

Climate mitigation by managed and un-managed forests in Europe: The role of products

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UNFCCC changed with the Paris agreement

Kyoto protocoll: Focus on **storage** mainly in forests

Paris agreement: Forcus on **products**, with periodic
“stock-taking”.

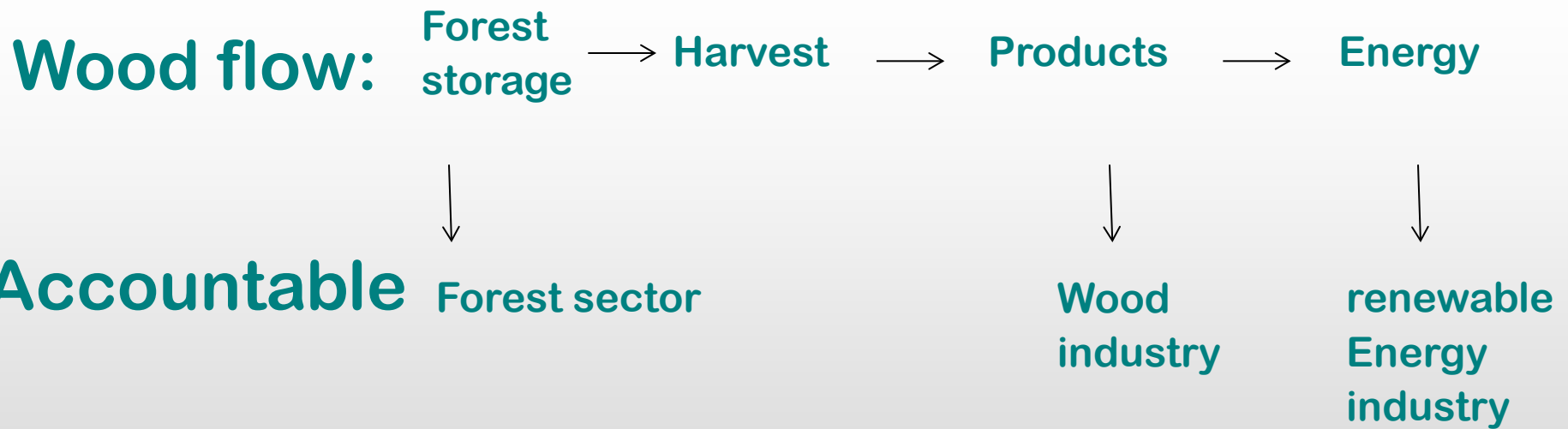
These changes take place in a strange world:

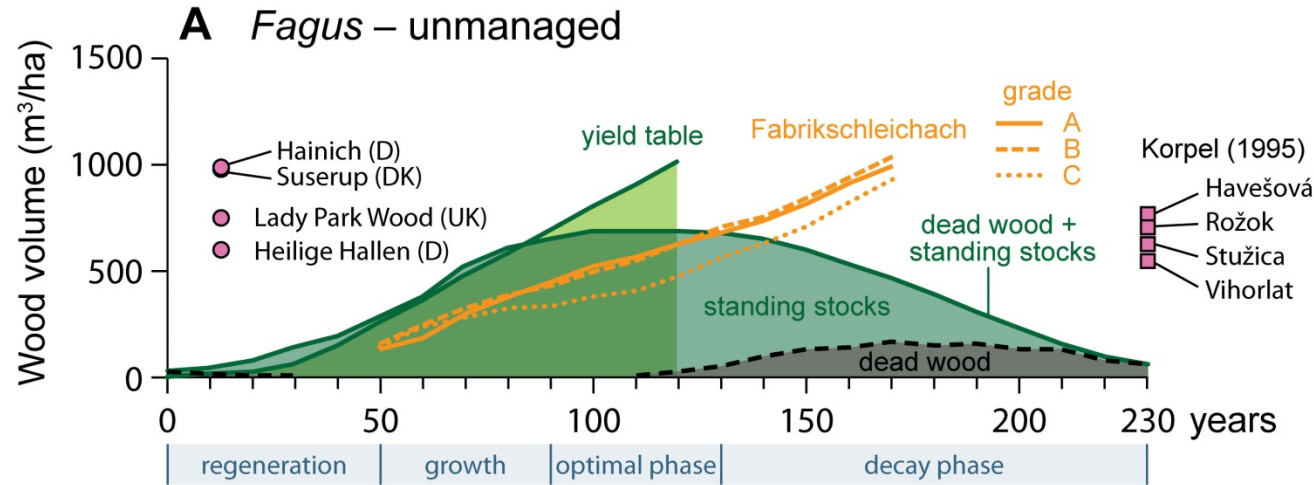
- **The public of rich nations wishes a romantic vision of an undisturbed environments**
- **Other nations supply the products**
 - **10% palm-oil as EU gasoline norm**
 - **Pellets for heating come from the US, Canada, Russia**
 - **Soya for animal feed comes from South America**

