



EUROPEAN FOREST INSTITUTE

Gert-Jan Nabuurs

Assistant Director, European Forest Institute

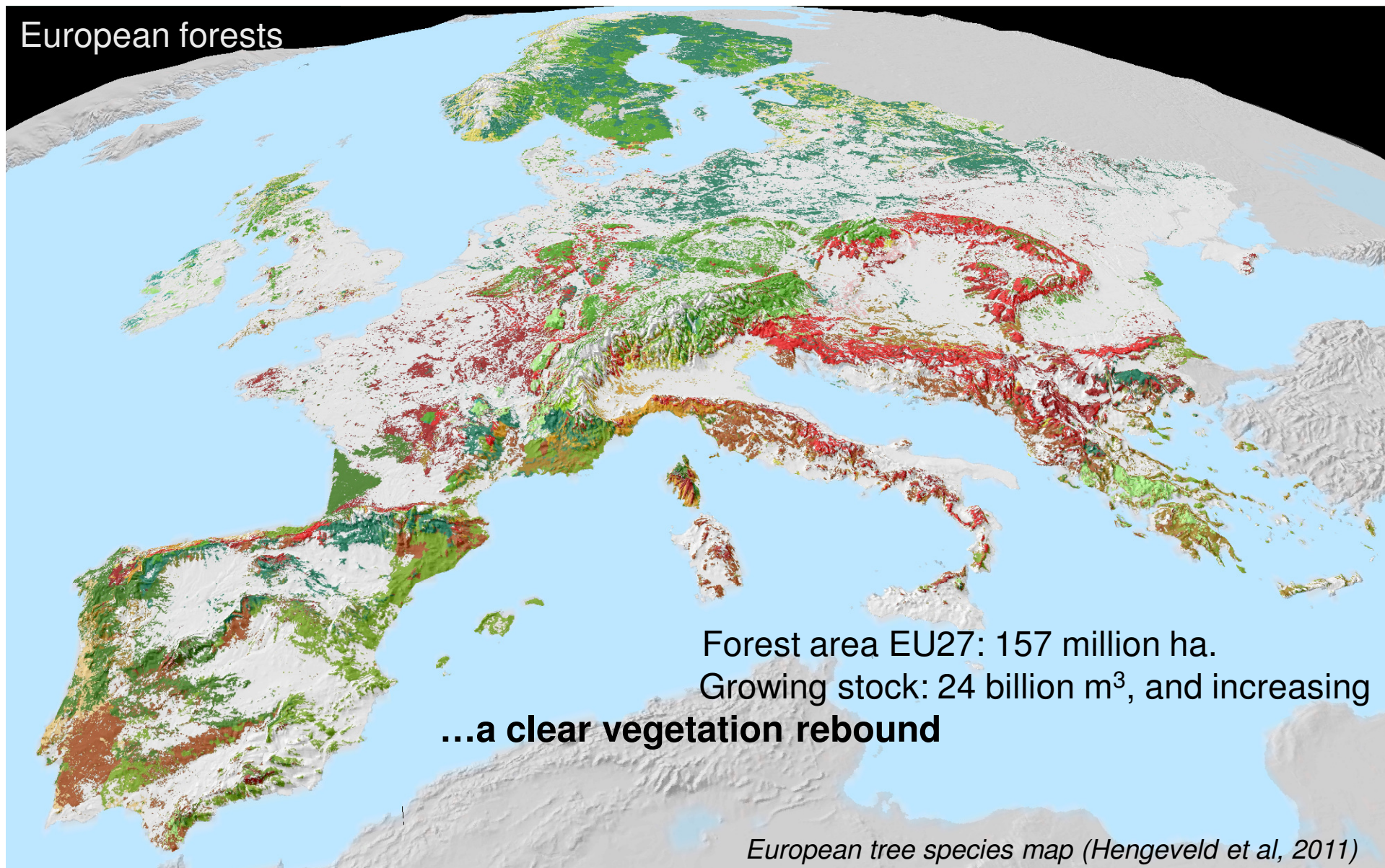
New perspectives on the role of European forests and forest management in the global carbon cycle

