



## Views from different CDM actors (CDM Designated Operational Entity)

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**Lead Assessor, Climate Change Programme**

**SPEED UP EMISSIONS  
VERIFICATION, PLEASE!**

**WHEN YOU NEED TO BE SURE**





**GREENHOUSE  
GAS EMISSIONS  
MATTER TO US  
AND OUR FUTURE.  
THAT'S WHY WE CARE**

- SGS - Services & Experience
- DOE's role in the CDM project cycle
- Status of projects in South East Asia
- Experiences, Challenges and Difficulties in Validation and Verification
- Other market mechanisms

### The WORLD'S LARGEST

independent testing, inspecting, verification and quality certification organization

<b>Origin:</b>	European
<b>Founded:</b>	1878
<b>Headquarters:</b>	Geneva
<b>Employs:</b>	43,000 employees
<b>Network:</b>	140 countries
<b>Offices:</b>	1,000 offices
<b>Laboratories:</b>	600 laboratories



- ✓ **SGS inspects 5% of World trade annually.**
- ✓ **Every 3 seconds 24 hrs a day 365 days a year SGS starts an inspection.**

## Climate Change Programme Services - Projects

- SGS is one of the leading service providers for **validation and verification of CDM** and JI projects (Kyoto Protocol)
  - >500 validations and >130 verifications
  - Market share in CDM: validation 15% (of all projects), verification 35% (of all projects), >45% of all CDM credits issued verified by SGS
    - **Our market share in Thailand:** validation 19% (or 27% of registered projects) and verification 38% (or 33% of CERs issuance projects)
    - For all CDM projects in Thailand: 55 projects registered with 6 CERs issuance projects
  - Major Clients: EcoSecurities, Camco International, Climate Change Capital, World Bank, MGM International, Tricorona, Noble Carbon, DEM and Mitsubishi
- Accredited by Voluntary Carbon Standard (VCS) and Chicago Climate Exchange (CCX) for project verification
  - Forestry, landfill gas, energy efficiency and renewable energy



## Other Services under Climate Change Programme

Carbon Neutrality Label  
World Council of Dam (WCD)  
GHG Protocol (WRI/WBCSD)  
Forest Stewardship Council (FSC)  
Carbon Footprint  
PAS2050  
PAS2060  
EU ETS Aviation  
Gold Standard  
ISO 14064

Faster, more accurate  
emissions verification is  
better for business and  
better for the planet.

### **VOLUNTARY PROJECT DEVELOPERS CHOOSE SGS BECAUSE OF OUR BRAND NAME.**

SGS verifies voluntary GHG inventories that can be used for public or internal reporting, cost management and demonstrating to shareholders and regulators that senior management is aware of the potential impact of a carbon constrained economy on the future of your business.

SGS is active in a range of other voluntary schemes such as CCK and Canada Clean Air where third party verification is required. As new schemes and initiatives develop and the demand for reliable third party involvement materializes, we will invest in gaining accreditation to offer highly credible services.

The SGS Climate Change Programme offsets emissions from corporate funded air travel by purchasing carbon offsets from CLIPP [www.clipp.org](http://www.clipp.org)



