



# CCOP EPPM Program P2W4

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Coordinating Committee for Geoscience  
Programmes in East and Southeast Asia (CCOP)

# Contents

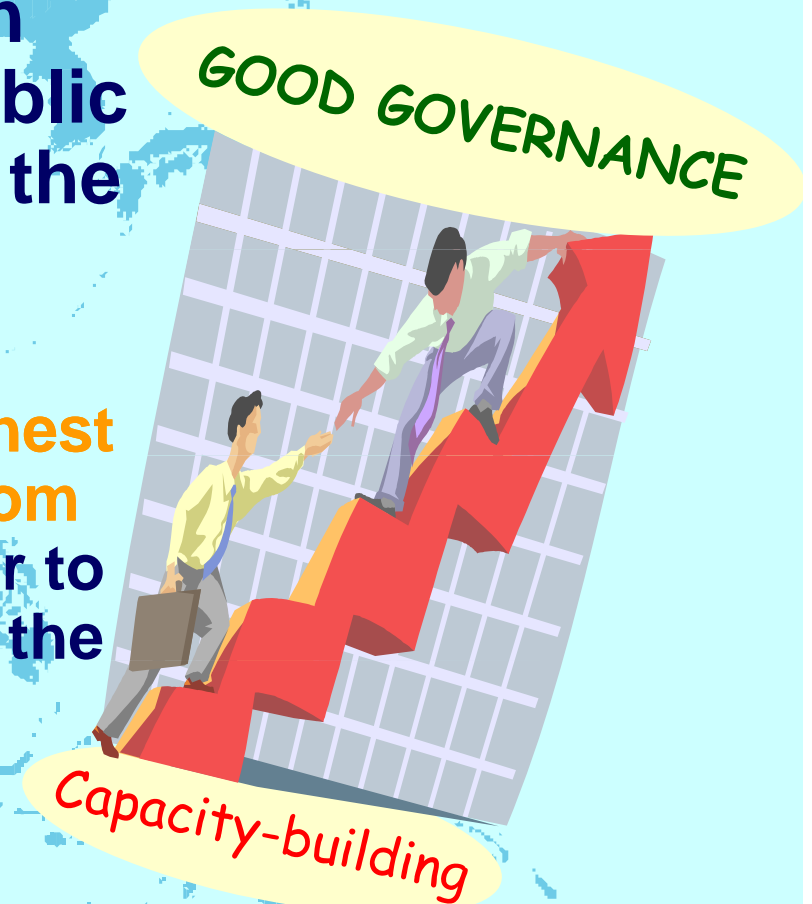
- ◆ EPPM Program profile
- ◆ Accomplishments within Project 2 (P2), so far
- ◆ Way forward for remainder of 2010



# EPPM Program

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

- The goal is to create the highest possible value for society from petroleum resources in order to improve the quality of life of the people in the CCOP Member Countries.



# EPPM Program

- ◆ Agreement between Norway & CCOP signed on 10 July 2008
- ◆ 4-year, **July 2008- June 2012**
- ◆ Budget: **NOK15 Million**
- ◆ Implementing agency: **CCOP TS**
- ◆ Cooperating agency: **NPD & PETRAD**
- ◆ Beneficiaries: **CCOP Member Countries**



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# EPPM Program

## ◆ 3 Projects

- **(P1)** *Petroleum Resource Management with focus on Natural Gas*
- **(P2)** *Natural Gas Field Development and Environmental Issues*
- **(P3)** *Metadata on Natural Gas Resources in the CCOP Region*



# EPPM Program

## ◆ Outputs

- Trained and more knowledgeable professional staff in the MC
- Working Group and Expert Group formed
- Project Report
- Improved Natural gas database that is easily accessible
- Project website for information, reporting, knowledge sharing and preservation
- Networking and cooperation among MC is further strengthened



# **EPPM Strategic Focus**

- ◆ **Natural Gas development & Environmental issues**
- ◆ **Practice of Knowledge Management**



# P1- Petroleum Resource Management with focus on Natural Gas

- ◆ **Objectives:** To enhance the capability and capacity of MC in assessment of the undiscovered petroleum resources with focus on natural gas
- ◆ **Implementation thru cross-border case study**
  - Supported by series of workshops, field works & trainings





