



Porto Tolle CCS Project

Advantages of integrating technological processes with public engagement

IEA WPFF - MOST CCUS

Workshop: Joint Activities and Opportunities

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Agenda

- Enel Group: CCS initiatives and projects
- Porto Tolle Post-Combustion Capture features
- Communication strategy
 - » Action plan
 - » Information
 - » Visibility
 - » Promote interests
 - » Opinion Building & Monitoring
- Concluding Remarks

Enel Group: CCS initiatives and projects

The widest CCS project portfolio among western utility companies

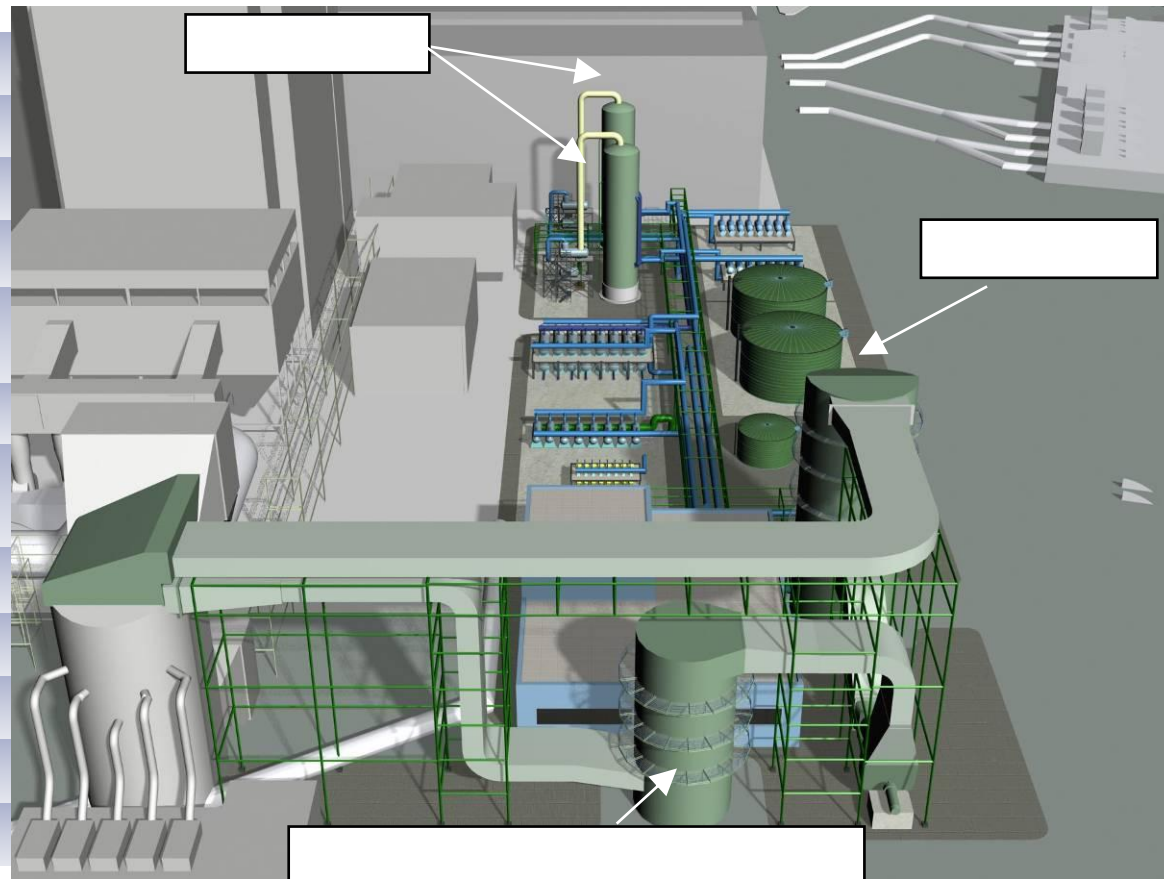
Enel Group, since 2006, decided to take the lead in the development of CCS technologies in coal fired plants by; today Enel Group is involved in:

- Demo CCS projects:
 - ZEPT- Zero Emission Porto Tolle, a post-combustion CCS
 - Compostilla- CFB OXY-Combustion technology CCS
- Developing of the CCS technology knowledge in :
 - Italy and Spain : atmospheric and pressurized Oxy-Coal combustion Pilots projects
 - Fusina: Power from Hydrogen
 - Puertollano Elcogas –Spain (330 Mwe IGCC) : Hydrogen from coal
 - Carboneras (Almeria) thermal plant (Endesa S.A algae cultivation facility to trap combustion gases
 - La Pereda : calcium carbonate looping pilot plant (1.7 Mwt)
- Sino-Italian Cooperation on Clean coal Technologies including CCS and USC coal fired power plant technologies (Agreement MOST IMELS ENEL)
 - Pre-Feasibility study for application of post combustion capture technologies to a Chinese coal fired plant (Tongchuan-Shaanxi)

