

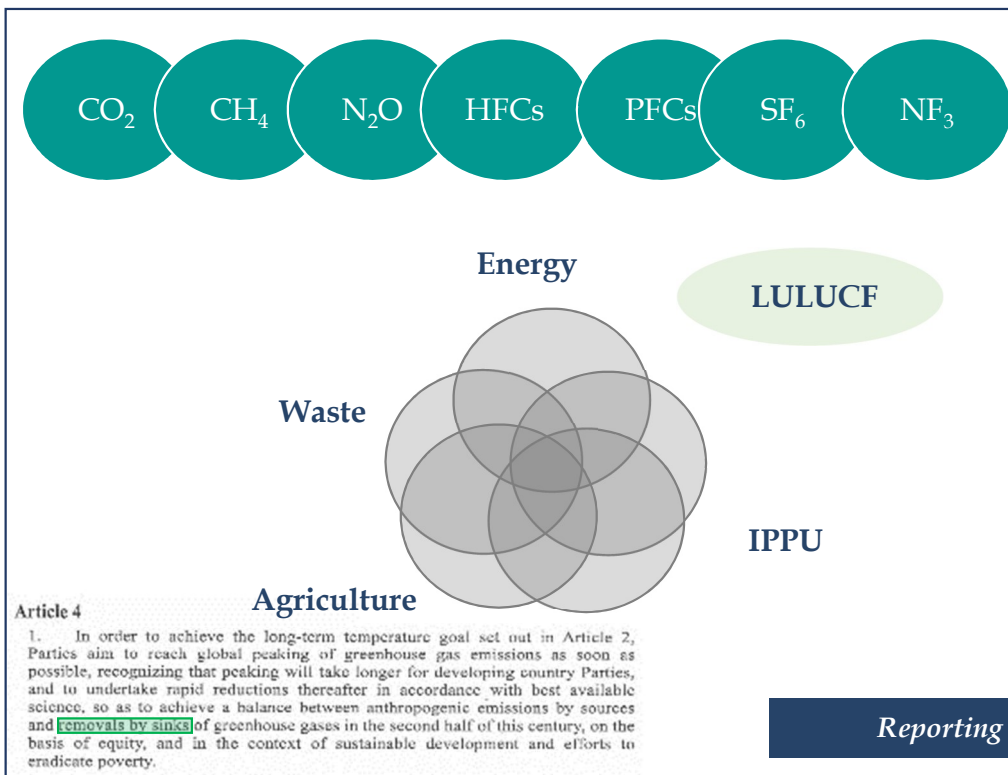
# Common reporting tables for LULUCF reporting under the Paris Agreement and the LULUCF Regulation

*Marina Vitullo*

*ISPRA - Institute for Environmental Protection and Research*

# GHG inventory reporting under Paris Agreement

The CRTs were adopted in 2021 ([dec. 5/CMA.3](#)) to enable Parties to fulfil reporting requirements set in the MPGs. The CRTs are available at <https://unfccc.int/documents/311076>



## Accounting towards NDC

→ Parties account for emissions and removals in accordance with methodologies and common metrics assessed by the IPCC;

Tonnes of CO<sub>2</sub> equivalent for economy wide targets

→ Parties whose NDC cannot be accounted for using methodologies covered by IPCC guidelines provide information on their own methodology used.

Different metrics, following the NDC' elements (i.e. share of renewables, hectares of forested lands, energy efficiency, etc.)

Accounting

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Net CO <sub>2</sub> emissions/removals <sup>(1,2)</sup>	CH <sub>4</sub> <sup>(2)</sup>	N <sub>2</sub> O <sup>(2)</sup>	NO <sub>x</sub>	CO	NM VOC	Total GHG emissions/removals <sup>(3)</sup>
	(kt)						CO <sub>2</sub> equivalents (kt) <sup>(4)</sup>
<b>4. Total LULUCF</b>							
<b>4.A. Forest land</b>							
4.A.1. Forest land remaining forest land							
4.A.2. Land converted to forest land							
<b>4.B. Cropland</b>							
4.B.1. Cropland remaining cropland							
4.B.2. Land converted to cropland							
<b>4.C. Grassland</b>							
4.C.1. Grassland remaining grassland							
4.C.2. Land converted to grassland							
<b>4.D. Wetlands <sup>(5)</sup></b>							
4.D.1. Wetlands remaining wetlands							
4.D.2. Land converted to wetlands							
<b>4.E. Settlements</b>							
4.E.1. Settlements remaining settlements							
4.E.2. Land converted to settlements							
<b>4.F. Other land <sup>(6)</sup></b>							
4.F.1. Other land remaining other land							
4.F.2. Land converted to other land							
<b>4.G. Harvested wood products <sup>(7)</sup></b>							
<b>4.H. Other (please specify)</b>							
<b>Memo item:</b>							
Emissions and subsequent removals from natural disturbances on managed lands <sup>(8)</sup>							