Dublin, 4 Sep 2012, CARBiFOR meeting

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European forests





1. Principles of carbon sequestration
2. From optimism to realism
3. To the green economy

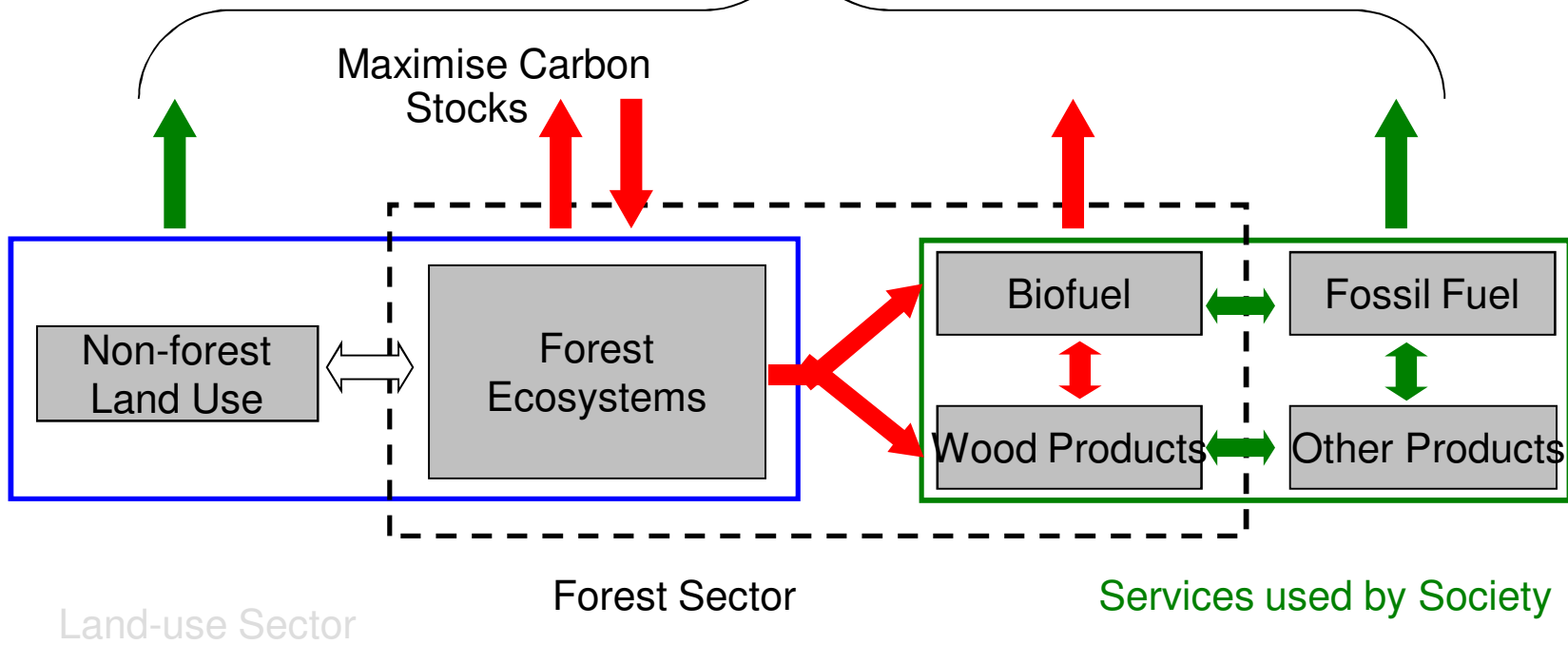
1. Principles of carbon sequestration

A large stack of cut logs and wood chips, illustrating the process of carbon sequestration in wood. The logs are stacked in neat piles, with some wood chips scattered around. The background shows a dense forest of green trees under a clear sky. The text "1. Principles of carbon sequestration" is overlaid in white on the upper right portion of the image.



