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**ENERGY EFFICIENT BUILDINGS  
THE SUSTAINABLE ADVANTAGES OF  
CONCRETE STRUCTURES**

**“Do you speak sustainable  
construction?”**

**Conference**

20 May 2010

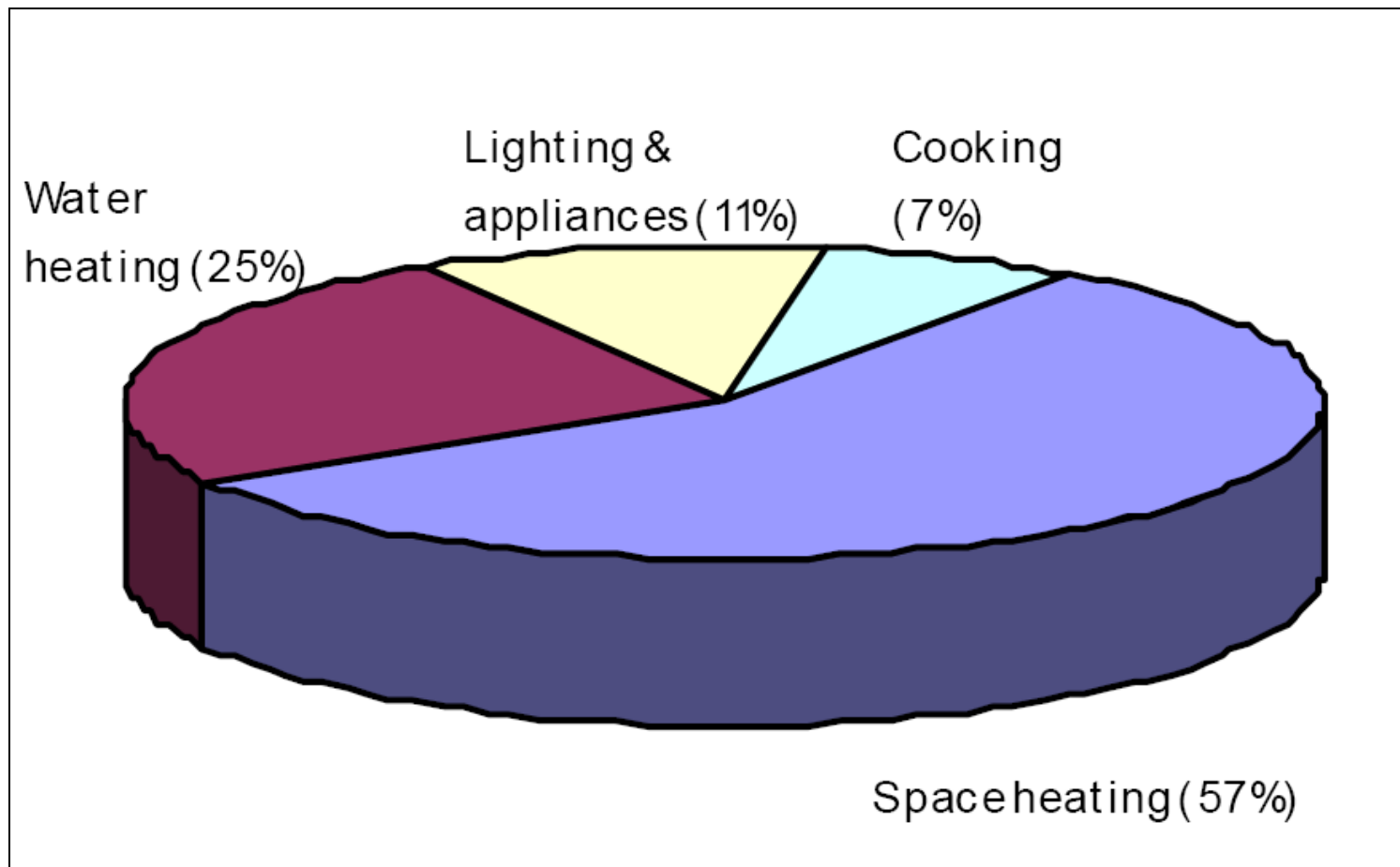
*By J.-P. Jacobs, ECP Executive Director*

