

Dr. Alexandros Flamos

Middle East and North Africa Renewable Conference

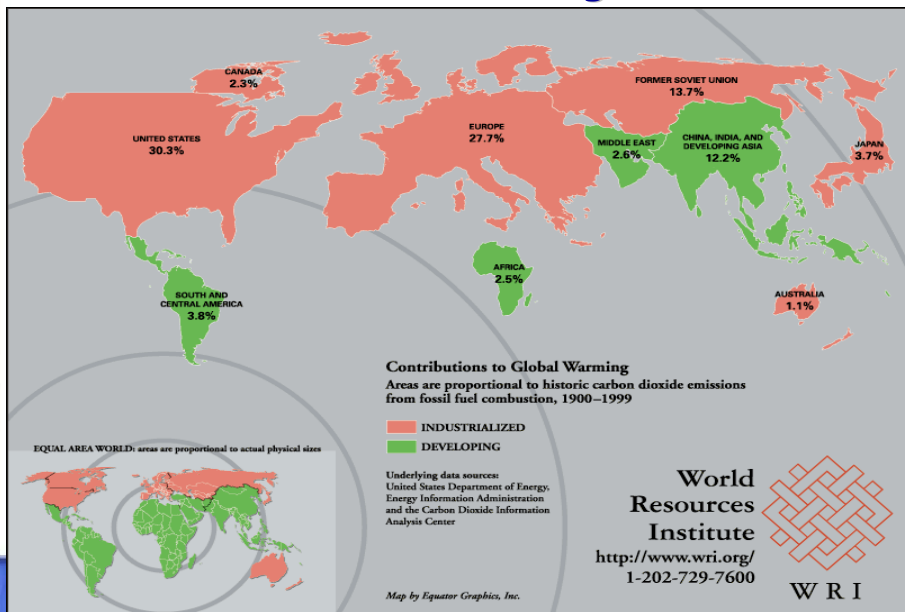
CDM in MENA countries: Strengths, Weaknesses & Opportunities