Minimise net Emissions to the Atmosphere

Maximise Carbon Stocks



IPCC 2007





2. From optimism to realism



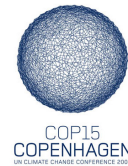
From Kyoto to Qatar

At first huge optimism in the potential role of
global biosphere

- 300 – 400 million ha would be available for afforestation globally (Nilsson and Schopfhauser, early nineties)
- IPCC SR LULUCF (2000): global potential of 2 Gt C



Negotiations became very lengthy



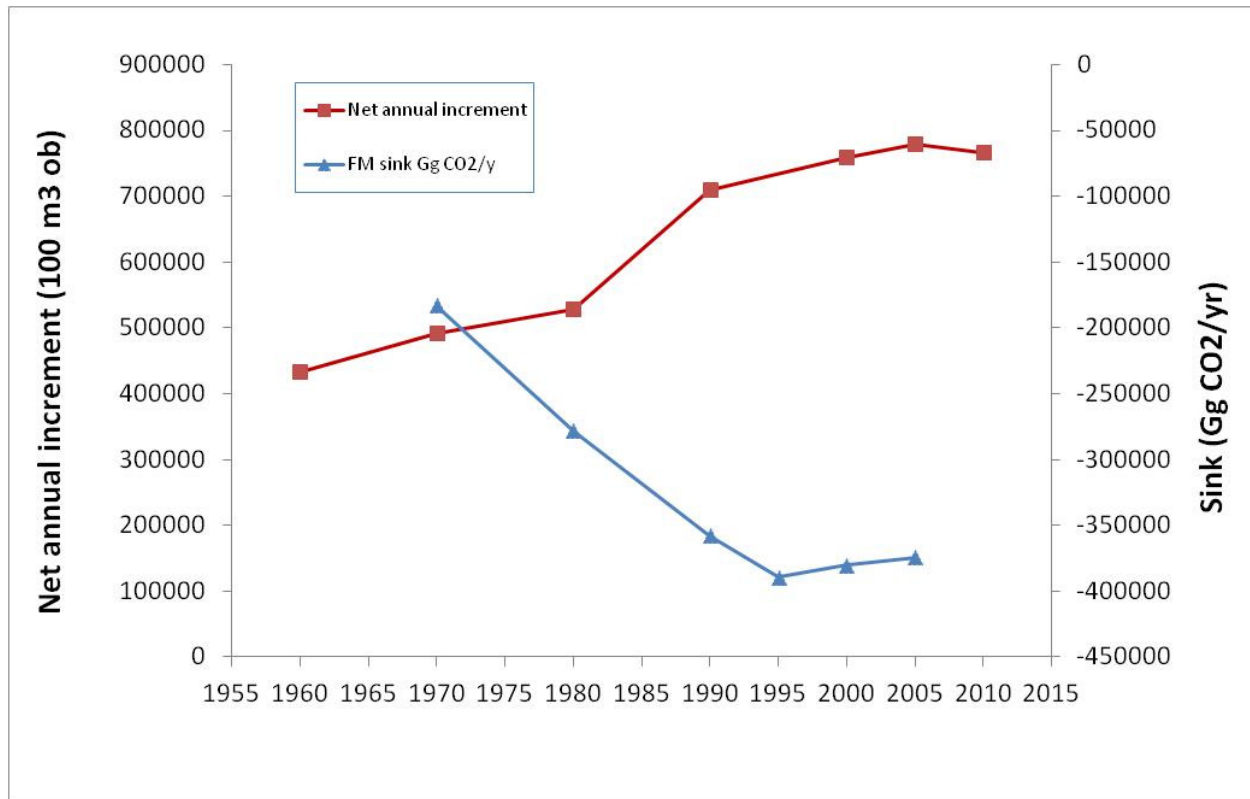
COP65

- Overall emission reduction targets were set in Kyoto, but share of LULUCF not defined
- Lengthy processes to define Caps, and to define rules
- Some parties deliberately slow down process: risks, uncertainties, leakage, etc. Although Durban did make progress on accounting
- Also, LULUCF is used to direct attention away from fossil fuel
- ..and negotiators jump on REDD+



