

Energy PERformance of EXISTing Buildings

ENPER-EXIST

May 10th 2006



The challenge is to divide by
a factor 4 the CO₂
emissions of the building
sector by 2050



A roadmap is needed

We need to make a major change in the retrofit of existing buildings

The EPBD is making a first step, But is far from being sufficient

We need need to imagine actions going beyond the EPBD

A roadmap is needed

- ◆ If we want to reach a factor 4 decrease
 - We need synergetic actions from all the stake holders
 - The roadmap shall be a common development of the decision makers

One of the goal of Enper Exist is to support Brain Storming regarding future actions for existing buildings

Roadmap for actions going beyond the limits of the EPBD

Technical tools application

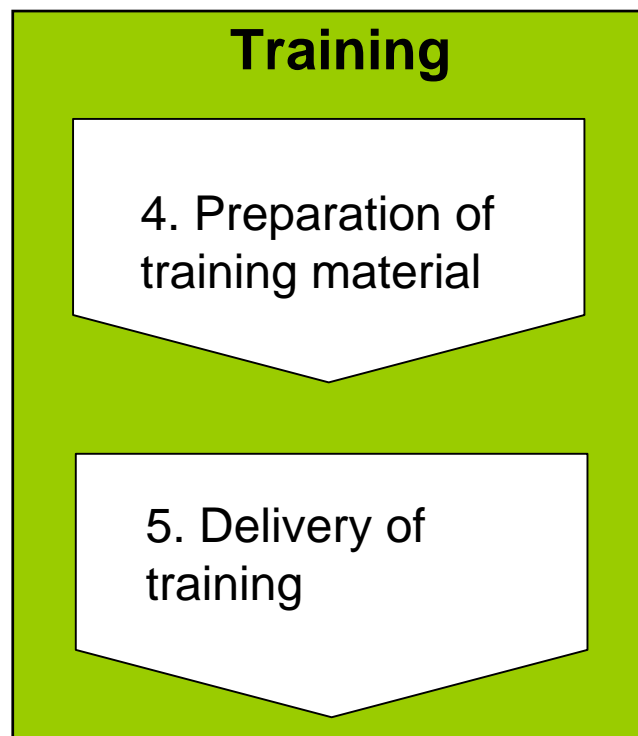
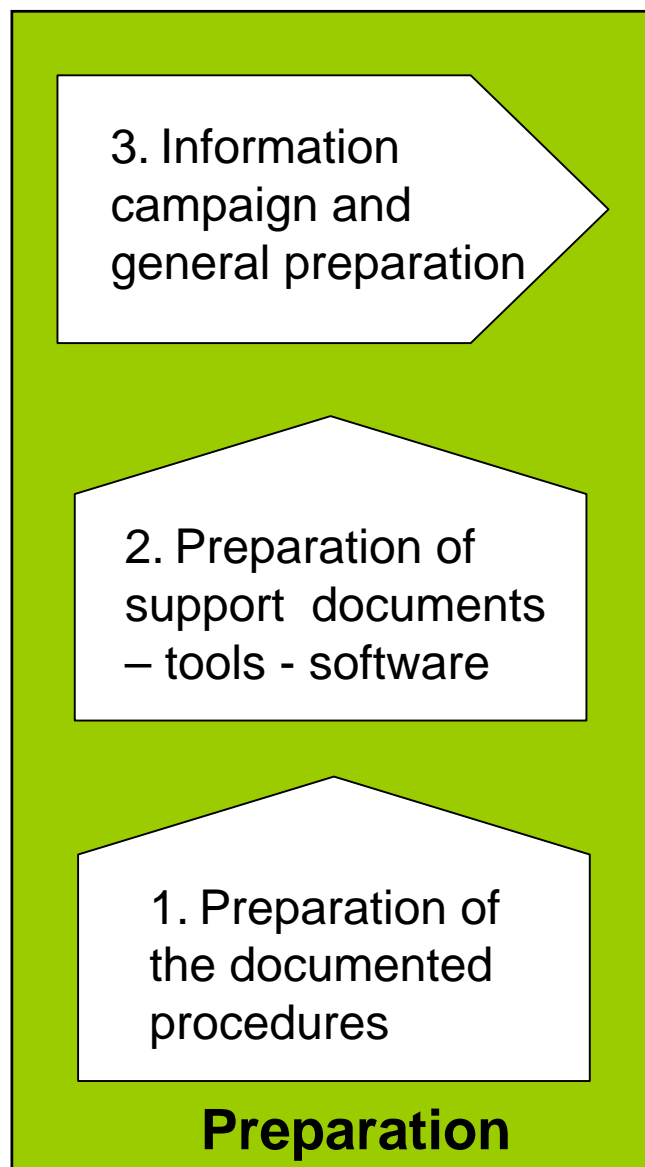
Legal, economical,
organisationnal issues

Building stock knowledge

Dissemination

WP2: Legal, Economical and organisational issues

We need a good vision of actions to be done



- ◆ Impact of the certification on the market
 - Direct cost
 - Indirect cost
 - Tools to help financing certification
- ◆ Impact on the human capital
 - Number of certifiers
 - Certifiers skills
 - Accreditation schemes
- ◆ Impact on administration
 - Which tasks shall be performed
 - Which organisations are possible

