

Standards and regulations for global demand of wood energy

based on a scoping study for BMZ, work for IEA Bioenergy Task 40 and other studies

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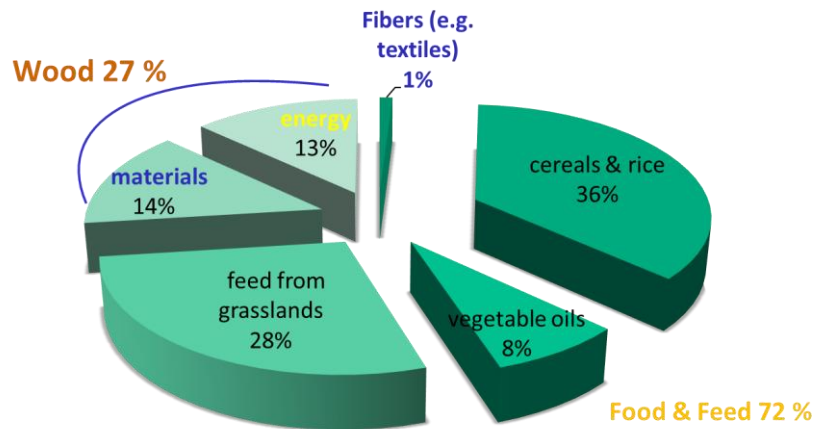
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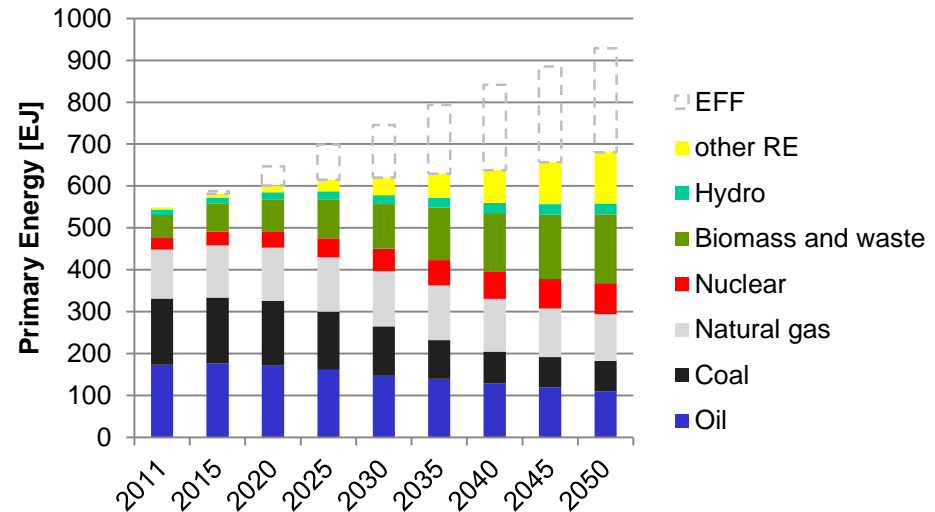
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Biomass projections for 2050

Current Global Biomass Use for All Human Activities (175 EJ_{eq})