# EU ENERGY PERFORMANCE OF BUILDINGS DIRECTIVE



National calculation tools must take account of:

1. Building orientation
2. Thermal capacity of the structure
3. Passive solar systems

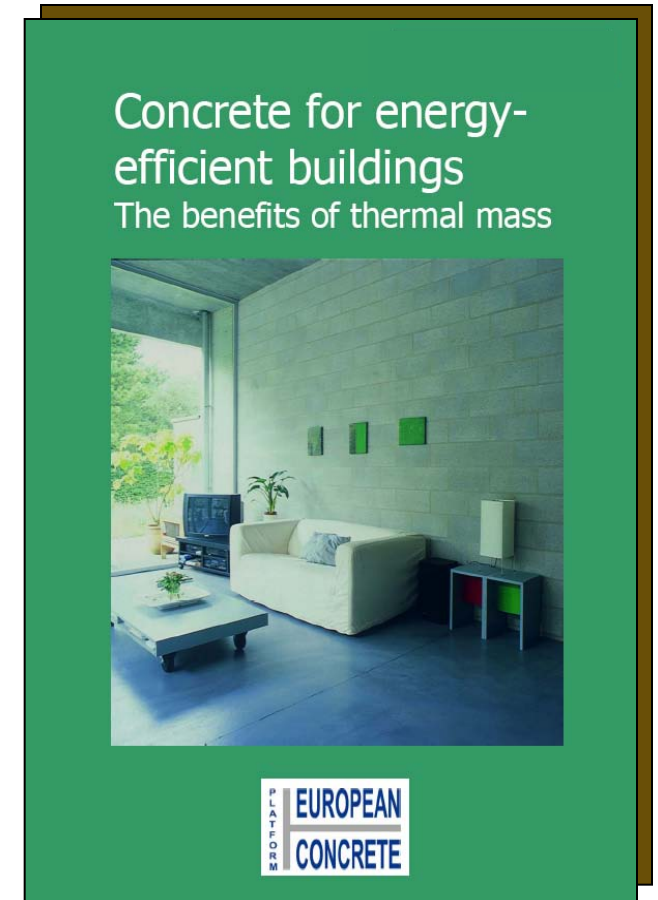


## Average European Energy Consumption for Dwellings

(source [www.intuser.net](http://www.intuser.net))

## Working group set up to:

- Evaluate and respond to opportunities presented by the EPBD
- Review the effects of thermal mass in concrete buildings