**To set up efficient policies it is important to
have a sound knowledge of the building
stock**

This is addressed by Enper Exist WP3

- ◆ 1st task: collect the amount of data available regarding the existing building stock in europe
 - Analysis of the level of data available
- ◆ 2nd task : how is decision making based on this information
- ◆ 3rd task : Analyse in which building categories the potential is highest. Include proposal on how to gain knowledge from the certification schemes

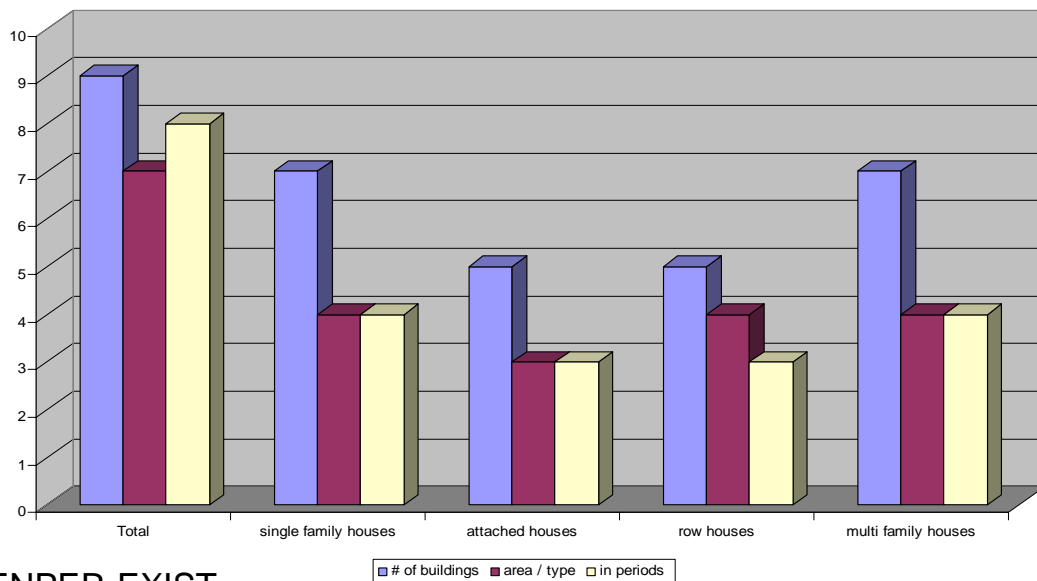
- ◆ 1st simple enquiry in 9 countries
 - Which data is available
 - Number of buildings per categories
 - Energy consumption for heating
 - Electricity consumption
 - U values
 -

Characterisation of the existing building stock

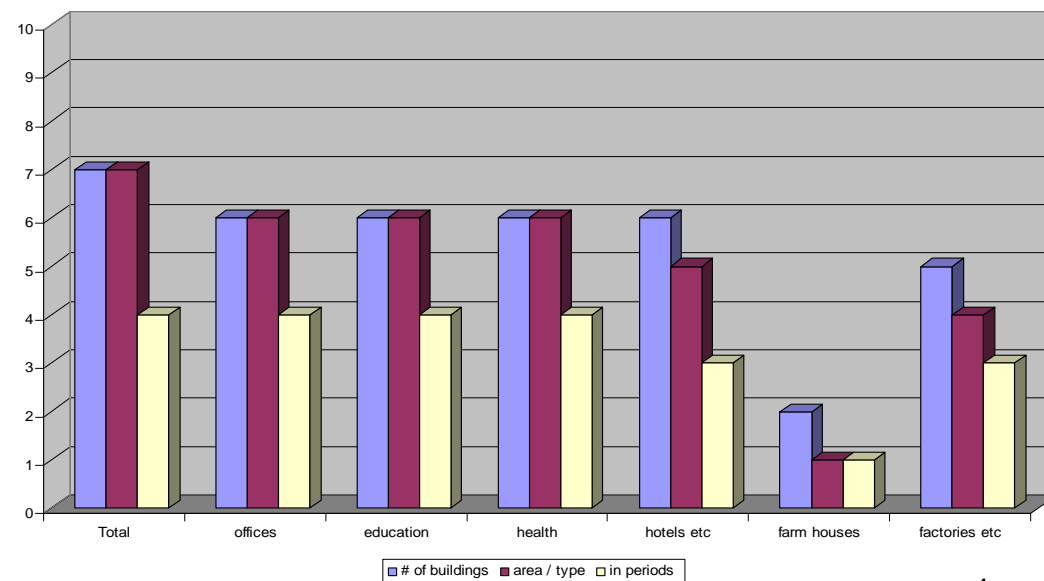
Please indicate if you can provide the following data:

- ◆ Number of buildings in different types
- ◆ Area of buildings divided into different type of use
- ◆ Typical construction periods

