

## Sustainable Supply Chain Management

### — Accounting for Wastes in Construction Business

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**SKANSKA**

March 2007






Escambia bridge  
USA

Swedbank arena  
Sweden

Schools  
Great Britany

Palace of Justice  
Czech Republic

### Skanska in brief

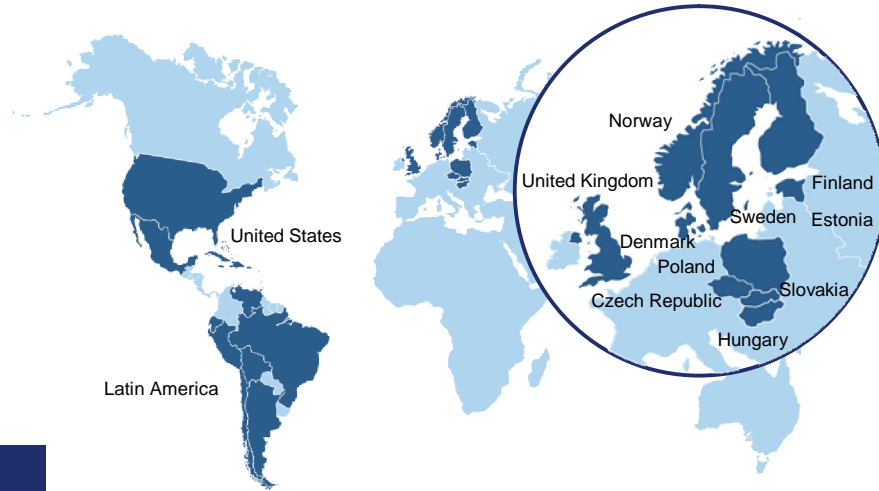
- § One of the world's leading companies in construction and project development
- § Operations in selected "home markets"
- § Four Business streams
- § 4,000 repeat customers
- § 56,000 employees
- § EUR 13 Billion in revenue

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## Skanska's home markets

3



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## Outperform values that separate us from competitors

4

- zero losses
- zero accidents
- zero defects
- zero environmental incidents
- zero ethical breaches

Skanska  
Code of  
Conduct

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## Get the house in order!

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## Materials efficiency

- Approximately 10-30 % of purchased material ends up as waste
  - Surplus material
  - Damaged material
  - Waste resulting in working methods
  - Packaging



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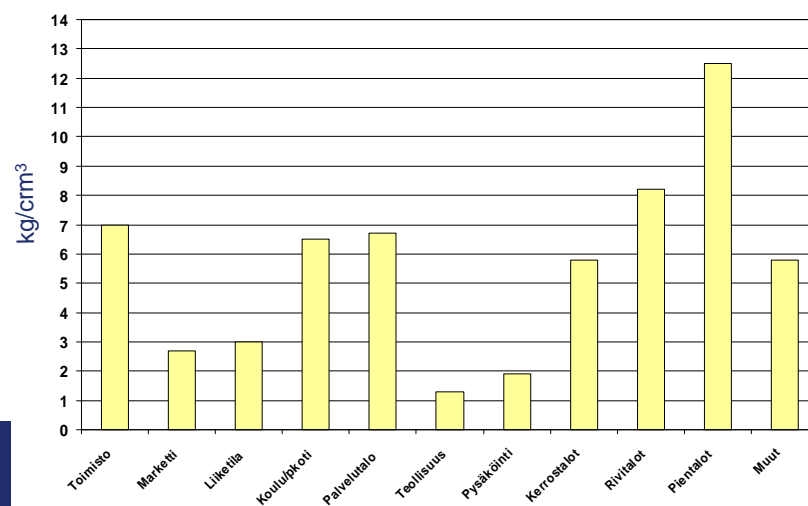
## Waste accounting

- Started in 1997
- Two objectives
  - To reduce waste
  - To increase recycling rate
- High variety in targets
  - Used to be 4 kg/crm<sup>3</sup> for all building types
  - Today, different targets for different building types

