

# Reporting LULUCF information under the Kyoto Protocol - requirements and choices

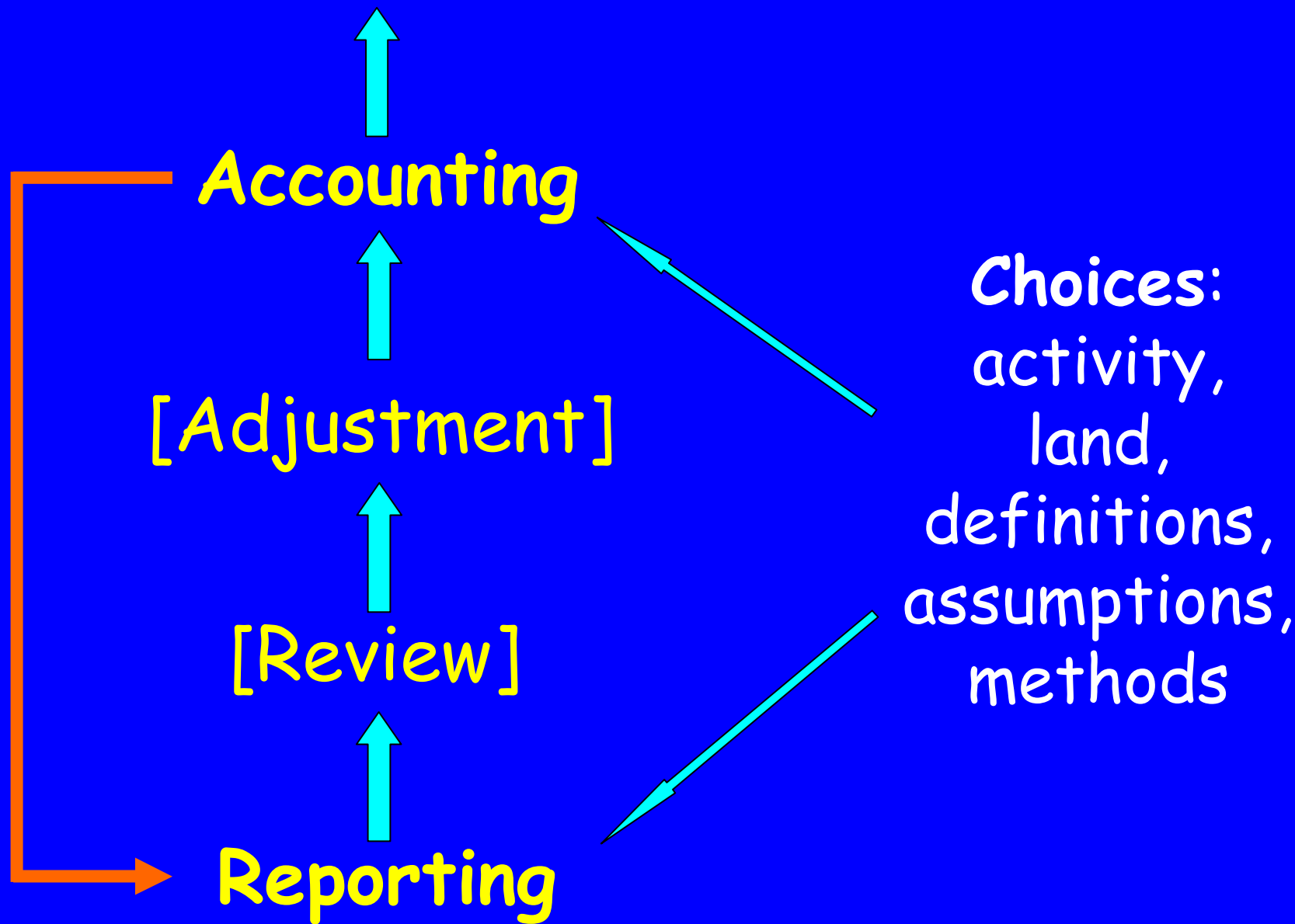
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*"... to meet GHG emission reduction commitments"*



## KP 3.3

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- „The net changes in E/R resulting from ... A, R and D since 1990 ... shall be used to meet the commitments...”

