

Presentation 2.5: Forest products policies, prices, subsidies and incentives, and implications for future wood energy scenarios

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Abstract

This presentation gives an overview (on the basis of the recent EEA bioenergy report) of how much biomass could be technically available for energy production from waste, agriculture, forestry and forest industry residues without increasing pressure on the environment. Secondly the presentation will analyze policies (through taxes, subsidies and incentives) and future energy prices, which will have an implication on the future wood energy scenarios. Possible policy recommendations will be identified, which could help to reduce possible negative impacts on forest industries.



Forest products policies, prices subsidies and incentives, and implications for the future wood energy scenarios in Europe

International Seminar on Energy and the Forest Products industry

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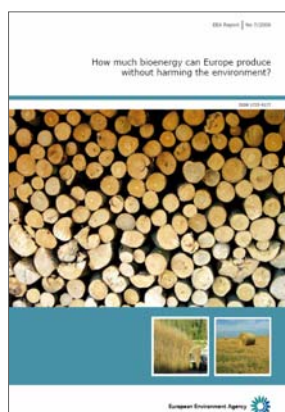
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How much biomass could technically be available for energy production without increasing pressures on the environment?



- Outlook for biomass supply for 2010-2020-2030

- The environmentally-compatible primary biomass potential is estimated around 190 million t of oil equivalent (MtOE) in 2010

- Biomass potential increases to around 295 MtOE by 2030 (compared to 69 MtOE in 2003)

- The potential is sufficient to reach the European renewable energy target in 2010 (150 MtOE)

- The potential also allows ambitious future renewable target beyond 2010

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EEA bioenergy report, Main assumptions:

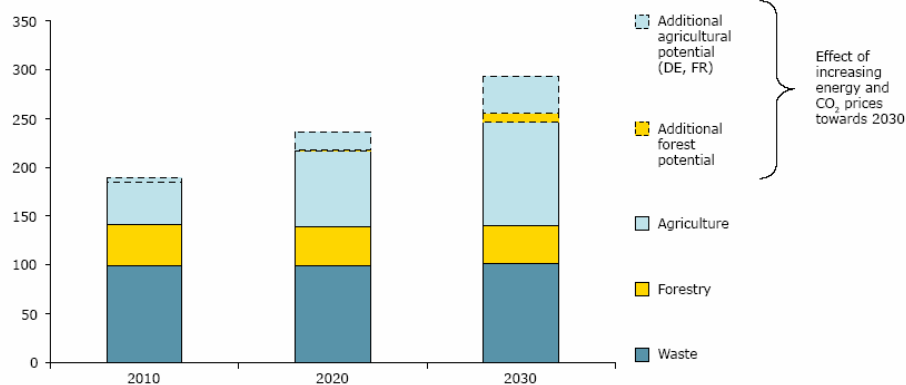
- The EU25 population is expected to almost stabilize between 2000 and 2030,
- GDP is expected to grow at an average 2,4% between 2000 and 2030,
- Oil price is assumed at a conservative low level of 35 € per barrel,
- CO2 permit is assumed 30 €/t of CO2 in 2020 and 65 €/t of CO2 in 2030,
- Oil price of 50 €/barrel is assumed in additional sensitivity scenario to reflect recent price increases.

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Environmentally-compatible primary bioenergy potential in the EU

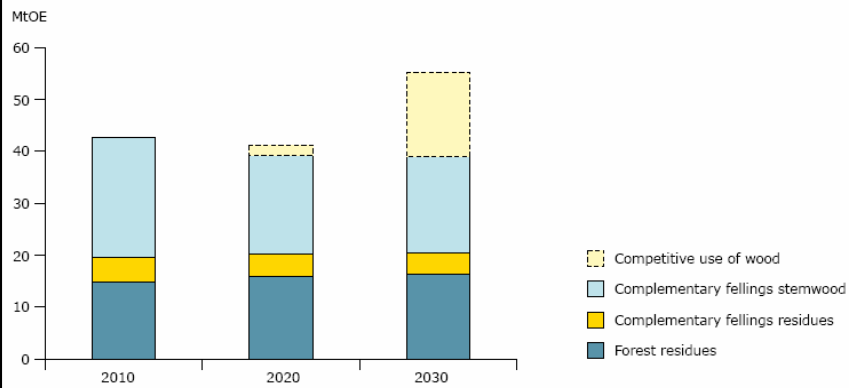
Primary bioenergy potential, MtOE



Note: The agricultural potential comprises dedicated bioenergy crops plus cuttings from grassland and was calculated for EU-25 without Cyprus, Luxembourg and Malta. Agricultural residues, such as straw and manures, are included in the category 'waste' (covering all EU-25 Member States). The forestry potential was calculated for EU-25 except Cyprus, Greece, Luxembourg and Malta. It consists of residues from fellings and complementary fellings. The additional forestry potential takes into account the reductions in the black liquor potential as a result of wood redirected from pulp and paper to energy production. It strongly depends on the assumed carbon permit and oil price. The additional agricultural potential due to higher prices paid for bioenergy was modeled only for Germany (DE), France (FR).



