



EPPM Programme Seminar 3

Country Report

MALAYSIA

**Robert Wong
11-12 Nov 2010
Bangkok**

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Presentation Outline

1. Impact of EPPM Technical Activities
2. Enhancing our Knowledge on GHG to Climate Change
3. Post-EPPM Recommendations



Presentation Outline

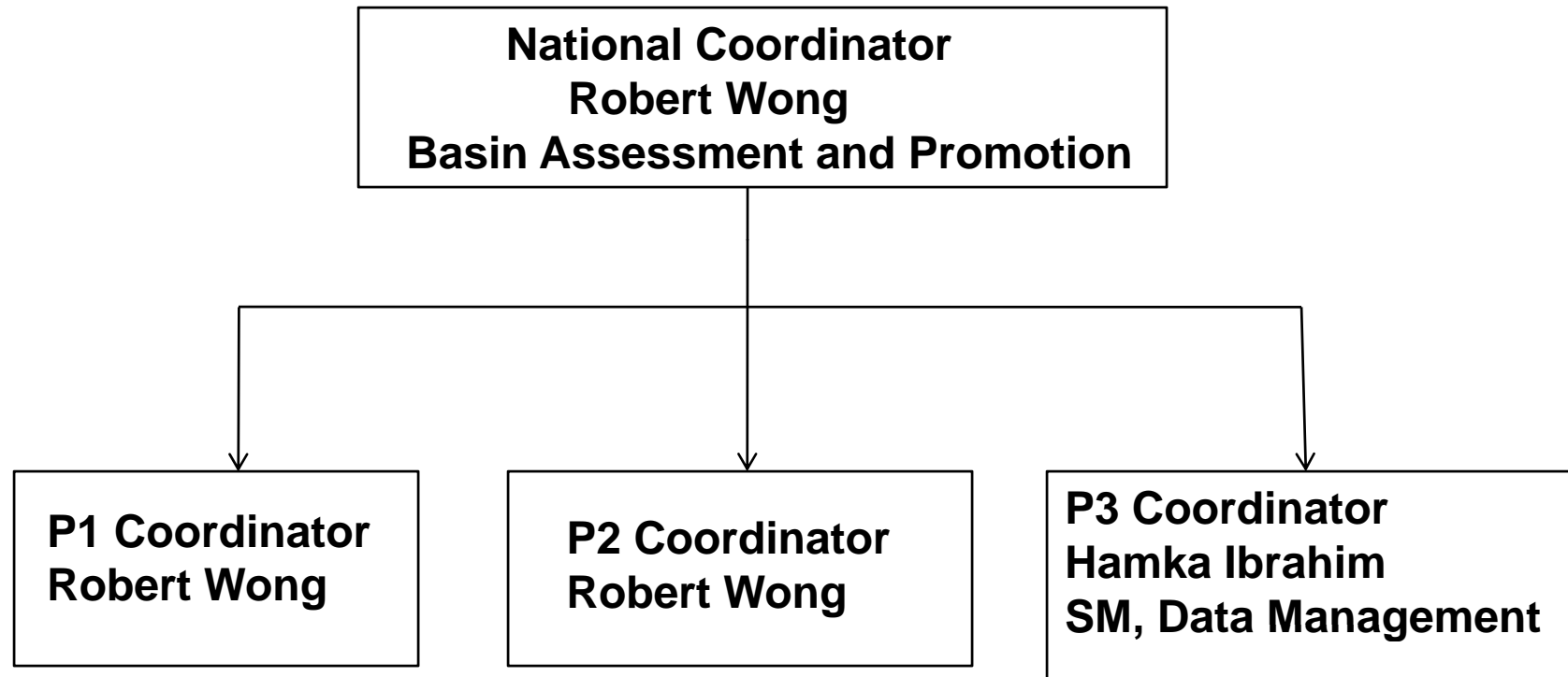
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Coordination chart for EPPM



P1: Petroleum resource management with focus on natural gas

P2: Natural gas field development and environmental issues

P3: Metadata on natural gas resources of the CCOP region



Responsibilities of project coordinators

- 1. Liaise with National Coordinator on P2 and P3 projects**
- 2. Nominate candidates for CCOP-sponsored workshops**
- 3. Compile and document all reports for CCOP**
- 4. Present topical papers at specific seminars/workshops**
- 5. Present lessons learnt at dissemination seminars**
- 6. Produce annual and final reports for CCOP**



