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Integration of renewable energy systems in buildings: a legal perspective

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Directive 2002/91/EC for the energy performance of buildings

- Reduction of thermal needs and energy loads on the basis of pre-defined goals.
- Use of cleaner fuels, renewable and reduction of fossil fuels use.
- Obligation of energy study for each new-built construction.
- Energy Audit => Energy certificate for
  - new buildings
  - existing buildings that are fully refurbished
  - existing buildings that are sold or let

- Obligation for the Audit of boilers and central air conditioning systems

=> Introducing a Holistic Approach to the energy design of buildings
=> Linking the commercial value to the energy performance

Current state and challenges for the future

Implementing Directive 2002/91/EC

Moving towards the Zero Net Energy Balance Building

Setting predefined goals for the percentage of buildings, which will achieve aims by 2015 and 2020

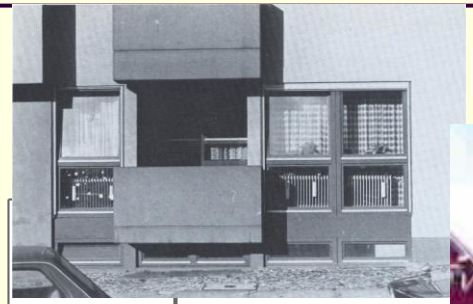
Extension to all sort of buildings

Extra funding at EU and national level

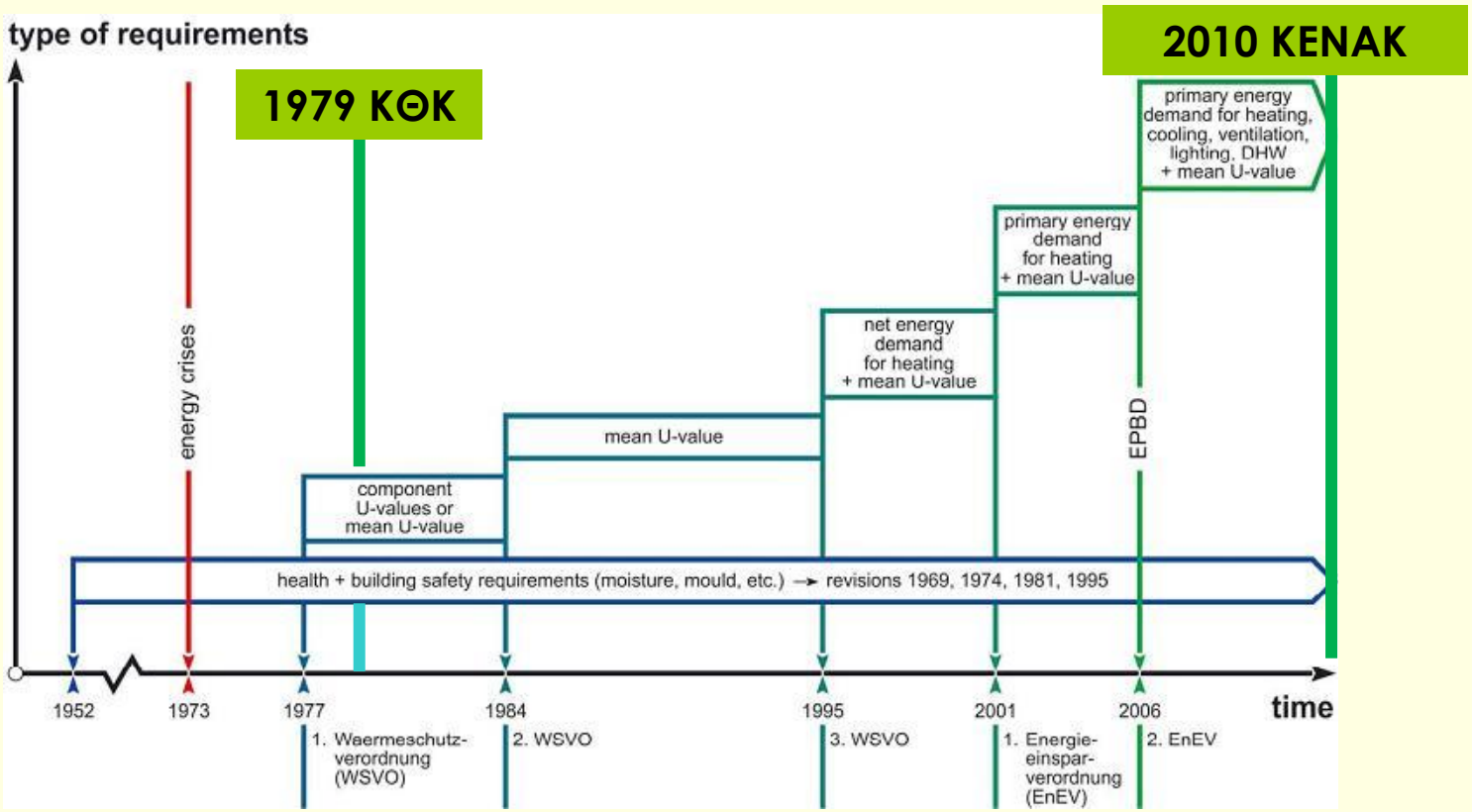
Reduction or release from VAT for energy conservation materials and systems