Porto Tolle CCS Project

CCS : Features and CO₂ capture unit lay-out

Type of Project	Retrofit
Power generation	660 MWe
Primary fuel	Bituminous coal
Secondary fuel	Biomass
Power Generation Tech	USC-PC
% of flue gas treated	40%
CO ₂ Capture Tech	Post Combustion Capture with Amine
Stored CO ₂	1.000.000 ton CO₂/y
CO ₂ Capture rate	90%
CO ₂ Storage solution	Deep saline aquifer
Storage location	North Adriatic Sea
CO ₂ value chain	Pure storage



CCS Network in Europe



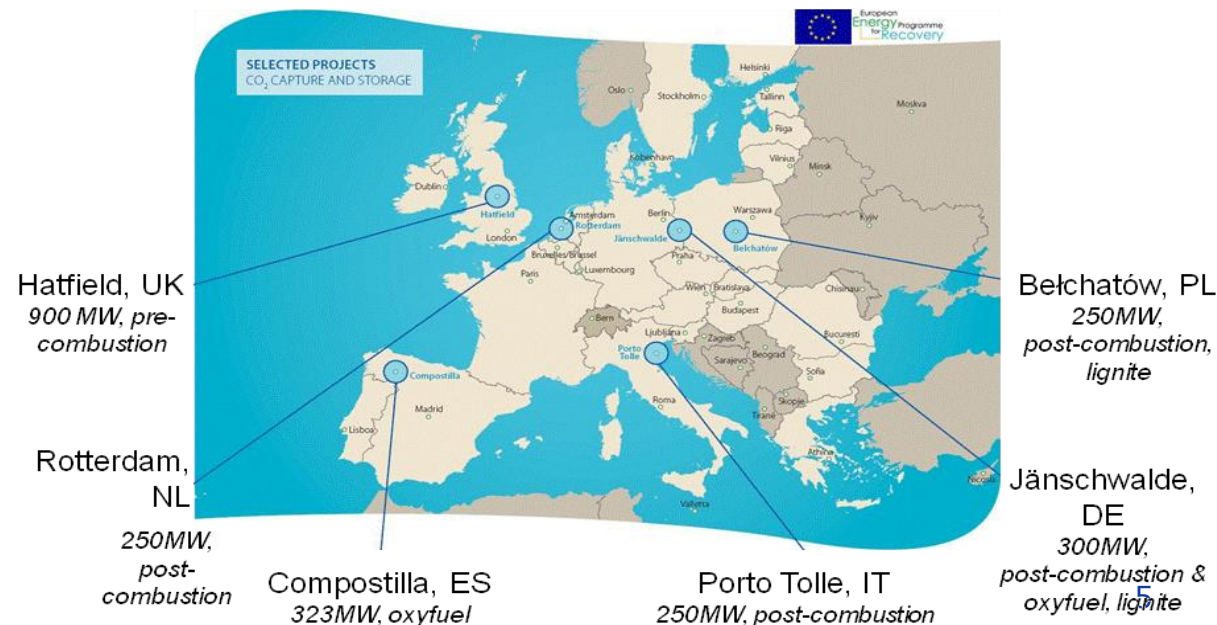
The European CCS Demonstration Project Network was initiated by the European Commission in 2009. The main objective of the network is to accelerate the development of CCS technologies by creating a means for exchange and dissemination of new knowledge generated by the first large scale CCS plants in Europe.

The Network provides added value to the European CCS projects by:

- ❑ Facilitating the identification of good practices, lessons learned and recommendations
- ❑ CCS demonstration and enabling knowledge sharing amongst demonstration projects
- ❑ Providing a common EU identity to Network members
- ❑ Leveraging experience gained from projects
- ❑ Promoting CCS, EU leadership and cooperation potential to third parties/countries

