

# Accounting for negative emissions from BECCS: Guidance from the UNFCCC

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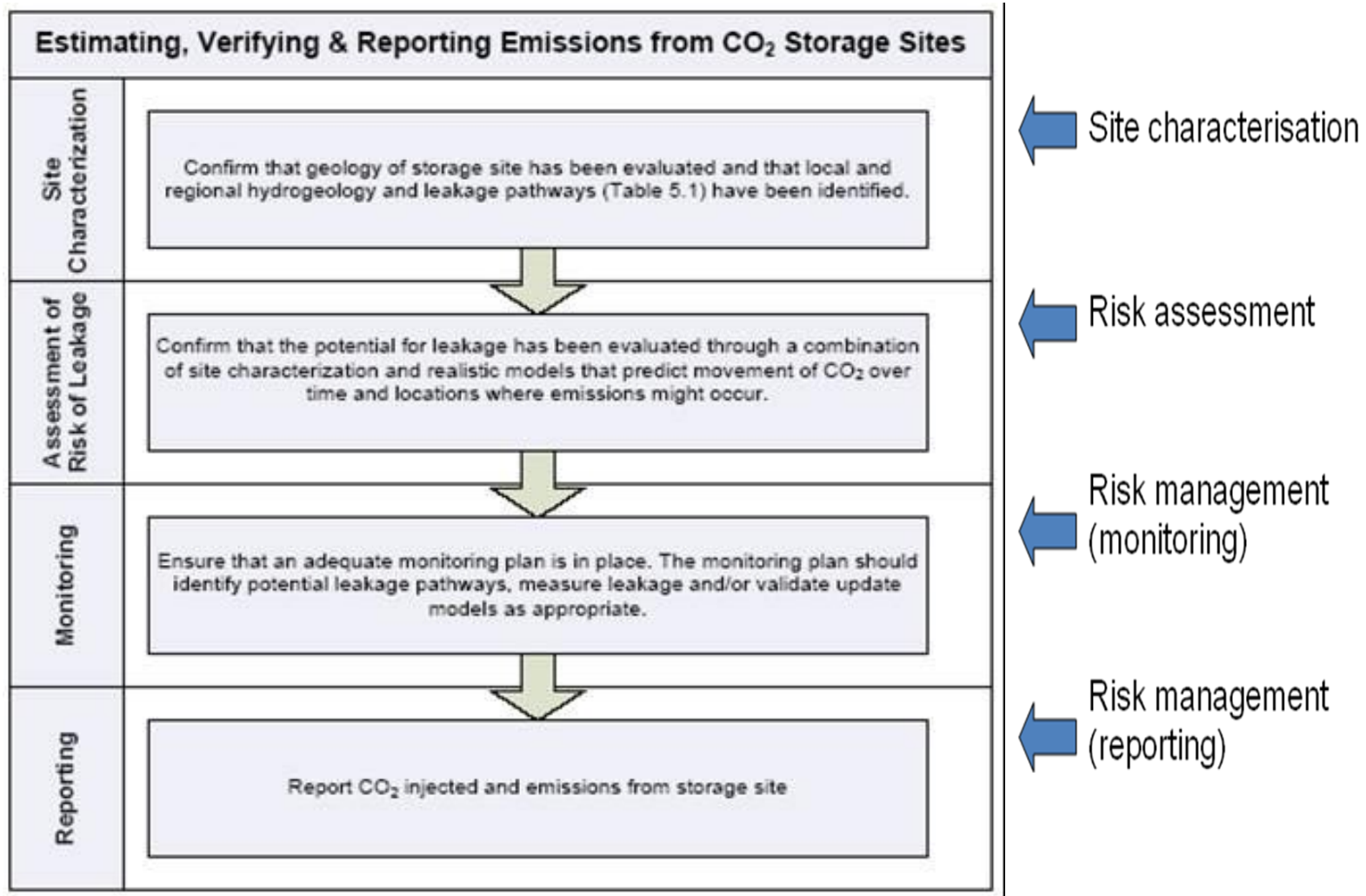


# What is the issue?

- Incentive policy for BECCS needs to be based on emission reductions that the technology can deliver.
- *UNFCCC Articles 4 & 12*: All Parties to develop, periodically update, publish and make available to the Conference of Parties (COP), national inventories on greenhouse gases emissions and removals by sinks (excluding Montreal Protocol gases) using comparable methodologies to be agreed by the COP.
- IPCC is mandated by COP with preparing methodologies for the compilation of greenhouse gases. Presently three versions:
  - Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
  - IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories
  - 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 GLs)

# 2006 IPCC Guidelines and CCS

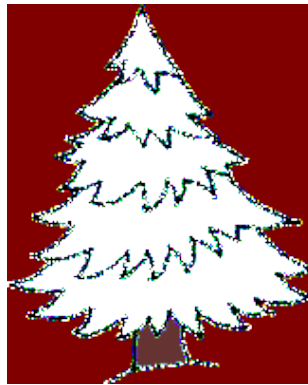
In inventory captured CO<sub>2</sub> could be deducted from emissions if 1. CO<sub>2</sub> goes into long-term storage and 2. is monitored and reported according to 2006 GL