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Damascus, June 2007

Contribution to Global Warming

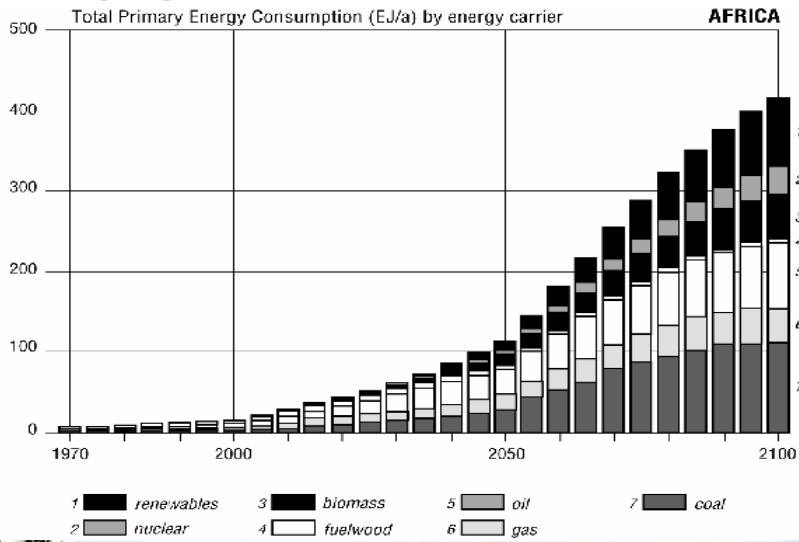


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Developing World

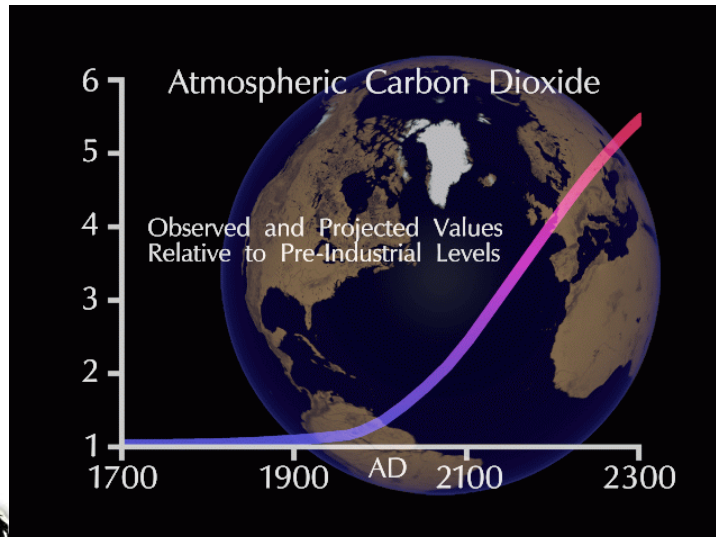


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Carbon Dioxide



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Consequences

Climate Change



1. Increase of Temperature

2. Ice Melting



3. Sea level raise



4. Ocean streams



Health



Agriculture



Rain Schemes



Ecosystems



Seaside areas



Water Sources

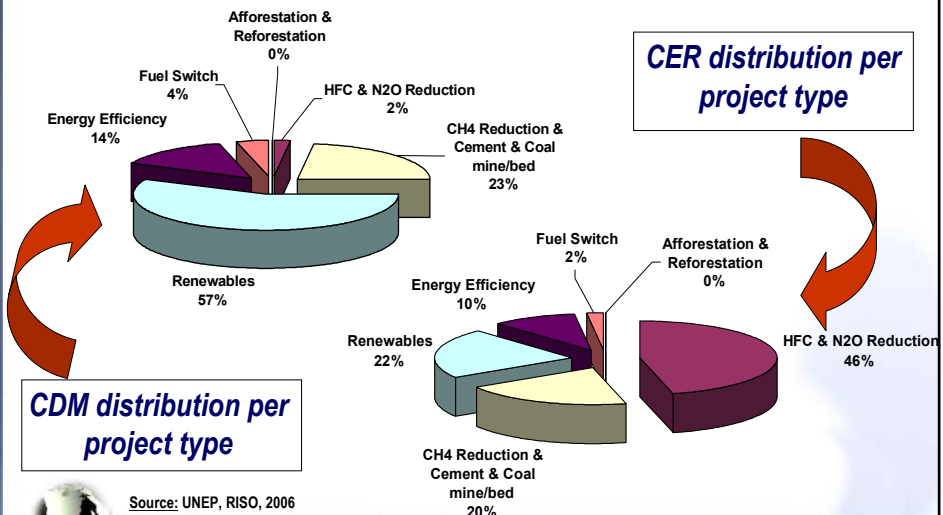


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Clean Development Mechanism



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Regional distribution of CDM activity

Total in the CDM Pipeline	Number		2012 kCERs	
Latin America	472	35,6%	302.716	21,3%
Asia & Pacific DC	800	60,4%	1.012.325	71.1%
Europe and Central Asia	16	1,2%	4.667	0,3%
Sub-Sahara Africa	21	1,6%	74.319	5,2%
North Africa & Middle-East	15	1,2%	29.440	2.1%
World	1.324	100%	1.137.340	100%



Source: UNEP, RISO, August 2006

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MENA region's CDM activity (1/4)

	Registered	Under Validation
Egypt	2 (review requested for another 2)	3
Morocco	3	3
Qatar	1	0
Tunisia	2	

The following countries do not yet have any CDM project activity: Algeria, Bahrain, Djibouti, Palestinian Authority, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya Oman, Syrian Arab Rep., United Arab Emirates and Yemen.



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MENA region's CDM activity (2/4)

Egypt – 2 registered / 2 under registration / 2 under validation

Registered (07 Oct 06)	<i>Catalytic N₂O destruction project in the tail gas of the Nitric Acid Plant of Abu Qir Fertilizer Co.</i>
Registered (15 Dec 06)	<i>Onyx Alexandria Landfill Gas Capture and Flaring Project</i>
Review Requested (Under Registration)	<i>Zafarana Wind Power Plant Project</i>
Review Requested (Under Registration)	<i>Egyptian Brick Factory GHG Reduction Project</i>
Under Validation	<i>Waste Gas-based Cogeneration Project at Alexandria Carbon Black Co., Egypt</i>
Under Validation	<i>Naga Hammadi Barrage Small Hydropower Project</i>



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MENA region's CDM activity (3/4)

