

# **KP-LULUCF REPORTING & REVIEW Romania 2010**

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TABLE NIR 1. SUMMARY TABLE

Activity coverage and other information relating to activities under Article 3.3 and elected activities under Article 3.4

Activity		Change in carbon pool reported <sup>(1)</sup>					Greenhouse gas sources reported <sup>(2)</sup>						
		Above-ground biomass	Below-ground biomass	Litter	Dead wood	Soil	Fertilization <sup>(3)</sup>	Drainage of soils under forest management	Disturbance associated with land-use conversion to croplands	Liming	Biomass burning <sup>(4)</sup>		
							N <sub>2</sub> O	N <sub>2</sub> O	N <sub>2</sub> O	CO <sub>2</sub>	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Article 3.3 activities	Afforestation and Reforestation	R	IE	R	IE	R	IE			NO	NO	NO	NO
	Deforestation	R	R	R	IE	R			NO	NO	NO	NO	NO
Article 3.4 activities	Forest Management	R	R	NR	NR	R	IE	NO		NO	R	R	R
	Cropland Management	NA	NA	NA	NA	NA			NA	NA	NA	NA	NA
	Grazing Land Management	NA	NA	NA	NA	NA				NA	NA	NA	NA
	Revegetation	R	IE	R	IE	NR				NO	NO	NO	NO

<sup>(1)</sup> Indicate R (reported), NR (not reported), IE (included elsewhere) or NO (not occurring), for each relevant activity under Article 3.3 or elected activity under Article 3.4. If changes in a carbon pool are not reported, it must be demonstrated in the NIR that this pool is not a net source of greenhouse gases. Indicate NA (not applicable) for each activity that is not elected under Article 3.4. Explanation about the use of notation keys should be provided in the text.

<sup>(2)</sup> Indicate R (reported), NE (not estimated), IE (included elsewhere) or NO (not occurring) for greenhouse gas sources reported, for each relevant activity under Article 3.3 or elected activity under Article 3.4. Indicate NA (not applicable) for each activity that is not elected under Article 3.4. Explanation about the use of notation keys should be provided in the text.

<sup>(3)</sup> N<sub>2</sub>O emissions from fertilization for Cropland Management, Grazing Land Management and Revegetation should be reported in the Agriculture sector. If a Party is not able to separate fertilizer applied to Forest Land from Agriculture, it may report all N<sub>2</sub>O emissions from fertilization in the Agriculture sector.

<sup>(4)</sup> If CO<sub>2</sub> emissions from biomass burning are not already included under changes in carbon stocks, they should be reported under biomass burning; this also includes the carbon component of CH<sub>4</sub>. Parties that include CO<sub>2</sub> emissions from biomass burning in their carbon stock change estimates should report IE (included elsewhere).

Table NIR L1 Additional information

Selection of parameters for defining "Forest" under the Kyoto Protocol

Parameter	Range	Selected value
Minimum land area	0.05 - 1 ha	0,25
Minimum crown cover	10 - 30 %	10,00
Minimum height	2 - 5 m	5,00

**Table NIR 2. LAND TRANSITION MATRIX**

Areas and changes in areas between the previous and the current inventory year <sup>(1),(2), (3)</sup>

To current inventory year  From previous inventory year		Article 3.3 activities		Article 3.4 activities				Other <sup>(5)</sup>	Total area at the beginning of the current inventory year <sup>(6)</sup>
		Afforestation and Reforestation	Deforestation	Forest Management (if elected)	Cropland Management (if elected)	Grazing Land Management (if elected)	Revegetation (if elected)		
(kha)									
Article 3.3 activities	Afforestation and Reforestation	25,60	NO						25,60
	Deforestation		3,71						3,71
Article 3.4 activities	Forest Management (if elected)		0,10	6.696,31					6.696,41
	Cropland Management <sup>(4)</sup> (if elected)	NA	NA		NA	NA	NA		NA
	Grazing Land Management <sup>(4)</sup> (if elected)	NA	NA		NA	NA	NA		NA
	Revegetation <sup>(4)</sup> (if elected)	0,00			0,01	0,00	9,39		9,39
Other <sup>(5)</sup>		2,56	0,00	0,00	0,00	0,00	0,00	17.102,02	17.104,58
Total area at the end of the current inventory year		28,16	3,80	6.696,31	0,01	0,00	9,39	17.102,02	23.839,69

<sup>(1)</sup> This table should be used to report land area and changes in land area subject to the various activities in the inventory year. For each activity it should be used to report area change between the previous year and the current inventory year. For example, the total area of land subject to Forest Management in the year preceding the inventory year, and which was deforested in the inventory year, should be reported in the cell in column of Deforestation and in the row of Forest Management.

