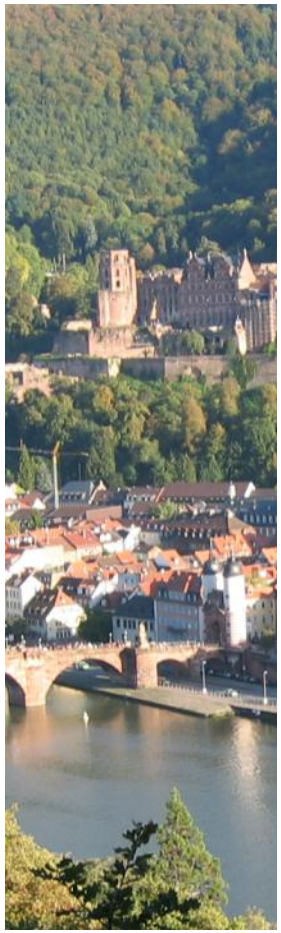

Input to Session 5
Setting up sustainable biomass supply chains:
Presentation of the *Sub-Saharan Africa supply chain project*.

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

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

Wood from forests	Wood SRF/plan-tations	Agricultural Biomass e.g. switchgras	Residues
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
Biodiversity:	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

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	**10. Price and supply of a national food basket** ***(energy wood)***	18. Net energy balance
3. Harvest levels of wood resources	11. Change in income	19. Gross value added
4. Emissions of non-GHG air pollutants, including air toxics	**12. Jobs in the bioenergy sector**	**20. Change in consumption of fossil fuels and traditional use of biomass**
5. Water use and efficiency	**13. Change in unpaid time spent by women and children collecting biomass**	21. Training and re-qualification of the workforce
6. Water quality	**14. Bioenergy used to expand access to modern energy services**	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
8. Land use and land-use change related to bioenergy feedstock production	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.

