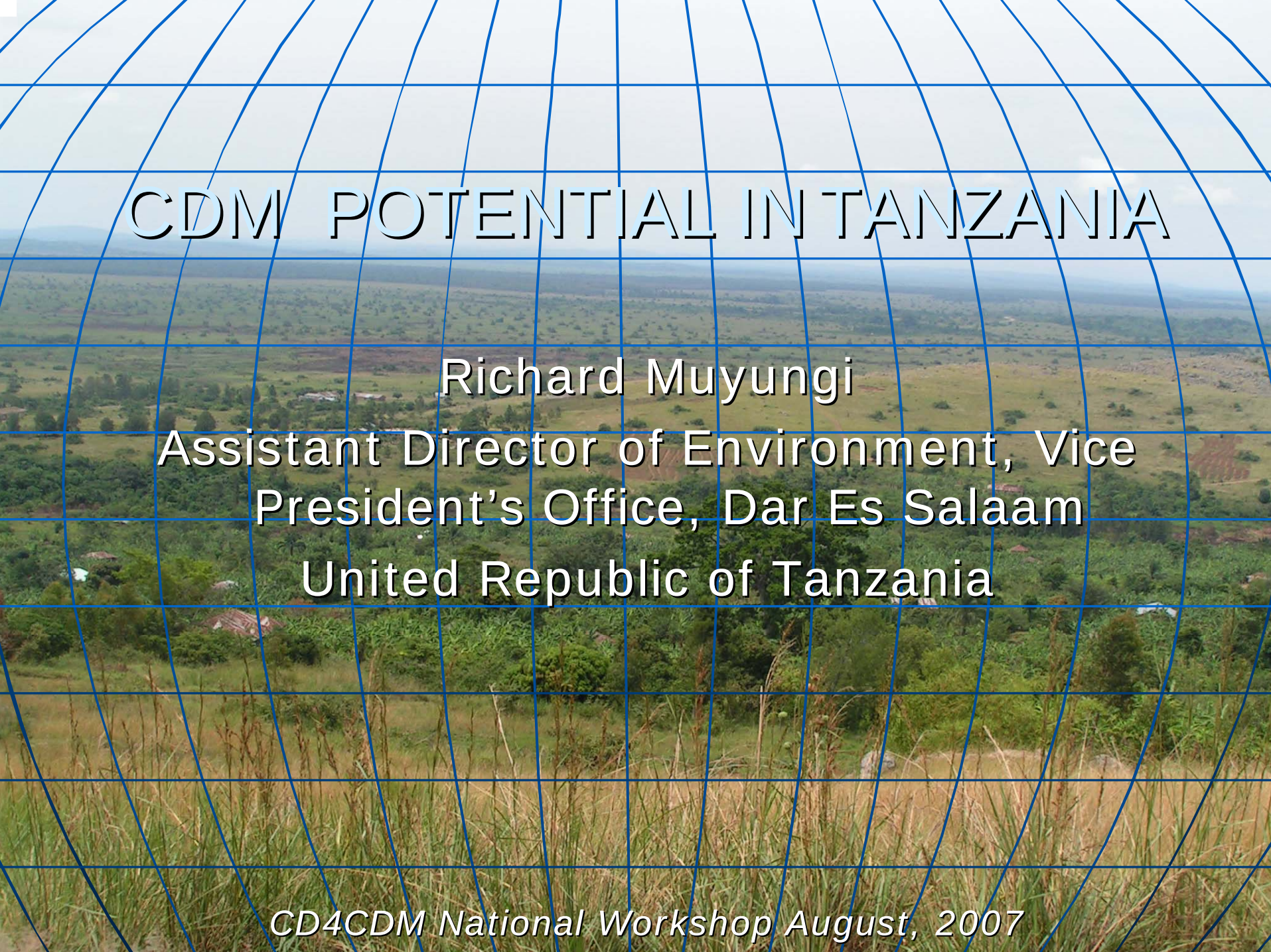

CDM POTENTIAL IN TANZANIA