<sup>(4)</sup> As per decision 18/CMA.1, annex, para. 37, each Party shall use the 100-year time-horizon GWP values from the IPCC Fifth Assessment Report

<sup>(5)</sup> Parties may decide not to prepare estimates for CH<sub>4</sub> emissions from flooded land contained in appendix 3 of vol. 4 of the 2006 IPCC Guidelines, although they may do so if they wish.

<sup>(8)</sup> Parties may report the emissions and subsequent removals from natural disturbances on managed lands, in the case of a Party addressing these emissions and subsequent removals, in accordance with decision 18/CMA.1, annex, para. 55.

**Table 4.1 LAND TRANSITION MATRIX**  
**Areas and changes in areas between the previous and the current inventory year <sup>(1)</sup>**

TO:\nFROM:	(kha)										
	Forest land (managed)	Forest land (unmanaged)	Cropland	Grassland (managed)	Grassland (unmanaged)	Wetlands (managed)	Wetlands (unmanaged)	Settlements	Other land	Total unmanaged land	Initial area
Forest land (managed) <sup>(2)</sup>											
Forest land (unmanaged) <sup>(2)</sup>											
Cropland <sup>(2)</sup>											
Grassland (managed) <sup>(2)</sup>											
Grassland (unmanaged) <sup>(2)</sup>											
Wetlands (managed) <sup>(2)</sup>											
Wetlands (unmanaged) <sup>(2)</sup>											
Settlements <sup>(2)</sup>											
Other land <sup>(2)</sup>											
Total unmanaged land <sup>(3)</sup>											
<b>Final area</b>											
<b>Net change <sup>(4)</sup></b>											

(1) For Parties using reporting approach 1 to represent land areas, only data on the initial and final area per land use should be included. "NA" should then be used for the specific land-use transitions, allowing for the formulas in the cells for final and initial areas to be overwritten. Coastal wetlands areas which are not part of the total land area should not be included in this land matrix.

(2) Definitions for the respective land-use categories used by the Party should be provided in the NID, in accordance with the definitions of land use categories in the 2006 IPCC Guidelines (Vol. 4, chap. 3.2).

(3) Parties may report only the total area of unmanaged land area and report "IE" under the individual unmanaged land uses categories. Conversely, if areas are reported under the individual unmanaged land-use categories, Parties should report "IE" for the total area of unmanaged land.

(4) Net change is the final area minus the initial area for each of the conversion categories shown at the head of the corresponding row. Under the final area row the sum of the net change equals zero. In case of land upheaval from the sea (and other geological processes beyond human control), the "new" area should be reflected. In such cases, the net change would differ from zero. Any such processes should be explained and documented in the NID.

**TABLE 4.A SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Forest land**

Land-use category	Subdivision <sup>(2)</sup>	ACTIVITY DATA			IMPLIED CARBON STOCK CHANGE FACTORS <sup>(1)</sup>						CARBON STOCK CHANGES <sup>(1)</sup>						NET CO <sub>2</sub> EMISSIONS/ REMOVALS <sup>(9)</sup>	Simple Decay Approach - Carbon transferred to HWP		
		Total area <sup>(3)</sup>	Area of mineral soil	Area of organic soil	Carbon stock change in living biomass per area <sup>(4,5)</sup>			Net carbon stock change in dead wood per area	Net carbon stock change in litter per area	Net carbon stock change in soils per area		Carbon stock change in living biomass <sup>(4,5)</sup>			Net carbon stock change in dead wood	Net carbon stock change in litter			Net carbon stock change in soils <sup>(7,8)</sup>	
					Gains	Losses	Net change			Mineral soils	Organic soils	Gains	Losses <sup>(6)</sup>	Net change					Mineral soils	Organic soils
4.A. Total forest land																				
4.A.1. Forest land remaining forest land																				
4.A.2. Land converted to forest land <sup>(10)</sup>																				
4.A.2.a. Cropland converted to forest land																				
4.A.2.b. Grassland converted to forest land																				
4.A.2.c. Wetlands converted to forest land																				
4.A.2.d. Settlements converted to forest land																				
4.A.2.e. Other land converted to forest land																				

