

Role of Harvesting and Wood Products in climate change mitigation policy

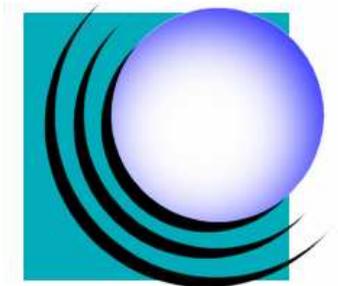
Presentation by **Murray Ward** at

UNECE/FAO Workshop

HARVESTED WOOD PRODUCTS IN THE
CONTEXT OF CLIMATE CHANGE POLICIES

Geneva

9 September 2008



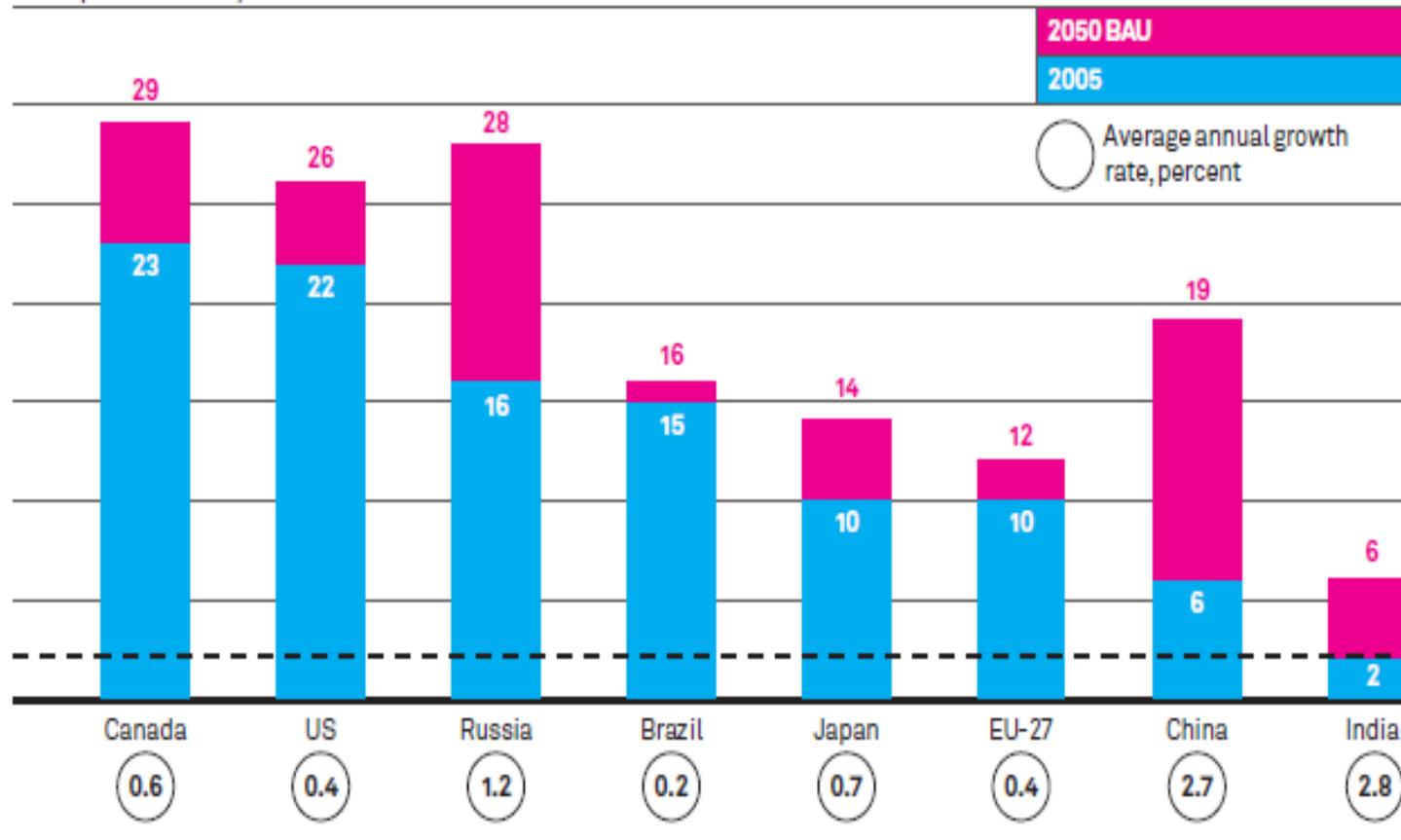
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Big Picture Context