Attendance at EPPM Programme

EPPM Programme	Date	Attendance	Remark
Launching S1	9-10 Oct 08	2	Attended by National Coordinator
P2W1	17-20 Mar 09	4	CCS workshop held in Bali, Indonesia
P3W1	1-3 Apr 09	2	Metadata workshop held in Shanghai, China
P1W1	12-14 May 09	2	Cross-border study, held in Krabi, Thailand
P2W2	15-18 Sept 09	1	Held during the Fasting Month
P3W2	7-9 Oct 09	0	Held in Davao City. Last minute cancellation.
S2	16-17 Nov 09	2	Attendance includes National Coordinator



Attendance at EPPM Programme

Programme	Date	Attendance	Remark
P2W3	8-11 Dec 09	2	Workshop held in Danang, Vietnam
P3W3	24-26 Mar 10	2	Training and workshop held in Pattaya, Thailand
P1W2	27-30 April 10	3	Workshop and training held in Parapat, Indonesia. Training provided by Resource Persons from Indonesia and Malaysia
P2W4	29 June – 1 July 10	1	Workshop held in Phuket, Thailand
P1W3	1-5 Aug 10	18	Workshop and training held in Langkawi, Malaysia. Training provided by Resource Persons from Malaysia
P2W5	28 Sept-1 Oct 10	2	Workshop held in Bali, Indonesia
S3	11-17 Nov 10	2	Attended by National Coordinator And CO2 Storage Team Leader



Knowledge Learning, Sharing and Application

Participants of EPPM workshops have **learned** about the following:

1. Knowledge of the entire Mergui-North Sumatra basin through sharing of data, knowledge and expertise from Indonesian and Thailand. The knowledge is also shared through internal analysis and periodic presentations.
2. Learnt what metadata is, how other countries develop their metadata system. Existing metadata is being reviewed based on the knowledge gained.
3. Learnt the economics, logistics, legal/regulatory, HSE , geological and technological aspects of CCS which are very useful for our planning.



Knowledge Learning, Sharing and Application

Participants of EPPM workshops are required to **share** their knowledge with a written report according to the following format:

1. Workshop objective and agenda
2. Participating member countries in this workshop
3. Project background
4. Participants and resource persons
5. Project deliverables
6. Summary of presentations of member countries
7. Issues and challenges/lessons learnt
8. Recommendations from member countries



Knowledge Learning, Sharing and Application

Knowledge gained from EPPM workshops are also **applied**

1. **Geological knowledge of the whole Mergui-North Sumatra Basin is fed back into the Malaysian side with further understanding of the reservoir facies.**
2. **Tested CCOP metadata system and compared it with our own metadata information. The CCOP metadata system provides a useful reference for PETRONAS to develop our own oil and gas metadata system.**
3. **We are planning our own CCS projects taking into consideration knowledge acquired from the CCS-themed workshops**



Country expertise for capacity building

Country expertise for EPPM programme:

P1: Gas resource assessment

Basin studies capability-

**Sequence stratigraphic technique
to integrate well and seismic data
across the basin**

Basin studies capability-

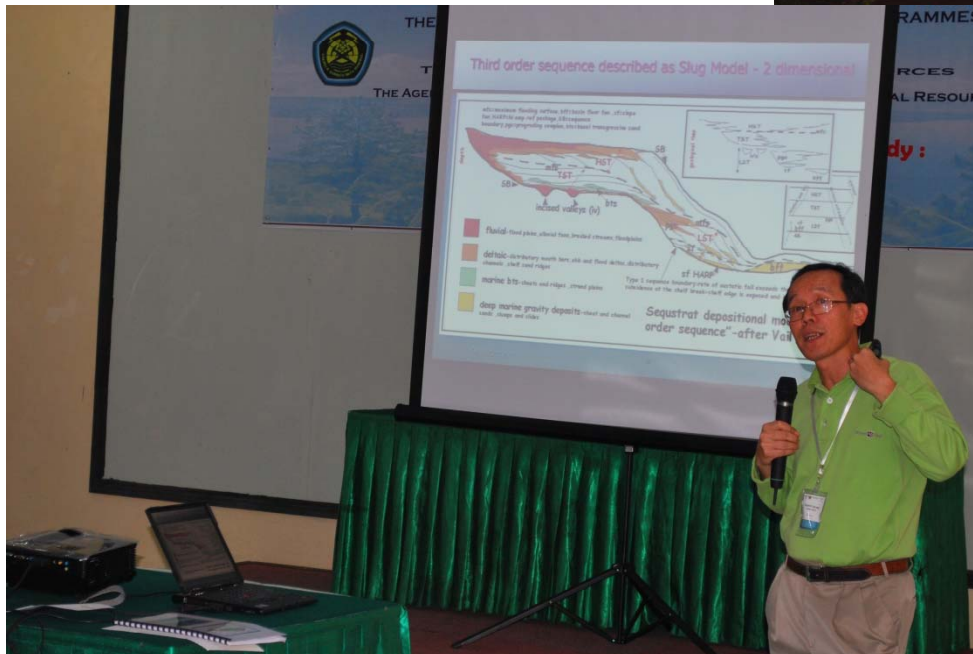
**Basin modelling for analysis of
petroleum systems**

