



Danish Energy Management

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"Opportunities through CDM in Thailand"

"Matchmaking between CDM project owners & EU stakeholders
and other forms for business cooperation in the field of Energy
Efficiency and Renewable Energy"

Bangkok

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by

Karsten Holm



Outline - Opportunities through CDM in Thailand

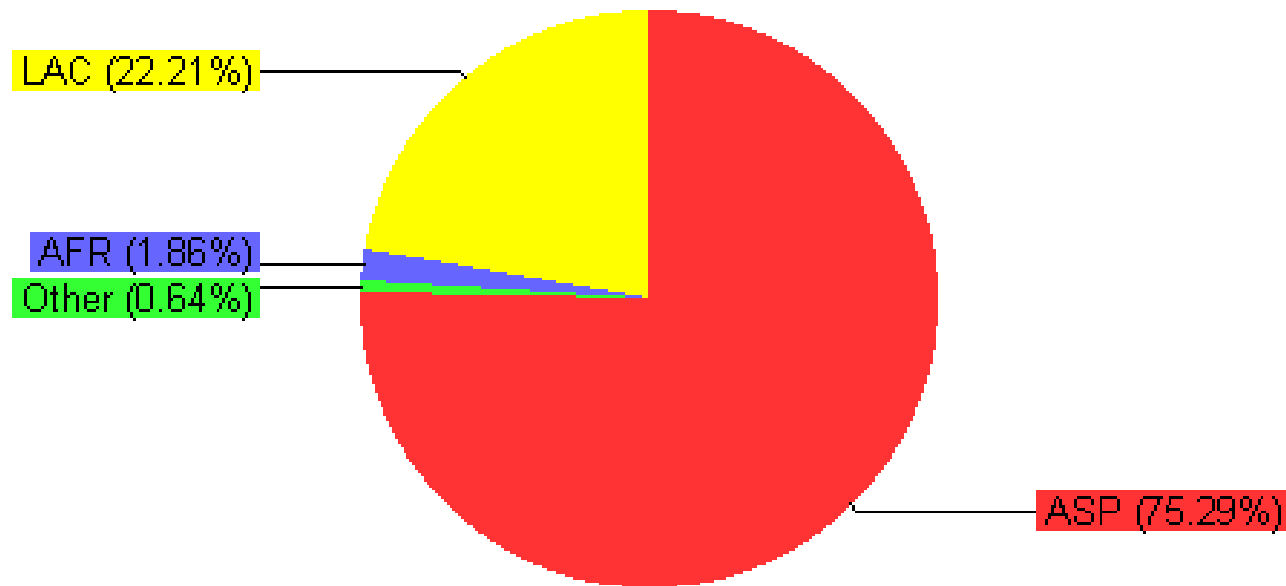
- Status of CDM Globally and in Thailand
- CDM post COP 15
- CDM Requirements
- Challenges & Opportunities
- Conclusion





CDM Projects By region - Asian dominance !

Registered projects by region. Total 2044



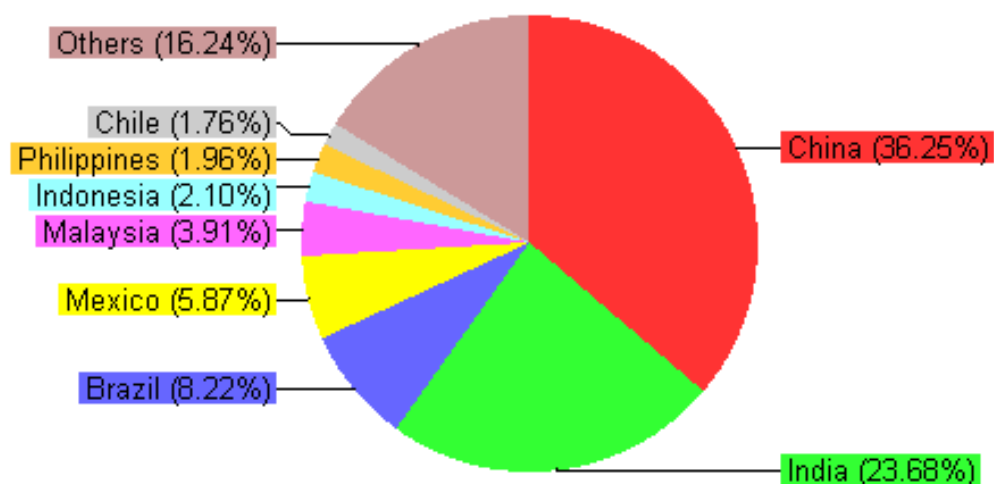
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CDM Project Status