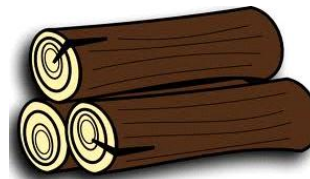
Source: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 5

# Reporting for biomass emissions under UNFCCC

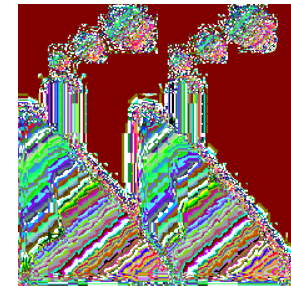
Growth



Harvesting



Combustion



Gains in C stock are reported as CO<sub>2</sub> removals in the LULUCF sector

Losses in C stock are reported as CO<sub>2</sub> emissions in the LULUCF sector

Only non-CO<sub>2</sub> emissions from combustion of the harvested wood are reported in the Energy sector

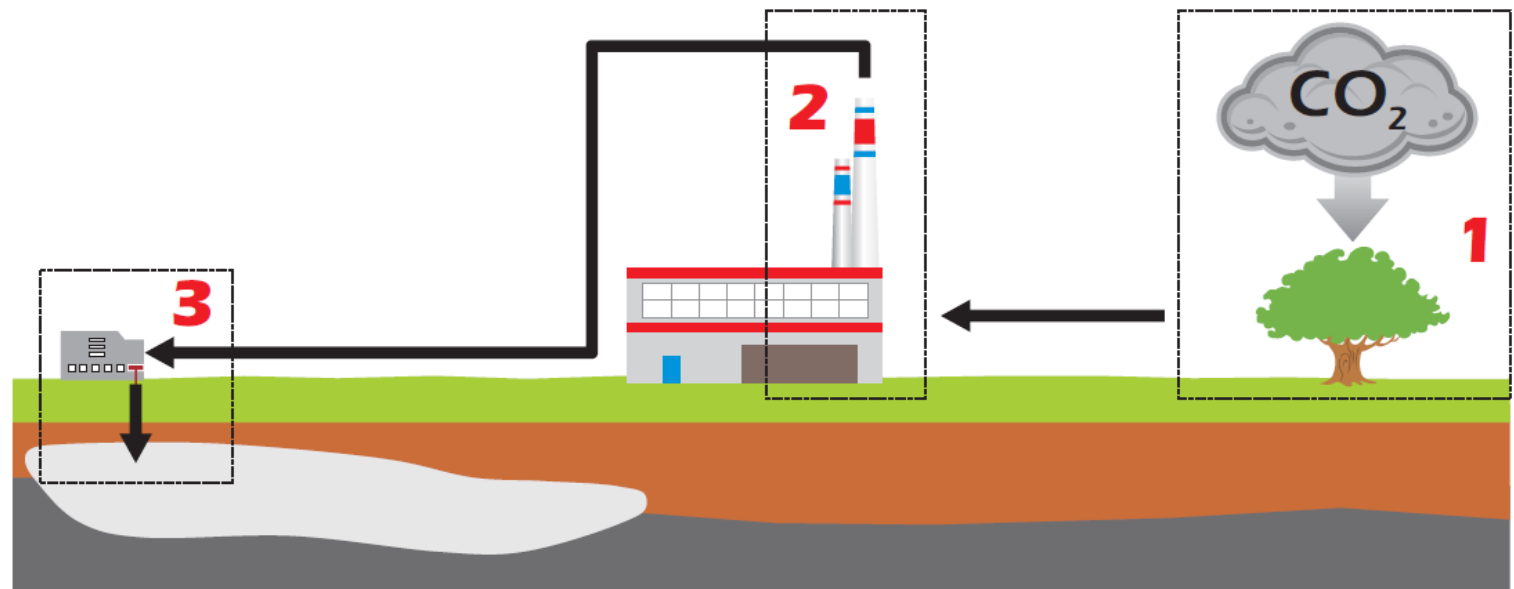
*LULUCF = land use, land use change and forestry*

# Implications for BECCS accounting

- **No distinction is made between CO<sub>2</sub> emissions from fossil or biomass sources**
  - Biomass plant reports zero CO<sub>2</sub> emissions in energy or industrial sector
  - Subtraction of amount of CO<sub>2</sub> captured and transferred to long-term storage can lead to negative emissions
  - Corresponding emissions from harvesting etc. included in LULUCF sector
- **However, presently incomplete accounting for emissions and removals in LULUCF sector**
  - Possibility to opt into or out of certain LULUCF activities raises the possibility of CO<sub>2</sub> benefits of BECCS accounting towards Kyoto commitments while disbenefits of unsustainable biomass being ignored

# Accounting and incentives

- Full accounting of all bioenergy-related emission in either LUCUF or end-use sectors is required
- Certification on sourcing biomass can be used as an intermediate step
- Potential relevance for selecting appropriate point of incentivisation for BECCS



1. Biological sequestration    2. Capture    3. Storage



Further info:

*Combining Bioenergy with CCS: Reporting and Accounting for Negative Emissions under UNFCCC and Kyoto Protocol.*

International Energy Agency 2011

**Thank you**

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