Characterisation of existing building stock - Res



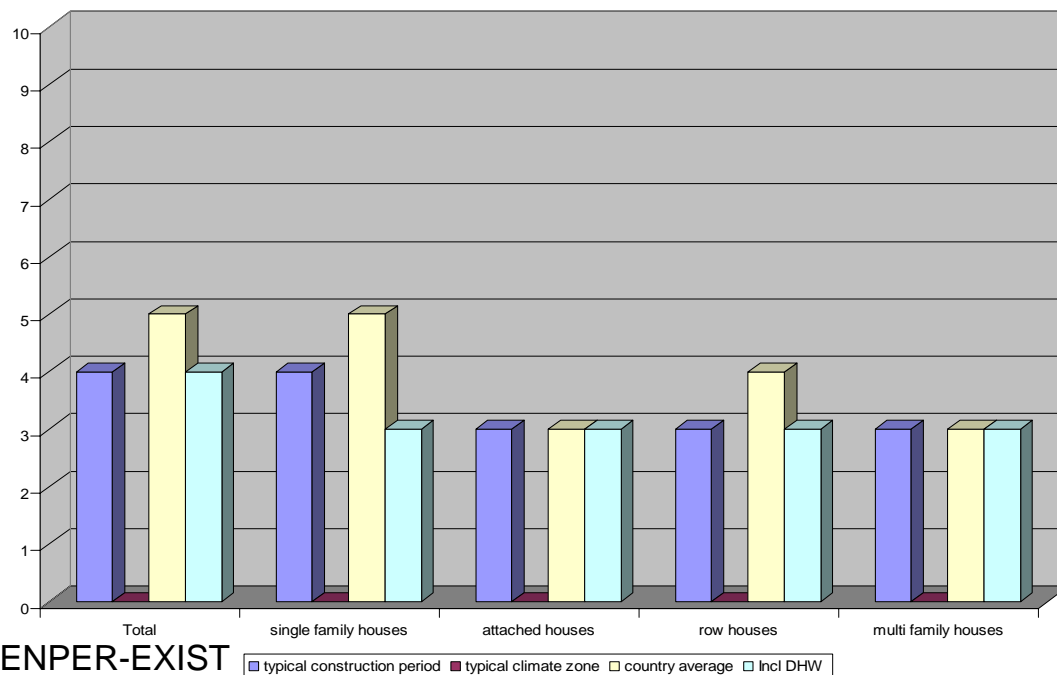
Characterisation of existing building stock - NR



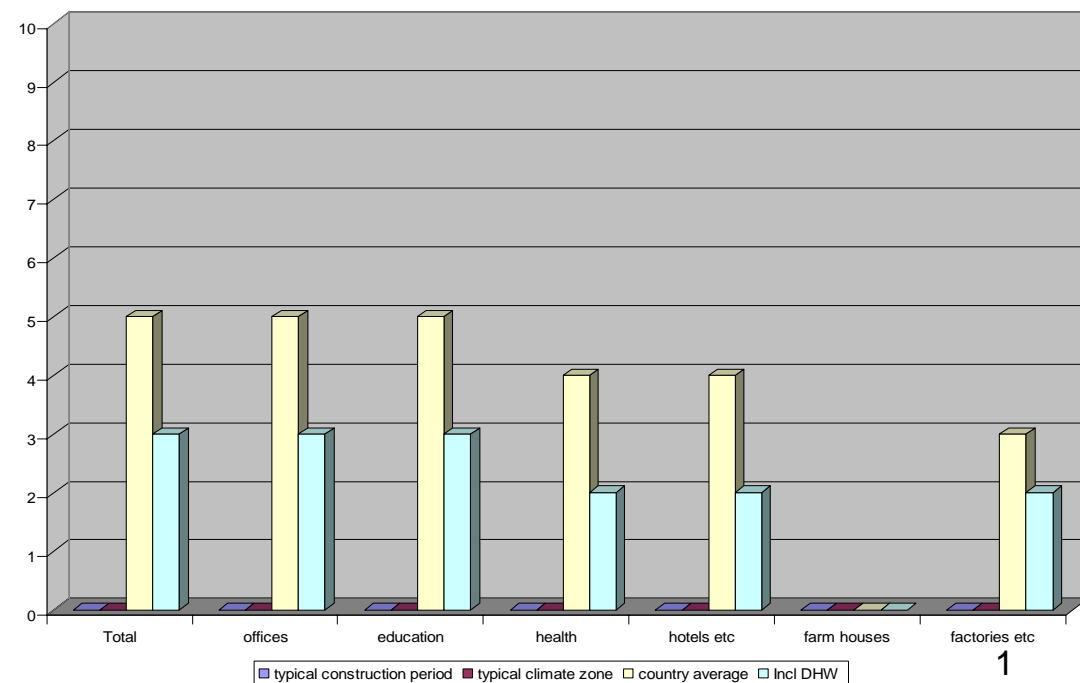
◆ Please indicate if you can give the heating consumption, divided into the different categories:

