

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

Croatia

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Overview of National system

Institutional and organizational structure

- Institutional arrangement for inventory preparation in Croatia is regulated in Part II of the Regulation on the Monitoring of Greenhouse Gas Emissions, Policies and Mitigation Measures in the Republic of Croatia (OG 87/12) entitled National system for the estimation and reporting of anthropogenic greenhouse gas emissions by sources and removals by sinks
- decentralized and out-sourced with clear tasks breakdown between participating institutions including Ministry of Environmental and Nature Protection (MENP), Croatian Environment Agency (CEA) and competent governmental bodies responsible for providing of activity data
- The preparation of inventory itself is entrusted to Authorized Institution which is elected for three year period by public tendering



Overview of National system

Institutional and organizational structure

MENP - central national authority responsible for:

- maintaining the National System
- national focal point for the UNFCCC with overall responsibility for functioning of the National system such as: communication with the UNFCCC, EU, control of methodology for emission calculation and greenhouse gas removal, approval of the GHG Inventory Report

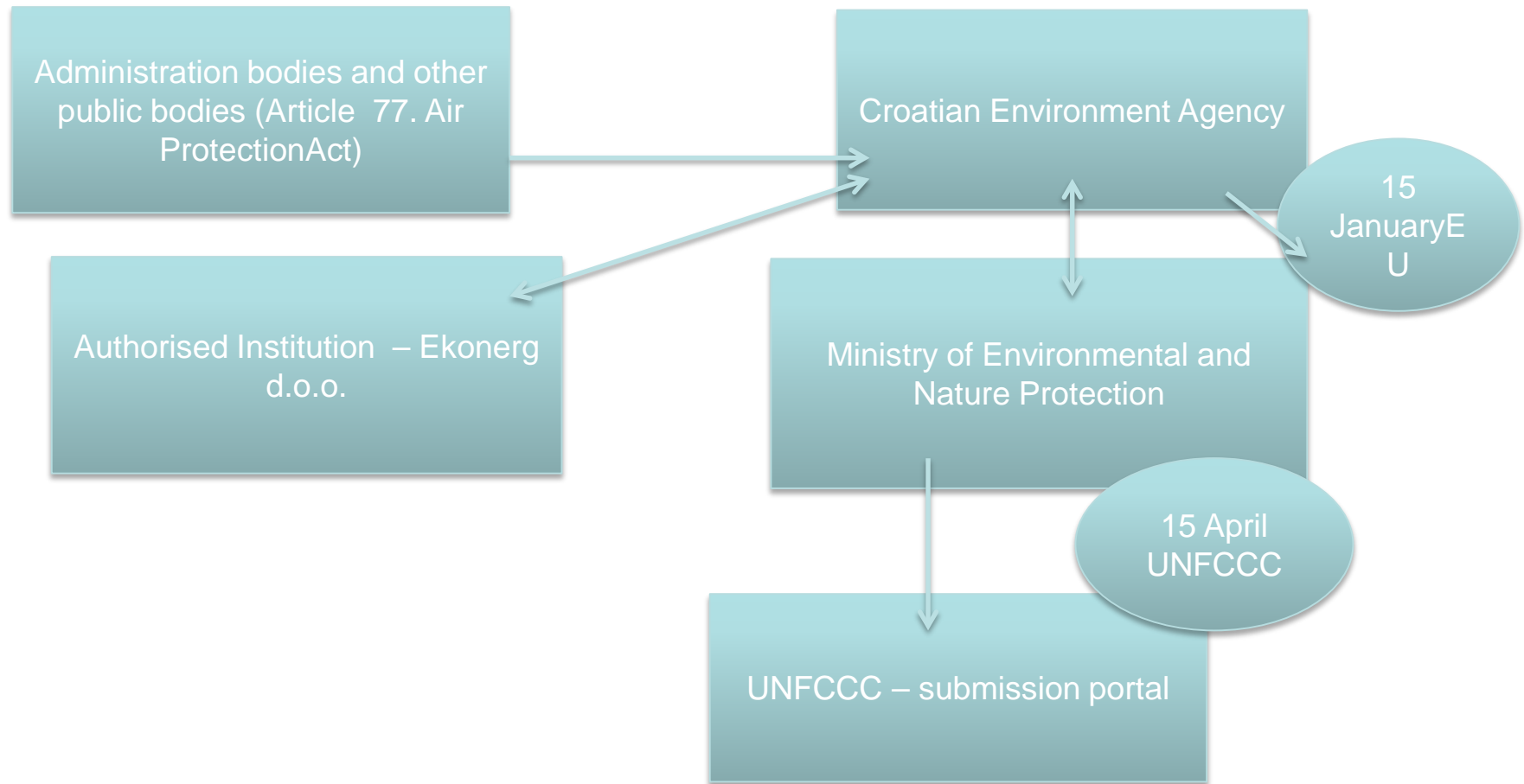
CEA - responsible for: organization of the GHG Inventory preparation, collection of activity data, development of QA/QC plan, archiving of all documents used for inventory planning, preparation, QA/QC, selection of Authorized Institution etc.

