



Udo Mantau:

*Wood Resource Balance –
Is there enough wood for all?*



8 Wood resource balance – Is there enough wood for all?

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8 Wood resource balance – Is there enough wood for all?

8.1 Wood resource balance - dimensions

Europe (EU/EFTA) 2010 – sector dimensions (**medium mobil. - A1**)

dimensions of the wood resource market 2010

→ Resource potential

Potential demand ←



Forest resources

662 M m³
331 M t o.d.
5.833 PJ



Forest industry

458 M m³
229 M t o.d.
4.037 PJ



Other woody biomass

332 M m³
166 M t o.d.
2.923 PJ



Energy user

346 M m³
173 M t o.d.
3.052 PJ

Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)



8 Wood resource balance – Is there enough wood for all?

8.1 Wood resource balance - dimensions

- Europe (EU/EFTA) (in M. m³) 2010 - actual use

potential 2010	in M m ³	in M m ³	demand 2010
stemwood C, ME	362	196	sawmill industry
stemwood NC, ME	182	11	veneer plywood ind.
forest residues, ME	118	143	pulp industry
bark, ME	24	92	panel industry
landscape care w. (USE) ME	59	15	other material uses +)
short rotation plantation	-	21	producer solid wood fuels
sawmill by products	87	20	forest sector intern. use
other industrial residues	30	128	biomass power plants
black liquor	60	23	private households (pellets)
solid wood fuels	21	155	private households (other)
post consumer wood	52	0	liquid biofuels
total	994	805	total

Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)



8 Wood resource balance – Is there enough wood for all?

8.2 Wood resource balance – developments

- E27 potential and demand in M. m³ medium mobilisation

potential in Mio. m ³	2010	in %	2010	in %	demand in Mio. m ³
stemwood C, ME	362	36,4	196	24,3	sawmill industry
stemwood NC, ME	182	18,3	11	1,4	veneer plywood ind.
forest residues, ME	118	11,9	143	17,8	pulp industry
bark, ME	24	2,4	92	11,4	panel industry
landscape c. w. (USE) ME	59	5,9	15	1,9	other material uses
short rotation plantation	-	-	21	2,6	proc. solid wood fuels
sawmill by products	87	8,8	20	2,5	forest sector intern. use
other industrial residues	30	3,0	128	15,9	biomass power plants
black liquor	60	6,0	23	2,9	households (pellets)
solid wood fuels	21	2,1	155	19,3	households (other)
post consumer wood	52	5,2	0	0,0	liquid biofuels
total	994	100,0	805	100,0	total

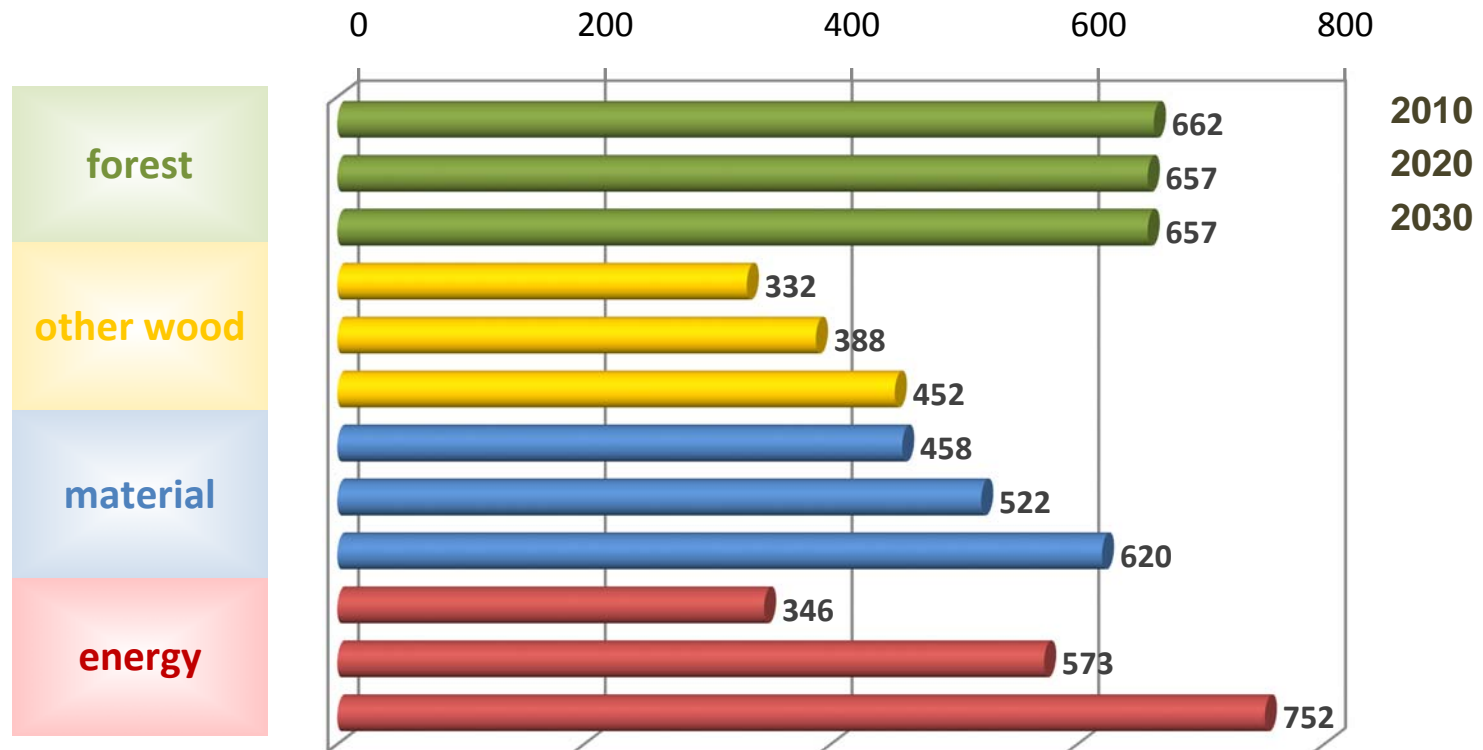
Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)