..and insights change

Growth reaching its limits? Carbon sink strength is curbing in Europe



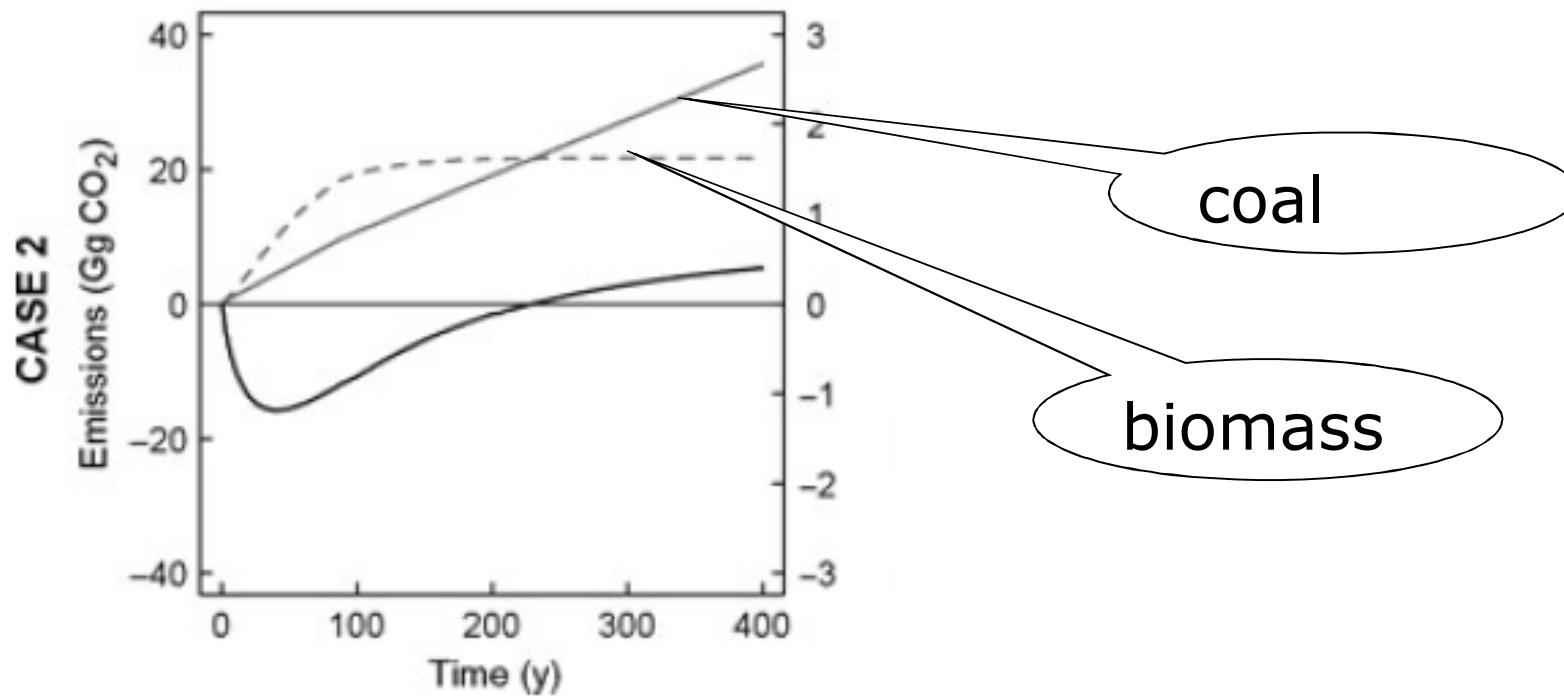
UNECE/FAO 2011,
Nabuurs et al. subm.

MS submissions
to UNFCCC

France made
large correction
on its NFI data
recently.

