PROJECT SUMMARY

12th ERA-NET Bioenergy Joint Call / 2nd add. call of BESTF3

PROJECT TITLE: Development of an enzymatic CO2-capture strategy for an optimised microbiological methanation

PROJECT ACRONYM: CarbonATE

ABSTRACT

The European Union aims at a transition towards a renewable energy system by strengthening biomass exploitation. Within P2G concept bio-methanation of CO_2 from biomass conversion systems with H_2 enables an overall emission reduction. For this methanation process the amount of gases serving as potential CO_2 sources is limited due to impurities like O_2 or N_2 in many industrial exhaust gases. Purification technologies for CO_2 are costly and very energy consuming. By using an enzymatic CO_2 capture process the energy demand and the costs will be reduced and “impure” gases like exhaust gases from e.g. biomass combustion or CHP-units will be applicable. Thus, these gas streams serve as alternative carbon sources and have the potential to substantially increase the exploitation of biomass for the production of energy carriers. Such efficient P2G systems are mandatory towards a fossil fuel free society and will strengthen the role of renewable energy in the future European energy system.

Start date: 01/2019

End date: 12/2021

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