Morocco – 3 registered / 2 under validation

Registered (28 Apr 06)	<i>Photovoltaic kits to light up rural households in Morocco</i>
Registered (23 Sep 05)	<i>Tétouan Wind Farm Project for Lafarge Cement Plant</i>
Registered (29 Oct 05)	<i>Essaouira wind power project</i>
Under Validation	<i>Jorf Lasfar heat recovery enhancement for power project</i>
Under Validation	<i>OULJA Landfill gas recovery and flaring</i>



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MENA region's CDM activity (4/4)

Tunisia – 2 registered

Registered (06 Oct 06)	<i>Djebel Chekir Landfill Gas Recovery and Flaring Project – Tunisia</i>
Registered (23 Nov 06)	<i>Landfill Gas Recovery and Flaring for 9 bundled landfills in Tunisia</i>

Qatar – 1 registered

Registered (29 May 07)	<i>Al-Shaheen Oil Field Gas Recovery and Utilization Project</i>
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Acknowledgement

EIB - Study on CDM Project Identification in FEMIP Countries

OBJECTIVES

- ☐ Investigate the possibilities for carbon finance and crediting activities in the Mediterranean region.
- ☐ Identify priority sectors and make relevant recommendations.
- ☐ Build a pipeline of concrete CDM projects or project concepts that could be financed in the years to come.



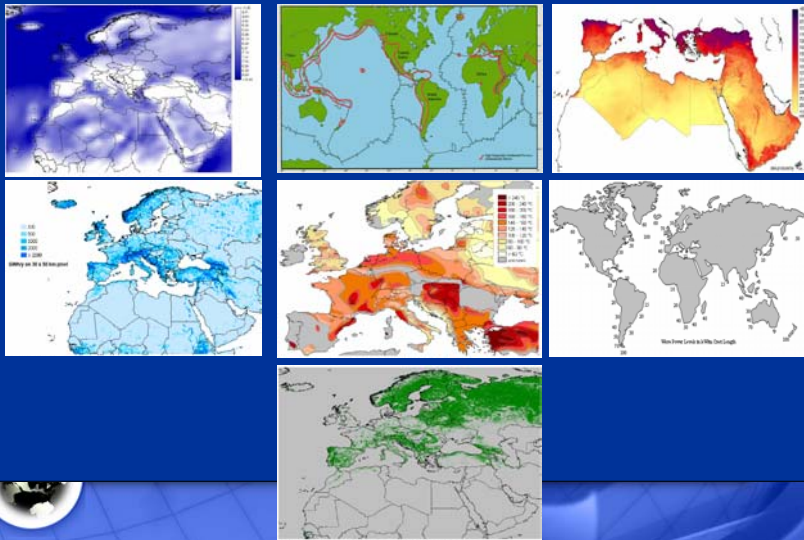
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CDM Potential by Sector/technology

RES (wind, geothermal, solar, hydro, geothermal, wave and biomass)



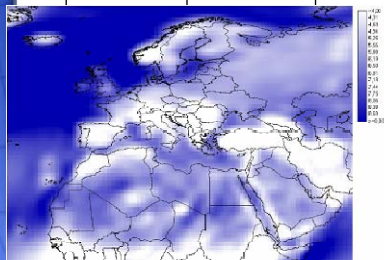
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CDM Potential by Sector/technology

Wind	RES	<p>Wind energy potential fairly evenly spread across Mediterranean region. Multiple countries already have practical experience with wind power implementation.</p> <p>Country potential depending on coastal line and available suitable acreage for onshore and offshore placement.</p> <p>Implementation further depending on national policy concerning power generation</p>
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CDM Potential by Sector/technology

Solar
(thermal and
PV)

RES

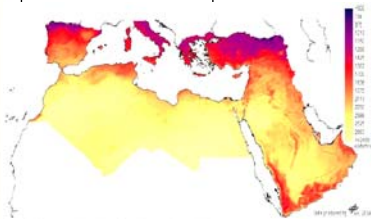
Modest usage of solar energy potential in Mediterranean region so far.

Solar energy (either thermal or PV) has one of the largest RES potentials in the Mediterranean and is widespread across the region.

Significant potential for large-scale solar power (possibly combined with fossil thermal and/or desalination) generation.