Registered project activities by host party. Total: 2,044



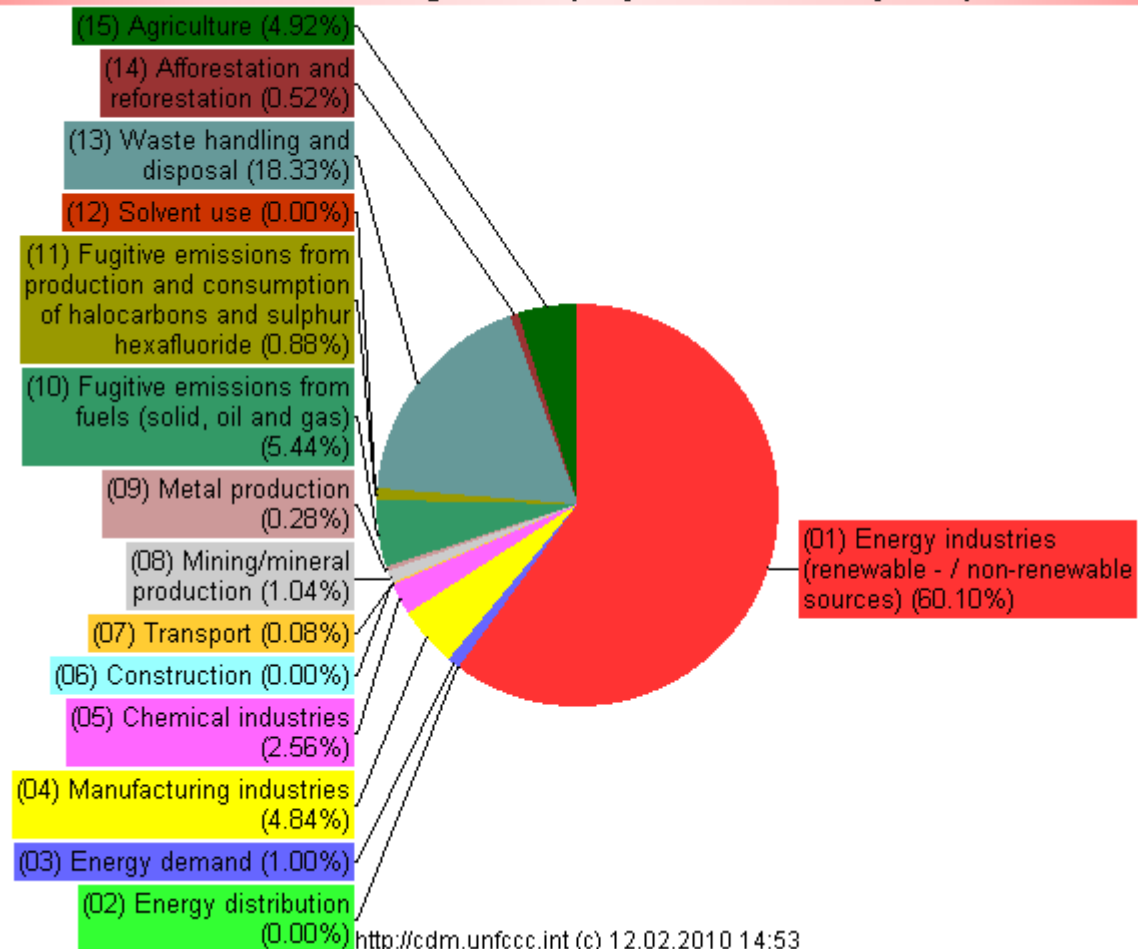
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CDM Project Status

