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Norner will lead major research project on polymers based on CO₂

We are proud to announce that Norner Innovation now will lead a four (4) years research project with a frame of about 25 million NOK to continue the development of novel plastic materials based on CO₂ as a raw material including the process and production technologies. Large companies like Yara and Superfos will join in this industrial R&D project. The project will be supported by the Norwegian Research Council.

"This is a unique possibility to utilise CO₂ as a raw material in polymer production and thereby turn the problematic CO₂ and environmental issues. Up to 50wt % of the polymer may be CO₂. We look forward to this interesting challenge and will work hard to realise this opportunity to establish new and sustainable plastic materials" says Tine Rørvik the Director of Norner.

Norner Innovation has several advanced and industrial laboratory reactors where the polymer is produced for this project with the relevant monomers and process parameters. Together with their world class plastics processing lab and test centre, this enables Norner to take the lead in the research of both process technology as well as material science.

The development process for control of process parameters and material properties of the polymer is going on as a continuous activity in our pilot reactors. This work will now be accelerated by this new funded project.

CO₂ is used as one of at least two monomers in the production of the polymer. The properties of these new materials have so far been explored only to a minor extent and this field needs to have a high priority to ensure that such materials can be commercialized at a later stage.

CO₂ is today one of the major challenges for the environment and stability in the world. Our approach is an alternative view on CO₂ – that is as a raw material and not as a problem. CO₂ is in fact a valuable, low energy raw material in this context.

The property profile of these new materials does not fall within the same category as some of the typical commodity plastics. A main challenge and project target is to explore these properties, develop them further and identify appropriate end use applications.

Norner has significant competence and equipment in polymerisation and process technology, materials and their performance as well as expertise of markets and applications. We have therefore high expectations that the project will lead to a significant development of this technology and the plastic materials.

With best regards

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