# P1

## ◆ Cross-border Case study area: **North Sumatra – Mergui basin**

- Shared by Thailand,  
Malaysia &  
Indonesia



P1



## **P2 - Natural Gas Field Development and Environmental Issues**

- ◆ **Objectives:** To enhance the capacity and capability of MC in natural gas development and clean development mechanism & environmental issues
- ◆ **Implementation:** series of 6 workshops
  - Natural gas development technologies
  - Case study of SINOPEC's Puguang gas field (Sichuan basin)- high H<sub>2</sub>S & CO<sub>2</sub>



# **P2 - Natural Gas Field Development and Environmental Issues**

- **CO<sub>2</sub>- alternative use, IOR & EOR technologies**
- **Gas hydrates**
- **Carbon Capture & Storage, CCS (into geological reservoir),**
  - **Legal framework, HSE in CCS**
  - **Gas flaring**
  - **Clean Development Mechanism**
- **CCS potential reservoir**
  - **geological risks, selection criteria, technologies for assessment & monitoring**



# P3 - Metadata on Natural Gas Resources in the CCOP Region

- ◆ **Objectives:** To set up an easily accessible metadata on natural gas resources of the CCOP Countries for knowledge sharing & preservation on natural gas resource exploration, exploitation and environmental impact mitigation



# **P3 - Metadata on Natural Gas Resources in the CCOP Region**

## **◆ Implementation**

### **- Series of workshops on**

- ☞ Requirements Analysis, metadata contents & definitions referring to international standard(s)**
- ☞ Database structure design & software development**
- ☞ Developing capacities for software usage**
- ☞ Population & validation of data base**

## **◆ Collaborating with existing metadata work group in CCOP**



# **P2W1: Workshop on development of natural gas resources with high CO<sub>2</sub> & Carbon Capture and Storage (CCS) in CCOP, Bali, Indonesia, 17-20 March 2009**

## ◆ **Conclusions:**

- **CCS is doable for oil and gas companies**
- **Globally there is general lack of enabling financial or legal framework on CCS**
- **Great opportunity of using CO<sub>2</sub> for EOR**
- **Challenges of CCS can not be underestimated**



# **P2W2: Workshop on natural gas field development with high CO<sub>2</sub> and H<sub>2</sub>S – a case study on the Puguang Gas Field in Sichuan Basin, China 15-18 September 2009**

## **◆ Conclusions**

- Gas resources are important source of energy - this should be extracted with “impact to the climate ” duly considered
- It is important to protect the people working in the gas fields as well as the environment- communities
- CCOP members will continue to share information & knowledge about gas development and HSE practices, including research programs and regulatory frameworks to help each other





# **P2W3: Workshop on the Use of CO<sub>2</sub> for EOR and IOR and Gas Hydrates as Potential Energy Source , Danang, Vietnam, 8-11 December 2009**

## ◆ Conclusions

- Main challenges for IOR/EOR projects are financial, technical and human resource development. The complexity of the geology in some areas also poses a major hurdle to many countries
- Learning about gas hydrates as new potential energy & CO<sub>2</sub> storage will continue to be an important topic to many CCOP Member Countries
- Reinforced CCOP's desire to learn more from the Norway's experiences (& others) and technologies considering that many of CCOP's basins are found to have high CO<sub>2</sub> content.



## **P2W4: Workshop on Regulatory Framework for Carbon Capture & Storage (CCS): with focus on storage into geological formations, HSE, CDM and Flaring**

### **◆ Objectives:**

**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 will focus on CCS legal and regulatory framework development to support the Member Countries' initiatives in CCS**



# ASEAN Plan of Action for Energy Cooperation (APAEC) 2010-2015

- ◆ **“Bringing Policies to Actions: Towards a Cleaner, more Efficient and Sustainable ASEAN Energy Community”**
- ◆ **enhancing energy security and sustainability for the ASEAN region including health, safety and environment**
- ◆ **7 program areas namely: a) ASEAN Power Grid, b) Trans-ASEAN Gas Pipeline, c) Coal and Clean Coal Technology, d) Renewable Energy, e) Energy Efficiency and Conservation, f) Regional Energy Policy and Planning, and g) Civilian Nuclear Energy**