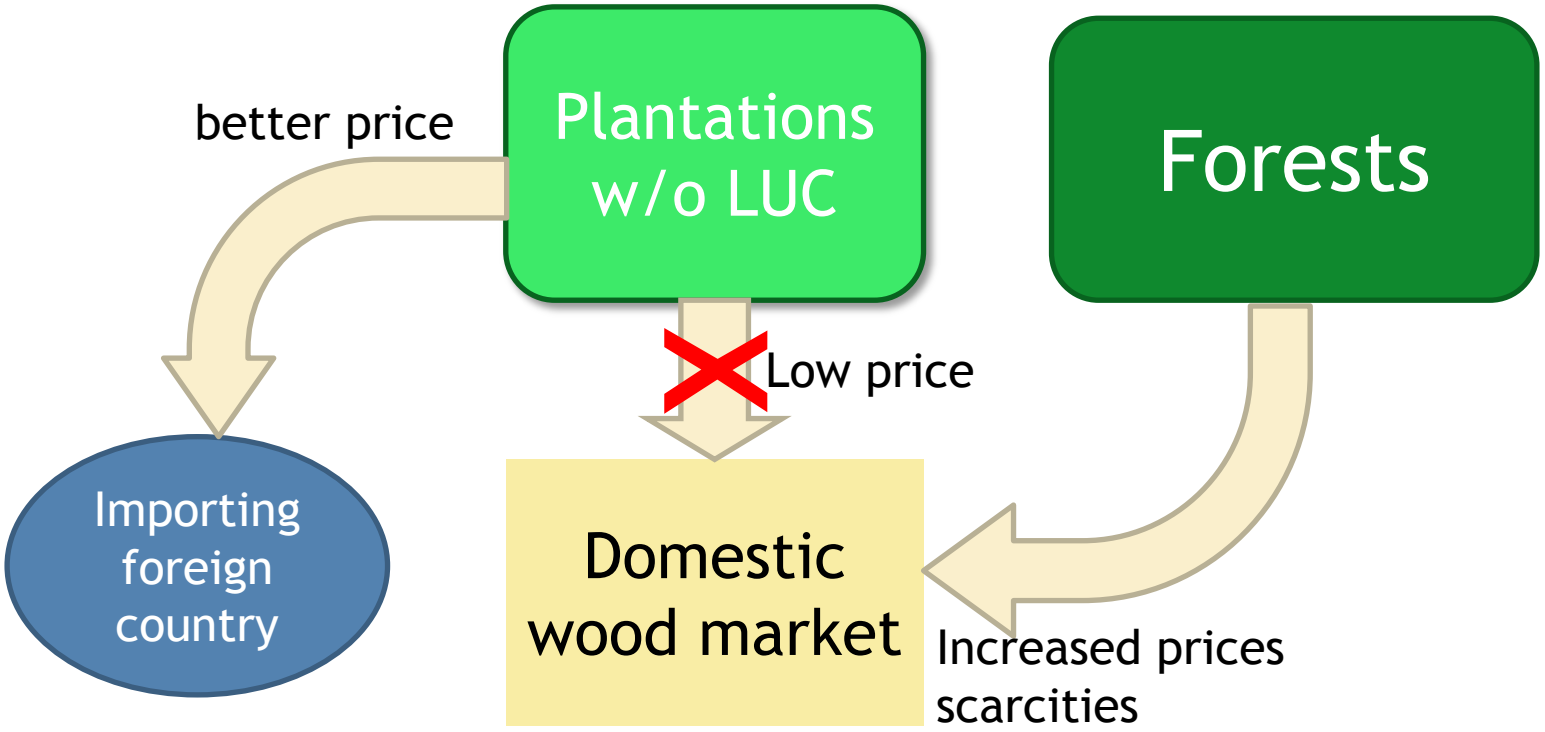
Domestic resources

Plantations | Forests | Residues

Charcoal to urban areas

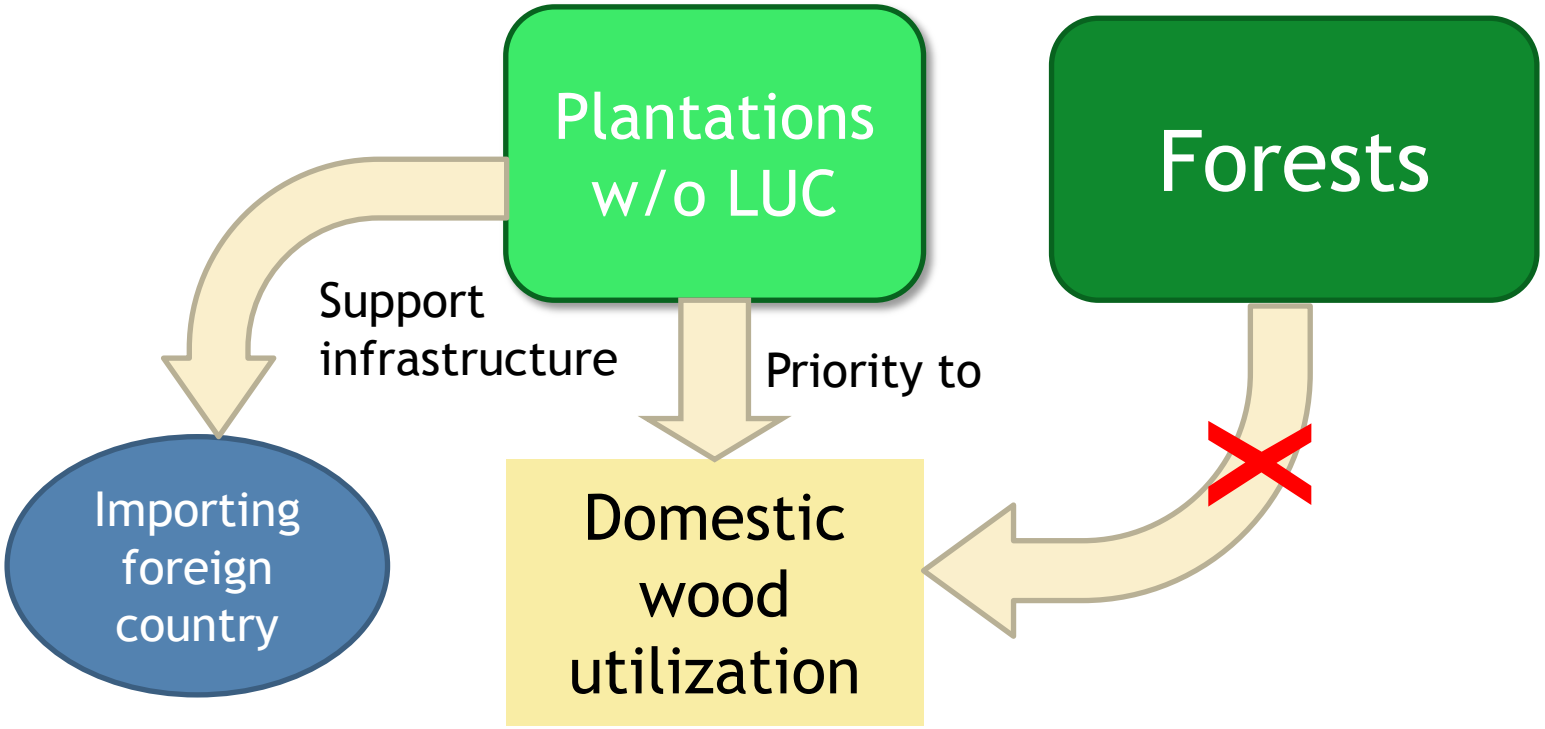
Wood directly used in rural areas

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 appropiate.**

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.