

**Brussels 28-10-2010**  
**REHVA Technical Seminar on Recast EPBD**  
**and other EU regulations**

**Climate targets and EU**  
**energy policy**

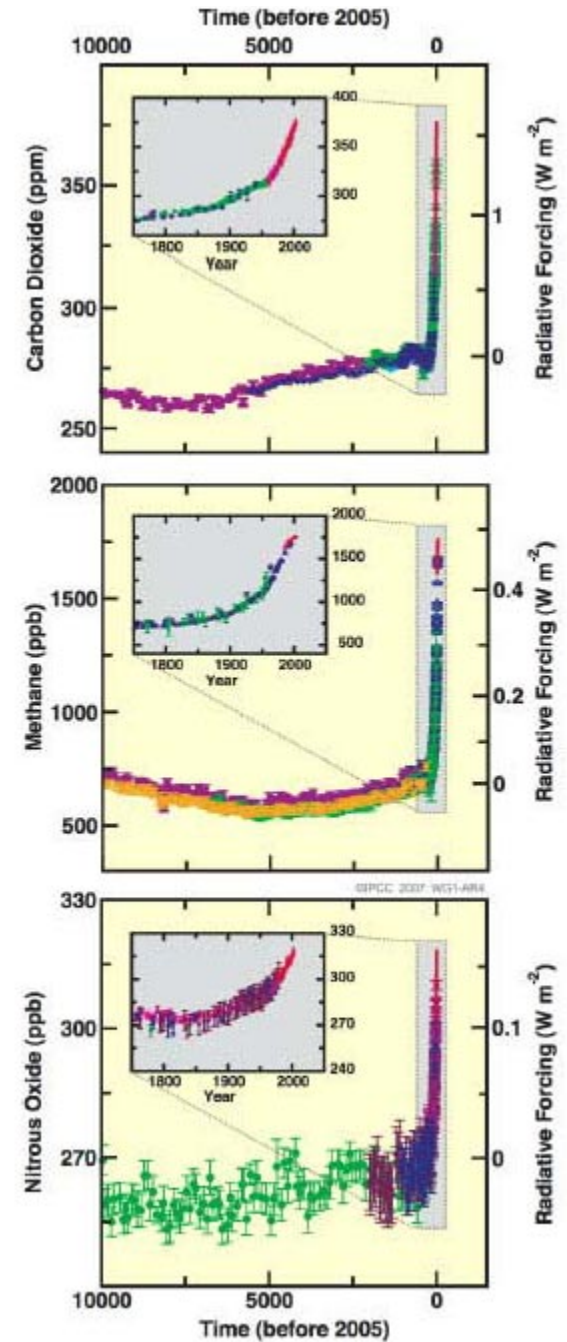
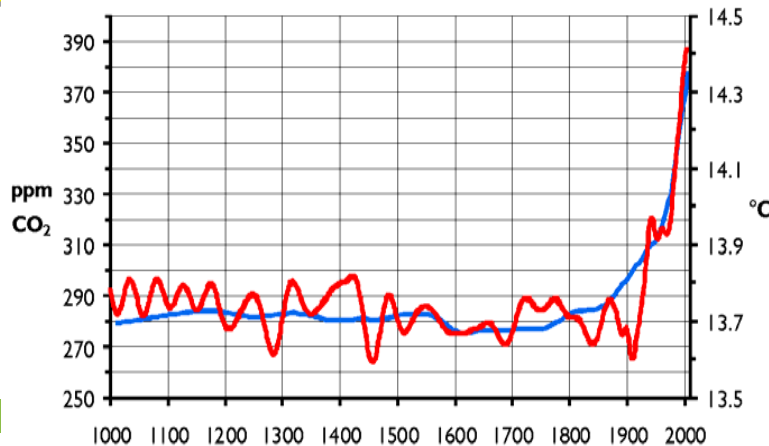
**F. Allard**

