



Intelligent Energy  Europe



# Denmark: Impact, compliance and control of energy legislation

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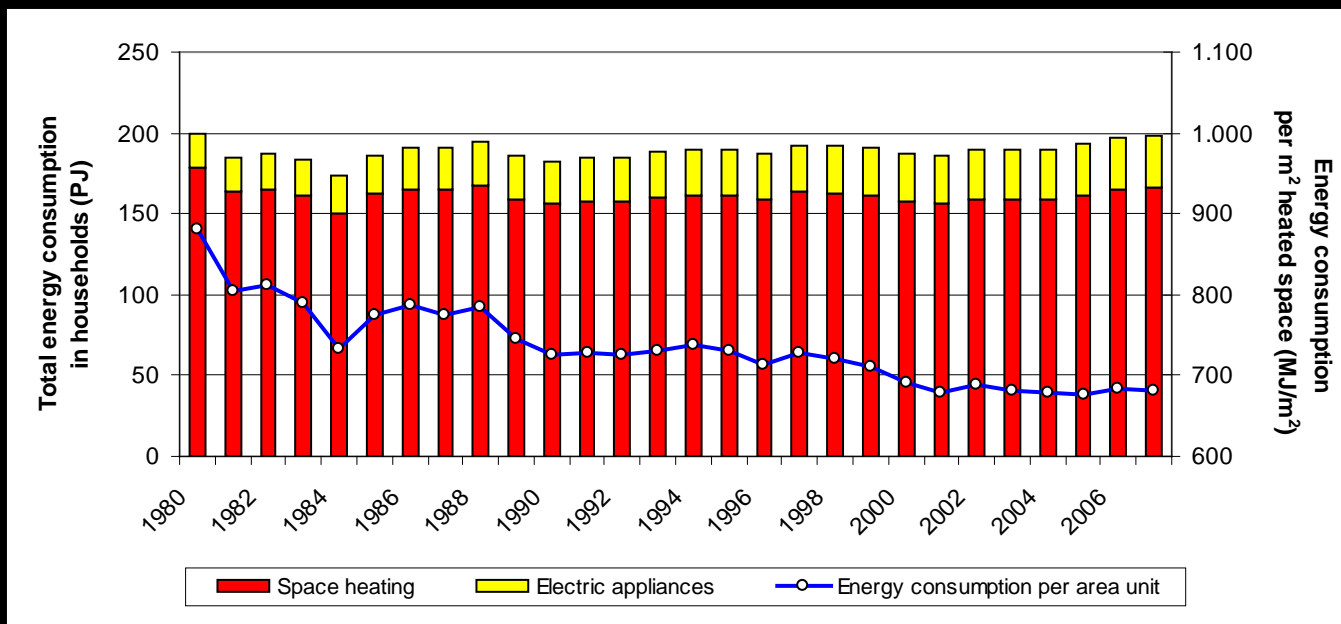


