

Regional Training Seminar on assessment of GHG Inventories in the Forestry and Other Land Use

Albania

4/15/2015



This Project is funded by the European Union



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Overview of National System

All activity data for each sector including Forestry and Other Land Use are provided from Statistical Data of Annual Publication of Albania -INSTAT. Although INSTAT was the main activity data source provider for the entire FNC&SNC, but it did not provide activity data for the National GHG Inventory under the TNC.

Rather, data was gathered from:

- Ministry of Environment,
- National Agency of Environment
- Ministry of Agriculture and Rural Development,
- General Directorate of Forestry,
- Taxation Department,
- Costumer Offices and
- different data bases, surveys and studies prepared by international organizations (including the World Bank, UNDP, EBRD, EIB etc), universities and NGOs.



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Legislation

Law No.7687 dated 16.03.1993 “On Statistics” defines INSTAT as the unique central institution in the country under the Council of Ministers, which approves the National Statistical Program, the criteria of the evidences as well as methodological ones, nominations and classifications for production of uniform national statistics underlying the obligations of economic subjects, be they private or public.

As part of the efforts to mainstream Climate Change into sectorial policies, the Interministerial Committee on Climate Change has been established by an Order of the Prime Minister on April, 2014, led by the Deputy Minister of Environment with all other Line Ministries sitting there at the level of the general technical directors. The Interministerial Committee has been updated accordingly.

Methodology: The Inventory is based on the IPCC’s Revised 1996 Guidelines. It has a narrower and deeper analysis than the previous inventory and has addressed all emission/sink categories called for in the IPCC Guidelines. The baseline year is 2005.



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Data sources and identified gaps

- For this Inventory the experts have used: National satellite pictures, maps, international satellite and the National Forestry Cadaster
 - INSTAT
 - FAOSTAT
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- Relating the estimation of biomass burning (including wild fire) no data are available but a biomass survey is carried out to mitigate the uncertainties regarding the fuel wood consumption.
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- There is no accurate data on pasture land during the inventory period
 - There is no evidence for the are planted with orchards during years
 - There are significant variations in the data of forests in a short period of time (1-2 years), as is the case added to the forest fund in the years 2003-2004 and immediately reduction of it in the year 2005.



Non-estimates (NE)

- There are no data about the settlement areas (urban areas) in the country. For that reason the GHGs from settlements and other lands are not calculated.



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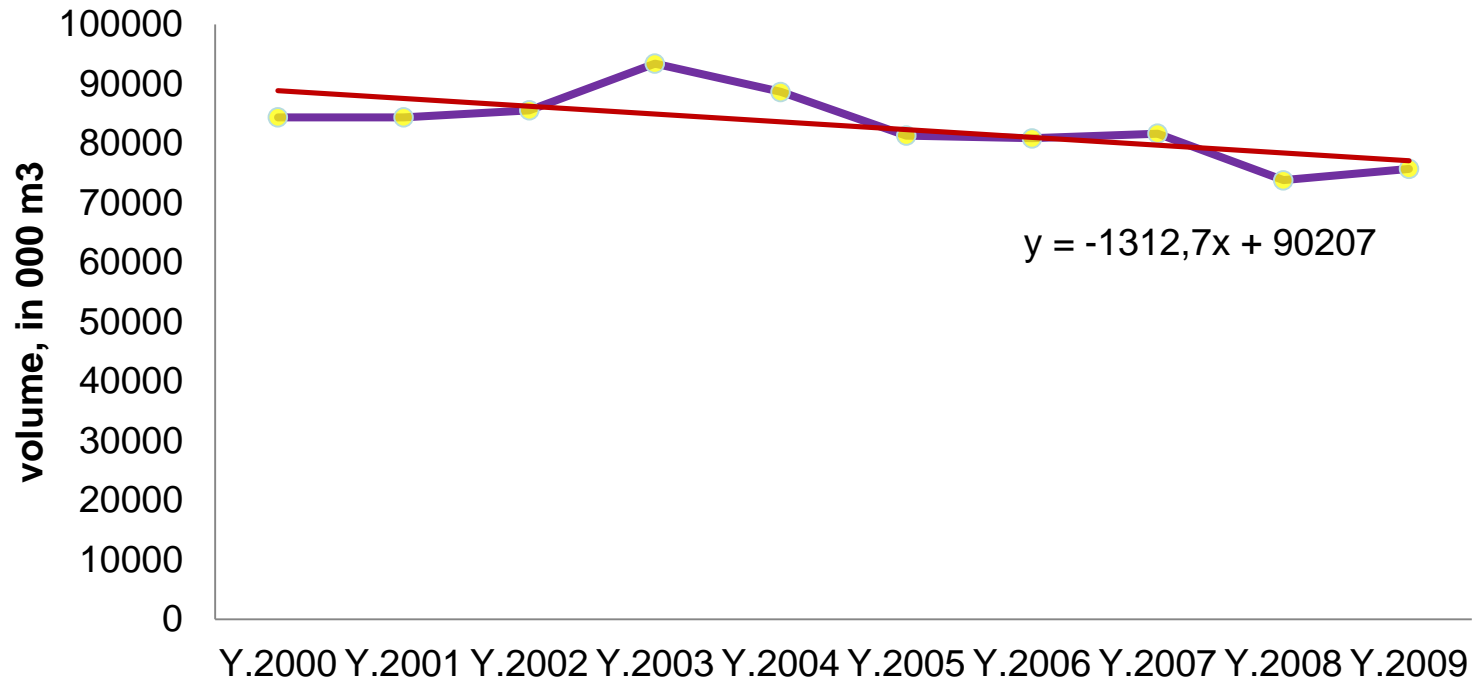
- The “Land Use Change and Forestry” (LULUCF) sector includes emissions and removals of greenhouse gases (GHGs) from six categories of land uses:
 - Forests,
 - Cropland (CO₂),
 - Grasslands (CO₂),
 - Wetlands,
 - Settlements and
 - Other lands

