

# CDM Program of Activities for Greenfield Hydropower Projects in Georgia

## Coordination Workshop:

Demonstrate & define a structured CDM PoA

to support environmentally good Economic Development-Especially towards  
the promotion of Small Medium Enterprises in Georgia

25-26 August 2010

Current Kyoto Protocol and negotiations, positive message for  
CDM PoA

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## Background

The climate is changing. The earth is warming up, and there is now overwhelming scientific consensus that it is happening, and human-induced. Climate change presents a fundamental challenge to global sustainable development. Urgent action is required to establish progressive policy regimes and achieve substantial reductions in greenhouse gas (GHG) emissions.

As Party to the UNFCCC, Georgia is fully committed to the objectives of the UNFCCC. Georgia fully acknowledges that warming of the climate system is obvious and delay in reducing GHG emissions significantly increases the rise of more severe climate change impacts.

## **Climate change and renewable energy resources**

National and international experiences have shown the primary importance of good energy policies in setting the framework for the achievement of sustainable energy development and climate change mitigation goals.

Renewable energy must play a major role in the global energy supply to meet the increasingly serious environmental and economic threats of climate change. The more we use renewable energy, the more we benefit the environment, strengthen energy security and improve economy.

Government of Georgia considers the renewable energy development as one of the country's priorities. By utilizing renewable energy resources Georgia can become "clean country" by 2050.

## Renewable energy resources of Georgia

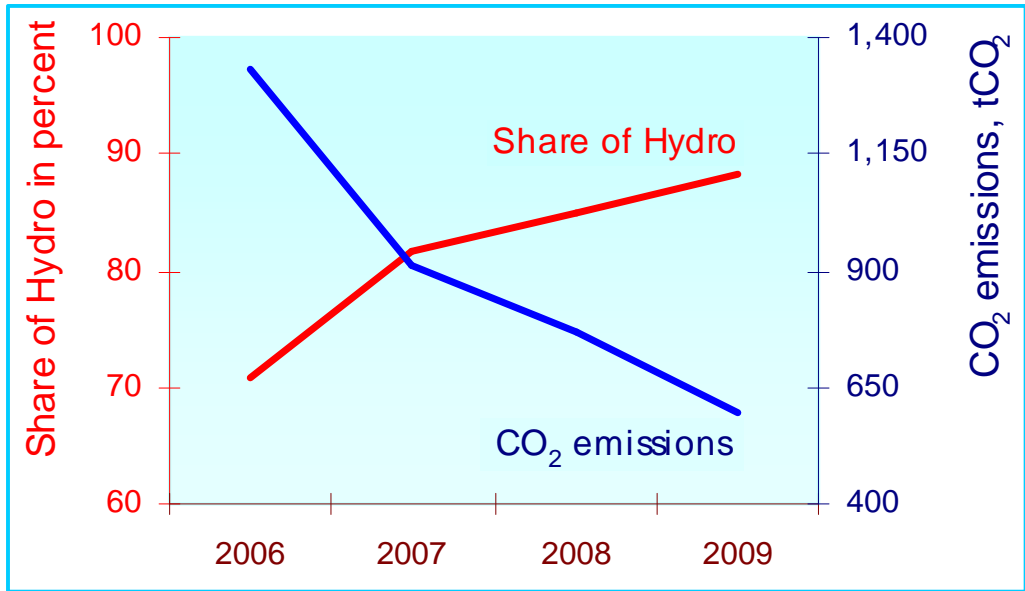
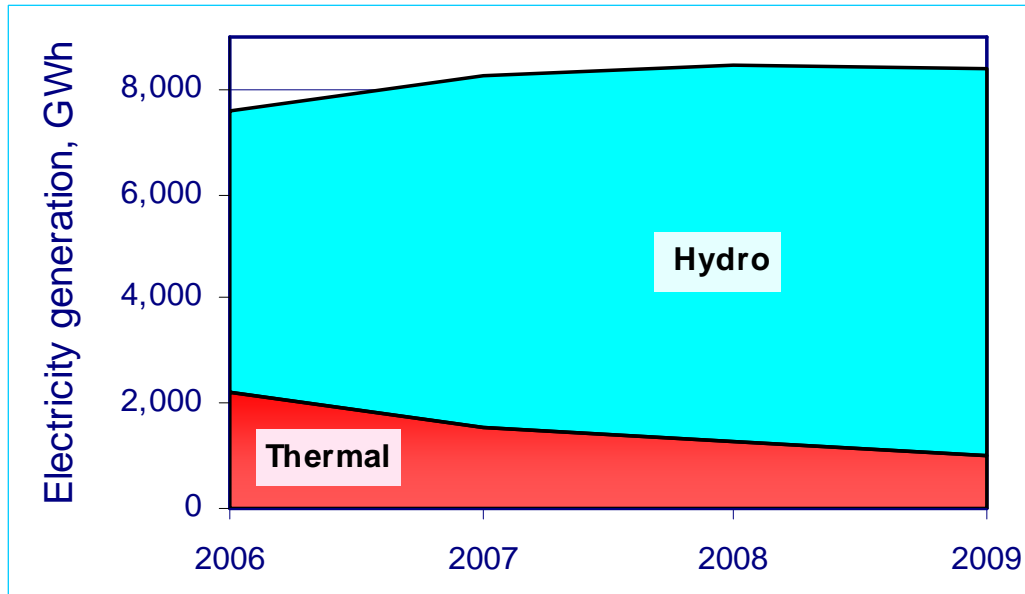
Georgia is very rich country in renewable energy resources, Especially in hydro. Georgia is one of the firsts all over the world with its specific hydro energy characteristics per 1 km<sup>2</sup>. Net hydroelectric resources of main rivers constitute approximately 140 billion kWh (140TWh). The technically exploitable (feasible) potential constitutes 70–80 billion kWh through different estimations. Only about 12-15% of hydro resources are utilized now in Georgia.