8 Wood resource balance – Is there enough wood for all?

8.2 Wood resource balance – developments

- E27 potential and demand in M. m³ medium mobilisation **in M m³**



Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)



8 Wood resource balance – Is there enough wood for all?

8.2 Wood resource balance – developments

- E27 potential and demand in M. m³ medium mobilisation

potential in Mio. m ³	2010	2030	2010	2030	demand in Mio. m ³
stemwood C, ME	362	356	196	247	sawmill industry
stemwood NC, ME	182	181	11	17	veneer plywood ind.
forest residues, ME	118	120	143	200	pulp industry
bark, ME	24	23	92	136	panel industry
landscape care w. ME	59	74	15	20	other material uses +)
<i>short rotation plantation</i>	-	-	21	54	pro. solid wood fuels
saw mill by products	87	108	20	22	forest sector intern. use
other industrial residues	30	42	128	393	biomass power plants
black liquor	60	85	23	82	households (pellets)
solid wood fuels	21	54	155	151	households (other)
post consumer wood	52	67	0	29	liquid biofuels
total	994	1109	805	1349	total

Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)

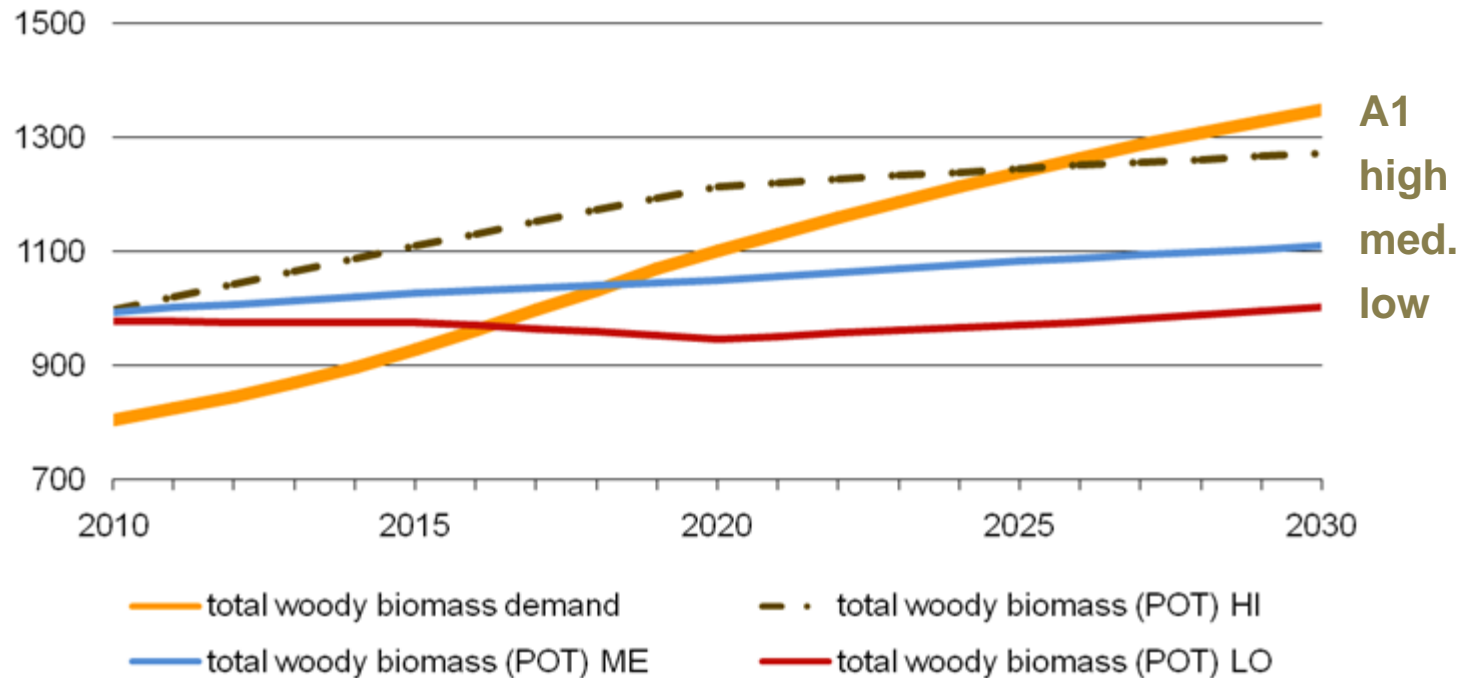


8 Wood resource balance – Is there enough wood for all?

8.2 Wood resource balance – developments

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

in M m³ - comparing plot



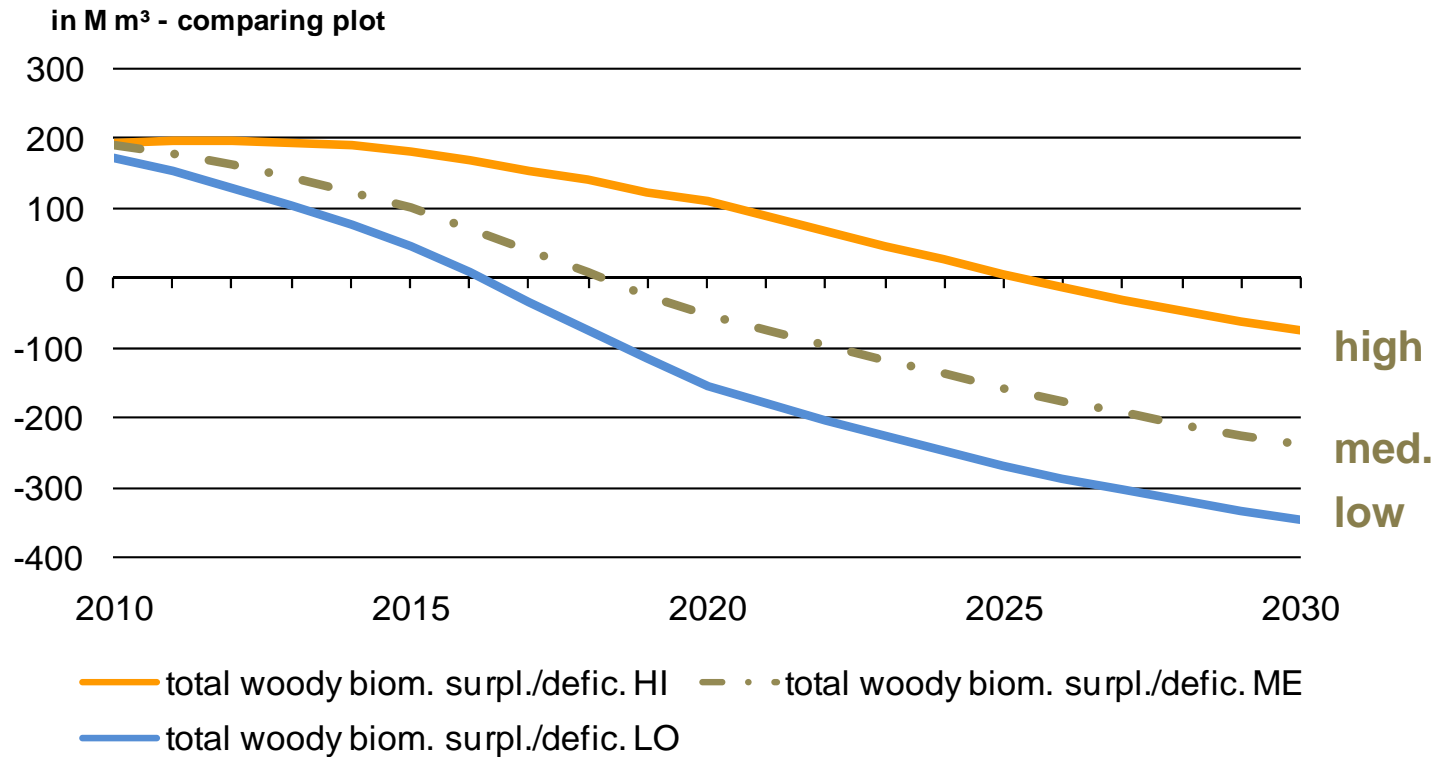
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8 Wood resource balance – Is there enough wood for all?

