

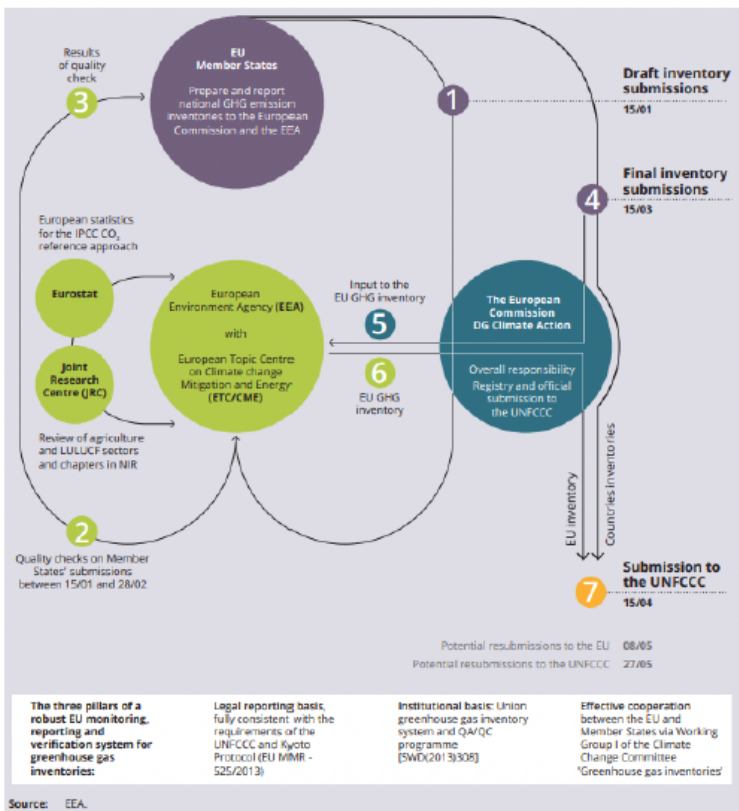
# MRV of LULUCF inventories first results of the trial LULUCF review

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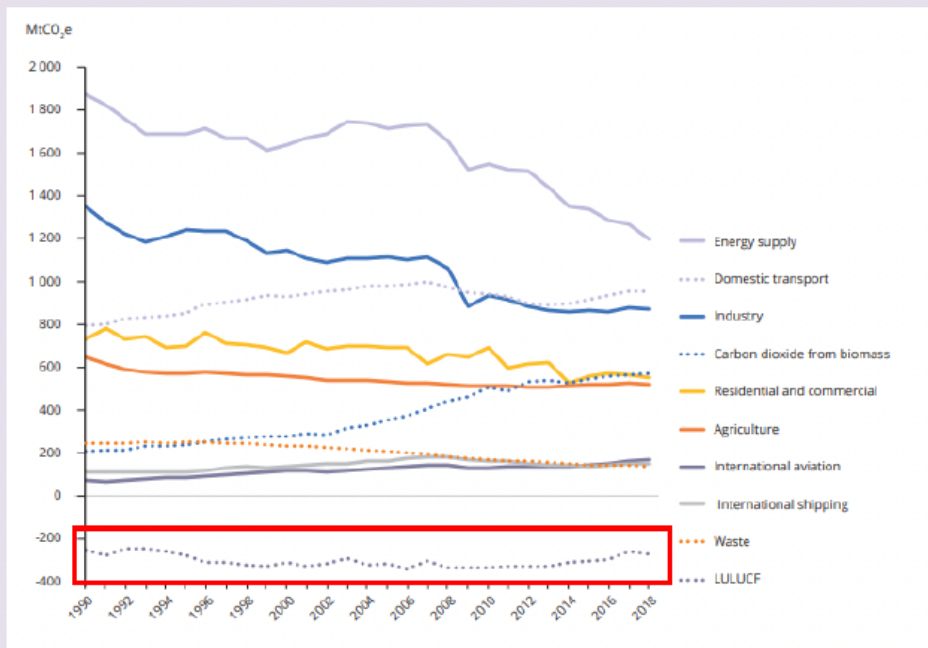
1. The EU greenhouse gas emission inventory process
2. Update of EEA and ETC/CME activities in support of the EU LULUCF inventory
3. The trial comprehensive review on LULUCF (2021)
4. Discussion

