



Intelligent Energy  Europe



Denmark:

Assessment of innovative systems

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Calculation

- The energy performance of new buildings is calculated using a simplified calculation program (Be06) that is based on monthly average values (no dynamic simulations)
- A new version of the program would typically occur when implementing new innovative systems
- From April 2006 to February 2009, 4 versions were released



Compliance

- The local authority checks compliance with the Danish Building Regulations and then issues a *building permit*
- Proof of compliance with the energy requirements must be made after the completion of the building in order to obtain a *permit to use*
- Control of compliancy is the responsibility of the local authority
- In practice the control of the building is performed by the energy consultants who issue the energy certificate



Innovative systems

- *No standardised legal framework* exists for assessing the energy performance of innovative systems directly
- Not all types of systems are covered. Examples are:
 - advanced double facades, preheating of ventilation air by ground pipes, phase change materials, microCHP, absorption heat pump etc.
- Most innovative systems can be handled indirectly in the calculation procedure



Innovative systems

- The local building authorities will accept, or not, the assessment, typically made by consulting engineers often in dialogue with SBI
- It is up to the building developer to provide satisfactory documentation (e.g. energy calculations) when applying for dispensation
- The assessment is done for a specific product and building
- There is no formal format for such applications



Technical framework

- There have been a few examples of equivalence, but they are building specific and not publically available
- There are no detailed rules concerning technical framework
- There are national and international guidelines/standards which should be followed (i.e. test temperatures, humidity etc.)
- The European Normative framework is typically used if it covers the innovative system in question



Pro et con of the system

- Innovative systems have been and are being introduced in Denmark all the time, so apparently producers of innovative systems have no significant problems in marketing new products
- Cost-heavy bureaucracy could overshadow the advantages in a small country like Denmark
- The fact that no *standardised* legal framework exists might be a barrier for the implementation of innovative systems



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