**REHVA President**



# What is the Issue?

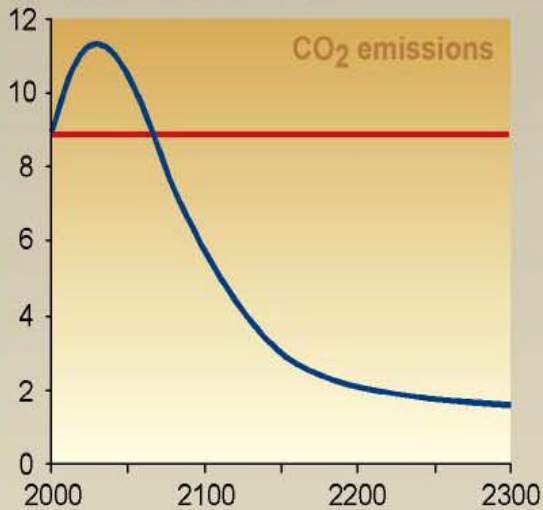
- Dramatic increase of atmospheric concentrations of carbon dioxide, methane and nitrous oxide over the last 10,000 years (large panels) and mainly since 1750 (inset panels).
- A strong correlation between CO<sub>2</sub> concentrations and temperatures leads to a dramatic increase of temperature.



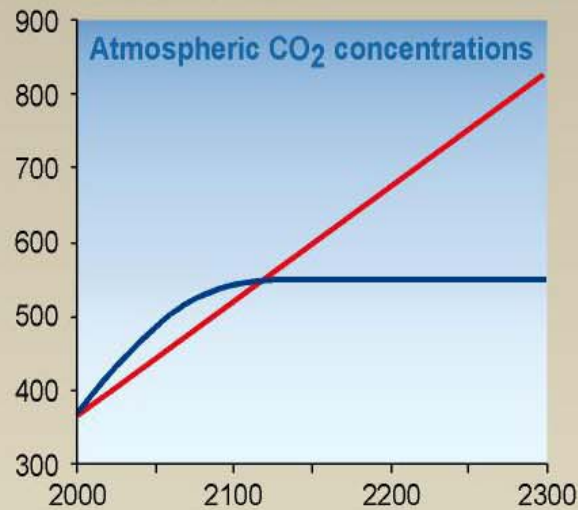
# Which Strategy?

## Impact of stabilizing emissions versus stabilizing concentrations of CO<sub>2</sub>

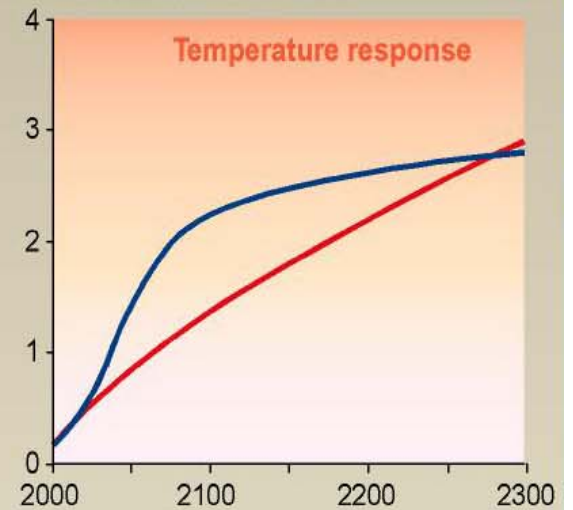
CO<sub>2</sub> emissions (Gt C yr<sup>-1</sup>)



CO<sub>2</sub> concentration (ppm)



Temperature change (°C)



