

 Department of Mineral Fuels  
MINISTRY OF ENERGY


# Country Presentation: CCS in Thailand

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**29 April 2013**  
**CCOP CO2 Storage Mapping Program**  
**Bali, Indonesia**


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## OUTLINE

- Status of CCS –related activities
  - Government initiatives
  - Legal framework
  - Specific research works
- Potential Geological storage of CO2
- Future plans-CCS


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Government Initiative

## Thailand's Climate Change Master Plan




**Thailand Climate Change Master Plan 2011-2050**



**Alternative Energy Development Plan 2008-2022**


**Drafting Energy Master Plan**

**Ministry of Natural Resources and Environment**



- EIA  
- Thailand Climate Change Master Plan 2011-2050

**ONEP**  
<http://www.mnre.go.th/mnre/>




- CDM  
<http://www.tgo.or.th/>


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Energy Policy and Planning Office  
<http://www.eppo.go.th/>


Department of Alternative Energy Development and Energy Efficiency  
<http://www.dede.go.th/>

Department of Mineral Fuels  
<http://www.dmf.go.th/>

 **PTT Groups**

 **EGAT**

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Government Initiative

## Thailand's Climate Change Master Plan


**Greenhouse Gas Mitigation Plans**

### Energy Efficiency


Promotion of Labeling to reduce GHG




well recognized



Carbon Reduction Label




Carbon Footprint




Comfort cool for warmer weather

### Forestation



### Reduce Agricultural Burn



### CDM, Add-on, BOI, ESCO fund

Produce electric energy and thermal energy from biogas, 7 projects  
CERs 697,417 tonCO<sub>2</sub>e

