

# The contribution of wood to biomass energy

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Kit Prins

Chief, UNECE/FAO Timber Section



Biofuels: a reality check, 29 November 2007, Geneva



# Overview

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1. Background
2. Present situation and policies
3. Sustainable wood supply outlook
4. Main policy issues



# UNECE/FAO Timber and Forest programme

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- Aim: to promote sustainable forest management in the region
- Monitoring, analysis, policy forums, capacity building
- Five areas:
  - Markets/statistics,
  - Forest resource assessment,
  - Sector outlook studies
  - Social/cultural
  - Policy, cross sectoral



# What are biofuels (for this presentation)?

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- Energy from all sorts of biomass
  - (my focus is on wood)
- For all types of use:
  - Heat
  - Electric power
  - CHP
  - Transport fuels



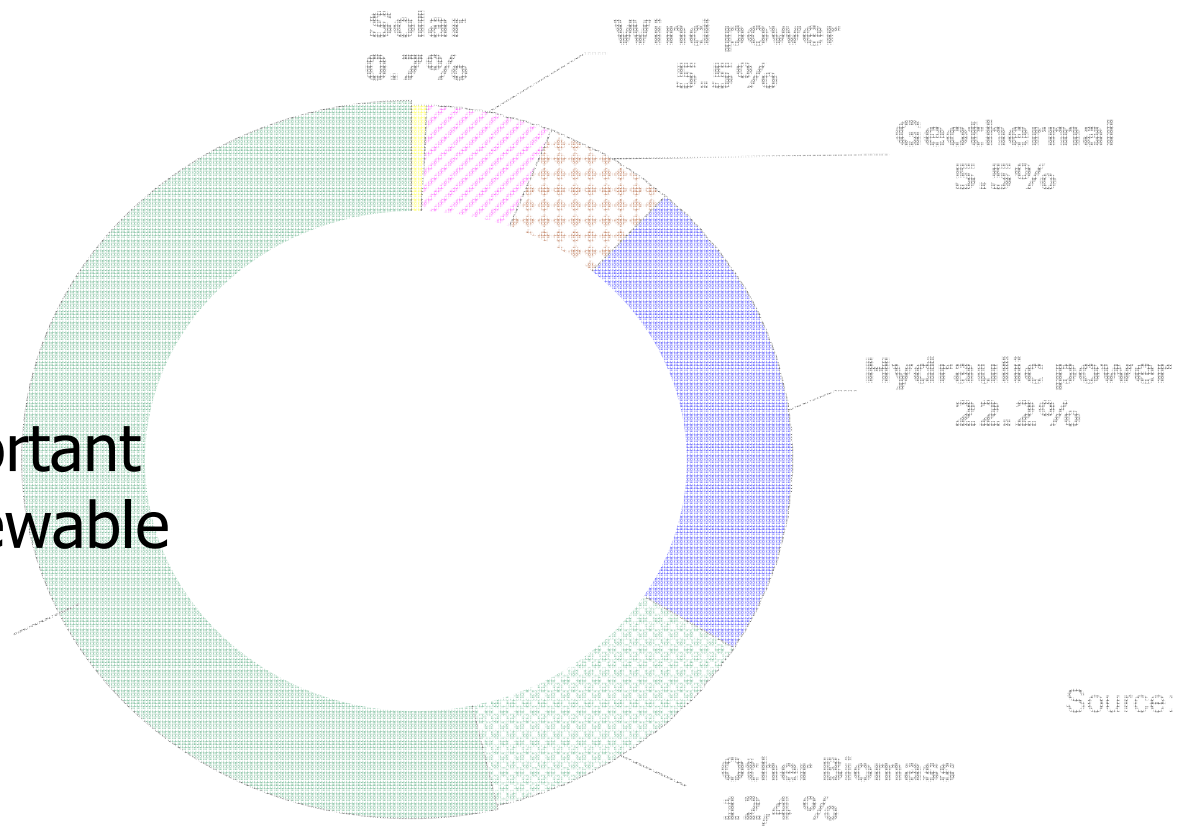
# Orders of magnitude

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- How much renewable energy comes from wood?
- How much wood is used for energy?