**ALL CCOP member countries gain when each one
share their knowledge!**



Country expertise for capacity building of CCOP member countries

Robert Wong, Resource Person giving the training on Sequence Stratigraphy in P1W2



Dr. Jamaal Hoesni, Resource Person giving the training on Basin Modelling in P1W3



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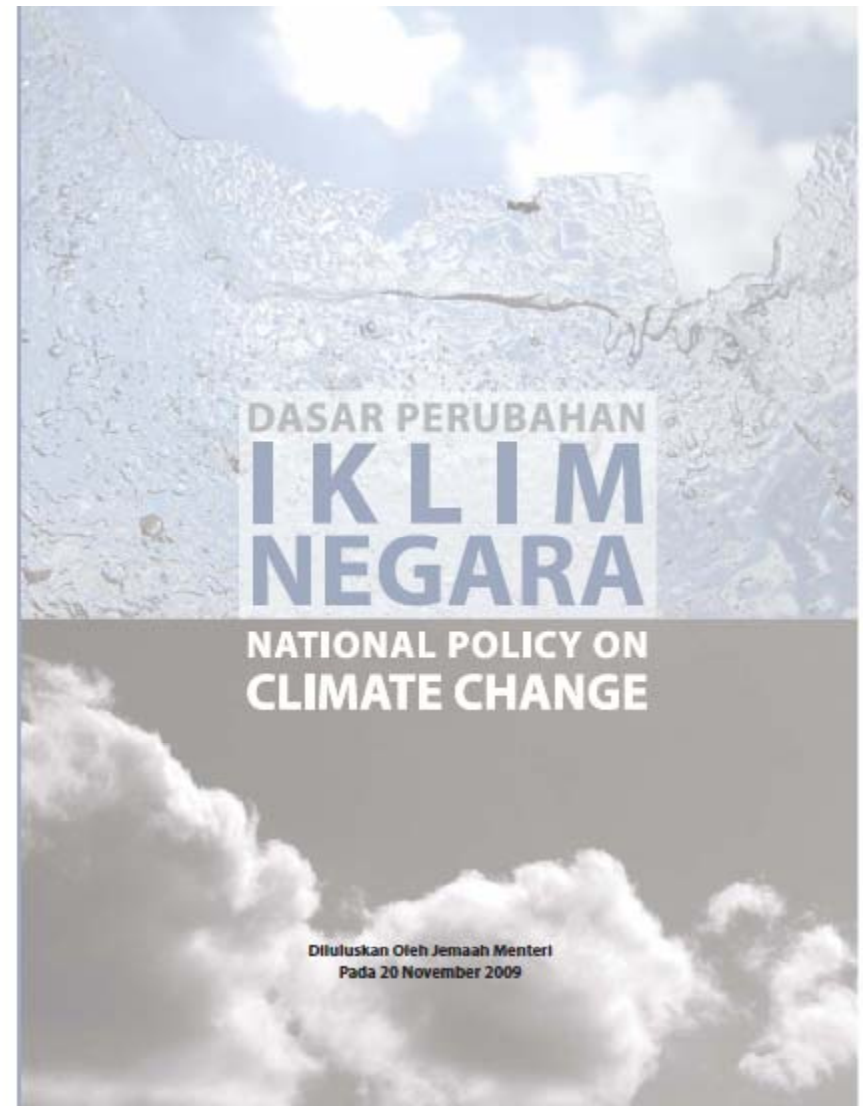
National Programme to Address Climate Change in Malaysia

- 1. Malaysia is a signatory to the Kyoto Protocol on 11 Dec 1997 which came into force on 16 Feb. 2005. Hence, Malaysia is committed to reduce greenhouse gas (GHG) emissions .**
- 2. Malaysia National Green Technology Policy was launched on 24th July 2009.**
- 3. Malaysia joined the Global Carbon Capture Institute on 13th Aug. 2009.**
- 4. National Policy on Climate Change launched on 30th August 2010**