Small-scale (off-grid) decentralized solar has significant rural as well as urban potential.

Implementation currently depending on economy technology.



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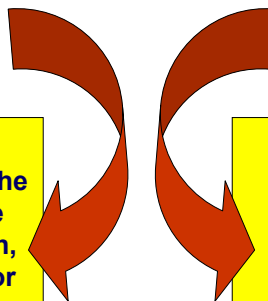


CDM Implementation

precondition for a country to be able to host CDM-projects

Political commitment to the Kyoto Protocol in some clear manner (ratification, acceptance, accession or approval)

Institutional acknowledgement of the CDM-option (in the form of establishment of a DNA and/or other local capacity to handle CDM-activity)



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CDM Models

- ⇒ **Bilateral CDM**
 - Buyer/seller negotiations, risk sharing
- ⇒ **Multilateral CDM**
 - Carbon and development funds (often demand-side)
- ⇒ **Unilateral CDM**
 - Higher price/risk profile
- ⇒ **Programmatic CDM**
 - Small-scale, reduces overall TC for identical projects and often relevant high SD



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Bilateral (1/2)

Official governmental tender programmes of Annex I parties (for which project developers can submit proposals) assume bilateral CDM in which the host country project developer and the Annex I public representative engage in a one-to-one negotiation process, in determining what the terms of delivery and payment of CERs will be and what will happen in case of default.



Before that stage, it is fairly common practice that the investor country and host country sign a memorandum of understanding in order to smoothen the negotiation process.



This option provides a high degree of price certainty for the bilateral partners, but does not guarantee delivery of CERs. This inherently leads to a lower CER-price paid by the Annex I investor, because the Annex I investor takes over some of the risks associated with project implementation, which will lead to an increase in contracting (and thus transaction) costs.

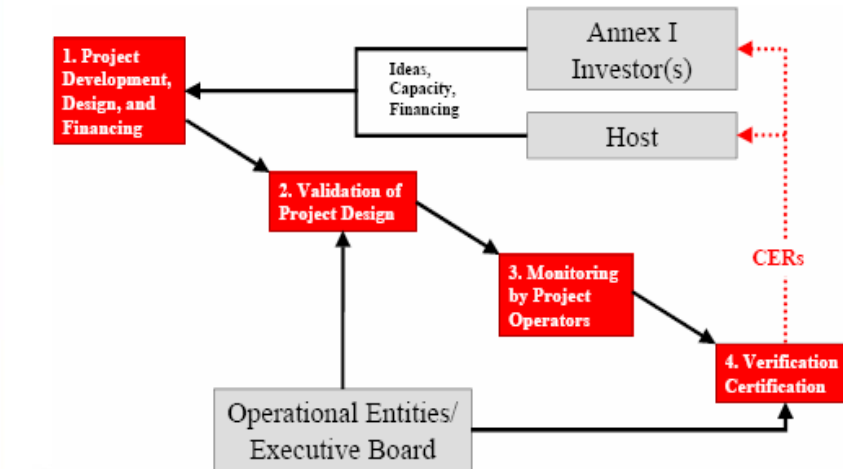


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Bilateral (2/2)



Source: WRI

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Multilateral (1/2)

Multilateral funds collect funding from CER investors and invest these in CDM projects around the globe. This 'centralized buying' of CERs has the benefit of lowering transaction costs, as the intermediary (e.g. World Bank Carbon Finance Unit, Netherlands Community Development Fund) could, for instance, possess a specific skill, ability or country context knowledge and experience which allows it to negotiate in a more efficient manner and/or to assess the country/investment risk more accurately.



So, this option has the prime advantage of reducing transaction costs, primarily at the buyer side, whereas price and delivery risk are relatively low ^[1] since the intermediary is most likely to pursue a portfolio strategy, involving both low risk and high risk CDM-projects

^[1] Price and delivery risk are still present; eg. Durban case → initial agreed upon contract price was perceived too low by project initiators. The World Bank Carbon Finance Unit had to renegotiate the contract price and CER delivery quantity.