Mandatory installation of "smart" energy meters in every building

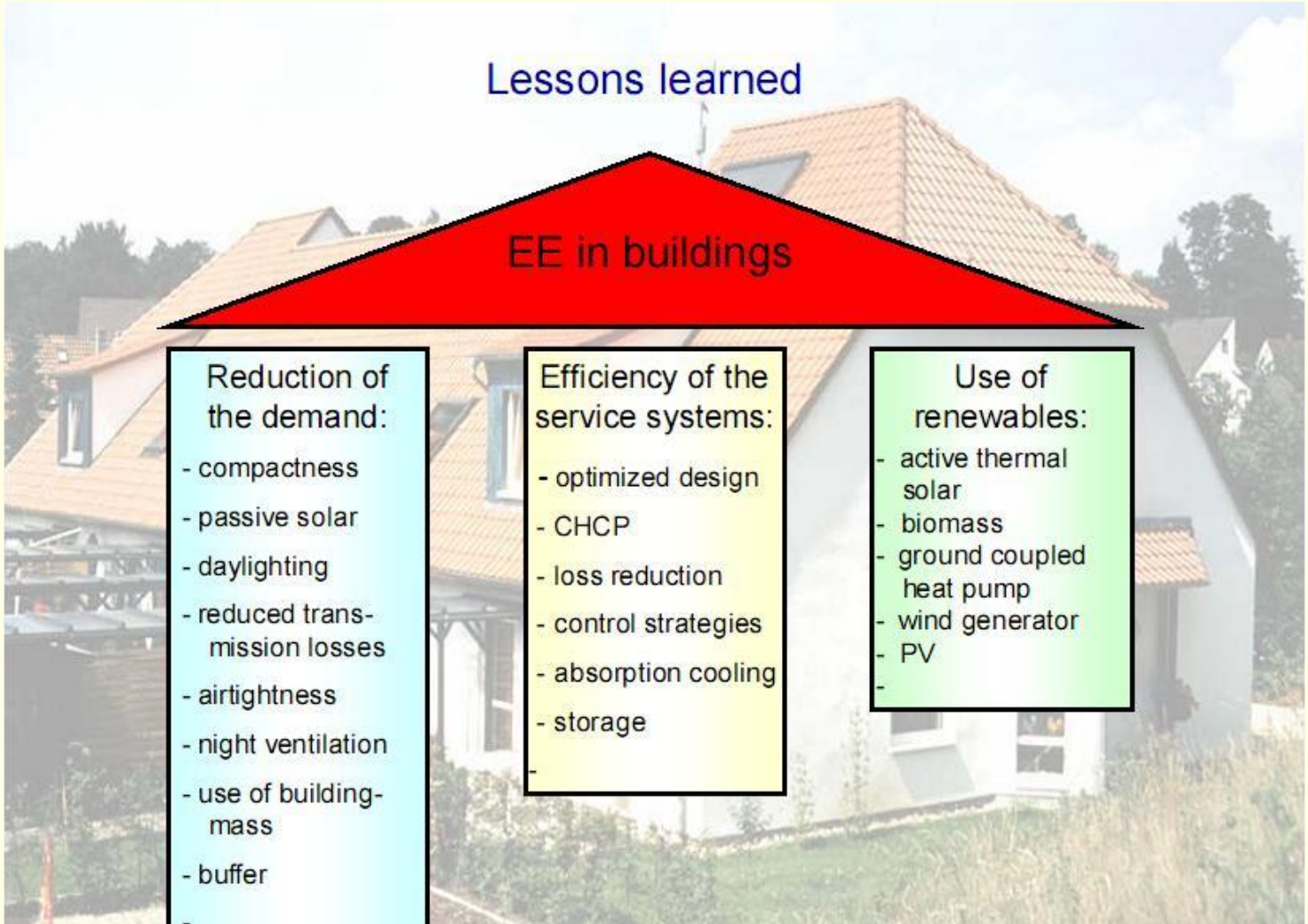
An evolutionary procedure



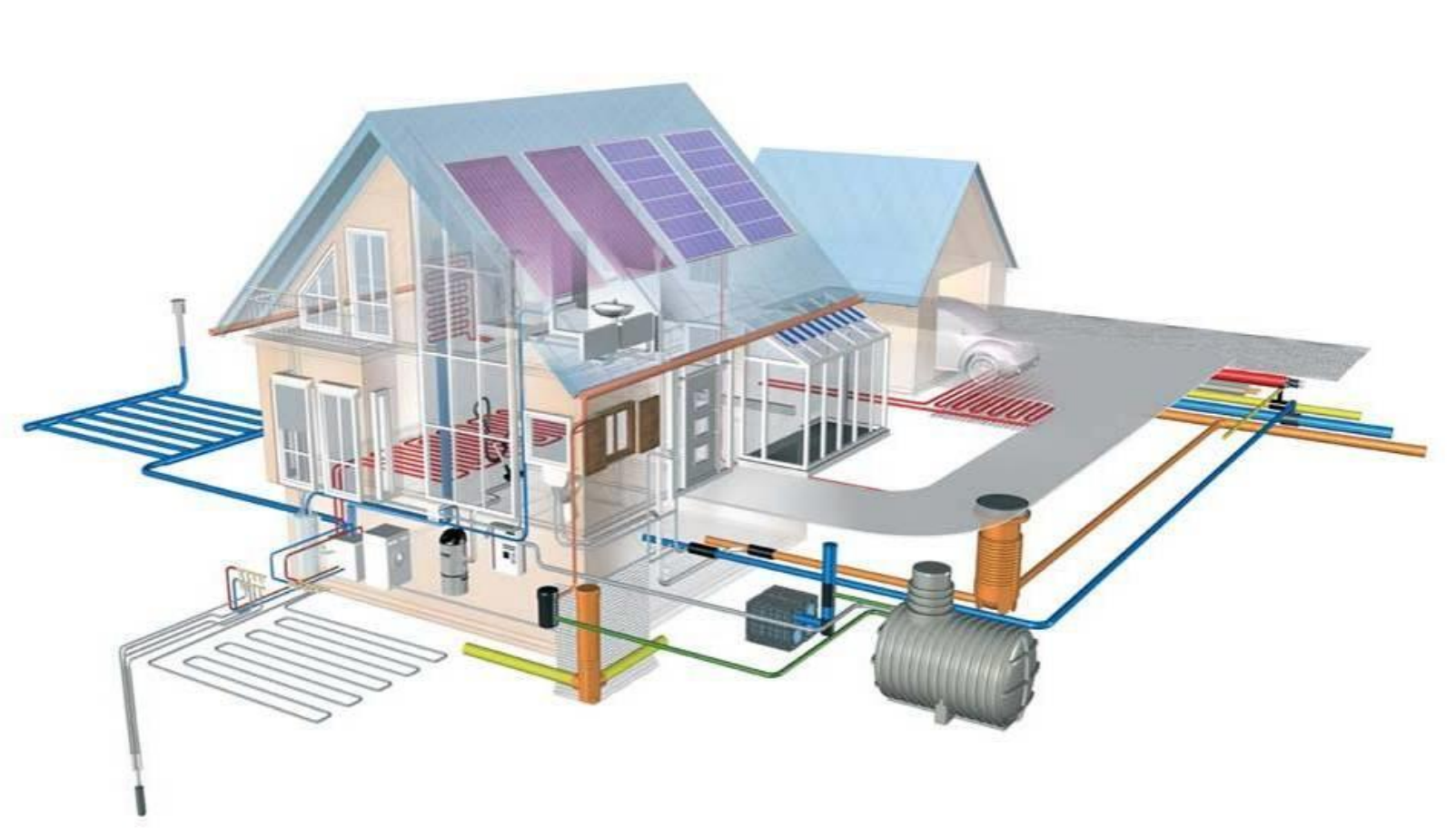
An evolutionary procedure