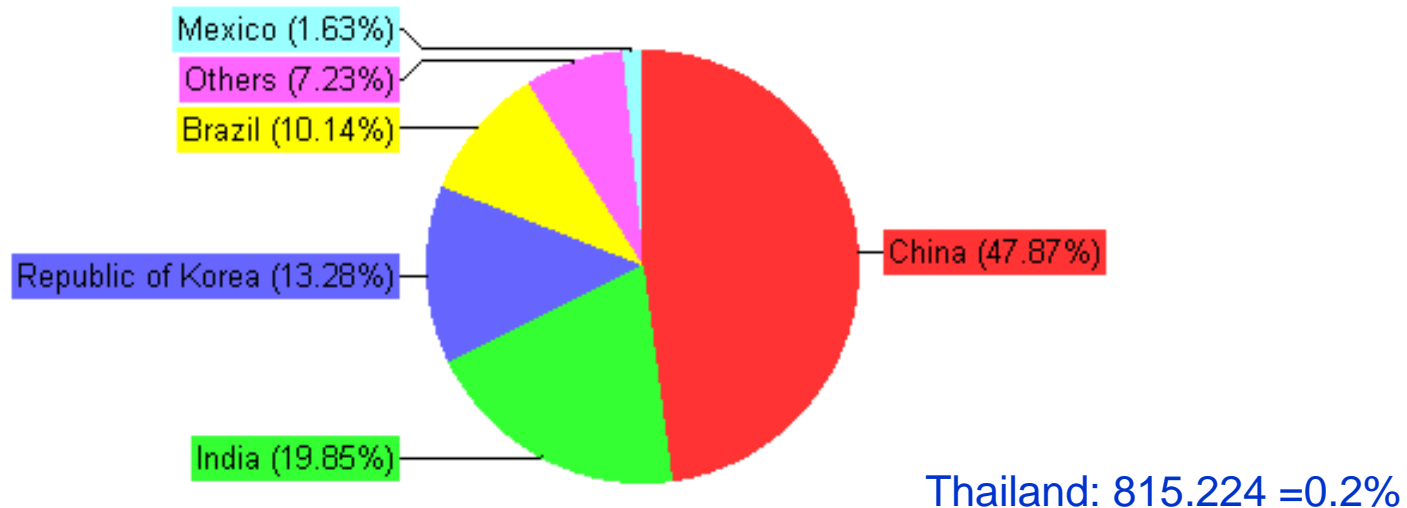
Distribution of registered project activities by scope