GHG net emissions/removals by LUCF refers to changes in atmospheric levels of all greenhouse gases attributable to forest and land-use change activities, including but not limited to (1) emissions and removals of CO₂ from decreases or increases in biomass stocks due to forest management, logging, fuel wood collection, etc.; (2) conversion of existing forests and natural grasslands to other land uses; (3) removal of CO₂ from the abandonment of formerly managed lands (e.g. croplands and pastures); and (4) emissions and removals of CO₂ in soil associated with land-use change and management.



Results of GHG Inventory for Forestry and Other Land Use

Total volume stock of forests during period 2000-2010



Changes in Forest and Other Woody Biomass Stocks



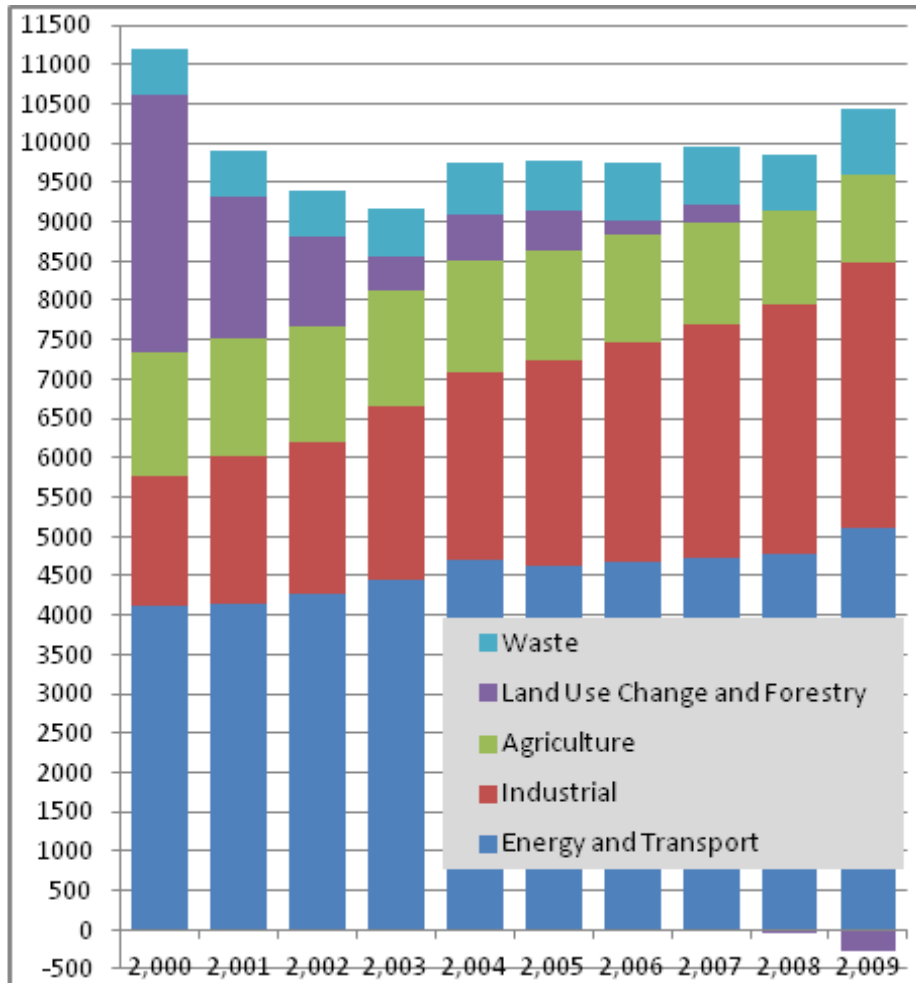
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Emissions and removals of CO₂ from decreases or increases in biomass stocks due to forest management, logging, and fuel wood collection