<sup>(3)</sup> The total area of the subcategories, in accordance with the subdivision used, should be entered here. For lands converted to forest land, report the cumulative area of land in transition to the category in the reported year and not the land-use change area of the reported year (which is reported only in table 4.1). The total of the areas reported in this table should equal the final area reported in table 4.1. The total area should equal the area of mineral soils plus the area of organic soils by subcategory.

<sup>(4)</sup> Carbon stock gains and losses should be listed separately except in cases where, owing to the methods used, it is technically impossible to separate information on gains and losses.

<sup>(5)</sup> Parties that apply the stock-difference method may report annual carbon stock change in gains and the notation key "IE" under losses.

<sup>(6)</sup> When using the simple decay approach for HWP, reported losses from the carbon stock in living biomass do not include the carbon transferred to HWP, and should be reported as additional information column W.

<sup>(7)</sup> If Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.

<sup>(8)</sup> Parties that wish to do so may report annual on-site CO<sub>2</sub>-C emissions/removals and off-site CO<sub>2</sub>-C emissions from drained and rewetted organic soils here.

<sup>(9)</sup> The signs are positive (+) for emissions and negative (-) for removals.

<sup>(10)</sup> Parties may report aggregated estimates for all conversions of land to forest land if data are not available to report them separately. They should specify in the documentation box which types of land conversion are included.

**Note:** Minimum level of aggregation is needed to protect confidential business and military information, where it would identify particular entity's/entities' confidential data.  
**Note:** Parties that do not have information on the origin of HWP by land use category can provide aggregate information on HWP in column W.

**TABLE 4.B SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Cropland**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA			IMPLIED CARBON STOCK CHANGE FACTORS <sup>(1)</sup>					CARBON STOCK CHANGES <sup>(1)</sup>						NET CO <sub>2</sub> EMISSIONS/ REMOVALS <sup>(11)</sup>	Simple Decay Approach - Carbon transferred to HWP			
Land-use category	Subdivision <sup>(2)</sup>	Total area <sup>(3)</sup>	Area of mineral soil	Area of organic soil	Carbon stock change in living biomass per area <sup>(4,5)</sup>			Net carbon stock change in dead organic matter per area	Net carbon stock change in soils per area		Carbon stock change in living biomass <sup>(4,5,6)</sup>			Net carbon stock change in dead organic matter <sup>(8)</sup>	Net carbon stock change in soils <sup>(9,10)</sup>			(kt CO <sub>2</sub> )	(kt C)	
					Gains	Losses	Net change		Mineral soils	Organic soils	Gains	Losses <sup>(7)</sup>	Net change		Mineral soils					Organic soils
					(kha)			(t C/ha)					(kt C)							
<b>4.B. Total cropland</b>																				
4.B.1. Cropland remaining cropland																				
4.B.2. Land converted to cropland <sup>(12)</sup>																				
4.B.2.a. Forest land converted to cropland																				
4.B.2.b. Grassland converted to cropland																				
4.B.2.c. Wetlands converted to cropland																				
4.B.2.d. Settlements converted to cropland																				
4.B.2.e. Other land converted to cropland																				

<sup>(3)</sup> The total area of the subcategories, in accordance with the subdivision used, should be entered here. For lands converted to cropland report the cumulative area of land in transition to the category in the reported year and not the land-use change area of the reported year (which is reported only in table 4.1.). The total of the areas reported in this table should equal the final area reported in table 4.1. The total area should equal the area of mineral soils plus the area of organic soils by subcategory.

<sup>(4)</sup> Carbon stock gains and losses should be listed separately except in cases where, owing to the methods used, it is technically impossible to separate information on gains and losses.

<sup>(5)</sup> Parties that apply the stock-difference method may report annual carbon stock change in gains and the notation key "IE" under losses.

<sup>(6)</sup> For category 4.B.1 cropland remaining cropland this column only includes changes in perennial woody biomass.