## KP 3.7

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- „Parties... for whom **LUCF** constituted a **net source** ... in 1990, shall include in their 1990 E ... the aggregate ... **E - R in 1990 from LUC [=D]** for the purposes of calculating their **assigned amount**.”

# Decision 11/CP.7

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- „5. ... how harvesting or forest disturbance that is followed by the re-establishment of a forest is distinguished from D.”  
... will be subject to review...”

# Report additionally

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- Size and geographical location of forest areas that have lost forest cover but which cannot be classified as deforested
- That ARD began after 1990 and is directly human-induced

## KP 3.4, Decision 11/CP.7

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- „7. ... identify ... the activities under Article 3.4 ... to include in ... accounting for the first CP“
- „8. During the first CP, a Party ... shall demonstrate that [Art. 3.4] activities have occurred since 1990 and are human-induced.“

# Report additionally before 2007

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- *How elected **FM, CM, GM, RV** will be **defined**?*
- **Precedence or hierarchy** among elected activities
- How land under elected activities will be **identified**?

# „Forest“ - report before 2007

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A single minimum

- **land area** value between 0.05 and 1 hectare
- **tree crown cover** value between 10 and 30 %
- **tree height** value between 2 and 5 m

**Minimum width**

**Justification** that such values are consistent with the information ... reported to FAO ..., and if they differ, an explanation

# Report additionally

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- How definitions were **applied?**
- **Land transition matrix** and its methodology
- **Geographical locations** (-/CMP.1 Article 7)
- „ ... **spatial assessment unit** as is used for the determination of A/R ... not larger than 1 hectare” (Decision 11/CP.7)
- Indication on the **onset of the activity**

# Decision 11/CP.7

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- „8. ... A Party ... shall not account for E/R ... resulting from activities under Article 3.4, if these are already accounted for under Article 3.3.“

# Land transition matrix

**Table NIR 2. LAND TRANSITION MATRIX**

Area change between the previous and the current inventory year<sup>(1), (2), (3)</sup>

		Article 3.3 activities					Other	Total
		Afforestation and Reforestation	Deforestation	Forest Management (if elected)	Cropland Management (if elected)	Grazing Land Management (if elected)		
FROM...		(kha)						
activities	Afforestation and Reforestation							
	Deforestation							
activities	Forest Management (if elected)							
Other								
Total area								

# Decision 11/CP.7

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- „4. ... debits ... from **harvesting ... following AR** since 1990 shall not be greater than credits...”

# Standardized CRF Tables

<b>5(KP-I)A.1.1</b>	<b>AR harvested since 2008</b>
<b>5(KP-I)A.1.2</b>	<b>AR not harvested since 2008</b>
<b>5(KP-I)A.1.3</b>	<b>AR subject to elected 3.4 activities</b>
<b>5(KP-I)A.2.1</b>	<b>Deforestation</b>
<b>5(KP-I)A.2.2</b>	<b>Deforestation subject to elected 3.4 activities</b>
<b>5(KP-I)B.1</b>	<b>FM (if elected)</b>
<b>5(KP-I)B.2</b>	<b>CM (if elected; also for base year, if elected)</b>
<b>5(KP-I)B.3</b>	<b>GM (if elected; also for base year, if elected)</b>
<b>5(KP-I)B.4</b>	<b>RV (if elected; also for base year, if elected)</b>
<b>5(KP-II)1</b>	<b>Fertilization</b>
<b>5(KP-II)2</b>	<b>Drainage</b>
<b>5(KP-II)3</b>	<b>Disturbance</b>
<b>5(KP-II)2</b>	<b>Liming</b>
<b>5(KP-II)2</b>	<b>Biomass burning</b>

# CRF for AR/not harvested

TABLE 5(KP-I)A.1.1. SUPPLEMENTARY BACKGROUND DATA ON CARBON STOCK CHANGES AND NET CO<sub>2</sub> EMISSIONS AND REMOVALS FOR LAND USE, LAND-USE CHANGE AND FORESTRY ACTIVITIES UNDER THE KYOTO PROTOCOL