A strategy of reason and responsibility



A designer’s dream



A less appealing world

Hurdles and problems

The unsuitability of the densely built urban environment
(An existing problem)

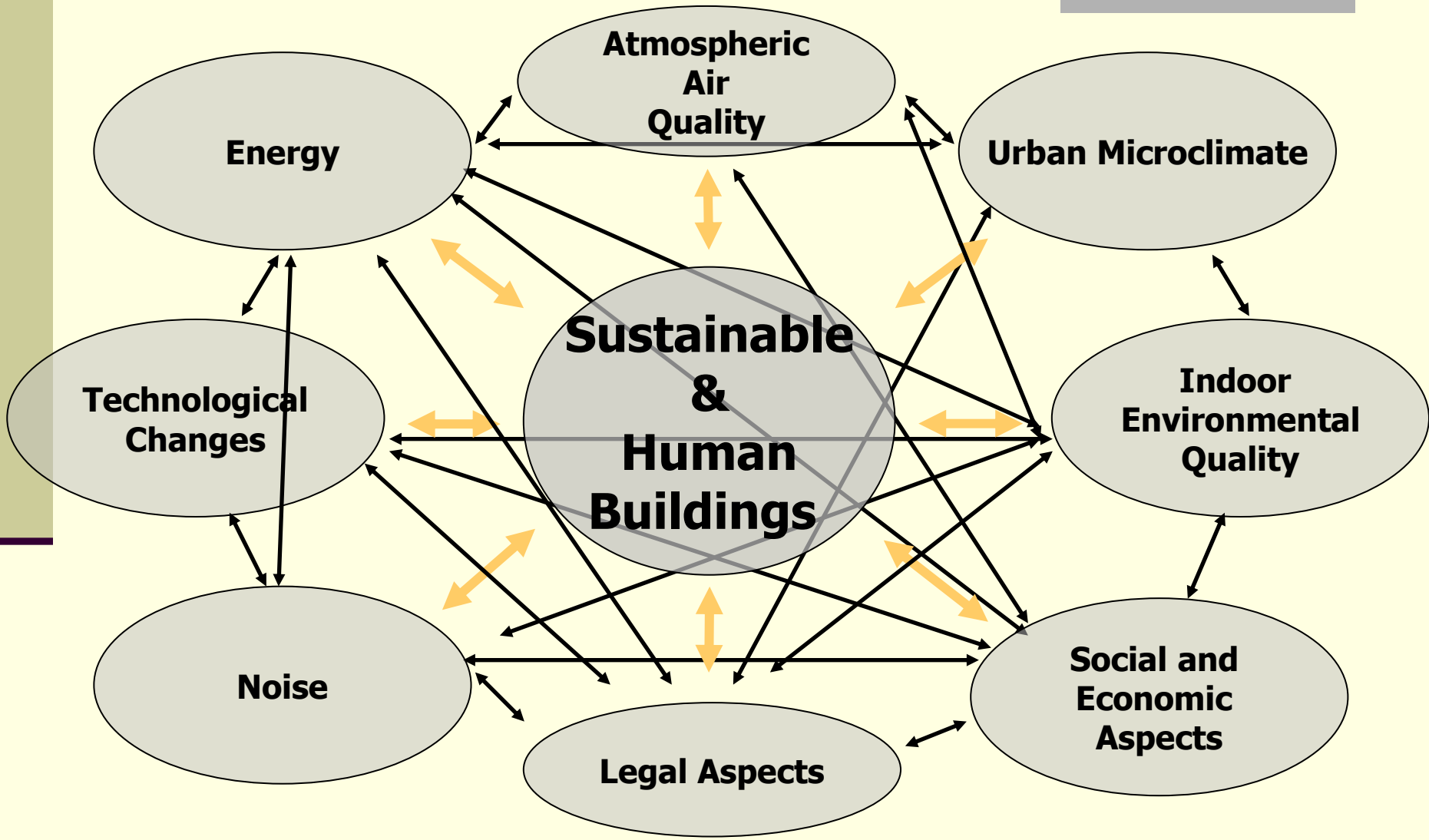
Lack of proven expertise and qualified professionals
Unwillingness to abandon the 'business as usual' approach
(The two less easily acknowledged reasons)

