



Horizon2020 Information Days on Public-Private Partnerships

Brokerage event
16 October 2015

CO2 VALUE

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Vertech: French SME.

1. Environmental Engineering.
2. Business Development.
3. R&D Consultancy.

Capabilities in R&D projects

- ✓ **Life Cycle Assessment (LCA)**
→ Environmental impacts
- ✓ **Life Cost Cycle (LCC)**
→ CAPEX and OPEX
- ✓ **Social LCA**
→ socio-economic impacts
- ✓ **Exploitation of results:**
innovative exploitable results, market analysis, business model and business plans.
- ✓ **Risk assessment:** technical, economic, environmental and social.

WASTE	 	<ul style="list-style-type: none"> • Production of Feed from Food Waste • EEE: high-grade plastics and CRM recycling
WATER		<ul style="list-style-type: none"> • Water treatment and monitoring in India
ENERGY	 	<ul style="list-style-type: none"> • Fuel From Waste • Glycerol biorefinery for high value products.
CONSTRUCTION	 	<ul style="list-style-type: none"> • Residues into biomaterials for green construction. • Retrofitting for energy efficiency in public edification
INDUSTRY		<ul style="list-style-type: none"> • Join of Cu – Al by ElectroMagnetic fields

PROJECT IDEA – CO2VALUE

Concept

Develop innovative technologies to use **real CO2 captured** gas in industrial processes as a direct feedstock for chemical production.

Research and validate several routes that involve the conversion of **CO2 into valuable chemicals**.

Key actions

- **CO2 from a real capture system.**
- **Biological uses**
 1. Biorefinery → development to withstand real combustion flue gas.
 2. Ferti-irrigation: plant irrigation to increase plants growth.
- **Innovative Chemical conversion**
 3. Catalytic reduction - Artificial photosynthesis
 4. Innovative processes based on the use of energy. 2 technologies:
 - (a) CO2/CO and water gasification + Fischer-Tropsch process
 - (b) electrochemical CO2 reduction

Main innovative aspect

Use of real captured CO2/CO

Validation of chemical conversion of CO2/CO+impurities

LCA +Techno-economic systems development for designing industrial processes

TOPICS AND IMPACT

SPIRE-05-2016: Potential use of CO₂/CO and non-conventional fossil natural resources in Europe as feedstock for the process industry

Scope: evaluate the novel technologies and solutions for the use of CO₂/CO process gas as well as non-conventional fossil natural resources together with the economic feasibility.

Expected Impact:

- New scenarios for increased use of CO₂/CO
- Future scenarios that enable new business models improving competitiveness based on the use of CO₂/CO

Coordination and support action

21 Jan 2016

SPIRE-08-2017: Carbon dioxide utilisation to produce added value chemicals

Scope: innovative chemical (e.g. catalytic) processes to produce added value chemicals from CO₂(and CO) and demonstrate the technical and economic feasibility

Expected Impact:

- Techno-Economic feasibility of novel processes for CO₂ and CO conversion to added-value chemicals.
- **Reduction of at least 20%, on Life-Cycle-Assessment basis**

Research and Innovation action

19 Jan 2017

EXISTING PROJECT CONSORTIUM

- CO2 producer
- Utility
- Coal research center
- Biomass research center
- SME LCA
- SME process modelling and simulation and risk assessment

LOOKING FOR PARTNERS

- **Catalist developer**
- **Utilities**
- **Gas supplier**
- **Technology suppliers**
- **CO2 biorefinery concepts**
- **Materials and gases research organization**

CONTACT DETAILS

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