The main data used to compute the changes in Forest and Other Woody biomass Stocks are calculation of the forest area by each year and average annual growth of biomass stock in forests under the respective category, the calculation of the surface with afforestation and their annual growth. The calculations are made even for non-forest tree species (fruit trees, olive trees, citrus, vineyard etc.). On the other hand is calculated the annual loss of biomass from forests because of logging and illegal cutting. Carbon fraction of the dry matter and biomass conversion/ expansion Ratio for all calculation is given 0.5 (IPCC guideline). That because lack of data for each forest species. Data on volume of forests during the period 2000-2009 are provided by the Ministry of Environment. In calculation of the biomass are used changes in average annual volume taken by the relevant figure according to the linear equation: $Y = -1312.7 + 90207$. Linear correlation, based on the above mentioned equation **GHG Inventory under TNC – Final Draft**

The graphic is used in order to reduce very large discrepancies of total volume of stock of forest during the whole period 2000-2009.

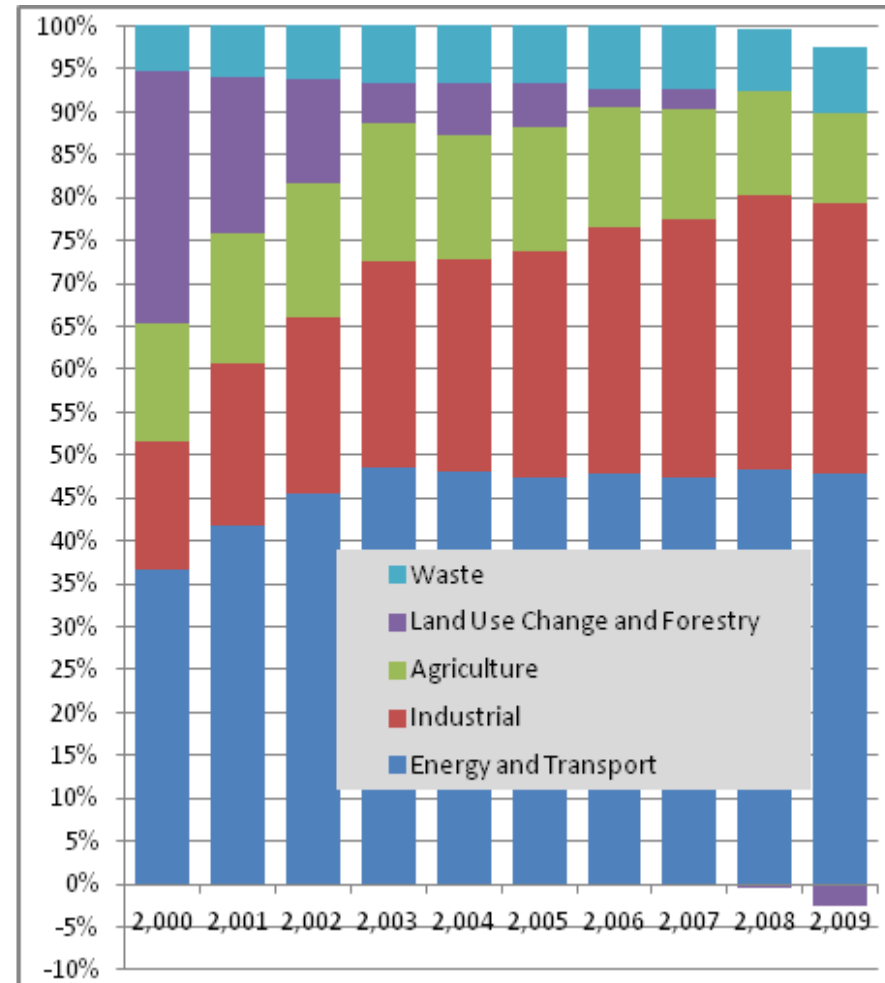
Results of GHG Inventory for Forestry and Other Land Use



