

# Forest Product Data Harmonization

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Joint Working Party on Forest Economics and Statistics,  
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# Background

- Task Force on Conversion Factors noted differences in methods of establishing product volumes by countries
- Further underscored by researching national/regional methods and by comparing conversion factors for products and product sub-categories
- Roundwood and sawnwood are the focus
- To Harmonize, a standard basis is needed



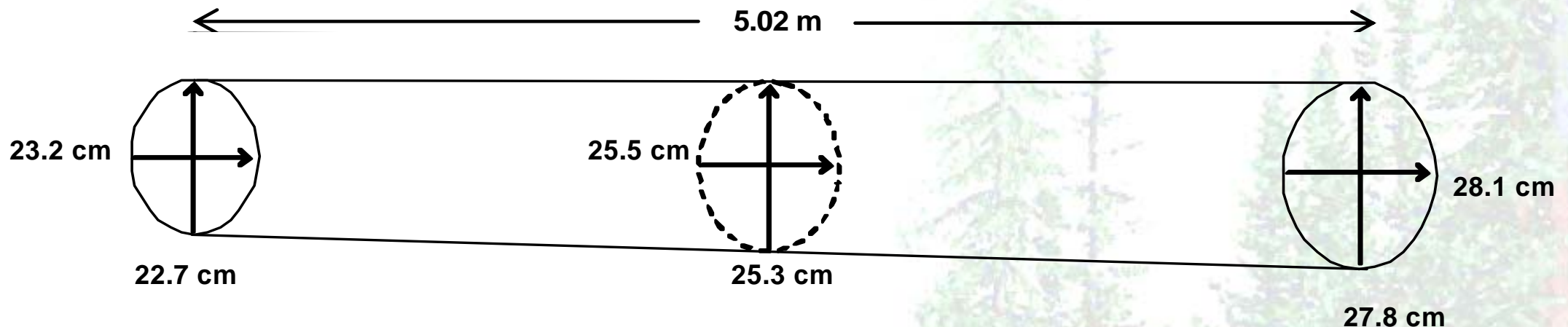
# Roundwood

- Differences probably in the range of  $\pm 6\%$
- Some outside of this range, but it appears that steps to harmonize are taken by countries where difference is large
- Biggest item is truncating (rounding down) diameters, lengths, and trim allowance (unmeasured length)
- Suggest harmonizing to actual lengths and diameter using unbiased rounding logic





