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CDM-PoA as a “Co-Finance Instrument” for Small Hydropower Projects - Chances and Barriers for Georgia

- ✓ Added Value of CDM-PoA in comparison with other systems: Single/Bundle
- ✓ CDM-PoA development, implementation and CER volume generation: Barriers and Overcomes

Two Day Coordination Workshop:
Demonstrate & define a structured CDM PoA
to support environmentally good Economic Development-
Especially towards the promotion of Small Medium Enterprises in Georgia

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Introduction

CDM-PoA
CDM
Program of
activities

CPA
CDM Program
activity

- Which benefits brings PoA?
 - CDM Gold standard project type
 - Transactional CDM costs savings
 - Upgraded GHG Mitigation
 - **Combination with sector law development**
 - Both private and public arrangements
 - Creation of loops between mitigation and adaptation actions
 - Study of sector scope on climate change mitigation
 - **Integration of PoA in the context of NAMAs (Post-Kyoto-Regime)**
 - PoA can be a indicator for NAMAs compliance in the Post-Document of CP Accord
- For Investors
 - Motivation to be player in Post-2012
 - Gain Project Scales
 - **Ensure admission of CERs in 2012**
 - **Better Risk Management**
 - **Replicability**
 - **Social Carbon Component and future cash compensation**



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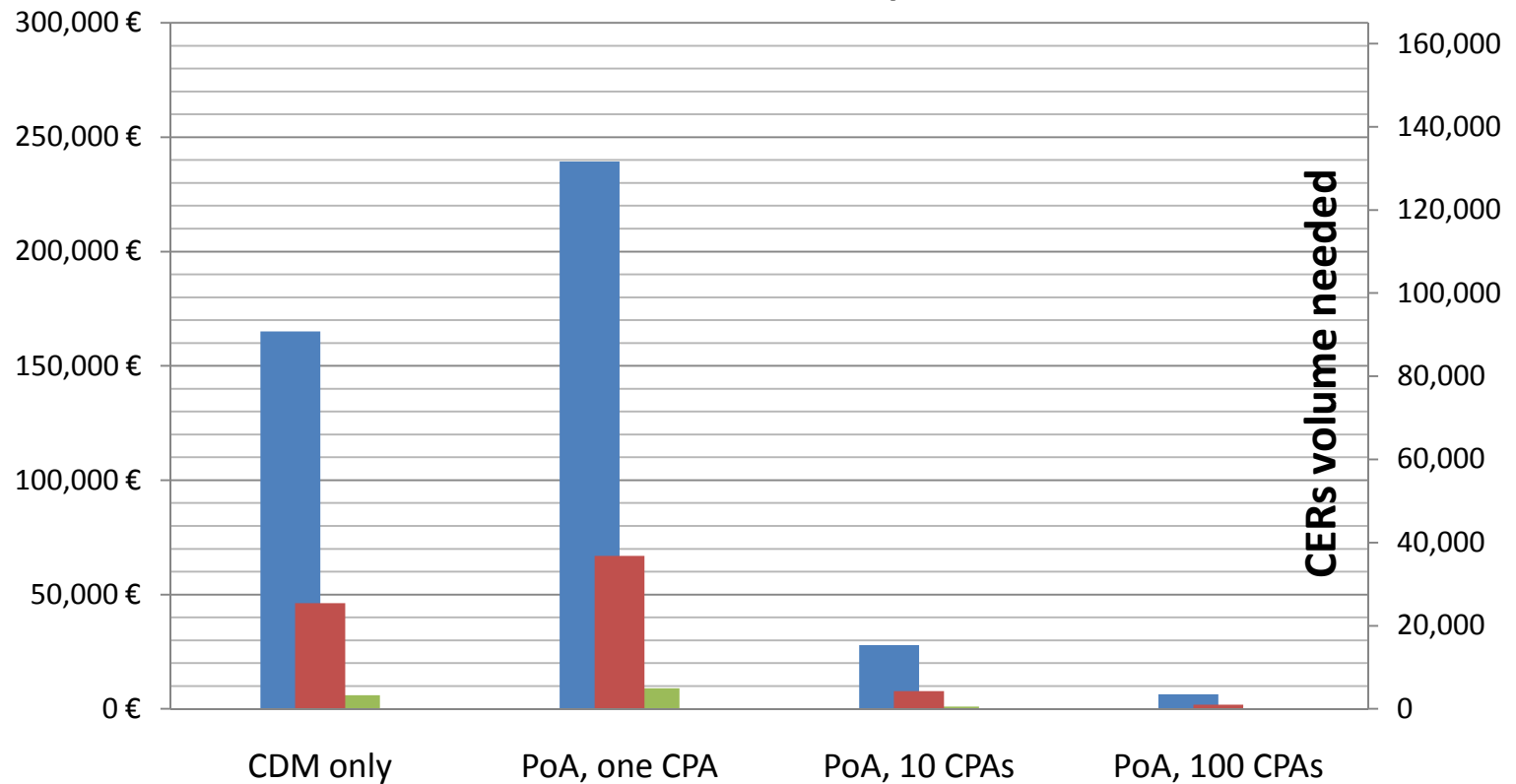
Advantages of PoA