- typical construction period, typical climate zone, country average, Incl. DHW

Heating consumption - Res



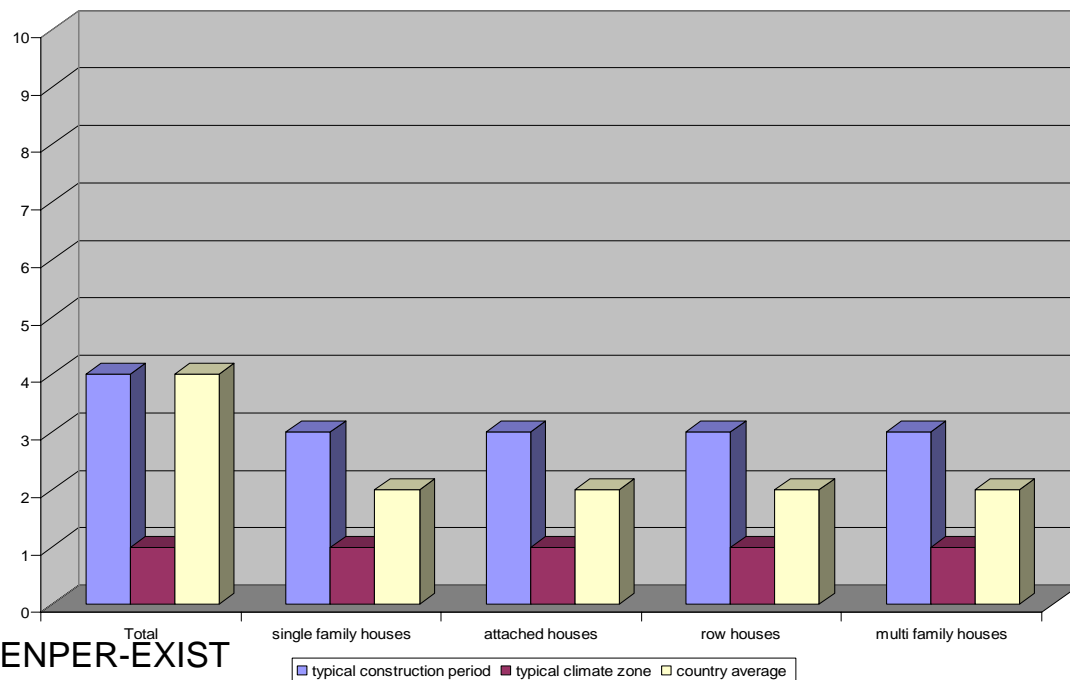
Heating consumption - NR



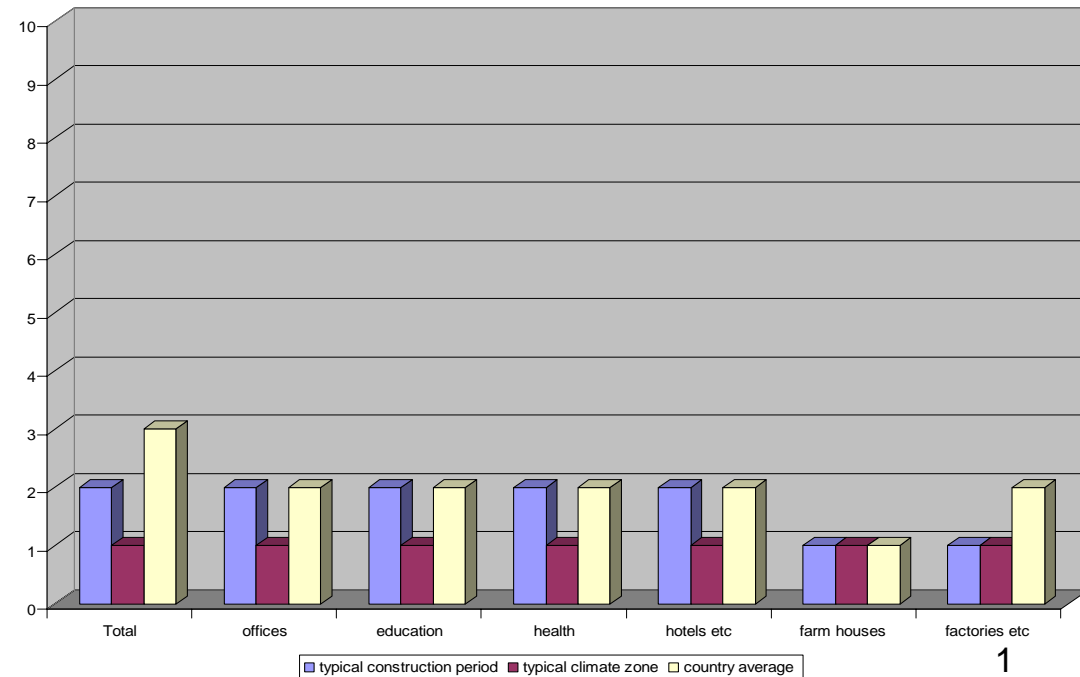
◆ Please indicate if you can provide the U-values for:

