



**Input to Session 5**  
**Setting up sustainable biomass supply chains:**  
**Presentation of the *Sub-Saharan Africa supply chain project*.**

**What is special about solid biomass with regard to sustainability requirements**

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# Overview

- 1 Why is solid biomass ruled differently from biofuel and other bioliquids?
- 2 Sustainability issues concerning solid biomass
- 3 What about indirect effects - the ILUC issue
- 4 Summary



# European legal situation (RED 2009/28/EC)

so far: **Mandatory sustainability requirements only for biofuels and other bioliquids.**

## Commission's presumption:

- Solid biomass and biogas are regionally or nationally used mostly and not that relevant at the level of global trade.
- Wood, solid residues and biogas are assumed to cause less or minor conflicts according to sustainability.

## However the global demand for solid biomass ...

- is higher than the one for liquid biofuels
- will increase stronger
  - to make the GHG reductions in industry countries possible
  - to allow developing countries to increase energy supply

# Which type of biomass, which questions

	<b>Wood from forests</b>	<b>Wood from Short rotation forestry / plantations</b>	<b>Agricultural Biomass e.g. switchgrass</b>
<b>Biomasse production:</b>	Requirements for sustainable forestry, forest management	Requirements for sustainable agriculture	
<b>direct land use change:</b>	Changes in forest management ? LULUCF accounting	Changes of previous state (forest, Grassland, cropland)	
<b>indirect effects</b>	Impacts on local /regional wood markets	ILUC due to displacement of food/feed production to other areas	



**GHG:** in general good performance, typically high savings rates, just attention to ...

	Carbon stocks	direct LUC: potentially medium impact	direct LUC: potentially high impact	Carbon stocks
<b>Biodiversity:</b>	crucial issue; depending on forest management	Typically systems with low biodiversity; Impact depending mostly on direct LUC		Typically no impact; careful with forest residues

# GBEP indicators

[www.globalbioenergy.org](http://www.globalbioenergy.org)

Environmental pillar	Social pillar	Economic pillar
1. Life-cycle GHG emissions	9. Allocation and tenure of land for new bioenergy production	17. Productivity
2. Soil quality	<b>10. Price and supply of a national food basket (<i>energy wood</i>)</b>	18. Net energy balance
<b>3. Harvest levels of wood resources</b>	11. Change in income	19. Gross value added
4. Emissions of non-GHG air pollutants, including air toxics	<b>12. Jobs in the bioenergy sector</b>	<b>20. Change in consumption of fossil fuels and traditional use of biomass</b>
5. Water use and efficiency	<b>13. Change in unpaid time spent by women and children collecting biomass</b>	21. Training and re-qualification of the workforce
6. Water quality	<b>14. Bioenergy used to expand access to modern energy services</b>	22. Energy diversity
7. Biological diversity in the landscape	15. Change in mortality and burden of disease attributable to indoor smoke	23. Infrastructure and logistics for distribution of bioenergy
<b>8. Land use and land-use change related to bioenergy feedstock production</b>	16. Incidence of occupational injury, illness and fatalities	24. Capacity and flexibility of use of bioenergy

# Solid biomass is the prevalent energy source in developing countries

smoky ambient air situation in Kigali due to thousands of cookstoves.





