The role of wood in the Green Economy

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Summary

• Grow the pie for wood
• Wood in the new green economy and SCP
• Accounting of material use in policies (Green Building and Resource Efficient Cities)
• A global strategy for the wood industry
The market will grow
Where will be our market? Do they build with wood?

The middleclass
Green economy
Facing the reality of RIO +20

**Green economy or green capitalism?**

- Stop the subsidies to fossil fuel? (650 MM$ in 2008)
- Inclusion of externalities? (Payment for Environmental Services: P.E.S.)

**Greening the building sector**

- Clear measurable policies. Failure of voluntary measures and marketing tricks looking for the “Cheapest Green Certificate”
- Inclusion of Life Cycle Analysis (Material use and carbon sequestration)
Green building policies

60+ certification systems worldwide: no governing body: comparability issues? best practices?

- Strong signal of government failure
- Hindered by special interest and mixed agendas
- Questionable market value
  - 13% of Vancouver's LEED registered projects have been certified

Source: ETHZ, Holger Wolfram
Minergie – measuring what matters

Today 100%
US/MN Energy Code
31.5 kWh/m²a

-60%
LEED Platinum
190 kWh/m²a

-70%
Switzerland
Mandatory Code

-85%
Minergie-P Standard
45 kWh/m²a

Source: INTEP
Example: State of Minnesota, Educational Buildings
Measuring energy use & reporting GHG emissions from building operations

Energy (kWh/m²/yr)

Emissions (equivalent CO₂e/m²/yr)

Presented in Copenhagen
Rejected: carbon reduction need to represent real effective reduction, not expected savings by design
Should be represented in Paris COP15'

including embodied energy of material
Embodied energy in a green building time frame

1. Efficiency increase the importance of embodied energy
2. UNFCCC post-Kyoto Time frame (7 years)
3. Carbon discount (value of a ton on year 1 vs a ton avoided on year 50)

More efficient is the building, more important is the embodied energy in the life cycle, + embodied energy is accounted during the first year
Inclusion of biogenic carbon sequestration change the C/E accounting

Source: CSTB
Accounting of material use: a phased approach

Phase 1: Structure
- Concrete
- Wood
- Steel
- Masonry
- Plastics

Phase 2: Envelope
- Cladding
- Sheathing
- Insulation
- Decking
- Roofing
- Windows
- Doors

Phase 3: Interior and exterior finishes
- Cabinetry
- Flooring
- Paints and coatings
- Partitions
- Plaster
- Paving
- Waterproofing

Phase 4: Equipment and Services
- HVAC
- Conveyance systems
- Energy production and distribution
- Water distribution and treatment

More than 80% of the Carbon/Energy are in phase 1 and 2
Functional equivalence is essential when comparing the results for different buildings.
WE NEED A COMMON STRATEGY

The market growth for wood is driven by the end use (construction)

The war in material use accounting is open in the Green Building Policies and Resource Efficient Cities

1. Inclusion of the **LCA**, in all Green building policies (phase 1-2-3) -- and not limited to service life and recyclability
2. Inclusion of the **carbon sequestration** of biogenic material (wood) into ISO 14067, CEN 350 and all green building accounting policies
3. Implementation of common standardised **EPD** into the material accounting regulations
4. Inclusion of the **PES** (carbon, water, etc.)