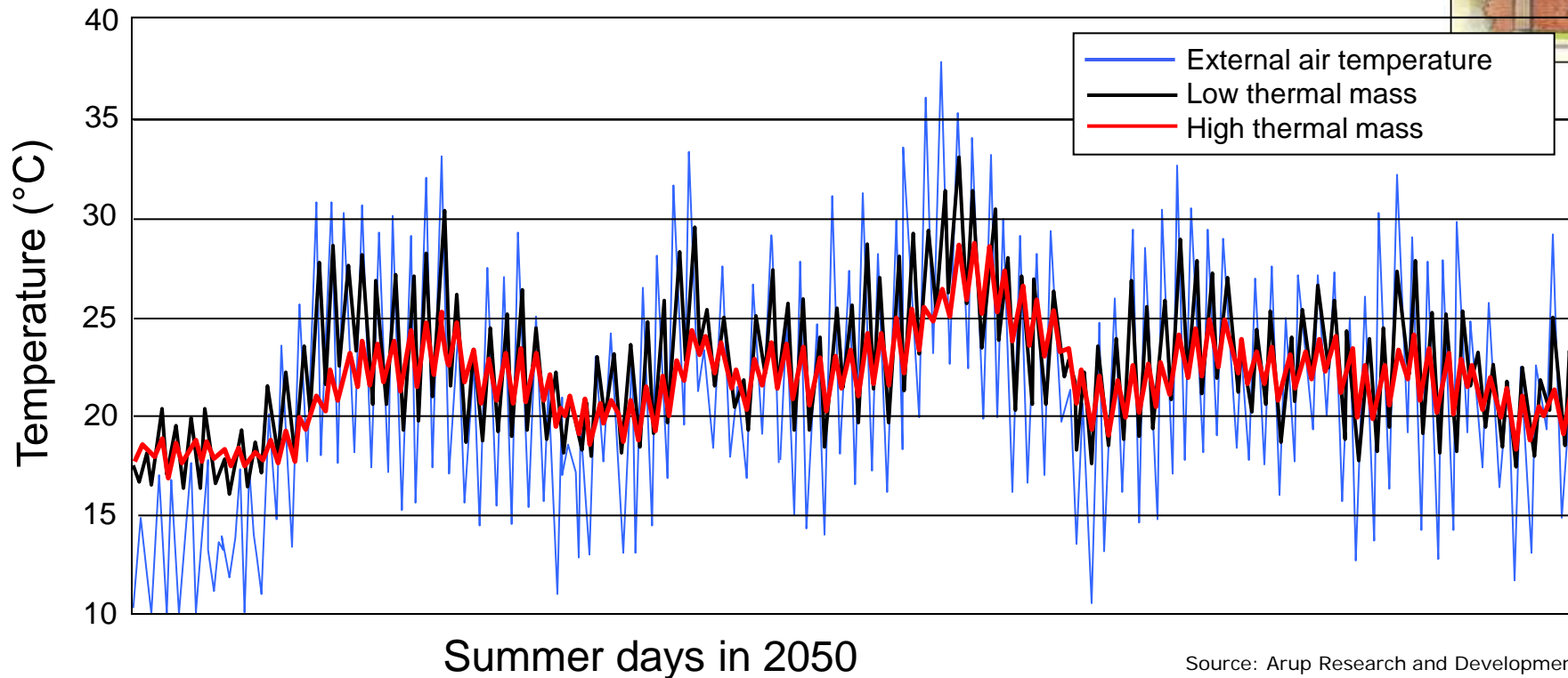


# ENERGY EFFICIENCY WITH CONCRETE

**By choosing concrete, energy efficiency is improved and thermal comfort enhanced**

- **European brochure on *Concrete for energy-efficiency buildings*:  
*The benefits of thermal mass* website**  
Adapted at national level: Ireland, Italy, Poland, The Netherlands, Turkey and UK
- **Web portfolio on case studies showing energy efficient concrete buildings from across Europe**  
[www.europeanconcrete/concrete](http://www.europeanconcrete/concrete) issues

# THERMAL MASS IN A WARMING CLIMATE



Source: Arup Research and Development

# KEY POINTS

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When used appropriately, the thermal mass in concrete and other heavyweight materials can:

- **Improve a building's year-round energy efficiency**
- **Help avoid overheating problems in a warming climate**

# RESPONSIBLE SOURCING

- Local materials and products minimise carbon footprint – exporting environmental and social costs outside Europe damages the planet and is morally indefensible
- National and European security and strategic importance of key construction materials
- We need a strong European cement and steel reinforcement industry with long-term planned reserves of concrete aggregates
- Local jobs mean sustainable communities
- All ECP sectors working hard to minimise waste, minimise carbon footprints – BIBM, ERMCO, CEMBUREAU, UEPG, EFCA = all active in producing ***More from Less.***



[HOME](#) • [CASE STUDIES](#)[OFFICE BUILDINGS](#)[RESIDENTIAL BUILDINGS](#)[OTHER TYPES](#)

## Case studies

### EXECUTIVE SUMMARY

This document brings together examples of low energy concrete buildings from across Europe and presents them in an accessible format. It is hoped that the information



## FOR FURTHER INFORMATION GO TO:

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[www.europeanconcrete.eu](http://www.europeanconcrete.eu)

European Concrete Platform

[www.bibm.eu](http://www.bibm.eu)

International Trade Organization of the Precast Concrete Industry

[www.ermco.eu](http://www.ermco.eu)

European Ready Mixed Concrete Organization

[www.cembureau.eu](http://www.cembureau.eu)

The European Cement Association

[www.concretecentre.com](http://www.concretecentre.com)

The Concrete Centre (UK)

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