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Feasibility of household and community based projects under the CDM, with examples from Caucasus and Central Asia

Robert Müller, Climate Change Talks
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Outline

1. Definition of household and community level projects (HH projects)
2. CDM and HH projects at present
3. Constraints for HH projects and need to improve the CDM
4. Suitable technologies and possible projects for CDM HH projects

Definition of household and community level projects

- Reduction of emissions caused by households and communities in daily life
- Households and communities actively involved in implementation
- Typically bundling many small units

>> High potential to improve livelihoods of the poor

>> Particularly important to improve living conditions of women

>> Contribution to sustainable development goal of CDM

>> Suitable for the Gold Standard label, allowing for higher CER prices

Existing HH projects und the CDM

Project type	CDM	PoA
CFL bulbs	25	4
Household biogas	8	6
Efficient stoves	7	4
Solar water heaters	3	4
Solar Home Systems	5	1
Efficient room heating	5	-
Solar cookers	5	-
Efficient refrigerators	2	-
Solar water disinfection	2	-
Composting	-	1
Irrigation	-	1
Total	62	21
% of all CDM projects in pipeline	1.17%	58.33%
Registered projects	20	2 (of 3)
Total issued CERs	13,000	-
% Total of all issued CERs	0.004%	-

Constraints for HH CDM projects

Need for upfront funding

Carbon credits issued ex-post, but household/community projects hardly get loans for upfront funding

High transaction costs

Validation costs ~ 15,000 EUR, ~50,000 EUR for PoA, far too much for small projects

Approval process complicated and time-consuming

- Complicated methodologies, often data needed that do not exist (e.g. accurate information on firewood consumption)
- HH projects have many small units > even more complicated
- CDM Institutions slow, not used to HH projects

Suggestions of WECF/atmosfair to improve accessibility of CDM for HH projects

Focus explicitly on HH projects!

- a) UNFCCC funding mechanism for household and community level projects
 - Grants for CDM project development and transaction costs, e.g. validation
 - Lend upfront funding for project implementation as a soft loan to be returned by CERs
 - Buy CERs from such projects at fixed and high prices

- b) Simplification of approval procedures
 - Specialised UNFCCC working group
 - Specialised (cheaper) DOEs
 - Simplified methodologies, e.g. default values for household energy consumption

Progress achieved

EB discusses possible measures to improve regional distribution of CDM since 2006

- no registration fee
- capacity building for DNAs
- default values for traditional stove efficiency or average use of light bulbs
- probably abolition of additionality check for very small scale HH projects

But: Main barriers persist - related to project funding.

Criteria of suitable technologies for HH CDM projects

- Renewable energy, energy efficiency (methane reduction)
 - Mature, standardized and durable technology
 - Infrastructure for dissemination to many households
 - Infrastructure for monitoring of GHG reductions
 - High financial contribution of carbon credits to funding
(cheap technology and high baseline)
-
- **CDM not suitable for pilot projects**
 - **Suitable for combination with micro credit**

Possible HH CDM projects

Cooking, hot water

Efficient stoves, biogas, solar water heaters, solar cookers

Room heating

Efficient stoves, waste biomass, insulation

Lighting

CFL bulbs, solar lanterns

Irrigation

Waste management

Solar Water Heaters (in Georgia)

Baseline scenario:

- Pot on traditional stove (firewood or coal)
- Gas *or electricity*



Details:

- good potential in Caucasus and Central Asia
- minimum 10,000 SWHs needed to make a CDM project viable
- CDM could significantly reduce price (simple SWH in Georgia costs ~120 EUR)

Baseline fuel	Emission Reduction	CER revenues per year and SWH	CER revenues in 10 years (NPV ¹ , 10% discount rate)
Gas	0.4t CO ₂ /year	4.8 EUR	31.2 EUR
Firewood	~1t CO ₂ /year,	12 EUR	74 EUR
Coal	0.8-1t CO ₂ /year.	9.6-12	59-74
<i>Electricity (not in Georgia)</i>	<i>Up to 1.5t CO₂/year.</i>	<i>up to 18 EUR</i>	<i>up to 111 EUR</i>

Efficient stoves for cooking and/or heating

Baseline scenario:

mostly firewood or coal burned in inefficient stoves



Details:

- minimum 5,000 stoves needed to make a project viable
- some 50% could be CDM-funded (price of stoves ~200 EUR)

Firewood, combined stove in Caucasus or Central Asia	Emission reduction per stove	CER revenues per year and stove	CER revenues in 10 years (NPV, 10% discount rate)
	~1.5 t CO ₂ /year	18 EUR	111 EUR EUR

Example of registered CDM project:

- cook stoves in Nigeria, registered as CDM in 2009
- 3,000 stoves sold at reduced prices until now, 20,000 planned

Other possible projects



Conclusions

- HH projects bear high potential for sustainable development and improving women's living conditions
- CDM offers funding opportunity for HH projects, if:
 - Cheap technology
 - High Baseline Emissions
 - Upscaling of proven technologies
- Suitable for combination with micro credit
- CDM is currently hardly accessible to HH projects.
- Improved funding conditions and specific, simplified CDM rules for HH projects needed

Detailed document available on:
www.atmosfair.de or www.wecf.eu

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Thanks!



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