CDM project Status

CERs issued by host party. Total 375,068,262



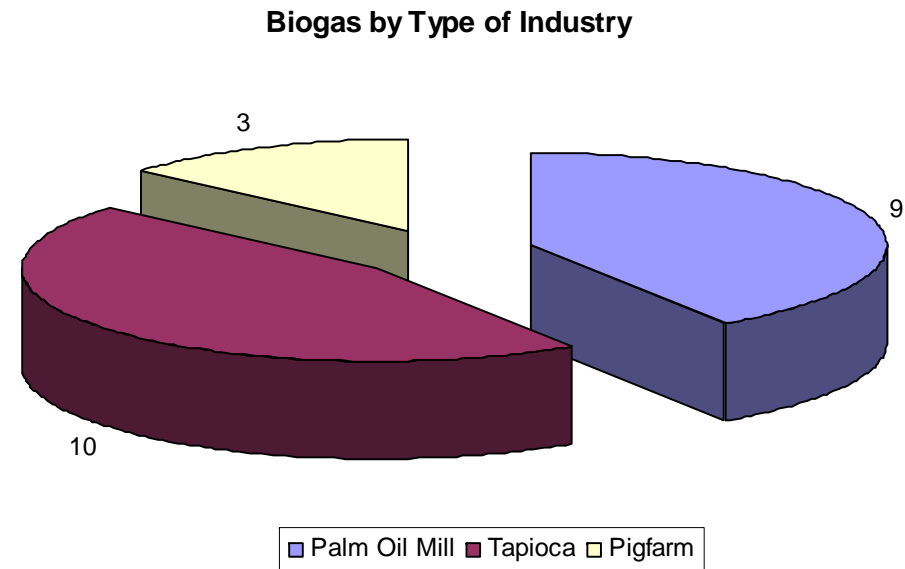
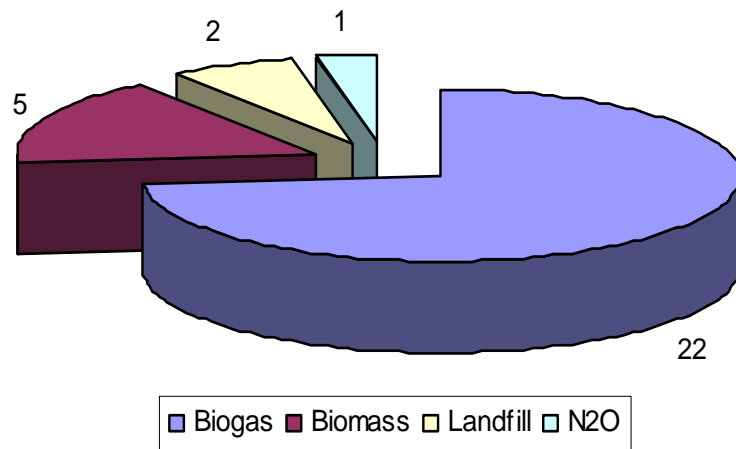
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Status of CDM Projects in Thailand

- 30 projects registered with the EB
- 2007: 5 projects, 2008: 5 projects, 2009: 20 projects





Status of CDM Projects in Thailand

- 96 Projects obtained LoA from Thai DNA
- 78 Projects in Thailand at present under Validation (source: Risoe)
 - 43 Methane avoidance
 - 16 Biomass energy
 - 5 EE supply
 - 5 Hydro
 - 5 Landfill gas
 - 1 Wind
 - 1 PV





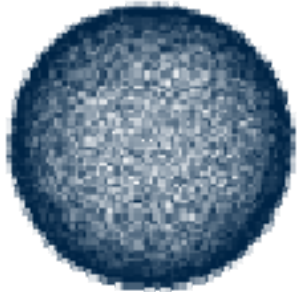
CDM political & investment environment

- Dramatic increase in the DNA efficiency
- Strong support to capacity development
- Comprehensive efforts in enhancing general awareness
- Ambiguous Governmental target for RE
- Strong support from government - investment incentives and subsidies incl. feed-in tariffs





COP 15 - Copenhagen Accord



COP15
COPENHAGEN



Some positive signs:

- Adoption of a global target 2°C
- Annex 1 countries register proposed mid-term reduction targets
- Agreement from Annex 1 and Non-annex 1 Countries - actions to of international Measurement, report and verification system.
- Develop countries commit to provide financing for emission mitigations





COP 15 - Copenhagen Accord

Unsolved matters:

- No firm measures on how to achieve the 2°C target
- Registry process for emission reduction targets and actions is yet not legally binding
- Little clarity on market mechanism for post 2012
- No long-term policy and regulatory frameworks to assist investment decisions
- No deadline to reach a legally binding agreement