- typical construction period, typical climate zone, country average

Thermal insulation - Res



Thermal insulation - NR

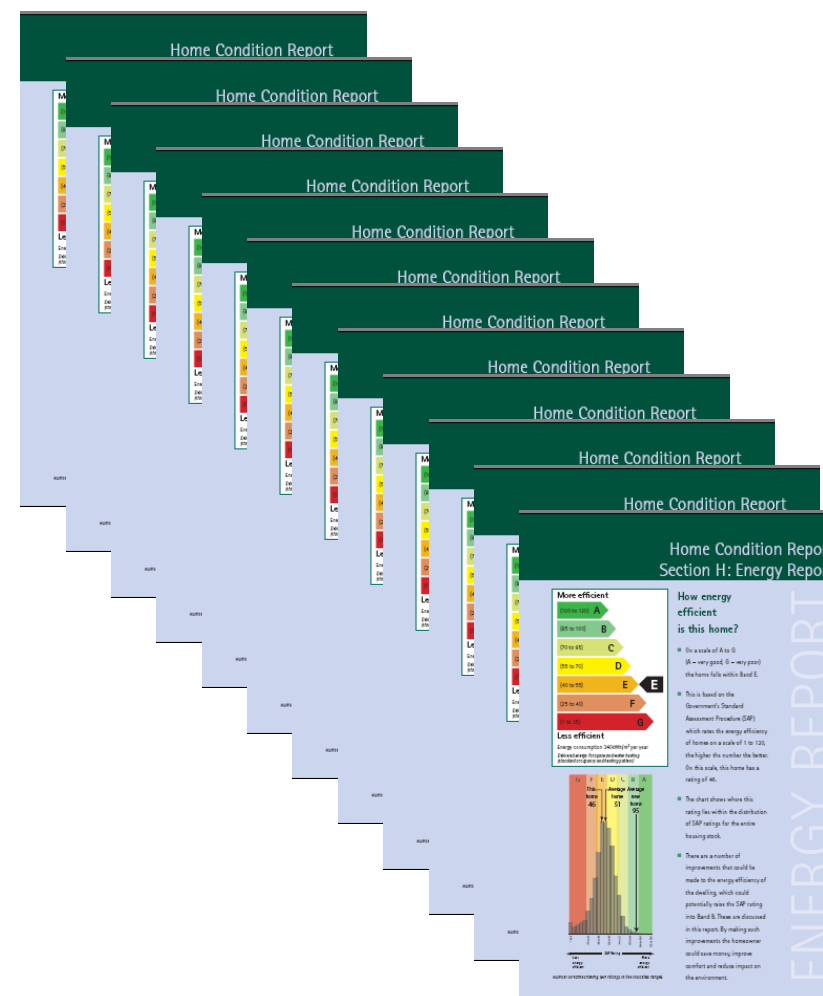


- ◆ Many teams which are advising the administration for the implementation of the EPBD do not have a clear image of the existing building stock
- ◆ It is important to understand why some countries have a much better knowledge than others
- ◆ We are looking at the data available in different countries and possible approaches to improve it

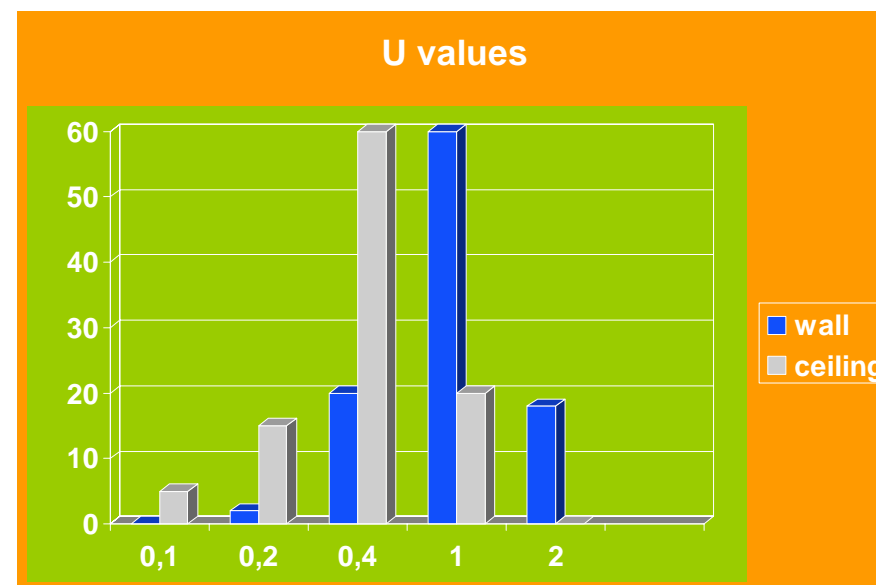
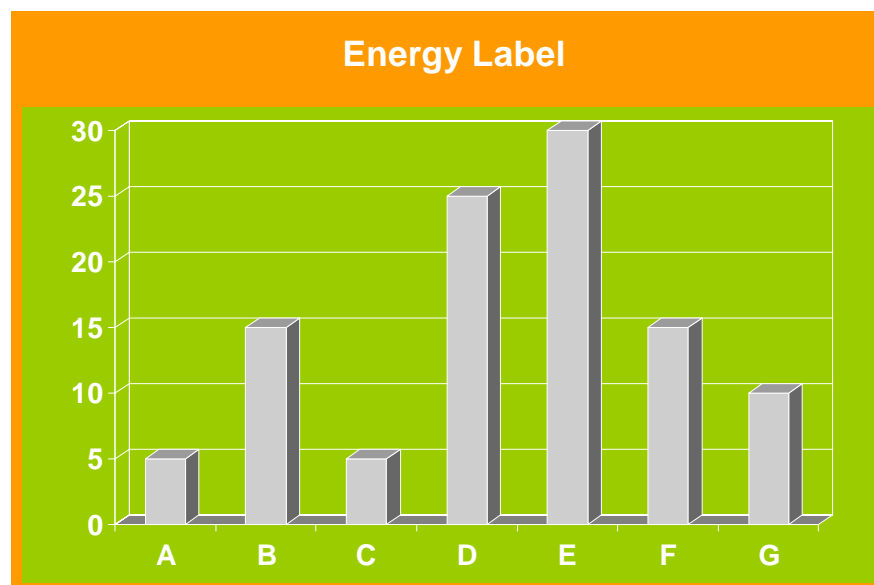
◆ Let's have a vision

- Could the collection of energy certificate enable
- Large building owners
- Local authorities
- Central administration
- To get a vision of their building stock ?