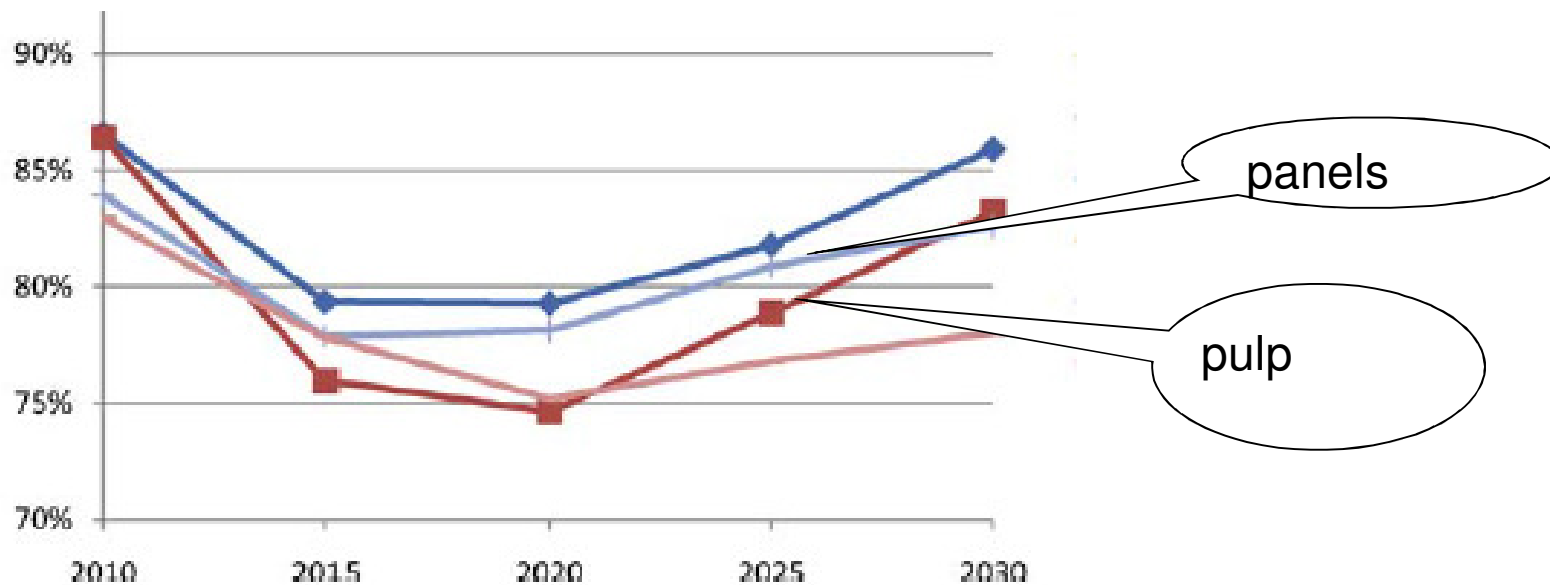


Upfront carbon debt when substituting coal with biomass (Zanchi et al. 2011)





Side impacts of bioenergy targets on production of pulp and panels



Contribution of EU forests to Bioenergy target will be small (3% of total energy use)
(Moiseev et al. 2011)