# Example of log volume calculation using actual dimensions and two of the most common formulas:

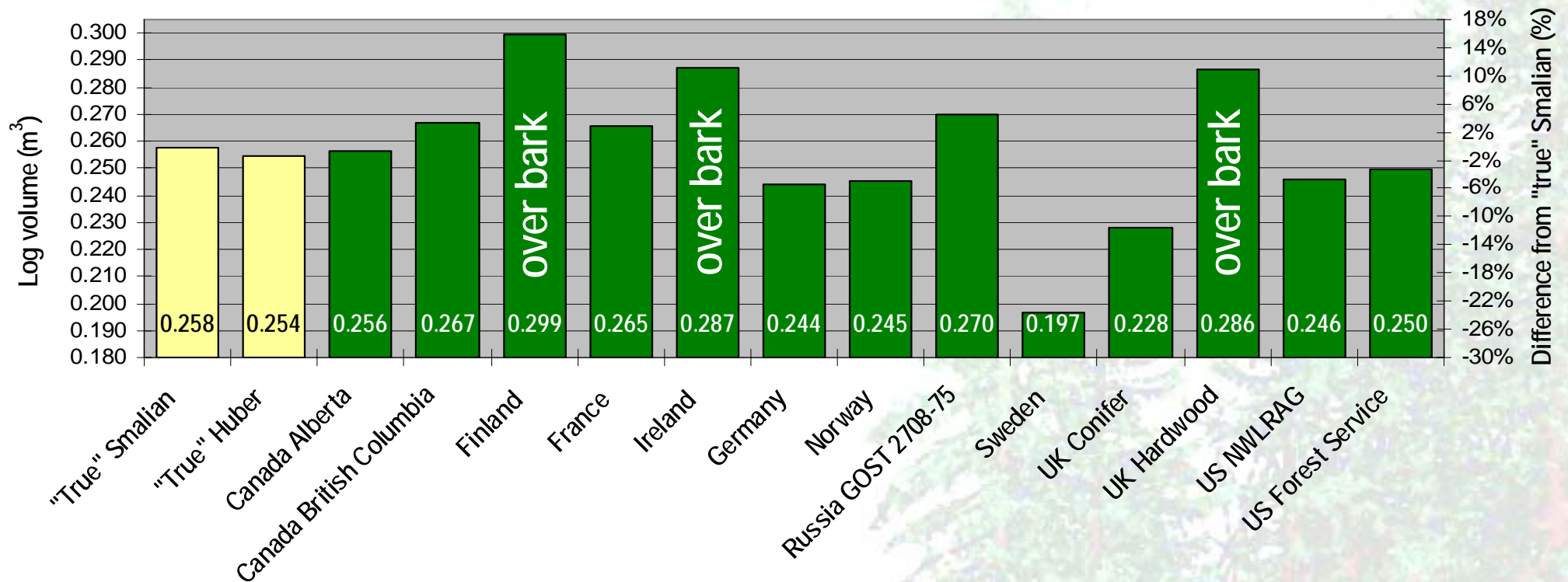


Smalian formula:  $\left(\left(\frac{23.2+22.7}{2}\right)^2 + \left(\frac{28.1+27.8}{2}\right)^2\right) \times 5.02 \times 0.00003927 = 2.58 \text{ m}^3$

Huber formula:  $\left(\frac{25.5+25.3}{2}\right)^2 \times 5.02 \times 0.00007854 = 2.54 \text{ m}^3$



# Roundwood volume: using log from previous slide and country/regional standards



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# Sawnwood

- Two significant issues are affecting sawnwood volume:
  - State of manufacture (where the volume is assessed for reporting purposes)
  - Nominal sizing, which is related to “state of manufacture”.
    - Intended to represent volume in a previous state, e.g. prior to drying, trimming and planing





# Sawnwood: states of manufacture example

Log 100%

Boule = 80%  
(11% sawdust, 9% slab)

Flitch

Dry-surfaced = 46% (4% shrinkage,  
6% trim, 8% shavings)

Rough-green = 64%  
(2% sawdust,  
14% edging)



# Sawnwood state of manufacture

## Process overview

### Sawmill

	Round-wood	Loss m <sup>3</sup>	
	m <sup>3</sup>	saw kerf	slabs/trim/edge/cull
<b>Softwood (construction)</b>	1.00	0.07	0.29
<b>Hardwoods (appearance)</b>	1.00	0.14	0.22

↓  
sawdust

↓  
chips

### Dry kiln or yard

Rough green in		Loss m <sup>3</sup>
m <sup>3</sup>	RW factor	shrinkage
0.64	1.57	0.03
0.64	1.57	0.07

↓  
H<sub>2</sub>O vapour

### Planing mill and/or grading chain To customer

Rough dry in		Loss m <sup>3</sup>	
m <sup>3</sup>	RW factor	planing	trim/cull/re-edge
0.62	1.63	0.08	0.06
0.57	1.75	0.10	0.03