For Germany:

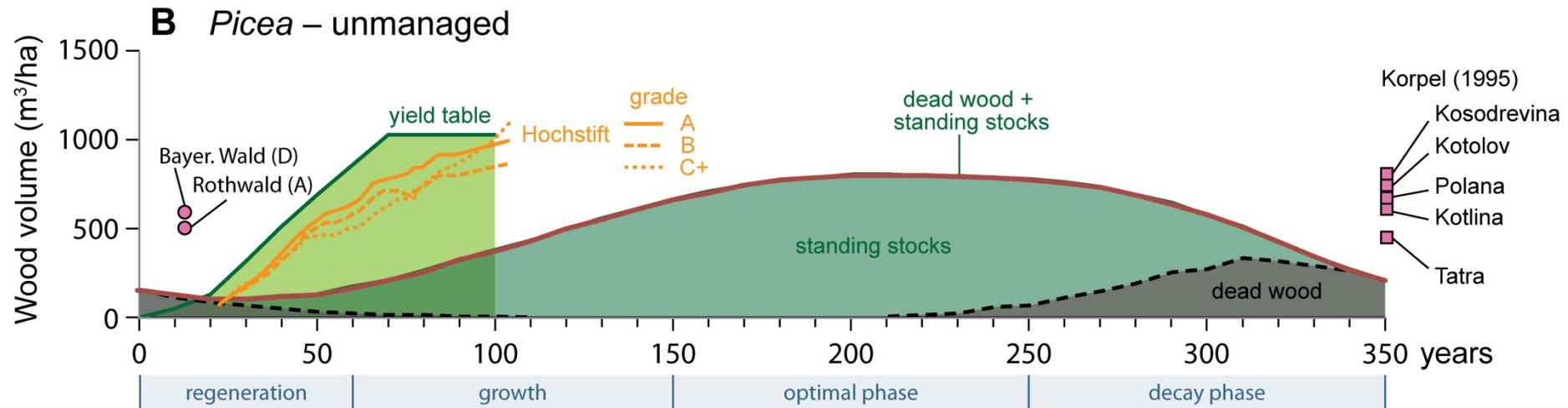
- **5% of forest land shall be unmanaged (15% of state forest)**
- **2% of national area shall be wilderness (18% of state forest)**
- **This affects remaining forest land under climate change (insect pests, browsing, economy)**

