

CIB W115 "Construction Materials Stewardship"
3rd Business Meeting, Twente NL

COUNTRY-REPORT, NORWAY

- **New regulations**
- **New reports and educational projects**
- **Research projects**
- **From theory to practice projects**

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New regulations

Substitution duty (2007)

- Hazardous building materials must be replaced with less hazardous alternatives if possible

Waste plans (2008)

- Mandatory in all communities
- Requires 60 % source separation of B&D waste
- Some cities have higher demands

Organic waste (2009)

- Landfill of organic waste (wood etc.) prohibited



Recycling



Demolishing "Sparebank-byggene" from 1976
Søndregate, Trondheim 2008

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New reports/ books

National Action Plan for Building & Construction waste (2007)

Design-guide for reuse and recycling (2008)

The Ecology of Building Materials, second edition (2009)



NHP2, 15. mai 2007
Utarbeidet av og for byggenæringen

Kortversjon - NHP2 Nasjonal handlingsplan for bygg- og anleggsavfall

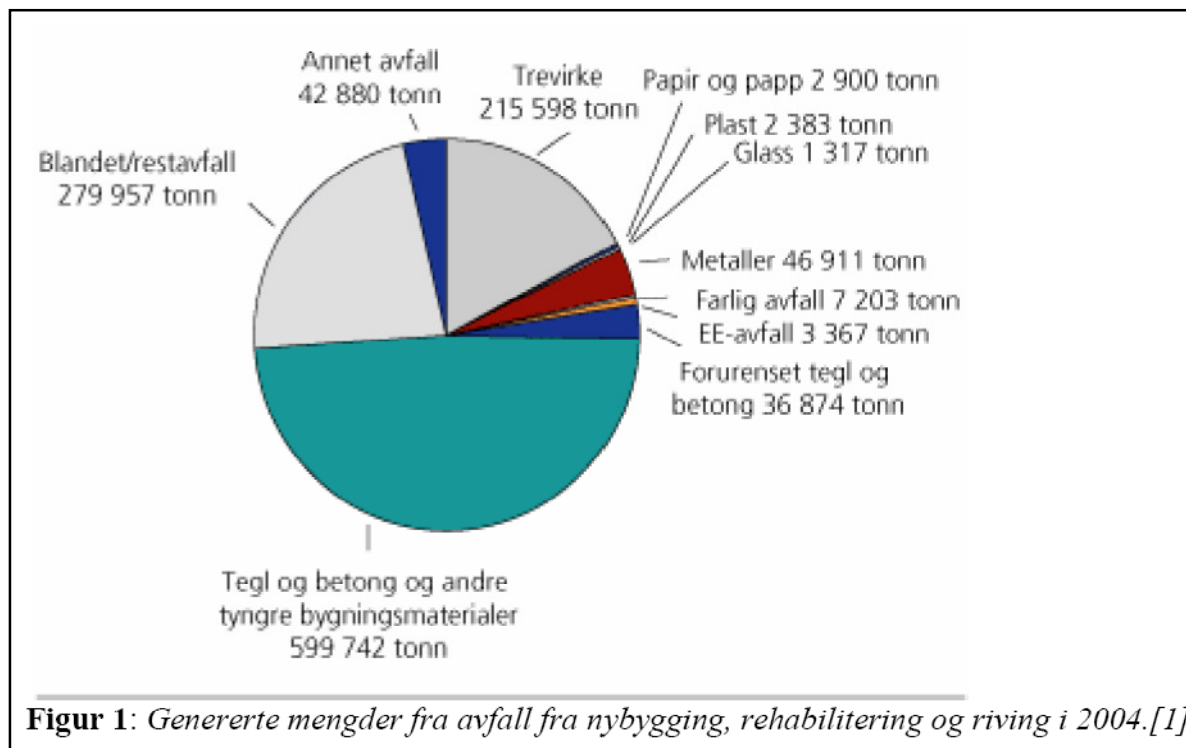
2007 - 2012

Næringens mål

- Alt farlig avfall skal tas hånd om på en forsvarlig og sikker måte.
- Alt bygg- og anleggsavfall skal søkes minimert og sikres høyeste mulig gjenvinning og forsvarlig håndtering
- Innen 01.01.2012 skal minst 80 % av byggavfallet gå til gjenvinning.