◆ 1) collect the certificate for the different buildings

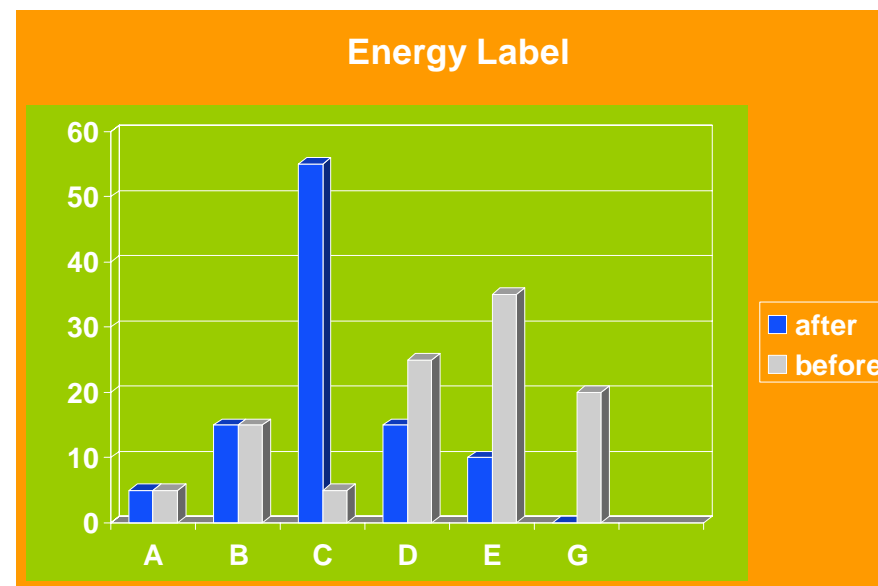
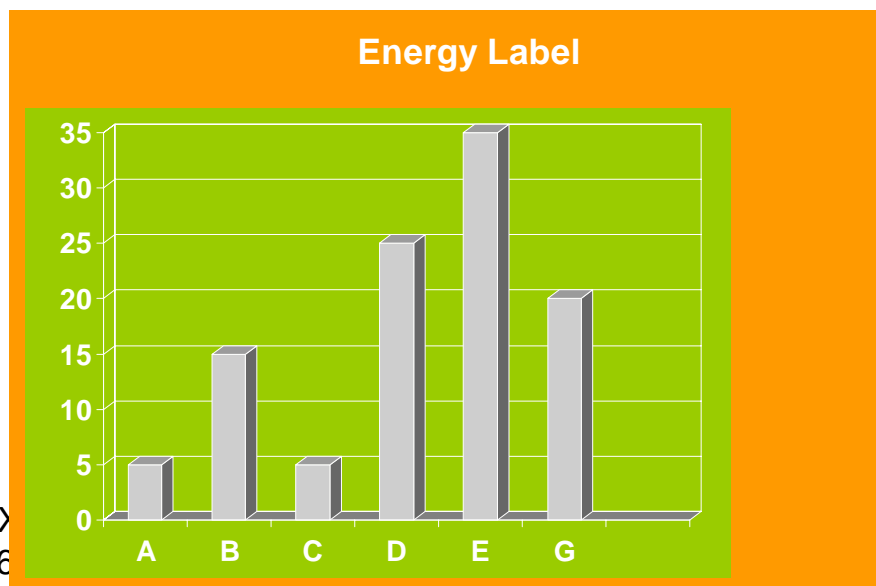


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- ◆ 2) Make a synthesis of the results



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- ◆ 4) Follow the impact of the policy

