

CCOP-Norway Program for Enhancing Public Petroleum Management of the CCOP Member Countries (EPPM)

EPPM P2W5: Workshop on Mapping of Potential Reservoir for CCS & Selection Criteria, 28-30 September 2010, 28 -30 September 2010

Summary Report:

The workshop is the 5th activity under *Project 2 (P2), Natural Gas Field Development and Environmental Issues* of the EPPM Program. This is organized by the CCOP Technical Secretariat with the cooperation of PETRAD (Norway) and Ministry of Energy and Mineral Resources, Indonesia. The objective is to enhance the capacities of the CCOP Member Countries for a sustainable energy policy with Carbon Capture and Storage (CCS) into the geological formation as part of the solution to global climate change. The workshop focused on identifying geological reservoir with potential for CCS and criteria for the selection of these potential reservoirs.



A total of 45 participants from 9 CCOP Member Countries (Cambodia, China, Indonesia, Korea, Malaysia, Philippines, Thailand, Timor-Leste and Vietnam) and 7 experts from Norway also attended the workshop. The distinguished guests of the opening ceremony were



- H.E. Mr. Eivind S. Homme, Ambassador of Norway to Indonesia
- Dr. Oystein Berg, Managing Director, PETRAD
- Dr. Ir Usman Pasarai, Head of R & D Division for Exploitation Technology, LEMIGAS – on behalf of Dr. R. Sukhyar, Permanent Representative of Indonesia to CCOP & Head of Geological Agency, Indonesia

- Mr. Constantin Nicolaysen Karame, First Secretary, Royal Norwegian Embassy, Jakarta.

Again, through the help of PETRAD we were able to invite a number of resource persons from Norway to deliver presentations and led in the discussions related to the theme. CCS Projects in Norway and other in other countries where Norwegian companies are involved - related to the capture and mapping and storage of CO₂ - were the highlights of the presentations. Also, resource persons from KIGAM (Korea) presented their research in CCS activities & participation in the CO₂CRC Otway Project in Australia. A number of CCS studies were again presented & discussed during the workshop.



A 1-day CCS simulation exercise was conducted in day2 using the OilSim simulation tool developed by SIMPRENTIS. The exercises demonstrated how a CCS project can be an added business value to an oil and gas company- with scenarios of development of a high CO₂ gas field and use of CO₂ for EOR/IOR and/or the CCS option. The OilSim will be available for use and demonstration by the Member Countries (for a limited time) after the workshop- so they can have more practice with the use and application of the simulation tool. This is

also for a better understanding of the value of CCS, not just the economic impact but also as a climate change mitigation option.

Conclusion & recommendations

1. CCS into the geological reservoir is a possible solution to high CO₂ gas basins in the CCOP Countries – this is accepted by all the member countries. They also affirm that the same technologies & methodologies that have been developed by the O & G industry will be use in CCS project implementation. These have been proven to be economically feasible under specific conditions for oil and gas and saline formations. Although there are still specific issues to be resolved, among others, monitoring.
2. CCS can be a future business for the region. Some CCOP countries are now moving ahead with developing a regulatory framework specific for CCS.
3. It would be interesting if a CCS pilot project could be initiated in the region with participation of the government & private sector- for all members to have the opportunity to learn each process of pilot's implementation. Norway can play an important role by providing the necessary expertise, either thru commercial participation and/or regional aid to assist the CCOP governments that needs assistance in developing their legal frameworks and the necessary capacities required to implement such frameworks. This will also build a strong case for the region in support of the approval of a financial mechanism, similar to CDM, for CCS.
4. The next workshop will be on “strategies for public acceptance of CCS”. This will be conducted mid-2011 with venue to be announced at a later date.

The workshop documents are now posted in the EPPM website <http://www2.ccop.or.th/eppm/> with free access and easy download.

A 1 day field trip was organized for the participants to interesting places around Bali Island by the CCOP TS in cooperation with LEMIGAS & PERTAMINA.