**Other services please visit:**

**<http://www.climatechange.sgs.com/>**



**SGS**



WHATEVER YOUR NEEDS,  
SGS OFFERS YOU  
AN OPINION  
YOU CAN **DEPEND ON**

## **SGS (Thailand)** **Project References**

## Validation for CDM Project (30 Projects with 15 Thai projects successful registration and 1 project in Cambodia)

- **Khon Kaen Sugar Power Plant (Registered)**
- **Siam Quality Starch Wastewater Treatment and Energy Generation Project in Chaiyaphum, Thailand (Registered)**
- Methane recovery and utilisation project at Athimart Co., Ltd., Buri Ram, Thailand
- Methane recovery and utilisation project at S. S. Karnsura Co., Ltd., Ubon Ratchathani, Thailand
- SABCO power project, Chumporn
- **Bionersis Project Thailand 1 (Registered)**
- Application of Biogas System in Palm Oil Factory Wastewater Management by Modern Green Power Co., Ltd.
- **Mungcharoen Green Power - 9.9 MW Rice Husk Fired Power Plant Project (Registered)**
- **Wastewater Treatment with Biogas Technology in a Tapioca Processing Plant at P.V.D. International Company Limited, Thailand (Registered)**
- **Wastewater Treatment with Biogas Technology in a Tapioca Processing Plant at Roi Et Flour Company Limited, Thailand (Registered)**
- **Wastewater Treatment with Biogas System in Palm Oil Mill at Sikao, Trang, Thailand (Requesting registration)**
- **Wastewater Treatment with Biogas System in Palm Oil Mill at Sinpun, Surat Thani, Thailand (Requesting registration)**
- **Wastewater Treatment with Biogas System in Palm Oil Mill at Kanjanadij, Surat Thani, Thailand (Registered)**
- **Wastewater Treatment with Biogas System in Palm Oil Mill at Bangsawan, Surat Thani, Thailand (Registered)**
- **Wastewater Treatment with Biogas System in Palm Oil Mill at Saikhueng, Surat Thani, Thailand (Registered)**
- Kangwal Polyester Biomass to Energy Project
- Chaiyaphum Starch Plant Wastewater Treatment and Energy Generation Project in Thailand
- Sangpetch Tapioca Flour Wastewater Treatment and Energy Generation Project in Thailand
- **Kampot Cement Waste Heat Power Generation Project (KCC-WHG) (Registered, base in Cambodia)**



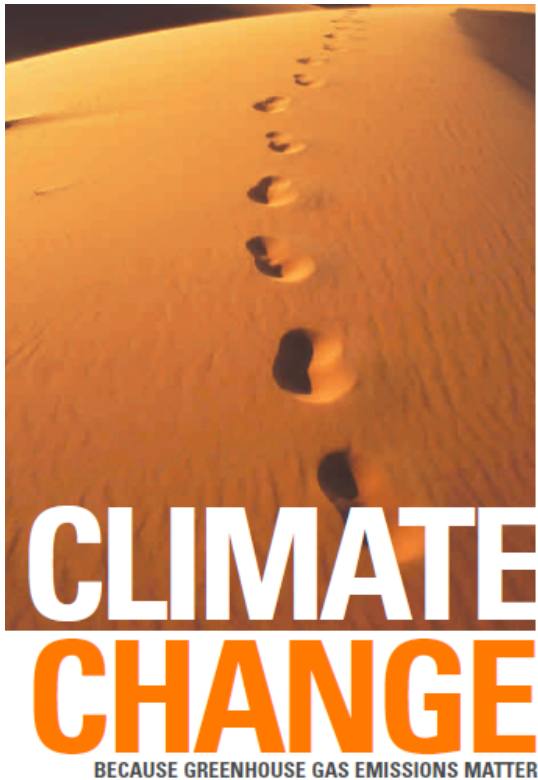
- **Validation for CDM Project (Cont..)**

- Siam Cement (Ta Luang) Waste Heat Power Generation Project , Khao Wong Plant (KW Project)
- Siam Cement (Kaeng Khoi) Waste Heat Power Generation Project , (KK3-5 Project)
- **Wastewater Treatment with Biogas System (UASB) in a Starch Plant for Energy & Environment Conservation at Nakorn Ratchasima (Registered)**
- **Wastewater Treatment with Biogas System (AFFR) in a Starch Plant for Energy & Environment Conservation at Chachoengsao (Registered)**
- Notheastern Starch (1987) Co.,Ltd. LPG Fuel Switching Project
- Natural Palm Oil Company Limited – 1 MW Electricity Generation and Biogas Plant Project
- **Bangkok Kamphaeng Saen West : Landfill Gas to Electricity Project (Registered)**
- **Bangkok Kamphaeng Saen East: Landfill Gas to Electricity Project (Registered)**
- Chiang Mai Landfill Gas to Electricity Project
- Methane Recovery and onsite Utilization for Steam Generation at Tapioca Flour Mill
- Methane Emission Avoidance & Residual Oil Replacement at Tapioca Flour Mil
- Rice husk based Power project in Nakhonratchasima, Thailand

- **Verification for CDM Project (5 Projects)**

- **A.T. Biopower rice husk power project in Pichit Thailand**
  - » **1<sup>st</sup> Verification (CER ISSUANCE)**
  - » 2<sup>nd</sup> Verification
- Jaroensompong Corporation Rachathewa Landfill Gas to Energy Project
- **Univanich Lamthap POME Project (CER ISSUANCE)**
- Phu Khieo Bio-Energy Cogeneration project (PKBC)
- Dan Chang Bio-Energy Cogeneration project (DCBC)



