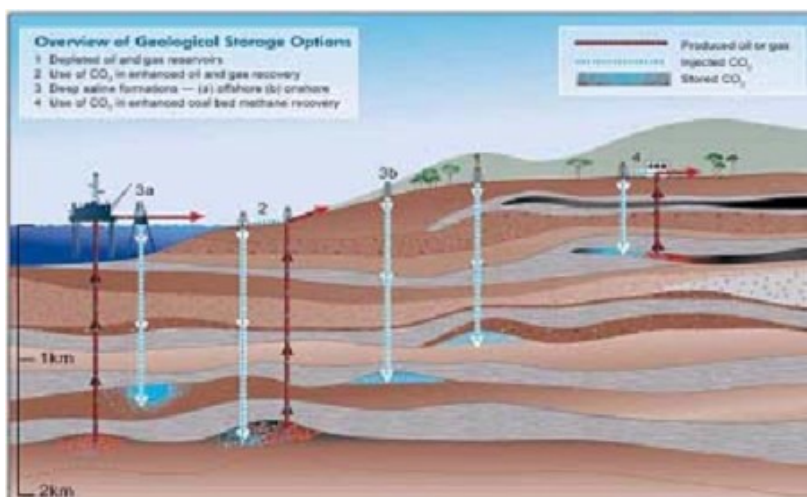


POWER PLANTS WITH AND WITHOUT CO₂ CAPTURE FEASIBILITY STUDIES

IEA Greenhouse Gas Programme
Netherlands, West Germany



COMPLETION DATE
2003-2005-2007-2009-2011

PROJECT DESCRIPTION

The following studies have been performed, aimed at assessing the current state of the art of different fuel based (bituminous coal, lignite coal and biomass) power plants, with and without capture of the produced CO₂:

- Gasification Power Generation Study (2003): evaluation of coal based IGCC's (GE, Shell), with and without CO₂ capture.
- CO₂ capture in low rank coal power plant (2005): investigation of 7 power plants technologies, with pre or post combustion CO₂ capture.
- Co-production of hydrogen and electricity with CO₂ capture (2007): assessment of the potential advantages of flexible co-production of hydrogen and electricity from coal, by applying gasification with CO₂ capture.
- Techno-economic evaluation of capturing CO₂ from biomass (2009), using a post combustion capture technology.
- Evaluation and Analysis of Water Usage and Loss of Power Plants with CO₂ Capture (2009).
- Rotating machinery for CO₂ compression in CCS systems (2011).
- Operating Flexibility of Power Plants with CCS (under execution).

FOSTER WHEELER ITALIANA SCOPE OF WORK

FWI scope of work is a feasibility study, generally including:

- Comparison between different technologies used in the power plants.
- Performance and cost estimating models
- Financial analysis of the plant
- Sensitivity to different economical parameters.