## Domestic resources

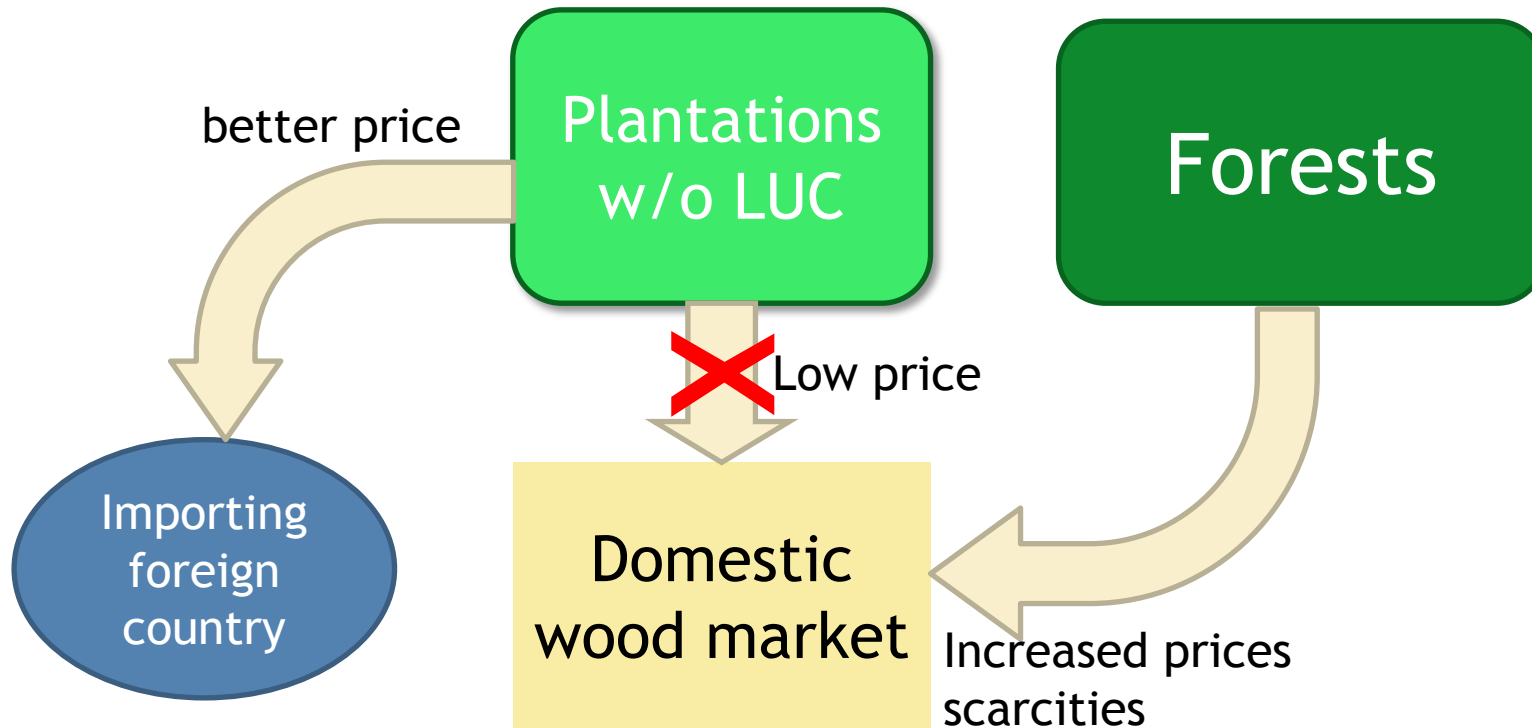


Charcoal to  
urban areas

Wood directly used  
in rural areas

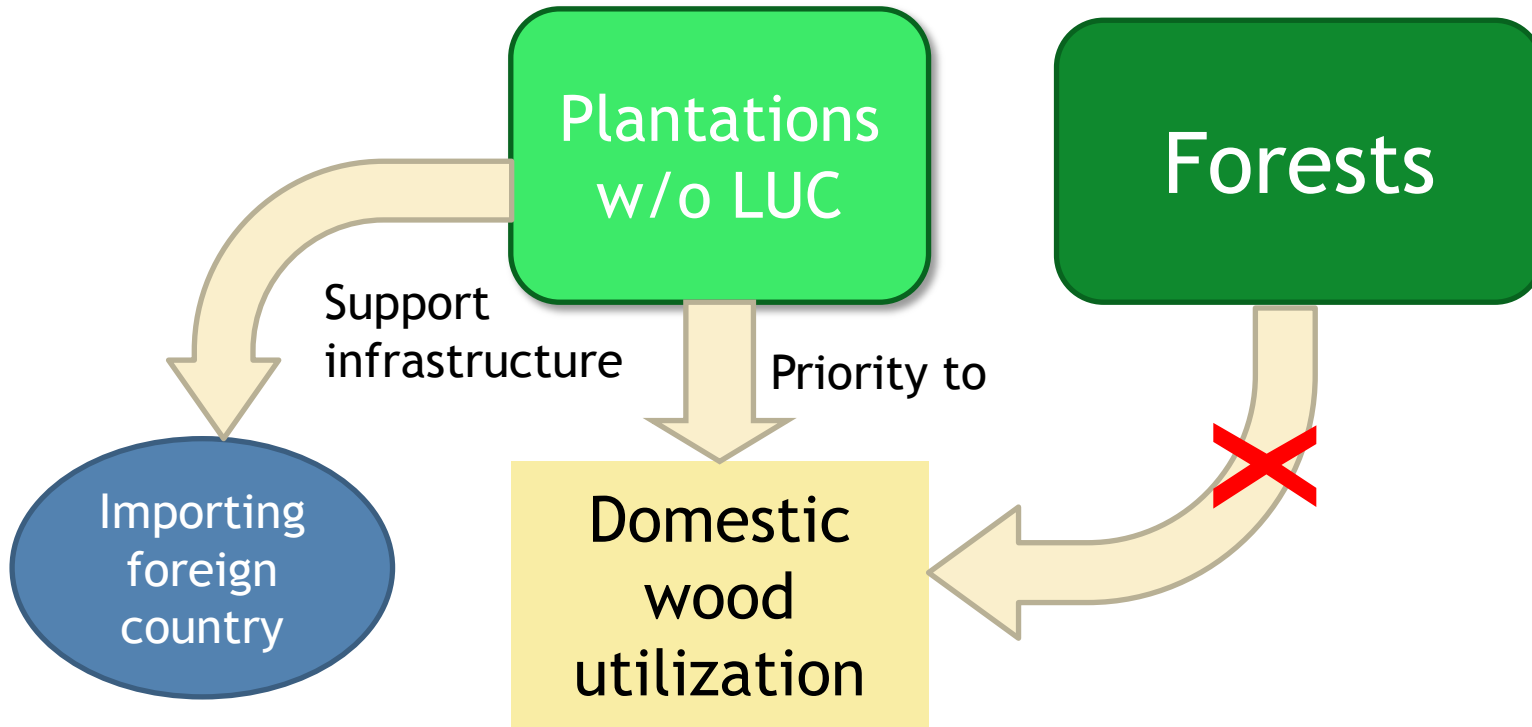


# Potential impacts due to wood markets



- Domestic wood markets are more easily affected by regional influences compared to global commodities like plant oil.
- Dealing with ILUC only as a GHG component is not appropriate.

# Potential chances



- **It is justified to apply sustainability requirements also for solid biomass.**
- **Sustainability requirements must be specifically adapted to solid biomass (forest biodiversity).**
- **Changes in the wood sector can trigger unwanted indirect effects at the local/regional level, which are not captured by usual ILUC approaches.  
Informative indicators are needed.**

The background of the slide is a large, close-up photograph of a pile of wood chips. The chips are light brown and tan in color, with a rough, fibrous texture. They are piled high, creating a sense of depth and volume. The lighting is bright, highlighting the individual pieces of wood.

# Thank you for listening. Any questions?

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