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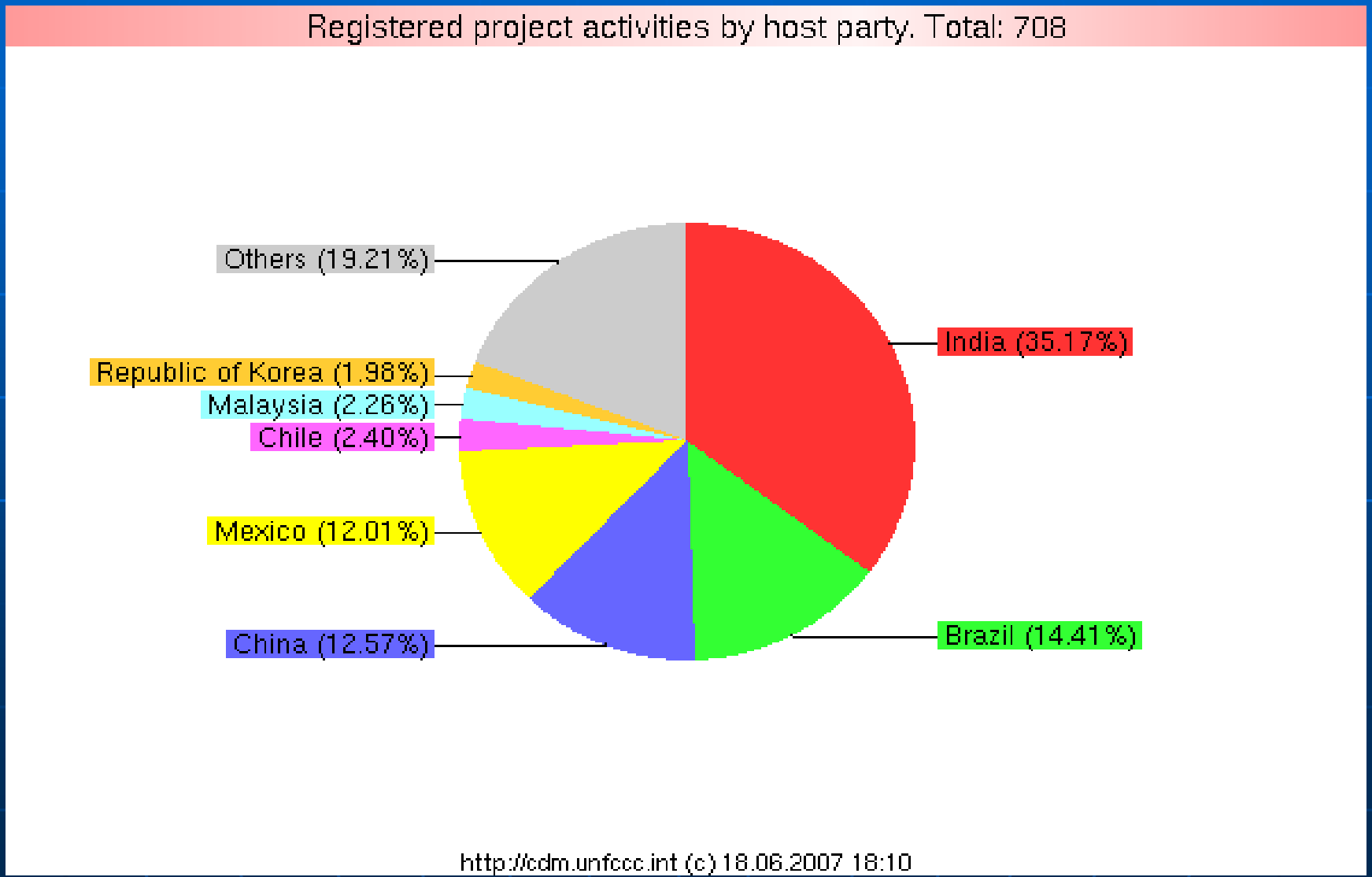
ISSUES