— Constant CO<sub>2</sub> emissions at year 2000 level

— Emissions path to stabilize CO<sub>2</sub> concentration at 550 ppm



# What is Europe doing?

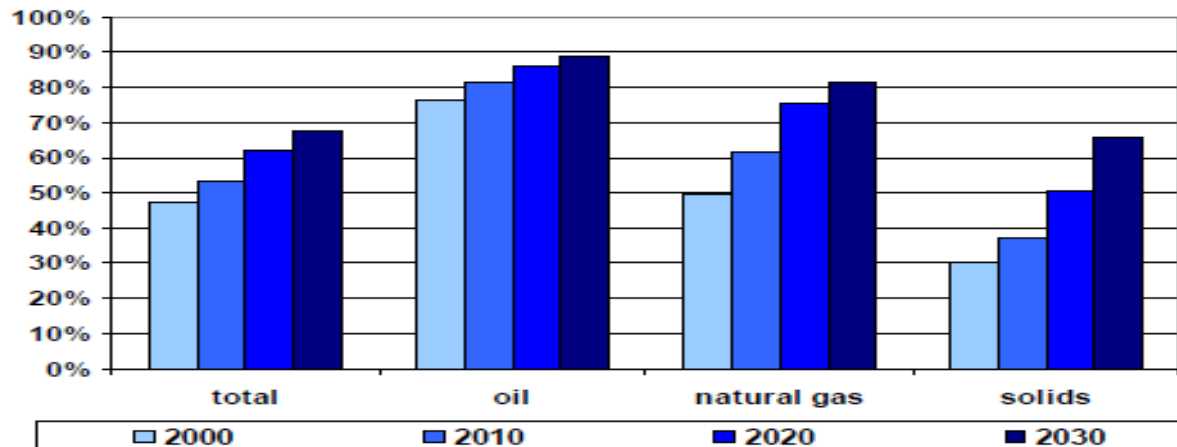
- The European Union has long been at the forefront of international efforts to fight climate change and has played a key role in the development of the two major treaties addressing the issue, the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, agreed in 1997.
- The EU has been taking serious steps to address its own greenhouse gas emissions since the early 1990s. In 2000 the Commission launched the European Climate Change Programme (ECCP). The ECCP has led to the adoption of a wide range of new policies and measures. These include the pioneering EU Emissions Trading System, which has become the cornerstone of EU efforts to reduce emissions cost-effectively, and legislation to tackle emissions of fluorinated greenhouse gases.

# The Kyoto Protocol

- Monitoring data and projections indicate that the 15 countries that were EU members at the time of the EU's ratification of the Kyoto Protocol in 2002 will reach their Kyoto Protocol target for cutting greenhouse gas emissions. This requires emissions in 2008-2012 to be 8% below 1990 levels.
- However, Kyoto is only a first step and its targets expire in 2012.
- After Copenhagen: new target of 30% CO<sub>2</sub> reduction by 2020.

# Political and Economical Motivation

- **Environment: Climate change: up to +6.4 Kelvin in 2100 (IPCC)**
- **Financial and Economic Crisis: EU's Economic Recovery Plan**
- **Social & Economic: Recent energy prices and their volatility**
- **Security & Economy: EU Energy Import Dependency - Forecast:**



# The EU's Climate Change Initiative, December 2008



20 % Less Green House Gases



20% More Renewable Energy



20% More Energy Efficiency

# The CLIMATE ACTION PLAN

## ➤ The CLIMATE ACTION PLAN

- On **17 December 2008**, the European Parliament adopted an ambitious package of proposals to fight climate change and promote renewable energy in line with EU commitments.
- As an essential part of this package, the European parliament adopted in December 2008 the **Directive on the Use of Renewable Energy Sources**.
- Furthermore, in November 2008 the Commission adopted a proposal for “**recast EPBD**” which has been adopted by the European Parliament in May, by the European Council in December 2009 and **published in June 2010**.
- All these initiatives will have a strong impact on the building sector



# What will exactly change?

The package of EU climate and energy measures approved in December 2008 implements these targets.

- For **power plants and energy-intensive industries** - emissions to be cut to **21% below 2005 levels by 2020**.
- **How? By granting fewer emission allowances under the EU Emissions Trading System (ETS)** (covering some 40% of total EU emissions).
- For **sectors not covered by the ETS** (e.g. transport (except aviation, which will join ETS in 2012), farming, waste and households) - emissions to be cut to **10% below 2005 levels by 2020**.
- **How? Through binding national targets** (with higher reductions for richer countries and limited *increases for the poorest ones*).



# What will exactly change?

- Renewables will produce 20% of all the EU's energy by 2020
- How? Through binding national targets (from 10% for Malta to 49% for Sweden)
- At least 10% of transport fuel in each country must be renewable (biofuels, hydrogen, 'green' electricity, etc.). Biofuels must meet agreed sustainability criteria.
- Promotion of safe use of **carbon capture and geological storage (CCS) technologies** which could eventually remove most carbon emissions from fossil fuels used in power generation and industry.