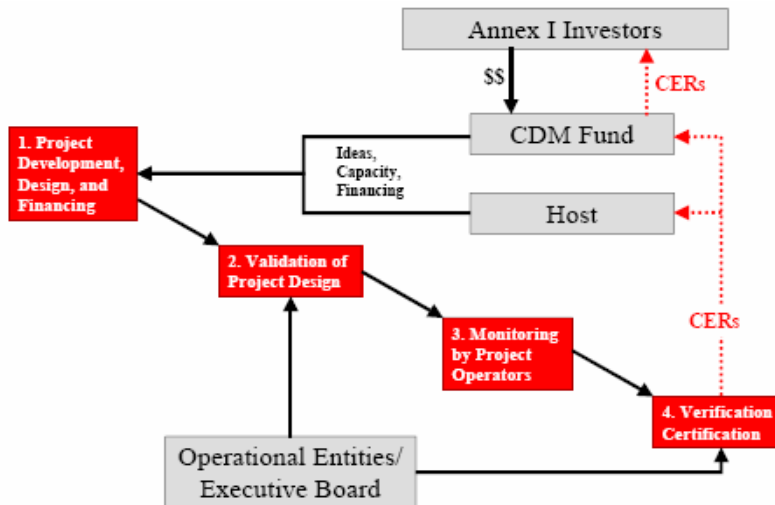


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Multilateral (2/2)



Source: WRI

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Unilateral (1/2)

With unilateral CDM the host country project developer/investor attempts to walk through the entire CDM project validation, registration and issuance procedure without the (financial) aid of foreign investors. After issuance of the CERs by the Executive Board, the CERs can be sold on the CDM market or within the EU-ETS via the EU Linking Directive, which allows EU-ETS installations to use CERs for compliance in the first and second phase of the EU-ETS. Hereby price arbitrage between the CDM market and the EU-ETS is possible, which bears the potential for CERs to obtain a certain price premium.



The investment risks associated with project development, the project development costs and the CDM related transaction costs have to be born by the project developer and host countries themselves.



After issuance of the (essentially risk-free) credits a price can be obtained based on the actual spot (or forward) market price on either the CDM or EU-ETS credits market.

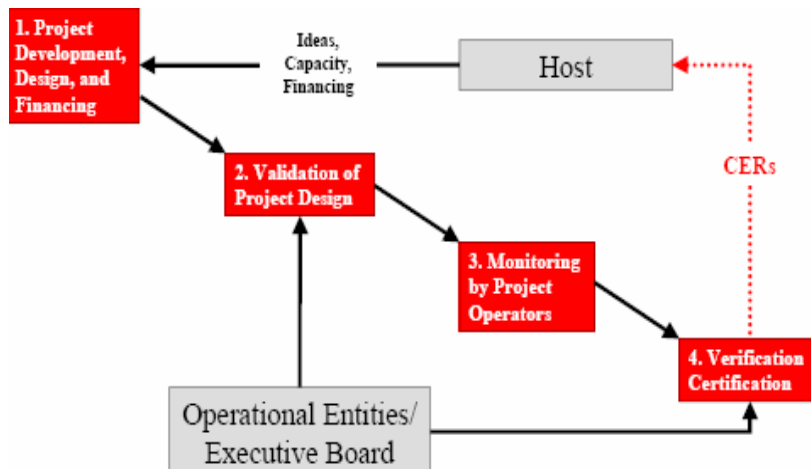


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Unilateral (2/2)



Source: WRI

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Programmatic

Programmatic CDM involves the aggregation of a number of relatively small ER activities (within a sectoral or regional scope) in developing countries into a larger bundle or programme, which is then prepared and submitted to the CDM EB as a single CDM activity with one set of methodologies for baseline determination and monitoring of the project performance.



Programmatic CDM is most straightforward under a unilateral approach but can also be implemented under a bilateral or multilateral scheme. The rationale behind programmatic CDM is that it reduces CDM-related transaction costs for those smaller projects that have a relatively low GHG abatement component.