- CDM Global Trend
- CDM POTENTAIL
- CONCLUSION

CDM Potential-Global Trend



Registered Projects by Regions

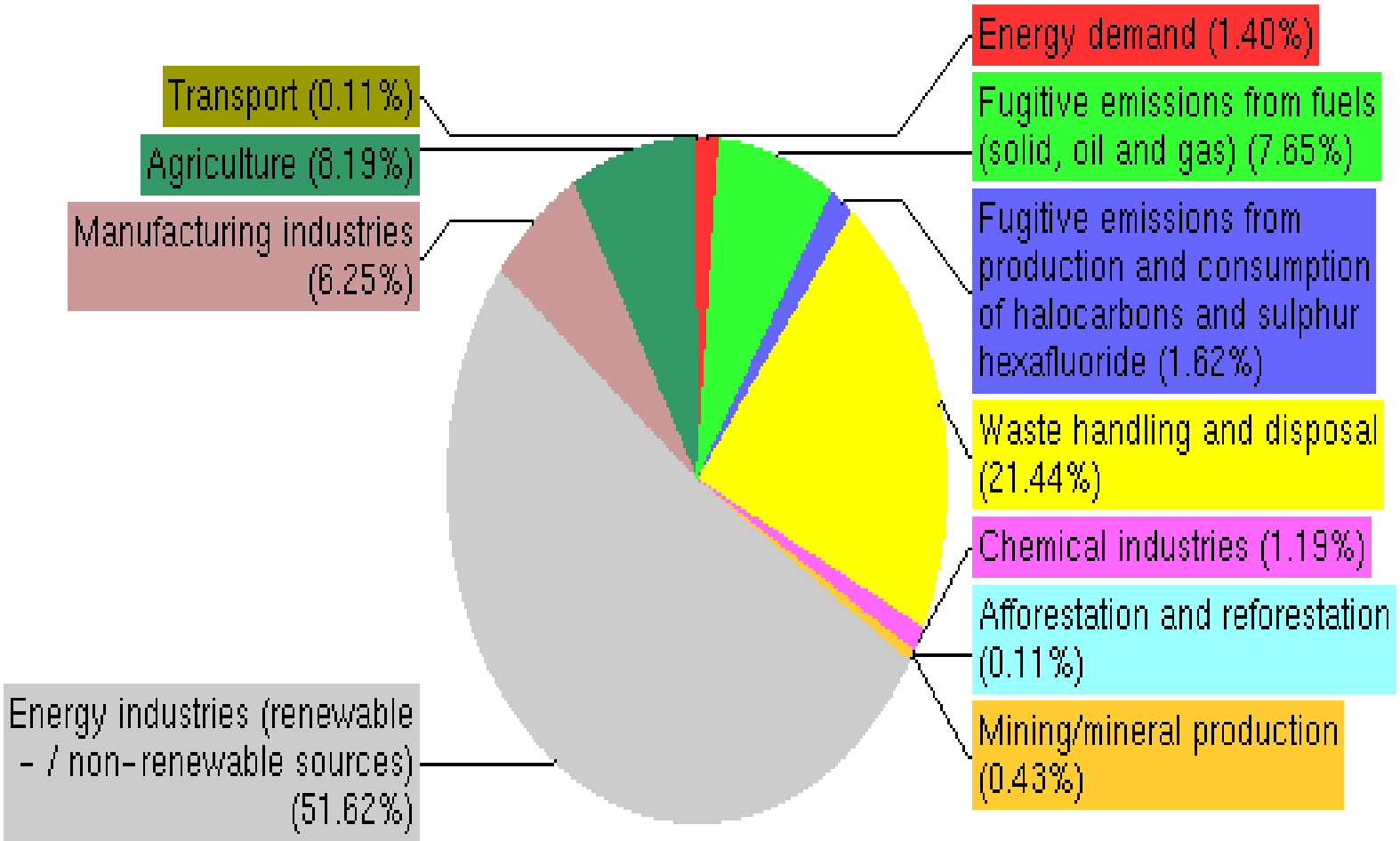
Region	Number of projects
NAI-Africa	20+
NAI-Asia and the Pacific	416
NAI-Other	6
NAI-Latin America and the Caribbean	266

Scopes and CDM Potential areas Globally

- There are 15 project scopes used for CDM projects activities

No.	Scope
1	Energy industries (renewable - / non-renewable sources)
2	Energy distribution
3	Energy demand
4	Manufacturing industries
5	Chemical industry
6	Construction
7	Transport
8	Mining/Mineral production
9	Metal production
10	Fugitive emissions from fuels (solid, oil and gas)
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride
12	Solvents use
13	Waste handling and disposal
14	Afforestation and reforestation
15	Agriculture

Distribution of registered project activities by scope



Registered Projects by Scope

Sectoral Scope*	Registered Projects
Afforestation and reforestation	1
Agriculture	76
Chemical industries	11
Energy demand	13
Energy industries (renewable - / non-renewable sources)	479
Fugitive emissions from fuels (solid, oil and gas)	71
Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	15
Manufacturing industries	58
Mining/mineral production	4
Transport	1
Waste handling and disposal	199

