LULUCF Monitoring Reporting Verification project (JRC – DG CLIMA)

Aims:

- Help MS improving LULUCF MRV and be prepared for future reporting
- Improve the comparability of LULUCF estimates among MS

Tasks:

1. Assess the current MRV capacity and the future challenges
2. Develop recommendations to help MS improving LULUCF MRV and start implementing them for select MSs
3. Analytical input to harmonizing MRV in the EU

Introduction

European Commission

DG CLIMA ⟷ **Administrative Arrangement** ⟷ **JRC**

Task 1 - Assess the current MRV capacity and the future challenges

1a) Comparative assessment of the methods, approaches and nomenclature used for estimating emissions/removals.

1b) Assessment of the current situation in relation to reporting/accounting requirements which may pose challenges in near future.

Task 2 - Develop recommendations/actions plans to helps MSs improving LULUCF MRV

2a) Recommendations for improving LULUCF MRV.

2b) Start to implement the recommendations from task 2a.

Task 3 – Analytical input to harmonizing MRV in the EU

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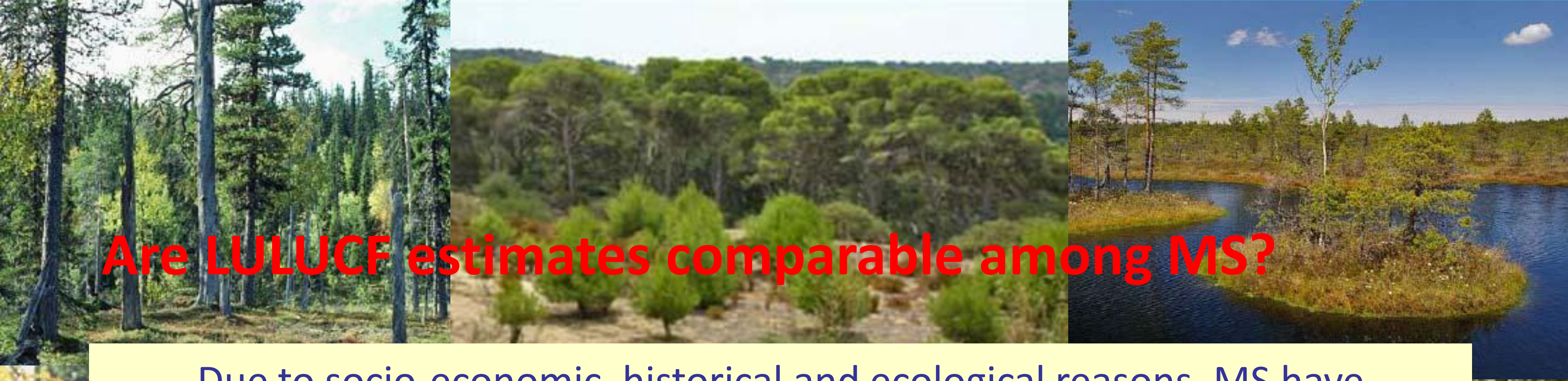
Potential countries to be considered for support in the context of the LULUCF MRV project:

Croatia, Estonia, Greece, Italy, Latvia, Poland, Romania

Are LULUCF estimates comparable among MS?



Due to socio-economic, historical and ecological reasons, MS have developed rather different definitions (e.g. of forest, of land use change....) and methodological approaches.

While in most cases this is unavoidable, and not necessarily a problem (as long as IPCC guidance is applied), some steps toward harmonization should be considered

Land use changes

DEFORESTATION area:

- France (excluding overseas territories) 45 times higher D values than Italy
- Germany 17 times higher than Poland
- Austria 18 times higher than Bulgaria
- Latvia 35 times higher than Lithuania
- Portugal 12 times higher than Spain

Other LAND USE CHANGES:

FR reports 70% of EU area of CL converted to GL

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What IPCC says on CM GM ?