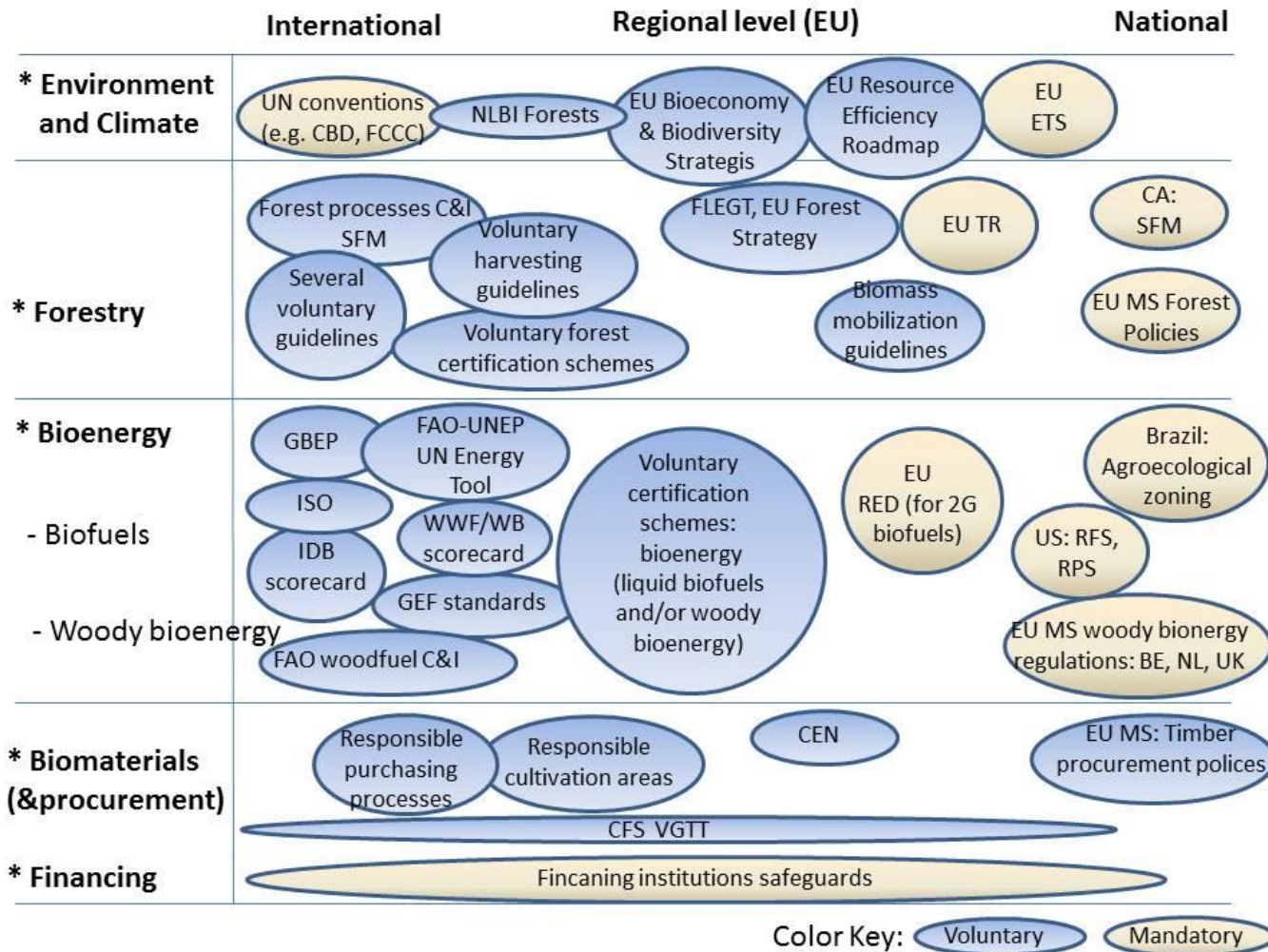
Role of Bioenergy in the IEA 2050 Global Energy Outlook (2DS Scenario)



Source: IINAS, EFI, JR (2014)

Demand by 2050: 350-425 EJ_{eq}
 150 EJ bioenergy, 50-75 EJ_{eq} biomaterials,
 150-200 EJ_{eq} for food & feed

Biomass Sustainability Initiatives (I)



Source: IINAS, EFI, JR (2014)