Potential CDM Project at national level

- Tanzania has considerable natural resource and energy potential that can make it a good CDM destination.
- Large percentage of the population has no access to modern or efficient energy services (over 80% in the rural areas) making CDM potential to support solutions to a number of the country's social and economic problems in line with MKUKKUTA.
- The main groups of CDM opportunities are in the following areas

Biomass-Cogeneration

- Biomass is the largest renewable resource, that can be converted into a variety of fuels for electricity generation and transport.
- Cogeneration using biomass wastes e.g. sugar cane bagasse, rice husks, coconut shells and corn cobs that create an opportunity to produce on-site power and steam for agro-industry facilities. It can also generate electricity surplus for export to the grid or provide off-grid lighting and other electrical demand services to the local community.
-

Bio fuels (ethanol, diesel)

For the transport sector.

At an intermediate stage of processing, crude bio-diesel can be provided to power generation facilities. Fuels can be obtained, *inter alia* from food crops (sugar, coconuts, corn, soy) and non-food crops (oil bearing fruits such as jatropha)

Briqueting and Anaerobic Digestion

- **Briquetting** of agricultural residues in areas where there is a large population pressure on wood resources e.g. from rice husks and straw wastes
- **Anaerobic digestion** to produce biogas from which heat and electricity can be produced for on-site use (in the meat and meat-related sectors, large based institutions), utilizing the processing
- wastes, e.g. from slaughterhouses and milk processing, from agricultural manure, bio-latrines and from the alcoholic beverage industry)

Landfill gas

- **Landfill gas to energy seems to be the most promising areas in many areas** - In the many municipal locations where wastes are dumped. Mtoni landfill gas to energy project is the first CDM project to be registered in Tanzania

Agriculture, Wind and Solar

- **Agriculture and land-use** - Animal waste management and displacement of N fertilizer (avoidance of soil N2O emissions)
- **Wind and wave energy** - Suitable for areas such as Mufind, Makambako, Singida and Kilimanajro. Sigida Wind Energy Project under prepartion. LONO issued.
- **Solar energy** (thermal and photovoltaic) - Is mostly untapped, for decentralized power generation especially generating electricity and heat/drying for industry (e.g. fish processing), public buildings (central/local administration, hospitals and schools) and tourism (hotels)

Fuel Switching, Energy Efficiency, Geothermal

- **Fuel switching** - This presents an opportunity, especially for the power sector, industry and transport, either utilizing natural gas (very potential for many industries) or the plentiful biomass wastes (for industries outside the natural gas pipeline)
- **Energy efficiency** - In business, industry, households and the public sector. This encompasses a range of measures from improved maintenance, efficiency standards and repair to
- retrofitting/installing new equipment (electric motors, steam pumps, boilers, lighting, electrical appliances etc.)

- **Geothermal energy - Very potential i**n the rift valley and volcanic active areas

Afforestation and reforestation

- Reforestation on marginal and degraded land, agro-forestry, rangeland improvement, soil restoration, soil organic carbon, and dry land rice. So far with only one project is arguably a project type with some potential in Tanzania

Industrial energy

- Processing and production of metals such as aluminium, copper, manganese and goldmines, production of other materials such as cement.
- **Coal mine methane-** As we explore Kiwira, Mchuchuma, Liganga and other potential areas

Challenges

- Capacity by the private Sector to participate in CDM
- Critical mass of experts in the government, private and Tanzania NGOs sectors , with clear understanding of CDM processes

Making CDM a reality for Tanzania: Addressing Barriers

Over and above capacity related barriers, for CDM is to be more widely applied in Tanzania, more focus is required on small-scale projects (the Tanzanian private sector is mainly made up of micro, small, and medium scale enterprises that often operate in the informal economy) that, in and of themselves, bring small economic returns but individually and cumulatively also bring more environmental and social benefits than many of the larger project types.

Making CDM a reality

- These however, are less likely to happen as stand-alone projects due to the high transaction costs versus the small return from carbon credits.
- Innovative approaches are needed to be considered, such as bundling, and PoAs as there is significant homogeneity and common technological levels for certain economic sectors.
- Without such an approach it may be difficult for the individual enterprises to obtain the necessary resources (financial and technological) to go through the CDM project cycle, and reach the international markets.

I thank you