Mongolian perspective and expectations on BOCM

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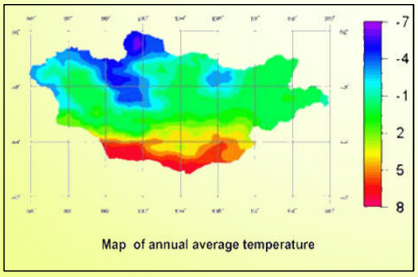
Brief introduction of Mongolia



Map of annual average temperature

Area: 1,564,115.75 sq.km

Total population: 2,754,685

Urban population: 67.9%

***Rural population*:** 32.1%

Population density: 1.76 person per sq.km

GDP: 6.125 billion USD (nominal)

GDP per capita: 3,000 USD

Literacy rate: 98.3

Households not connected to any electricity sources: 3.3%

Climate: extreme continental climate with long cold winter and short summers.

Air Temperature: - 8 degrees C (in North**)**

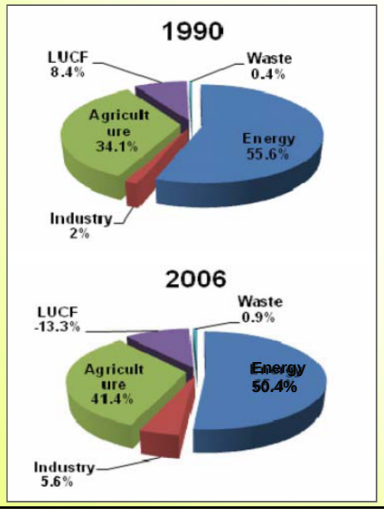
+6 degrees C (in South**)**

Total annual precipitation- 50 - 450 mm/year

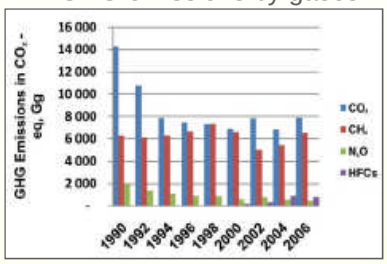
Heating season in Mongolia covers over 8 months starting in late September to early May.

GHG emissions and mitigation potential in Mongolia

GHG emissions by sectors



GHG emissions by gases

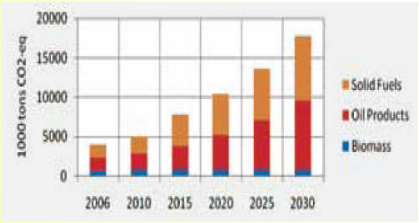


In 1990, Mongolia's net GHG emissions were 22532 thousand tons of CO2 eq and due to economic downturn in early and mid 1990s GHG emissions are decreased.

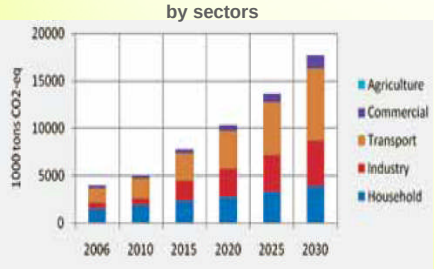
Due to abundant coal resource and usage, energy sector is very Carbon intensive. Even though absolute size of GHG emissions in Mongolia is tiny, GHG emission per capita is much more higher then world average and GHG emission per 1000 USD of GDP is almost ten times higher then world average reflecting cold climate as well as inefficient use of resources.

GHG projections and mitigation potential in Mongolia (2)

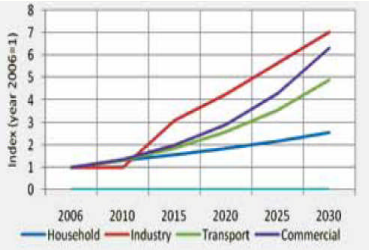
GHG emissions projection from energy demand by fuels



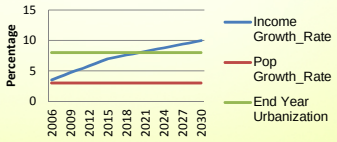
GHG emissions projection from energy demand by sectors