- Scale and Scope effects of PoA
 - Multiplicity of activities to reduce GHG distributed in time and space
 - Size and Sites can run in more than one country
- Better Risk Management
 - One managing/Coordinating entity, many implementers
 - Duration (PoA and CPA)
 - Monitoring and verification
 - No registration for CPAs
- Convertible carbon Assets by commercial Banks which act as **coordinating Agencies for PoA**



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PoA economies of scale (Source: R. Heuberger – South Pole)



■ Transaction Costs per project/program @ 7 years crediting period

■ Corresponds to kW (approx)

■ CERs needed per year and project to cover transactional costs within 7 years and discount rate of 20%



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Disadvantages

- Time
 - Starting date of a CPA
- Methodologies
 - Revalidation of the PoA due to methodology revision
 - Combination of methodologies needs an approval from the UNFCCC Secretariat
- CER Volume
 - Monitoring and verification



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Barriers for SHP PoA

Finance – national level

- Difficulties in accessing to finance from commercial local banks
- Interest rates are too high
- Financial attractiveness depends on CER volume and plant size and type
- small hydro are less profitable than large scale
- Smaller hydro are dispersed and de-central and can easily eat up the revenue from hydropower projects at CPA level



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CDM PoA system related – international level

- Validation process from the negotiation until the signing could take up to 1 year due to the liability issue and high price quotation
- High upfront cost of developing a PoA
- Lack of experience in developing PoAs - impossible to predict the time it will take to register a PoA



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CDM PoA system related – national and sector level

- Possible lengthy process for LoA due to cautiousness of DNA with PoA as a new mechanism ???
- While the barriers hindering the construction of small hydropower plants are quite obvious, it is still a **challenge to prove additionality of the PoA in a CDM-compliant way**:
 - There exists no proven benchmark for the energy sector. Therefore it is necessary to calculate the benchmark for each CPA
 - It is difficult to obtain written documentation proving the barriers in the small-scale hydro sector in Indonesia to use as PoA additionality arguments
- Uncertainty about Grid Emission Factor update ????



Overcomes for SHP PoA

Cooperation

- Stakeholder management – not to underestimate
- Create and maintain good cooperation partnerships with CPA owners and sector stakeholders (public, private, NGOs)
- PoA coordinator = central role

Steering

- One central, focus entry point
- Competency and motivation for the ‘driver seat’ needed – steering through CDM process
- Combination of CDM and sector expertise essential for successful steering



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Strategy

- Clear, but flexible strategic approach needed
discussion of feasibility of potential CPAs necessary but 'time consuming' / test inclusion of mini-grids to the AMS I D.
PoA coordinator / CDM process supporter = central role

Processes

- "gut Ding will Weile haben"
- Lengthy processes caused by external as well as internal lacks
LoA more than 12 months due to inexperience of DNA reg PoA
- Patience and long breath