3. To the green economy



8 sept 2008

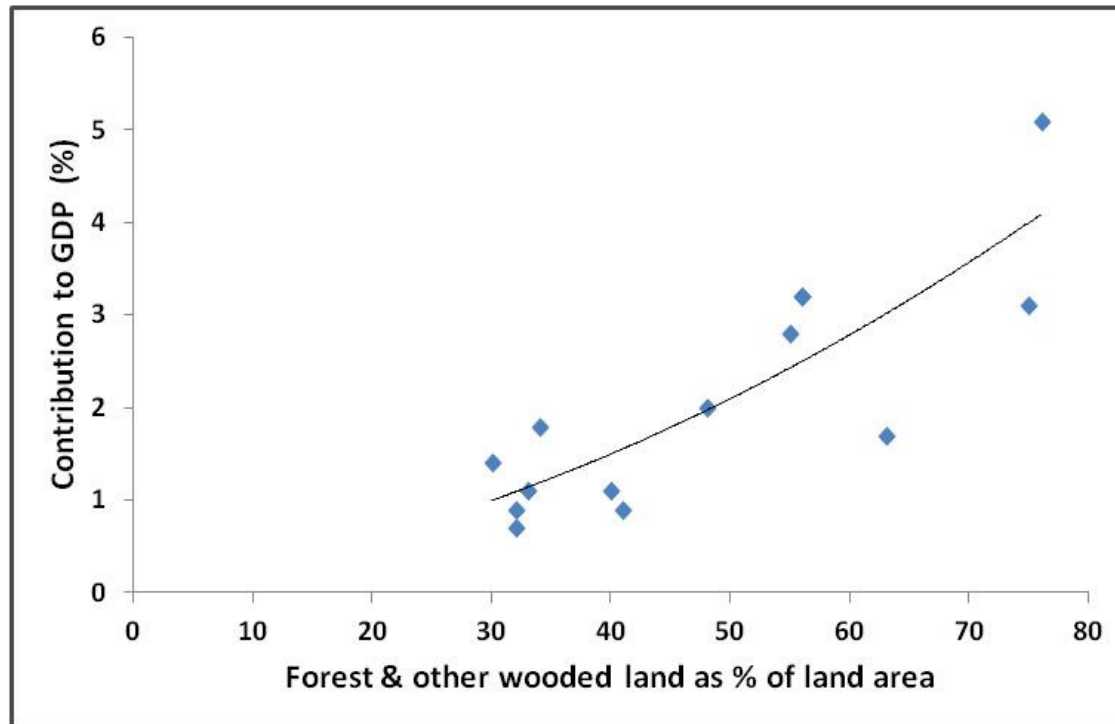


Green economy

- a change in thinking
- it regards the full value chain
- it is more than sequestration in forest biomass or burning up the forest
- it encompasses low carbon processing, new products, environmental services and new jobs
- also highly variable from location to location (ROKFOR project)

UN ECE/ FAO

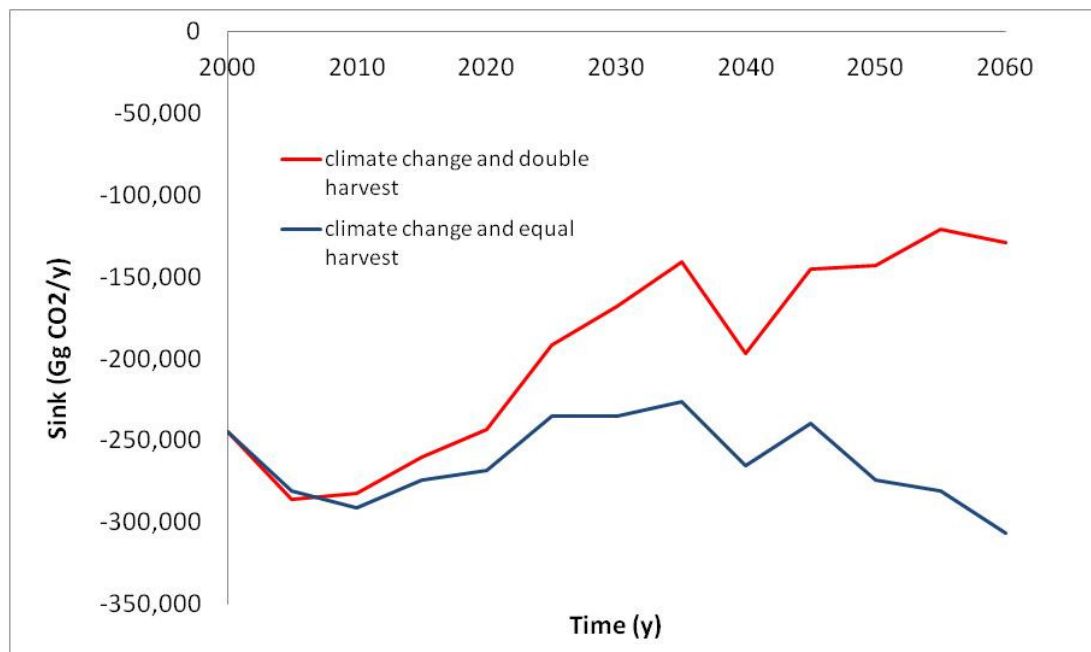
Weak financial basis of forest sector may prevent playing a large role in green economy