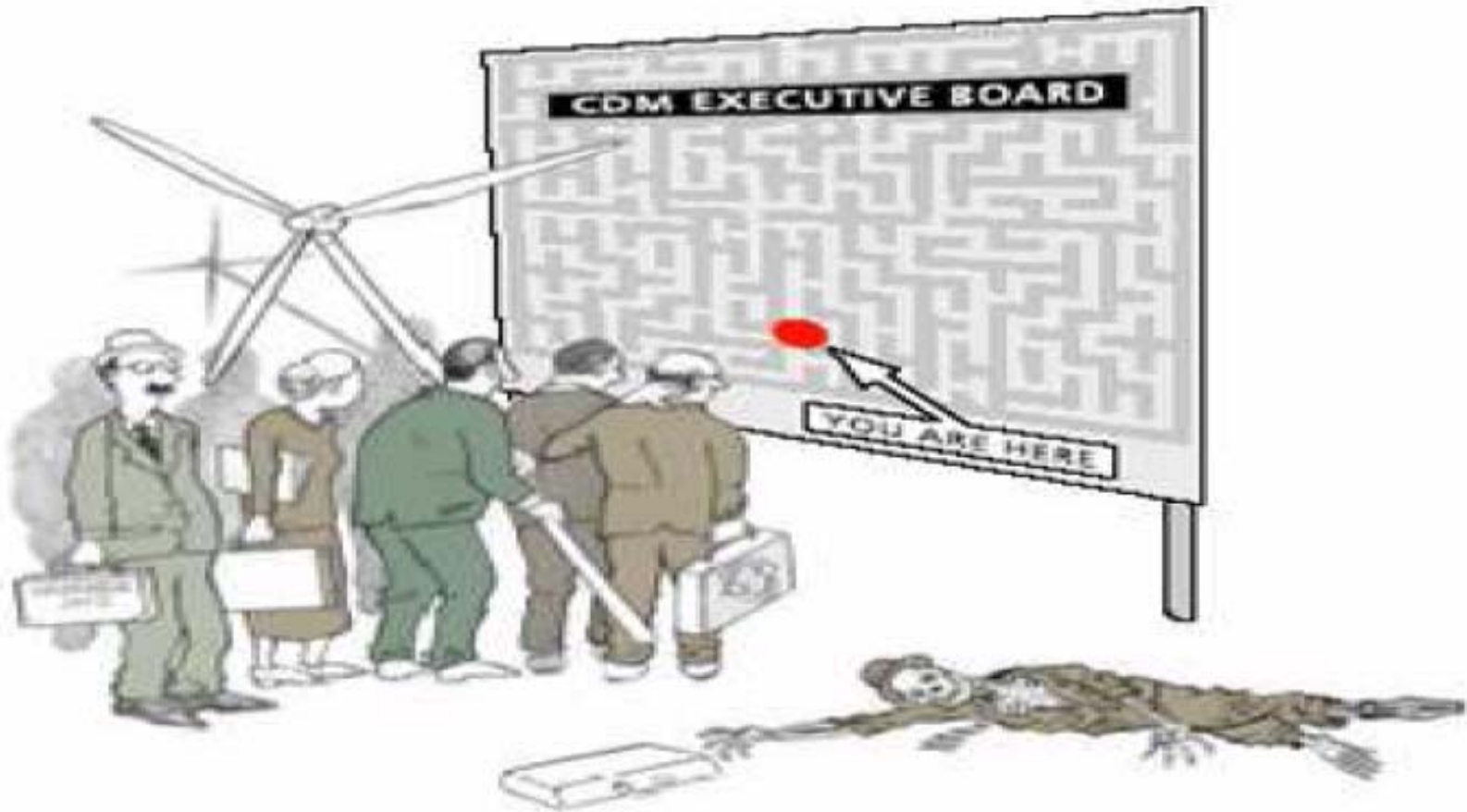




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Difficult Road to Registration?