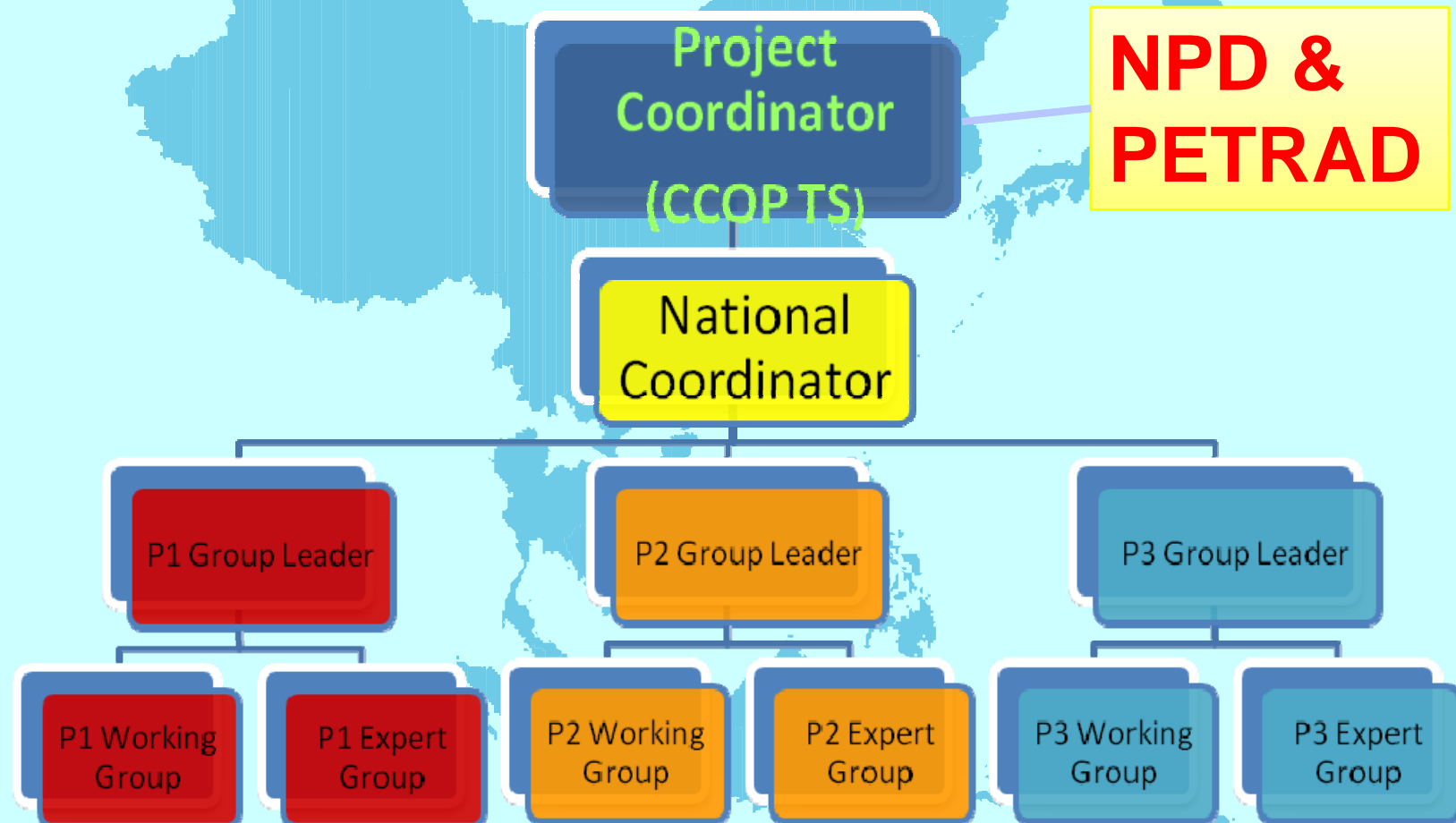


# Building on Lessons Learned

- ◆ **Workshops** supporting the case studies
- ◆ **Cross-border** studies
- ◆ **workgroups** & expert groups
- ◆ **Website** for knowledge storage, information dissemination, networking, publication & promotion



