



European future scenarios for the use of biomass for energy

Veerle Dossche
FERN



The campaigning NGO for greater environmental and social justice, with a focus on forests and forest peoples rights in the policies and practices of the EU



It is the unsustainable consumption patterns, stupid...

Maintaining unsustainable consumption patterns is determining what is considered sustainable forest management today. A meaningful discussion about a sustainable future use of forests in Europe however would turn this debate upside down so policies would be guided by what forests can sustain, not by what is needed to sustain unsustainable consumption levels.



Bioenergy in NREAPs

According to the 27 NREAPs received, bioenergy is projected to:

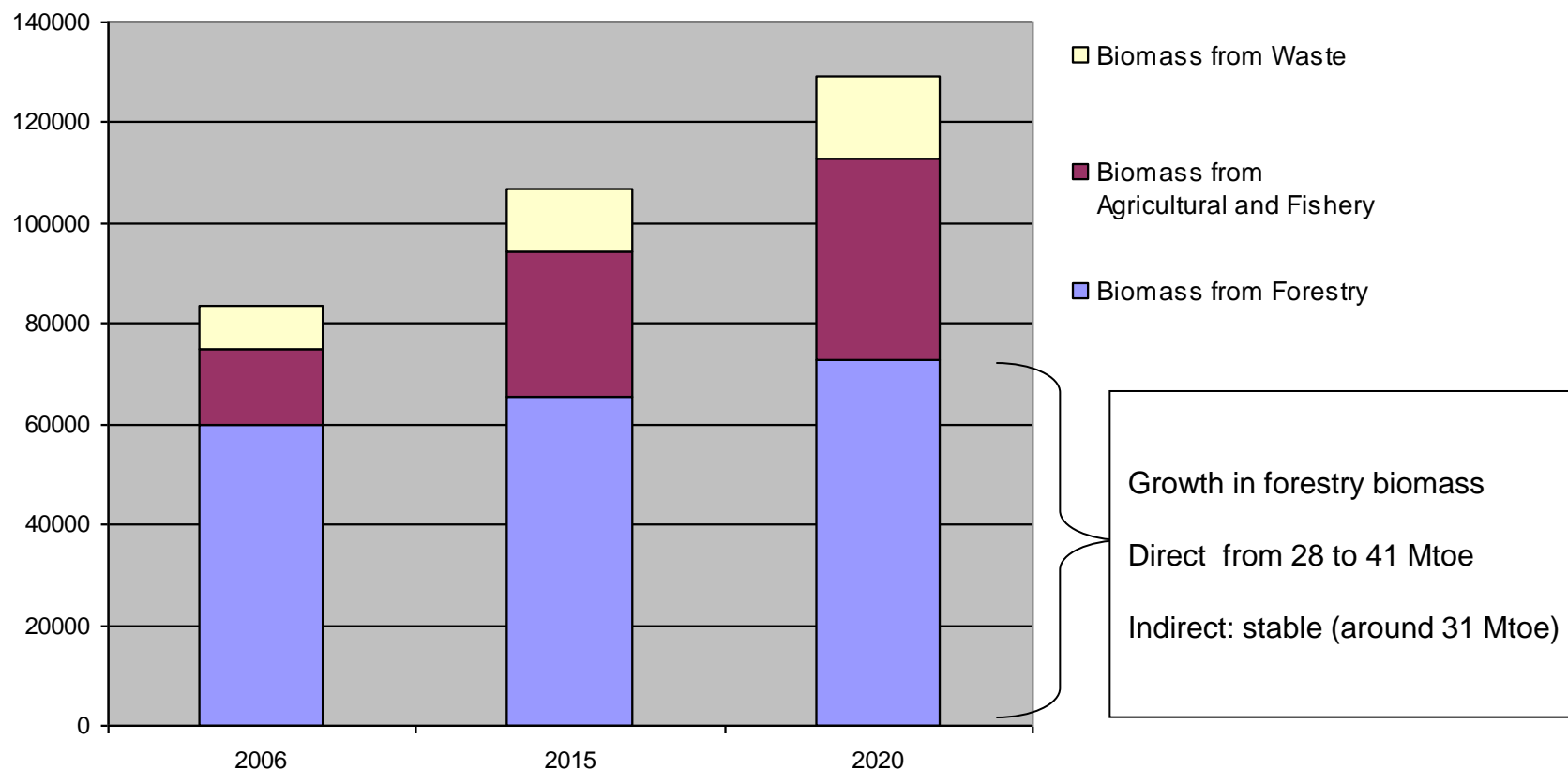
- contribute to more than 10% of the total final energy consumption in 2020
- contribute to more than 50% of RES energy consumption in 2020

