A. Objectives:

1. To have a better understanding on the role of CCS in mitigating the impact of GHG to climate changes,
2. To enhance the capacities of the participants on the assessment of potential geological storage of CO_2, and
3. To prepare the participants from Indonesia for their important role as a case study country in the CO_2 Storage Mapping – a new 4-year regional capacity building program of CCOP on CCS.

B. Participants and Resource persons:

1. Representatives from oil and gas regulatory and supervisory agencies, research organizations, national oil and gas companies, data management organization, geological agencies, geo-environmental organizations, and academic institutions with geoscience and environmental programs in Indonesia.
2. Resource persons from Norwegian, Indonesian agencies/organizations and from other CCOP countries (if needed).

C. Date & venue:

1. Date: 10-11 December 2012
2. Venue: ITB Auditorium, ITB, Bandung, Indonesia

D. Implementing / coordinating organizations

1. Norway: Royal Norwegian Embassy – Jakarta, PETRAD
2. Indonesia: Ministry of Energy and Mineral Resources (ITB & Geological Agency)
3. CCOP Technical Secretariat

Program

Number	Time	Item	Person/Organization
1		Arrival of participants/resource persons (not from Bandung)	ITB/GAI
10 December 2012			
2	0830	Registration	ITB/GAI/CCOP TS
3	0900	**Opening Ceremony** • **Welcoming Remarks** o Dr. R. Sukhyar o Prof. Sri Widiantoro • **Opening Remarks** o Ms. Marianne Damhaug Exchange of Tokens	 Chairman, CCOP Steering Committee Representative of Indonesia to CCOP and Head of Geological Agency, Ministry of Energy and Mineral Resources Dean of FTTM Institut Teknologi Bandung Minister Counselor Royal Norwegian Embassy - Jakarta
4	0920	**Keynote Address** State of the Art on the 40+ years of success for Indonesia E & P Business and what is the next challenge?	Dr. Naryanto Wagimin Upstream Director Directorate General of Oil and Gas

5	0940	Group Photo	CCOP TS/ITB/GAI
	0945	Coffee/Tea	
6	1015	**Introduction and Background of the seminar**	Mr. Simplicio P. Caluyong CCOP Technical Secretariat
7	1030	**CCS overview – the Norwegian experience** • What is CCS and where are we now? • Climate change issues- the global challenges • The Norwegian experience	Dr. Per Christer Lund Norwegian Environmental Technology Center Royal Norwegian Embassy-Tokyo
8	1115	**Overview of Geological Storage of CO2** • R & D • Storage screening and selection overview • Storage options overview • Aquifer potential	Ms. Eva Halland Norwegian Petroleum Directorate Norway
9	1145	**Case Studies of CO2 Storage** • Lessons learned • What are the barriers for commercialization of CO2 Storage projects? • How can governments & private sector provide solutions?	Mr. Tor Fjaeran Statoil Indonesia
	1215	Lunch Break	
10	1330	**CO2 Storage Regulation** • Legal requirements • Technical requirements: exploration, monitoring and abandonment	Ms. Eva Halland Norwegian Petroleum Directorate, Norway
11	1400	**CCS in Indonesia:** Roadmap of CCS in Indonesia and Preliminary results of CCS Pilot Study in Merbau Field, South Sumatra	Mr. Utomo Pratama Iskandar LEMIGAS
12	1430	**CCS in Indonesia:** Preliminary results of CCS Pilot Study in Gundhi Field, Central Java	Dr. Benyamin Sapiie ITB
	1500	Coffee break *and transfer from ITB Campus to Geological Museum.* (Bus will be provided by Geological Agency)	
13	1630	Tour : Geological Museum	ITB/GA
	1800	Welcome Dinner	Host: Pertamina (Indonesia) *Venue- Geological Museum (Auditorium)* *Attire: smart casual*

11 December 2012			
14	0900	Announcements from the Chair	Chairperson
15	0910	**Site Selection and Qualification** • What international standards are available as reference? • Data and information needed • Device/tools and expertise required • Sample workflow	Dr. Roman Berenblyum IRIS AS Norway
16	0940	**CO2 Storage Capacity Evaluation** • Key data needed • Standard methodologies – for international acceptance • Parameters for storage capacity calculation • Sample workflow of a quantitative and quantitative analysis • Expertise and tools needed	Ms. Eva Halland Norwegian Petroleum Directorate, Norway
	1010	Coffee/Tea	
17	1040	**Static and Dynamic modeling of geological storage** • Including potential pathways for CO2 leakage • Effect and risk of tectonics	Dr. Roman Berenblyum IRIS AS Norway
18	1125	**Geophysical monitoring of reservoir, overburden and surface** • Tools and devices • Where, what & when to monitor? How long?	Mr. Tor Fjaeran Statoil Indonesia
	1200	Lunch	
19	1330	**Storage Options with hydrocarbon recovery**	Dr. Roman Berenblyum IRIS AS Norway
20	1415	**The CCOP CO2 Mapping Program** - regional mapping program of CO2 storage potential in the region	Simplicio P. Caluyong CCOP Technical Secretariat
	1500	Coffee/Tea	
21	1530	**Open Discussion: Possibilities of Storing CO2 in Geological Storage in Indonesia** • What are the opportunities? • What are the barriers? • How to overcome these barriers?	All
22	1630	• Summary of the Workshop	Chairman and resource persons

		• Evaluation and feedback • Awarding of Certificates • Final announcements • Closing Remarks	CCOP CCOP/Norway CCOP/ITB/GAI PETRAD
	1830	Farewell Dinner	Host: CCOP TS *Venue- The Valley Restaurant* *Attire: smart casual*

Notes:

1. **CCOP** – Coordinating Committee for Geoscience Programs in East and Southeast Asia
2. **GAI** –Geological Agency, Indonesia (Badan Geologi)
3. **ITB** – Institut Teknologi Bandung
4. **PETRAD** – International Program for Petroleum Management and Administration