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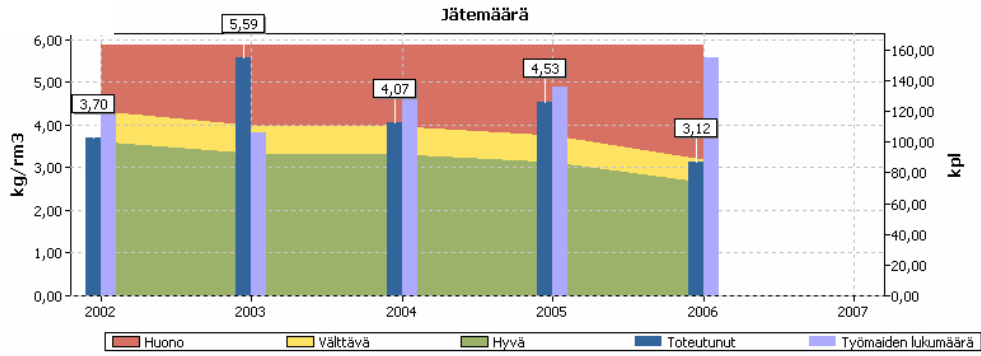
## Quantity of waste by building type



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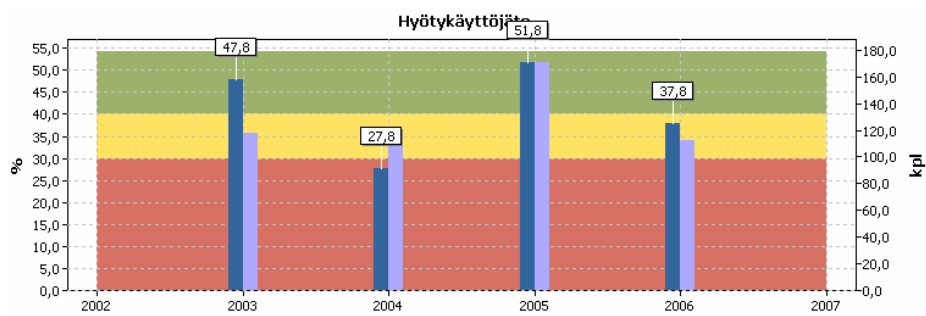
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## Reducing waste



*Variations in waste quantity are affected by the project portfolio of each year – not a useful indicator*

## Increasing recycling rate



*New targets in 2007: 45 % for new buildings, 85 % for renovation projects*

## Way forward


- Organize and normalize waste reporting in regions where there are numerous waste management suppliers
- Automatizing the reporting from supplier to Skanska scorecard
- Expanding perspective from waste management to materials efficiency

## More advanced....

**...process and energy efficiency**

**CUSTOMER**


Visualisations  
Virtual premises  
Customer choices



**Marketing**

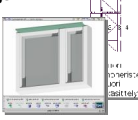
3-D model  
Space information  
Materials  
Working drawings

**Architectural design**




**PRODUCT SUPPLIERS** 13

Structural and product component libraries

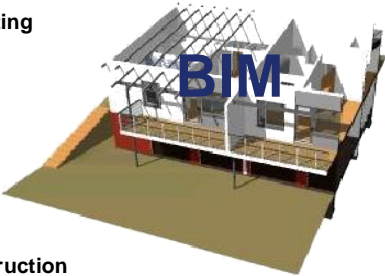


**Use and maintenance**

Building and maintenance management  
Change management  
Information on materials

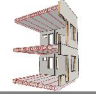


**BIM**



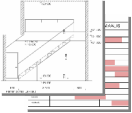
**Structural engineering**

Reinforcement  
Prefabrication  
Installation



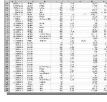
**Construction**

Drawings and details  
4-D time schedules  
Production models



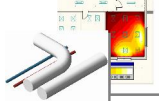
**Bills of quantities**

Cost estimations  
Procurement  
Logistics




**Building automation**

Indoor air analyses  
Lighting  
Thermal loads



**JOB SITE**



**DESIGN SERVICES**

HEPAC design  
Clash detection analysis  
Component libraries

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14

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## Thinking Ahead



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