Article 3.3 activities: Afforestation and Reforestation <sup>(1), (2)</sup>

Units of land not harvested since the beginning of the commitment period

Country  
Year  
Submission

GEOGRAPHICAL LOCATION <sup>(3)</sup>	ACTIVITY DATA		IMPLIED CARBON STOCK CHANGE FACTORS <sup>(7)</sup>									emission/ removal factor per area <sup>(8)</sup>	CHANGE IN CARBON STOCK <sup>(7)</sup>									emissions/ removals <sup>(8)</sup>	
			Carbon stock change in above-ground biomass per area <sup>(5), (6)</sup>			Carbon stock change in below-ground biomass per area <sup>(5), (6)</sup>			Net carbon stock change in litter per area <sup>(5)</sup>	Net carbon stock change in dead wood per area <sup>(5)</sup>	Net carbon stock change in soils per area <sup>(5)</sup>		Carbon stock change in above-ground biomass <sup>(5), (6)</sup>			Carbon stock change in below-ground biomass <sup>(5), (6)</sup>			Net carbon stock change in litter <sup>(5)</sup>	Net carbon stock change in dead wood <sup>(5)</sup>	Net carbon stock change in soils <sup>(5)</sup>		
			Gains	Losses	Net change	Gains	Losses	Net change					Gains	Losses	Net change	Gains	Losses	Net change					
		subject to the activity	(Mg C/ha)										(Gg C)									(Gg CO <sub>2</sub> )	
activity A.1.1																							
[specify identification code]																							
	[specify subdivision]																						
	[specify subdivision]																						
[specify identification code]																							
	[specify subdivision]																						
...	...																						

# Decision 11/CP.7

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- „9. ... accountable ... E/R ... from **CM, GM and RV** under Article 3.4 shall be equal to ... E/R ... in the CP, **less** five times the... **E/R ... in the base year...**”

$$AE_{CM+GM+RV} = E_{CM+GM+RV} - 5 * BE_{CM+GM+RV}$$

$$AE_{FM} = E_{FM}$$

# CRF for Forest Management

TABLE 5(KP-I)B.1. SUPPLEMENTARY BACKGROUND DATA ON CARBON STOCK CHANGES AND NET CO<sub>2</sub> EMISSIONS AND REMOVALS FOR LAND USE, LAND-USE CHANGE AND FORESTRY ACTIVITIES UNDER THE KYOTO PROTOCOL  
Elected Article 3.4 activities: Forest Management<sup>(1)</sup>

Country  
Year  
Submission

GEOGRAPHICAL LOCATION <sup>(2)</sup>	ACTIVITY DATA		IMPLIED CARBON STOCK CHANGE FACTORS <sup>(6)</sup>									emission/ removal factor per area <sup>(7)</sup>	CHANGE IN CARBON STOCK <sup>(6)</sup>						emissions/ removals <sup>(7)</sup>			
			Carbon stock change in above-ground biomass per area <sup>(4), (5)</sup>			Carbon stock change in below-ground biomass per area <sup>(4), (5)</sup>			carbon stock change in litter per area <sup>(4)</sup>	Net carbon stock change in dead wood per area <sup>(4)</sup>	carbon stock change in soils per area <sup>(4)</sup>		Carbon stock change in above-ground biomass <sup>(4), (5)</sup>			Carbon stock change in below-ground biomass <sup>(4), (5)</sup>				carbon stock change in litter <sup>(4)</sup>	Net carbon stock change in dead wood <sup>(4)</sup>	Net carbon stock change in soils <sup>(4)</sup>
			Gains	Losses	Net change	Gains	Losses	Net change					Gains	Losses	Net change	Gains	Losses	Net change				
Identification code		subject to the activity (kha)	(Mg C/ha)										(Gg C)									
Total for activity B.1																						
[specify identification code]																						
	[specify subdivision]																					
	[specify subdivision]																					
[specify identification code]																						
	[specify subdivision]																					
...	...																					