# Content

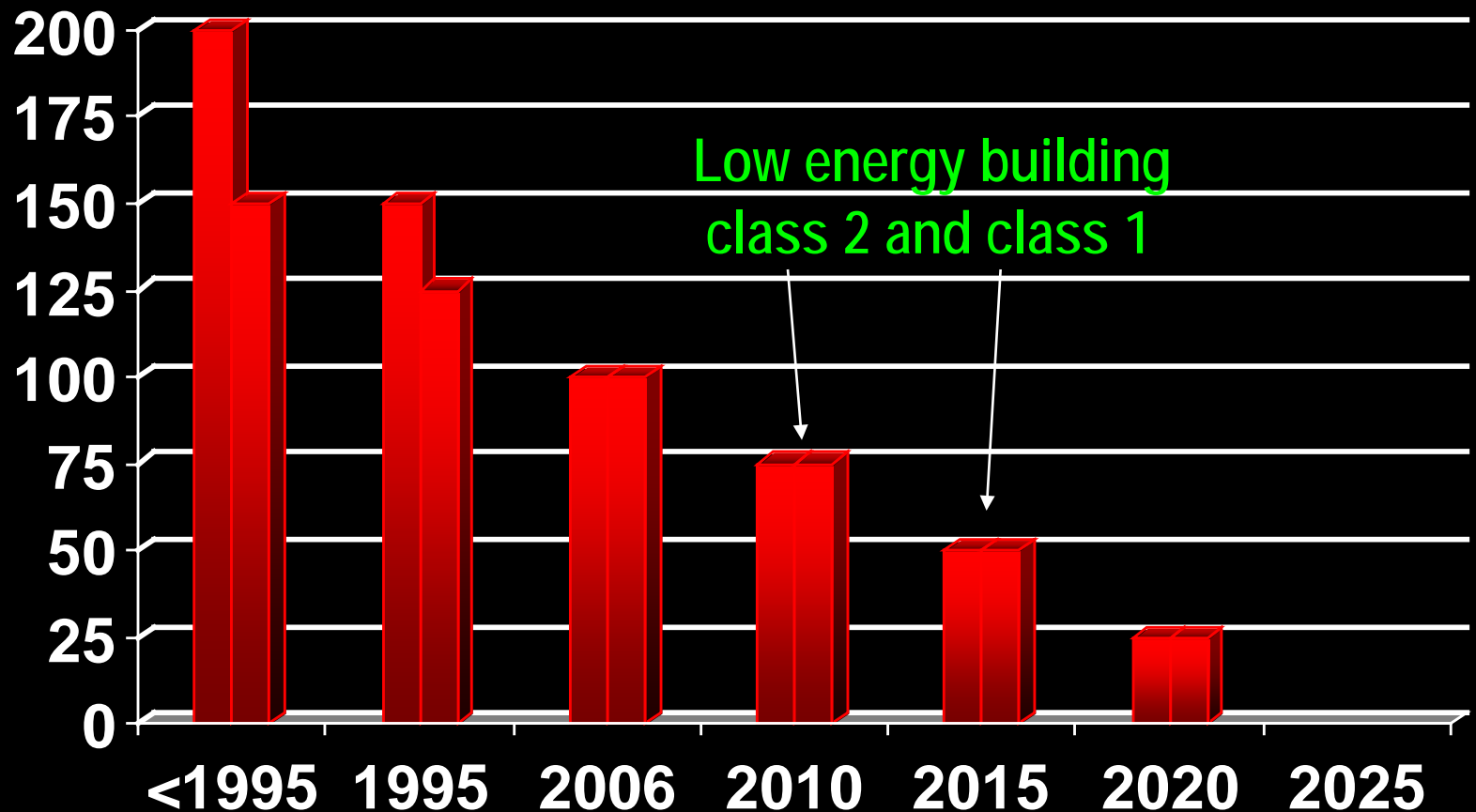
1. Impact of EPBD on national requirements
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# Danish Building Regulations

- New requirements came into force 1 April 2006
- New requirements must be complied with to obtain a building permit
- Impose stricter energy performance in buildings - 25 % energy savings in new buildings



# Energy consumption in new buildings until 2025 (2006 is 100 %)





# New buildings

- Energy consumption always has to be calculated and kept within the energy frame
- Renewable energy has got a more central position - at the moment Denmark has a 19 % coverage and the goal is 30 % by 2020
- The building market has expanded with the introduction of products and materials that fulfil the new low energy class 1 and class 2 buildings



# Existing buildings

- In multi-family houses and non-residential buildings a major renovation affects 25 % of the value of the building or more than 25 % of the building envelope
- At major renovations, all cost-effective energy savings must be performed – this is a stricter rule than required by EPBD



# Existing buildings

- All buildings require cost-efficient energy-saving measures for specific components
- Mandatory for public authorities to implement energy-saving measures with a pay-back time of less than five years as described in the energy certificate of the buildings - this is also a stricter rule than required by EPBD



# Energy Certification

- Since 1997 Denmark has had an energy certification scheme for buildings quite similar to EPBD definition
- EPBD was – mainly - implemented in 2006
- There are rather strict requirements to the qualifications and also to the independence of the energy consultants - this was not changed after introduction of EPBD
- In Denmark the lifetime of the certificate is 5 years, so this is tighter than EPBD requires