Projected GHG emission trend index



Key assumptions



Source: Mongolia 2nd National Communication

National Legal background related to GHG mitigation

Laws:

1. Renewable Energy Law (2007)
2. Law on Air (2010)
3. Law on Air Pollution Payment (2010)
4. Law on Air Pollution Reduction of the Capital City (2011)

Long term sustainable development programs:

1. The Mongolian Action Program for the 21st Century (MAP 21)
2. The MDG-based Comprehensive National Development Strategy of Mongolia

Mid term programs:

1. National Action Program on Climate Change (2011)
2. National Renewable Energy Program (2005)
3. New Reconstruction Mid-term (development) Program (2010)

National GHG mitigation policies and targets

GHG mitigation related domestic policies and programs

Direct:

National Renewable Energy Program 2005-2020 (Parliament Decree #32, June 2005) targeted :

- to increase share of renewable energy in total energy generation to 20-25% by 2020
- to reduce system loss by more than 10% (base year 2005) by 2020

Indirect:

New Reconstruction Mid Term Development Program 2010-2016 (Parliament Decree #36, June 2010) targeted to decrease air pollution by:

-30% (base year 2010) by 2012

-50% (base year 2010) by 2016

Nationally Appropriate Mitigation Action (NAMA)

n/n	Sectors
1	Energy supply - Increase renewable options
2	Energy supply - Improve coal quality
3	Energy supply - Improve efficiency of heating boilers
4	Energy supply - Improving household stoves and furnaces
5	Energy supply - Improve CHP plants
6	Energy supply – Increase use of electricity for local heating in cities
7	Building – Building energy efficiency improvement
8	Industry – Energy efficiency improvement in industry
9	Transport-encourage use of more efficient vehicles
10	Agriculture-Limit the total number of livestock
11	Forestry- Improve forest management

Nationally Appropriate Mitigation Action (2)

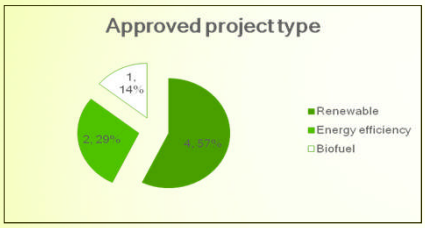
Energy generation and supply :

1. ***Increase utilization of renewable energy:***
   - *Hydro power*
   - *Wind power*
   - *Solar and PV*
   - *Biomass and geothermal*
2. ***Improve efficiency of heat only boilers:***
   - *Rehabilitate old HOBs,*
   - *Increase use and installment of new, highly efficient boilers,*
   - *Converting steam boilers into small capacity thermal powers.*
3. ***Improve household stoves:***
   - *Improve currently used stoves,*
   - *Introduce and spread new and efficient stoves,*
   - *Improve fuel quality or change fuel used in the stoves,*
4. ***Improve coal quality***
   - *Increase production of pellets and briquettes from coal*
   - *Introduce primary coal processing technologies on mine site*
5. ***Improve combined heat and power generation:***
   - *Increase efficiency*
   - *Decrease internal use*
6. ***Improve electricity and heat transmission lines:***
   - *Decrease heat and electricity transmission losses*
   - *Eliminate water loss in the transmission line*
   - *Improve insulation of heat transmission lines*

Nationally Appropriate Mitigation Action (3)

1. ***Building (ger and houses included)***
   - *Improvement of insulation*
   - *Introduction of standards for insulation and heat consumption*
   - *Improvement in heat supply*
   - *Improvement in lighting*
2. ***Industry***
   - *Introduction of new technology (Cement industry from wet to dry technology)*
   - *Increase in motor efficiency*
   - *Improvement in lighting efficiency*
   - *Utilization of waste heat and steam*
3. ***Transport***
   - *Vehicle fuel combustion efficiency improvement*
   - *Improvement of road condition*
   - *Improvement of traffic management*
   - *Introduction of economic incentive in the management of buying and using of car, fuel and parking*
   - *Fuel switch*
4. ***Agriculture***
   - *Improvement of animal productivity and decrease in number of animals.*
   - *Increase and improvement of processing industry for animal products*
5. ***Forest and land use***
   - *Afforestation and reforestation*
   - *Protection of forest from harmful insects and fire*
   - *Elimination of illegal logging*
   - *Increase of land productivity*
   - *Use of forest residues*
6. ***Waste***
   - *Methane utilization from landfill sites*
   - *Improvement of waste management*
   - *Reuse and recycling of waste*

Current status of CDM in Mongolia



Total 6 projects and a program of activity (PoA) is approved by Mongolian DNA as of today. Out of this, 1 project and 1 PoA is under validation. 1 project is currently requesting registration. Another 3 project which are shown below is registered.