+ Justification if a pool is omitted  
+ Uncertainties

## Choices in LULUCF

Definition of “forest”

Definition of D

Elected 3.4 activities

Definition of elected 3.4 activities (e.g. FM”)

Precedence/hierarchy

Method of identification of land

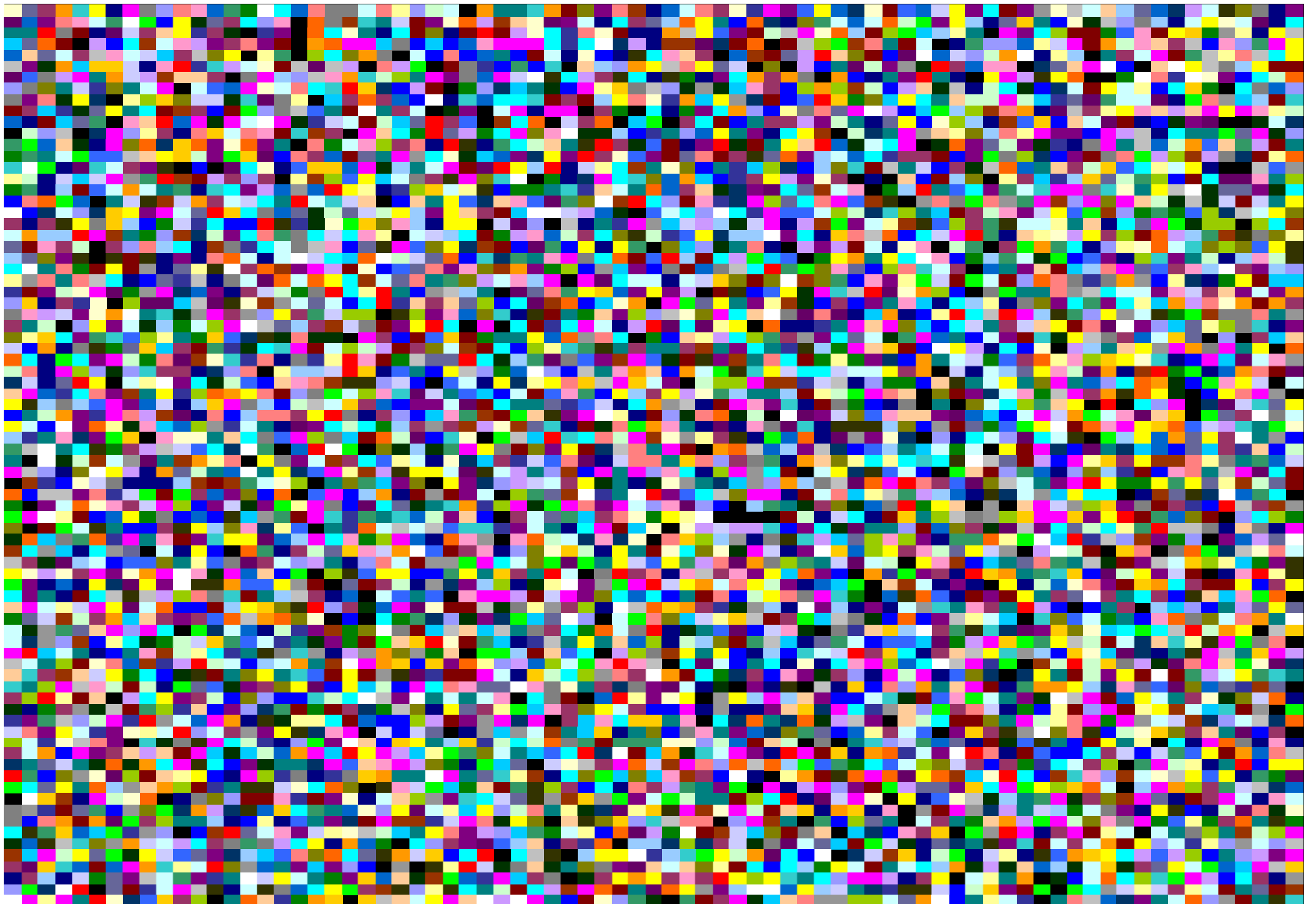
Spatial assessment unit

Geographical locations

GHG estimation methodology

Reporting on a pool if it is not a source

+ Art. 6 and 12 projects



# Reporting principles

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Transparency, consistency, comparability, completeness, accuracy

