

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

EPPM P2W4: Workshop on Regulatory Framework for Carbon Capture & Storage (CCS): with Focus on Storage into Geological Formations, HSE, CDM and Flaring
29 June – 1 July 2010, Phuket, Thailand

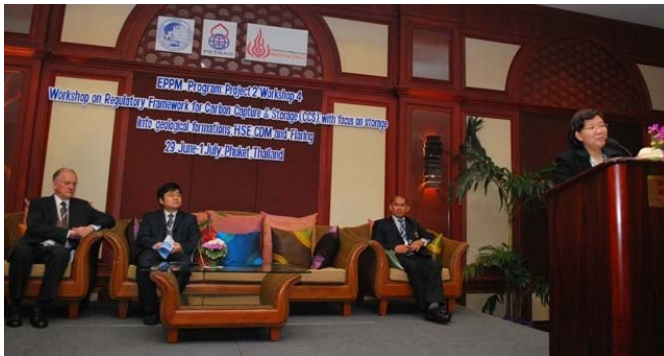
Summary Report:

The workshop is the 4th 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 Department of Mineral Fuels, Thailand. The objective is to enhance the capacities of the CCOP Member Countries for a sustainable energy policy with CCS as part of the solution to global climate change. The workshop focused on CCS legal and regulatory framework development to support the Member Countries' CCS initiatives.



A total of 31 participants from 9 CCOP Member Countries (China, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand, Timor-Leste and Vietnam) and 4 experts from Cooperating countries (Norway-3, and Netherlands) also attended the workshop. The distinguished guests of the opening ceremony were

- Dr. Boonrasri Tongpenyai, Deputy DG of DMF, representing Mrs Pornthip Pucharoen, DG of the Department of Mineral Resources and Permanent Representative of Thailand to CCOP
- DR. Oystein Berg, Managing Director, PETRAD
- Prof. Dr He Qingcheng, Director, CCOP Technical Secretariat.



The resource persons that were invited through PETRAD networks lead in the presentations & discussions on topics related to CCS-related regulations in Norway & Netherlands, public awareness campaigns, technologies & challenges for implementation of CCS, gas flaring with showing of the movie “Billion Dollar Bonfire”, CCS risks & risk management, and supported with case studies &

lessons learned. In addition, an update on climate change negotiations was presented with a look into the future of CDM and other similar market mechanisms- and how this will possibly impact the oil and gas sector of the CCOP members.



The presentation from the Member Countries updated the workshop on current status of CCS regulations developments with Japan and Korea providing more information about their progress in R & D related to CCS, particularly capture technology and storage into geological reservoir.

In the group discussions, the resource persons acted as consultants and divided their time to join the 3 groups and provided valuable inputs in the discussions on the workshop topics.

Conclusion & recommendations

1. Except Japan, all the CCOP countries have no regulatory framework that is specific for CCS into the geological reservoir. Generally, CCOP members’ GHG mitigation efforts are still focused on improving energy management & efficiency. Some countries are just starting to develop their laws/regulations on CCS. As highlighted by the presentations of Norway and Netherlands, it is important that (*first & foremost*) the countries have to adopt CCS as one of the solutions for CO₂ emissions or GHG mitigation.
2. CCS into the geological reservoir is (again) a possible solution to high CO₂ gas basins in the CCOP Countries – this is accepted by all the members. All the members also agree that the same technologies & methodologies that have



been developed by the O & G industry and have been proven to be economically feasible under specific conditions for oil and gas and saline formations.

3. There are many solutions & “best practice” policies to address gas flaring. The CCOP members can learn from the experiences from within the CCOP members and Cooperating countries, among others

- a. Clear & transparent political support for cost efficiency
- b. Procedures & Enforcement is clear and understood by regulatory bodies, industry as well as NGOs
- c. Other policies: non-discriminatory grid access, promotion of local gas market, and fiscal incentives

4. There are many barriers to CDM development. According to some studies and as presented by Mr.

Torleif Haugland of Carbon Limits (Norway), gas flaring reduction are excellent projects for CDM with very high increase in IRR when including revenues from CDM projects compared to hydro, wind & others. The CCOP countries, in cooperation with other countries must work together and communicate with UNFCCC institutions to find solutions to barriers in CDM development, particularly on gas flaring.

5. Some member countries, like Japan, Korea and China, are already advance in their research and policy development related to CCS. There is also a possibility for joint projects with other CCOP members. This could be an area for follow up for CCOP- a future Program focused in CCS for geological storage capacity building that will have joint research on storage profiling & identification, policy development, public safety & awareness campaign strategy- with case studies, as project components. Funding can

be sourced out from CCOP member & cooperating countries.



A 1 day field trip was organized for the participants to interesting places around Phuket Island by the CCOP TS in cooperation with DMF.

