



16th INTERNATIONAL CONFERENCE ON CARBON DIOXIDE UTILIZATION

CarbonNext ó the next generation of carbon for the process industries

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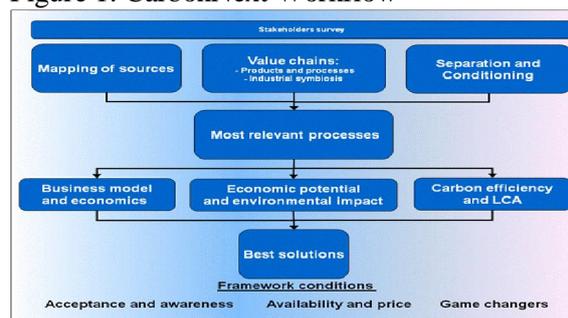
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The process industries and other crude oil consuming sectors are heavily dependent on fossil inputs for both carbon feedstock and energy, with the consequential CO₂ emission problems and import dependency as a result. To be prepared for a future with significantly reduced emissions they are seeking alternative carbon sources to replace traditional fossil fuels.

The objective of the CarbonNext project is to evaluate the potential use of CO₂/CO as feedstock for the process industry in Europe. In the presentation, results of the project will be shown, which include the mapping and evaluation of CO₂/CO sources all over Europe, the identification of value chains within processes and where industrial symbiosis can be valuable (chemistry, cement, steel, etc.). More than 70 synthesis pathways and CO₂-products were identified for further investigation. Moreover, for a selection of the most promising processes, an analysis on business models and economics, environmental impact and carbon efficiency as well as on LCA will be shown. For the CO₂/CO price analysis, on assessing of the availability of CO₂ and CO, expanding on the findings from CO₂/CO mapping, and an overview of the eligibility of CCU under the EU-ETS and then assesses the EU-ETS CO₂ prices along with the CO₂ capture and transport costs will be presented. Furthermore, a comparison between the current use of CO in the steel production (energy and heat generation) and the potential alternative use of CO in the process industries will be discussed.

Figure 1: CarbonNext Workflow



The CarbonNext project will inform, as a basis for decision-making, Europe's SMEs, large industry and policymakers with an enhanced understanding of the impact and opportunities for new sources of carbon for the processing industry. CarbonNext will primarily focus on new sources of carbon as a feedstock and secondarily the impact on energy availability, price and emissions.

CarbonNext is a EU HORIZON 2020 funded project. DECHEMA is the coordinator of the projects, the University of Sheffield from the UK and Trinomics from the Netherlands are projects partners.