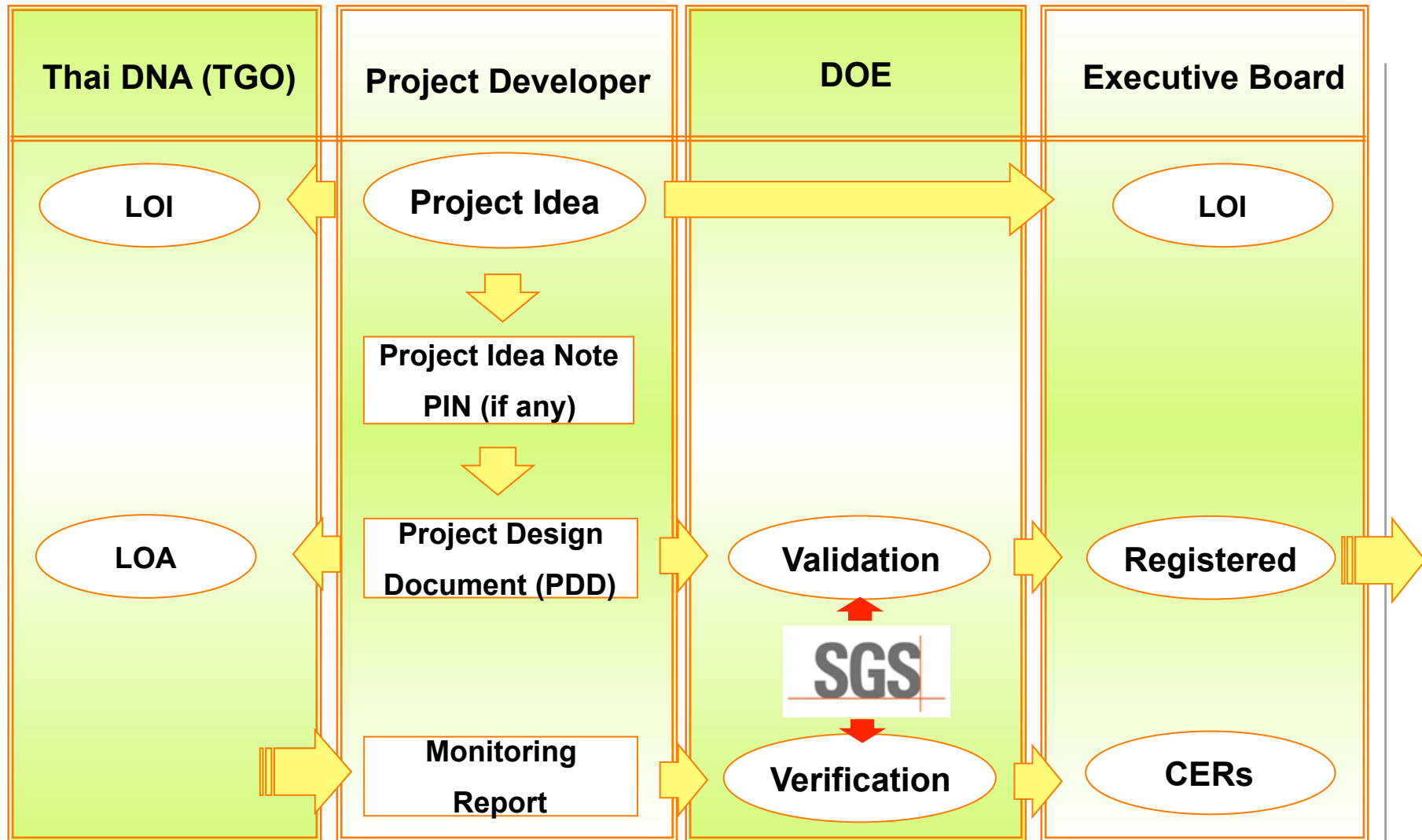


**PROGRAMME**

## **DOE'S ROLE IN THE CDM PROJECT CYCLE**

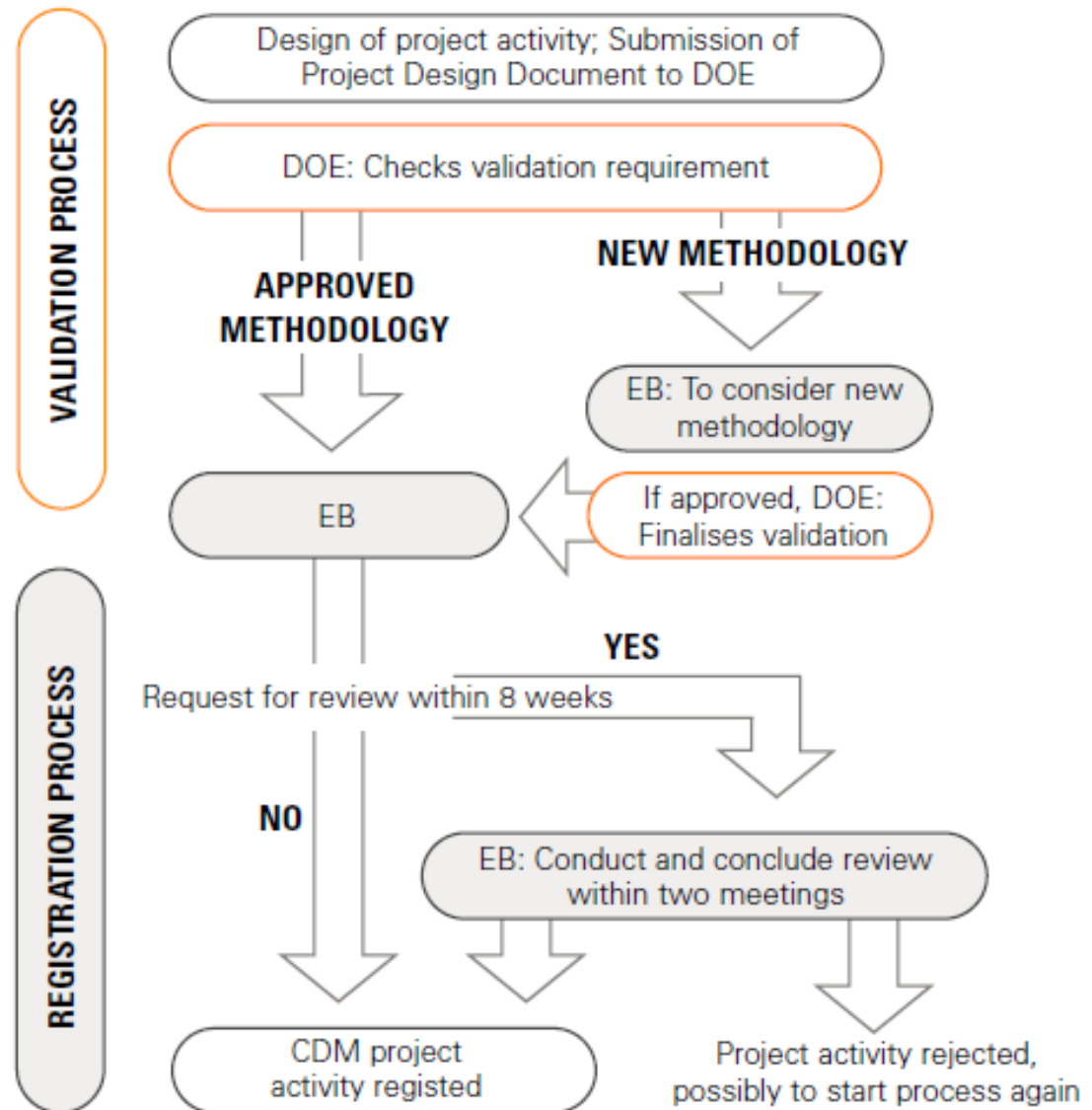
- DOE : Designated Operational Entity
- Domestic legal entity or an international organization accredited and designated by the CDM Executive Board
- Private certifiers who validate projects and verify emission reductions
- Two key functions:
  - **Validate** and subsequently request registration of a proposed CDM project activity
  - **Verify** emission reductions of a registered CDM project activity, certifies as appropriate and requests the Board to issue certified emission reductions accordingly

## CDM Work Flow



## VALIDATION AND VERIFICATION OF CDM PROJECTS

...SGS IS YOUR NATURAL  
PARTNER FOR **VERIFICATION**  
AND **CERTIFICATION** OF CDM



### ■ Validation

- To review project documents and determine whether or not they meet the requirements
  - Meeting UNFCCC's participation requirements
  - Additionality of the GHG emissions reduction
  - Baseline and monitoring methodologies
  - Environmental impact analysis or assessment
  - Stakeholders' comments

### ■ Verification

- To verify and confirm the monitoring of greenhouse gas reductions
  - Check if the monitoring report satisfies the requirements of the registered PDD
  - Check whether monitoring methodology has been correctly applied
  - Determine the actual GHG emission reductions by the CDM project activity



