

**Presentation in the REHVA seminar
HVAC for Net Zero Energy Buildings
at ISH Frankfurt March 17, 2011**

Energy news from the European Commission

**Olli Seppänen, professor
Secretary General
REHVA
Federation of European
Heating, Ventilation and Air-conditioning Associations**

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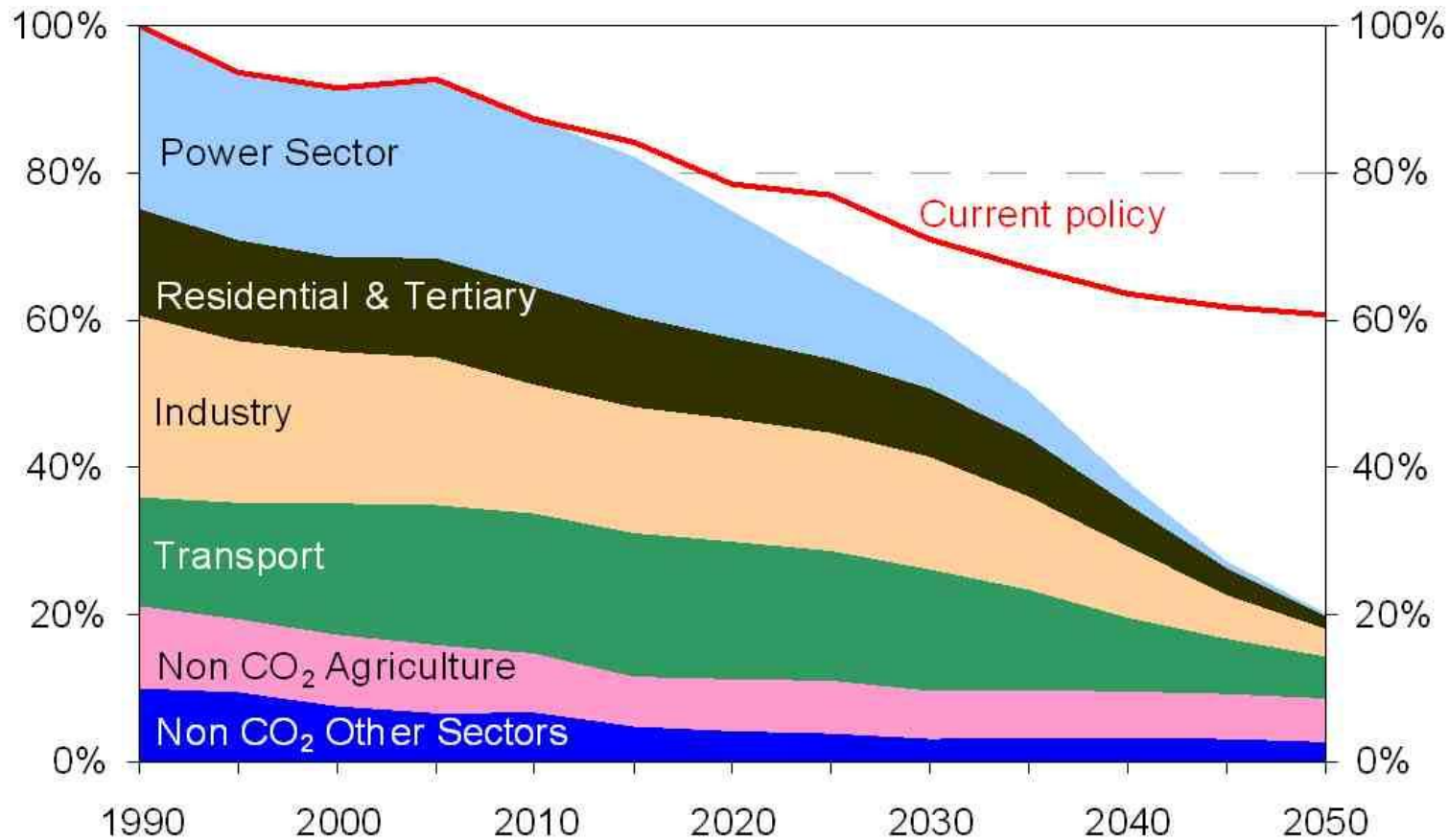
Two important policy plans adopted last week by the European Council

- **A roadmap for moving to a low carbon economy by 2050**
 - Upto 90% reduction of GHG emissions in building sector
- **Energy efficiency action plan**
 - Buildings one of the major target areas

A roadmap for moving to a competitive low carbon economy in 2050

Adopted on March 8 th, 2011

<http://ec.europa.eu/clima/documentation/roadmap>



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EU GHG emissions towards an 80% domestic reduction (100% =1990)

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Energy efficiency action plan 2011