- To avoid the worst effects of climate change
 - Global emissions need to peak within 2 decades
 - And be halved by 2050
 - Means average global per capita of 2T CO₂e
 - Massive global reductions needed in just four decades

The 2T per person challenge

Per capita emissions, tonnes of CO₂e



Per capita emissions vary greatly by country

Source: McKinsey analysis

2050 target 2.2

BAU = business as usual

The role for forests and forest products

- Energy sector faces a huge challenge – in essence to decarbonise within 40 years
 - How feasible is this?
- Need “every sector” and “every tool in the policy toolkit”
- Forests are a huge global source of emissions (~ 15% GHGs and 25% CO₂)
 - Decreasing deforestation can make a globally material difference
 - What about afforestation and forest products?

**Some key themes to
help set the context**

**People everywhere like to
be surrounded by wood.**

**Perhaps in our busy urban lives
it makes us feel closer to nature.**

We cherish beautiful musical instruments. They are part of our culture and enrich our lives.

**Our days wouldn't be complete
without our newspapers,
magazines and books.**

**Building things with wood from
sustainably managed forests
can be much less emissions-
intensive than from alternative
construction materials**

Wood can play a key substitution role

Wood Vs. Steel & Concrete

	Timber	CO2 p/house	Steel & Concrete	CO2 p/house
Floor Structure	Timber sub frame	1.9	Concrete slab	12.0
Floor Covering	Hardwood T&G on particleboard	0.4	Ceramic Tiles	5.2
Wall Frame	Timber	0.4	Brick	6.8
Roof Frame	Timber	1.2	steel	5.3
Windows	Timber	0.8	Aluminium	2.2
	Total	4.7	Total	31.5

**And biofuels avoid the use of
fossil fuels**

All this starts from forests

But forests are so much more than just for supplying urban peoples' needs

- They are homes for and sustain indigenous peoples
- They are refuges for critical biodiversity ...and wildlife ...and valuable bio resources
- They are things of beauty to be viewed and roamed in and played in
- They prevent soil loss and purify water
- And they are vital carbon reservoirs and sinks

And there's a big problem!
Globally the stresses on forests for providing products and land for other uses means that each year more and more are lost to deforestation and unsustainable logging.

- Which means loss of biodiversity,
- leads to land degradation and desertification
- and means carbon emitted to the atmosphere.

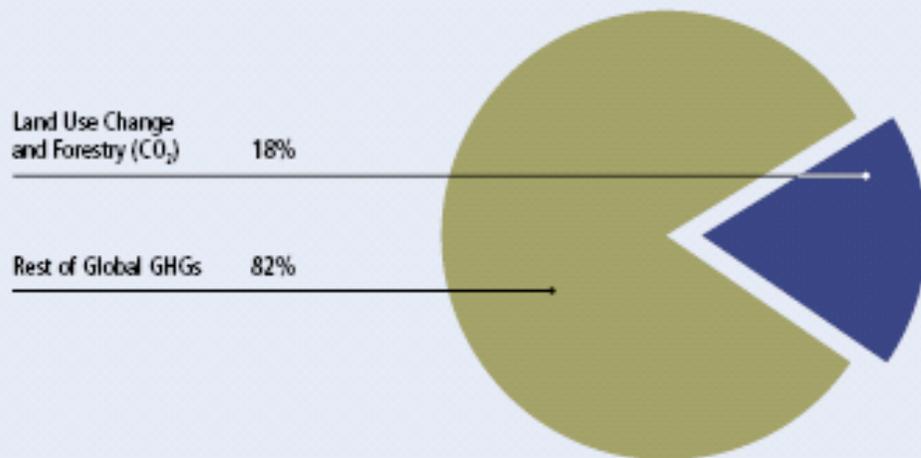
The challenge is to manage existing forests sustainably (while addressing land-use needs for development)