## **Status of Projects in South East Asia**

## Status of Projects in South East Asia

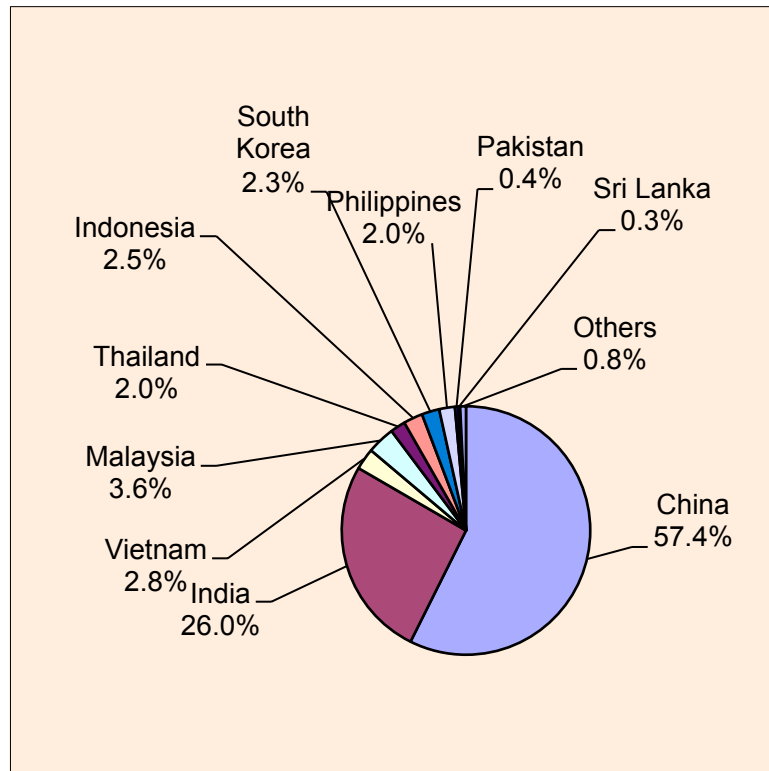
Registered Projects - Total 3492

Cambodia	5	299	9%
Lao PDR	1		
Malaysia	101		
Philippines	57		
Singapore	2		
Thailand	55		
Vietnam	78		
China	1604	2331	67%
India	727		

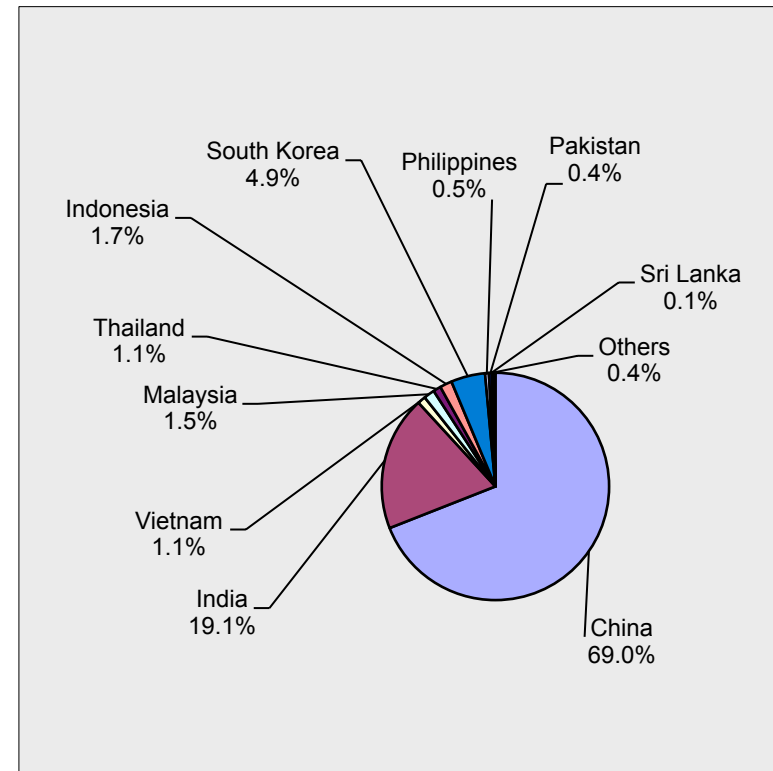
As on 1<sup>st</sup> October 2011



## Status of Projects in South East Asia



**Number of CDM registered projects in Asia by country**



**Volume of CERs until 2012 in Asia by country**

As on 1<sup>st</sup> October 2011



## **Experiences, Challenges and Difficulties in **Validation** and **Verification****

## Validation and Verification of CDM Projects

### ■ Issues – Validation

- Additionality
- Applicability – baseline and monitoring methodology
- CDM consideration and start date
- Baseline scenario
- Monitoring plan
- Letter of Approval