Adopted March 8 th by the Council

http://ec.europa.eu/energy/efficiency/action_plan

- **Background:**

EU will achieve only half of 20-20-20 targets by 2020 if it continues current policy and actions

- **Some new actions:**

- Exemplary role of the public sector
- Accelerate the refurbishment rate of the building stock
- Public authorities should be required to refurbish at least 3% of their buildings each year
- Energy efficiency criteria to be included in public procurement
- Improve the energy performance of appliances
- Improve the efficiency of power and heat generation
- More smart grids and smart meters

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Important energy related directives in the European Commission



Building performance – EPBD – 2002, Recast 2010

Improvement of energy performance of buildings

End use efficiency and energy services -ESD

Member States to save at least an additional 1% of their final energy consumption each year for the 9 years- second set of intermediate reports due in June 2011

Energy using products – EuP 2005 → Energy related product ErP 2009

Aim at protecting the environment and securing energy supply

Renewable energies – April 2009

Increase the use of renewables up to 20%, bio fuels up to 10%

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EPBD recast - 2010

- **More demanding than EPBD 2002 version**
- **Not so stringent, but more realistic than the proposal by the Parliament in 2009**
- **Published in July 2010 – time for national legislation only 2 years**

Major changes in EPBD (1)

- **Reference to CEN standards**
- **National cost optimised solutions**
 - Guidelines under preparation
- **Primary energy target values have to be set in kWh/m²**
- **The 1000 m² limit removed from articles dealing with renovation of existing and new building RES etc.**
- **Regulations for new buildings to apply in major renovations with some limitations**

Major changes in EPBD (2)

- **Specific regulations requested also for technical systems – existing compulsory, new buildings optional**
- **All new buildings have to be “nearly zero energy buildings” in 2020, public sector in 2018**
 - REHVA assists in uniforming the definitions
- **Measures needed to overcome market barriers are requested**
- **Stronger and more meaningful position for energy certificates**

Major changes in EPBD (3)

- **From boiler inspections to heating system inspections**
- **In A/C inspections more emphasis is put on reducing cooling loads**
 - REHVA Guide under preparation
- **Independent controls system for all national inspections**
- **RES and ErP directives to be taken in account in EPBD regulations**

Methodology to calculate cost-optimal level of energy performance regulations

- **MS and stakeholders workshop on March 16th (20 + 60 participants)**
- **Guidelines for MS – to be published in July 2011**
- **Implementation in MS by 2013**
- **Net present value method based on EN 15459**

Items discussed in WS March 16th

- **Definition and use of the reference buildings (new, existing, building types etc.)**
- **Whose cost optimal? (private/societal)**
- **Estimated escalation rate of energy (oil, gas, coal on EU level, rest on national level)**
- **Expected economic lifecycle (30 years?)**

Directive on the promotion of the use of energy from renewable sources (Adopted in April 2009)



- **electricity, heating, cooling and transport**
- **a 20% target for the overall share of energy from renewable sources and**
- **a 10% target for renewable energy in transport**

Renewable sources defined as

- **Active solar**
- **Hydro**
- **Biomass (boilers or co-generation) with min fuel efficiency >0.8**
- **Wind**
- **Geothermal**
- **Heat sources of heat pumps – COP > 2.88 (air, water, ground)**

Not included in renewable energies to avoid double counting:

- **Improvements in energy efficiency**
- **Passive solar**

Increasing the share of renewable energies from 2005 to 2020

Latvia	32.6%	→	40%
Finland	28.5%	→	38%
Denmark	17.0%	→	30%
Estonia	18.0%	→	25%
France	10.3%	→	23%
Spain	8.7%	→	20%
Germany	5.8%	→	18%
Greece	6.9%	→	18%
Italy	5.2%	→	17%
The Netherlands	2.4%	→	14%

Renewable energies

Many countries have a quota for RES to achieve the goals of the RES directive, examples (2010):

- DE (15 - 50% depending on type of building and RES)
- NO (40%) – DH included
- UK (10%)
- SL (25%)
- IT (Lombardia) min 50% of the energy used for DHW
- DK Demand for thermal solar if DHW consumption exceed more than 20 m³/day
- NL gives credits for the RES use
- Other countries are investigating the issue (BE, HU)

Eco-design of energy related products directive - ErP



- **Directive addresses all member states**
- **Focus on manufactured and imported products sold in large quantities and have significant energy savings potential**
- **Life-cycle cost approach used in the analysis to set the criteria**
- **All energy related products (expansion in 2009)
(active energy use -EuP, indirect effect -ErP, passive effect -ErP)**

