SUSCHEM
European Technology Platform
for Sustainable Chemistry

SusChem 2017 Brokerage Event

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Hybrid Reactor to convert CO2 and bioGAS to SYngas

NAME OF ORGANIZATION/ COMPANY

National Technical University of Athenes (NTUA)

- School of Chemical Engineering (CHEMENG)
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PROJECT IDEA CONCEPT

Upgrade CO2 and biogas to syngas using solar energy

CO2 of the biogas is actively converted into syngas, with the perspective to synthesize liquid chemicals, rather than being simply discharged to the atmosphere.

Solar technology

- based on linear-parabolic toughs with a receiver reactor
- receiver-reactor acts as catalytic reactor activated by solar energy to convert the CO2/biogas into syngas by means the dry reforming reaction.

Patented research

- features external transparent wall, internal transparent catalytic support
- the catalyst itself is also transparent thanks to a completely new deposition technique and allows to overcome some energy transfer inefficiencies typical of thermal solar plants.

CE-SC3-NZE-2-2018: Conversion of captured CO2

LC-SC3-RES-7-2019: Solar Energy in Industrial Processes

EXPECTED IMPACT

- Innovative valorization paths using CO2. Can be integrated with CO2 to methanol paths.
- Integration opportunities with existing facilities
- Technology equally applied to CO2 and CO2/CH4 gas streams
- Enhancement of the industrial installed capacity for advanced biofuels.
- Pave the way for the commercialization of advanced biofuels

EXISTING PROJECT CONSORTIUM/ or LOOKING FOR PARTNERS

#	Organization	Country	Type
1	PARTNER 1	Italy	Industry
2	PARTNER 2	Italy	Industry
3	PARTNER 3	Italy	RTO
4	PARTNER 4	Belgium	RTO
5	PARTNER 5	France	Industry
6	PARTNER 6	Greece	RTO
7	PARTNER 7	Germany	PNPA
…			
…	New Partners		
…			

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