



GETICA CCS Demo Project

SUMMARY



March 2011



Year	EU	ROMANIA
2007	Lisbon Treaty regarding Competitiveness, including Energy Article	Romania becomes an EU member state The “CO ₂ Club” Association was founded
2008	The “ Energy - Climate Change ” legislative package has been launched	“CO ₂ Club” Association - First International workshop “Promoting CO ₂ capture and storage” - Bucharest
2009	The EU decided to co-fund CCS Demo Program for developing projects in the region EU passes the legislation on CO ₂ geological storage CCS Projects Network was launched	Romanian Government provided the analysis on “The impact of the “ Energy-Climate Change ” EU legislative package over the national industrial activities competitiveness” First discussions at governmental level regarding the development in Romania of a CCS Demo Project Governmental Memorandum “Action Plan for Preparing Romania to implement the EU legislative package on “ Energy-Climate Change ” “Politehnica” University - International Conference on Energy and Environment - CIEM “CCS Round Table” - Bucharest
2010	Industrial initiatives and CCS roadmap NER 300 - call for proposals	The Prime Minister decided to develop a Demo CCS Project by signing the “ Action Plan to implement a Demonstration Project regarding Carbon Capture and Storage (CCS) in Romania ” The Ministry of Economy, Trade and the Business Environment (METBE) runs the call for proposals and national ranking - selection between potential future CCS projects (energy sector and other industries) The Romanian CCS candidate project was selected from the energy sector METBE contracted the CCS National R&D Program METBE’s Order no.1508 nominated the Inter-ministerial Steering Committee for the Romanian CCS Demonstration Project coordination consisting of representatives from: METBE, Ministry of Public Finance, Ministry of Environment and Forests (MEF), Ministry of Education, Research, Youth and Sports and Final Operators Transposing the EU legislative package on “ Energy-Climate Change ” – in progress “CO ₂ Club” Association - Second edition of the International Conference “Promoting CCS in Romania” - Bucharest World Energy Council and ISPE - Regional Energy Forum FOREN 2010 - international workshop on CCS - Neptun GeoEcoMar and ISPE “CCS National R&D Program” – First knowledge sharing event - Tg. Jiu, Gorj county National Romanian Day, 1 December – Romanian CCS Demo Project was launched and the official candidacy in NER300 competition was announced – Brussels
2011	NER 300 – submission of projects proposals 2 nd Annual Brussels CCS Summit 2011	METBE approved the Memorandum signed by the future Operators for the foundation of the Project Company which will develop, implement and operate the future Romanian CCS Demo Project. CE/31/2009 CCS Directive will be promoted under MEF and METBE co-initiative TURCENI Energy Complex and ISPE “Climate change – impact and solutions” – First educational event - Turceni High School, Gorj county METBE and TURCENI Energy Complex “CCS Projects in Europe – dialog with the diplomatic environment in Romania” – Knowledge sharing event - Bucharest GeoEcoMar - Radio Culture Romania, Science editorial, “Science at home” interviews about GETICA CCS Demo Project

KEY FACTS

GETICA CCS is a governmental demonstration project, officially sustained by the Prime Minister, coordinated by the Ministry of Economy, Trade and the Business Environment – METBE and supported by Global CCS Institute.

Location

- Oltenia region - the most energy intensive region at national level, responsible for about 40% of the total amount of CO₂ emissions at national level (24.5 Mtpa CO₂)
- TURCENI Energy Complex - existing power plant, local lignite-fuelled, 4x330 MW

Technical features

- Integrated CCS Demonstration Project
- 1.5 Mtpa CO₂ captured, transported and safely stored
- 85% minimum removal efficiency from the flue gases Capture - 330 MW power unit, in TURCENI Power Plant - Unit no.6, under retrofitting and operation lifetime extension
- Transport - onshore underground pipelines, with about 40m total length
- Storage - deep saline aquifers geological formations (more than 800 m) within a radius of 50 km from TURCENI

Feasibility Study Donor

- The Global CCS Institute, Australia offers a 2.55 mil. EUR grant for GETICA CCS Demo Project FS

GETICA CCS Project Company

- TURCENI Energy Complex - future CO₂ Capture Plant operator
- TRANSGAZ, National Company for Natural Gas Transport - future CO₂ Transport Infrastructure operator
- ROMGAZ, National Company for Natural Gas Exploitation - future CO₂ Storage Facility operator

Feasibility Study Technical Consortium and Support

- Romania - ISPE (Institute for Studies and Power Engineering) - Project Management and Technical & Financial Consultant for capture plants integration and transportation pipelines
- Germany - Alstom Carbon Capture GmbH - Capture Plant Technology
- Romania - GeoEcoMar - CO₂ Geological Storage Technological Consultant
- France - Schlumberger Carbon Services - CO₂ Geological Storage Technology
- UK - INTETECH - CO₂ transportation pipelines corrosion and materials
- France - OXAND – Risk assessment

Development stage

- On-going Feasibility Study
- NER300 Application Forms was submitted on 9th of February to the Romanian Government - METBE

SUSTAINABILITY OF GETICA CCS DEMO PROJECT

ENVIRONMENTAL IMPACT

- Climate change mitigation measure, as a complementary solution within Renewable Energy Sources and Energy Efficiency portfolio
- Contribute to outcome climate change consequences, thus Romania meeting its national CO₂ emissions mitigation targets
- Romania will transpose the EU directives, especially **Energy-Climate Change Package**.

ECONOMIC IMPACT

- Opportunity to develop new climate neutral coal-fired PPs and maintain operational the existing retrofitted fossil PPs, including the mining exploitation sites
- Increasing geopolitical security by consumption of coal versus gas suppliers dependency
- Extension of the CCS technology for all the power producers in the region (over 4,000 MW) and other energy intensive industries (metallurgical, chemical etc.)
- Potential to develop the CCS transport & storage infrastructure for the industrial CO₂ emitters in the region, at country and cross-border levels, by extending the CO₂ storage capacity in deep saline aquifers geological formations and depleted oil and gas reservoirs from Oltenia region
- PPs with CCS are a stable addition to the fluctuating energy supply from solar and wind power plants.

SOCIAL IMPACT

- New jobs created all along the project stages – design, EPC, O&M and monitoring for the Capture / Transport / Storage facilities
- Capacity building programs developed at institutional level
- New educational programs implemented in colleges and universities
- Training programs developed for all future operators of the CO₂ capture plant, transport pipelines network and storage sites monitoring.

Institutional
and Financial
Support



Project
Company



Technical
Consortium



Technical
Support