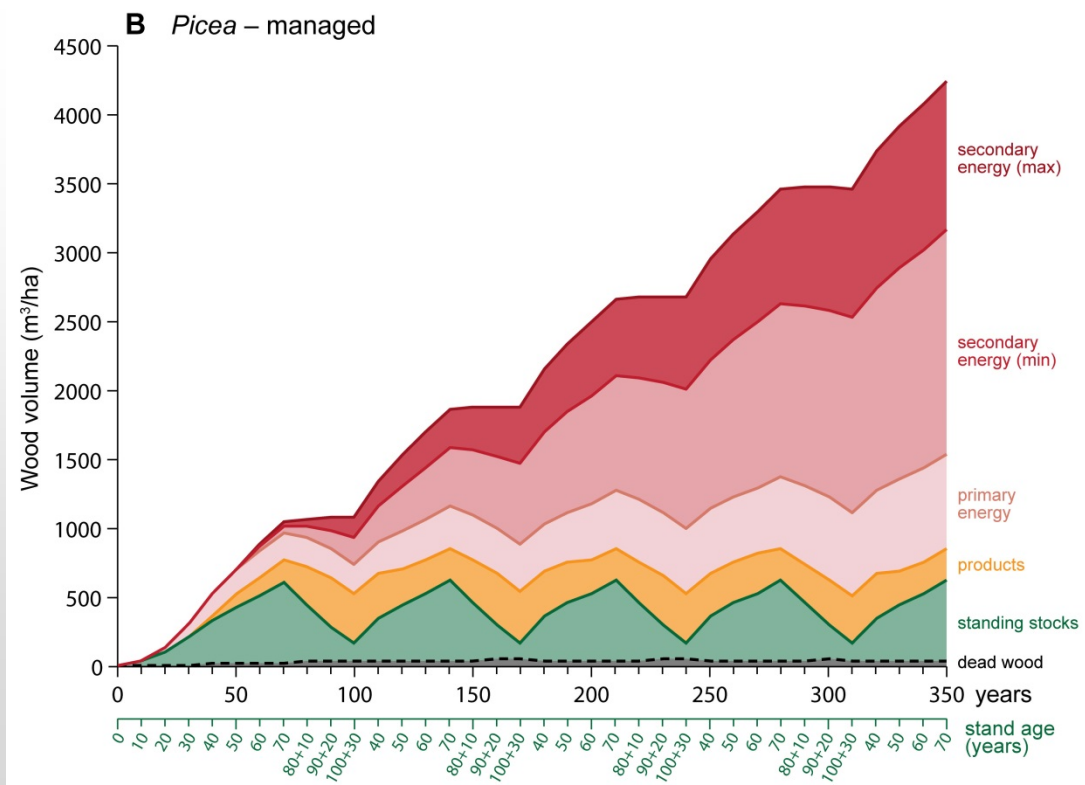
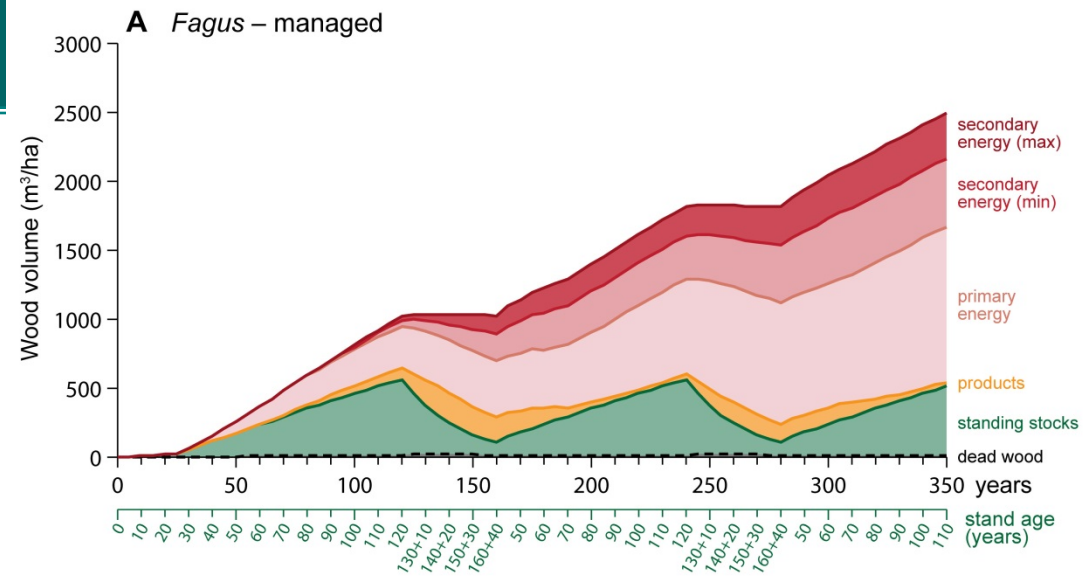
Product flow