Georgia has significant reserve to develop the hydro power sector, which is ecologically most clean resource for energy production. It is possible to build hydro power plants (HPPs) with conditional gradation as powerful plants (>100 MW), medium plants (10–100 MW) and small plants (1–10 MW).

## Hydro power sector of Georgia

Last years the energy policy of Georgia is favorable to the climate change mitigation. The share of hydro power in total generation has increased from 72% in 2006 to 88% in 2009. Accordingly emissions of carbon dioxide (CO<sub>2</sub>) have been reduced by about 700,000 tCO<sub>2</sub> (from 1,300,000 tCO<sub>2</sub> in 2006 to 600,000 tCO<sub>2</sub> in 2009).

However this is reached only by rehabilitation of existing facilities (rehabilitation requires much less investment than construction of new HPPs). Hydro power development in Georgia faces significant barriers. During the 19 years of independence only one medium size HPP with capacity 24 MW was built in Georgia. Without international support overcoming of existing barriers deems unrealistic.



## **Market possibilities**

The overall goal of the Government of Georgia is to move to 100% hydro utilization and evolve into a major regional exporter of electricity.

Turkey is struggling to meet the surge in demand despite a massive expansion of hydro power generation, a scheduled ramp up of coal generation using domestic lignite and plans for the construction of nuclear power facilities.

Turkey will be highly motivated to import “clean energy” (electricity generated mainly from the hydro resource) from Georgia.

## **Market possibilities**

Turkey will soon join the European electricity network and market. Already in 2011 a full integration of the Turkish network within the European continental electrical network ENTSO-E will take place, leading to new opportunities for international energy companies.

Very likely this fact will increase Georgia's export capacity – even if the demand of Turkey will be fully satisfied, it will be possible to export electricity in Euro Union through Turkey.

Euro Union will be highly motivated to import “Clean energy” and by that to contribute to compliance with part of its quantified Emission limitation and reduction commitments under the Kyoto Protocol (or other post Kyoto international agreement).

## Copenhagen Accord

The Copenhagen Accord is a document that delegates at the 15<sup>th</sup> session of the Conference of Parties to the UNFCCC agreed to "take note of" at the final plenary.

The Copenhagen Accord (drafted by, on the one hand, the US and on the other, in a united position as the China, India, South Africa and Brazil) is not legally binding and does not commit countries to agree to a binding successor to the Kyoto Protocol, whose present round ends in 2012.