National Action Plan for Building and Construction waste (2007)

- [www.byggemiljo.no/getfile.php/Filer/Publikasjoner/NHP2 kortversjon m forside.pdf](http://www.byggemiljo.no/getfile.php/Filer/Publikasjoner/NHP2_kortversjon_m_forside.pdf)

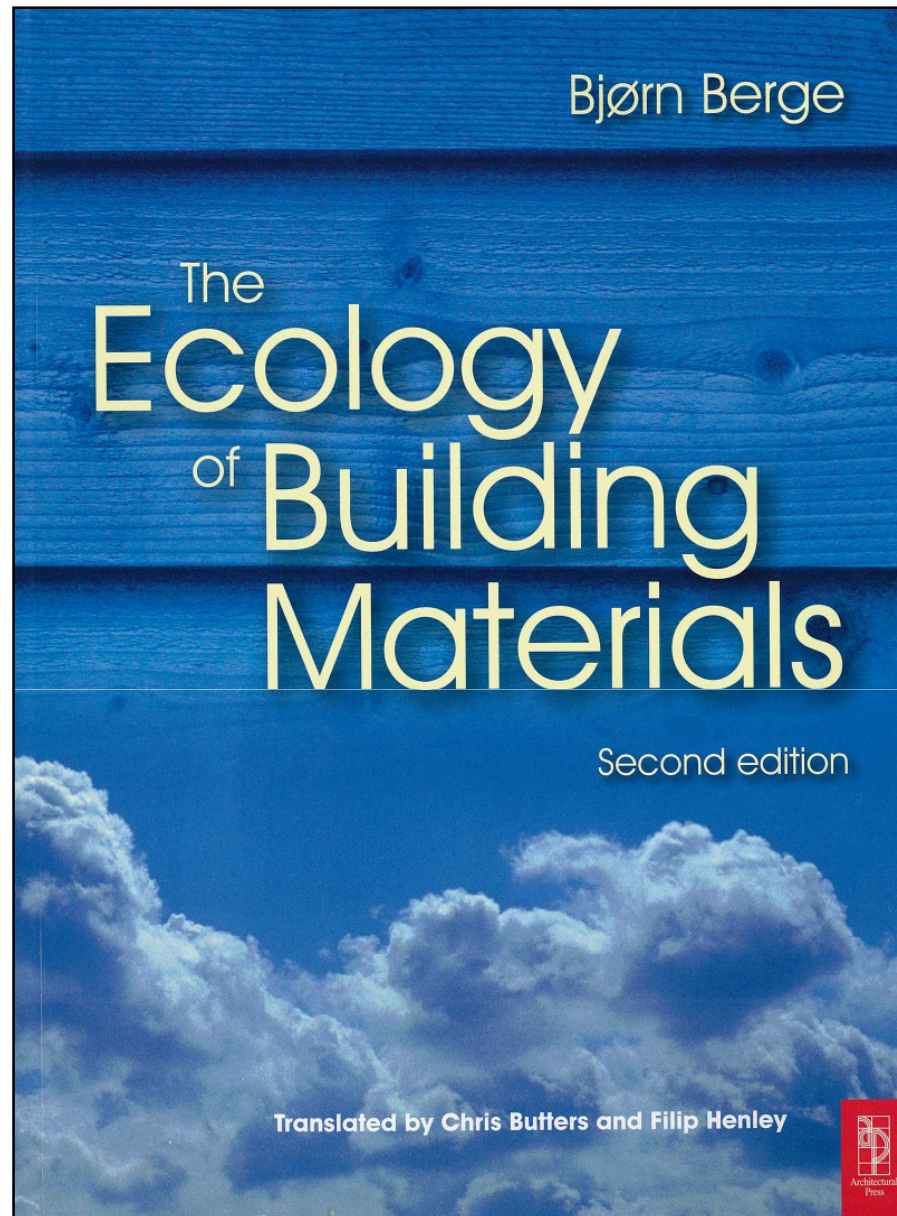


Statistics, Norwegian B & D waste 2004



Design-guide for reuse and recycling (2008)

- www.byggemiljo.no/article.php?articleID=499&categoryID=6



The Ecology of Building Materials, second edition (2009)