# EPPM Program – coordination setup



# Coordination set up

- ◆ **WorkGroups – established in the MC**
  - multi-disciplinary, including local experts
  - would follow the progress of the Project activities
  - Would secure the data required for the technical activities
  - **A facility for the practice of knowledge management – focus on knowledge sharing & use**
  - Led by a Group Leader



# Coordination set up

## ◆ National Coordinators

- **Main contact person** in the MC- to work closely with the Proj Coordinator in the TS
- Can be one of the Workgroup Leader
- Responsible for the management of the WorkGroups & the facilitation of knowledge transfer/sharing

## ◆ ASCOPE & other NOC's and academic institutions are invited to participate in the Program



# Partnership with Norway



## Signing of the cooperation Agreements (10.10.08)

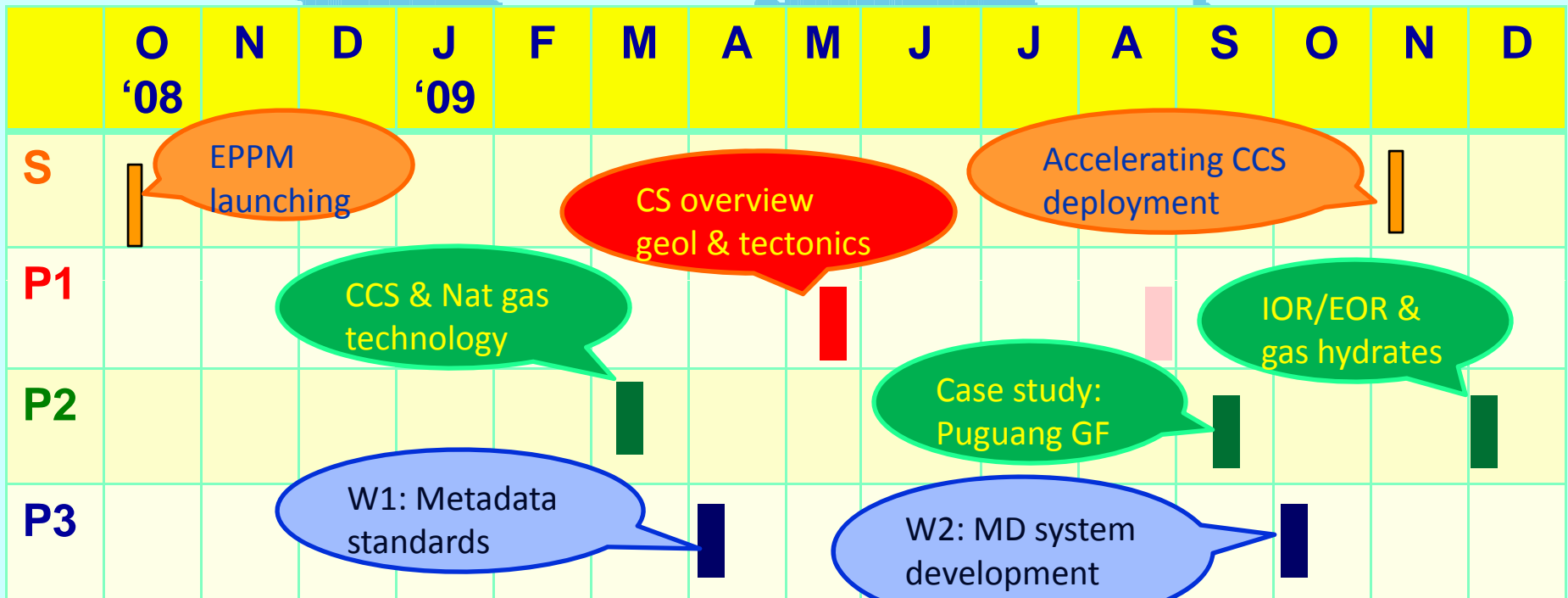
- CCOP - NPD
- CCOP - PETRAD



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# Accomplishment for 2009



**S- Seminars** █ - postponed to 2Q 2010



EPPM Activity 2009	Participants		
	<i>Female</i>	<i>Male</i>	<i>Total</i>
P2W1- Bali	15	43	58
P1W1 - Krabi	4	19	23
P3W1- Shanghai	13	22	35
P2W2 - Chengdu	16	31	47
P3W2 - Davao	18	25	43
S2 - Bangkok	12	34	46
P2W3 - Danang	13	34	47
<b>total</b>	<b>91</b>	<b>208</b>	<b>299</b>
<b>%</b>	<b>0.30</b>	<b>0.70</b>	<b>1.00</b>