CDM project requirements

- Emission reductions have to be real and measurable !
- Baseline
What would the emissions be without the implementation of the proposed project activity.
- Additionality
The project activity is expected to result in GHG emission reduction, which is additional to any that would occur in the absence of the certified project activity, i.e. it should not be included in the baseline. Justify that without the incentive from CDM the proposed project would NOT have materialised.
- Investment barrier, technological barriers, prevailing practice or "first of its kind"





CDM project requirements

Documentation on:

- Prior awareness on CDM
- Remember to announce the intension of developing a project to the DNA and EB
- Serious consideration to CDM incentives during decision making process (to invest)
- Real and continued action to secure CDM status parallel to implementation
- CDM is not an option subsequent to the implemenation of a project that leads to GHG emission reduction.





CDM - EB reform - Mckinsey

- **The imperative for change** - Demand for the CDM is increasing
- projects submitted for registration has grown annually by 20% over the last four years
- the number of issuance requests annually by almost 70%
- the proportion of CDM projects that are registered without corrections has fallen to 30%.

- Measure and manage how well the secretariat and DOEs perform in supporting the mechanisms,
- Improve communication between the secretariat and DOEs
- Improve clarity of guidelines and tools and make them more user-friendly
- Match effort to effect: prioritise work based on risk and impact
- Align the role of the teams supporting the CDM





Documentation and fees - its a really serious matter

- Project idea note
- Project design document
- Public consultation report
- Environmental impact assessment report
- Validation report
- Letter of intend
- Letter of approval
- Emission reduction purchase agreement
- Monitoring report
- Approved methodologies



- PDD consulting fee
- DNA fee
- Validation fee
- Registration fee
- Verification fee
- Income Tax





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Processes	Approx. price
Project Design Document (incl.: Baseline study, additionality assessment, methodology study and monitoring protocol)	30-100.000 (\$)
Validation of PDD	10-40.000 (\$)
DNA fees (country dependend)	10 THB / CER
Registration of project	10-50.000 (\$)
Verification and Certification of emission reductions	5-18.000 per time (\$)





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OPPORTUNITIES





Eligible Project Types - potentials and challenges!

- End-use energy efficiency improvement
 - Relatively feasible, low yield of CO2 credits pr. Project => PoA potential
- Supply-side energy efficiency improvement
 - a few in the heavy industry, eg. Cement
- Renewable energy
 - Biomass and biogas energy picking up, government incentives
 - Wind and PV, research and development
- Fuel switching
 - Few - transportation sector high potential but not addressed
- Sinks (only afforestation and reforestation)
 - It's coming !





Opportunities - think new !

Programmatic CDM

- ✓ Lighting
- ✓ Heat pumps
- ✓ Absorption chillers
- ✓ Photo voltaic
- ✓ Micro hydro

CDM projects

- ✓ Municipal solid waste to energy
- ✓ Fuel switch - transport sector
- ✓ Industrial district heat supply
- ✓ Biomass CHP
- ✓ Wind
- ✓ Geothermal





Conclusions

Overall considerations

- Limited time up to 2012
- Uncertainties regarding Post 2012
- European demand for CO₂ credits post 2012, but how much?
- USA cap-and-trade scheme ?
- VER market ?





Conclusion

- alignment to the Kyoto protocol ?
 - Resolve the mismatch between normal obvious business culture and the strict and rigid UN approval system
- Challenges
 - CDM Reform is needed
- Opportunities, etc. ?
 - Copenhagen - deal - Mexico COP 16 ??
 - Programmatic approach must be supported
 - New visions - sector CDM
 - We need to address the potentials of the combined or aggregated effects of many small emission reductions - especially energy efficiency at end users





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Thank you for your attention!



Karsten M. HOLM

Country Manager / Chief Consultant

Danish Energy Management / Project Office - Thailand

Ploenchit Center / Elite Office - Suite 9

Sukhumvit Soi 2, Klongteoy, Bangkok 10110

Mob. + 66 (0) 8 1734 5490

Phone: +66 (0) 2305 6606 / Fax: +66 (0) 2305 6607

Skype: holmibkk

