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SciVerse ScienceDirect

Energy Procedia 37 (2013) 3137 – 3146

Energy Procedia

GHGT-11

Region specific challenges of a CO_2 pipeline infrastructure in the West Mediterranean area
Model results versus stakeholder views

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Abstract

This paper presents results of potential CCS infrastructures in the West Mediterranean region including trajectories for CO_2 pipelines. The preliminary results are generated with a combination of geographical (GIS) and partial equilibrium optimization modelling (MARKAL/TIMES-COMET). Furthermore, as a result of active stakeholder involvement in the research project, the CCS infrastructures were critically reviewed and obtained insights were used to improve the models and their input parameters. Stakeholders´ feedback regarding difficulty in crossing hard rock terrains and the reasonability of trying to replicate the existing natural gas network, had a large impact on the resulting CCS infrastructure.

Selection and/or peer-review under responsibility of GHGT

Keywords: CO_2 transport; CCS; least-cost routing; GIS; Linear Programming; energy system model; MARKAL-TIMES;

1. Introduction

Carbon dioxide Capture, Transport, and Storage (CCS) is a CO_2 abatement option that can contribute around 20% to the global CO_2 emission reduction which is required in 2050 to stay below a 2°C average global temperature increase [1]. While CO_2 capture technology can be developed at an international level,

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Selection and/or peer-review under responsibility of GHGT
doi:10.1016/j.egypro.2013.06.200