...and grow more forests

**So we can have the products we need
and
the ecological services that forests
provide that we also need**

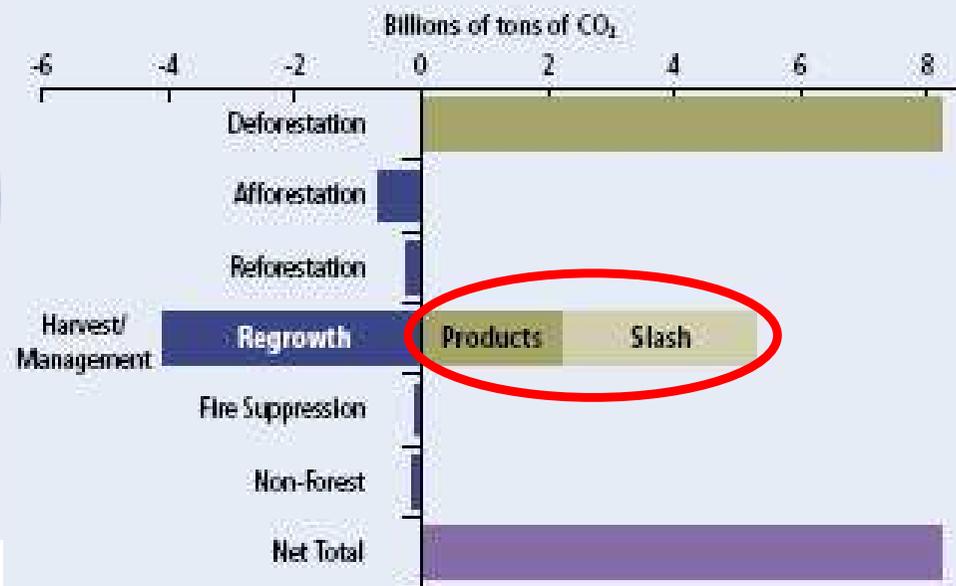
Global forest emissions data

Figure 17.1. CO₂ from LUCF



Sources & Notes: CAIT, based on Houghton, 2003a. See Appendix 2 for sector definitions and data sources. Absolute emissions in this sector, estimated here for 2000, are 7,619 MtCO₂.

Figure 17.2. Annual Emissions and Absorptions from Land-Use Change Activities, Global estimates for the 1990s



Sources & Notes: Houghton, 2003b. Deforestation and reforestation in tropical countries include only the net affect of shifting cultivation. For afforestation, areas of plantation forests are not generally reported in developed countries (this estimate includes only China's plantations). Fire suppression is probably an underestimate, as it includes the U.S. only (similar values may apply elsewhere). Non-Forests include CO₂ from agricultural soils, but only resulting from cultivation of new lands.

Source: WRI CAIT

Kyoto CP1 rules barely touch the potential to change this picture

- Some credits for A & R activities (new forests) in industrialised countries (ICs)
 - Credits allow other GHG emissions elsewhere under the Kyoto cap
- Most major pre-1990 forests not accounted for
 - Unless deforested in ICs....but this small
- Developing country forestry ‘issues’ not addressed (the CDM A/R “non event”)
- ❖ Wood products not addressed

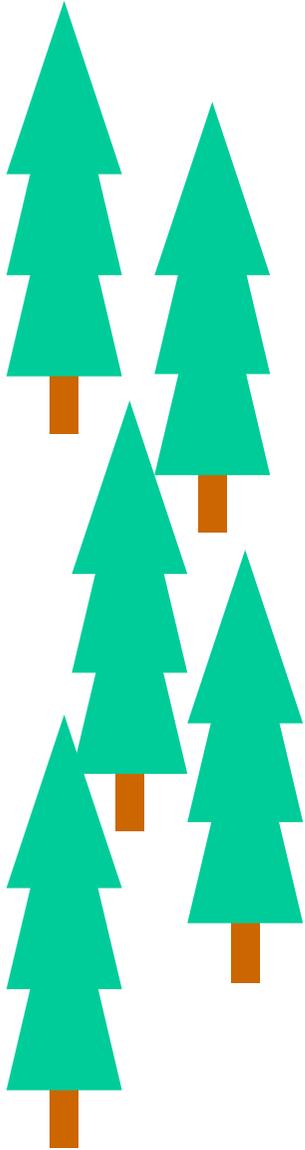
**The purpose of policy is to
cause a change in “business as
usual” decisions
not to punitively punish people or
undeservedly reward them**