“National Policy on Climate Change” launched in 2010

- Policy statement:
 - “Ensure climate-resilient development to fulfill national aspirations for sustainability”
- Outlining the main items:
 - Objectives
 - 3 Principles
 - 6 Strategic thrusts
 - 43 Key actions



PETRONAS



Malaysia's Environmental Laws are administered under the Department of the Environment

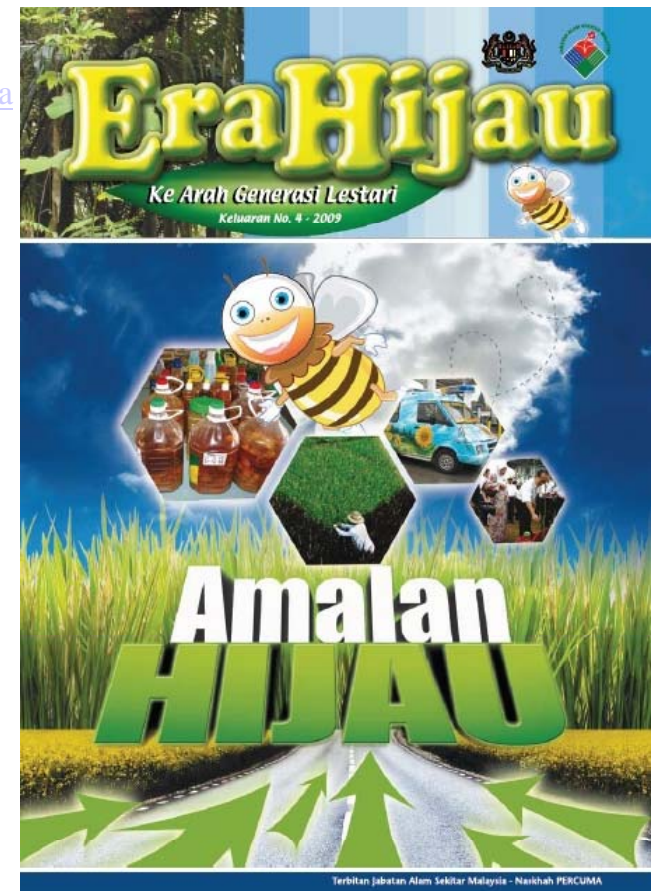
- Environmental Quality Act, 1974
 - Laws, Regulations, Rules on the Environment
- “National Policy on the Environment” 2002
- 2 key annual publications by DOE
 - DOE Annual Report (2003 -)
 - Environmental Quality Report (EQR) (2004 -)

All documents are downloadable from website [//www.doe.gov.my/](http://www.doe.gov.my/)





- **General Publications**
 - [Yearly Annual Report of Department of Environment, Malaysia](#)
 - [National Policy On The Environment](#)
- **Technical Publications**
 - [Environmental Quality Report](#)
- **Periodic Publications**
 - [DOE Magazine : Era Hijau](#)
 - [DOE Magazine : Impak](#)
- **Special Publications**
 - [DOE Handbook : Environmental Friendly Practices](#)
 - [Rakan Alam Sekitar](#)
- **Other Publications**
 - Brochure :
 - [Kempen Kitar Semula Telefon Bimbit Terpakai](#)
 - Pamphlets
 - Flyers
 - Posters
 - [DOE Bulletin](#)
 - Guideline:
 - [Environmental Requirements : A Guide For Investors](#)



One of DOE Magazines, freely downloadable from website

DOE Handbook

- Enhancing public awareness on best practices



Under the HCFCP, Department of Environment (DOE) has established Authorized Training Centres (ATCs) through license to conduct the Theory and Practical Training Program for the Refrigeration, Servicing Sector (RSS) and Mobile Air-conditioning (MAC) Servicing Sector. Those who pass the training will receive certificates from the DOE. This training program is specially designed and is applicable to any person who handles refrigerant that is handled in the environment such as Chlorofluorocarbon (CFC) - R12/R122 and hydrocarbons in the refrigeration servicing sector. Under Regulation 6 (1), Environmental Quality Management (Amendment) Regulations 2009, no person shall handle any

refrigerant environmentally hazardous substance unless he has received the approved training in the recently and lapsing of any stringent environmental substances and is in possession of an approved machine for the activity. Failure to comply with Regulation 6 will result in a fine not exceeding RM10,000 or to imprisonment, not exceeding 2 years or both as stipulated under Section 47 of the Environmental Quality Act 1974. All unlicensed persons handling the Refrigeration and MAC Servicing Systems are required to immediately undergo the training program organized by the respective ATCs as mentioned.