### ■ Issues – Verification

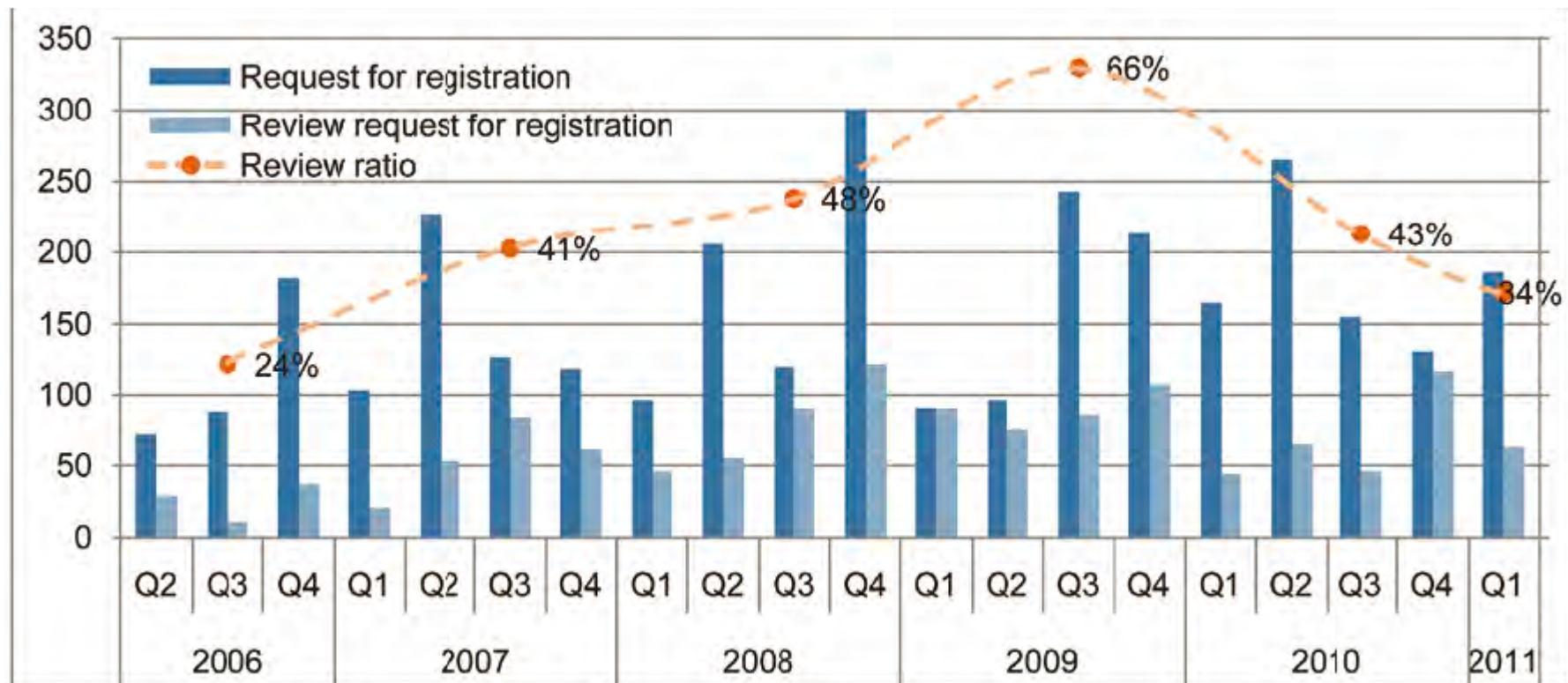
- Deviations & Revisions in the Monitoring Plan compared to the methodology & registered PDD
- Change in project design
- Incomplete parameters & monitoring equipments

## Validation and Verification of CDM Projects

- Why delays in CERs issuance?
  - Compliance to methodology/registered PDD
  - Understanding and interpretation of the requirements
  - Dynamic CDM – keep changing / evolving process
  
- Validation & Verification Approach – Validation and Verification Manual (VVM)
  - Manual for auditing approach of CDM(PP, DOE and EB)
  - No other argument against this manual
  - Contain three parts for each issues
    - Requirement to be validated/verified
    - Means of Validation/Verification
    - Reporting requirements