Low energy prices (with respect to energy taxation)
Lack of energy and environmental consciousness
(The truly political problems)

Lack of legislative obligations and incentives, complex legislative framework
Lack of financial incentives
(The two most frequently mentioned barriers)

* All points mentioned are results of a FORESIGHT study on Energy Conservation technologies and its perspectives

It is a complex problem



The legal background

- "The energy certification of horizontal properties, as defined by Article 1 of Law 3741/1929 (OGG 4 A΄) and properties according to Article 1 of Decree 1024/1971 (OGG 232 A΄) is based **on the common certification of the whole building, as long as it is a building complex with a commonly used heating system.** The expenses for the certification will be covered by the owner or, **if there are many owners, by each owner according to the percentage of their ownership."**

Solutions exist

In various approaches

- Central systems

Big loads

Storage capacities

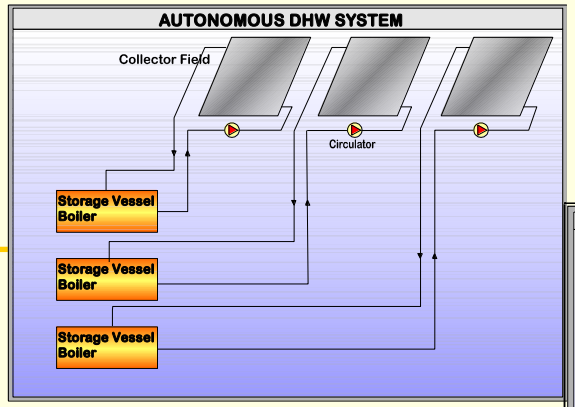
Complexity

- Autonomous systems

Small loads

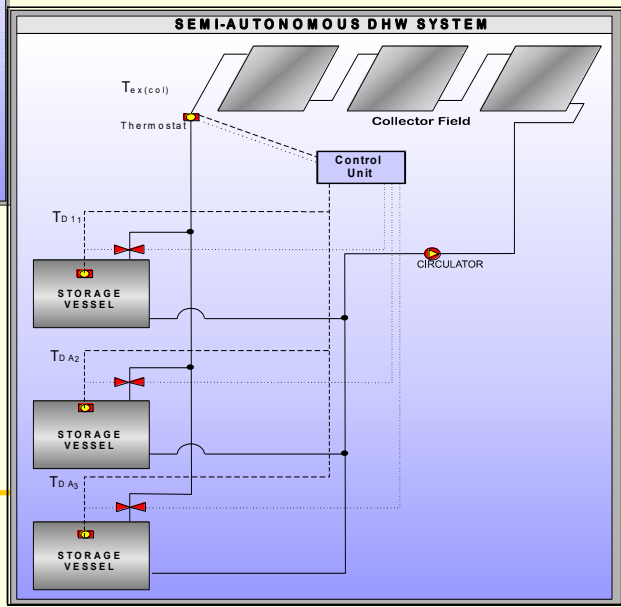
Individuality

Simplicity



- Semi - autonomous systems

Compromise or consensus?