- How can we change KP CP1 rules to
 - Incentivise what we want more of, and
 - Disincentivise what we don't want ??
- ❖ (Note: Can not discuss emissions from harvesting and wood products in isolation of LULUCF rules more generally)

Where can “mitigation” happen in the lifecycle of forests and forest products

- Hence “harvesting and wood products”
mitigation policy be brought to bear (the topic
of this presentation)

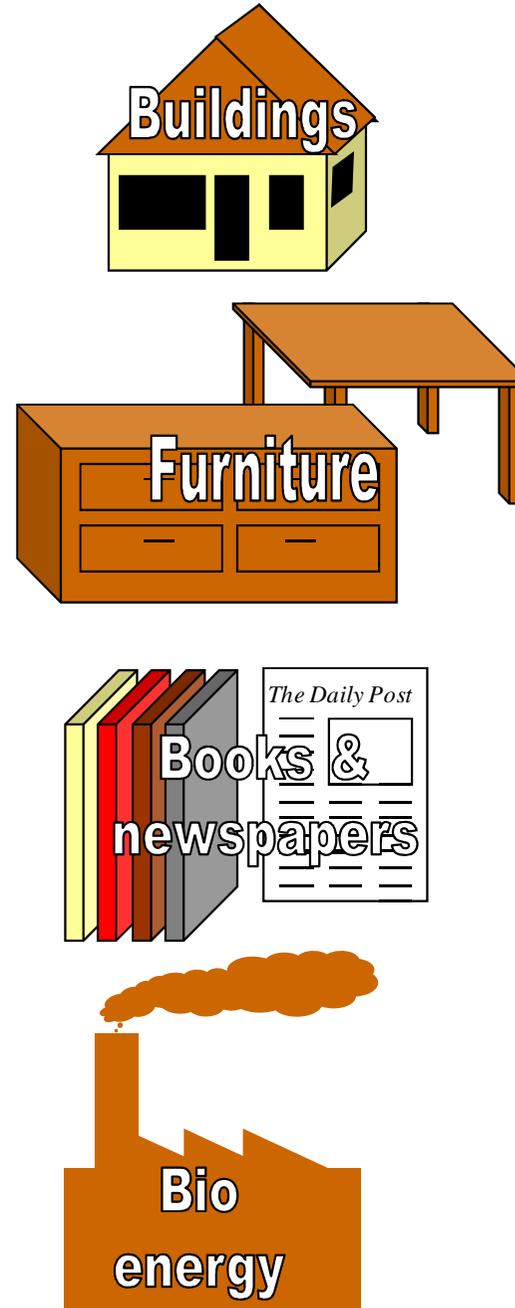
Forests



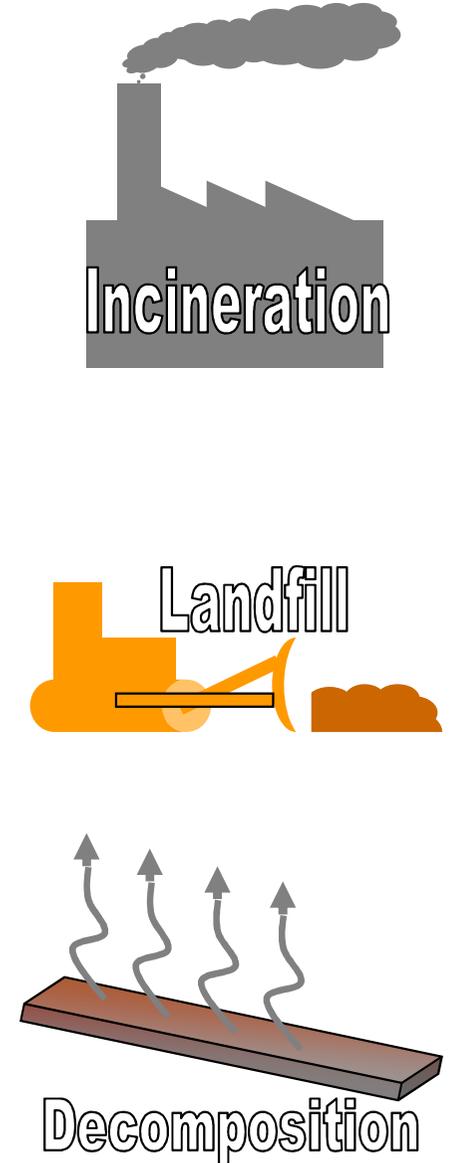
Intermediate Wood Products



Finished Products



Final Disposal

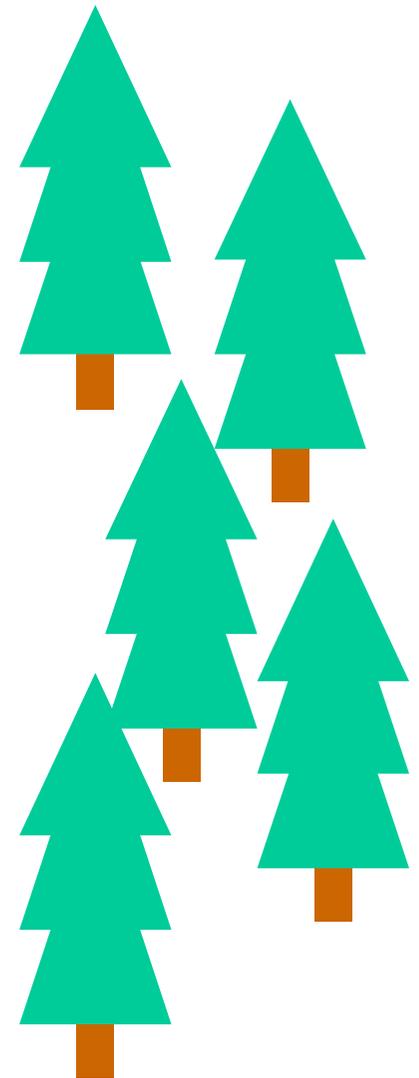


Some ideas

Removals in Forests

- **Incentivising enhanced removals**, e.g. more afforestation/reforestation and ‘optimal’ harvesting of production forests
 - Recognise the life cycle of different wood products post-harvest, i.e. delay in actual emissions (so removal ‘credits’ have longer life before any emission ‘debits’ accrue)
 - separately there’s the issue of whether to account at the location of production or consumption
 - Have a general “debits follow credits” rule for production forests managed for equal (or increasing) average carbon stocks
 - useful signal for A/R in jurisdictions currently not covered by KP CP1 LULUCF rules for ICs