Source: European Commission



Bioenergy supply (Ktoe)

Primary energy from biomass supply (ktoe)



Source: 25 NREAPs
2006: domestic biomass + imported biomass – exported biomass
2015 and 2020: domestic biomass

Source: European Commission



European forests well managed?

Biological Diversity in Forest Ecosystems

The area of protected forests is expanding in Europe

Protected forests are important to maintain and enhance biodiversity, as well as to conserve landscapes and provide recreation opportunities. The area of protected forests in Europe has increased by around half a million hectares annually over the last 10 years due to policies to improve biodiversity. In Europe without the Russian Federation, about 10 percent of forests are protected with the main objective to conserve biodiversity and about 9 percent with the main objective to protect landscape - together, these accounts for a total area of 39 million hectares. The Russian Federation has 17 million hectares of protected forest. The strictness of and measures for protection varies considerably among countries.

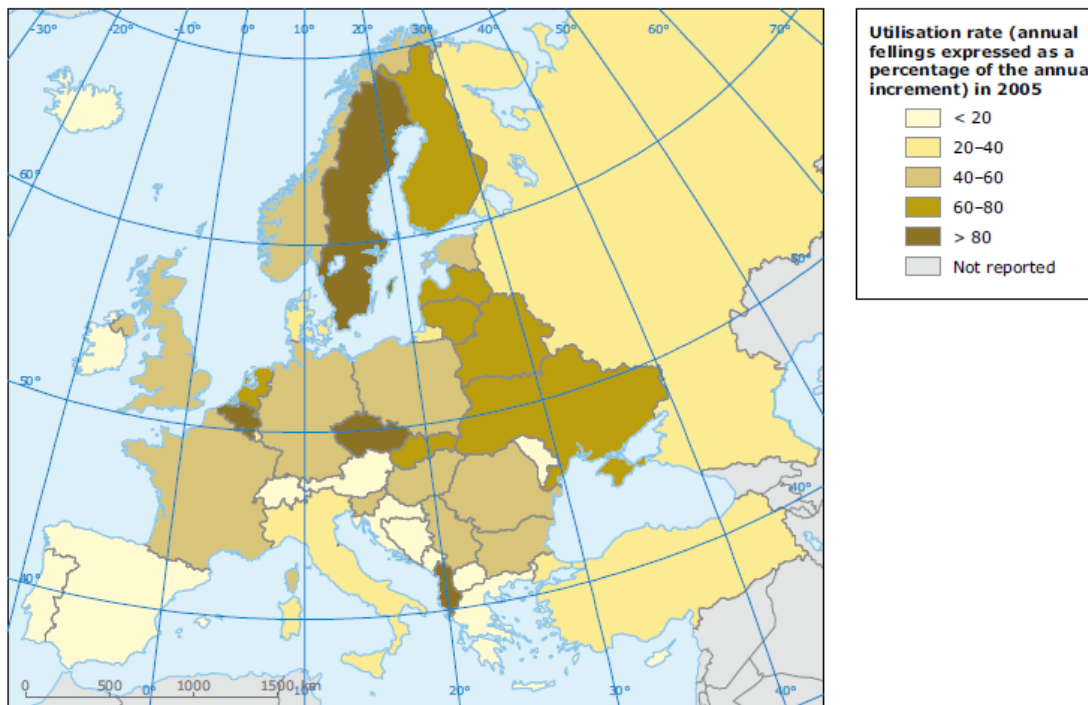
Forest management practices increasingly promote the conservation and sustainable use of biodiversity

Forest management practice has changed towards greater integration of biodiversity aspects. For instance, deadwood components and important vulnerable small biotopes are kept in forests managed for wood production. There is an increasing use of natural regeneration and mixed tree species stands. In several countries, long-term monitoring of threatened forest species has indicated that adoption of new forest management measures has reduced the decline of threatened species.