## Copenhagen Accord

Georgia agreed with Copenhagen Accord and has submitted “Nationally Appropriate Mitigation Actions”. Georgia intends:

To support the Clean Development Mechanism (CDM) as one of the most important means for further cooperation in the field of NAMAs since CDM holds the potential to lead to significant investments, better environmental performance, job creation and poverty alleviation.

## Clean development Mechanism

The main objective of the Clean Development Mechanism, (established by the Kyoto Protocol, item 12 ) is to assist Non-Annex I Parties in achieving sustainable development and in contributing to the ultimate objective of the Convention.

The large economies in the developing world have attracted most of the CDM investment and the current CDM portfolio follows the same trends of foreign direct investment. The GHG reducing activities that are most relevant to less developed economies have not been reached by the CDM.

## **COP15/CMP5 decision: 2/CMP.5 “Further guidance relating to the clean development mechanism”.**

*The Conference of the Parties serving as the meeting of the Parties to the Kyoto:*

- *Urges* the Executive Board to take effective action to ensure compliance with established timelines for each of its procedures as well as with decisions of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol and, where possible, to **reduce the established timelines**;
- **Establishment of simplified modalities for demonstrating additionality for project activities up to 5 megawatts that employ renewable energy as their primary technology and for energy efficiency project activities that aim to achieve energy savings at a scale of no more than 20 gigawatt hours per year.**

# Clean development Mechanism

Implementation of the Hydro power projects (especially small scale projects) under the CDM faces two main barriers:

- High risk of loss significant money - the project can be rejected by DOE (in phase of validation) or - submitted for registration project can be rejected by CDM EB.
- Small scale projects are unprofitable - CDM transaction costs are comparable to the income from CERs.

Decision 7/CMP.1: Further guidance relating to the clean development mechanism.

The CMP at its first session decided that a local/regional/national policy or standard cannot be considered as a clean development mechanism project activity, but that project activities under a programme of activities can be registered as a single clean development mechanism project activity.

## **A programme of activities (PoA)**

A programme of activities (PoA) is a voluntary coordinated action by a private or public entity which coordinates and implements any policy/measure or stated goal (i.e. incentive schemes and voluntary programmes), which leads to anthropogenic GHG emission reductions or net anthropogenic greenhouse gas removals by sinks that are additional to any that would occur in the absence of the PoA, via an unlimited number of CDM programme activities (CPAs).

## **A programme of activities (PoA)**

The main objective of Programme of Activities (PoA) is to broaden the CDM field to replicable projects with low and physically spread GHG emissions reductions activities that would have been difficult and time-consuming to develop on a project-by-project basis.

The Programmatic CDM is a natural evolution of the mechanism to address issues of asymmetries of participation, especially in very small-scale project activities in key areas, sectors and countries with considerable potential for greenhouse gas emission reductions that have not been reached through the traditional approach of the CDM; mainly due to low volume of reductions against high transaction costs.

## **A programme of activities (PoA)**

A PoA allows to add new CDM projects without undertaking the validation process afresh. No registration fee is payable on CDM projects which are added subsequently to validation.

Inclusion of programs in the CDM, provides broadens the access to the CDM. The structure of programs can allow the CDM to reach out to small enterprises, all of which are currently underrepresented in the CDM due to their dispersed nature and high transaction costs.

Furthermore, programs of activities allow small nation states (that do not have large single site sources of emissions) to participate in an important way in the CDM. In brief, programs of activities can help to “democratize” the CDM.

## CDM Programme Activity (CPA)

CPA - CDM programme activity - a project activity under a programme of activities. A CPA is a single, or a set of interrelated measure(s), to reduce greenhouse gas (GHG) emissions or result in net anthropogenic GHG removals by sinks, applied within a designated area defined in the baseline methodology. The Applied approved methodology shall define whether the CPA is undertaken in a single facility/installation/land or undertaken in multiple facilities/installations/land.<sup>1</sup> In the case of CPAs which individually do not exceed the SSC threshold, SSC methodologies may be used once they have first been reviewed and, as needed, revised to account for leakage in the context of a CPA.

