



Mongolia's News on the development of GHG inventories

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The 3rd Workshop on GHG Inventories in Asia Region (WGIA), Manila, Philippines.



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1. Preparation for next inventories

- ✓ Preparation of second national communication starting up from mid 2006 to 2008 in which will be covered GHG emission inventory from 1999-2001 of Mongolia.
- ✓ The project is funded by UNEP/GEF.
- ✓ Short-term and Long-term Strategies for Improvement of GHG Inventories are developed.
- ✓ National Manual of Procedures of Preparation of GHG Inventories is developed.
- ✓ QA/QC Plan is developed.



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2. UNDP-GEF REGIONAL PROJECT

"Capacity building for improving the quality of Greenhouse Gas inventories" (Europe/GIS region)

Details of the project

Goals: To strengthen technical and institutional capacity and to improve the quality of data inputs to national GHG inventories.

Duration: June 2003-June 2006

Inventory team used the time between the Initial and second national communication to enhance their technical capacity within the framework of this project.

Countries: Albania, Armenia, Azerbaijan, Croatia, Georgia, FYR Macedonia, Moldova, Mongolia, Slovenia, Tajikistan, Turkmenistan and Uzbekistan. (12)





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Main outputs:


- National manual of procedures
 - Improvement of data collection
 - Regional key sources documented and archived
 - QA/QC plan
 - *Outline of awareness campaign*
 - LT/ ST Strategies to improve the national inventory
- Developed
- will be carried out in 2nd national communication
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3. Research program implemented for the improvement of GHG inventories


In 2005, some recalculations were performed for the Second National Communication under the Project for "Capacity Building for Improving National GHG Inventories in Eastern Europe and CIS" (RER/01/G31).



1. Transportation sector

- Fuel combustion activities: The main changes in estimated emissions due to methodological changes were made in the ~~Fuel Combustion Activities~~ (Sectoral Approach). Gasoline and diesel fuels used in the Residential sector (~~Other Sectors~~) are also included in the Transport sector

2. Waste sector

- Recalculation was done for solid waste section and estimated by the general methodology provided by IPCC, however, there were adjusted statistical data and other parameters appropriate for Mongolian condition.
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1. Improvement of emissions from mobile sources

The following activities have been carried out with a purpose to improve estimations of GHG emissions from mobile sources.

- Current condition and feasibilities of road transport sector in Mongolia;
- Emission factors of mobile source engines;
- Comparison of calculated emission factors with IPCC default values ;
- Estimation of liquid fuel consumption in road transportation, railway, energy, mining and arable farming separately;
- Estimation of GHG emission from diesel fuel burning



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Study on CO₂ and CO content in smog gas of mobile sources in Mongolia.

$$E_{CO_2} = M \cdot Q \cdot EF \cdot ce \cdot \frac{44}{12} = GgCO_2$$

Country specific mass emission factor

OR

$$E_{CO_2} = m_{CO_2} \cdot M = GgCO_2$$

Where: M – Fuel consumption, kg; Q –heating value, GJ/kt; EF – emission factor, GgC/GJ;
 ce – combustion efficiency; m_{CO_2} – mass emission factor, kg CO₂/kg oil




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- *Comparison of CO₂ emissions estimated by the IPCC and country specific mass emission factors*



	Fuel type	By IPCC emission factor	By IPCC mass emission factor	By Country Specific mass emission factor	Difference
1	Petrol	717.9 Gg CO ₂	714.17 Gg CO ₂	634.0 Gg CO ₂	-11.2%
2	Diesel	513.33 Gg CO ₂	507.73 Gg CO ₂	466.0 Gg CO ₂	-8.2%

gasoline

diesel



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Conclusion from transport sector:

- Almost most of the diesel engines used in sectors of Railway, Mining, Agriculture and Energy are running for too many years and very old. So far, for the estimations of their GHG emission, it is optional to use Emission factor that we developed.
 - Therefore, it seems that CO₂ emission value is decreasing by 9-11% from previous inventory calculation, but the same time consumption gasoline and diesel increasing due to old engine of old cars.
 - Also CO emission is increasing which is not included in GHG inventory estimation.
- Country specific



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2. Improvement of inventories from solid waste in Mongolia

Estimation made by the general methodology provided by IPCC, however there were adjusted some statistical data and other parameters appropriate for Mongolian condition.

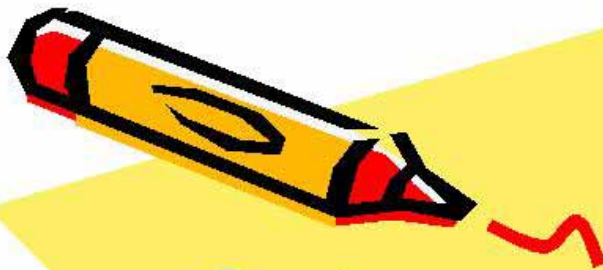
No	Parameter	Data	1995		2004	
			Value	References	Value	References
1	GR	Waste coefficient (Gg/ million people/ year)	182	IPCC guideline	122.2	IPCC guideline
			0.498 (kg /people day)		0.334 (kg /people day)	
2	MSW _F	Fraction of MSW disposed to solid waste disposal sites	0.40	IPCC guideline	0.61	Calculated
3	DOC	degradable organic carbon (fraction) (kg C/ kg SW)	0.15	IPCC guideline	0.202	Calculated on the base of Table 4.4, ME-SWM book, 2004
4	DOC _F	Fraction of degradable organic carbon dissimilated	0.77	IPCC guideline	0.77	IPCC guideline
5	F	fraction of CH ₄ in landfill gas	0.25		0.5	IPCC guideline
6	MCF	Methane correction factor	-	No information	0.4	IPCC guideline

Data were calculated on the base of domestic sources



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Great success to 3rd WGIA!
Thank you for your attention

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