<sup>(7)</sup> When using the simple decay approach for HWP, reported losses from the carbon stock in living biomass do not include the carbon transferred to HWP, and should be reported as additional information column U.

<sup>(8)</sup> No reporting on dead organic matter pools is required for category 4.B.1. cropland remaining cropland.

<sup>(9)</sup> Parties that wish to do so may report annual on-site CO<sub>2</sub>-C emissions/removals and off-site CO<sub>2</sub>-C emissions from drained and rewetted organic soils here.

<sup>(10)</sup> If Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.

**TABLE 4.D SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Wetlands**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA			IMPLIED CARBON STOCK CHANGE FACTORS <sup>(1)</sup>					CARBON STOCK CHANGES <sup>(1)</sup>					NET CO <sub>2</sub> EMISSIONS/REMOVALS <sup>(7)</sup>	Simple Decay Approach - Carbon transferred to HWP				
Land-use category	Subdivision <sup>(2)</sup>	Total area <sup>(3)</sup>	Area of mineral soil	Area of organic soil	Carbon stock change in living biomass per area <sup>(4,5)</sup>			Net carbon stock change in dead organic matter per area	Net carbon stock change in soils per area		Carbon stock change in living biomass <sup>(4,5)</sup>			Net carbon stock change in dead organic matter			Net carbon stock change in soils		(kt CO <sub>2</sub> )	(kt C)
					Gains	Losses	Net change		Mineral soils	Organic soils	Gains	Losses <sup>(6)</sup>	Net change				Mineral soils	Organic soils		
<b>4.D. Total wetlands</b>																				
4.D.1. Wetlands remaining wetlands																				
4.D.1.a. Peat extraction remaining peat extraction																				
4.D.1.b. Flooded land remaining flooded land <sup>(8)</sup>																				
4.D.1.c. Other wetlands remaining other wetlands <sup>(9)</sup>																				
<i>Drop-down list</i>																				
4.D.1.c.i. Coastal wetlands <sup>(10,11)</sup>																				
4.D.2. Land converted to wetlands <sup>(12)</sup>																				
4.D.2.a. Lands converted to peat extraction																				
<i>Drop-down list</i>																				

<sup>(3)</sup> The total area of the subcategories, in accordance with the subdivision used, should be entered here. For lands converted to wetlands, report the cumulative area of land in transition to the category in the reported year and not the land-use change area of the reported year (which is reported only in table 4.1.). The total of the areas reported in this table should equal the final area reported in table 4.1. The total area should equal the area of mineral soils plus the area of organic soils by subcategory.

<sup>(4)</sup> Carbon stock gains and losses should be listed separately except in cases where, owing to the methods used, it is technically impossible to separate information on gains and losses.

<sup>(5)</sup> Parties that apply the stock-difference method may report annual carbon stock change in gains and the notation key "IE" in losses.

<sup>(6)</sup> When using the simple decay approach for HWP, reported losses from the carbon stock in living biomass do not include the carbon transferred to HWP, and should be reported as additional information column U.

<sup>(7)</sup> The signs are positive (+) for emissions and negative (-) for removals.

<sup>(8)</sup> There is no default methodology in the 2006 IPCC Guidelines for estimating CO<sub>2</sub> emissions from flooded land remaining flooded land. Parties may choose to report emissions in this category using the methodology provided in the 2019 Refinement to the 2006 IPCC Guidelines.

<sup>(9)</sup> Detailed information on other wetlands should be included in the NID.

<sup>(10)</sup> Parties are encouraged to use the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands in accordance with para. 20 of decision 18/CMA.1.

<sup>(11)</sup> Mangrove which is classified as forest should be reported under table 4.A

<sup>(12)</sup> Parties may report aggregated estimates for all land conversions to wetlands, if data are not available to report them separately. They should specify in the documentation box which types of

