLE, IMPACT AND CHALLENGES**

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The chemical industry has a pivotal function in the economic system – as a starting point for most other industrial and agricultural value chains. But not only from the materiality point of view the impact is huge: the industry accounts for roughly 10% of the global energy consumption.

And 90% of this energy still comes from fossil sources, the release of which produces CO<sub>2</sub>. In contrast to these energetic ones, chemistry cannot do without the element carbon when considering materials. Here, it is much more a matter of developing alternative sources of supply, such as plants, waste or even CO<sub>2</sub> itself.

These technologies for closing the carbon cycles as well as for implementing alternative energy sources such as electrical energy or hydrogen for heat generation are the subject of academic and industrial research and development.

Research and innovation will have to play a key role for the transition of the chemical industry ahead of us. The ambitious targets regarding CO<sub>2</sub> neutrality and more specifically to the chemical industry regarding a toxic free environment outlined by the European Commission call for fast new processes, products and collaboration models in an innovation-friendly environment.