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Learning

- Learn from other projects and implementation about successful and less successful strategies (methodologies, CDM processes – national and international etc)
- Fearless learning needed
- Exchange actively successes but also failures

Policy

Government

Reasonable policy draft

Link to NAMAs and sector crediting “filling gap”

Check window Pre and Post Kyoto

Include combating suppressed demand issues

Investors

Should gain confidence in financing initial high investments and sunk-costs with future long-term revenues

Should gain motivation to play a key role in Finance

Granting money for CDM project documentation development



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Key challenges

- Identify favourable conditions
 - Investment climate
 - Convertible CER assets by commercial banks
 - Provision of Loans
 - Economy climate
 - Energy
 - Extra Revenues
 - Stakeholder involvement
- Determination of the required type and level of incentive a program needs to offer in order to be attractive for its target group
 - Grants, loans at low rates
 - Payments-on-delivery for achieved emission reductions
 - Policy incentives
- Transform future income of CER into today's financing need
 - In case of loans, up-front grants



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Internal, External and System Challenges

- Monitoring plan
- Baseline and additionality
- Ownership of CERs
- DOE verification liability
- CDM PoA regulations – unsolved issues



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LAST but not least...

- PoA is an interesting instrument for sector development – increased awareness among small-scale hydropower project developers.
- CDM PoA is suitable for IPPs feeding into the national grid or small mini grids on a commercial base.
- PoA might be not suitable yet for very small-scale rural off-grid electrification plants.
- A strong commitment from the PoA coordinator is needed to accompany the process.
- CDM PoA is still in a testing phase – PoA experts are needed for PoA DD development.



Bundle CDM vs. PoA

	Bundle	Program
Sites	Ex-ante identification of exact sites	GHG reductions must be estimated ex-ante. Exact sites may not be known, but type and maximum potential volume is known.
Project participants	Each single activity is represented by a CDM project participant.	Only the entity implementing the program represents the project activity as a CDM project participant.
	Project participants are identical to entities achieving reductions.	The project participant does not necessarily achieve the GHG-reducing activities, but rather promotes others to do so.
Project activities	Each activity in the bundle is an individual CDM project activity	The sum of all individual activities under the program is the CDM project activity.
	Composition does not change over time	No pre-fixed composition (uptake of an incentive could be unknown)
	All projects in a bundle must be submitted and start at the same time	Program is validated and registered based on identification of targeted activities. Actual reductions are not confirmed until verification, and that can be done by sampling.
Size	The size of the bundled small-scale activities has to be under the standard small-scale threshold	The size of the single CPAs have to be below the small-scale threshold, allowing the overall PoA size to be unlimited



PoA for small-scale off-grid MHP

Chances:

- Utilizing the revenues of CERs for operation, maintenance and repair of the MHP schemes – thus significantly increasing the life-span of the installments
- Supporting sustainable new access to electricity in remote areas

Barriers:

- CO2 reduction: with 400 MHP (10-15 kW) included in PoA only approx. 8,000 – 14,000 CERs annually
- Monitoring MHP schemes often in very remote areas (up to 2 days by horse/motorcycle away from closest town), no reasonable technical solution (kWh-meters) applicable yet

Conclusion:

- Efficient and reasonable monitoring & verification model for such small and geographically scattered schemes biggest bottleneck
- Even with 400 sites included CO2 reduction not attractive enough for PoA



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Participants and Roles

- Donors (DON)
 - Provide Grants and/or soft loans
 - Technical assistance
- Government (GOV)
 - Sources fund for program
 - Provide incentives (waiver of duties, tax benefits)
- Coordinator Agency (CA)
 - Bundle PA into CPAs
 - Distribute donors grants and soft loans
 - Capacity Building, technical assistance, monitoring
- Partner Organizations (POs)
 - Select areas and customers
 - Extend microfinance (if needed)
 - After sales services
 - Implementation and installation
- Manufacturer (M)
 - Sell components
- Consultants (C)
 - Technical specification
 - Impact assessment