# Renewable Energy Sources 2005



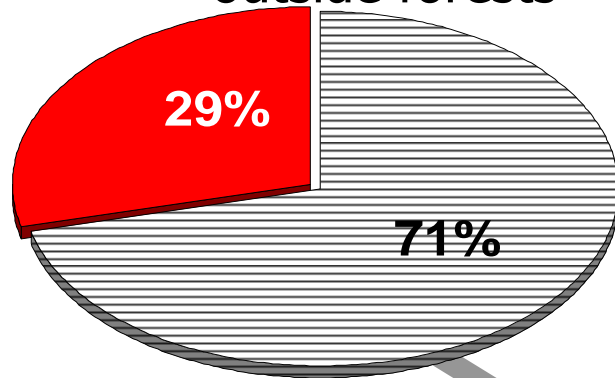
Wood most important source of renewable energy now

Source: EurObserver

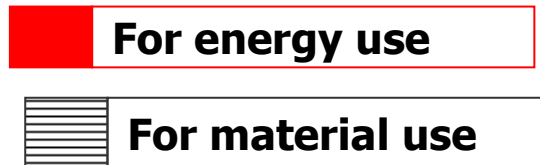
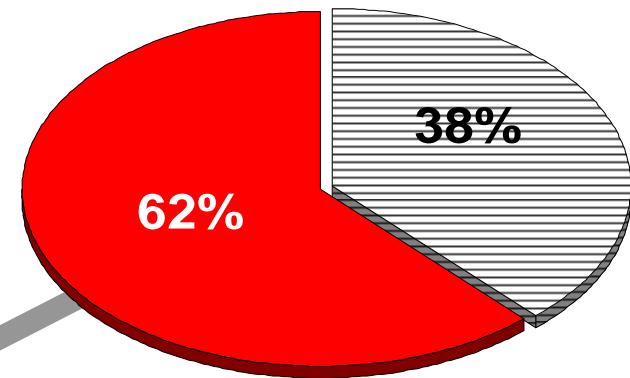


# 2. Wood use and supply in 2005

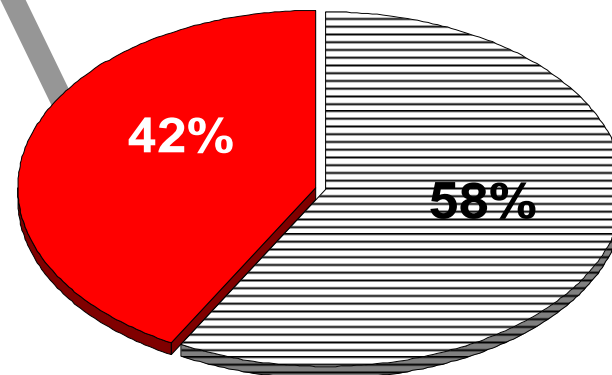
Wood removals 2005  
from forest and woody biomass  
outside forests



Wood co-products, residues  
& recovered wood



Total supply



# Why develop renewable energy? (source DG Environment)

- The development of renewable energy is a central aim of the European Commission's energy policy for 2 main reasons:
  - Reducing Carbon Dioxide (CO<sub>2</sub>) emissions – (EU committed to reduce by 8% its GHG emissions by 2008-2012- Kyoto Protocol)
  - Improving the security of energy supply and reducing the Community's growing dependence on imported energy sources.
- Renewable energy sources (RES) are expected to be economically competitive with conventional energy sources in the medium to long term.
- **2020 OBJECTIVE : 20 % of gross energy consumption from RES**





# What do the RES targets mean for the forest sector?

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- How much wood is needed?
- How to convert RES targets to wood requirements?



# How to estimate future wood use on the basis of RES targets

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1. scenario for total primary energy supply (efficiency gains included?)
2. national policy target for renewable energy (MJ or % of TPES?)
3. national target for bioenergy
4. target for wood energy (same % of bioenergy, or less?)

Most countries stop at step 2!