# 1. The EU greenhouse gas emission inventory process (current status 2021)



JRC: Initial checks of GHG inventory and review of national inventory report

EEA and DG CLIMA contractors: Trial LULUCF review 2021



Source and more information: <https://www.eea.europa.eu/themes/climate/eu-greenhouse-gas-inventory->

## 2. Update of EEA and ETC/CME activities in support of the EU LULUCF inventory

- New staff at EEA to work on LULUCF:
  - Tobias Langanke: Development of Copernicus land use datasets (DIS)
  - Peter Iversen: Setup improved LULUCF-MRV system and forest expert
  - Katarzyna Kowalczywska: Support LULUCF-MRV and agriculture expert
- EEA and DG CLIMA contractors: Trial LULUCF review 2021
- New checks on the quality of LULUCF information (supported by ETC/CME)
- Developing LULUCF indicator and LULUCF country profiles to present LULUCF data more structured and linked with FISE (supported by ETC/CME)
- Supporting setup of future policy on agriculture and LULUCF sector by participating in Commission expert workshops

### 3. The trial comprehensive review on LULUCF - background and purpose

#### Background:

LULUCF is one of the three pillars supporting the EU's 2030 climate mitigation goals, and therefore robust checking is required.

The LULUCF sector has to date not been comprehensively reviewed within an EU setting.

#### Rationale:

1. To provide insight where current initial checks need to be strengthened in order to identify significant issues
2. To build capacity within the Commission, the EEA and Member States, and to ensure procedures and tools will be in place.
3. To clarify procedures, gain experience and build trust on review outcomes



### 3. The trial comprehensive review on LULUCF - scope 1

- The review will check quality criteria for reported emissions and removals (not accounting rules).
- The findings will not be included in the ESD Review Report.
- The outcome is not binding, but allows Member States to use the outcome to improve their inventories

Element	Scope	Further information
Countries	15 volunteering Member States	All issues from all countries identified during step 1 will be reviewed during step 2.
Years	2005-2009*; 2019	*only regarding consistency checks with 2019 for the subcategories included in Managed Cropland and Managed Grassland
Gases	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	
Subcategories	All under UNFCCC reported subcategories included in the subcategories Afforested Land, Deforested Land, Managed Forest Land, Managed Cropland, Managed Grassland of the EU LULUCF Regulation	Managed Cropland and Managed Grassland also includes land-use changes from cropland and grassland to wetlands, settlements and other land
Inventory Submission	Submissions received by 15 March 2021	