- www.amazon.com

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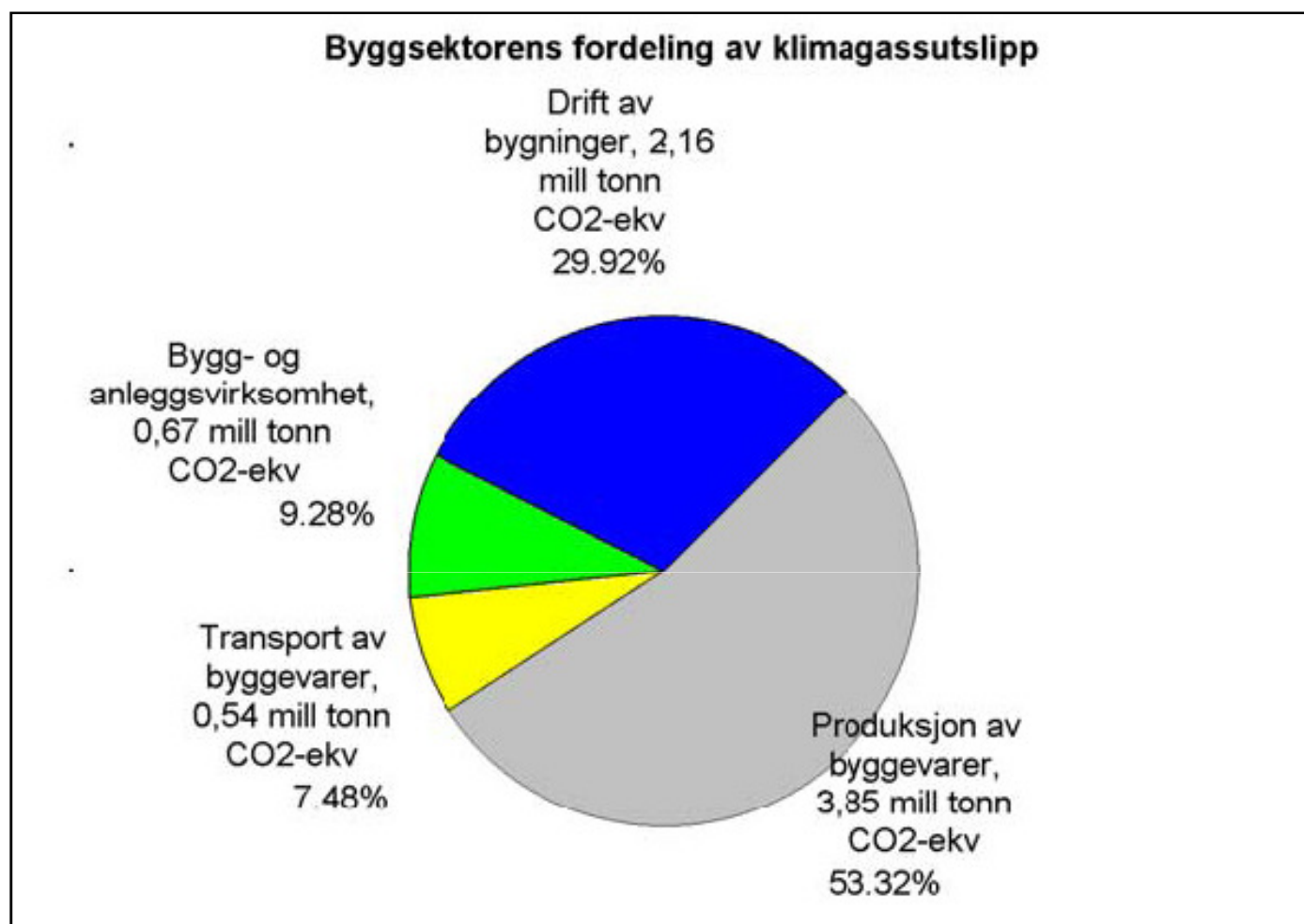
Research projects

Byggenæringens CO₂-utslipp (KAN energi)

