I progetti a partecipazione ENEA finanziati dalla UE

ASCENT

Advanced Solid Cycles with Efficient Novel Technologies

Dati progetto

Coordinatore:

ENEA - Italia

Responsabile ENEA:

STENDARDO STEFANO TERIN-PSU

Sito WEB:

http://www.ascentproject.eu/

Descrizione:

ASCENT will provide a robust proof-of-concept of three related high temperature processes; each will lead to a step-change in efficiency of carbon removal in three types of pre-combustion capture, producing the hydrogen needed for highly efficient low-carbon power production. The project brings together five small and medium enterprises preparing to launch these concepts with the support of leading research institutes, universities and industrial partners.

The essential feature linking the three technologies is the use of a high temperature solid sorbent for the simultaneous separation of CO2 during conversion of other carbon containing gases (CO and CH4) into H2. Each technology has the ability to provide a step-change in efficiency because they all separate the CO2 at elevated temperatures (>300°C) providing for more efficient heat integration options not available in technologies where the separation occurs at lower temperatures. Each process matches both endothermic and exothermic heat requirements of associated reactions and sorbent regeneration in an integrated in situ approach.

The synergies between the three technologies are strong, allowing both multiple interactions between the different work packages and allowing a consistent framework for cross-cutting activities across all the technologies. Each technology will be proven under industrially relevant conditions of pressure and temperature, at a scale that allows the use of industrially relevant materials that can be manufactured at a scale needed for real implementation. This represents a necessary step to be taken for each of the technologies before setting out on the route to future demonstration level activities.

ASCENT, Advanced Solid Cycles with Efficient Novel Technologies, addresses the need for original ideas to reduce the energy penalty associated with capturing carbon dioxide during power generation, and create a sustainable market for low carbon emission power with low associated energy penalties.

Attività svolta da ENEA:

L'ENEA coordina il progetto ed avrà un ruolo finalizzato a prove di laboratorio (WP4) nella sintesi di un materiale solido per la separazione della CO2 ed il reforming del metano per la produzione di idrogeno. L'ENEA, in qualità di coordinatore, gestirà l'intero progetto e i rapporti con la Commissione, oltre alla comunicazione dei risultati ottenuti.

Programma Quadro:

Settimo Programma Quadro R&ST (2007-2013)

Programma UE:

ENERGIA (2007-2013)

Tipo di progetto:

Partner del progetto

	Ruolo	Tipologia	Nome	Nazione
1	---	RIC	INERIS Institut National de l'Environnement Industriel e des Risques	Francia
2	---	IND	MARION TECHNOLOGIES	Francia
3	---	EDU	UNIV. DELL'AQUILA	Italia
4	COORD	RIC	ENEA	Italia
5	---	EDU	POLITECNICO DI MILANO	Italia
6	---	IND	ZEG POWER	Norvegia
7	---	RIC	IFE INSTITUTE FOR ENERGY TECHNOLOGY	Norvegia
8	---	RIC	SINTEF	Norvegia
9	---	IND	ARRAY INDUSTRIES	Paesi Bassi
10	---	EDU	UNIV. TECHN. EINDHOVEN	Paesi Bassi
11	---	RIC	ECN ENERGY RESEARCH CENTRE OF THE NETHERLANDS	Paesi Bassi
12	---	RIC	IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	Regno Unito
13	---	IND	JOHNSON MATTHEY PLC.	Regno Unito
14	---	IND	CALIX EUROPE	Regno Unito
15	---	RIC	CSIC SPANISH NATIONAL RESEARCH COUNCIL	Spagna
16	---	SOC. CONSUL.	QUANTIS SARL	Svizzera

Keyword

Keyword associate al progetto dal database di CORDIS

Hydrogen production

INNOVATION, TECHNOLOGY TRANSFER

SCIENTIFIC RESEARCH

Altre Keyword non presenti nel database di CORDIS

Solid Cycles