**TABLE 4(I) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**

**Direct and indirect nitrous oxide (N<sub>2</sub>O) emissions from nitrogen (N) inputs <sup>(1)</sup> to managed soils**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTORS			N <sub>2</sub> O EMISSIONS			
	Nitrogen input	N volatilized from managed soils from inputs of N <sup>(3)</sup>	N from fertilizers and other that is lost through leaching and run-off from managed soils <sup>(1)</sup>	Direct Emissions	Indirect Emissions		Direct Emissions <sup>(4)</sup>	Indirect Emissions <sup>(3,4)</sup>		Total Emissions <sup>(4)</sup>
				N <sub>2</sub> O–N emissions per unit of N-input	N <sub>2</sub> O–N emissions per unit of N volatilised	N <sub>2</sub> O–N emissions per unit of N lost through leaching and run-off		From atmospheric deposition of N volatilized from managed soils from agricultural inputs of N	From N leaching/runoff from managed soils	
				t N/year			kg N <sub>2</sub> O–N/kg N <sup>(5)</sup>			(kt)
<b>4(I). Direct and indirect N<sub>2</sub>O emissions from N inputs to managed soils other than cropland and grassland</b>										
<i>Drop down list:</i>										
<b>4(I).A. Forest land <sup>(6)(7)</sup></b>										
<b>4(I).A.1. Forest land remaining forest land</b>										
4(I).A.1.a. Inorganic N fertilizers <sup>(8)</sup>										
4(I).A.1.b. Organic N fertilizers <sup>(9)</sup>										
<b>4(I).A.2. Land converted to forest land</b>										
4(I).A.2.a. Inorganic N fertilizers <sup>(8)</sup>										
4(I).A.2.b. Organic N fertilizers <sup>(9)</sup>										
<b>4(I).D. Wetlands <sup>(6)(7)</sup></b>										
<b>4(I).D.1. Wetlands remaining wetlands</b>										
4(I).D.1.a. Inorganic N fertilizers <sup>(8)</sup>										
4(I).D.1.b. Organic N fertilizers <sup>(9)</sup>										
<b>4(I).D.2. Land converted to wetlands</b>										
4(I).D.2.a. Inorganic N fertilizers <sup>(8)</sup>										
4(I).D.2.b. Organic N fertilizers <sup>(9)</sup>										
<b>4(I).E. Settlements <sup>(6)(7)</sup></b>										
<b>4(I).E.1. Settlements remaining settlements</b>										
4(I).E.1.a. Inorganic N fertilizers <sup>(8)</sup>										
4(I).E.1.b. Organic N fertilizers <sup>(9)</sup>										
<b>4(I).E.2. Land converted to Settlements</b>										

<sup>(2)</sup> N<sub>2</sub>O emissions from N fertilization of cropland and grassland are reported under the agriculture sector.

<sup>(3)</sup> Report atmospheric deposition and leaching and run-off of N from synthetic and organic N fertilizer from land-use categories, other than cropland and grassland (these emissions are reported in the agriculture sector).

<sup>(6)</sup> If a Party is not able to separate the N inputs applied to land-use categories, other than cropland and grasslands, it may report all N<sub>2</sub>O emissions from N inputs to managed soils under the agriculture sector. This should be explicitly indicated in the documentation box.

<sup>(7)</sup> In table 4, these emissions will be added to the respective land-use category.

<sup>(8)</sup> N input from application of inorganic fertilizers to land-use categories other than cropland and grasslands.

<sup>(9)</sup> N input from organic N fertilizers to land-use categories other than cropland and grassland.



**TABLE 4(II) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**  
**Emissions and removals from drainage and rewetting and other management of organic and mineral soils**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA	IMPLIED EMISSION FACTORS			EMISSIONS		
Land-use category <sup>(1)</sup>	Subdivision <sup>(2)</sup>	Area (kha)	CO <sub>2</sub> per area (kg CO <sub>2</sub> /ha)	N <sub>2</sub> O–N per area <sup>(3)</sup> (kg N <sub>2</sub> O–N/ha)	CH <sub>4</sub> per area (kg CH <sub>4</sub> /ha)	CO <sub>2</sub> <sup>(4)</sup>	N <sub>2</sub> O	CH <sub>4</sub>
						(kt)		
4(II). Total for all land use categories								
4(II).A. Forest land <sup>(5)</sup>								
4(II).A.1 Forest land remaining forest land								
4(II).A.2 Land converted to forest land								
4(II).B. Cropland <sup>(5,6)</sup>								
4(II).B.1 Cropland remaining cropland								
4(II).B.2 Land converted to cropland								
4(II).C. Grassland <sup>(5)</sup>								
4(II).C.1 Grassland remaining grassland								
4(II).C.2 Land converted to grassland								
4(II).D. Wetlands <sup>(5)</sup>								
4(II).D.1. Wetlands remaining wetlands								
4(II).D.2. Land converted to wetland								
4(II).E. Settlements <sup>(5)</sup>								
4(II).E.1 Settlements remaining settlements								
4(II).E.2 Land converted to settlements								
4(II).F. Other land <sup>(5)</sup>								
4(II).F.2 Land converted to other land								
4(II).H. Other (please specify) <sup>(5)</sup>								