CO₂ eqv. emissions from all economic sectors (Gg)



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CO₂ eqv. emissions from all economic sectors (%)

Results of GHG Inventory for Forestry and Other Land Use

Forests cover around 36% of the land area of Albania. Some areas of other wooded land are included in the calculations of forest cover, half of them is classified as coppice and coppice with standards, the other half being high forest.

Nearly four-fifths of the growing stock consists of broad-leaved species, predominantly species of deciduous and evergreen oak and of beech.

Albania is one of the few European countries where has been a decline in forest area in recent decades, due to clearance for agriculture, overgrazing and cutting for fuel-wood, in particular during the transition period (around 1990).

Tree felling has exceeded to a net annual increment, resulting in a decrease in the growing stock; there has also been a decline in its quality as a result of illegal cutting.



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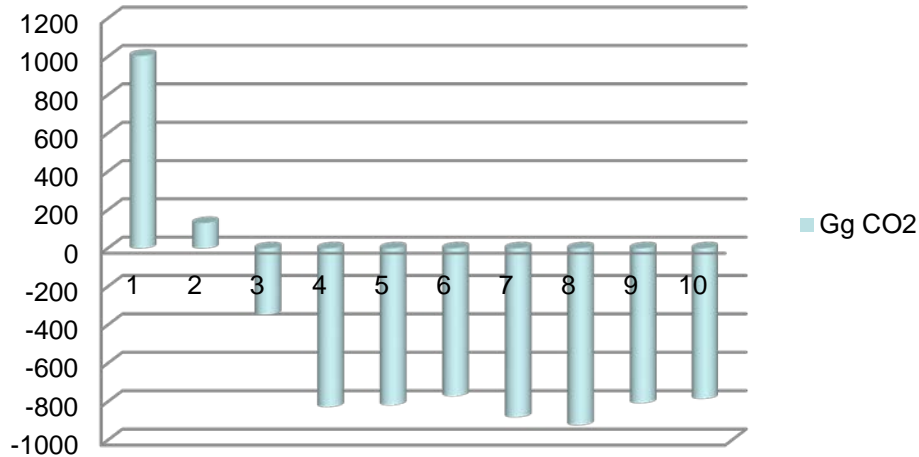


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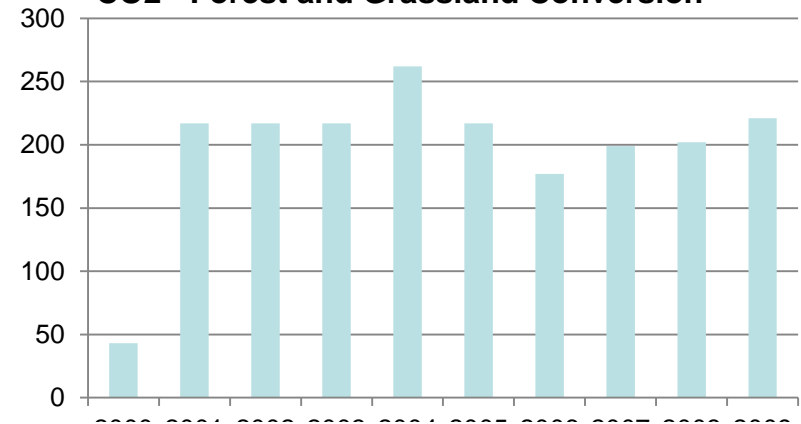
- Relating to the contribution of direct GHG emissions expressed in CO₂ equivalent, calculated based on IPCC Methodology in terms of CO₂ eqv. the fourth main contributor for the year 2005 is **Land Use Change and Forestry with (8.88%)**. It is very important to be mentioned the following conclusion: LUCF sector for the first time changed from a “GHG emitter” till 2007 to a “GHG sink” in 2008-2009.
- For most of the inventory period (2000-2007), LUCF is considered as emitter of GHGs. Only in the last two years of the inventory period (2008-2009) LUCF behaves as absorber of GHGs. However, due to the specific circumstances of the sector, such as: effectiveness of investments in the implementation of afforestation, new trends regarding the change of forest land to agricultural land (mainly for vineyards and orchards), forest improvement, increase in electricity prices, increased enforcement in the energy sector, etc., make the situation of the last two years (2008-2009) quite fragile and unstable