## Trend in review requests for registration

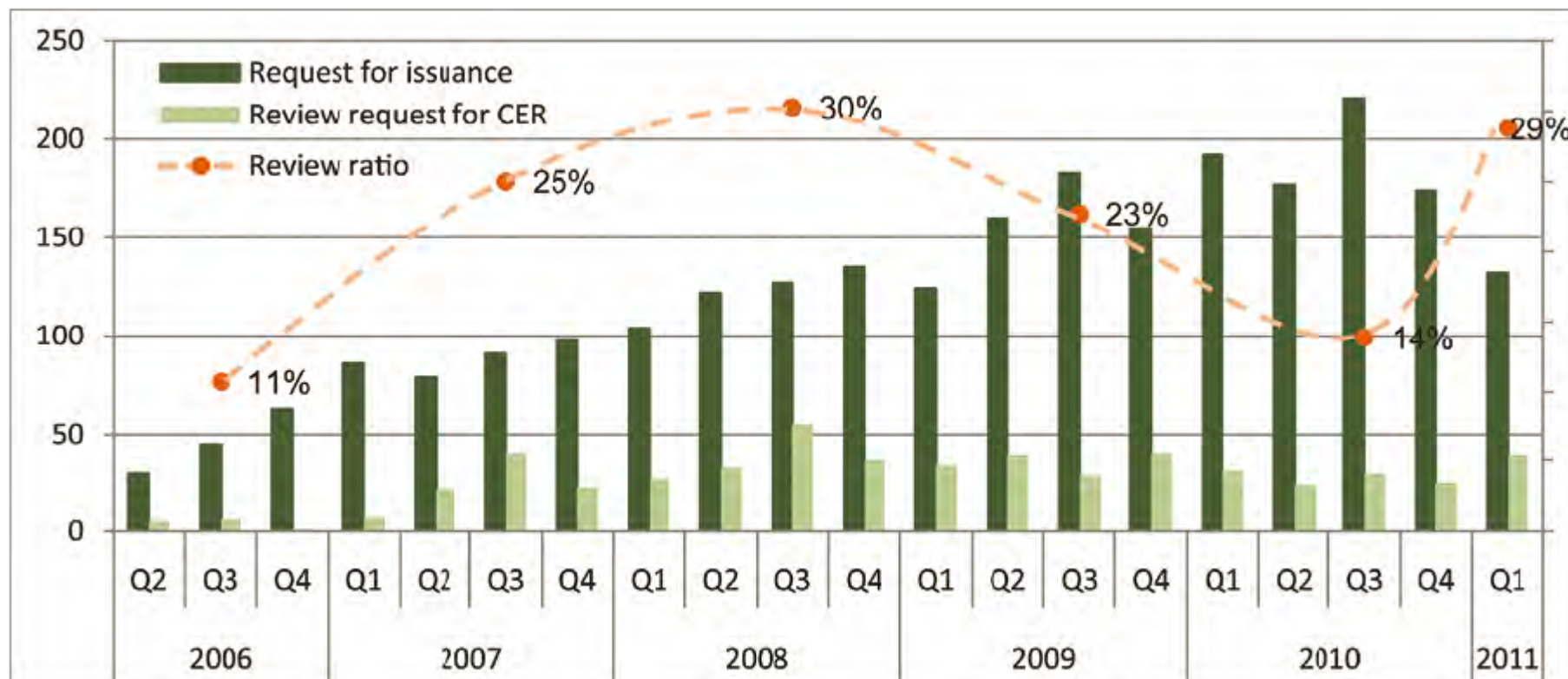
Figure 2. Requests for registration and review



Source: IGES (2011a) and IGES (2011e)

## Trend in review requests for CER issuance

Figure 3. CER issuance requests and reviews



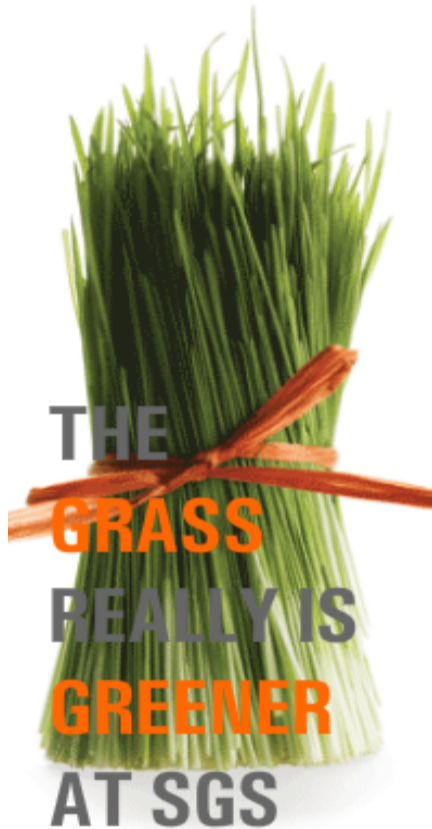
Source: IGES (2011e) and IGES (2011f)