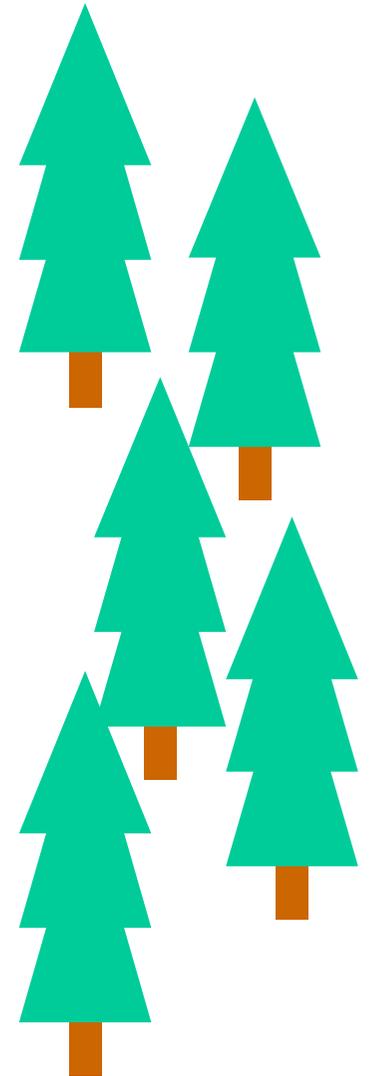
Forests



Emissions in Forests

- **Incentivising reduced emissions**
 - General “debits follow credits” rule for production forests managed for equal (or increasing) average carbon stocks
 - encourages better utilisation of forest deadwood and harvesting ‘waste’, e.g. for bioenergy or other longer life uses)
 - However, to counteract possible stronger incentives to harvest natural forests (c.f. status quo of KP CP1 LULUCF rules for ICs) need full accounting for emissions for harvesting of forests resulting in degradation of long term average carbon stocks

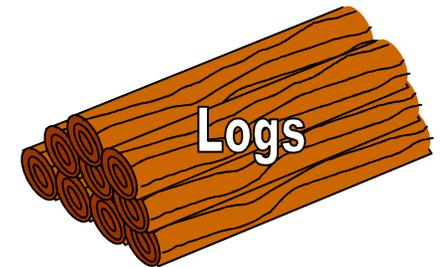
Forests



Emissions from 'intermediate wood products'

- **Incentivising reduced emissions**
 - Emissions are largely associated with 'finished products' not at this intermediate stage.....but
 - Recognising delay in emissions of different wood products provides incentive for efficient processing that maximises production of longer life wood products

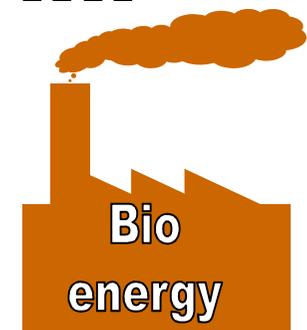
Intermediate
Wood Products



Emissions from 'finished wood products'

- **Incentivising reduced emissions**
 - Recognising delay in emissions from wood products in different 'finished product' uses provides incentives for
 - Greater utilisation of wood in long(er) life uses, including greater substitution of fossil-fuel carbon intensive materials
 - More carbon efficiency management of wood products across their lifecycle (i.e. focus on higher R's in the waste hierarchy.... Reduction and Reuse)

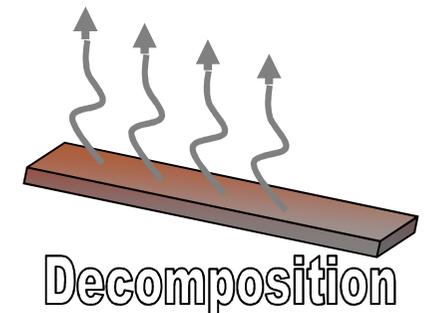
Finished
Products



Emissions from 'final disposal'

- **Incentivising reduced emissions**
 - These emissions mostly fall under the waste sector and potentially are managed within programmes to reduce methane emissions from waste
 - Incentives likely to result indirectly from waste programme incentives (penalties)
 - Incentives in prior 'finished wood products' part of the lifecycle therefore are more relevant, i.e. that reduce wood products entering this 'final disposal' phase

Final
Disposal



“Incentives” implies some form of treatment / inclusion within an ‘emissions’ accounting system