<sup>(2)</sup> Some of the transitions in the matrix are not possible and the cells concerned have been shaded.

<sup>(3)</sup> In accordance with section 4.2.3.2 of the IPCC good practice guidance for LULUCF, the value of the reported area subject to the various activities under Article 3.3 and 3.4 for the inventory year should be that on 31 December of that year.

<sup>(4)</sup> Lands subject to Cropland Management, Grazing Land Management or Revegetation which, after 2008, are subject to activities other than those under Article 3.3 and 3.4, should still be tracked and reported under Cropland Management, Grazing Land Management or Revegetation, respectively.

<sup>(5)</sup> "Other" includes the total area of the country that has not been reported under an Article 3.3 or an elected Article 3.4 activity.

<sup>(6)</sup> The value in the cell of row "Total area at the end of the current inventory year" corresponds to the total land area of a country and is constant for all years.

TABLE 5(KP). REPORT OF SUPPLEMENTARY INFORMATION FOR LAND USE, LAND-USE CHANGE AND FORESTRY ACTIVITIES UNDER THE KYOTO PROTOCOL <sup>(1), (2)</sup>

ROMANIA  
Inventory 2008  
Submission 2010 v3.1

GREENHOUSE GAS SOURCE AND SINK ACTIVITIES	Net CO <sub>2</sub> emissions/ removals <sup>(3), (4)</sup>	CH <sub>4</sub> <sup>(5)</sup>	N <sub>2</sub> O <sup>(6)</sup>	Net CO <sub>2</sub> equivalent emissions/removals
	(Gg)			
A. Article 3.3 activities				-197,78
A.1. Afforestation and Reforestation <sup>(7)</sup>	-271,73	IE,NO	IE,NA,NO	-271,73
A.1.1. Units of land not harvested since the beginning of the commitment period	-271,73	IE,NO	IE,NO	-271,73
A.1.2. Units of land harvested since the beginning of the commitment period	NO	NO	NA,NO	NA,NO
A.2. Deforestation	73,96	NO	NO	73,96
B. Article 3.4 activities				-36.247,46
B.1. Forest Management (if elected)	-36.201,55	0,09	0,00	-36.199,47
B.2. Cropland Management (if elected)	NA	NA	NA	NA
B.3. Grazing Land Management (if elected)	NA	NA	NA	NA
B.4. Revegetation (if elected)	-48,00	IE,NO	IE,NO	-48,00

Information item:				
A.1.2. Units of land harvested since the beginning of the commitment period	NO	NO	NA,NO	NA,NO
ROMANIA	NO	NO	NA,NO	NA,NO

Documentation box
Parties should provide detailed explanation on the land use, land-use change and forestry sector in the relevant annex of the NIR. Supplementary information on LULUCF activities under the Kyoto Protocol. Use this documentation box to provide references to relevant sections of the NIR if any additional details are needed to understand the content of this table.

<sup>(1)</sup> All estimates in this table include emissions and removals from projects under Article 6 hosted by the reporting Party.

<sup>(2)</sup> If Cropland Management, Grazing Land Management and/or Revegetation are elected, this table and all relevant CRF tables should also be reported for the base year for these activities.

<sup>(3)</sup> According to the Revised 1996 IPCC Guidelines, for the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+). Net changes in carbon stocks

<sup>(4)</sup> CO<sub>2</sub> emissions from liming, biomass burning and drained organic soils, where applicable, are included in this column.

INFORMATION TABLE ON ACCOUNTING FOR ACTIVITIES UNDER ARTICLES 3.3 AND 3.4 OF THE KYOTO PROTOCOL

Commitment period accounting: YES  
Annual accounting: NO

ROMANIA  
Inventory 2008  
Submission 2010 v3.1

Number of the reported year in the commitment period: 1

GREENHOUSE GAS SOURCE AND SINK ACTIVITIES	BY(S)	Net emissions/removals (t)		Accounting Parameter <sup>(7)</sup>	Accounting Quantity <sup>(8)</sup>
		2008	Total <sup>(6)</sup>		
		(Gg CO <sub>2</sub> equivalent)			
A. Article 3.3 activities					
A.1. Afforestation and Reforestation					-271,73
A.1.1. Units of land not harvested since the beginning of the commitment period <sup>(9)</sup>		-271,73	-271,73		-271,73
A.1.2. Units of land harvested since the beginning of the commitment period <sup>(9)</sup>					NA,NO
ROMANIA		NA,NO	NA,NO		NA,NO
A.2. Deforestation		73,96	73,96		73,96
B. Article 3.4 activities					
B.1. Forest Management <sup>(1)</sup> (If elected)		-36,199,47	-36,199,47		-20,166,67
3.3 offset <sup>(10)</sup>				0,00	0,00
FM cap <sup>(10)</sup>				20,166,67	-20,166,67
B.2. Cropland Management <sup>(1)</sup> (If elected)	NA	NA	NA	NA	NA
B.3. Grazing Land Management <sup>(1)</sup> (If elected)	NA	NA	NA	NA	NA
B.4. Rangeland (If elected)	-4,91	-48,00	-48,00	-4,91	-43,08

<sup>(1)</sup> All values are reported in table 5(XP) of the CRF for the relevant inventory year as reported in the current submission and are automatically entered in this table.

