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INSTITUTE



## CCOP CO<sub>2</sub> Storage Mapping Program (CCS-M)

### CCS-M Seminar 2(S2): Seminar on Carbon Capture Storage and EOR

18-19 March 2014, Hanoi, Vietnam

#### A. Background and Objectives:

In order to further understand the emission reduction potential of carbon capture and storage (CCS), decision makers need to understand the amount of carbon dioxide (CO<sub>2</sub>) that can be safely stored in the subsurface and the geographical distribution of storage resources. Estimates of storage resources need to be made using reliable and consistent methods. The CCS-M Seminar 2 (S2) aims to enhance the knowledge of the member countries on methodologies in assessing geological storage of CO<sub>2</sub> and its storage capacity. The challenges and gaps in the development of international (harmonized) storage assessment methodologies will also be looked into.

#### B. Participants and Resource persons:

1. Representatives from oil and gas regulatory and supervisory agencies, research organizations, national oil and gas companies, geological agencies, environmental agencies, and academic institutions with geoscience and environmental programs in Vietnam, CCOP member countries and ASCOPE members.
2. Resource persons from Norway, Australia, Canada and CCOP member & cooperating countries.

**C. Date & venue:** Hanoi, Vietnam – 18-19 March 2014 and field trip on 20 March 2014.

*CCS-M National Coordinators Meeting (NCI) on 17 March 2014 at the Head Office of PetroVietnam (Hanoi)*

#### D. Implementing / coordinating organizations

1. CCOP Technical Secretariat
2. Global CCS Institute
3. PETRAD and Ministry of Foreign Affairs, Norway
4. PetroVietnam (PVN), VPI and VIGMR

**E. Program:**

#	Time	Item	Person/Organization
1	16-17 Mar	Arrival of participants/resource persons	CCOP TS/PVN
<b>Day 1: 18 March 2014</b>			
2	0830	Registration	CCOP TS/PVN
3	0900	Opening Ceremony and welcome from CCOP Vietnam 1. Welcoming Remarks a. MONRE;  2. Opening Remarks a. Norway Exchange of Tokens	Mr. Pham Van Huy Secretary of CCOP Vietnam  Dr. Nguyen Dac Dong Director General of Department of Science and Technology, MONRE  Dr. Oystein Berg, Petrad  VIP/Distinguished guests
3a		Group Photo	CCOP TS, VPI
4	0930	Keynote Address <i>CCS Roadmap in Vietnam</i>	Dr. Ho Huu Hieu VIGMR, Vietnam
	1000	Coffee - Tea	VPI
5	1030	Introduction, Background and Update of CCS-M	Mr. Simplicio P. Caluyong <i>CCS-M Coordinator</i> <i>CCOP Technical Secretariat</i>
6	1050	General Overview of CCS • <i>Why CCS?</i> • <i>Why a standard methodology for assessment and capacity estimation?</i>	Dr. Tore Torp <i>CO<sub>2</sub> Storage Adviser</i> <i>Tel-Tek, Norway</i>
7	1130	Taking CO <sub>2</sub> Storage Capacity Assessments to the next level: <i>reckoning with geological uncertainty</i>	Dr. Kris Welkenhuysen <i>Royal Belgian Institute of Natural Sciences, Geological Survey of Belgium</i>
	1200	Lunch	Host: VPI Inside VPI tower
8	1300	Attributes of a CO <sub>2</sub> Storage Complex	Mr. Fridtjof Riis <i>Principal Geologist</i> <i>Norwegian Petroleum Directorate (NPD)</i> <i>Norway</i>
9	1345	Recommended Approach to Estimate the Technically Accessible Storage	Mr. Rick <i>Causebrook Australia</i>
	1430	Reservoir characterization and Monitoring CCS projects in Geological Formations Typical in Japan (heterogeneous)	Dr. Takeshi Tsuji <i>Japan</i>

	1515	Coffee / tea break	Host: VPI
10	1545	CO <sub>2</sub> Geological Storage Site Selection and Characterization	Mr. Fridtjof Riis <i>NPD, Norway</i>
11	1630	A High Level Evaluation of Australia's Storage Capacity	Mr. Rick Causebrook <i>Australia</i>
	1700	Summary for Day 1	Chair
12	1900	Welcome dinner at Hoang Gia 2 (Royal) Restaurant (39, Nguyen Thi Dinh Street. Trong khu Trung Hòa Nhân Chính, đi từ đường Lê Văn Lương vào) <i>Attire: Smart Casual</i> <i>1700: bus leaves VPI to Capital Garden</i> <i>1830: bus from Capital Garden to Hoang Gia 2 restaurant</i> <i>2100: bus from restaurant back to hotel</i>	Host: VIGMR <i>Remark:</i> time may be changed based on the actual progress of the seminar
<b>Day 2: 19 March 2014</b>			
13	0830	Overview of Day 1 and Order of the Day	Chair: Sim Caluyong
14	0840	Methodologies for assessing CO <sub>2</sub> storage potential and ranking exploration targets	Dr. Steve Whittaker <i>CSIRO, Australia</i>
15	0915	Quality Control for CO <sub>2</sub> Storage Sites and EOR • <i>3<sup>rd</sup> Party Role &amp; DNV-RP-J203</i>	Mr. Vineet Kumar Mahajan <i>DNV GL, Singapore</i>
	1000	Morning tea / short break	Host: VPI
16	1030	Case Study: <i>mapping of storage potential, use and storage of CO<sub>2</sub> and monitoring</i> –Weyburn- MidaleCCS Project	Dr. Steve Whittaker <i>CSIRO, Australia</i>
17	1115	CCS Case Studies: <i>assessment of storage potential - Norway</i>	Dr. Tore Torp <i>CO<sub>2</sub> Storage Adviser</i> <i>Tel-Tek, Norway</i>
	1200	Lunch	Host: VPI Inside VPI tower
18	1330	Standard Approaches to Develop a Storage Atlas	Mr. Fridtjof Riis <i>NPD, Norway</i>
19	1415	CCS legislation in European Union and Norway	Dr. Tore Torp <i>CO<sub>2</sub> Storage Adviser</i> <i>Tel-Tek, Norway</i>
	1500	Coffee/ tea break	Host: VPI
20	1530	Uncertainties and Gaps in Research of CO <sub>2</sub> Geological Storage • <i>Discussions</i> • <i>Summaries &amp; the Way Forward</i>	Dr. Tore Torp and All resource persons
21	1630	Briefing on the Field trip Evaluation Awarding of Certificates Closing Ceremony	PVN CCOP TS/PETRAD
	1700	End of Seminar	

22	1830	<p>Farewell dinner at La Vong restaurant (No. 2, Nguyen Thi Thap, Q. Cau Giay. Trong khu đô thị Trung Hòa-Nhân Chính, đi từ đường Hoàng Minh Giám vào)</p> <p><i>Attire: Smart Casual</i></p> <p><i>1700: bus leaves VPI to Capital Garden</i></p> <p><i>1830: bus leaves Capital Garden Hotel to restaurant</i></p> <p><i>2100: bus from restaurant back to hotel</i></p> <p><i>Attire: Smart Casual</i></p>	<p>Host: VIGMR</p> <p><i>Remark:</i> time may be changed based on the actual progress of the seminar</p>
23	0700-1600	<p>Day 3: 20 March - Field Trip To Bai Dinh-Trang An (100 km from Hanoi)</p> <p>0700: bus leave hotel, please be on time</p> <p>Warning: bring warm clothes, umbrella</p>	VIGMR