And a highly scattered ownership structure

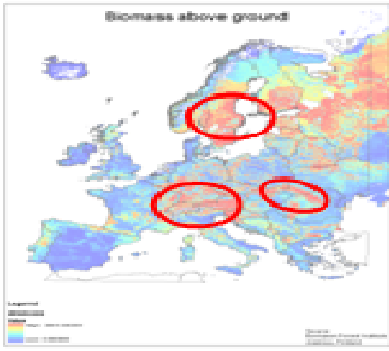
UNECE/FAO
State of Europe's forests 2011

Outlook: strong harvest increase may turn forest sink to a source

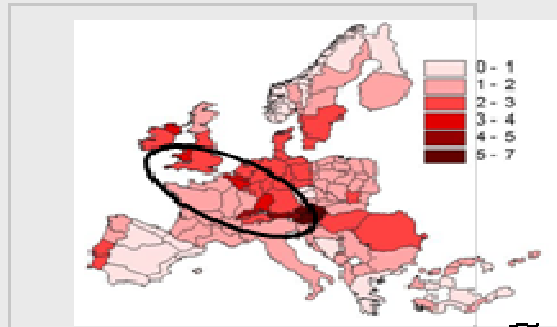


(Eggers, Lindner et al. 2008)
Projection for 15 EU country
forests with EFISCEN

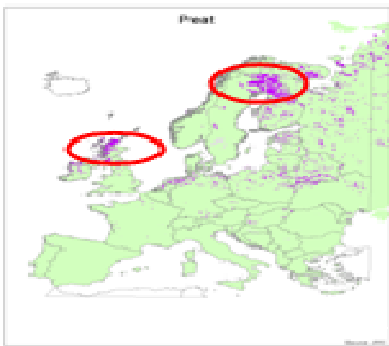
A very delicate balance
between a source and sink
(Nabuurs et al in IPCC 2007)



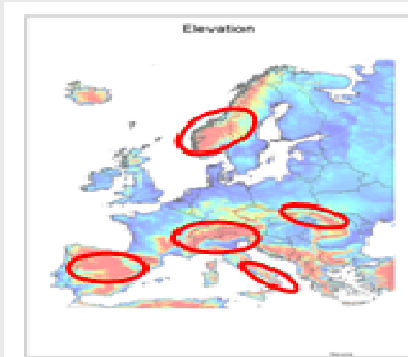
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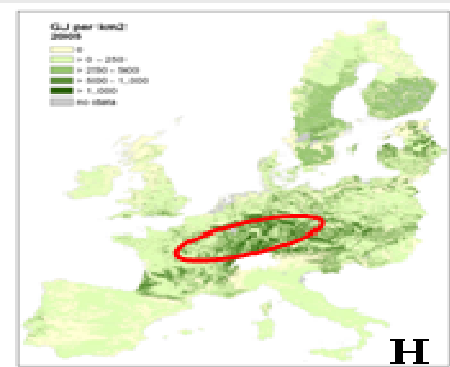
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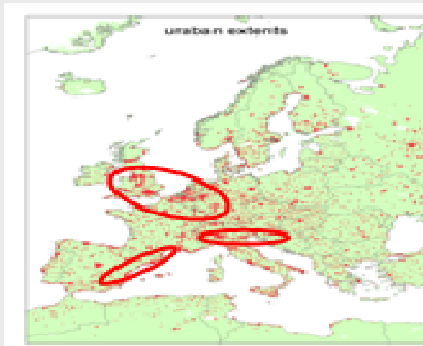
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H



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Depending on circumstances; measures need to differ !

UN negotiations can never grasp that.

Within Europe and at MS level it is certainly possible





Concluding

- Contribution of EU forests to Bioenergy target will be small (3% of total energy use); the forest biomass sink compensates some 8-10% of EU total emissions
- Countries should not be obsessed by sink in the forest
- Change in thinking is needed: regard the forest sector as a complete chain. This also regards services, and new types of products, and a wide variety of possibilities, depending on location, and issues at stake.
- Ageing forests of Europe, may have to be taken through a phase of acting as a source



Concluding (research)

- despite a lot of carbon balance research, our understanding is still very limited
- understanding full system, and all GHG's in relation to management is needed
- impacts of climate change, and adaptation options
- specific management options for local circumstances i.r.t. other services
- management options for an ageing forest



Thank you !

Gert-jan.nabuurs@efi.int