<sup>(2)</sup> In accordance with paragraph 4 of the annex to decision 16/CMP.1, debits resulting from harvesting during the first commitment period following Afforestation and Reforestation since 1990 shall not be greater than credits accounted for on that unit of land.

<sup>(3)</sup> In accordance with paragraph 10 of the annex to decision 16/CMP.1, for the first commitment period, a Party included in Annex I that incurs a net source of emissions under the provisions of Article 3.3 may account for anthropogenic greenhouse gas emissions by sources and removals by sinks in areas under Forest Management under Article 3.4, up to a level that is equal to the net source of emissions under the provisions of Article 3.3, but not greater than 9.0 megatonnes of carbon times five, if the total anthropogenic greenhouse gas emissions by sources and removals by sinks in the managed forest since 1990 is equal to, or larger than, the net source of emissions incurred under Article 3.3.

<sup>(4)</sup> In accordance with paragraph 11 of the annex to decision 16/CMP.1, for the first commitment period only, additions to and subtractions from the assigned amount of a Party resulting from Forest Management under Article 3.4, after the application of paragraph 10 of the annex to decision 16/CMP.1 and resulting from Forest Management project activities undertaken under Article 6, shall not exceed the value inscribed in the appendix of the annex to decision 16/CMP.1, times five.

<sup>(5)</sup> Net emissions and removals is the Party's base year, as established by decision 9/CP.2.

<sup>(6)</sup> Cumulative net emissions and removals for all years of the commitment period reported in the current submission.

<sup>(7)</sup> The values in the cells "3.3 offset" and "FM cap" are absolute values.

<sup>(8)</sup> The accounting quantity is the total quantity of units to be added to or subtracted from a Party's assigned amount for a particular activity in accordance with the provisions of Article 7.4 of the Kyoto Protocol.

# AR

## Potential problems

1. Inclusion in estimation of AR areas < 0.25 ha
2. SOC=NR & lack of supporting national studies

## Recommendations/Solutions

1. Revised AR areas: decrease of area from 28,187 to 28,163 ha (0.08%), and of removals from 178.93 to 178.77 Gg CO<sub>2</sub> eq (0.09%).
2. SOC estimation, using a Tier 1 methodology: increase of C stock in mineral soil of +93.03 Gg CO<sub>2</sub> eq (i.e., ca. 50% of the initial removals for the AR activity)

# FM & FLrFL

## **Potential problem no. 1**

- Inconsistent representation of land areas (differences Convention-KP, use of expert judgment in developing land matrix)

## **Recommendation**

- Additional information on current methodology of development of land matrix and plan of improvement

## **Explanation**

- Differences in national and sectoral statistics (SILV) used in the Convention and KP reporting (i.e., forest and non-forest land use)
- Unclear data on non-forest land use change

## **Assumed solution**

- Revision of land matrix for CRF Sector 5 (Convention), for 1990-2009, based on the KP reporting, starting with the 2011 submission

# FM & FLrFL

## Potential problem no. 2

- DOM (deadwood & litter) = NR & lack of supporting national studies

## Recommendation

- Estimation of DOM pools using a Tier 2-3 methodology

## Explanation

- The only available figure (6.75 tC/ha) = NFI 1984 !
- Provisional estimates (Provisional results NFI 2011) = ca. 20 tC/ha ?
- Reliable? (e.g., stock from 216 m<sup>3</sup>/ha in 1984 to 265 m<sup>3</sup>/ha in 2009)

## Assumed solution

- DOM estimates, Tier 2-3, stock-change method, in 2012(2010) submission, based on NFI 2011



# FM & FLrFL

## **Potential problem no. 3**

- AGB & BGB estimates using preponderantly a Tier 1 methodology (key category, removals = ca. 18% of national GHG emissions)

## **Recommendation**

- Estimation of Living biomass pools using Tier 2-3 methodologies

## **Explanation**

- NFI 1984 based on management plans' data aggregation; NFI 2011 based on 200/500 m<sup>2</sup> plots distributed on a 2/4 km network
- Tier 2-3 estimation possible upon completion of NFI 2011

## **Assumed solution**

- Living biomass estimation, Tier 2-3 (NFI 2011), beginning with the 2012(2010) submission