There are chances and barriers

Strength	Weakness	Opportunity	Threat
Mature basic technology	Questionable efficiency of cheaper systems and applications	GHG emissions reduction agreements	Varying political support
Acquaintance of the public with the technology	Perceived or actual high initial cost and/or technical risk of certain systems	Will/fashion to go "green" as drive to sustainable development	Low and stable prices for conventional energy
Affordable initial cost	Inadequate technical support	Globalisation of technologies and markets	Externalities are frequently ignored
Attractive support schemes and measures	Complicated support schemes and measures Legal problems	Tightening of building performance standards	Traditionalism of a conservative and clustered building industry
	Lack of a branch-wide labelling and promotion campaign		Legislative and managerial barriers

Horizontally shared properties

The legal background

- From the above mentioned regulation it can be deduced, that in addition to the legal powers derived from the property ownership titles (power of disposition and power of exploitation: renting) a new typical regulation and limitation is introduced, namely that **selling of renting the property will be legally not possible as long as the property is not certified**.

- In the cases where the **property is horizontally divided and shared** (i.e. the floors of a multi storey building) legal issues can, and are expected to, arise when one of the owners wishes to sell or let his property (ie an apartment). This presupposes the certification of the **whole building**, the cost of which has to be **carried by all owners**, according to the percentage to which each one's property corresponds.

The legal consequences

- Furthermore, and in accordance to Article 5 of Law 3741/1929, each co-owner is obliged to contribute according to his share in the property, **to the common financial burdens, maintenance costs, replacement and operational costs and any other changes necessary for the more efficient operation and use of the commonly used parts of the building**.
- It is therefore self-evident that the participation of all co-owners in an expense directly imposed by the law such as the energy certification of a property, is obligatory, as it has evidently a direct or indirect impact, now or in the future, on all the co-owners of the building.
- This applies **both to the energy certification process and to any possible energy conservation measures**, which will eventually have to be introduced, given the fact that most of the ones included in the latter group have significant financial implications for the owners.

Is this realistic?

- These are the buildings, however, which as a rule have many owners, and are therefore interesting for this study. A **simple majority of the owners, namely 50% + 1** vote considering their property ownership, is needed, in order to proceed with the implementation of the energy renovation measures in all commonly owned and used areas of the building.

- As such, Article 2, par. 1 Law 3741/1929 and Article 1117 of the Civil Legislation Code define **the building's façade, the building's roof, the foundations, the courtyard, the skylights and ventilation** ducts etc.

Is this realistic?

- In case of different opinions amongst the co-owners, and if no other legal obligations arise, **intervention on the building's shell and its services are principally allowed if they improve the building's operational features and efficiency and if they do not imply disadvantage to any of the owners**. This derives from a series of decisions by the Supreme Court (ΑΠ 827/2005 ΕλλΔνη 47, 178, ΑΠ 357/2006 ΕλλΔνη 47, 819) which form the legal base for such cases.

The legal consequences

- In practice it becomes clear that problems can, and most probably will, arise over time, especially when **high budget renovation measures may become a subject of debate**.
- If one of the co-owners refuses to participate to the expenses, then the other owners have the **right to apply before court** against the former so as to **enforce the legally foreseen payments**.
- This right is derived from the aforementioned Article 5 of Law 3741/1929, which makes it clear, that the claims for covering expenses such as the energy certification costs are purpose specific and are not influenced by other legal provisions (social, managerial, exploitation of property, unduly profit etc).

The reality

- Differences amongst owners of whole floors, or single apartments in multistoried buildings, based on the legal background of the horizontal property ownership are to be judged according to the specific procedure at the local court of first instance, which is exclusively competent for this.
- The fact that court procedures are as rule time consuming, and also costly, will not necessarily make things easier.

Challenges for the future

Directive 2010/31/EC

-All buildings must become nearlty Zero Net Energy Balance Buildings after 2018

- All member states must set predefined goals for the percentage of buildings, which will achieve this by 2015 and 2020

- Suppression of exemption for vacation residential buildings

- Extra funding at EU and national level

- Reduction or release from VAT for energy conservation materials and systems

- Mandatory installation of “smart” energy meters in every building

An example

And another

Complex problems call for integrated solutions

Effective but flexible legislation and regulations.
A challenge for politicians

State of the art building elements and systems. But adapted to regional and local necessities.
A challenge for research

Designers and constructors with a solid education but also an open mind.
A challenge for Universities and professional chambers

A regulatory mechanism which distributes in a fair way costs and benefits of energy saving measures.
A challenge for politicians

Public awareness and consensus.
A challenge for everyone