Environmentally-compatible bioenergy potential from forests in the EU



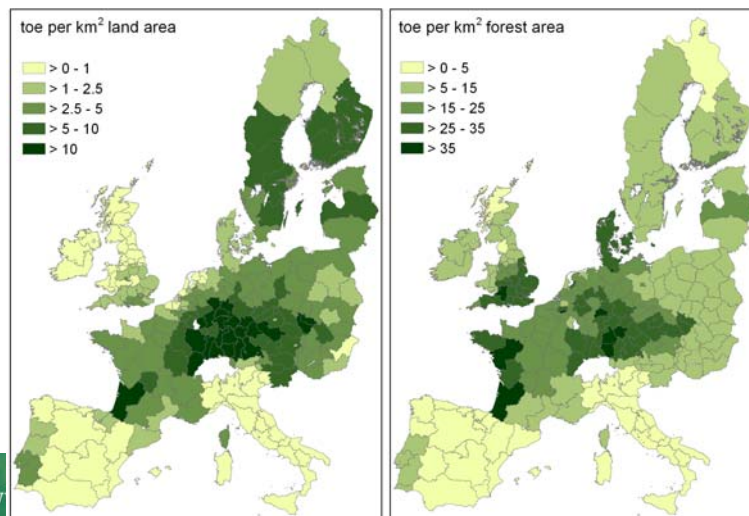
Note: Calculations cover EU-25 Member States without Cyprus, Greece, Luxembourg and Malta

(29) The energy value of wood chips was assumed to be 64 EUR/m³ in 2020 and 94 EUR/m³ in 2030 (see Annex 3). If a higher oil price of EUR 50 per barrel was assumed, the potential being redirected from competing industries would increase to 6 and 33 MTOE in 2020 and 2030, respectively.



Environmentally compatible energy potential from forest residues in 2010, tons oil equivalents (toe) per km² land area (left) or forest area (right)

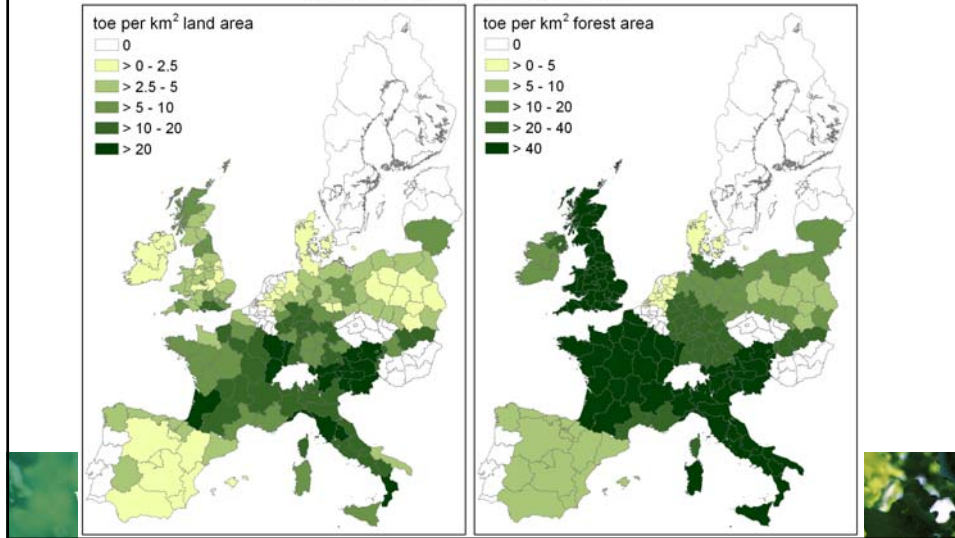
Environmentally enhanced energy potential from forest residues in 2010, EU-21



