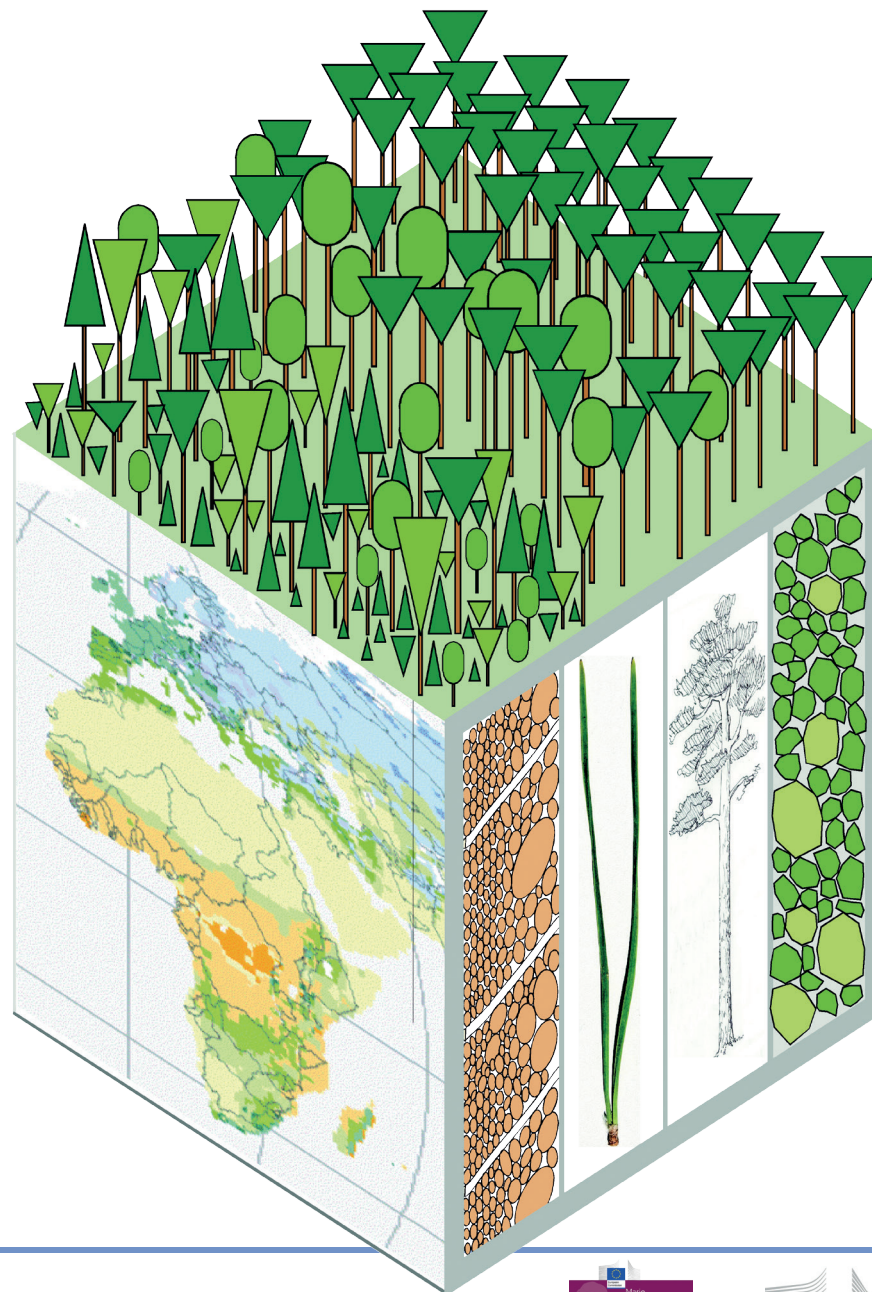## Motivation

In a changing climate, we see the challenge that forestry needs to contribute to a low carbon emitting society. Our ambition is to learn how to improve carbon sinks and sources of forests and forestry.

We strive to develop carbon smart forest management for different forest types and climates to adapt to and mitigate climate change.

We promote capacity building for climate-smart forest management.

? Central questions

- How will the carbon sequestration of forests be impacted by climate change?

- How can forest management be adapted to improve forest resilience under a changing environment?

- How can forest management contribute to the climate change mitigation function of forests by strengthening and sustaining their carbon sink potential?

- How can forest utilisation be optimised towards a low source of carbon emission?

Objectives

- Analyse, quantify and model the carbon sink resulting from forest growth.
- Analyse, quantify a model the carbon source by forest operations and risks caused by biotic and abiotic factors.
- Combine the sink and source aspects to an integrated picture and balance of the whole.
- Publish and teach our results and new concept of a carbon smart forestry to enhance knowledge and skills at individual and organizational level.
- Disseminate achievements and communicate the project to forest science, forest practice, general public and policy makers at local, regional, national and EU level to foster a lower-carbon emitting society.

> **Multi-gradient approach: climate (from boreal to subtropical) scales (cell, organ, tree, stand) stand types (even-aged to mult-layerd) management regimes (managed, unmanaged).**

max {CO2 sequestration}
CARE4C
min {CO2 release}