Registered projects

Name of CDM Project Activity	Annual emission reduction (tCO_2/yr)	Project Participants (Host Country)	Project Participants (Others)	Status
Durgun Hydropower Project in Mongolia	30,400	Energy Authority, Mongolia	Mitsubishi UFJ Securities Co., Ltd.	Issued CERs are 14468tCO2
Taishir Hydropower Project in Mongolia	29,600	Energy Authority, Mongolia	Mitsubishi UFJ Securities Co., Ltd.	✓Issued CERs are 886tCO2
A retrofit programme for decentralised heating stations in Mongolia	11,904	Prokon Nord Energiesysteme GmbH Mongol Zuukh XXI ltd.		Registered

Barriers for implementing CDM projects in Mongolia

Barrier	Historical significance	Current significance
Size – transaction cost barrier	Medium	High
Type – methodological complication barriers	High	High
CDM consultant barrier	Low	Low
Institutional barrier	High / prohibitive	Very low / none
Documentation barrier	Medium/low	Medium/High
Financing barrier	High	Medium/High
Awareness barrier	Medium/High	Very Low
Demand barrier	None	High

Most significant barriers

CDM Specific

Size – transaction cost barrier

- A barrier that arises from the relatively high transaction costs for smaller CDM projects, making it relatively unattractive to invest in the CDM development of the project, based on a cost-benefit analysis.

Type – methodological complication barrier

- A barrier that arises from the uncommon nature of a significant portion of the technical greenhouse gas emission reduction project opportunities in Mongolia, which focus on the relatively large use of energy for heating purposes.

Documentation barrier

- A barrier that arises from a lack of independent third party documentation (which meets the strict requirements) that can be used as reference and data source in the preparation of CDM projects.

Common

Financing barrier

- A barrier that arises from the difficulty in arranging financial close for Mongolian projects, irrespective of the registration of the project under CDM or other, similar schemes.

Demand barrier

- A barrier that arises from a lack of demand, the result of the current lack of clear international rules and regulations.

BOCM as new mechanism to accelerate GHG emission reduction: Current needs and expectations

MNET and MoEJ signed MoU on Dec 2011 for 3 years.

Framework of the MOU includes:

1. Mitigation and Adaptation on Climate Change;
   - A) Feasibility studies for Bilateral Offset Credit Mechanism;
   - B) Capacity building on new mechanisms such as NAMA, MRV etc.;

BOCM as new mechanism to accelerate GHG emission reduction: Current needs and expectations (2)

Expectations from Bilateral Offset Credit Mechanism:

BOCM complements (deficiencies of) CDM with more streamlined process and potential to scale up emission reduction having following qualities:

1. Program and policy based *(supporting policy and program implementation or law enforcement)*
2. Country specific *(**more coverage** of specific activities)*
3. Governed and regulated by host country *(allowing **flexibility** and easier communication)*
4. Easy to monitor, verify and report reflecting country circumstances *(**low transaction cost** with practical, on the ground methodologies which local experts can apply easily)*
5. **Issue saleable credits** for the emission reduction *(with **clear demand** for the credits)*

BOCM as new mechanism to accelerate GHG emission reduction: Current needs and expectations (3)

Further steps needed:

To successfully implement BOCM in Mongolia, it is necessary to:

- Raise awareness on the issue of GHG mitigation and market mechanisms as an efficient way to reduce all emissions both air pollutants and GHGs.
- Build capacity of project developers
- Adopt learning by doing approach (Implement pilot projects as real cases)
- Need for technical as well as financial support to operationalize the system in the host country

Thank you very much for your attention!