

nZEB

Challenges and Strategies

Part 2 “Build in Wood”

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Timber innovations network (TräIN)

A six year European Regional Development Fund program



Challenges



New demand i northern Sweden due to city transformation.

- Cold climate
- Geographic
- Logistics
- Energy consumption
- Climate threat

- Building costs
- Financing
- Regulations
- Education
- Workforce
- Legislation

- A cooperation between:

- **The Industrial Development Center (IUC) of Norrbotten**

- (identify company needs, promote industrial and business development)

- **Luleå University of Technology (LTU)**

- (research based need finding and solving, knowledge transfer)

- **48 companies in clusters**

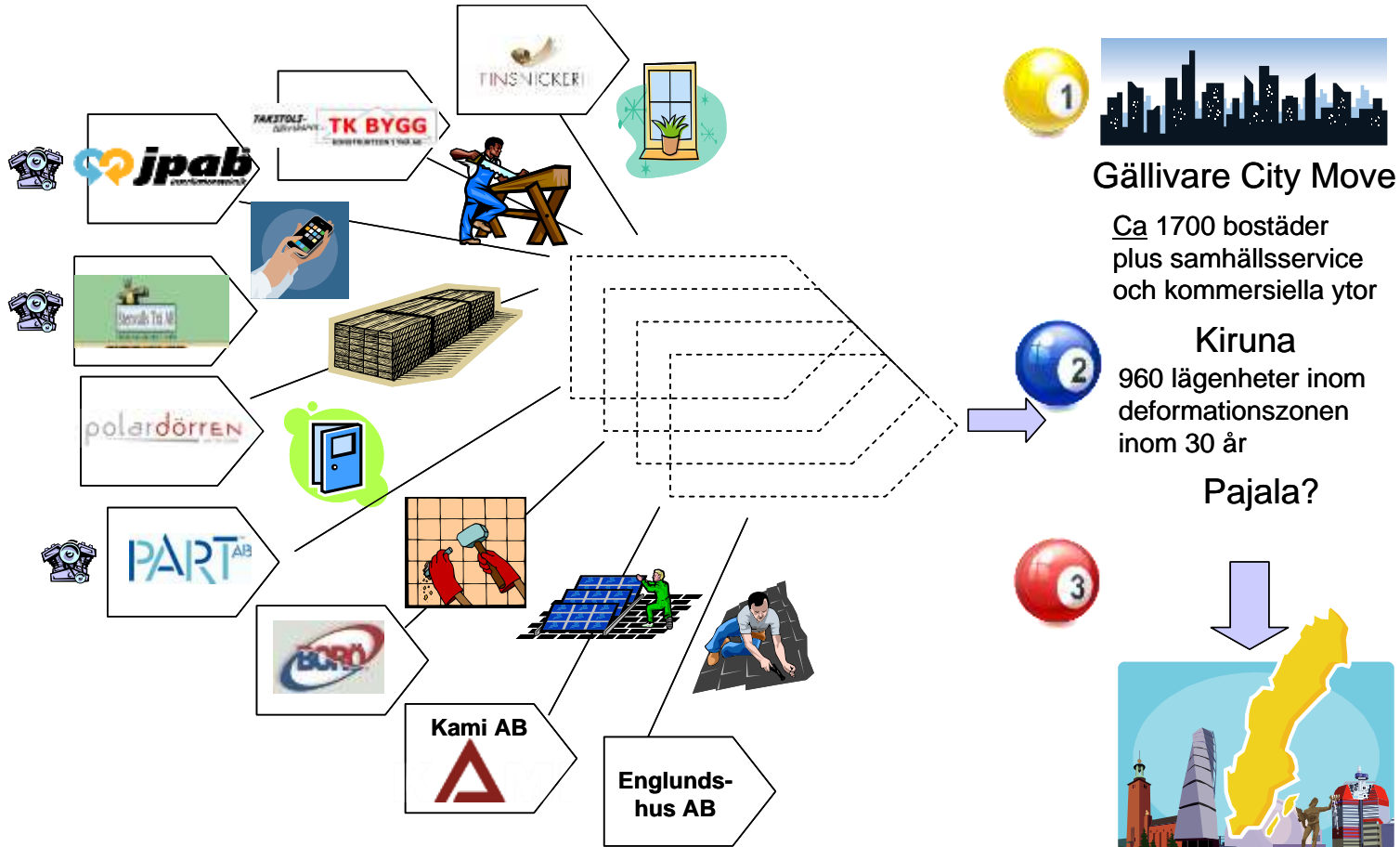
- **Financed by:** The county administrative board and the county council of Norrbotten, Municipalities, the Swedish Agency for Economic and Regional Growth and LTU

The discussion regarding the climate goals in EU and in Sweden is mostly a question of low energy consumption!



