Why is land use important for climate?

Fossil fuel emissions 91%

Changes in land use 9%

Accumulated in atmosphere 44%

Accumulated in land 31%

Accumulated in ocean 26%

Land Use, Land Use Change and Forestry = LULUCF

6 basic principles cause land to emit or absorb greenhouse gases

- **Photosynthesis**
  - $\text{CO}_2$

- **Decomposition**
  - $\text{CH}_4, \text{CO}_2, \text{N}_2\text{O}$

- **Fertilising**
  - $\uparrow\text{N}_2\text{O}, \text{CH}_4$

- **Combustion**
  - $\uparrow\text{CO}_2, \text{N}_2\text{O}, \text{CH}_4$

- **Soil respiration**
  - $\uparrow\text{CO}_2$

- **Harvest**
  - $\uparrow\text{CO}_2$
As a result, “land use change”, by changing the natural equilibrium, also emits or absorbs greenhouse gases – 3 Examples

- Forest
- Wetlands
- Grasslands
- Cropland
- Settlements
- Planting of forest

Land Use, Land Use Change and Forestry (LULUCF)
LULUCF represented in 2015, in absolute value, about 7% of EU emissions

Source: EU’s GHG inventory submission to UNFCCC of 15 April 2017, EEA, 2017.
After having increased between 1992 and 1999, the rate of carbon storage decreases since 2008

Source: Eurostat; EU’s GHG inventory submission to UNFCCC of 15 April 2017, EEA, 2017
What’s in it for auditors? Potential LULUCF-related risks

- **Reporting and accounting rules** incorrectly/inconsistently applied throughout the EU
- **Delayed reporting** prevent effective use of data for policy making
- **Deadweight effect** might exist as standing forest are already absorbing CO₂ anyway and so do not add to emission reduction efforts
- **Decreased climate ambition** in other sectors
- **LULUCF calculations** not fully taking into account the climate-related risks on forests: New pests/diseases, drought, fire…

Source: Landscape review of EU accountability and public audit arrangements, ECA, 2014
The ECA published a landscape review on energy and climate last month. It will perform several climate-related audits in 2017-2018:

- Audit on the **flood** prevention, protection and preparedness
- Audit on **renewable energy**
- Audit on **desertification** in the EU and land degradation due to climate change
- Audit on **Monitoring, Reporting and Verification of Greenhouse Gas Emissions**
APPENDIX
In current EU regulation, LULUCF is accounted for, but not included in climate targets

Current regulation

• **Kyoto Protocol** (1997):
  – Accounting mandatory on forest activities
  – Voluntary for other land management practices

• **EU LULUCF decision** (2013):
  – EU-wide reporting rules applicable to emissions and removals of greenhouse gases resulting from LULUCF activities

Commission’s proposal

• **Proposed Effort Sharing Regulation** (2016):
  – All sectors, including LULUCF, should contribute to the EU's target of reducing greenhouse gas emissions by at least **40% by 2030**

• **Proposed LULUCF regulation** (2016):
  – Revised LULUCF monitoring/reporting rules

Source: EU’s GHG inventory submission to UNFCCC of 15 April 2017, EEA, 2017.
Stakeholders have divergent views on this proposed regulation

- **Densely wooded countries**: want credit for maintaining old forests (ability to plant new trees is limited)
- **Farming countries**: keener to benefit from planting new trees due to lower mitigation potential of agriculture
- **Forest owners**: concerned that harvesting wood would be strongly regulated
- **NGOs**: concerned that EU’s mitigation ambition in other sectors is reduced

Source: Landscape review of EU accountability and public audit arrangements, ECA, 2014
To learn more on LULUCF, you could follow on-line courses offered by the Greenhouse Gas Management Institute

Source: http://ghginstitute.org/