Monitoring and verification issues could arise as a direct result of the dispersed nature of the project activities. Also the issue of policy additionality arises, since governments usually formulate policies in a comparable 'programmatic' manner

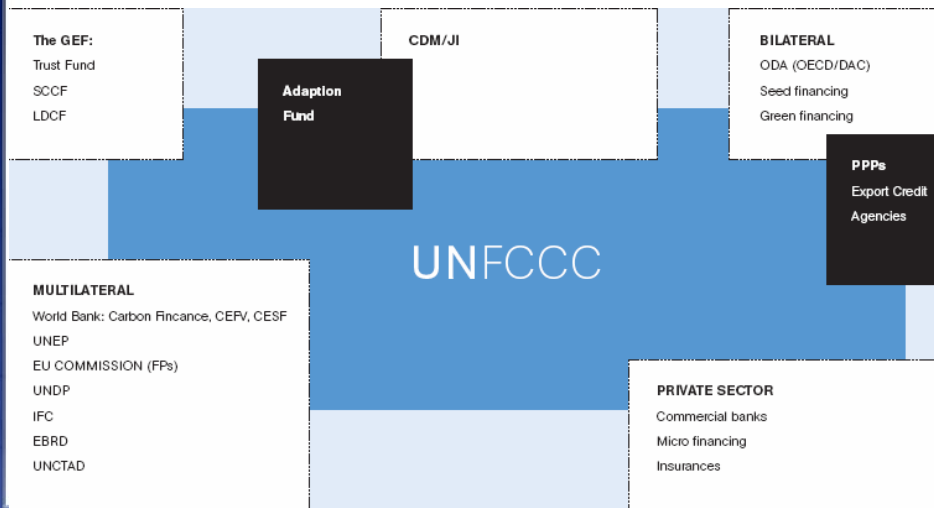


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Funding Targeted for Climate Change Activities



Source: UNFCCC

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CDM financing (1/2)

- ❑ **National Programs, Carbon Funds etc.:**
 - ✓ Spanish Carbon Fund;
 - ✓ Italian Carbon Fund;
 - ✓ Dutch Government ERUPT (JI) and C-ERUPT (CDM) Program;
 - ✓ Finnish CDM/JI Pilot Program;
 - ✓ Sweden International Climate Investment Program – CDM;
 - ✓ The Netherlands Clean Development Facility- € 70 million – JI & CDM;
 - ✓ Austria JI/CDM Procurement Program.
- ❑ **Intergovernmental bilateral agreements:**
 - ✓ Canadian Government with Colombia and Chile;
 - ✓ Dutch Government with Bolivia, Colombia, Uruguay and Ecuador;
 - ✓ Danish CDM Portfolio -bilateral agreements with Malaysia and China.



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CDM financing (2/2)

- ❑ IFIs, Donors, Carbon Banks, funds etc.:
 - ✓ Danish International Development Assistance;
 - ✓ World Bank;
 - ✓ RaboBank (Dutch Government) - CDM;
 - ✓ Japanese Bank of Industrial Cooperation (Japan CDM Fund - 4 billion yen);
 - ✓ Development Bank of Japan (Japan CDM Fund - 3 billion yen);
 - ✓ European Investment Bank (CCFF);
 - ✓ IFC (IFC-Netherlands Carbon Facility - € 44 million) – CDM;
 - ✓ AFD (French bilateral aid);
 - ✓ Ecosecurities.



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Barriers

- ❑ Political/Regulatory
 - ✓ Bureaucratic delays hurdles foreign investors of CDM projects
 - ✓ subsidies
- ❑ Financial
 - ✓ high Transaction Costs
 - ✓ not involvement of local banks
 - ✓ small scale activities are not financially attractive
- ❑ Technological
 - ✓ lack of knowledge about CDM
 - ✓ lack of awareness
 - ✓ logistics