8.2 Wood resource balance – developments

- E27 - total woody biomass demand and potential with low, medium and high mobilisation scenario



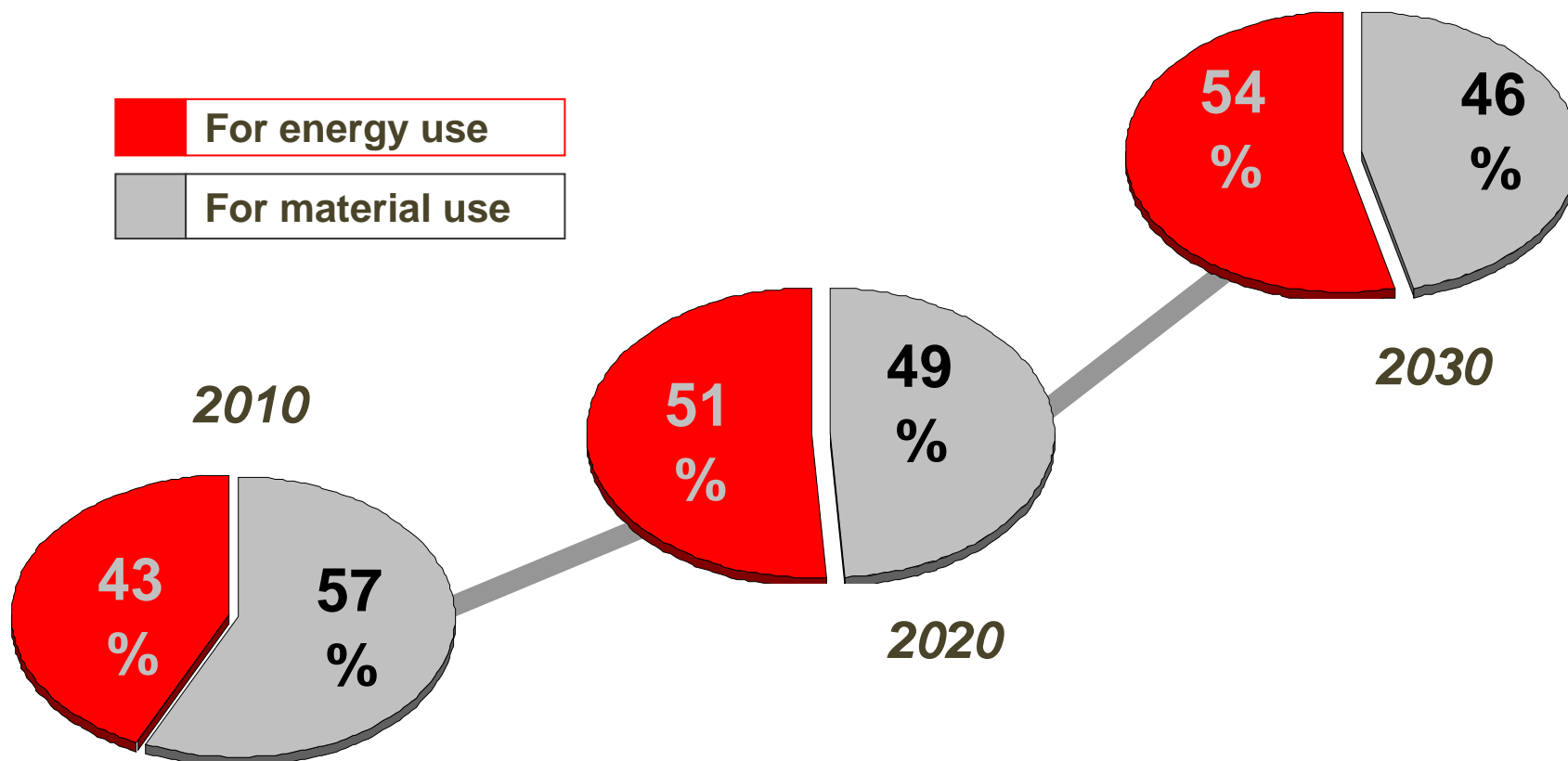
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8 Wood resource balance – Is there enough wood for all?