State of Europe's Forests 2011

How to interpret the utilisation rate?

Map 6.3 Utilisation rate in 2005 (% of annual felling compared with net annual increment in growing stock) for Ministerial Conference on the Protection of Forests in Europe (MCPFE) countries



- The ratio of felling to increment is relatively stable at around 60 %, being higher than 80 % only in Albania, Belgium, Czech Republic and Sweden.
- The utilisation rate varies considerably between countries, but remains generally below the sustainability limit of 100 % (EEA, 2009).

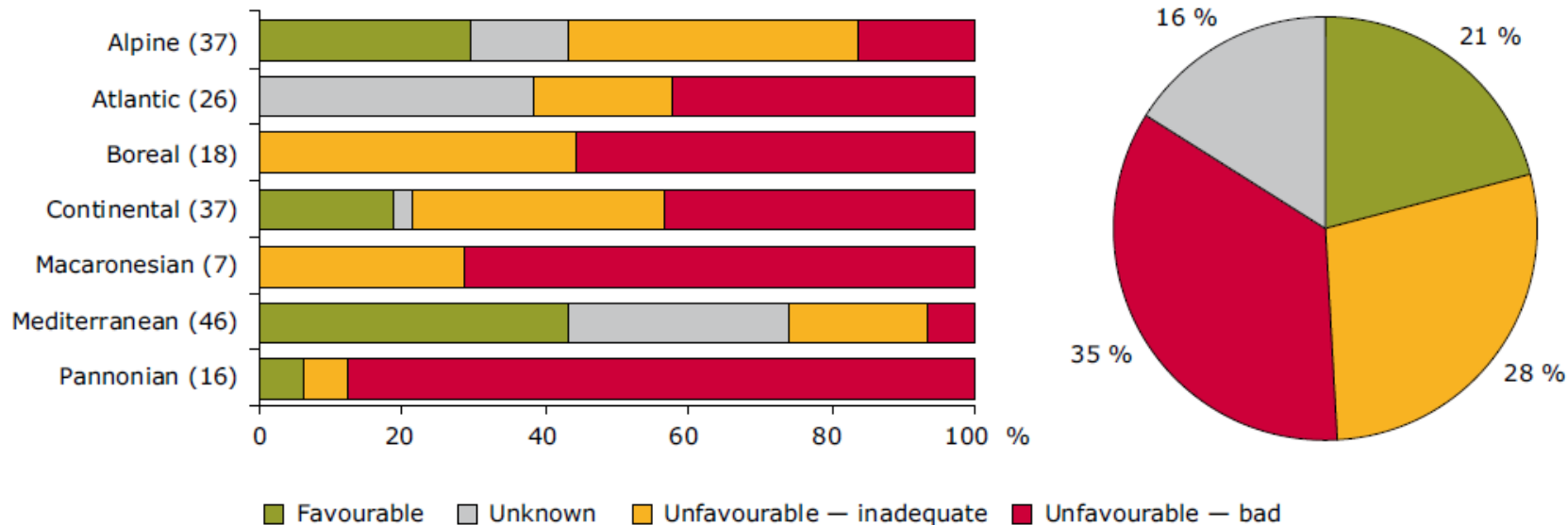
Source: Based on MCPFE, 2007; SEBI indicators, 2010 – SEBI indicator 17.

Source: EEA (2010). EU 2010 biodiversity baseline



Figure 6.2 Conservation status of habitat types of European interest in forest ecosystems (statistics by region on the left, overall statistics on the right)

Conservation status of habitats per biogeographic area in forest ecosystems





“...if felling levels are increased as in our bio-energy scenario, a decrease can be expected in the amount of standing deadwood and of large-diameter deadwood. We conclude that without additional management measures to protect deadwood, intensification of biomass removal could negatively affect deadwood-dependent species, which constitute an important part of biodiversity in European forests.”