- **But this is over time not a way to reach the goals. It is not good enough to get a sustainable situation.**
- **We must think of all the factors that has negative effect on the climate in the building process. From the material production to destruction.**
- **It is more relevant to look at the energy consumption in existing buildings – they are already built.**

Strategies: Networking





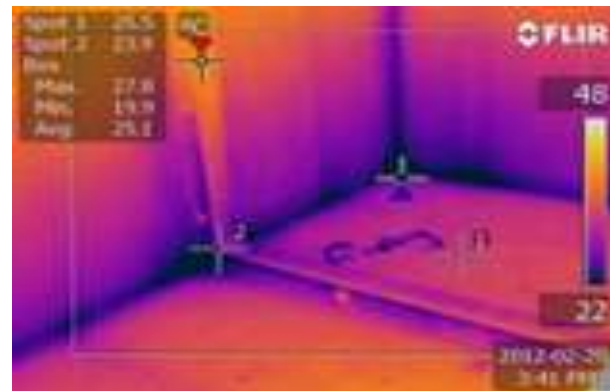
House building companies in Norrbotten

- Anderssons Trähusfabrik, Överkalix
- Englundshus, Kalix
- Glommershus, Arvidsjaur
- Klöverträsk Byggteam, Luleå
- Lindbäcks, Piteå
- PartAB, Kalix
- Stenbackens Trähus, Piteå
- Tornedalshus, Övertorneå
- Trepert Bygg, Kalix
- Villa Varm, Piteå
- Vittjärsvshus, Boden
- Älvsbyhus, Älvsbyn

And in Västerbotten

- Martinssons Trä
- Plusshus
- Jörnträhus

Energy-Cube for testing of different building components





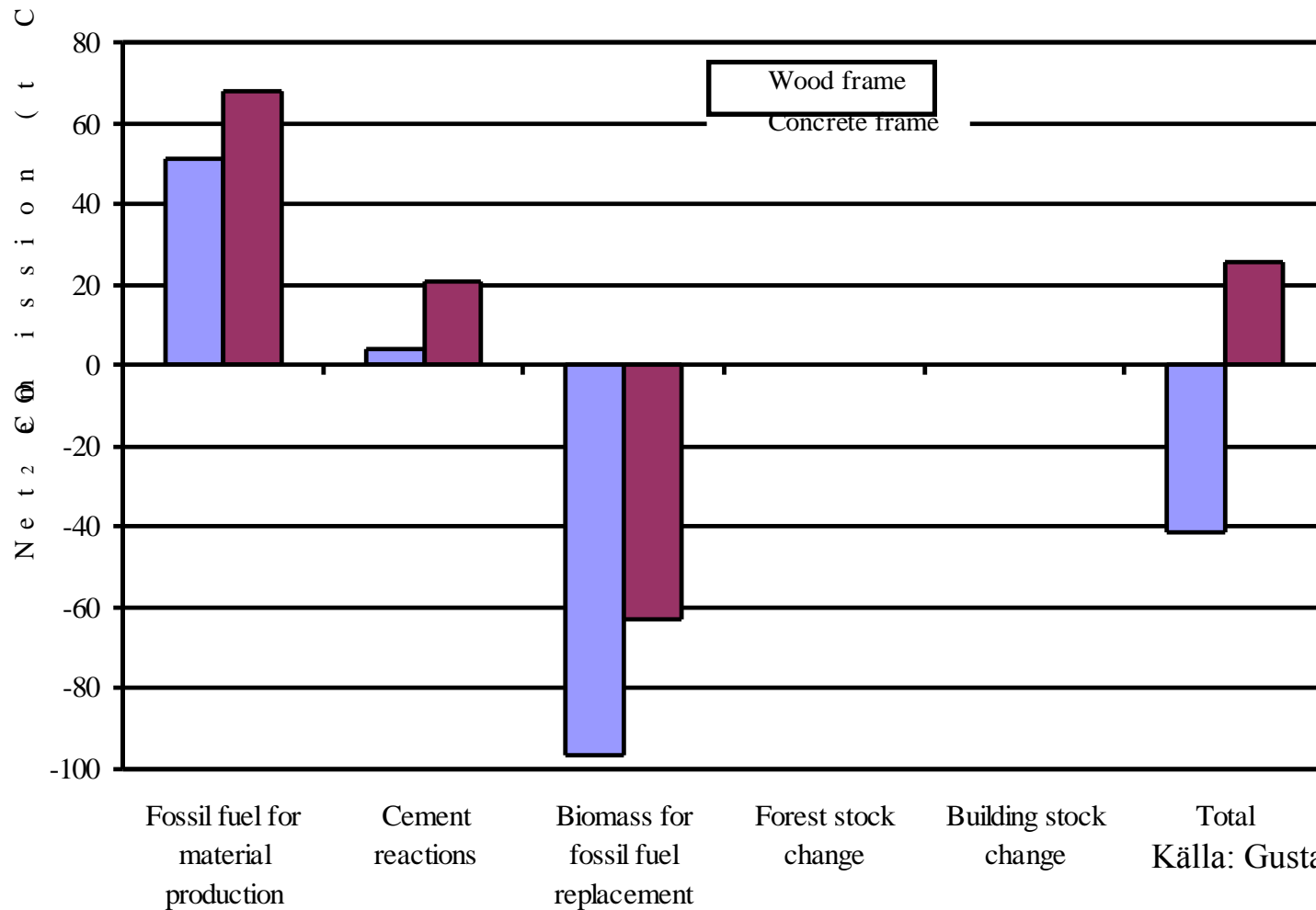
”Low energy consumption – network” for increase the knowledge of how to build more sustainable and low energy houses