Glitne, Sintef Byggforsk

Glitne Gjenbruk

PhD, NTNU: Salvageability of building materials

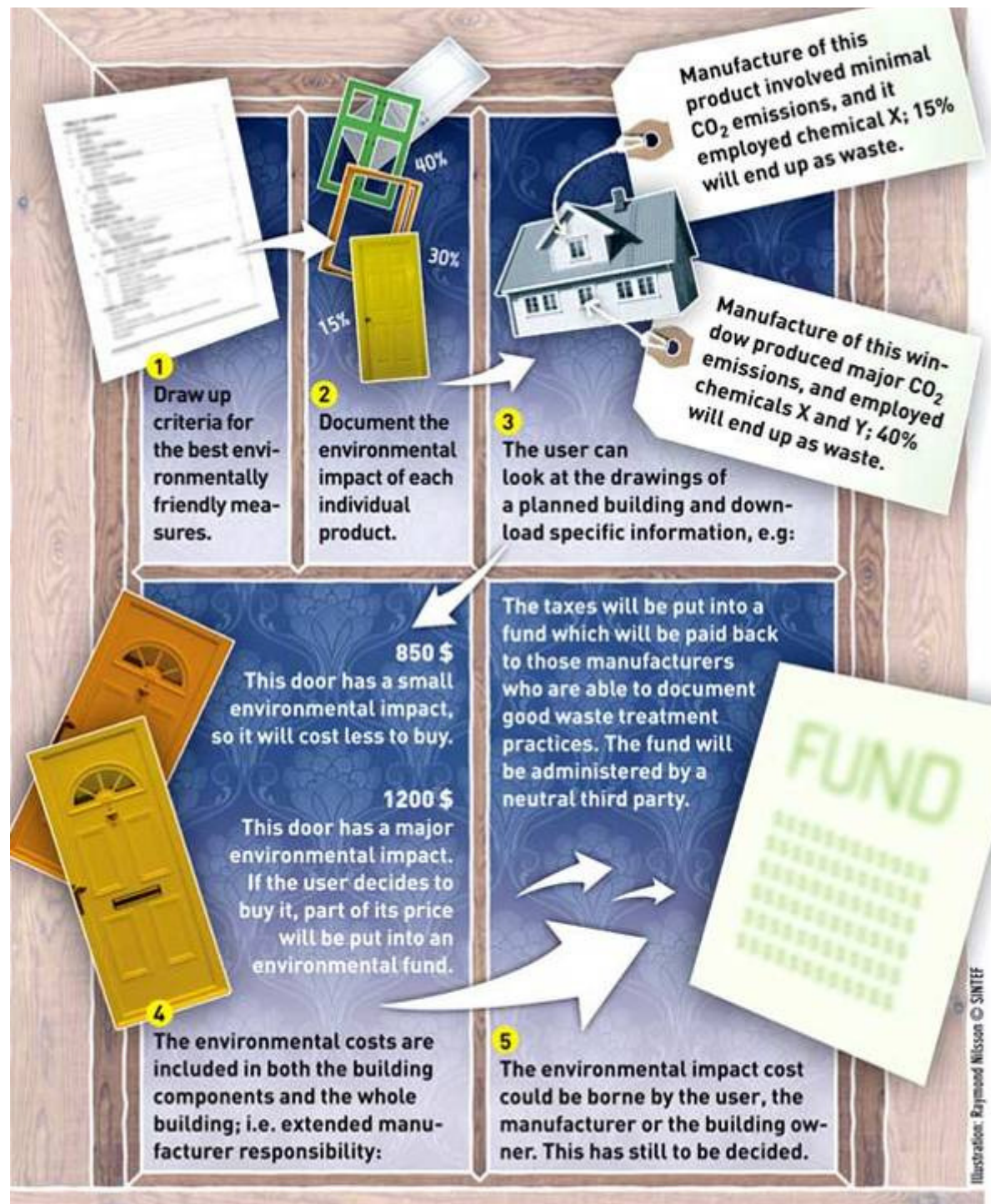


Figuren viser byggsektorens fordeling av klimagassutslipp med tall fra Byggenæringens miljøsekretariat¹ (des.2006). Byggebransjens største utslipp av CO₂ er fra produksjon av byggevarer. De største utslippene kommer fra produksjon av sement, ferrolegeringer og aluminium.

Glitne

- R&D project owned by *Snøhetta architects* and led by *SINTEF Building and Infrastructure*, to be finished by 2009
- Investigates *manufacturer responsibility* for the construction sector
- Evaluates a system whereby the environmental costs are included in the price of construction materials directly or of a complete building
- *Glitne Gjenbruk* (reuse) surveys building components' environmental impact as well as their turnover based on empirical data. (Paper to be presented at the SASBE-conference)

www.sintef.no/Projectweb/GLITNE/



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From theory to practice projects

Reuse-projects by Helen&Hard architects

The Stavne Timber Block

”Compost-modernism”



Architect: Helen&Hard
www.hha.no



The Geopark, Stavanger

The Geopark is an experimental urban space and activity park aimed particularly at children. Surfaces and installations are constructed out of recycled and reshaped elements from the petroleum sector, taken from abandoned fields, offshore bases, equipment suppliers and scrap heaps.



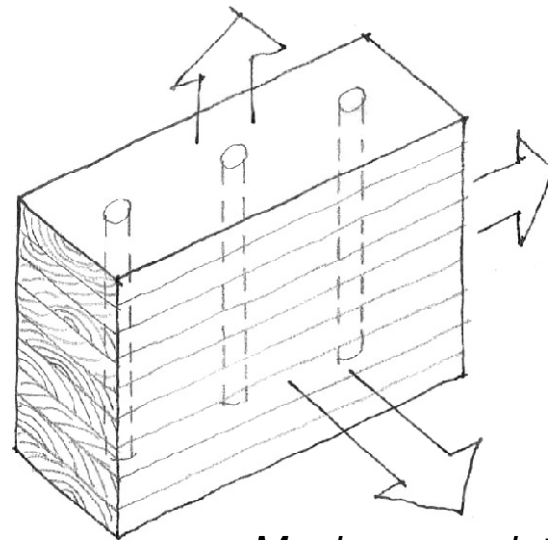
Architect: Helen&Hard
www.hha.no

The Stavne Timber Block



Wood-waste, Franzefoss
(Photo: K. S. Wigum)

Maximum thermal insulation capacity



Maximum structural strength
Maximum moisture transport
Minimum moisture elasticity

Maximum moisture elasticity