Ch. 4.2.8.2: "*the land subject to cropland management and the management thereon need to be tracked through time because the continuity of management affects carbon emissions and removals. For example, a Party wishing to claim carbon removals due to conversion to no-till of 10% of an area under cropland management must demonstrate that no-till has been practiced on the same land for that period, since carbon accumulation in mineral soil depends on continuity of no-till (and the carbon emission/removal factors have been derived for continuous no-till). The rate of carbon removal for the total area therefore depends upon whether the same 10% of land has remained under no-till or if the 10% of no-till occurs on a different portion of the area in different years; it is not sufficient merely to state that 10% of the cropland management area has been under no-till for the whole period. It is good practice to follow continuously the management of land subject to cropland management; this could be achieved either by continuously tracking each land subject to cropland management from 1990 until the end of the commitment period (e.g. see Section 4.2.8.1 Definitional issues and reporting requirements), or by developing statistical sampling techniques*"

Box 4.2.1
An example of consistency for management practices

To estimate changes in soil carbon stocks, whether by Tier 1, 2 or 3 methods, management practices on applicable lands need to be followed continuously over time. Ideally, the management of each land would be tracked explicitly. But such data may not always be available. An alternative approach may be to estimate the *average* history of lands now under a given management. Consider the following example.

Example: Cropland management

Suppose there was a cropland region of 10,000 ha, of which 5,000 are in no-till (NT) in the year 2000, up from 2,000 ha in 1990. The remainder, in each year, is under conventional tillage (CT). In order to simplify this example, suppose also that the land management in the year 1990 was unchanged for a long period before (more than 20 years). The estimated soil carbon change is based on a matrix of coefficients; say 0.3 Mg C/ha/yr for land shifting from CT to NT, -0.3 Mg C/ha/yr for a shift from NT to CT. (The carbon stock change is calculated by the amount of soil carbon, the relative carbon stock change[32] factor, over 20 years, for the management activity, and the length of the period, one year. See Chapter 3.3.1.2, and Tables 3.3.3 and 3.3.4.) Unfortunately, there has been no tracking of management on individual land. However, based on a statistical analysis (e.g., a survey), it is possible to estimate, with reasonable confidence, the following shifts:

CT	→	NT	3,500 ha
CT	→	CT	4,500 ha
NT	→	CT	500 ha
NT	→	NT	1,500 ha

The total carbon gain is therefore:
(3,500 • 0.3 + 4,500 • 0 + 500 • (-0.3) + 1,500 • 0) Mg C/yr = 900 Mg C/yr.

JRC brainstorming for discussion

If the "average history" of a unit of land is known, within a soil-climate stratum there is no need to follow spatially each specific practices for calculating C stock changes in MIN SOIL with tier 1 and tier 2 methods, i.e. non-spatial statistics may be used.
The "average history" is the typical pattern of crop management systems (sequence of crops and management). For every soil-climate stratum, each crop rotation system has a specific soil C stock.

Thus, the IPCC sentence above can be complemented with another sentence (in red):
"It is not sufficient merely to state that 10% of a cropland management area has been under no-till for a specified period. The rate of carbon stock change for the total area depends on whether the same 10% of land has remained under no-till or whether the 10% of no-till occurred on a different portion of the area in different years. It is therefore good practice to follow continuously the management of land subject to Article 3.3 and elected 3.4 activities. However, within a specific soil-climate stratum, it is sufficient merely to state that 10% of the area is under a specific crop rotation system. In this condition, what is essential is that: (i) the available statistics accurately represent the crop management systems applied over the inventory period, and (ii) each crop management systems is assigned to the correct soil-climate stratum, either in a spatially-explicity way, with statistical techniques or with transparent and defensible assumptions".

The above consideration may significantly help in the (likely common) situation where:

- frequent (and time consistent) statistics are available (i.e. that capture the "average history" of different management systems)

- The available spatial information is not enough to locate with precision each management systems, but it is enough (also with the help of defensible assumptions) for assigning different management systems to different soil-climate stratum