8.3 Wood resource balance – structural changes

- E27 – share of energy and material use



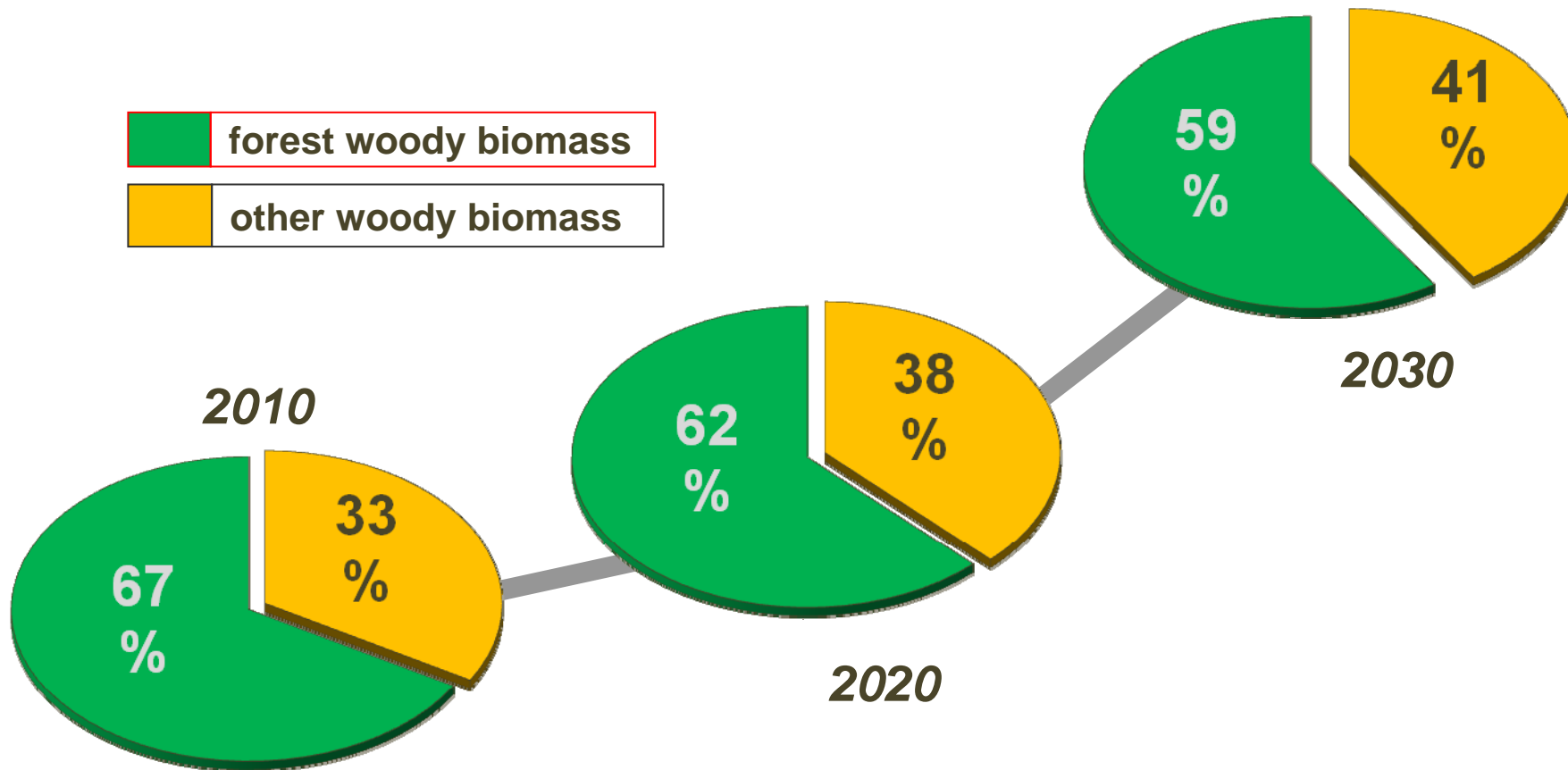
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8 Wood resource balance – Is there enough wood for all?