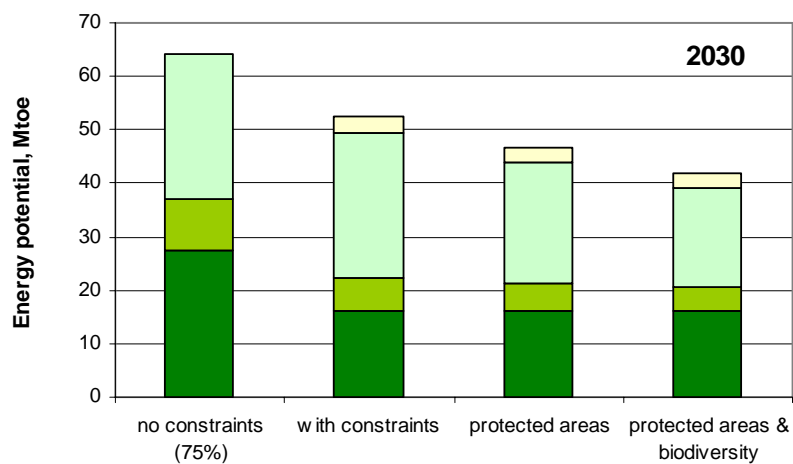


Environmentally compatible energy potential in complementary fellings, tons oil equivalents (toe) per km² land area (left) or forest area (right), protected area and biodiversity scenario.

Environmentally enhanced energy potential from complementary fellings in 2010, EU-21 protected area & biodiversity scenario

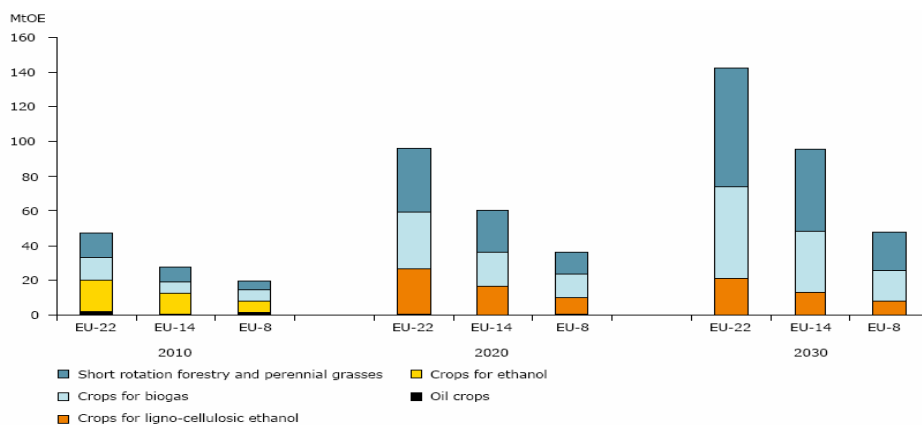


Bioenergy potential from forests with and without additional restrictions





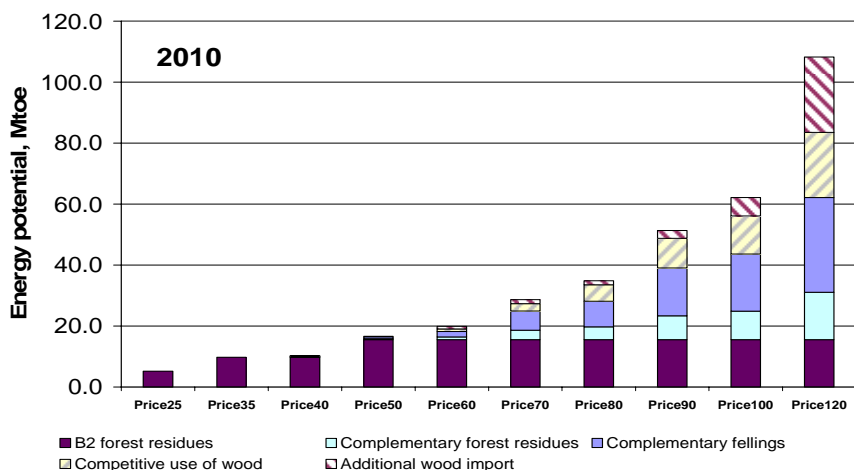
Environmentally-compatible agricultural bioenergy potential in the EU



Note: No data available for Cyprus, Luxembourg and Malta. 'Oil crops' comprise rapeseed and sunflower. 'Crops for ethanol' include the potential of grains from maize, wheat, barley/triticale. 'Crops for ligno-cellulosic ethanol' cover the energy value of the whole plant (corn and straw) for wheat and barley/triticale. 'Crops for biogas' are maize (whole plant), double cropping systems, switch grass and the grass cuttings from permanent grassland. 'Short rotation forest and perennial grasses' include poplar, willow, miscanthus, reed canary grass, giant reed and sweet sorghum, which may often be used in whole-plant conversion systems like gasification, or biomass-to-liquid processes.