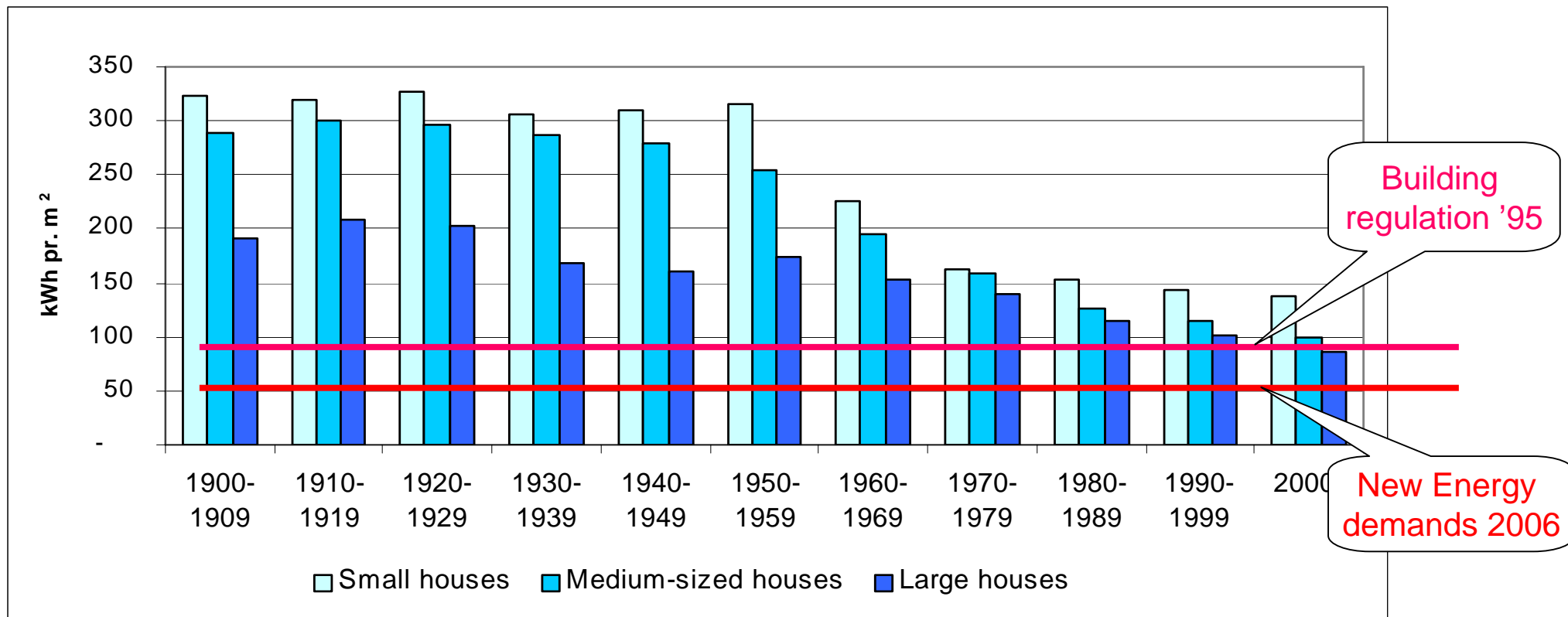


Is it a dream ?

- ◆ The format of the certificate
- ◆ The way the collection of certificate is organised
- ◆ The tools used to produce the certificate
- ◆ The awareness of potential users
- ◆
- ◆ will enable to make it applicable or not