13 RSS Authorised Training Centres (ATCs)	
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For further information kindly contact:
 Ozone Protection Section, Air Quality Unit
 Level 1, Department of Environment,
 Ministry of Natural Resources & Environment,
 Block 1, G-17, Putrajaya, Malaysia
 Tel: 62-63742113 Fax: 62-63742114
 Email: ozone@doe.gov.my



International Ozone Day

16 September 2009
 UNIVERSAL PARTICIPATION - OZONE PROTECTION UNIFIES THE WORLD

Message from the Minister



On this International Ozone Day 2009, I would like to announce that with effect from 1st January 2010, under the compliance obligation to the Montreal Protocol on Substances that Deplete the Ozone layer, Malaysia will stop importing CFCs, HCFC and CTC.

The ozone layer occurs naturally about 16 - 50 km above the earth surface. The thickness of the natural ozone layer above the earth need to be sustained as it acts as a protective layer that absorb the harmful ultra-violet (UV) rays from the sun. Excessive exposure to the UV rays will cause skin cancer, eye cataracts, weaken our body resistance to fight disease and affecting food chain.

However the ozone layer is currently under threat due to excessive use of chemicals that deplete the ozone layer. These chemicals commonly known as ozone depleting substances (ODS) are refrigerants such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC) that are largely used in cars, buses and other motor vehicles, air-conditions, domestic and commercial refrigeration systems and building chillers. Other types of ODS are Halon which is used in the prevention equipment, methyl chloroform (111-TCA) as cleaning agents, carbon tetrachloride (CTC) used in industries and methyl bromide (MB) as pesticides used for soil treatment in agriculture activities as well as for quarantine and pre-treatment especially for treatment of wood products.

Once again let me remind everyone of us that it is our responsibility to preserve the ozone layer by using ozone-friendly products that do not contain ODS. When buying products such as hair sprays, metered dose inhalers used by asthma patients, refrigerators and home air conditioners, look for "CFC-Free" tag which is easily recognizable on the labels. Service your car air conditioner regularly to prevent leakage and use ozone friendly refrigerants such as R 134a.

Datuk Douglas Unggah Embas
 Minister of Natural Resources & Environment

"Let us together pledge to save the ozone layer for the benefit and well being of the entire life on earth."





Environmental Requirements:

A Guide For Investors

Department of Environment
Ministry of Natural Resources and Environment
Wisma Sumber Asli, Precinct 4
Federal Government Administrative Centre
62574 PUTRAJAYA

Eighth Edition
October 2007



Role of Geoscience Organisations

- Geoscience organisations
 - Geological Society of Malaysia (GSM)
 - Institute Geologi Malaysia (IGM)
 - Jabatan Mineral dan Geosains (JMG)
 - PETRONAS

- Possible roles
 - Contributing to study of geological CO₂ sequestration potential
 - Enhancing training/capability development in geological CO₂ sequestration





PETRONAS Current Initiatives

- Group Health, Safety & Environment Division
 - Manual and Guideline on Environmental Management
 - Greenhouse Gas (GHG) Accounting And Reporting
April 2005
- CO2M Task Force
 - CO2 sequestration study potential for Malaysia's high-CO2 gas fields



CCS projects in high CO₂ gas fields

Current Planned Carbon Capture and Storage Project under CO₂M Task Force:

1. Re-injection of CO₂ into aquifer from a high CO₂ gas field contained in carbonate reservoir located in Sarawak basin. Total CO₂ content > 1Tscf

Storage - depleted gas fields more than 100 km. away

Storage capacity – four-way dip closures, total pore volume greater than the CO₂ content to be stored

Additional CO₂ disposal option: aquifers in nearby geological traps within a 70 km radius.

Next step: basin-scale prospectivity of CO₂ storage is planned for future other CO₂ gas fields



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Post EPPM recommendations

1. Project on basin scale prospectivity of CO₂ storage in cross-border basins
2. Knowledge sharing of CO₂ storage projects being undertaken by CCOP member countries
3. Capacity building on CO₂ storage by experts on the same subject-
identification, mapping, transportation, storing and monitoring
4. Site visits of CO₂ sequestration projects
5. Listing of Resource Persons from CCOP member countries for networking purpose

THANK YOU