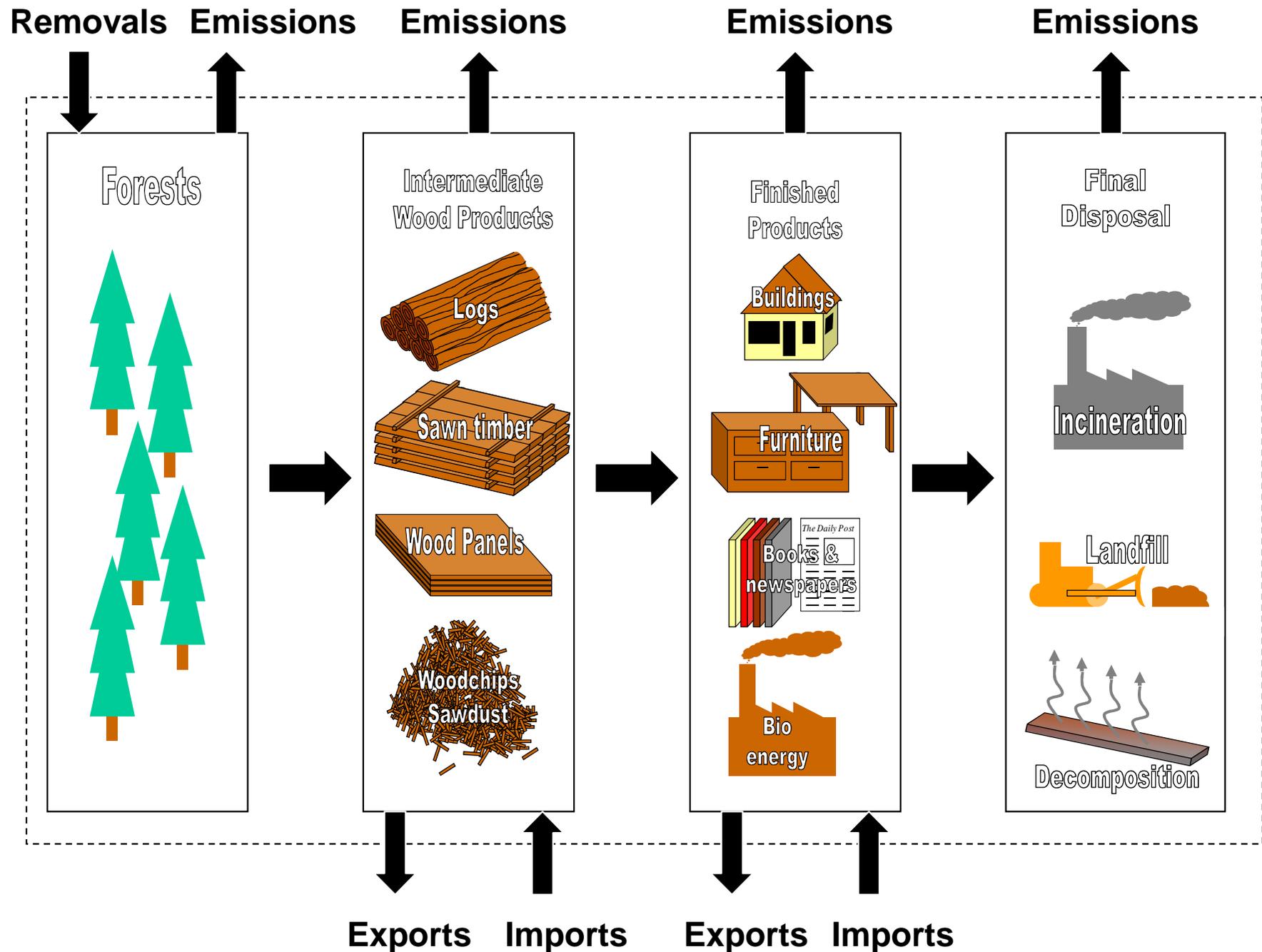
- What are key issues and challenges here?

Emissions and removals can be measured by changes in the carbon stocks of given carbon 'pools'

But changes in stocks do not always equate to emissions or removals!

- because of transfers of carbon between pools;
and
- because of exports from and imports to pools
between countries

Carbon Flows (for a given country)