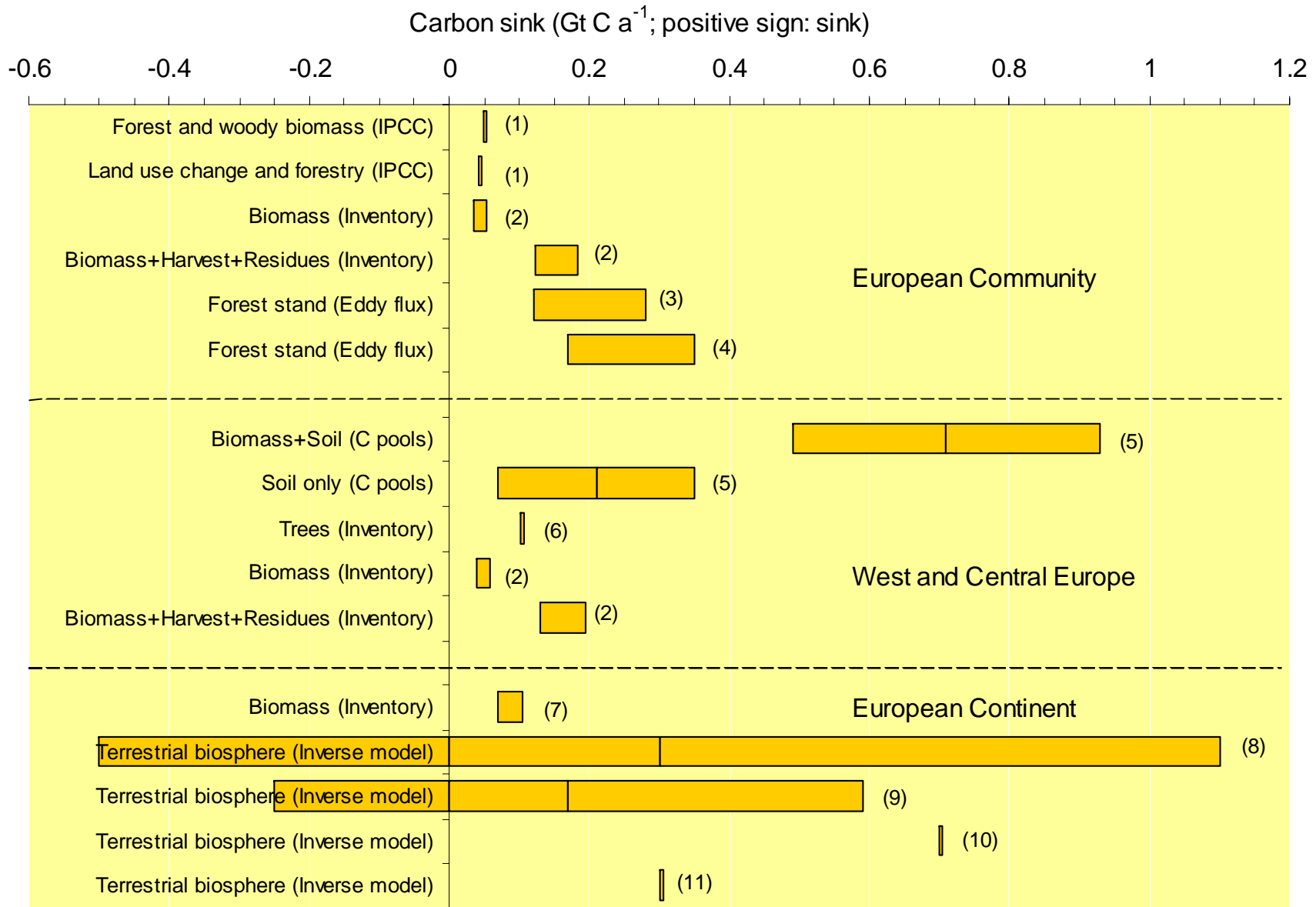
Reporting: each year during CP;  
estimation: not necessary each year

Data + text

Guidelines for estimation: GPG2003

Guidelines for KP reporting: 22\_sbsta\_l\_26\_add\_1.pdf

# Estimates for Europe



(1) EEA/ETC Air Emissions 1999; (2) Kauppi and Tomppo 1993; (3) Martin 1998; (4) Martin et al. 1998; (5) Schulze et al. 2000; (6) Nabuurs et al. 1997; (7) Kauppi et al. 1992; (8) Bousquet et al. 1999; (9) Kaminski et al. 1999; (10) Rayner et al. 1997; (11) Ciais et al. 1995