Exploring Negative Emissions Potentials – A Global Perspective

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Bioenergy, CCS and BECCS Options for Indonesia
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Sugar and starch crops: sugarcane, sugar beet, corn, etc.

Algae

Waste, wet and dry: manure, municipal solid waste

Residues: harvesting and processing residues from agriculture (stalks, husks, etc.) and forestry (crowns, bark, sawdust, etc.)

Wood: logs and stumps extracted from plantations or forests (primary and secondary)

Oil and fats: crops (rapeseed, sunflower, oil palm, soy, jatropha, etc.), waste oils, animal fats
Overview of principle pathways and strategies of ecosystem management for climate change mitigation

Obersteiner et al., 2010; COSUST
Baseline Land Use
Intensive SFM

Optimal Rotation Period
4 Years

Courtesy: StoraEnso
Extensive SFM

Ordinary retention

Corridor habitat

Restoration area

Key habitat

Courtesy: StoraEnso
Land Use Change until 2100 for B1

Intensity map: (affected) ha x C-uptake

Existing forest
Afforestation
Deforestation
2. Carbon Sequestration

Total Carbon Supply: B1/A2
Geography of Carbon Supply

**B1** until 2100 for 150 $/TC in acc. tC
Geography of Carbon Supply
A2 until 2100 for 150 $/TC in acc. tC
Bioenergy and Fast Growing Plantations

• Bioenergy becomes the main driver behind the expansion of fast growing plantations.

• 250 million hectares of new tree plantations between now and 2050.
Bioenergy and Fast Growing Plantations
Potentials are huge, but details in implementation matter most!!