Authorized Institution - responsible for the preparation of inventory



Overview of National system

Communication scheme



Overview of National system

Croatian legal framework

- Air Protection Act (OG 130/2011, 47/14) – Chapter VIII of the act is related to monitoring greenhouse gas emissions and measures for mitigating and adapting to climate change
- Regulation on the Monitoring of Greenhouse Gas Emissions, Policies nad Mitigation measures in the Republic of Croatia (OG 87/2012)
- Ordinance on Greenhouse Gas Emissions Monitoring in the Republic of Croatia (OG 134/2012)
- Decision on the adoption of the Plan for the protection of air, ozone layer and climate change mitigation in the Republic of Croatia for the 2013 – 2017 period OG139/2013)
- Decision on the establishment of the Committee for inter-sectoral coordination for a national system for monitoring greenhouse gas (OG 6/2014)



Overview of National system

EU legislation important for monitoring and reporting

- Regulation (EU) No 525/2013 of the European Parliament and of the Council on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change
- Decision No 529/2013/EU of the European Parliament and of the Council on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities;
- Commission Implementing Regulation (EU) No 749/2014 of 30 June 2014 on structure, format, submission processes and review of information reported by Member States pursuant to Regulation (EU) No 525/2013 of the European Parliament and of the Council
- Commission delegated Regulation (EU) No 666/2014 establishing substantive requirements for a Union inventory system and taking into account changes in the global warming potentials and internationally agreed inventory guidelines pursuant to Regulation (EU) No 525/2013 of the European Parliament and of the Council
- Decision no 406/2009/EC of the European Parliament and of the Council on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020;



Completeness

- Croatian inventory consists of the emission estimates for the period from 1990-2012.
- The completeness is evaluated following the IPCC methodology and appropriate use of the following notation keys: NO (not occurred); NE (not estimated); NA (not applicable); IE (included elsewhere); C (confidential).
- Generally, the objective of the completeness is achieved in compliance with the capabilities of the Republic of Croatia in collecting adequate and acceptable activity data. The issues related with lack of activity data are described in sectoral chapters where necessary.
- The aim of the Croatian inventory is to include all anthropogenic sources of GHGs in the future.



Data sources and identified gaps

- Activity data – Areas (time and area coverage, frequency, issues of completeness and consistency)
 - FL – Croatian forests Ltd. (FMAP 2006-2015)
 - CL (CBS data + CLC data); GL and WL - Corine Land cover (CLC 1980, 1990, 2000, 2006rev, 2012)
 - SL – adjusted CLC data using a correction factor (only 2.9% of the total area of Croatia, roads and railroads presented with only 1.5%)
 - OL – [(Total area)-(FL+CL+GL+WL+SL)]
- Data sources and gaps for the used emission factors for all subcategories:
 - Forest biomass and dead wood (FM plans for FMUs- every 10 years; BEFs and BCEFs from international databases)
 - Forest litter/soil C stocks and stock changes (litter included in soil data from CGI, soil inventories in preparation, no models used)
 - Biomass and Soil C stocks and stock changes in cropland and grassland (used Tier 1 approaches with national estimates of C stock category data)
 - Biomass burning – info on wildfires from Croatian forests Ltd., monitoring system on a national level should be established



Non-estimates (NE)

Sources and sinks not estimated (NE) ⁽¹⁾			
GHG	Source/sink category ⁽²⁾	Pool*	Explanation
Carbon	5.A.2.5 Other Land converted to Forest Land	Aboveground biomass	Explanation provided in LULUCF Chapter 7.2.4.2 (Since 1990 the conversion from other land use categories to the forest land results in CO2 removal.)
Carbon	5.A.2.5 Other Land converted to Forest Land	Belowground biomass	
Carbon	5.A.2.5 Other Land converted to Forest Land	Dead organic matter	
Carbon	5.A.2.5 Other Land converted to Forest Land	Soil	
Carbon	5.D.1 5.D.1 Wetlands remaining Wetlands	Aboveground biomass	No sufficient data for estimates
Carbon	5.D.1 5.D.1 Wetlands remaining Wetlands	Belowground biomass	
Carbon	5.D.1 5.D.1 Wetlands remaining Wetlands	Dead organic matter	
Carbon	5.D.1 5.D.1 Wetlands remaining Wetlands	Soil	
Carbon	5.E.1 5.E.1 Settlements remaining Settlements	Aboveground biomass	
Carbon	5.E.1 5.E.1 Settlements remaining Settlements	Belowground biomass	
Carbon	5.E.1 5.E.1 Settlements remaining Settlements	Dead organic matter	
Carbon	5.E.1 5.E.1 Settlements remaining Settlements	Soil	
CH4	5.G Harvested Wood Products	HWP	Parties do not have to prepare estimation for this category
CO2	5.G Harvested Wood Products	HWP	
N2O	5.G Harvested Wood Products	HWP	
Sources and sinks reported elsewhere (IE) ⁽³⁾			
GHG	Source/sink category	Pool*	Explanation
Carbon	5.E.2.1 Forest Land converted to Settlements	Dead organic matter	Dead wood included in Biomass loss under the FL-FL and litter under the soil change in FL converted to Settlement
Carbon	5.B.1.Perennial cropland converted to annual cropland	Soil	Net carbon stock change in Organic soil is included in pCL-pCL