Interreg – project ECEH, Efficient Control of heat and ventilation in low energy houses. (Fi & SE)



Comparison between houses in wood- and Concrete frame: CO₂-balance over a period of 100 year

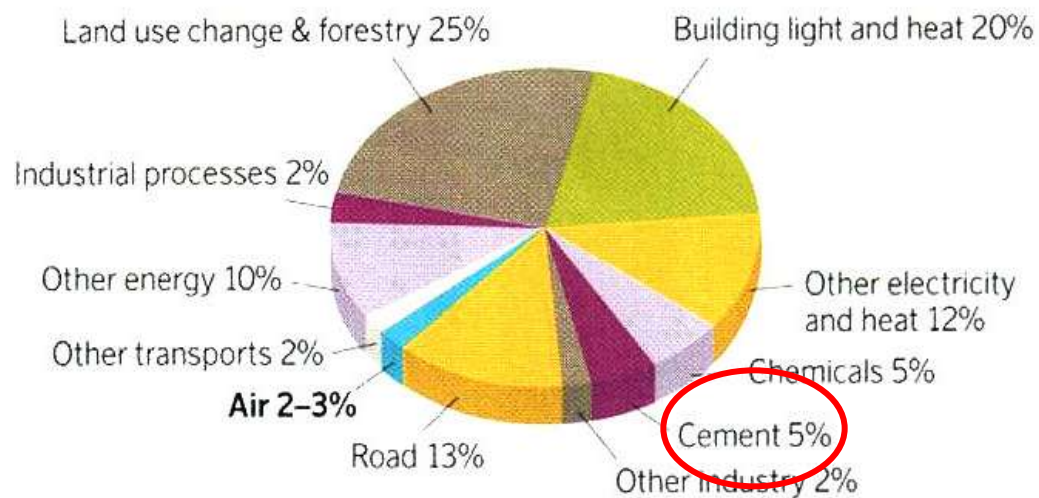


Källa: Gustavsson et al. 2006

Or in another way – part of the total emission

The global most negative climate-affecting part is cement-production

Global CO₂ emissions



Source: IPCC



*Wood is fine for our future
and you can have fun now !*

Thanks for your attention!

Timber companies in Norrbotten

- 70 companies with approximately 1700 employees
 - ~ 40% Timber Housing and Building Products
 - ~ 40% Sawmilling
 - ~ 5% Interior carpentry & furniture
 - ~ 15% Others (PartAB / BoxModul)
- The average SME company:
 - 20 employees
 - Turnover 8 million €
 - Profitability < 5%



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Example of a modern Housebuilding company in Northern Sweden:









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