# National action Plans



	Share of energy from renewable sources in gross final consumption of energy, 2005	Target for share of energy from renewable sources in gross final consumption of energy, 2020
Belgium	2.2%	13%
Bulgaria	9.4%	16%
The Czech Republic	6.1%	13%
Denmark	17.0%	30%
Germany	5.8%	18%
Estonia	18.0%	25%
Ireland	3.1%	16%
Greece	6.9%	18%
Spain	8.7%	20%
France	10.3%	23%
Italy	5.2%	17%
Cyprus	2.9%	13%
Latvia	32.6%	40%
Lithuania	15.0%	23%
Luxembourg	0.9%	11%
Hungary	4.3%	13%
Malta	0.0%	10%
The Netherlands	2.4%	14%
Austria	23.3%	34%
Poland	7.2%	15%
Portugal	20.5%	31%
Romania	17.8%	24%
Slovenia	16.0%	25%
The Slovak Republic	6.7%	14%
Finland	28.5%	38%
Sweden	39.8%	49%
United Kingdom	1.3%	15%

# Role of the Building Sector

- **40 % of EU's energy use**
- **36 % of EU's CO<sup>2</sup> emissions**
- **Cost-effective energy savings potential:  
~30 % by 2020**
- **9 % of GDP, 8 % of employment and €2  
trillion annual turnover**
- **Key EU legislation: Energy Performance  
of Buildings Directive (EPBD,  
2002/91/EC) and EPBD recast (June  
2010)**

# Impact on the building sector

- **For building heating and cooling:**
  - **All RES should be considered**
  - Passive technology is not considered,
  - **Heat pumps:** only the the use of renewable sources can be taken into account for heat pumps with an estimate average seasonal performance factor (SPF =COPseasonal) **greater than 2.875.**
    - The share of energy considered as « renewable » is then:  
 **$E_{res} = Q_{usable} \times (1 - 1/SPF)$**

# Implementation procedures

- **With respect to their building regulations and codes, Member States shall promote and encourage the use of renewable energy heating and cooling systems and equipment,**
- **Member States shall promote heat pumps which fulfill the minimum requirements of eco-labeling established in Decision 2007/742/EC,**
- **In the case of biomass, Member States shall promote conversion technologies that achieve a conversion efficiency of at least 85% for residential and commercial applications and at least 70% for industrial applications,**

# Implementation procedures

- In the case of solar thermal energy, Member States shall promote certified equipment and systems based on European standards where these exist, including eco-labels, energy labels and other technical reference systems established by the European standardization bodies.
- Each Member State shall submit a report to the Commission on progress in the promotion and use of energy from renewable sources by 31 December 2011 at the latest, and every 2 years thereafter. The sixth report, to be submitted by 31 December 2021 at the latest, shall be the last report required.

# Which road map for building energy efficiency in Europe?





# EPBD (2002/91/EC)

- **Requirements for Member States to specify and implement:**
  - **An integrated methodology to rate the energy performance of buildings**
  - **Minimum energy performance standards for new and for existing buildings that undergo major renovation**
  - **Energy performance certificates for buildings**
  - **Regular inspections of heating and air-conditioning systems**

# And Now?

- **EPBD Recast implementation ?**
- **Near Zero Energy Buildings ?**
- **Low Energy Rehabilitation ?**
- **Cost Effective Methodology ?**
- **Accompanying Standards ?**
- **Other Directives impacting the building sector ?**
- **.....**

# Conclusion

- **With the recent actions launched within the Climate Action Package, Europe is developing a very strong and sustainable policy.**
- **In this general framework, the building sector is the first target and will be directly impacted.**
- **Obviously, to reach a high environmental quality we need a more integrated design of buildings, more care should be given to the integration of the building in its environment, to the selection of materials, ventilation, heating and air-conditioning strategies in order to improve the use of renewable sources and limit the environmental impacts.**
- **This will be the new challenge to overcome for all european building professionals.**

# Conclusion

- **REHVA is strongly involve in this policy and will have a key role in accompanying measures and dissemination of information to his members and partners.**
- **This is the main target of our seminar today**
  - Provide a clear and update information on new elements of the European policy
  - Discuss critical points (Building energy a,d Health, Financial aspects, standards....)
  - Share the best practices
  - Provide a common reflection on key problems in order to elaborate REHVA strategy