Key categories

Table 7.1-1: Key category analyze for LULUCF sector based on the level and trend assessment for 2012

IPCC Categories	Direct GHG	Criteria for Identification			
		Level		Trend	
		excl. LULUCF	incl. LULUCF	excl. LULUCF	incl. LULUCF
FOREST LAND					
<i>Forest land remaining forest land</i>	CO ₂		L1i, L2i		T1i, T2i
<i>Land converted to Forest land</i>	CO ₂		L2i		T2i
<i>Cropland remaining Cropland</i>	CO ₂		L1i, L2i		T1i, T2i
<i>Land converted to Cropland</i>	CO ₂		L2i		
<i>Land converted to Grassland</i>	CO ₂		L2i		T1i, T2i
<i>Land converted to Settlements</i>	CO ₂		L1i, L2i		T1i, T2i



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Critical issues

- NIR 2009 – Chapter 7 – only (incomplete) data for biomass pool for FL-FL; very short report
- NIR 2011 – Chapter 7 – (incomplete) data for biomass pool for FL-FL and only partially for land converted to and from forest land
Chapter 11 - (incomplete) data for biomass pool for FM and only partially for ARD lands

ERT ARR 2011 and Saturday paper 2012 (In country review)

- Problem of identification and traceability of lands that are subject of Article 3.3 and 3.4 of the KP
- No estimation in biomass pool in case of maquies and shrub forests
- Methodological changes in estimation in case of biomass pool in private forests
- Improvements regarding the forest fires estimation in case of ARD and FM areas



Progress made

Improvements in LULUCF reporting - Croatian steps :

- Use of different instruments of the European Commission (IPA TAF 2007 project, TAIEX instrument, EU projects supporting EU MS in KP reporting) since 2011
- Since NIR 2012 collaboration with the same EU MS (Austria, UBA)
- Since 2013 national support to LULUCF reporting
 - a) Plan for the protection of air, ozone layer and climate change mitigation in the Republic of Croatia for the 2013 – 2017 period
 - b) Plan for use of funding from sale of emission allowances through auctions in Croatia for the period from 2014 to 2016 (Improving the management of forest resources; Funding research and development in the field of reporting on greenhouse gas emissions)
 - c) Environment protection and Energy Efficiency Fund – Work program for 2014 (Support to educational, research and development studies, programs and projects – reduction of GHG emissions)



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Progress made

c) Implemented projects in LULUCF sector (March 2014 – March 2015):

“Improving Croatian reporting in the Land use, Land use change and Forestry (LULUCF) sector in the First commitment period of the Kyoto Protocol” (abbreviated: **LULUCF 1**)

“Upgrading the Croatian National System for the reporting of greenhouse gas emissions for the implementation of the Decision No 529/2013/EU of the European Parliament and of the Council of 21 May 2013 on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities” (abbreviated: **LULUCF 2**).



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Progress made

LULUCF 1 project

- 1) All lands subject to Afforestation (human induced promotion of natural seed sources and afforestation performed by seedling and planting) and deforestation activities traced and identified using the Approach 3
- 2) First technical correction of FMRL performed
- 3) Improvements in estimation of emissions due to fires performed

LULUCF 2 project

- 1) QA/QC manual for LULUCF sector developed
- 2) LULC Assessment system defined and new project proposal for its implementation developed
- 3) CM and GM – first activities implemented in order to develop a system according to the Decision 529/2013/EU
- 4) Estimation related to CSC in HWP performed using the first order decay function



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Progress made

- d) New projects identified in LULUCF sector – urgent implementation is recommended
 - 1. LULC Assessment System (LIFE 2015 project proposal)
 - 2. LULUCF 3 project
 - 3. HWP project
 - 4. Natural disturbance project
 - 5. KP 1 project
- e) other projects identified: implementation until the end of 2nd CP



Thank you for your attention!



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