Source: Verkerk et al (2011). Assessing impacts of intensified biomass removal on deadwood in European forests.



Concept of SFM is increasingly guided by meeting growing timber demand rather than considerations of sustainability



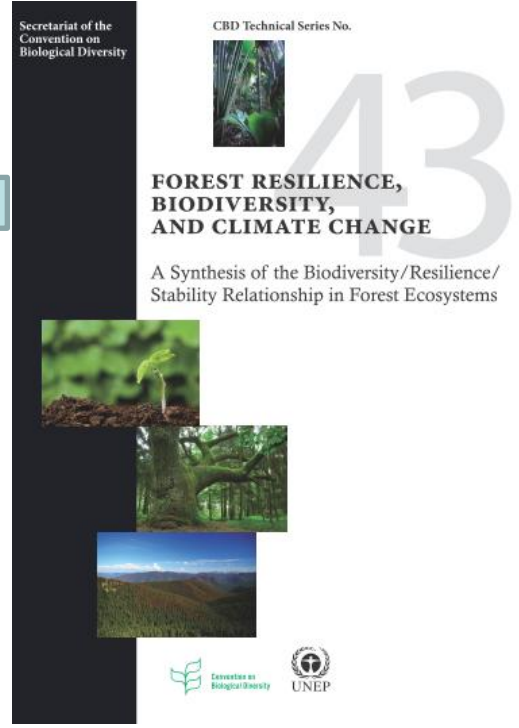
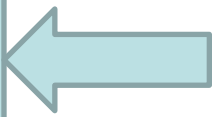
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Management practices needed to build up forests' resilience to climate change are at odds with intensification of forest management as a consequence of new demands such as bioenergy production

“Maintaining and restoring biodiversity in forests promotes their resilience to human-induced pressures and is therefore an important ‘insurance policy’ and safeguard against loss of forest value and functionality and against expected climate change impacts.”

CBD (2009). Forest Resilience, biodiversity and climate change





The assumption that biomass combustion would be inherently carbon neutral is not correct

“Some estimates of bioenergy potential suggest that biomass reduces greenhouse gas emissions so long as it only harvests this net forest growth and leaves the carbon stocks of the forests stable. But merely keeping carbon stocks stable ignores the additional carbon sequestration that would occur in the absence of wood harvest for bioenergy (the counterfactual) and therefore does not make bioenergy carbon neutral.”

Source: Opinion of the EEA Scientific Committee on Greenhouse Gas Accounting in relation to Bioenergy (September 2011).



SUOMEN YMPÄRISTÖ 5 | 2011

Metsäbiomassan energiakäytön ilmastovaikutukset Suomessa

Jari Liski, Anna Repo, Riina Känkänen, Pekka Vanhala,
Jyri Seppälä, Riina Antikainen, Juha Grönroos,
Niko Karvosenoja, Katja Lähtinen, Pekka Leskinen,
Ville-Veikko Paunu ja Juha-Pekka Tuovinen