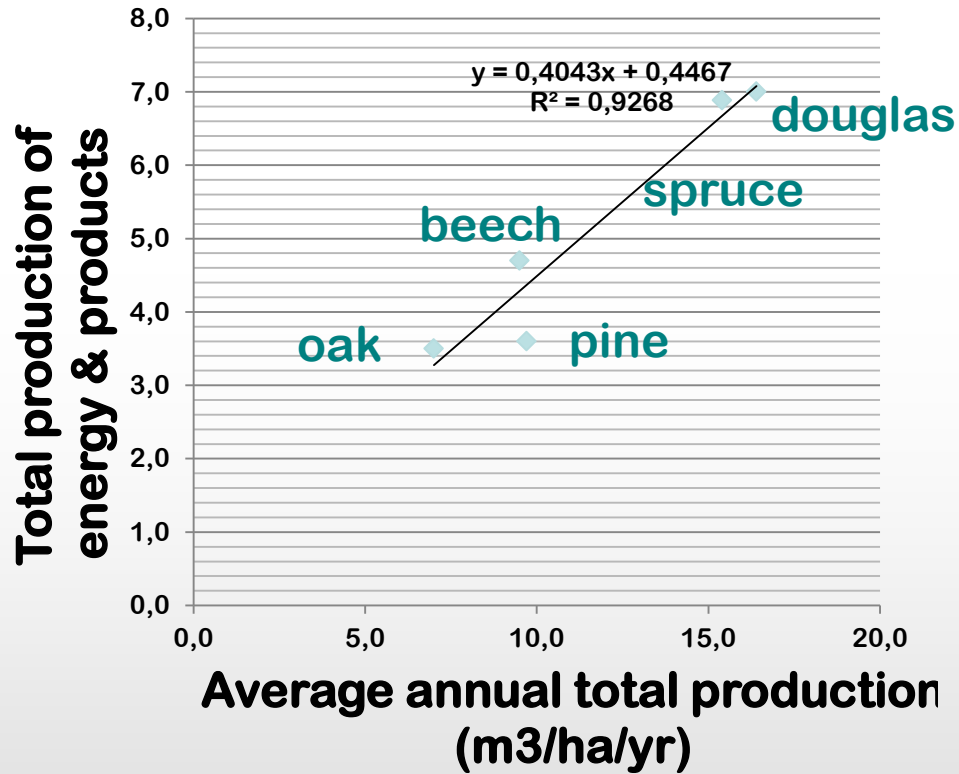




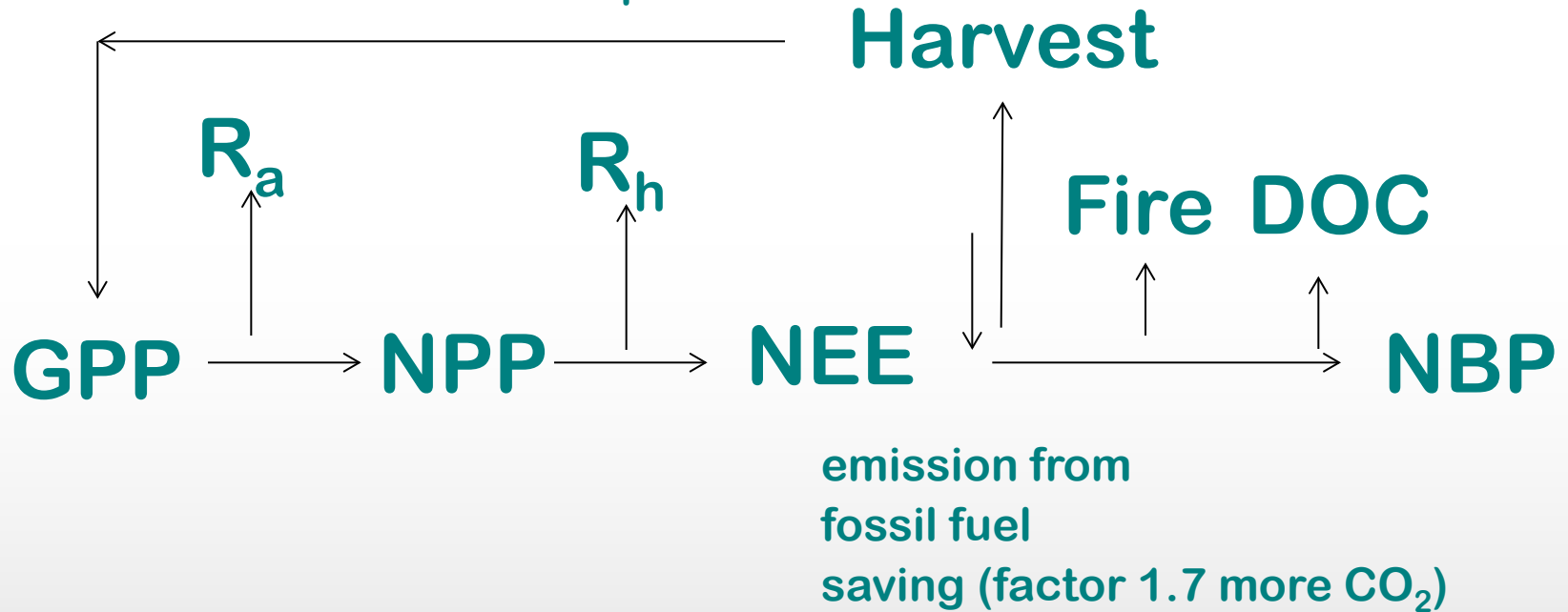
Korpel, 1995:
The virgin foreste
of CZ republic