Ecodesign and Labelling - Status in 2010

**25 products
under preparation**

**Total estimated savings (347 TWh) =
about 10% of gross annual electricity generation in
the EU**

Measure	Commission adoption	Estimated savings (annual by 2020)
Standby (Ecodesign)	Dec 2008	35 TWh
Simple set-top boxes (Ecodesign)	Jan 2009	6 TWh
Street & Office lighting (Ecodesign)	Feb 2009	38 TWh
External power supplies (Ecodesign)	Feb 2009	9 TWh
Domestic Lighting (Ecodesign)	Mar 2009	39 TWh
Televisions (Ecodesign & Labelling)	Jul 2009	43 TWh
Freezers/Refrigerators (Ecodesign & Labelling)	Jul 2009	6 TWh
Washing Machines (Ecodesign & Labelling)	Jul 2009	2 TWh
Dishwashers (Ecodesign & Labelling)	Jul 2009	2 TWh
Electric Motors (Ecodesign)	Jul 2009	140 TWh
Circulators (Ecodesign)	Jul 2009	27 TWh

Total

347 TWh

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Important HVAC related product groups – status in the beginning of 2011

- [ENER LOT 1 Boilers \(including heat pumps\)](#) Study completed in 2008. Voting in Regulatory Committee is expected in 2011.
- [ENER LOT 2 Water Heaters](#) The study has been done much in parallel with ENTR LOT 1
- [ENER LOT 11 \(electrical motors, circulators, pumps and fans\) For circulators and motors](#) Implementing measures have been published and regulations have entered into force.
- [ENER LOT 15 Solid Fuel Small Combustion Installations](#) is actually the first study dealing with products which may work without electrical power.
- [ENER LOT 20 Local room heating products](#) and [ENER LOT 21 Central heating products](#)
- [ENTR LOT 1- Refrigerating and Freezing Equipment](#) Final stakeholder meeting to be held in October 2010, final report to be published in November 2010.
- [ENTR LOT 6 - Air conditioning and ventilation systems](#) (“Final” report expected in September 2011): ENTR Lot 6 will cover ventilation products not already covered by ENER Lot 10.

ErP Ecodesign working plan 2012 - 2014 in preparation

Report by Consultant VHK 2011 first stakeholders meeting March 11, 2011

Product groups under discussion – 25 most potential groups will be selected by the end of 2011, for example

- Fans/blowers & drives
- Pumps & drives
- Windturbines etc
- CHP equipment
- DH equipment
- Windows
- Thermal insulation
- Controls
- Special purpose ventilation
- Domestic cold and hot water equipment

Working plan by the end of 2011

- More at <http://www.ecodesign-wp2.eu>

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EU-projects converting policy into action

The Intelligent Energy Europe Programme

Executive Agency for Competitiveness and Innovation – EACI
SAVE and ALTERN Programmes



EU-projects converting policy into action

IEE PROGRAMME (2007-2013)

YEARS	2007	2008	2009	2010	2011	2012	2013	Total 2007-2013
IEE 2 Budget (mio€)	65.0	70.4	88.3	109.2	112.6	131.2	150.6	727.3

- Complementary to research programs FP7... and Structural Funds
- Annual Work Programmes / Call for Proposals
- 2011 call open, closes in May 12, 2011 – about 80 M€
- Focus on local level, practical application, financing schemes

**BUILD UP: An Open Platform
to Disseminate Energy
Efficiency Related Information**

The European portal for energy
efficiency in buildings
www.buildup.eu

Solutions for different audiences

The market



**Public
authorities**



**Building
professionals**



**Building
occupants**



Energy legislation

**EPBD
implementation**

**National info
in practice**

You and the EU

Energy efficiency

**Databases of
Cases, Tools,
Publications**

**Your guide to
energy efficiency**

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Status of the BUILD UP Web portal 2011

- Over 600 visitors a day
- English is the main language but material in all 23 EU languages accepted (headlines in 22 languages)
- Search by language, theme, topic, keyword, date, country, etc. status in March 2011
- 1909 publications
- 1130 links
- 161 cases
- 147 tools
- 49 upcoming events
- 27 communities

BUILD UP 2 (2011 – 2012) – REHVA is one of the partners

www.rehva.eu

Presentations of the seminar at website next week

REHVA Annual Conference

- Tallinn, Estonia May 19-20, 2011
- Topics:
 - Nearly Zero Energy Buildings
 - Building labelling

REHVA Journal

- Free, 6 issues a year
- www.rehvajournal.com

- **REHVA dictionary**

- REHVA multilingual HVAC dictionary
www.rehvadictionary.eu
- Over 12 000 HVAC words
- 14 languages

Contact information of REHVA

REHVA



Federation of
European Heating,
Ventilation and
Air-conditioning
Associations

Address:

Rue Washington 40
1050 Brussels, Belgium

Tel: +32 2 514 11 71

Fax: +32 2 512 90 62

www.rehva.eu

info@rehva.eu

www.rehvadictionary.eu

www.rehvajournal.com

www.buildup.eu

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