YMPÄRISTÖN
SUOJELU



Suomen ympäristökeskus

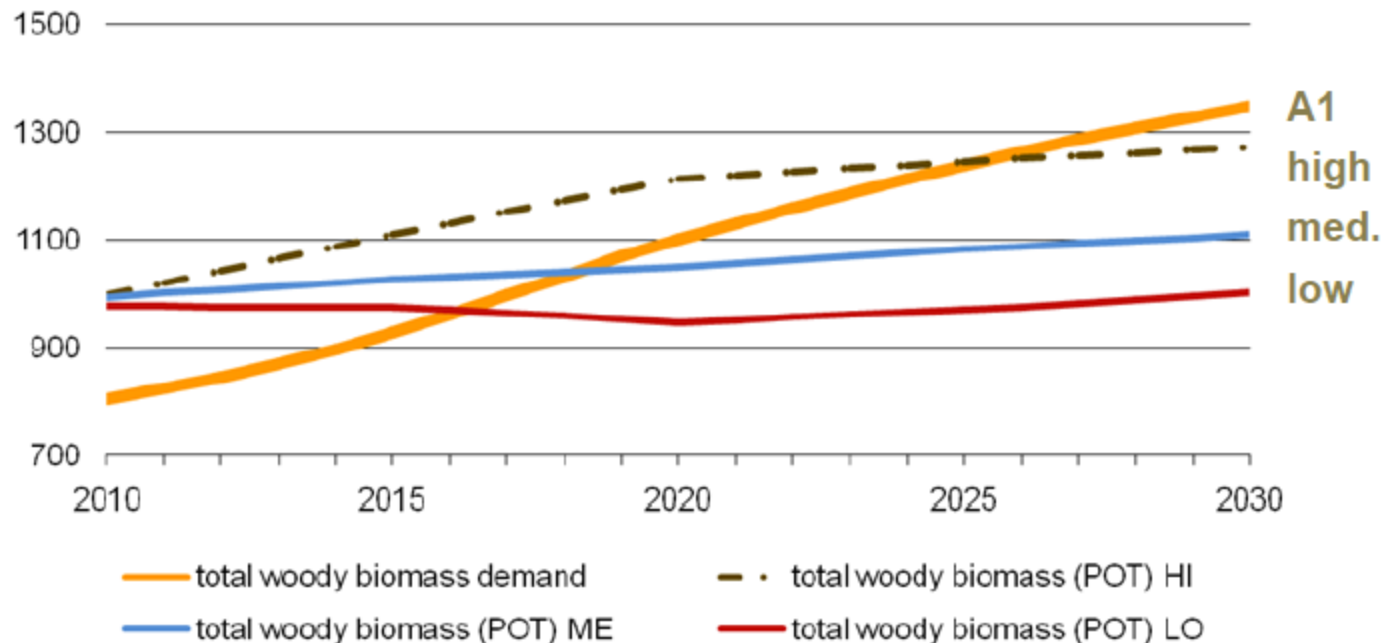
Weaker carbon sink
capacity of forests
undermines the majority of
climate benefits from forest
energy

Do demand and supply match?

- EU27 - total woody biomass demand and potential with low, medium and high mobilisation scenario

Source: *EUwood project, June 2010*

in M m³ - comparing plot



Megatrend wood supply – 2020

- Increasing demand for wood through population and economic growth
- More expensive wood
- Where should the wood come from?