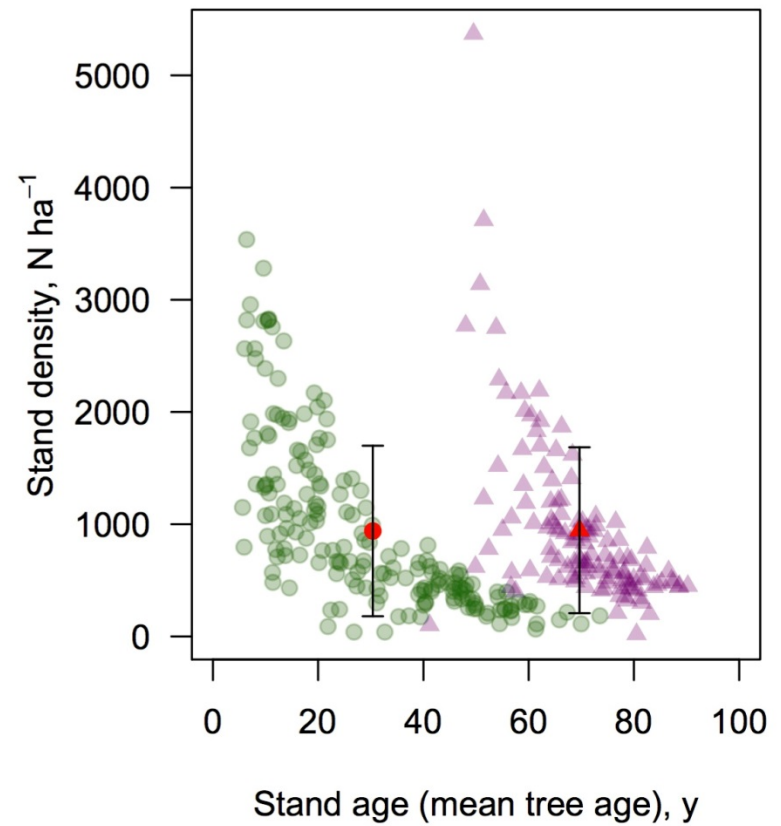
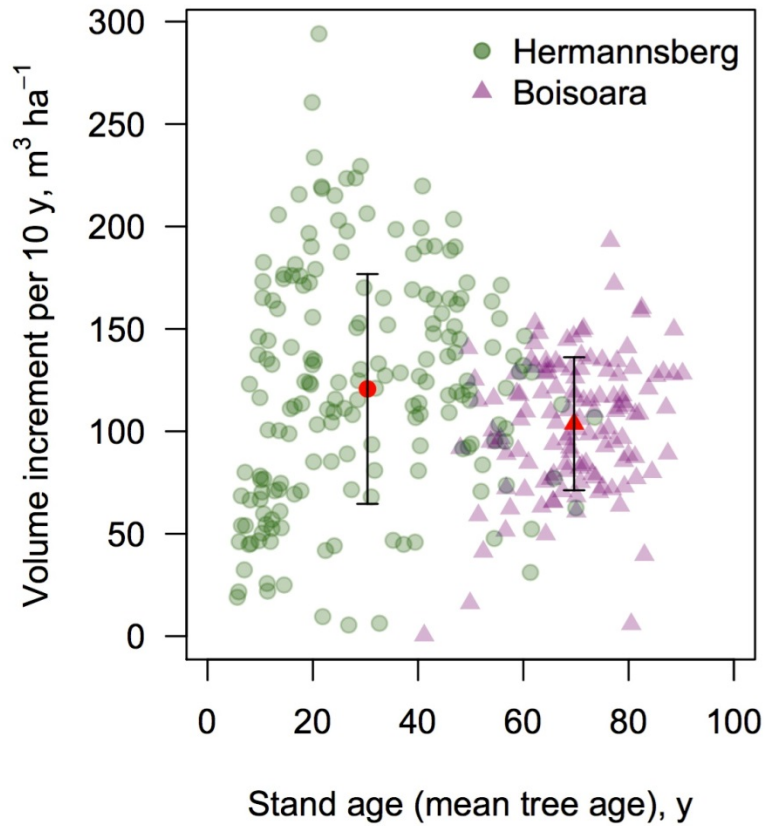