## **Coordinating/managing entity (CME)**

A PoA shall be proposed by the coordinating or managing entity which shall be a project participant authorized by all participating host country DNAs involved and identified in the modalities of communication as the entity which communicates with the Board, including on matters relating to the distribution of CERs.

Project participants of the PoA shall make arrangements with the coordinator or managing entity, relating to communications, distribution of CERs and change of project participants.

## Key questions related to CME

- Who should be a CME? Should program developers assume the role of the CME?
- Which exactly are the roles of a CME? How can they be met?
- What are the risks and liabilities for CMEs?
- What is the cost of operating a CME? Can some functions be outsourced?
- What is the case of private or public sector CMEs? Advantages and disadvantages?
- What are the different types of relationships between CMEs and prospective CPAs?
- How do DNAs assess CMEs? Are some CMEs more likely to be authorized by DNAs?
- Which national rules are emerging for PoAs?
- Which are good examples for PoAs?

## The advantages of PoAs

1. A PoA constitutes of individual CDM project activities (CPAs), with no limits on CPAs or on the area to be covered;
2. A CPA can be added to PoA at any time during the duration of PoA;
3. Promoting such programs will help reduce and can lead to the aggregation of small emission reductions that would not be feasible on a project by project basis;
4. These programs will also definitely help remove the barriers of the cost and lengthiness of the CDM cycle.

## Registered PoAs

Regist.	Title	Host Party	Other Party	Method	Reduct.
31 Jul 09	<a href="#"><u>CUIDEMOS Mexico (Campana De Uso Inteligente De Energia Mexico) - Smart Use of Energy Mexico</u></a>	Mexico	UK	<a href="#"><u>AMS-II.C.</u></a>	520,365
29 Oct 09	<a href="#"><u>Methane capture and combustion from Animal Waste Management System (AWMS) of the 3S Program farms of the Instituto Sadia de Sustentabilidade</u></a>	Brazil	UK	<a href="#"><u>AMS-III.D.</u></a>	591,418
12 Apr 10	<a href="#"><u>Uganda Municipal Waste Compost Programme</u></a>	Uganda		<a href="#"><u>AMS-III.F.</u></a>	83,700
29 Apr 10	<a href="#"><u>CFL lighting scheme – “Bachat Lamp Yojana”</u></a>	India		<a href="#"><u>AMS-II.J.</u></a>	34,892

## Submitted for registration PoAs

<b>Title</b>	<b>Period for requesting review</b>	<b>Host Party</b>	<b>Other Party</b>
<a href="#"><u>Masca Small Hydro Programme</u></a>	24 Jul 10 - 20 Aug 10	Honduras	Netherlands

## PoAs under validation

<b>Project Title</b>	<b>Host Country</b>	<b>Method</b>	<b>Reduct.</b>	<b>Period for Com.</b>
<a href="#"><u>AWMS Composting Project</u></a>	Brazil	<a href="#"><u>AMS-III.F</u></a>	15,213	16 Jul - 14 Aug 10
<a href="#"><u>Programme of activities to switch from residual fuel oil to LPG in Peru</u></a>	Peru	<a href="#"><u>AMS-III.B</u></a>	303	22 Jul - 20 Aug 10
<a href="#"><u>SWAMPA–Brazil (Sustainable Swine Waste Management Programme of Latin America – Brazil)</u></a>	Brazil	<a href="#"><u>AMS-III.D</u></a>	2,344	30 Jul - 28 Aug 10
<a href="#"><u>The programme to promote efficient lightings in local areas</u></a>	Republic of Korea	<a href="#"><u>AMS-II.C</u></a>	87	07 Aug - 05 Sep 10
<a href="#"><u>Landfills’ gas capture, flaring and use program in Morocco</u></a>	Morocco	<a href="#"><u>ACM0001</u></a>	142,685	11 Aug - 09 Sep 10
<a href="#"><u>Than Thien Small Hydropower Programme of Activities Managed by INTRACO</u></a>	Viet Nam	<a href="#"><u>AMS-I.D6</u></a>	3,386	11 Aug - 09 Sep 10

Thank you for your attention