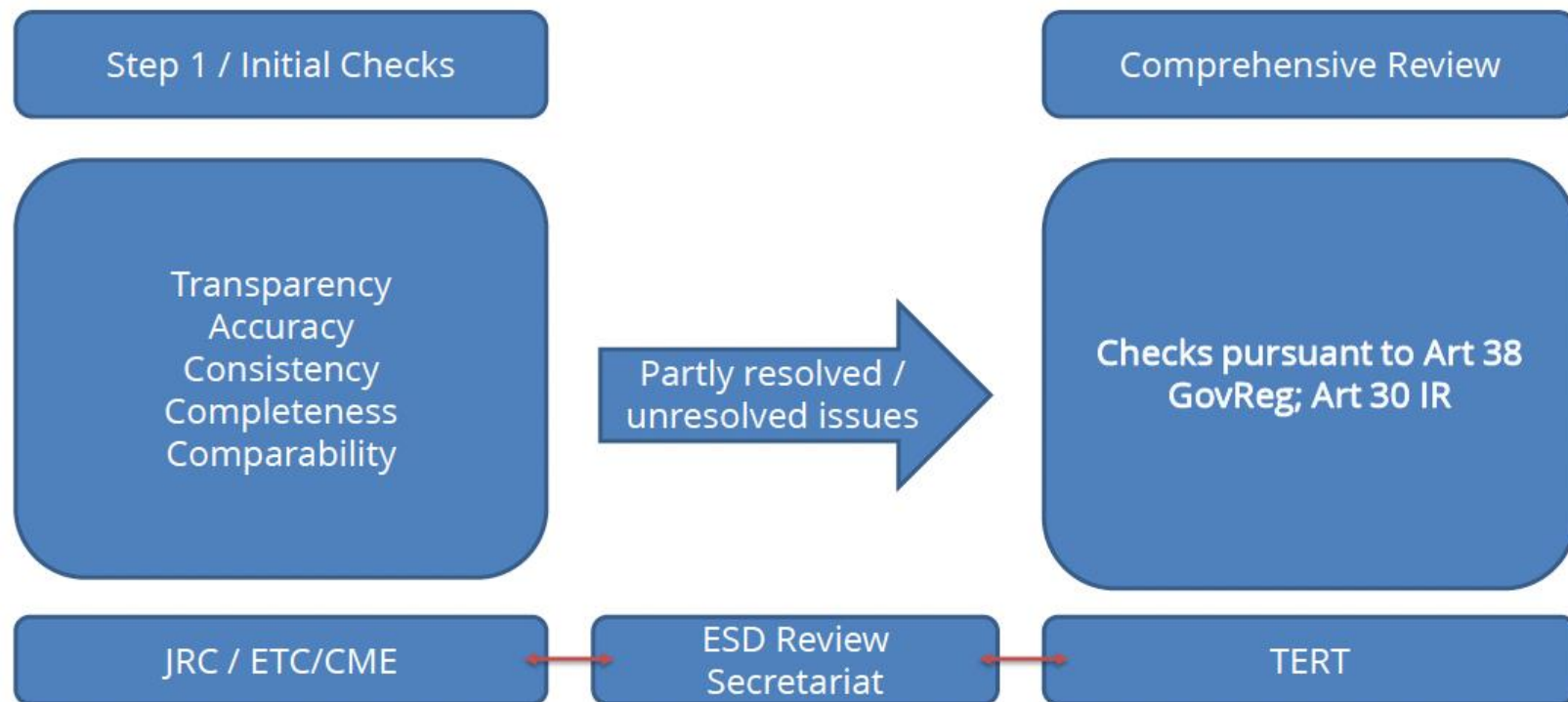
#### Governance Regulation Article 38 (2)

38(2)a: checks to verify transparency, accuracy, consistency, comparability and completeness

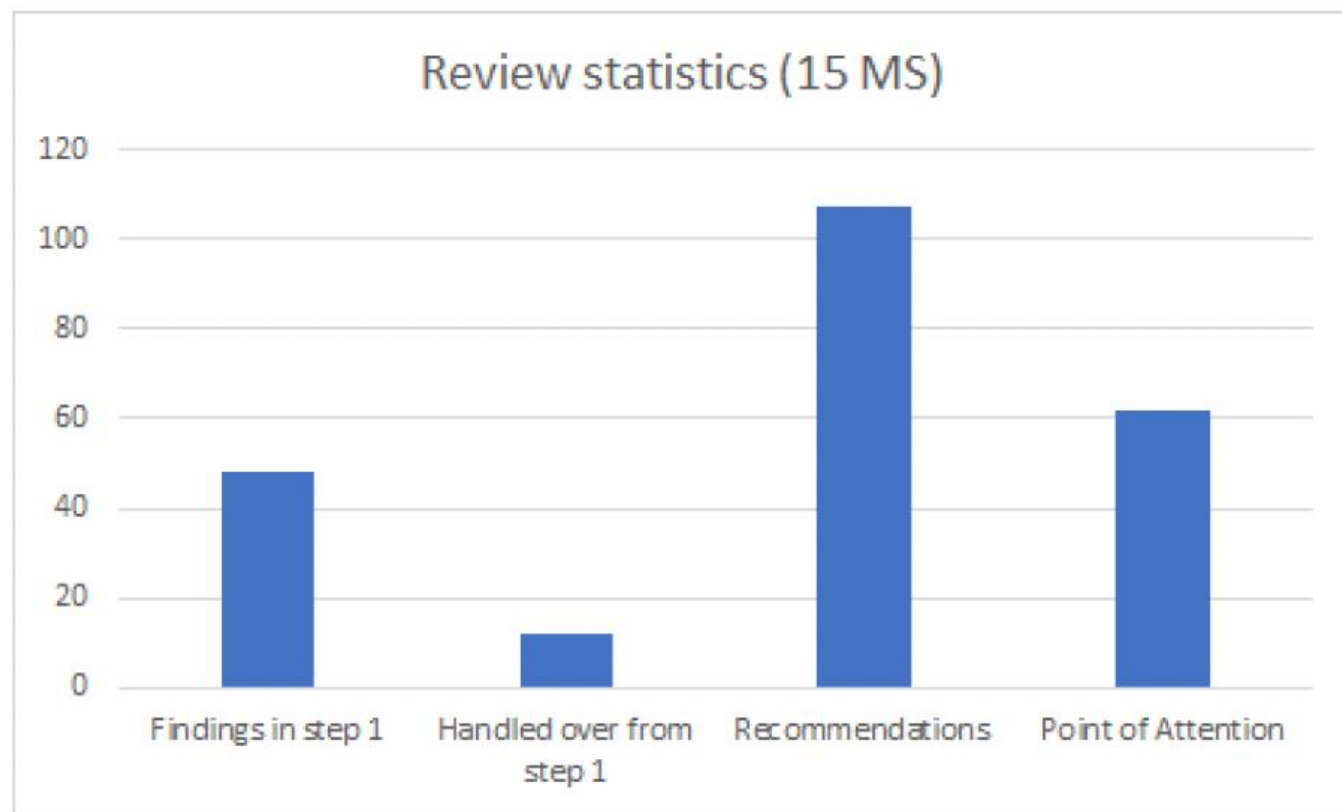
38(2)b: checks to identify cases where inventory data are prepared in a manner which is inconsistent with UNFCCC guidance documentation or Union rules