↓  
shavings

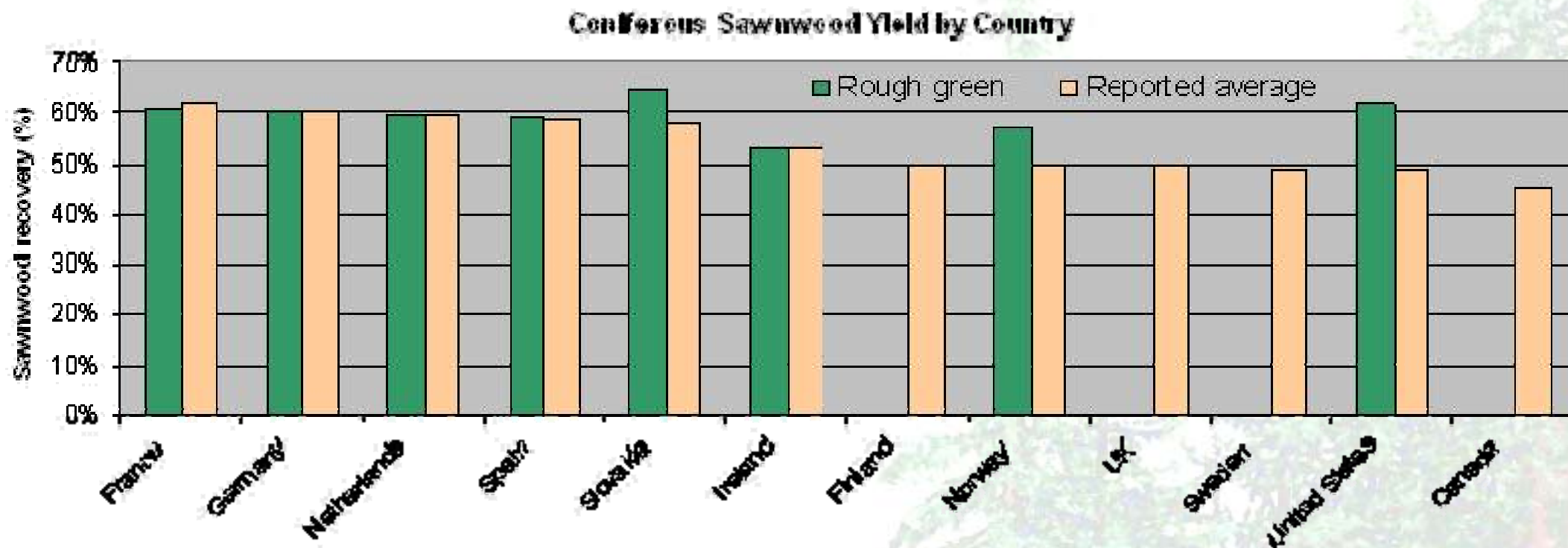
↓  
chips

Sawnwood shipped	
m <sup>3</sup>	RW factor
0.48	2.08
0.44	2.27







# Sawnwood recovery by country (rough green vs. reported)



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# Nominal sizing

Product	Wolseley Code	Nominal Size (mm)	Finished Size (mm)		
Redwood PSE	G05955	12 x 29	8 x 30		65%
Redwood PSE	G05957	12 x 30	8 x 44		58%
Redwood PSE	G06006	16 x 38	12 x 33		65%
Redwood PSE	G06013	16 x 50	12 x 44		66%
Redwood PSE	G06031	16 x 100	12 x 94		71%
Redwood PSE	G06050	16 x 160	12 x 144		72%
Redwood PSE	G06074	16 x 38	145 x 33		68%
Redwood PSE	G06082	19 x 50	145 x 44		67%
Redwood PSE	G06101	19 x 75	145 x 69		70%
Redwood PSE	G06116	19 x 100	145 x 94		72%
Redwood PSE	G06157	19 x 150	145 x 144		73%
WhitewoodPSE	G06188	22 x 50	185 x 44		74%
WhitewoodPSE	G06191	22 x 75	185 x 69		77%
WhitewoodPSE	G06194	22 x 100	185 x 94		78%
WhitewoodPSE	G06200	22 x 125	185 x 119		80%
WhitewoodPSE	G06203	22 x 150	185 x 144		81%
WhitewoodPSE	G06206	22 x 175	185 x 169		81%
WhitewoodPSE	G06207	22 x 200	185 x 194		82%
WhitewoodPSE	G06209	22 x 225	185 x 219		82%

[www.buildcenter.co.uk](http://www.buildcenter.co.uk)

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# Data Harmonization

- Summary:
  - Basis of production volume for roundwood and sawnwood vary by country
  - It matters when country or subregional comparisons made and making a material balance
  - May matter in carbon balances
  - Won't matter for marking change within a country, unless practices are changing, e.g., increasing amounts of dried planed sawnwood
  - Affects conversion factors
  - We adjust volumes for nominal sizing in North America (-28%), but apparently make no adjustments for any European countries





# Questions for the Working Party

- Should efforts be made to better understand roundwood and sawnwood data differences?
- If yes, what should be the next steps?
- If no, should North American coniferous sawnwood data revert to volumes from nominal based measure?