8.3 Wood resource balance – structural changes

- E27 – share of forest woody biomass and other biomass



Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)

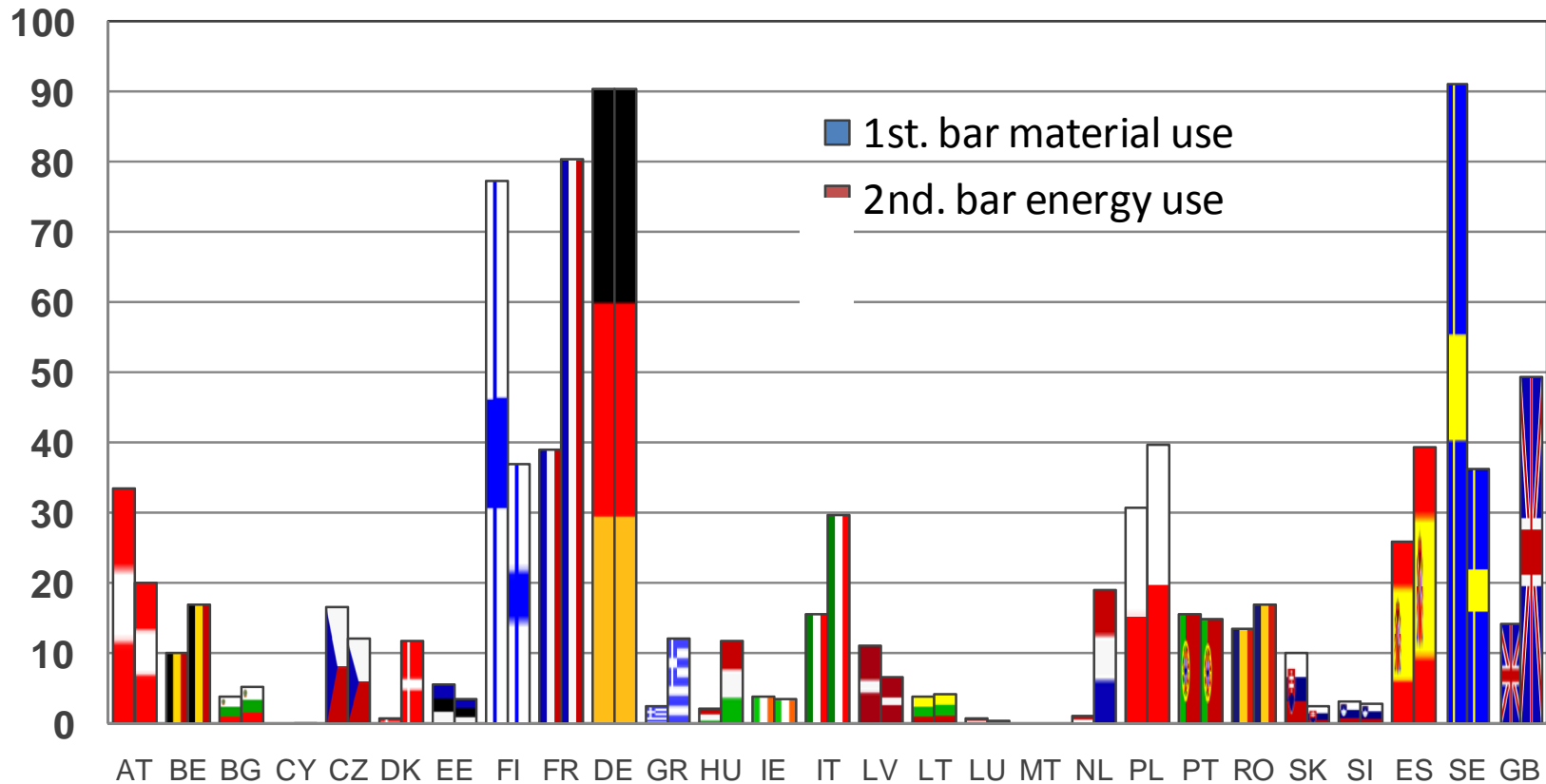


8 Wood resource balance – Is there enough wood for all?