<b>Total for all land use categories</b>
<b>A. Forest land <sup>(5)</sup></b>
<b>Total organic soils</b>
Drained organic soils
Rewetted organic soils
Other (please specify)
<b>Total mineral soils</b>
Rewetted mineral soils
Other (please specify)
<b>B. Cropland <sup>(5), (6)</sup></b>
<b>Total organic soils</b>
Drained organic soils
Rewetted organic soils
Other (please specify)
<b>Total mineral soils</b>
Rewetted mineral soils
Other (please specify)

- (1) N<sub>2</sub>O emissions from drained cropland and grassland soils are covered in the agriculture tables of the CRT under cultivation of organic soils.
- (2) Parties should report further disaggregation of drained soils corresponding to the methods used. Tier 1 disaggregates soils into "nutrient rich" and "nutrient poor" areas, whereas higher-tier methods can further disaggregate soils by peatland types, soil fertility or tree species.
- (3) In calculating IEF, N<sub>2</sub>O emissions are converted to N<sub>2</sub>O–N by multiplying by 28/44.
- (4) If CO<sub>2</sub> emissions or removals from drainage of wetland soils are not already included in tables 4.A–4.F, they are to be reported here. Parties may also choose to report CO<sub>2</sub> emissions or removals from rewetting and other management activities here unless they are included elsewhere. They should be clearly documented in the documentation box and in the NID. Double counting should be avoided. Parties that include all carbon stock changes in the carbon stock tables (4.A–4.F), should report "IE" in this column.
- (5) In table 4, these emissions will be added to the respective land-use category.
- (6) On-site CH<sub>4</sub> emissions / removals from rice cultivation are included in the agriculture sector.
- (7) Detailed information on other wetlands should be included in the NID.

**TABLE 4(III) SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**

**Direct and indirect nitrous oxide (N<sub>2</sub>O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter**

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTORS		N <sub>2</sub> O EMISSIONS		Total Emissions
	Land-use category <sup>(2)</sup>	Area <sup>(3)</sup> (kha)	N mineralised in mineral soils associated with loss of soil C from soil organic matter <sup>(4)</sup> (t N/year)	N <sub>2</sub> O–N emissions per area <sup>(5)</sup> (kg N <sub>2</sub> O–N/ha)	N <sub>2</sub> O–N emissions per unit of N lost through leaching and run-off (kg N <sub>2</sub> O–N/kg N)	Direct Emissions	
<b>4(III). Total for all land-use categories</b>							
<b>4(III).A. Forest land <sup>(7)</sup></b>							
4(III).A.1. Forest land remaining forest land							
4(III).A.2. Lands converted to forest land <sup>(8)</sup>							
<i>Drop down list:</i>							
4(III).A.2.a. Cropland converted to forest land							
4(III).A.2.b. Grassland converted to forest land							
4(III).A.2.c. Wetlands converted to forest land							
4(III).A.2.d. Settlements converted to forest land							
4(III).A.2.e. Other land converted to forest land							
<b>4(III).B. Cropland <sup>(2)(7)</sup></b>							
4(III).B.2. Lands converted to cropland <sup>(7)(8)</sup>							
<i>Drop down list:</i>							
4(III).B.2.a. Forest land converted to cropland							
4(III).B.2.b. Grassland converted to cropland							
4(III).B.2.c. Wetlands converted to cropland							

<sup>(1)</sup> The methodologies for estimating N<sub>2</sub>O emissions from N mineralization associated with loss of soil organic matter resulting from change of land use or management of mineral soils are based on equations 11.1, 11.2 and 11.8 of the 2006 IPCC Guidelines (vol. 4, chap. 11). N<sub>2</sub>O immobilization associated with gain of organic matter resulting from change of land use or management of mineral soils may only be reported if a Party applies a tier 3 approach in the relevant calculation. The methodologies for estimating indirect N<sub>2</sub>O emissions are based on equations 11.9–11.10 of the 2006 IPCC Guidelines.