Produce thermal energy from biogas, 3 projects  
CERs 299,496 tonCO<sub>2</sub>e

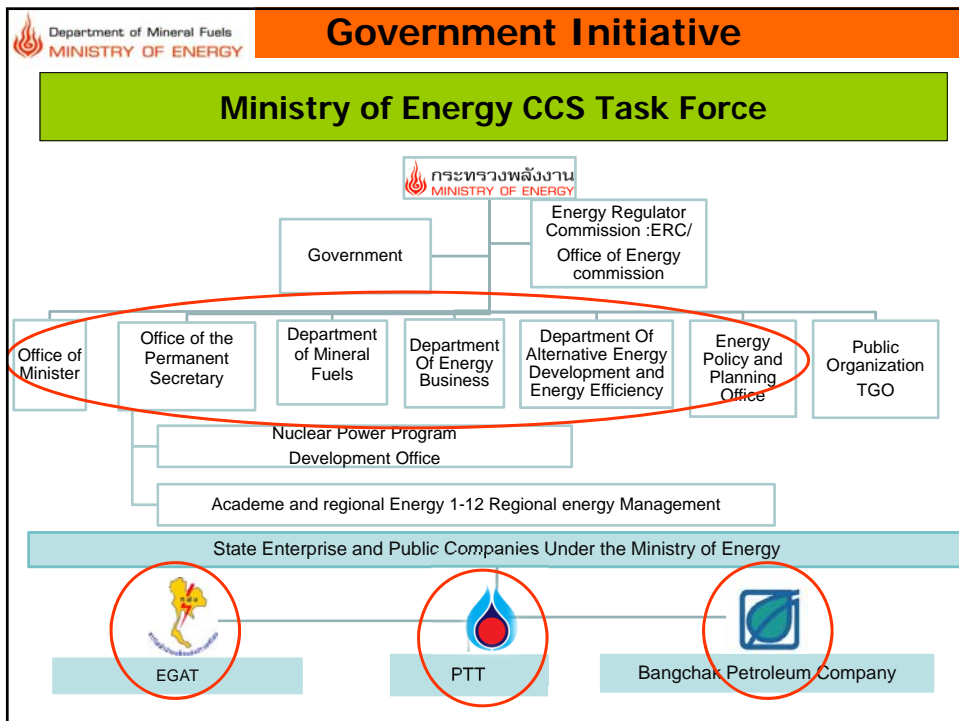
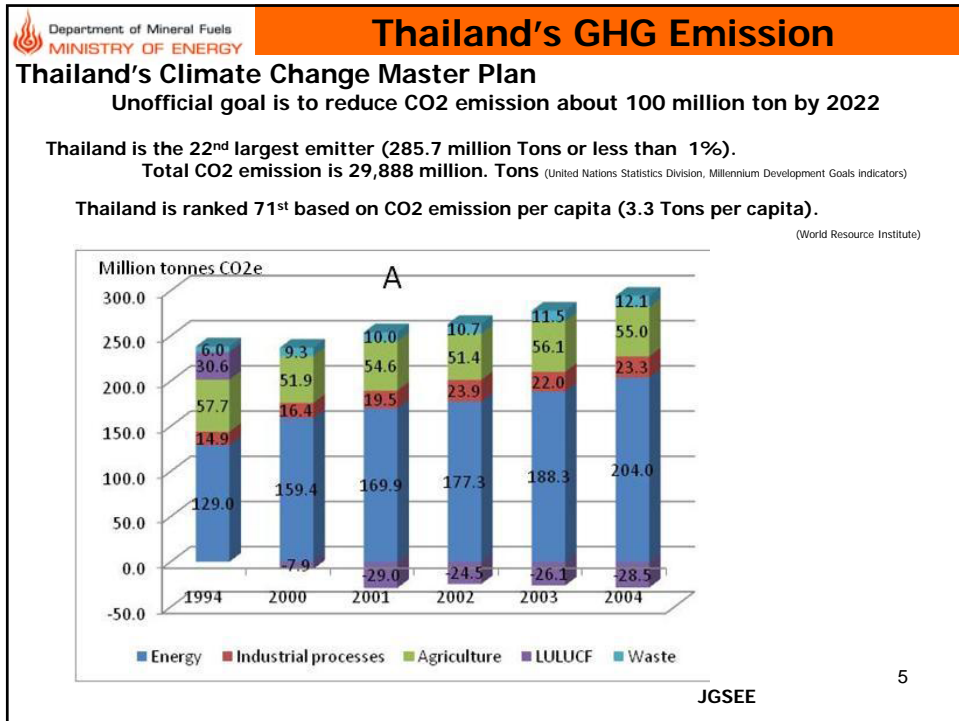
Produce electric energy from biomass, 14 projects  
CERs 534,675 tonCO<sub>2</sub>e