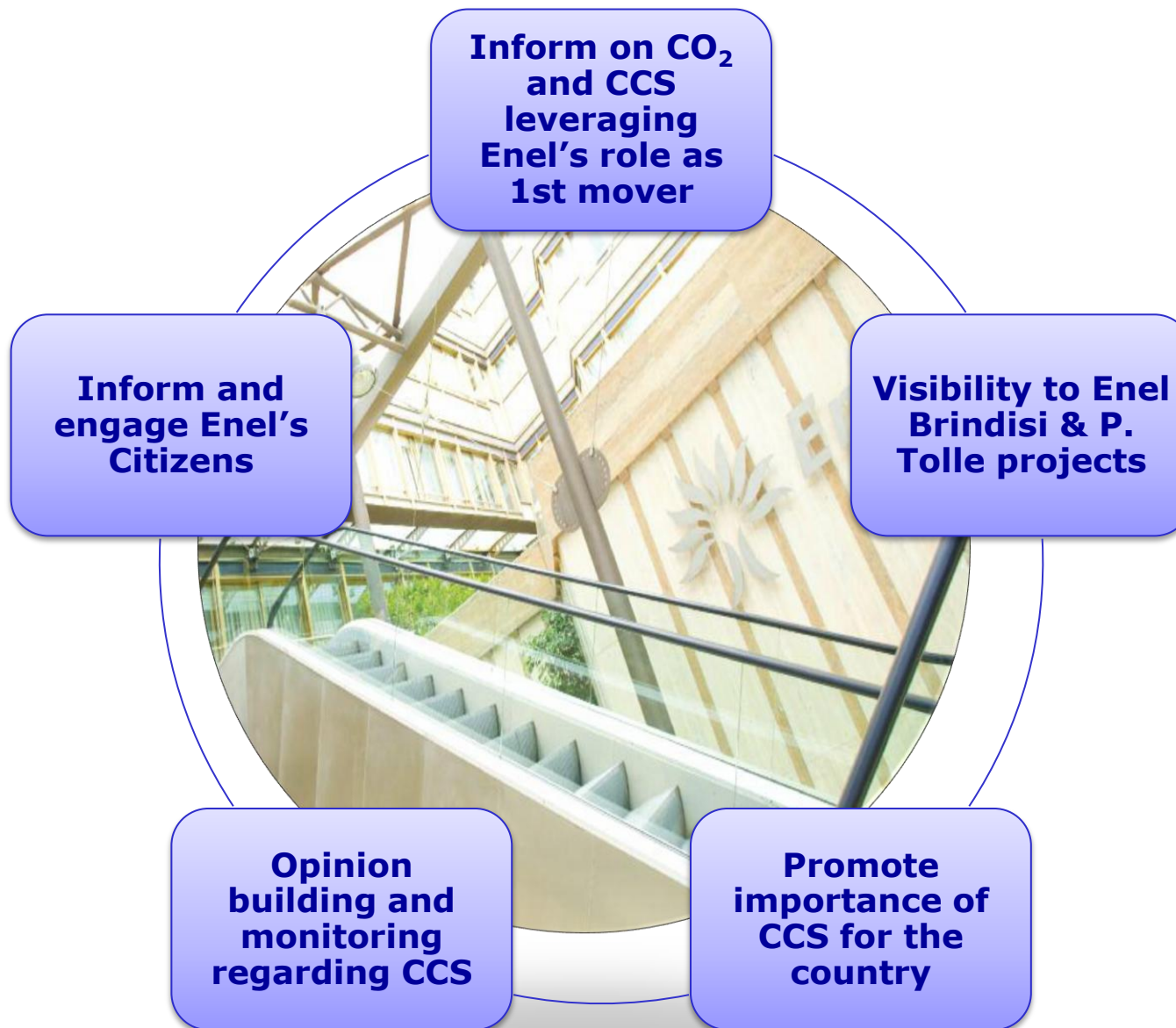
Agenda for 2011:

- ❑ Public engagement
- ❑ Permitting
- ❑ CO₂ Storage



Communication strategy

Action Plan



1) Information on CO₂ and CCS :

Prepare basic awareness of the technology

Website and Online communication

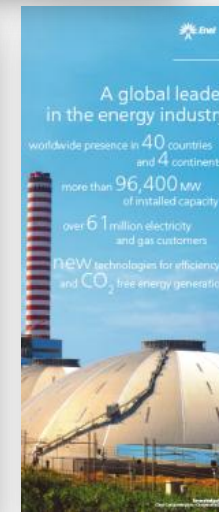
- Website (enel.com, the future will follow, zeportotolle)
- Social Media and Enel Sharing
- Web Newsletter on the project status

Special Projects

- Sustainability Report
- Incredibile Enel

Sponsorships Scientific Workshops/ Seminars

- CO2 Geonet Open Forum – Venice, 9-11.05.2011
- CIEPEC 2011 – Beijing, 7-10.06.2011