<sup>(2)</sup> N<sub>2</sub>O emissions from cropland remaining cropland and grassland remaining grassland for agriculture purpose are included in the agriculture sector

<sup>(3)</sup> The total area of the subcategories, in accordance with the subdivision used, should be entered here. For lands remaining in the category, the area subject to management changes should be reported. For converted lands the cumulative area remaining in the category in the reporting year should be reported here.

<sup>(4)</sup> Report leaching and run-off of N from N mineralization associated with loss of soil organic matter resulting from change of land use or management on mineral soils in all land-use categories except for cropland remaining cropland.

<sup>(5)</sup> In calculating the IEF, N<sub>2</sub>O emissions are converted to N<sub>2</sub>O–N by multiplying by 28/44.

<sup>(6)</sup> If the sources of nitrogen (N) cannot be separated other than between cropland and grassland, they should be included in the agriculture sector and reported in table 3.D. This should be explicitly indicated in the documentation box.

<sup>(7)</sup> In table 4, these emissions will be added to the respective land-use category.

<sup>(8)</sup> If data are available, Parties are encouraged to report disaggregated data using the predefined drop-down menu. Furthermore, Parties are encouraged, to the extent possible to use the predefined category definitions rather than create similar categories, in order to ensure the highest possible degree of comparability of the reporting. If detailed data are not available, Parties should include all emissions from land conversion here.

**TABLE 4.G SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**

**Harvested wood products (HWP) <sup>(1)</sup>**

APPROACH A <sup>(2)</sup>

GREENHOUSE GAS SOURCE AND SINK CATEGORIES <sup>(3)</sup>	HWP in use (IU) from domestic consumption				Net emissions/ removals from HWP in use <sup>(6)</sup> (kt CO <sub>2</sub> )
	Gains <sup>(4)</sup>	Losses <sup>(4)</sup>	Half-life <sup>(5)</sup>	Annual change in stock (AC HWP IU DC)	
	(kt C)		(year)	(kt C)	
<b>4.G. TOTAL HWP consumed domestically (AC HWPdom IU DC)</b>					
4.G.1. Solid wood <sup>(7)</sup>					
<i>Drop down list:</i>					
4.G.1.a. Sawnwood					
4.G.1.b. Wood panels					
4.G.1.c. Other solid wood products					
4.G.2. Paper and paperboard					
4.G.2.a. Other (please specify)					
4.G.3. Other (please specify)					

APPROACH B <sup>(8)</sup>

GREENHOUSE GAS SOURCE AND SINK CATEGORIES <sup>(3)</sup>	HWP in use from domestic harvest				Net emissions/ removals from HWP in use <sup>(6)</sup> (kt CO <sub>2</sub> )
	Gains <sup>(4)</sup>	Losses <sup>(4)</sup>	Half-life <sup>(5)</sup>	Annual Change in stock (AC HWP IU DH)	
	(kt C)		(yr)	(kt C)	
<b>4.G. TOTAL HWP from domestic harvest (AC HWP IU DH)</b>					
4.G.1. Solid wood <sup>(7)</sup>					
<i>Drop down list:</i>					
4.G.1.a. Sawnwood					
4.G.1.b. Wood panels					
4.G.1.c. Other solid wood products					
4.G.2. Paper and paperboard					
4.G.2.a. Other (please specify)					
4.G.3. Other (please specify)					
<b>4.G(I). HWP produced and consumed domestically (AC HWPdom IU DH) <sup>(9)</sup></b>					
<i>Total</i>					
4.G(I).1. Solid wood <sup>(7)</sup>					
<i>Drop down list:</i>					
4.G(I).1.a. Sawnwood					
4.G(I).1.b. Wood panels					
4.G(I).1.c. Other solid wood products					
4.G(I).2. Paper and paperboard					

4.G(II). HWP produced and exported (AC HWPexp IU DH) <sup>(9)</sup>					
<i>Total</i>					
4.G(II).1. Solid wood <sup>(7)</sup>					
<i>Drop down list:</i>					
4.G(II).1.a. Sawnwood					
4.G(II).1.b. Wood panels					
4.G(II).1.c. Other solid wood products					
4.G(II).2. Paper and paperboard					
4.G.2(II).a. Other (please specify)					
4.G(II).3. Other (please specify)					