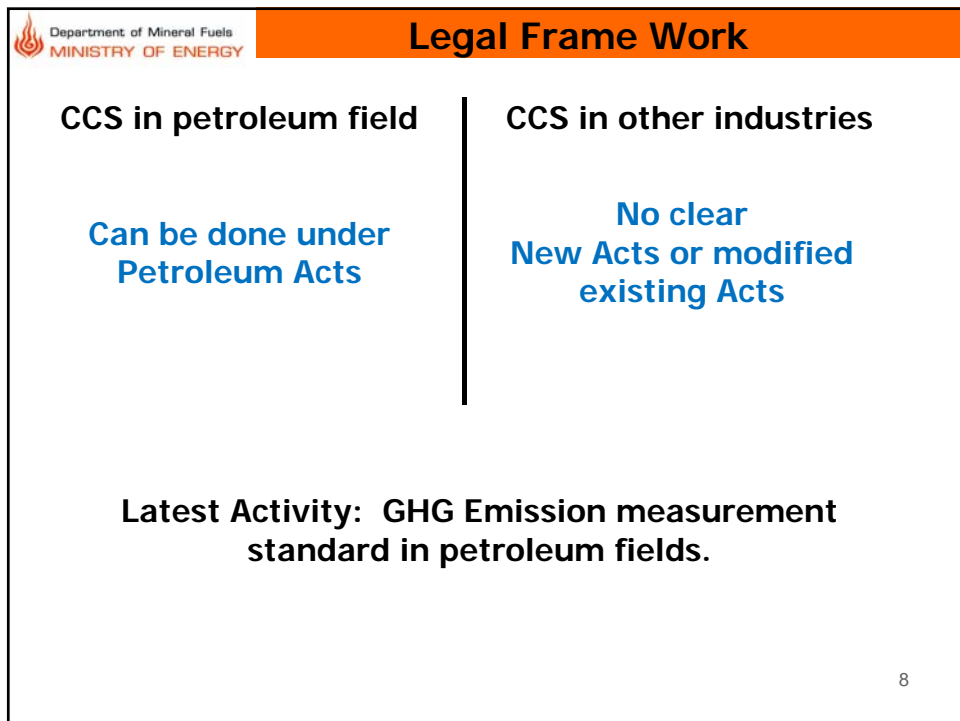
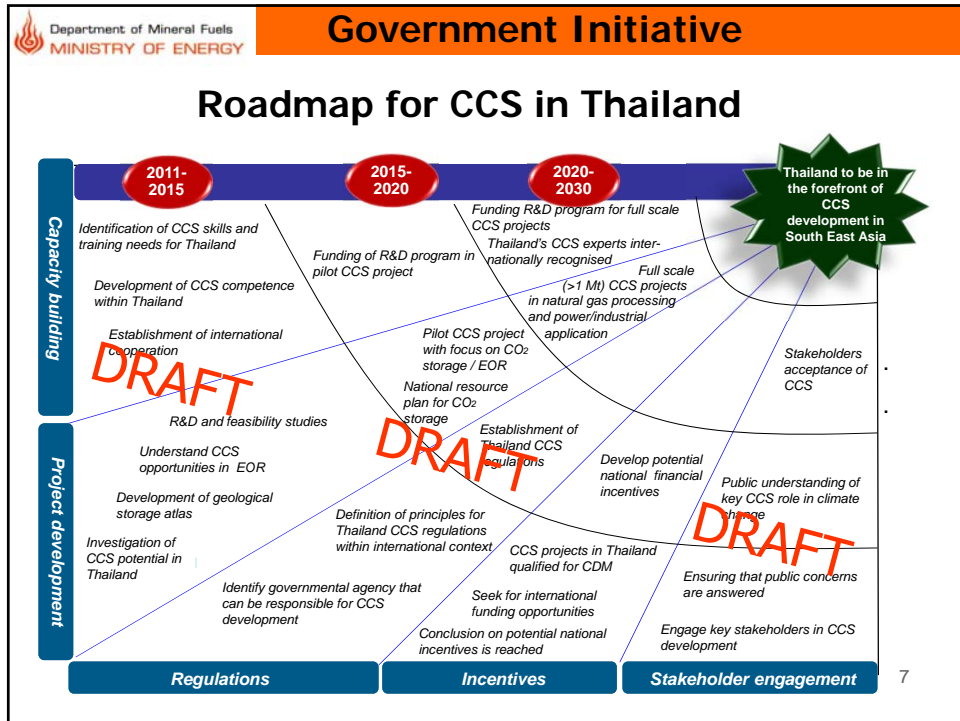
Produce electric energy from biomass, 7 projects  
CERs 498,039 tonCO<sub>2</sub>e

Certified Emission Reduction = 1,392 MtCO<sub>2</sub>e/year

Biomass 25.00%  
Biogas 67.85%  
Others 7.15%

The Second National Communication under UNFCCC (2000)





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## Researches

**King Mongkut University of Technology, Thonburi**  
The Joint Graduate School of Energy & Environment

Advanced Greenhouse Gas and Aerosol Research Laboratory (AGAR)  
focuses GHG emission measurement & Monitoring.