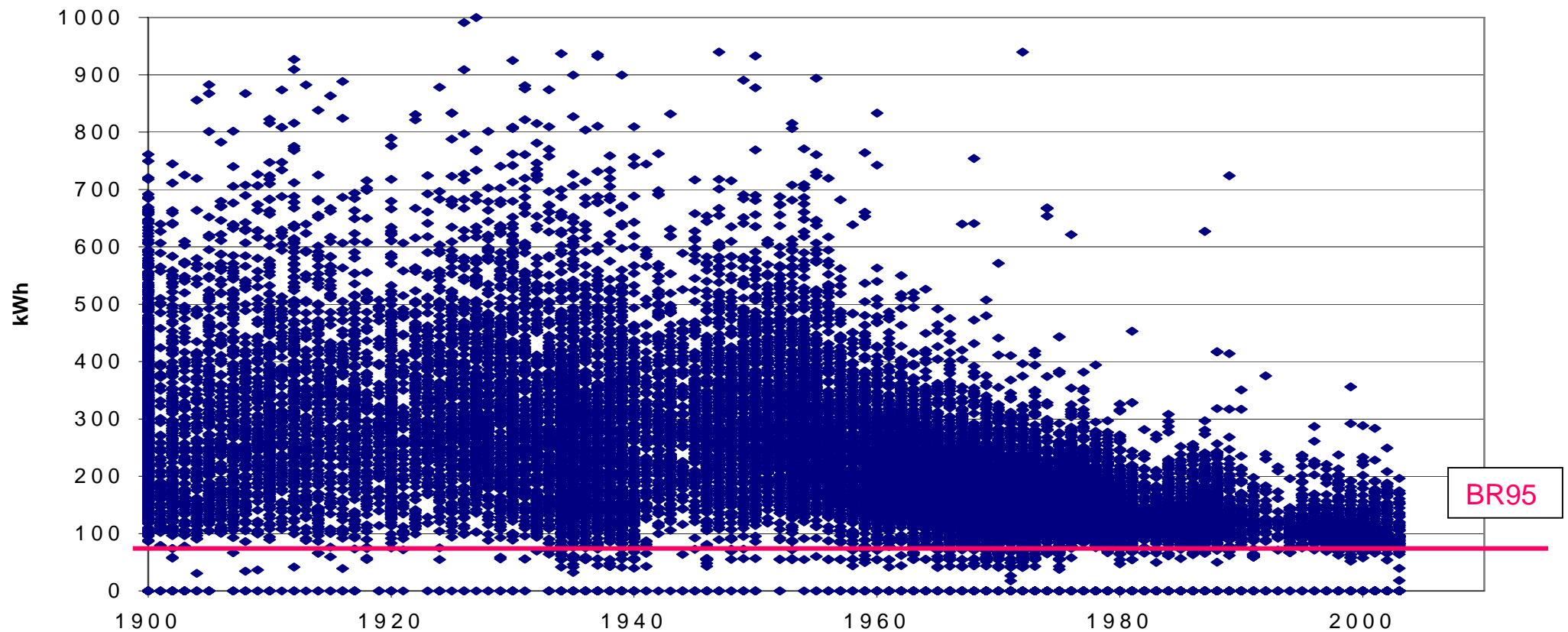
Heat Consumption

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



Heat consumption

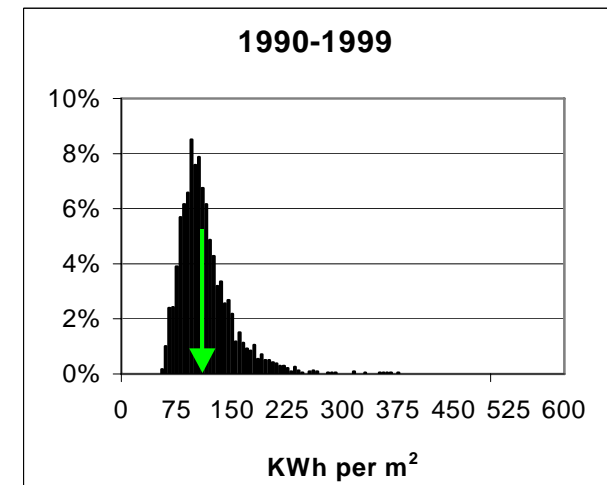
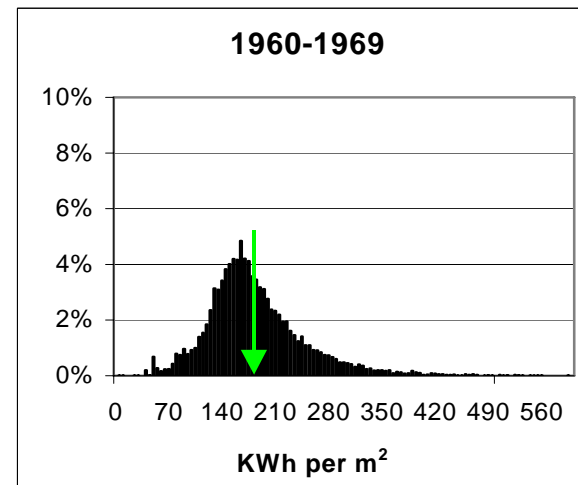
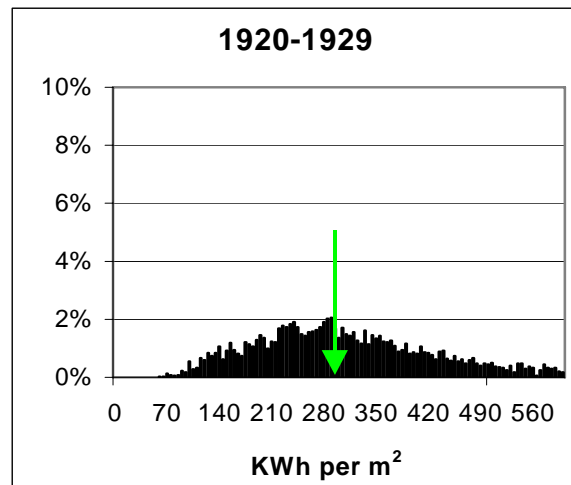
Detached houses (2003 energy labelling schemes)



Heat Consumption

Detached houses built in the 1920s, 1960s and 1990s

Distribution and average





ENPER-EXIST :

WP 4

Roadmap





	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1		1. Legal requirements (technical)			2. Legal support measures			3. Governmental financial incentives or sanctions						4. Legal requirements (non-technical)				5. Non-governmental activities				
2		Building level - overall energy performance	Building level - subset performance	Component level	Energy certification scheme	Right to charge energy investments in renting level	Right to deduct energy efficiency investments in rent paid to owner (agreed procedure)	Energy friendly urban regulations	Fiscal deduction for energy investments	Subsidies for energy efficient technologies	Support for knowledge generation activities	Taxation - stimuli of energy efficient buildings and penalties for others	Specific guarantees for loans for energy efficient buildings	European structural funds	Minimum conditions for renting	Environmental permit	Bank sector	Sector agreements - components	Sector agreements - installers	...
3	New Buildings																					
4	In general																					
5	Governmental owned or controlled																					
6	Owner renovation is planned																					
7	with building permit > 1000m² & "major"																					
8	with building permit - others																					
9	without building permit - energy focused																					
10	without building permit - not energy focused																					
11	No owner renovation intention if no absolute must																					
12	& private owned individual dwelling																					
13	& private apartment dwellings																					
14	& rented individual dwelling																					
15	& rented apartment building																					
16	governmental owned buildings																					
17	governmental controlled buildings																					
18	non-domestic buildings																					

Do you want to know more ?

- ◆ Visit our web site: www.enper-exist.org



- ◆ Register to receive our news letters



- ◆ Attend our workshops

- Next one in Lyon (F) in November