APPROACH C <sup>(10)</sup>

GREENHOUSE GAS SOURCE AND SINK CATEGORIES <sup>(3)</sup>	HWP in use from domestic consumption				Net CO <sub>2</sub> emissions/ removals from HWP in use <sup>(6)</sup> (kt CO <sub>2</sub> )
	Gains <sup>(4)</sup>	Losses <sup>(4)</sup>	Half-life <sup>(5)</sup>	Annual change in stock (AC HWP IU DC)	
	(kt C)		(yr)	(kt C)	
<b>4.G. TOTAL</b>					
4.G.1. Solid wood <sup>(7)</sup>					
<i>Drop down list:</i>					
4.G.1.a. Sawnwood					
4.G.1.b. Wood panels					
4.G.1.c. Other solid wood products					
4.G.2. Paper and paperboard					
4.G.2.a. Other (please specify)					
4.G.3. Other (please specify)					
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Additional variables			Net CO <sub>2</sub> emissions/ removals from HWP in use <sup>(6)</sup> (kt CO <sub>2</sub> )	
	Annual domestic harvest (H)	Annual imports of wood, and paper products + wood fuel, pulp, recovered paper, roundwood/chips (Pim)	Annual exports of wood, and paper products + wood fuel, pulp, recovered paper, roundwood/chips (Pex)		
	(kt C)	(kt C)	(kt C)		

<sup>(1)</sup> If a Party uses an approach to reporting emissions and removals from HWP in accordance with IPCC guidance other than the production approach, that Party shall also provide supplementary information on emissions and removals from HWP estimated using the production approach (para 56 of the annex to decision 18/CMA1).

<sup>(2)</sup> Stock change approach. Refer to the 2006 IPCC Guidelines (vol. 4, chap. 12, equations 12.1, 12.2 and 12.A.2.). Parties are encouraged to include additional information on the land use category of origin of the respective HWP in their NID.

<sup>(8)</sup> Production approach. Refer to the 2006 IPCC Guidelines (vol. 4, chap. 12, equations 12.1, 12.3 and 12.A.6) and any other IPCC methodological guidance reflecting this approach. Countries are encouraged to include additional information on the land use category of origin of the respective HWP in their NID.

<sup>(10)</sup> Atmospheric flow approach. Refer to the 2006 IPCC Guidelines (vol. 4, chap. 12, equations 12.1, 12.2 and 12.A.4). Countries are encouraged to include additional information on the land use category of origin of the respective HWP in their NID.

Information item: <sup>(8)</sup>
GREENHOUSE GAS SOURCE AND SINK CATEGORIES
HWP in SWDS <sup>(11)</sup>

**TABLE 4.G SECTORAL BACKGROUND DATA FOR LAND USE, LAND-USE CHANGE AND FORESTRY**

**Harvested wood products (HWP) <sup>(1)</sup>**

year	Sawnwood			Wood panels			Paper and paperboard			Other (please specify)		
	Production	Imports	Exports	Production	Imports	Exports	Production	Imports	Exports	Production	Imports	Exports
	(1000 m <sup>3</sup> )			(1000 m <sup>3</sup> )			( kt )			((Unit))		
.... <sup>(3)</sup>												
1961												
1962												
1963												
1964												
1965												
1966												

**Additional information**  
**Factors used to convert from product units to carbon (kt C)**

1. Solid wood <sup>(a)</sup>	
Drop down list	
Sawnwood	
Wood panels	
Other solid wood products	
2. Paper and paperboard <sup>(a)</sup>	
Other (please specify)	
3. Other (please specify)	

<sup>(a)</sup> A Party may apply different categories in case tier 3 methods are available.

<sup>(1)</sup> This table is only included for the latest reported inventory year in the CRT.

<sup>(2)</sup> Information should be provided in the NID on how AD from the period from 1900 to the first year of the tabulated time series has been computed (equations 12.1 and 12.6, vol. 4 of the 2006 IPCC Guidelines).

<sup>(3)</sup> Provide AD from the first year for which they are available.

**Note:** Minimum level of aggregation is needed to protect confidential business and military information, where it would identify particular entity's/entities' confidential data.

**Note:** The information as outlined in this table above should be provided where tier 1 or tier 2 methods from volume 4 of the 2006 IPCC Guidelines have been used. Further information shall be provided in the relevant sections of the NID.





Thank you

[www.isprambiente.gov.it/it](http://www.isprambiente.gov.it/it)