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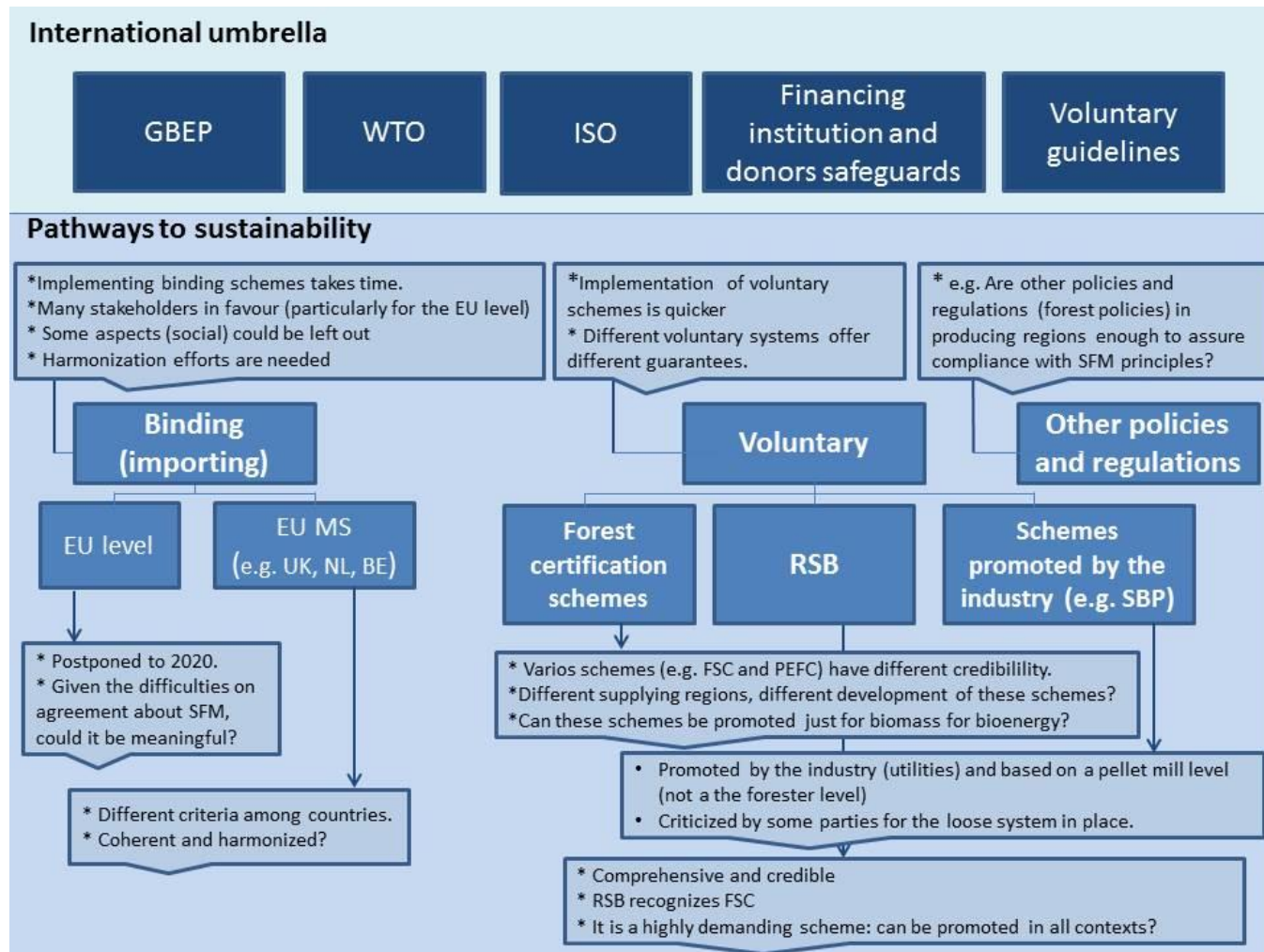


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Biomass Sustainability Initiatives (II)



Sustainability of woody bioenergy

Schemes	Bioenergy	Forests
International activities	<ul style="list-style-type: none">• GBEP• ISO• Voluntary (solid bioenergy) certification schemes (e.g. IWPB)	<ul style="list-style-type: none">• REDD+• (CDM)• International Forest Processes• Voluntary Forest Certification Schemes
European Developments	<ul style="list-style-type: none">• Extension of the RED• (Links to ETS)• CEN• National regulations	<ul style="list-style-type: none">• EU TR• Forest Strategy• LBA on European Forests• FLEGT

Source: own non-exhaustive compilation

- Regulations in **developing countries**: general legislative readiness poor, low enforcement potential
- Regulations in **developed countries**: capacity to enforce binding and comprehensive criteria



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Benchmarking of sustainability schemes for woody bioenergy

Origin of the approach		Energy			Forest	
		RED (biofuels and bioliquids)	RED possible extension to solid biomass	Industry approach (SBP, former IWPB)	EU TR	Voluntary forest certification schemes
Environmental criteria	Definition of “no-go” areas (for biodiversity or carbon conservation)	Green	Green	Green	Yellow	Green
	GHG emissions reductions	Green	Green	Green	Red	Red
	Sustainable Forest Management	Red	Yellow	Yellow	Yellow	(Some adaptation might be needed)
Socio-economic criteria		Red	Red	Yellow	Yellow	Yellow

Source: own non-exhaustive compilation



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GBEP Sustainability Indicators

Country-level “reporting” approach
using 24 sustainability indicators

See for details:

www.globalbioenergy.org

contact to GBEP:

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**GBEP**
Global Bioenergy Partnership

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	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

Conclusions

- Woody bioenergy exports imply competition with local fuelwood: analysis & safeguards
- **Coherent policies** for sustainability of imports beyond EUTR needed: RED **extension** could provide safeguard against environmental risks, but lacks social criteria (ongoing EC consultation!)
- Developing countries **need** social safeguards: forest/bioenergy **certification crucial** for this
- Donor **support** for implementing certification



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More Information




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Possibilities of sustainable woody energy trade and impacts on developing countries

Final Report for GIZ

prepared by

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