### 3. The trial comprehensive review on LULUCF - scope 2



### 3. The trial comprehensive review on LULUCF - findings 1





### 3. The trial comprehensive review on LULUCF - findings 2

Returning topic across MS in order of occurrence

- Mineral soils (forest land, cropland and grassland) (14)
  - Including on change in soil carbon with land use change and verification of models
- Biomass (cropland and grassland) (11)
  - Especially for land use conversions
- Land identification/land use matrix/timeseries before 1990/geographic explicit (8)
- Organic soils (EFs including for peat extraction) (8)
- Dead wood (5)

#### Biomass in annual crops

##### EQUATION 2.16

##### INITIAL CHANGE IN BIOMASS CARBON STOCKS ON LAND CONVERTED TO ANOTHER LAND CATEGORY

$$\Delta C_{CONVERSION} = \sum_i \{ (B_{AFTER_i} - B_{BEFORE_i}) \cdot \Delta A_{TO\_OTHERS_i} \} \cdot CF$$

Where:

$\Delta C_{CONVERSION}$  = initial change in biomass carbon stocks on land converted to another land category, tonnes C yr<sup>-1</sup>

$B_{AFTER_i}$  = biomass stocks on land type  $i$  immediately after the conversion, tonnes d.m. ha<sup>-1</sup>

$B_{BEFORE_i}$  = biomass stocks on land type  $i$  before the conversion, tonnes d.m. ha<sup>-1</sup>

$\Delta A_{TO\_OTHERS_i}$  = area of land use  $i$  converted to another land-use category in a certain year, ha yr<sup>-1</sup>

$CF$  = carbon fraction of dry matter, tonne C (tonnes d.m.)<sup>-1</sup>

$i$  = type of land use converted to another land-use category



### 3. The trial comprehensive review on LULUCF - findings 3b

#### Biomass in cropland

<b>Crop type by climate region</b>	<b>Carbon stock in biomass after one year (<math>\Delta C_G</math>) (tonnes C ha<sup>-1</sup>)</b>	<b>Error range<sup>#</sup></b>
Annual cropland	5.0	$\pm 75\%$
Perennial cropland		
Temperate (all moisture regimes)	2.1	$\pm 75\%$
Tropical, dry	1.8	$\pm 75\%$
Tropical, moist	2.6	$\pm 75\%$
Tropical, wet	10.0	$\pm 75\%$

<sup>#</sup> Represents a nominal estimate of error, equivalent to two times standard deviation, as a percentage of the mean.

Discussion on whether this 5 tC/ha is the equivalent of biomass before harvest or an average value for the year?

#### Conclusion

- There are recommendations that should be addressed for the inventories to comply with the LULUCF regulation. This most likely apply for all MS and not only the 15 MS that volunteered for the trial.
- Note that the review only looked at the most significant pools and not all elements of the LULUCF regulation can be reviewed based on the inventory submitted in 2021.
- To evaluate the review process MS and lead reviewers will receive a survey.

Questions ?