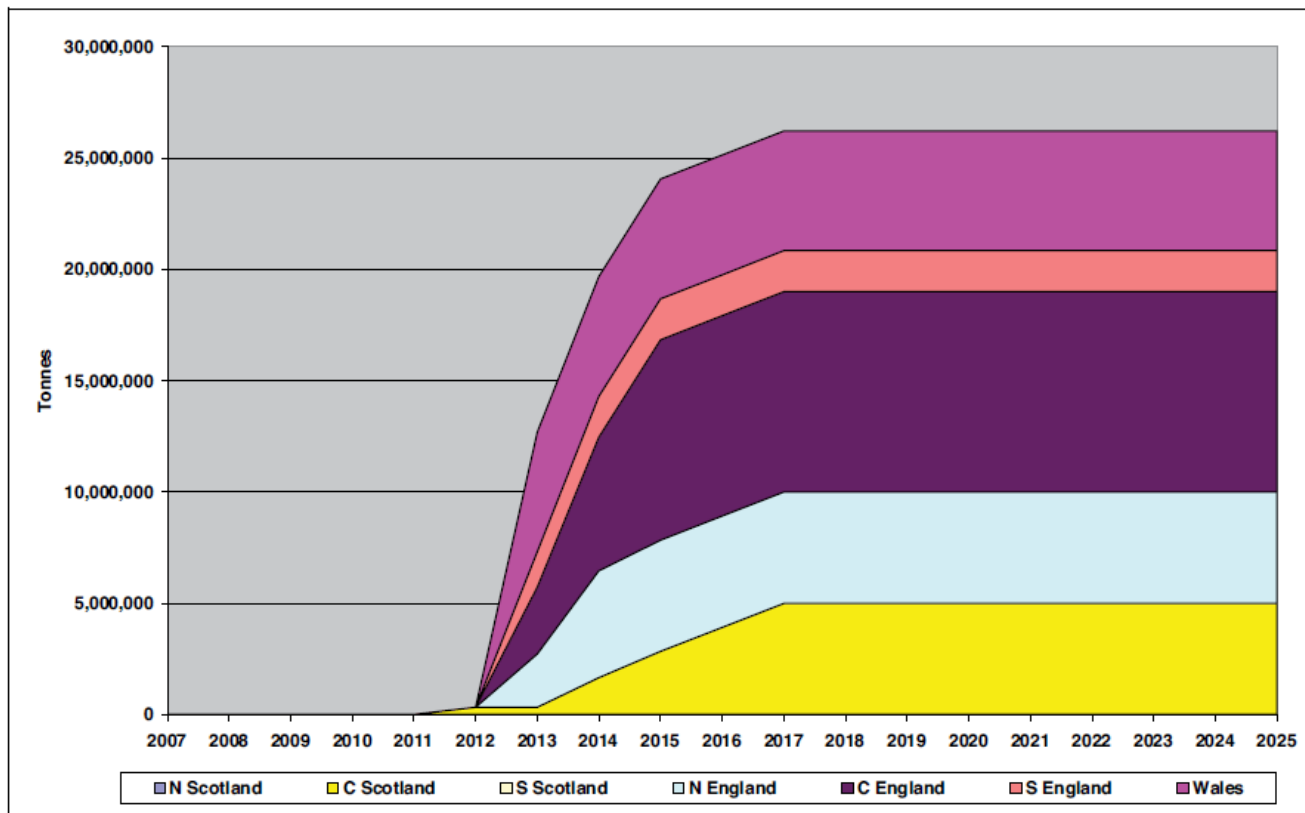
Western EU	Deficit
Eastern EU	Deficit
Rest of Eastern Europe	Balanced
Russia	Is probably at production ceiling under current conditions
Japan	Deficit
China	Huge deficit

New Zealand & Australia	+ 40 million m ³
South East Asia	Beginning deficit
India	Deficit
Africa	Beginning deficit
Latin America	Expansion potential
USA	Deficit
Canada	Deficit



Skyrocketing imports

Chart 10.1: Estimated total imports of wood chips and pellets into Britain if all the wood energy plants being planned are built



Source: John Clegg Consulting Ltd., Wood fibre availability and demand in Britain: 2007 to 2025,



Recommendations



Woody Biomass for Energy: NGO Concerns and Recommendations

April 2011



Available at
www.fern.org/sites/fern.org/files/NGO%20Report%20on%20Biomass%2011%20April%202011.pdf



Recommendations (1)

The conclusions from the April 2011 NGO report:

- The EC must take action to fulfil the REDs legislative mandate on sustainability measures for biomass.
- Sustainability measures for biomass must be pursued in the context of a coherent energy policy strategy
- Sustainability measures for biomass should be situated within a coherent strategy for ensuring the best and most efficient use of scarce natural resources.



Recommendations (2)

Following on from these conclusions, the report recommends that the EU should:

- Reduce overall energy demand
- Restrict the use of biomass for energy to levels that can be sustainably supplied, not driven by unregulated demand
- Ensure consistency with other policy frameworks
- Reject the myth that all biomass for energy is carbon neutral



Conclusions

- The EU biomass policy is currently not contributing to climate policy objectives – it may even lead to net increases in GHG emissions - and is undermining EU biodiversity policy.
- There is a need for a debate beyond the sustainability criteria for biomass.
- Without fundamental changes in current policy discussions, biomass will not contribute positively to the future energy mix.



THANK YOU
www.fern.org

Rue d'Edimbourg 26
Brussels 1050 • Belgium

t +32 (0)2 894 46 96
e veerle@fern.org
m +32 (0)498 54 48 73



The campaigning NGO for greater environmental and social justice, with a focus on forests and forest peoples rights in the policies and practices of the EU