## Addressing issues...

- **STRICTLY FOLLOW GUIDANCE FROM EB!** - With every meeting more guidance becomes available
- Ensure use of **latest & appropriate documents available** on the UNFCCC website – PDD, Methodology, Additionality and tool s
- If in doubt, **seek clarification**
- Ensure that key principles for validating and verifying (**accurate, conservative, relevance, reliable, credible and completeness**) are met
- **Standardization** of grid emission factor
- Development of **standardized** baseline



# SGS



YOUR COMPANY, YOUR  
SHAREHOLDERS AND YOUR  
STAKEHOLDERS **NEED TO BE  
SURE** THAT THESE DATA ARE  
RELIABLE. **YOU CAN TRUST SGS.**

## Other Market Mechanisms

- REDD+
- Sectoral Crediting (Issuance of Credits after emission reductions)
- Sectoral Trading (Distribution of allowances in advance)
- Nationally Appropriate Mitigation Actions
- Market mechanisms to address emissions from international marine and aviation activities
- Others...

### 3-1. Sectoral and NAMAs based Approach

Proposal	Party(ies)	Baseline/BAU/Reference Scenario/Emission Reduction Calculation	Target Sector (s)
Sectoral Trading and Crediting	EU AOSIS Norway Switzerland	<ul style="list-style-type: none"> <li>◆ <u>A crediting-based mechanism</u>: Existing emissions of a broad segment of an economy will be checked against an ex-ante. (no-lose target).</li> <li>◆ <u>A Trading-based mechanism</u>: with an ex-ante defined absolute target for a broad segment of an economy, emissions allowances will be issued and verified against the agreed baseline .</li> </ul>	<ul style="list-style-type: none"> <li>◆ Energy sector (power generation)</li> <li>◆ Industrial emissions (e.g. iron and steel production, cement production)</li> <li>◆ Transport sector (AOSIS)</li> </ul> <p>Planning and implementation of NAMAs and a broader low emission development strategy (Norway/Switzerland)</p>
Market-based NAMAs	Papua New Guinea	<ul style="list-style-type: none"> <li>◆ The crediting mechanism will allocate credits ex-post whereas the trading mechanism will allocate credits ex ante</li> <li>◆ Market-based NAMAs proposed by host Parties</li> </ul>	Some NAMAs could be financed through the sale of reductions resulting from market based NAMAs as credits
Project & Sector Based Approach	Japan	<ul style="list-style-type: none"> <li>◆ The COP directs basic principles on MRV to secure the credibility of NMMs</li> <li>◆ To reflect specific circumstances of both developed and developing countries</li> </ul>	◆ NMMs should be designed to be combined with NAMAs implementation
Mechanism for Carbon-Efficient Economies	Colombia		A sectoral and sub-sectoral scope Broad segments of developing country economies
NAMA Crediting	The Republic of Korea	<ul style="list-style-type: none"> <li>◆ NAMAs eligible for crediting are those that can bring MRVable emissions reductions/avoidance without undermining the SD of DCs</li> <li>◆ NAMAs with success indicators (indirect MRV) – an effective proxy for reduced or avoided emissions - could be developed</li> </ul>	To support large scale actions (e.g. Sustainable development policies and measures and economy-wide mitigation actions)
Net Avoided Emissions (NAE)	Ecuador	◆ Scenario of realized emissions (Business as Usual) and Scenario of avoided emissions would be developed respectively	a programmatic and trans-sectoral approach

For market mechanisms post 2012 to be successful -

- Build on the experience of the existing market mechanisms;
- Be designed to deliver to the level of ambition of post-2012 objectives;
- Be efficient and effective;
- Provide incentives for the private sector to participate and ensure that they are an
- Effective tool for markets to influence both business-to-business and business-to consumer transactions;
- Provide a clear price signal for investment in low GHG technologies;
- Provide flexibility of use for different national circumstances and preferences they cannot be one size fits all.



**Further information, please contact ...**

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**Thank you**