



Overview on Building Regulations

Excursion on Green Buildings

Vorarlberg and surroundings

02 – 04/11/2011

International level



United Nations
Framework Convention on
Climate Change

1992 – Convention on Climate Change

- **Objective:** to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system
- Doesn't set mandatory limits on emissions
- Provided updates for mandatory limits → **Protocols**



United Nations
Framework Convention on
Climate Change

1997 – Kyoto Protocol

- Commitment for the **reduction of greenhouse gases**
 - For the period 2008-2012 reduction by 5.2% from the 1990 level



United Nations

1992 – Agenda 21



- Action plan for the XXI Century to **conceive a sustainable development process** in a given territory
- Section II, **Chapter 9**: Protection of the Atmosphere
 - Reduction of adverse effects on the atmosphere by promoting policies/programmes to increase the contribution of environmentally sound and cost-effective energy systems through **less polluting and more efficient energy** production, transmission, distribution and use



1995 – Alpine Convention

- International territorial treaty for **long-term protection of the natural ecosystem** of the Alps and **sustainable development** in the area
- Energy protocol: provides concrete steps for **saving energy** and to enact measures for **better thermal isolation of buildings**.
- Countries should also **encourage new energy-efficient buildings** and use **environment-friendly heating systems**.



European Union level



Directive 2002/91/EC

“Energy performance of buildings”

- **common methodology** for calculating the integrated **energy performance** of buildings;
- **minimum standards on the energy performance** of new and existing buildings that are subject to major renovation
 - Determined by each Member State



Directive 2002/91/EC

“Energy performance of buildings”

- **systems for the energy certification** of new and existing buildings and, for public buildings, prominent display of this certification and other relevant information. Certificates must be less than five years old
 - For each building an energy performance certificate should be drawn up
 - Update every 10 years
- **regular inspection of boilers and central air-conditioning systems** in buildings and in addition an assessment of heating installations in which the boilers are more than 15 years old.



Directive 2010/31/EC

“Energy performance of buildings”

- **Parameters** which have be **considered in the methodology** for calculating the energy performance of buildings
- **Encourage the increase of nearly zero-energy consumption buildings** by implementation of national plans
 - By 31 December 2020, all new buildings should be nearly zero-energy consumption
- Creation of a **list of the existing and potential instruments used to promote improvements** in the energy performance of buildings in each Member State



Directive 2006/32/EC

“Energy end-use efficiency and energy services”

- Aim: the end use of energy more economic and efficient
 - Establishment of indicative targets, incentives and frameworks to eliminate market barriers and imperfections
 - Creation of conditions for the development and promotion of a market for energy services and for the delivery of energy-saving programmes

National level



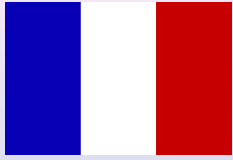
Austria

- Different regulation systems, in each *Land*
- *Österreichisches Institut für Bautechnik* : guidelines for common building regulations
- Regulations on energy performance and waste reduction



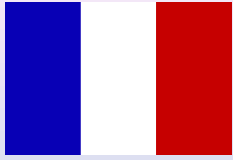
Austria

- The theme of sustainable construction is left to initiatives
- Regulations sometimes counterproductive or even contradictory to theme of sustainable construction



France

- Housing and Building code:
 - requirements in the field of safety, accessibility, acoustics and thermic insulation
 - other performances to technical standards of a contractual nature.
- local town-planning sets rules on sustainability



France

- Plan “Régulation thermique (RT 2005)”
 - reduce energy consumption in buildings by 15% compared to the level of the RT 2000
 - programs to promote technologies for the use of renewable energies and promote energy-efficient heating systems
- no specific national policy to encourage the use of Renewable Energy Sources (RES) → local authorities have implanted local policies



Germany

- Building regulations differ from *Land* to *Land*
- *Musterbauordnung* (Model Building Code) → prototype for the individual *Landesbauordnungen* (Building Code of the *Länder*)
- A lot of sustainable regulation issues are regulated



Italy

- Regulation are in the competence of the 20 Regions
- National Plan of Housing → 200 million € to the regions
 - construction of new buildings and the recovery of existing buildings respecting the criteria of energy efficiency and reduction of polluting emissions



Principality of Liechtenstein

- Energy law
 - the minimum of requirements for saving energy during the construction and management of the buildings
 - the technical requirements of building's energy efficiency and the evaluation of their energy potential
 - energy certification
 - enhanced the use of renewable energies



Principality of Liechtenstein

- Energy efficiency and renewable energies law
 - organisation of contributions for measures which increase the energy efficiency and the use of renewable energies
 - Promotion of
 - thermal insulation of already existing buildings
 - realisation of *Minergie* buildings
 - use of high environmental and energetic efficiency systems of heating, solar water heating
 - production of energy from renewable sources



Principality of Monaco

- 2020: reduction by 20% of energy consumption unit from the levels of 2007
- Energy Climate Plan
 - Management of the demand for energy: improvement of energy efficiency and reduction of energy consumption;
 - Control of the local energy production: energy from municipal waste, development of renewable energy;
 - Reduction of the emissions greenhouse gases: direct emissions and indirect (electricity, transportation).



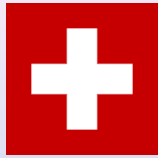
Principality of Monaco

- 2001: partner of the *SwissEnergy* programme
- 2007: "Environmental Quality" approach applied to all new public constructions



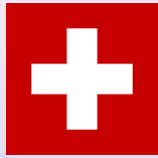
Slovenia

- Most regulation is on a national/federal level
- most topics related to ecological quality are regulated
- use of recyclable materials will be regulated in future
- criteria for ecological constructions are given by
 - law of environmental protection (for boilers)
 - building law (requirements of energy)
 - energy law



Switzerland

- “CO₂ emissions reduction” law
 - CO₂ emissions have to be reduced by
 - 10% from the 1990 level for the consumption of energy produced by fossil energetic agents
 - by 15% for the consumption of energy produced by fossil fuels.
 - contribution to reduce harmful effects on environment, to a more sparing and rational use of energy and a larger use of renewable energies.
- law of the 26th June 1998: energy certification for buildings
 - Cantons enact dispositions on
 - sparing and rational use of energy
 - use of renewable of energies
 - prescriptions on energy performances of buildings



Switzerland

- “Building materials” law: criteria on building material characteristics and building techniques
 - They have to respect the principle of sparing and rational use of energy
- 2001: *SwissEnergy* programme
 - promote efficient energy use and the use of renewable energy
 - support Switzerland's energy and climate policy goals through concrete measures
 - ensure a sustainable energy supply.

Thank you for your attention.