Factor 1.3 : regulated competition
increased CO₂ uptake



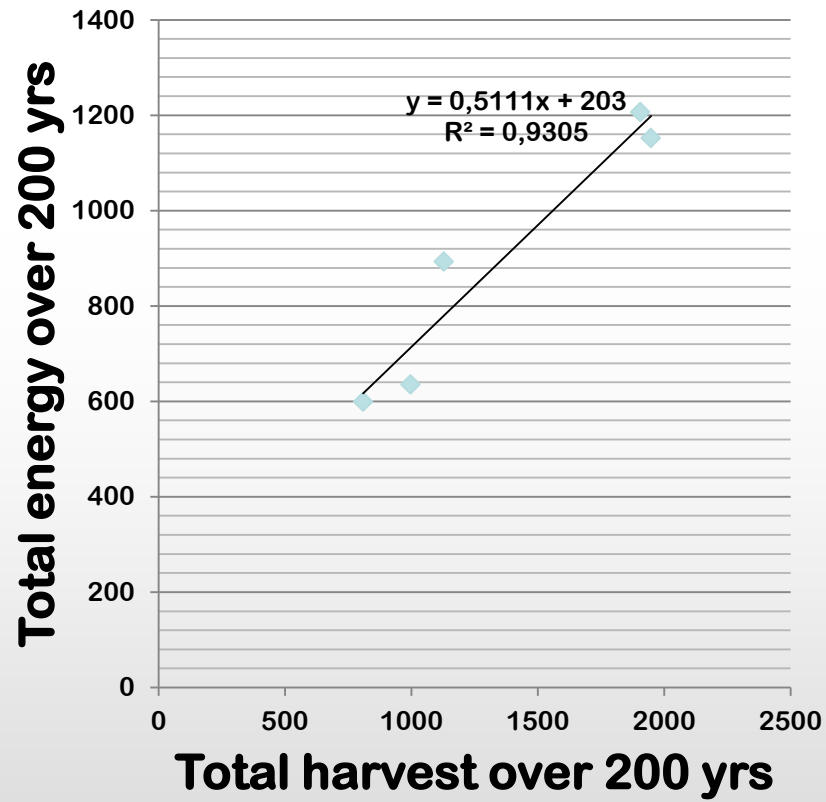
	wood (Fagus)	Diesel	
volume (m3)	1	1	
weight (kg/m3)	480	840	
weight C (kgC/m3)	240	714	Diesel=Hexadecan C16H34
energy (MJ/kg)	15	43	
energy (MJ/m3)	7200	36120	
CO2 emission (kgCO2/m3)	880	2617	
energy diesel/wood		5	$36120/7200 = 5$
CO2 emission of wood at energy gain of diesel	4415		
CO2 Emission Wood/Diesel	1,7		$4415/2617=1,7$



Conclusion

- The eddy flux community should take into account the C-export
- Forestry distinguishes between growth and total growth. EddyFlux should do the same
- Without accounting for export the eddy flux remains at the level of Kyoto

Thanks



Eddy flux tower

- Storage
- Discards export
 - Harvest
 - Fire
 - DOC

Tall Tower

Accounts for energy

- CO₂ does not change with renewables
- CO₂ changes with fires, DOC

Waldgeschichte
(Bestandesalter)

Klima
T?, P?, Frühjahr?