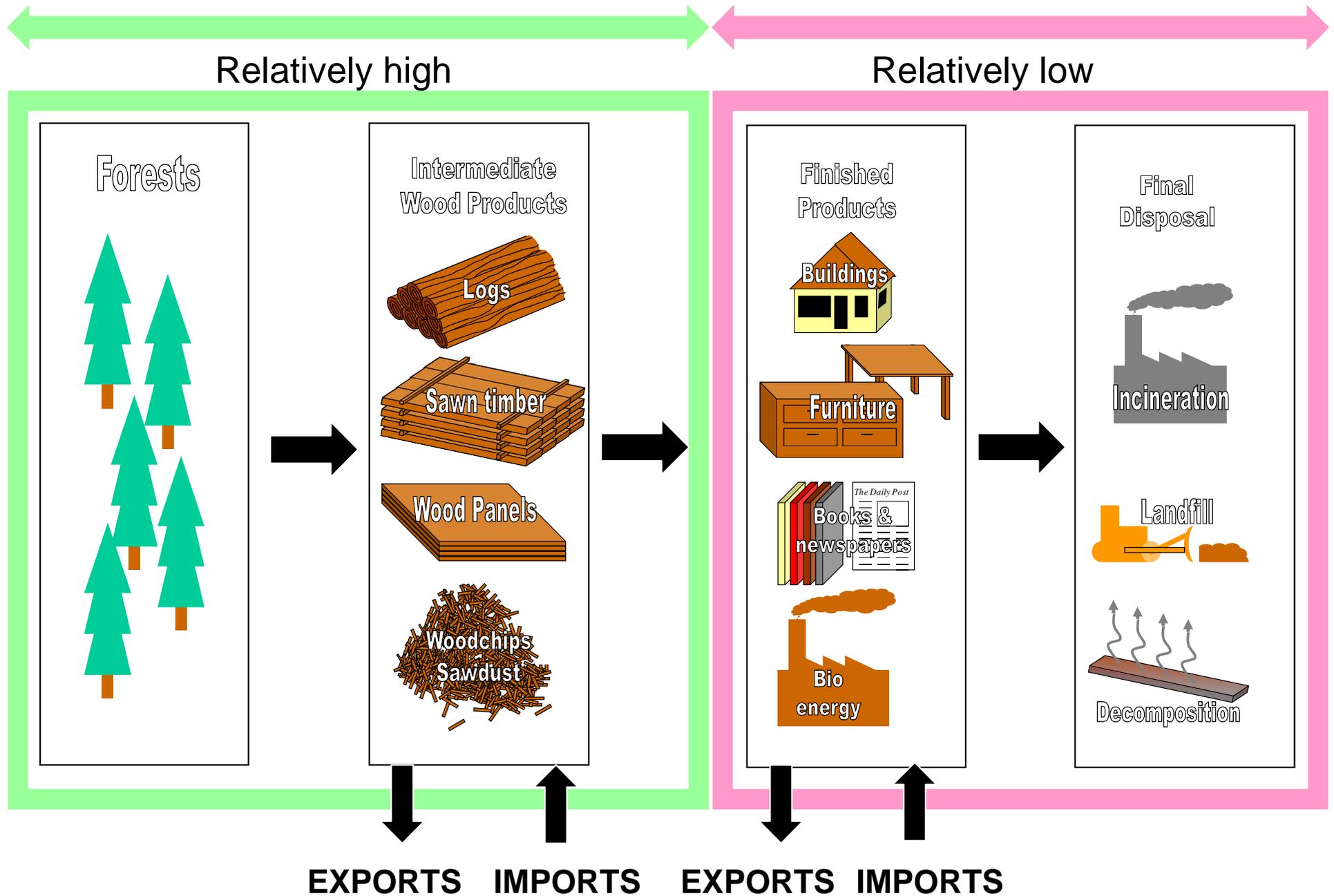


The accuracy and completeness of 'inputs' data upon which a ghg inventory depends is likely to vary substantially between pools.

This has very significant consequences in terms of the inclusion of such inventories in a compliance accounting scheme.

- **Especially where such accounting may create 'credits' that have the effect of allowing extra emissions in other sectors**

Data accuracy and completeness



Some (personal) concluding insights

- Given the data certainty issue
 - Establishing a time profile of emissions from harvesting across key ‘intermediate wood products’ seems feasible in a compliance accounting system
 - And this would address some of the key incentives sought to enhance removals and reduce emissions
 - But bringing wood products carbon in ‘finished products’ and ‘final disposal’ into a compliance accounting system seems much more challenging in practice

...cont’d

Concluding insights ...cont'd

- Not including a 'sub sector' of emissions into the compliance accounting system is not the end of the matter in terms of possible incentives
 - In the post-2012 agreement, Parties could consider a CDM-like mechanism applicable to sectors (still) left out of the compliance accounting for industrialised countries
 - And there is also the voluntary carbon market where tradable voluntary carbon credits are sought by *carbon neutrality* 'aspirants' from actions that sit outside 'compliance carbon' accounting