2) Visibility to Enel Brindisi/ Porto Tolle project: *Emphasize the "visible" side of the technology*

Brindisi CCS Inauguration Event

- Involving high level stakeholders: European Commission; Media

External guests and visits program

- ACI carbon Capture and Storage . Summit – Brindisi, 17.05.2011
- Sino- Italian cooperation program
- Parliamentary and institutional visits

High level CCS events in Brindisi

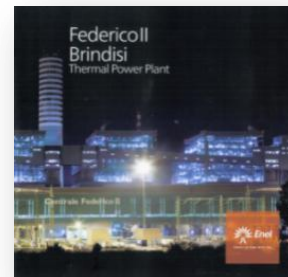
- EU CCS network meeting
16-17.02.2011
- IEA Whorkshop - 16-17.05.2011

Publishing/Videos

- Brindisi CCS Pilot plant brochure
- Enel's Zero Emission Program brochure
- Porto Tolle and Brindisi dedicated videos

Advertising

- CCS part of Enel's Corporate campaign at national and international level



3) Promote importance of CCS for the country:

Explain the potential of the technology (environment, economy & expertise)

Promote results of the CCS Observatory – Fondazione Ronchi

- Newsletters
- Website on CCS
- Lobby for national legislation
- Stakeholder engagement and meetings (es. Environmental associations)

Participate at existing CCS support groups & organizations

- ccsnetwork.eu
- Global CCS Institute
- ZEP Zero Emission Platform -



4) Opinion building and monitoring

Media Relations

- Press Releases; Interviews
- Special events
- Media trips

Public opinion research

- Qualitative research
- New research being designed after Eurobarometer

5) Inform and Engage Enel's Citizens

Motivate advocacy for the technology

Information Centre

- House organ (Reportage, Interviews, Articles)
- Intranet: news and forum allowing employee comments
- Web tv (Reportage and News)

Internal Researches

- Understand employees opinions, fears and suggestions for the acceptance of CCS technology

International Publishing

- Special edition house organ with a focus on employees and families, distributed worldwide



Concluding Remarks

Scenario for public acceptance of CCS projects

- CCS is currently an emerging field, but it has already been recognized that **early public engagement** on the subject is essential if that engagement is to be meaningful. (engagement starts with employees)
- Without developing **public's understanding of the technology**, there is no possibility of dialogue and public acceptance
- Engagement means also raising awareness for the basic issues: **Fossil fuels will remain necessary** and CCS technologies offer the opportunity to realize climate neutral coal-fired power plants in the transition to a greener society.
- The initial theme of climate change to explain the value of CCS is evolving. It's fundamental to stress that **CCS is not the only measure for acting on climate change**. Along with energy efficiency and renewable, CCS will help meet mid- and long-term targets for mitigating climate change. In addition it will be **more and more important in the future to explain the economic case for CCS and re-use of CO₂**.
- CCS projects have crucial **importance for people**:
 - Maintain jobs for modernization of the plants creating new opportunities from CO₂ Storage and Reuse
 - Reduce CO₂ emissions but maintain electricity supply
 - Indigenous resource can be used
 - No ETS penalty

Concluding Remarks

Communicate CCS projects

- Enel has already promoted, a number of public engagement activities, on its CCS projects taking place, working with a wide range of stakeholders including government institutions, scientific institutions, research councils, public and private associations, the media, communication specialists. For this matter, **social characterization is one key element** of CCS public acceptance plans.
- A key role of the communication is disseminate of the scientific community findings to government and other interested parties in order to address public concerns or **communicate value of the technology**
- The **public acceptance** plan, with all its communication activities, needs to be **synchronized with the technical and engineering plan**. Main points where communication and public engagement is needed include:
 - Selection of capture technology and industrial site
 - Selection of transport and storage solutions
 - Definition of engineering solutions and early assessment of impacts on territory
 - Early consultation of the proposed solutions (before your opponents start campaigning against you)
 - Permitting process and mandatory social engagement activities
 - Project execution (first stone, construction, dedication)
 - Project operation (regular consultations, communicating milestones, etc)



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BE POWERED BY YOUR DREAMS.



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ENERGY TO CAPTURE CO₂ AND PROTECT THE ENVIRONMENT. 'Make it real'. The words that have always driven us. Making ideas that spring from your aspirations actually happen. So starting with the dream of zero emission energy, we developed power stations, like the one in Brindisi, Italy, with technology that can capture and store CO₂, which means they don't use chimneys. Through innovation, we've made a more sustainable good life possible. Because we've always believed in our own unstoppable energy. And the unstoppable energy of your dreams.