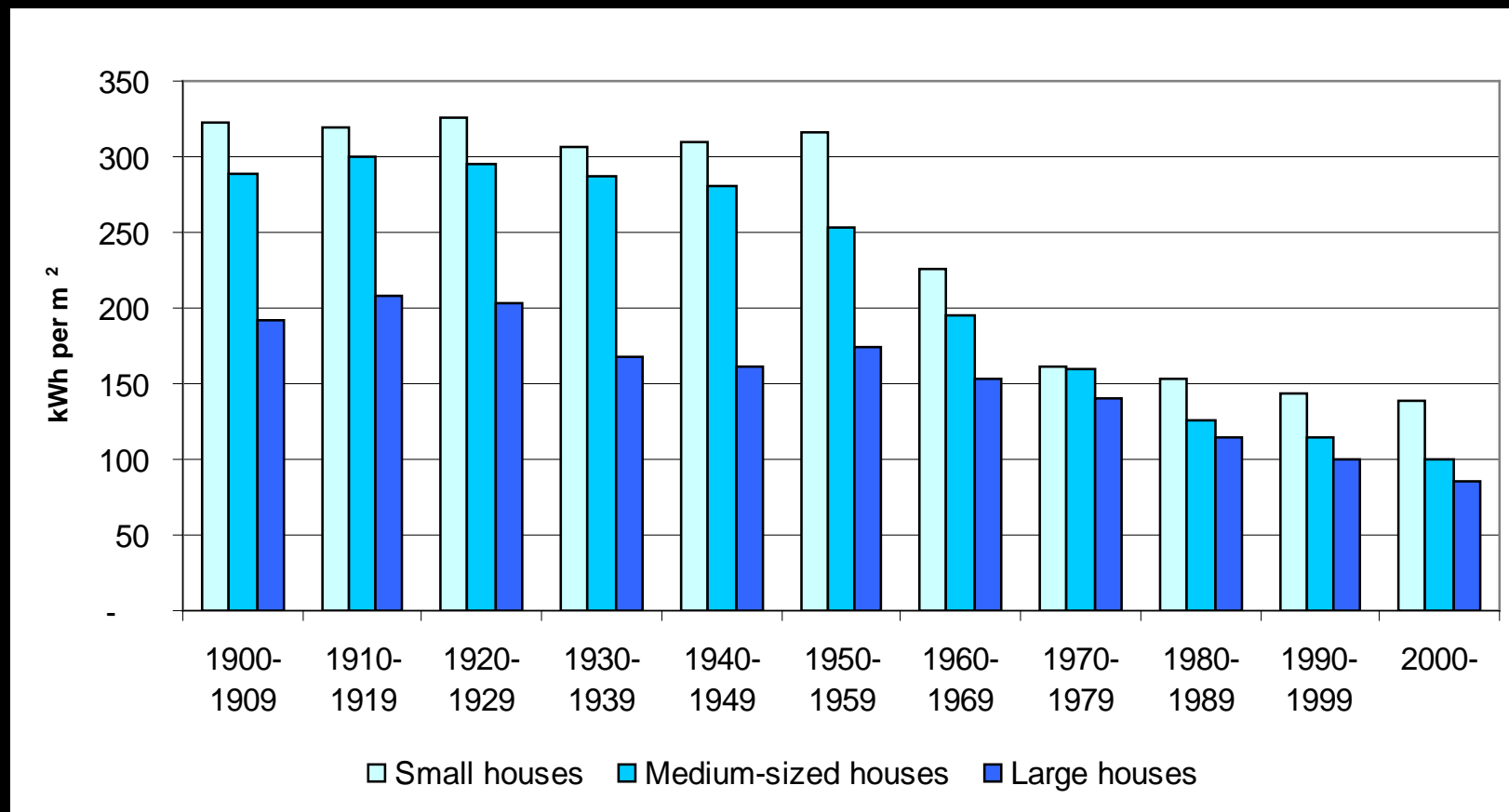


# Energy Certification

- It was a big adjustment that all certificates have to be calculated
- Denmark used operational rating for large buildings before EPBD was introduced
- Before the official permit to use a new building is given, an energy audit has to be performed by a certified or approved energy consultant who checks that the energy calculation is correct, and performs quality and compliance checks

# An example from a SBI analysis

Actual heat consumption in Danish detached houses  
- distributed over the decades of building (DHW included)



# Initiatives to improve the impact of national energy legislation



All measures below are part of the new broad energy policy agreement as of 21 February 2008

- Evaluation of the existing energy certification scheme
- Establishment of a Knowledge Centre for Energy Savings in Buildings
- Promotion campaigns to reduce energy consumption
- Strategy for reduction of energy consumption in buildings
- Public access to data from certification
- Public buildings should lead and serve as good examples

# Compliance and control



## - Danish Building Regulations

- In practice control of new buildings is performed by the energy consultants who also issue the energy certificate
- Proof of compliance with the energy requirements for new buildings must be given after the completion of the building in order to get the *permit to use* the building
- If a building does not comply with the energy performance requirements, it has to be made to do so!

# Compliance and control



## - Energy Certification

- From April 2008 it became possible to appoint a company official to issue the certificates, thus permitting companies to appoint their own consultants
- Companies carry out their own quality checks according to DS/EN ISO 9001
- The Danish Energy Agency (DEA) carries out a market surveillance of the companies
- Quality checks are made regularly, but also when there are complaints from clients, out-of-range values, etc.
- DEA also checks the energy consultants' independence and qualifications



# Energy Certification

- In a report from the Danish Institute of Governmental Research (December 2008), the author claims that there is no real difference in consumption levels between houses with a certificate and those without one
- The study is based on data from 3 956 detached houses under the old scheme in the period 1999-2002
- Indoor temperature is not registered, so a comfort gain could have been obtained, but not registered



# Energy Certification

- A certification scheme is a good basis for energy savings, but the scheme itself does not necessarily generate energy savings
- The certification scheme draws the building owners' attention to the fact that there are possibilities for energy savings etc.
- The certificates are now beginning to be available to the public on the "Public Information Server" ([www.ois.dk](http://www.ois.dk))
- Hopefully this will help activate the recommendations in the certificates



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