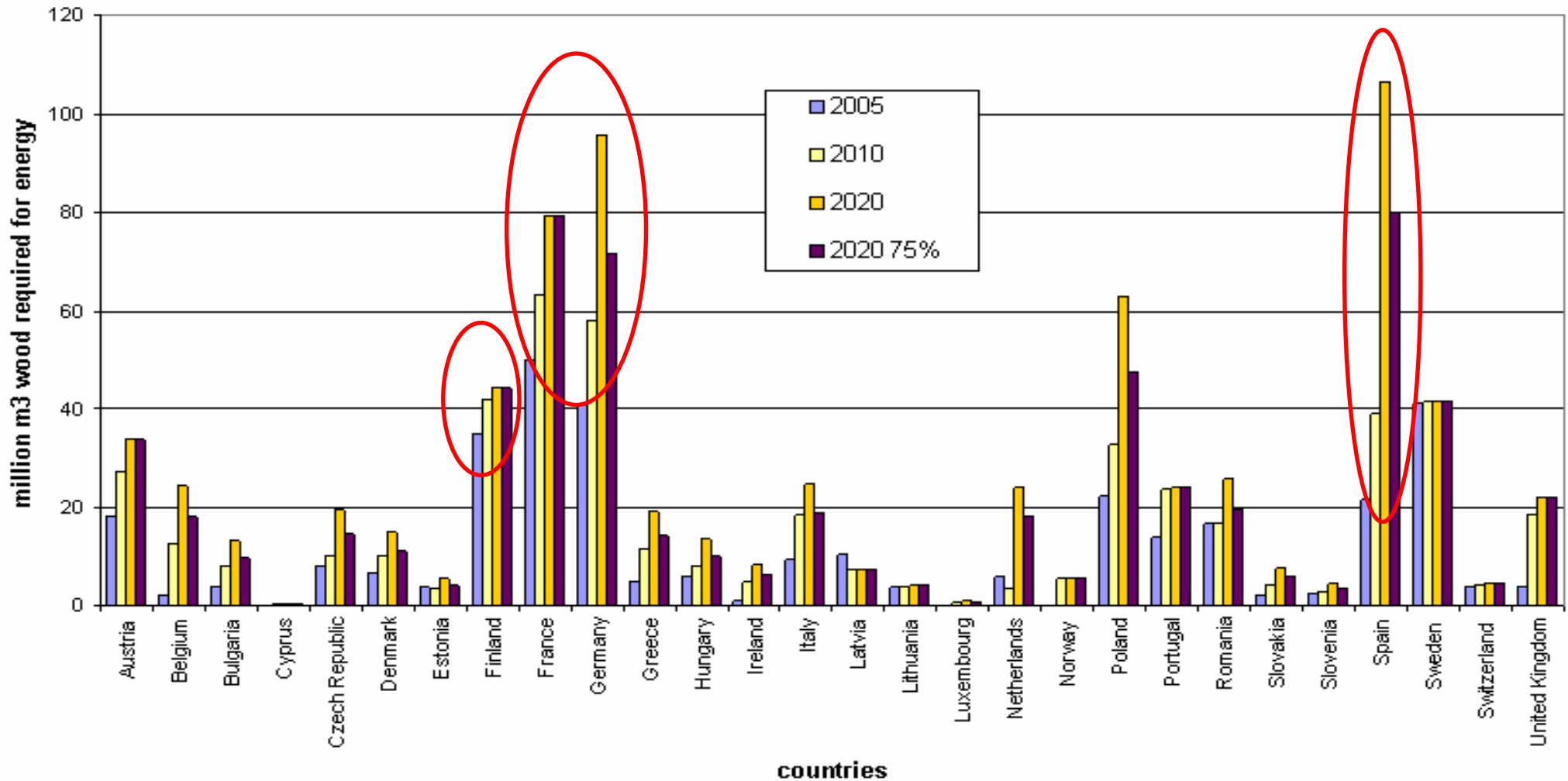
# Estimated wood energy demand 2010/2020

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- On the basis of published targets
- Simple, neutral assumptions (same % share as 2005)
- No consideration of supply limits



# Future wood use for energy



# Future wood balance: forest based industry and energy

year	wood sources [million m <sup>3</sup> ]	wood use * [million m <sup>3</sup> ]	Difference
2005	775	821	47
2010	791	976	185
2020	825	1 274	448
2020 75%	825	1 156	321