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SWOT Analysis

1. Strengths	2. Weaknesses
<ul style="list-style-type: none"> • Existence of well organized and staffed with capable and supportive personnel DNAs • State authorities sensitized and interested in promoting CDM • The potential in several sectors is significant • Already developed pipeline with CDM project proposals • Projects have been already registered or are under registration by the EB • The local agencies, NGOs, organisations, consultants etc. are keen to be involved in CDM • Existence of approved methodologies for most of the proposed CDM projects 	<ul style="list-style-type: none"> • Local Industries / Utilities / Enterprises etc. are facing difficulties in the development of attractive CDM project proposals (lack of specialized knowledge, limitation of resources, lack of financing) • Non existence of well organized DNAs • Relatively small number of trained and active local consultants in many sectors related to CDM • A significant number of the proposed CDM projects are small scale activities which makes difficult financing from IFIs and Multilateral funds and donors • High transaction costs are associated to CDM project proposals. • Low prices of electricity and fossil fuels • The local banks have not yet been involved in CDM financing (lack of specialized financing facilities)
3. Opportunities	4. Threats
<ul style="list-style-type: none"> • High interest of IFIs and multilateral donors for financing CDM projects and providing technical assistance and Grants • Experience and knowledge created by already registered projects can be exploited • Positive Socio-economic impacts through the implementation of CDM • Government interest in CDM and in promoting specific development projects through it • Ability to implement clustering of small scale activities in order to increase the attractiveness of CDM project proposals 	<ul style="list-style-type: none"> • Eventually closing the window of opportunity by the UNFCCC, by applying stricter criteria for registration • Uncertainty of the future of CDM, beyond 2012 • Long and complex CDM project cycle discourages some investors / promoters • Substantial CDM costs and risk of no success discourages some investors / promoters • Awareness of CDM benefits does not reach all potentially interested parties

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1. Strengths

- Existence of well organized and staffed with capable and supportive personnel DNAs;
- State authorities sensitized and interested in promoting CDM;
- The potential in several sectors is significant;
- Already developed pipeline with more than 100 CDM project proposals;
- Existence of approved methodologies for most of the proposed CDM projects;
- CDM projects already registered or in the registration process;
- The local agencies, NGOs, organisations, consultants etc. are keen to be involved in CDM.



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2. Weaknesses

- ⊙ Local Industries / Utilities / Enterprises etc. are facing difficulties in the development of attractive CDM project proposals (lack of specialized knowledge, limitation of resources –financing, personnel- etc.);
- ⊙ Non existence of well organized and supportive DNAs;
- ⊙ Relatively small number of trained and active local consultants in many sectors related to CDM;
- ⊙ A significant number of the proposed CDM projects are small scale activities which makes difficult financing from IFIs, multilateral and bilateral funds and donors;
- ⊙ High transaction costs are associated to CDM project proposals;
- ⊙ Low prices of electricity and fossil fuels;
- ⊙ The local banks have not yet been involved in CDM financing (lack of specialized financing facilities).



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3. Opportunities

- ❖ Substantial interest of IFIs, donors and funds for CDM projects financing and for providing TA and Grants;
- ❖ Experience and knowledge created by already registered projects can be exploited;
- ❖ Positive socio-economic impacts through the implementation of CDM;
- ❖ Government interest in CDM and in promoting specific development projects through it;
- ❖ Ability to implement clustering of small scale activities in order to increase the attractiveness of CDM project proposals.



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4. Threats

- ❑ Eventually closing the window of opportunity by the UNFCCC, by applying stricter criteria for registration;
- ❑ Uncertainty of the future of CDM, beyond 2012;
- ❑ Long and complex CDM project cycle discourages some investors / promoters;
- ❑ Substantial CDM costs and risk of no success discourages some investors / promoters;
- ❑ Awareness of CDM benefits does not reach all potentially interested parties.



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Recommendations - Needs (1/2)

- ✓ Supporting with specialized TA the DNAs and other organizations working in these fields will enable these institutions to play their role more efficiently
- ✓ Provision of well targeted training to agencies, industries / companies / utilities (with significant potential), in order to improve their in-house capabilities for the identification of attractive CDM projects
- ✓ Provision of specialized TA for the development of CDM project proposals (PINs, PDDs, etc.) will help local enterprises to afford CDM Project Cycle transaction costs
- ✓ Cluster small scale projects into programmes with a critical mass, in order to increase their attractiveness and to achieve economies of scale as regards the CDM transaction costs - the financing of pilot activities will facilitate learning by doing and could achieve multiplying effects



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Recommendations - Needs (2/2)

- ✓ Making special financing for CDM projects available to medium enterprises – and for medium size projects – through local banks and other small financial institutions
- ✓ Provide financing with terms better than BaU commercial practice. (e.g. long pay back periods, low interest rates, soft loans etc.)
- ✓ Continuous adjustment of energy prices to reflect the real market costs will increase the competitiveness of RES and Energy Efficiency improvement projects
- ✓ General subsidies of electricity and fuels, as a social policy practice, may be gradually replaced by specific subsidies for the alleviation of poor people, who would be identified by a selective targeting method



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*Thank you
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