GHG (sub-categories)

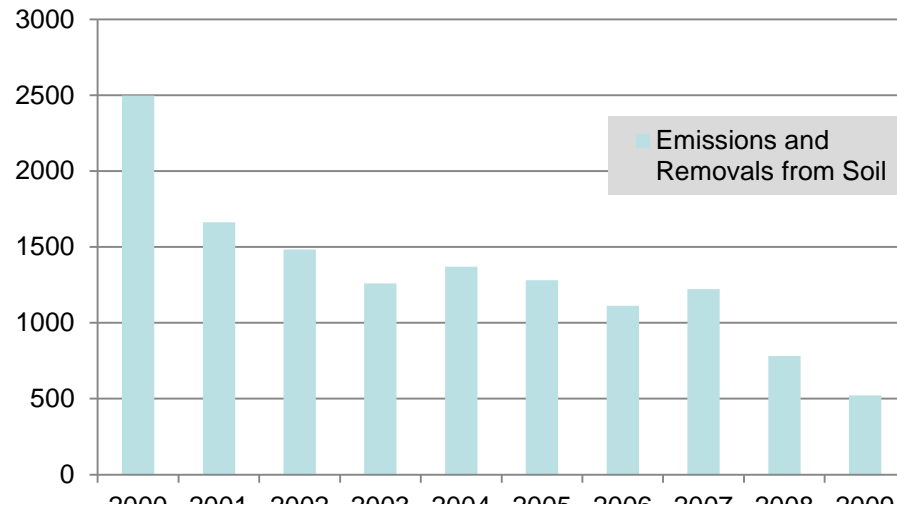
Forest and wood biomass



CO2 - Forest and Grassland Conversion



CO2 - Emissions and Removals from Soil



- Lack of a National cadastre (to reflect all types of land use (agricultural land, forest, pastures, abandoned lands, water areas, urban area, etc.).
- Data provided by the forestry cadastre used for calculation of the GHGs is not accurate. It is mostly based on the national forest Inventory of the year 1985.
- There is need for more and better accurate data, reflecting for any change occurring in the forestry sector, like forestation/afforestation, forest improvement, forest fires and damages affected by them, etc.
- There is a need for a detailed study to assess the state of abandoned land across the country.
- There are no data for the cultivation of organic soils.
- Determination of the emission factor of emissions of CH₄ gases is based on Tier1 in the IPCC Guidelines, which is highly uncertain because is not based on country-specific information.



- The TNC managed to address the issue of inventory uncertainty with regards to wood collection, particularly illegal cutting and individual collection by implementing a field data testing program. This was needed because the SNC inventory team found it difficult to harmonize the Energy and LUCF components of the IPCC's methodology regarding fuel wood consumption. Limited field fuel wood surveys and data testing helped as well to validate consumption levels and establish benchmarks that can be used to harmonize result
- The GHG Inventory process for the LUCF incorporates many of the good practice elements defined in IPCC Good Practice Guidance and Uncertainty Management.
- The input data have been revised taking into consideration data gaps and areas needing improvement. Some of the data gaps have been overcome by appropriately developed methods.
- The total CO₂-eq emissions in the year 2005 amounted to 506 Gg CO₂. Abandonment of land Management has sink -242 Gg of CO₂, emissions from Soils are 1281 Gg of CO₂.



- Changes in Forest and Other Woody Biomass Stocks for the time period 2007-2009 is considered as sink of GHGs
- Main source of GHGs are coming from the Emissions from Soils, Forests and Grassland conversion
- Only in the last two years of the inventory period (2008-2009) LUCF is considered as absorber of GHGs.
- Despite all along the period of inventory (2000-2009), Emissions and Removals from Soil is considered as emitter of GHGs, the amount of GHGs emissions from this component are decreasing.
- Forest and Grassland Conversion is the emitter of GHS during all inventory period. The amount of GHGs emitted from this component is almost the same along the entire period



Thank you for your kind attention!



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