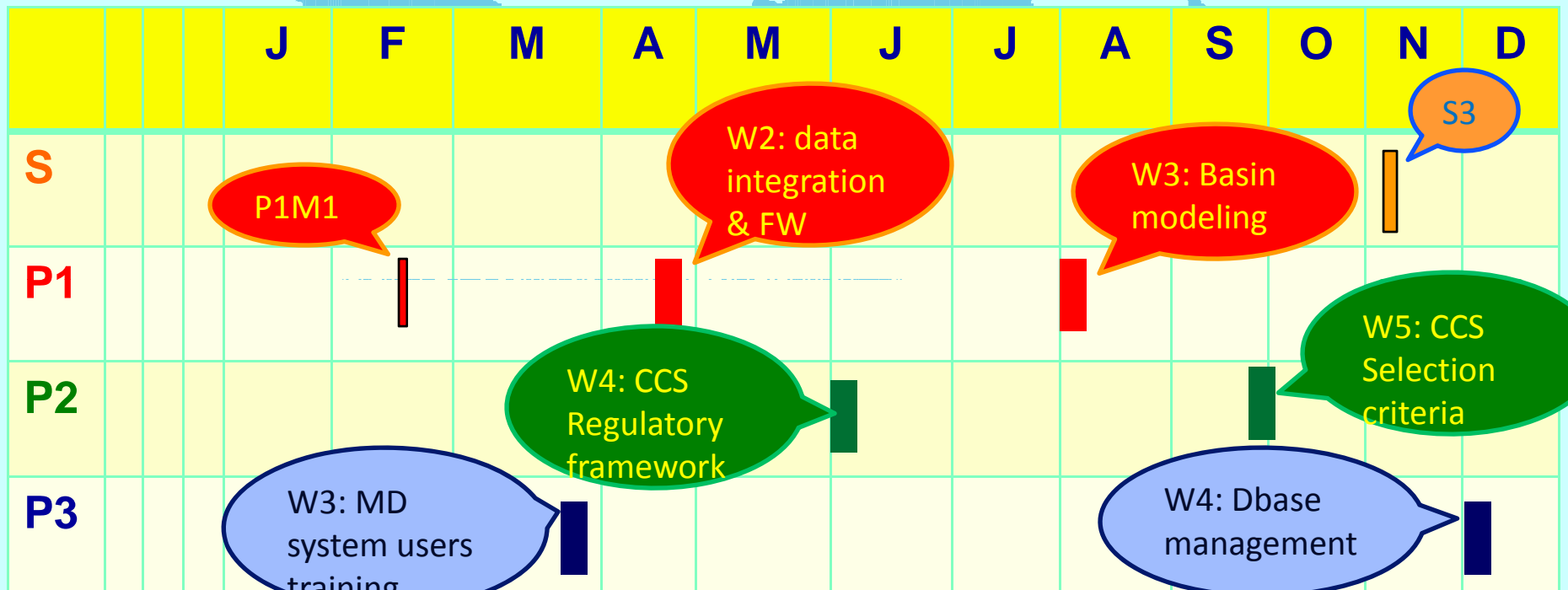
A light blue map of East and Southeast Asia is centered on the page. The map shows the outlines of China, India, and the Southeast Asian archipelago. The text 'Way Forward 2010' is overlaid on the map in a large, bold, dark blue font.

# Way Forward 2010



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# Work plan for 2010



## S- EPPM Seminar 3



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# 2010 Workshop contents

## ◆ P1

**W2:** data integration & fieldwork

**W3:** Basin analysis

## ◆ P2

**W4:** Regulatory framework for CCS (incl HSE), CDM & gas flaring

**W5:** Mapping of CCS potential reservoir and selection criteria

## ◆ P3

**W3:** metadata proto-type deployment & usage training

**W4:** database buildup & management





**THANK YOU!**

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