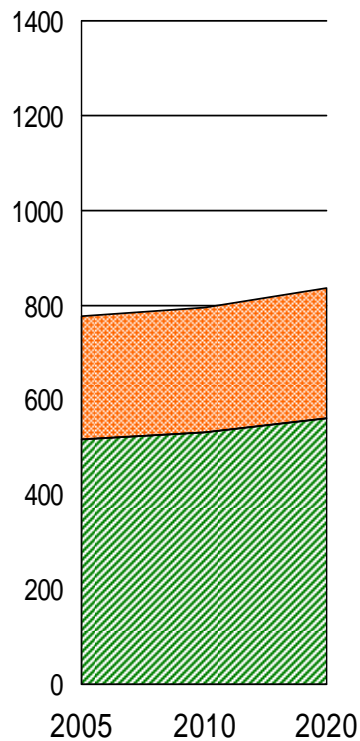
\* required to fulfil EFSOS projections and policy objectives

- Data not directly comparable (different methods)
- No prices included
- Conservative wood supply scenario
- > BUT indicates broad pattern of future demand

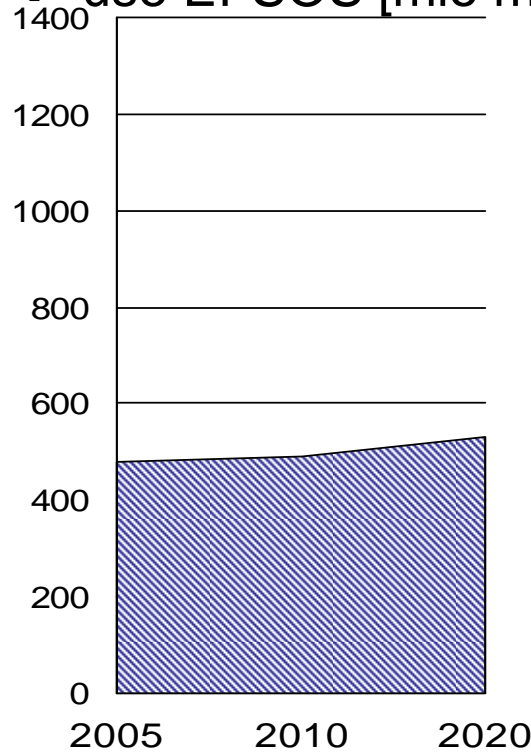


# Future wood supply balance

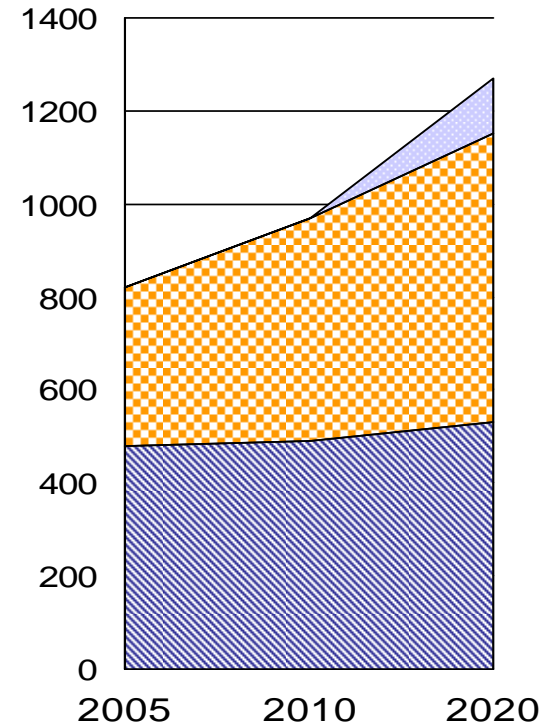
Calculated future wood supply EFSOS [mio m<sup>3</sup>]



Calculated material use EFSOS [mio m<sup>3</sup>]



Combined wood use [mio m<sup>3</sup>]



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# There is a problem about future sustainable wood supply for energy: what next?



# Solutions (several or all of the following):

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- Energy efficiency
- Resource efficiency
- Mobilise more wood from inside and outside forests
- Improve recovery and recycling
- Increase forest area
- Imports of wood (from where?)
- Develop other sources of biomass/renewable energy
- Fail to meet targets





# Policy challenges

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- Communication between national forest programmes and national biomass action plans
- Better information needed on sustainable wood supply
- The « level playing field »: do rules for sustainable forest management (biodiversity etc.) apply to all forms of biomass energy? What about imports?
- Subsidies?
- What is the most energy efficient pathway for wood energy (heat/power/CHP/ethanol)?
- Do we need biorefineries? (questions of scale)



# Thank you for your attention

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More information at  
<http://www.unece.org/trade/timber/mis/energy/welcome.htm>



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