8.4 Wood resource balance – regional distribution

- E27 – material and energy wood consumption in 2020 in M m³

in M m³



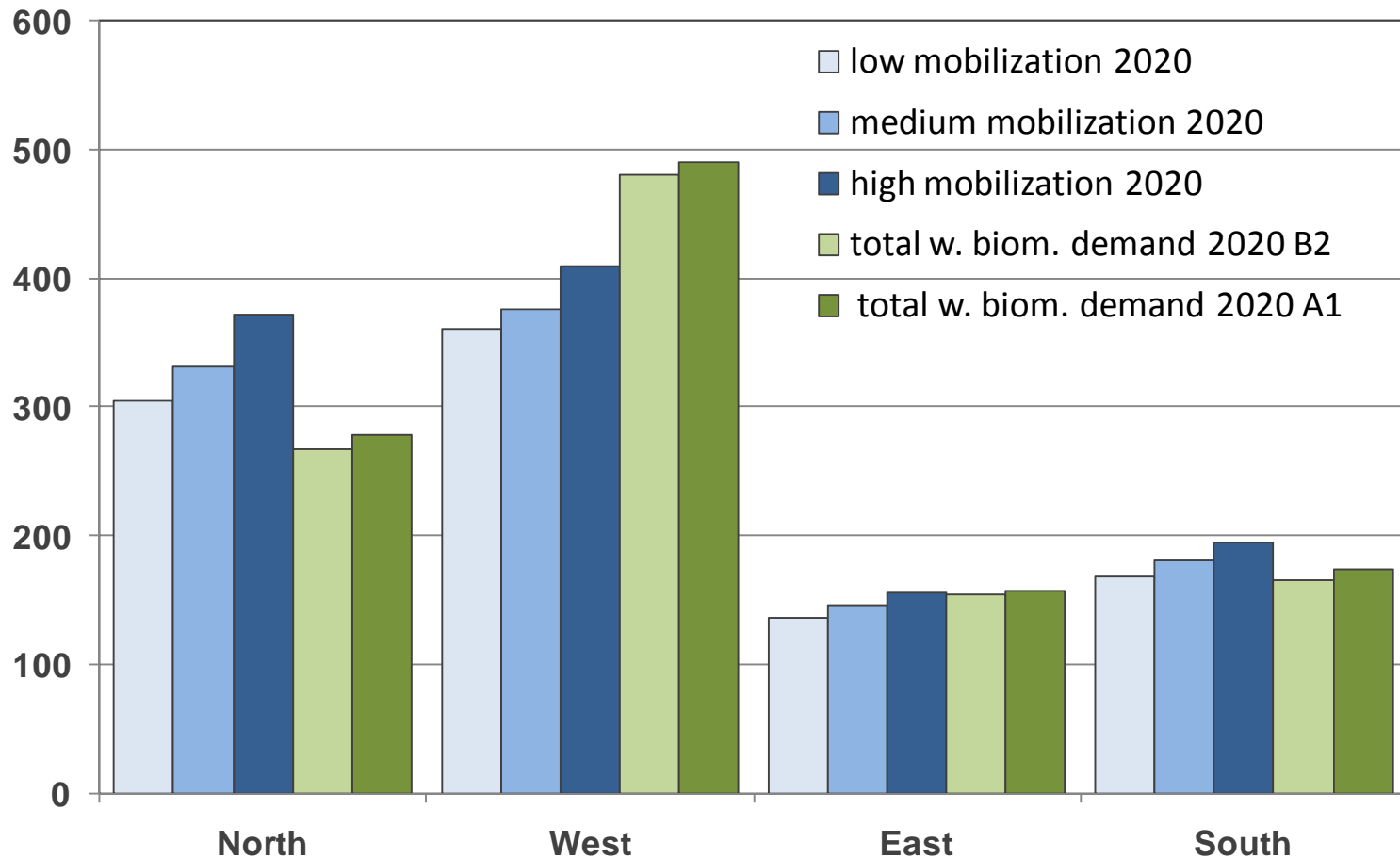
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8 Wood resource balance – Is there enough wood for all?