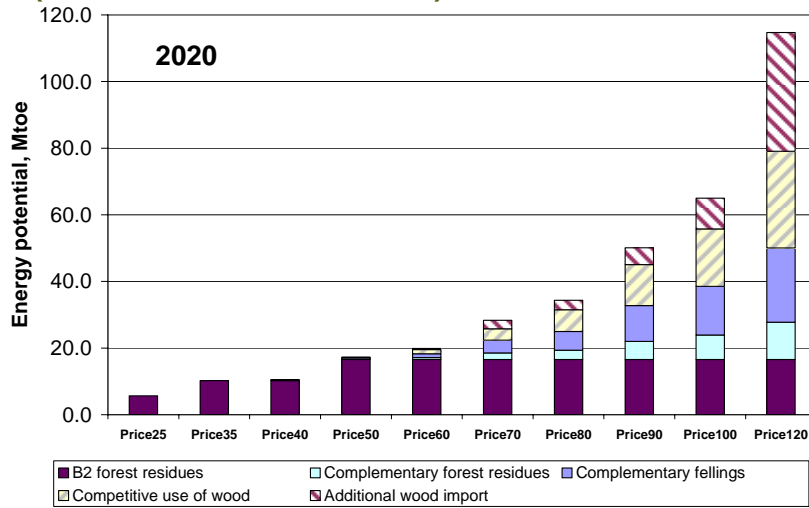


Bioenergy potential from forest sector in the EU, 2010 (based on EFI-GTM scenarios¹)



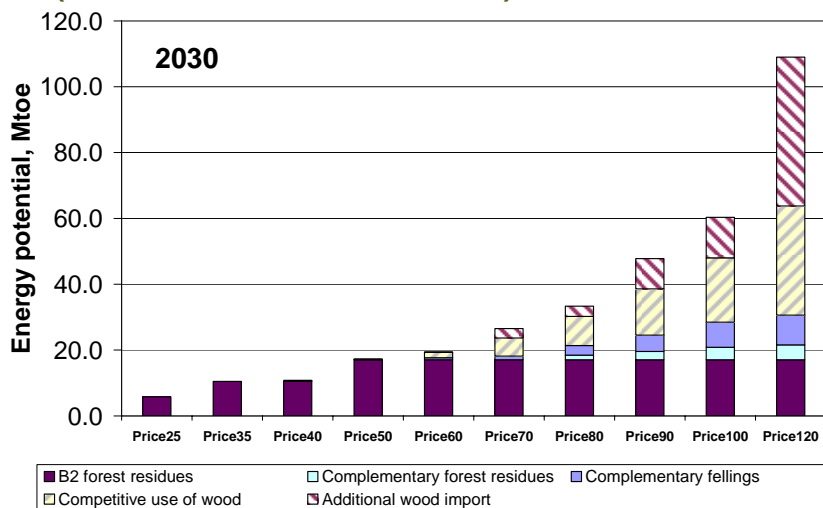
¹ - Figures are from "Environmentally compatible bio-energy potential from European forests" – forthcoming EEA report

 **Bioenergy potential from forest sector in the EU, 2020**
(based on EFI-GTM scenarios)



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 **Bioenergy potential from forest sector in the EU, 2030**
(based on EFI-GTM scenarios)



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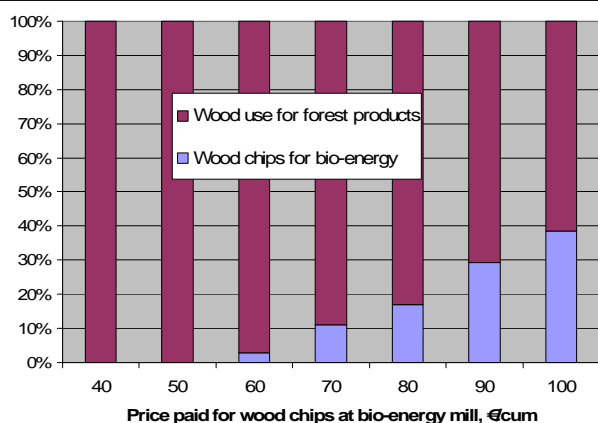


Competitive use of wood for bio-energy versus wood for forest products (based on EFI-GTM scenarios)

- Increasing market values for bioenergy would lead to substantial mobilisation of wood biomass resources for bio-energy from other competing industries currently utilising wood resources.

- With a wood chip price of 70€/m³, chemical pulp production in the EU might decline by around 10-15%.

- If the price for wood chips increases even higher to 100€/m³, the reduction of chemical pulp production could be up to 50%.



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Main conclusions recommendations:

- There is sufficient technical availability of biomass for energy to fulfill the EU target on RES;
- However, high volumes of biomass for energy can be supplied at rather high energy and CO₂ permit (taxes) prices;
- High energy and CO₂ prices are likely to cause substantial distortion on forest products markets (wood pulp and wood based panels);
- More efficient policies can be based on direct economic incentives in agriculture (including subsidies) for growing energy crops (including short rotation forestry) and subsidies for pre-commercial thinning in forestry in order to increase actual biomass supply instead of overheating competition for already existing resources

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