**Kasetsart University**  
Earth science department  
Potential CCS in carbonate reservoir  
Economic department:  
economic impact of CCS in Thailand

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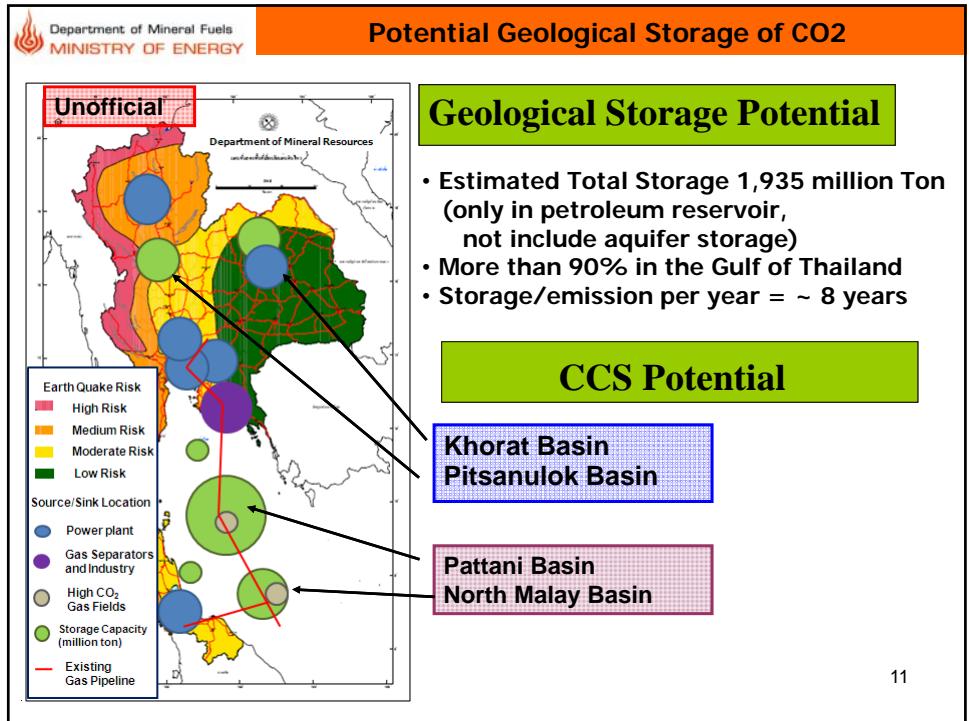
## Potential Geological Storage of CO<sub>2</sub>

**Deep Basins in Thailand**

Pitsanulok Basin  
Khorat Plateau  
Suphanburi Basin

Western Basin  
Pattani Basin  
North Malay Basin  
Songkhla Basin  
Mergui Basin

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(Jardine, E., 1997)



**Future CCS Plan**

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CCS is not included in current Thailand Climate Change Master Plan. CCS will be used as alternative GHG mitigation.

**CCS in petroleum field**

Interest: CO<sub>2</sub> EOR, CCUS  
 Focal point: DMF  
 Advantage: existing facility, people, and law  
 Disadvantage: economic, timing


**CCS in other industries**

Interest: Coal mine / Coal power plant  
 Focal point: EGAT  
 Advantage: policy  
 Disadvantage: no legal framework, large distance between source and known reservoirs

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**Thank you**  
**Questions**



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## Other Activities

**Enhancing Knowledge on Impact of GHG to Climate Change**

- **Post 2012 Regime from COP 15 (The 15<sup>th</sup> Conferences of the parties to the United Nations Framework Convention on Climate Change)**
  - **COPENHAGEN ACCORD**
  - **THAILAND (Non Annex I Country):**
    - ✓ **National GHG Inventory**
    - ✓ **Nationally Appropriate Mitigation Action (NAMA)**
    - ✓ **MRV (Measurable, Reportable, Verifiable)**

} **ONEP TGO**  
[www.tgo.or.th](http://www.tgo.or.th)


**องค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน)**  
 THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION (PUBLIC ORGANIZATION)