8.4 Wood resource balance – regional distribution

- E27 – potential resources and needs in 2020



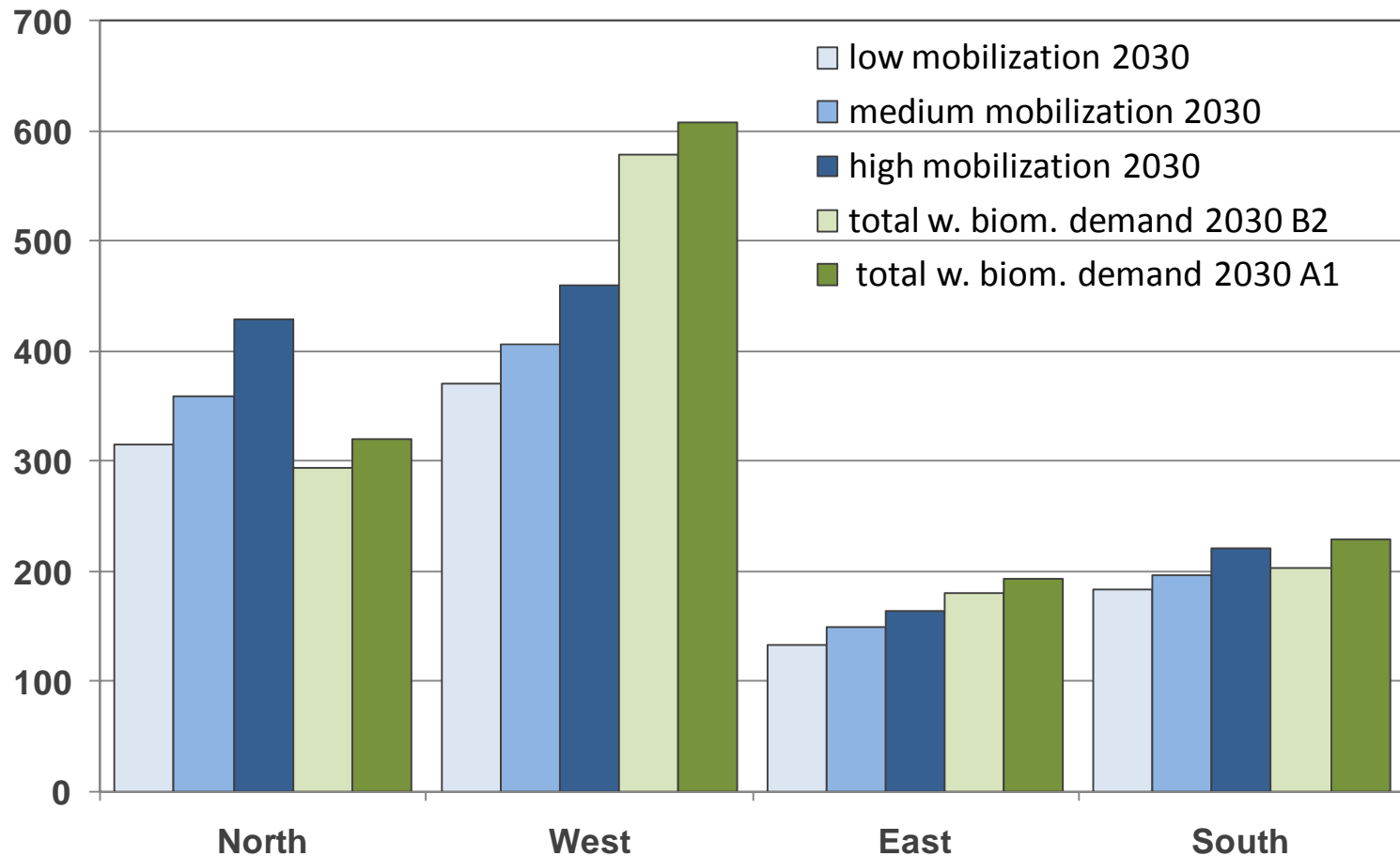
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8 Wood resource balance – Is there enough wood for all?

8.4 Wood resource balance – regional distribution

- E27 – potential resources and needs in 2030



Source: MANTAU, Wood resource balance, EUwood – team 2010 (VERKERK/LINDNER/ANTILLA/ASSIKAINEN: EFISCEN forest resources and constraints; LEEK, N.: Post consumer wood; OLDENBURGER J.: Landscap care wood; SAAL, U.: industrial residues; MANTAU/SAAL: Wood industry; PRINS, K.: Policy options; JOHNSONS, R. EFSOS calculations)



8 Wood resource balance – Is there enough wood for all?

8.5 Wood resource balance – further development

E27

- What does WRB currently offer?
A framework for all woody biomass and the possibility to calculate many key numbers for a better understanding of woody biomass and wood consumption
- Which potential does WRB offer?
It could as well describe the resource demand over time. By extending it to the end-use sector and to the disposal sector it would be able to calculate complete wood flows and calculate CO₂ sequestration in the wood chain.
- What's the key?
Monitoring activities (empirical studies) on capacities and resource mix as well as on distribution to end use sectors.



8 Wood resource balance – future development

Empirical studies on resource assortments used in the sectors

supply 2010	in M m ³	in M m ³	demand 2010
stemwood C, ME			sawmill industry
stemwood NC, ME			vener plywood ind.
forest residues, ME			pulp industry
bark, ME			panel industry
landscape care w. (USE) ME			other material uses +)
<i>short rotation plantation</i>			producer solid wood fuels
sawmill by products			forest sector intern. use
other industrial residues			biomass power plants
black liquor			private households (pellets)
solid wood fuels			private households (other)
post consumer wood			liquid biofuels
total			total



Wood flow

From resource to semi-finished to end use sectors to disposal and carbon sequestration in products

