

How the recast EPBD and related CEN standards will affect the HVAC industry

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Federation of European Heating, Ventilation and Air-conditioning Associations

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Federation of European Heating, Ventilation and Air-conditioning Associations

REHVA in focus

- **43 years old organization (September 1963)**
- **Federation of European HVAC associations**
- **REHVA represents more than 110 000 building engineers from 27 European countries**
- **Connecting European Professionals in the area of Building Engineering Services (heating, ventilating and air-conditioning for energy efficient healthy buildings)**
- **Mission Statement:**
 - To develop & disseminate economical, energy efficient and healthy technology for mechanical services of buildings,
 - To serve its members and the field of Building Engineering.
 - Link between the countries
 - Link between the research and industry

EPBD recast and industry...

• Tools

- Research
- Standards
- Integrated building design
- Commissioning
- Facility management

• Buildings

- Facade
- Windows
- Heating
- Cooling
- Ventilation
- Hot water
- Lighting



EPBD recast and industry...

- **Buildings**

- Facade

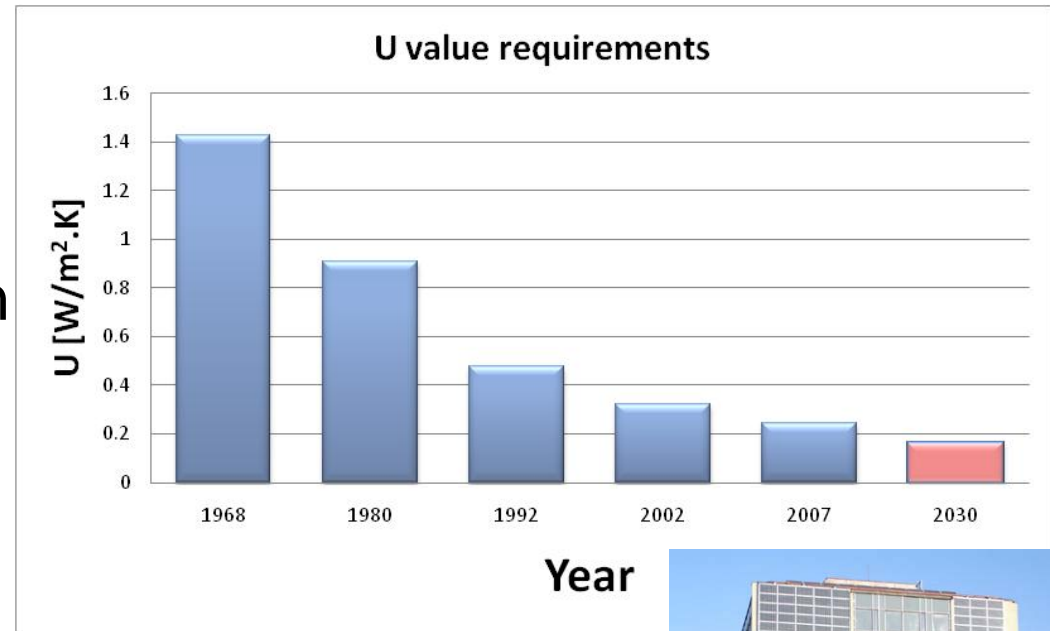
- Thermal insulation
 - is there a limit?

- Advanced structures

- vacuum insulation
 - PCM materials

- Active facades

- Double facades
 - Integrated PV

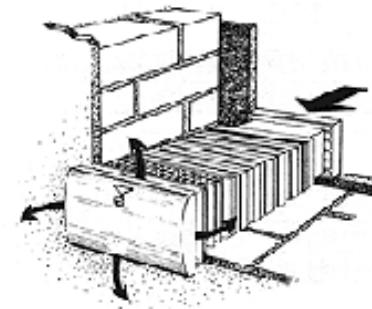
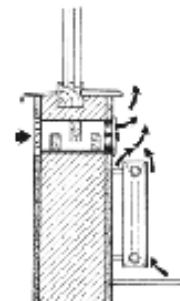
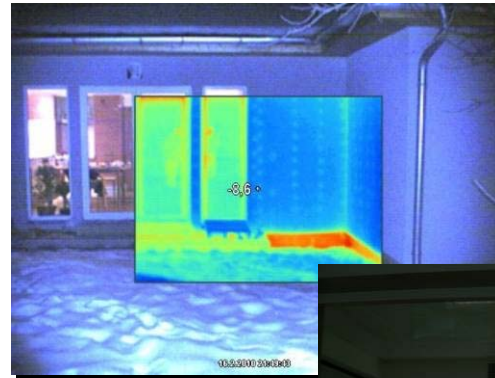


EPBD recast and industry...

- **Buildings**

- Windows

- Advanced glazing systems
 - Frames – thermal bridges
 - Active glazing – electrochromic?
 - Integrated ventilation systems

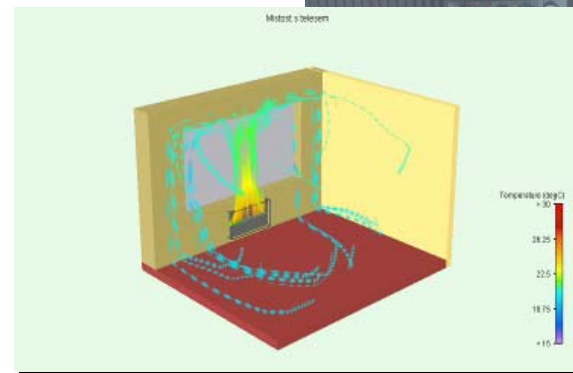


EPBD recast and industry...

- **HVAC systems**

Heating

- Renewable sources
- Heat storage
- High efficient boilers
- High efficient distribution networks (pumps)
- Heat emission
- Control systems



EPBD recast and industry...

• HVAC systems

Cooling

- Reduction of cooling loads
- High efficient chillers
- Absorption cooling
- Energy storage – ice banks...
- High efficient distribution networks
- „High temperature“ cooling systems
- Control systems and strategies (night ventilation ?)

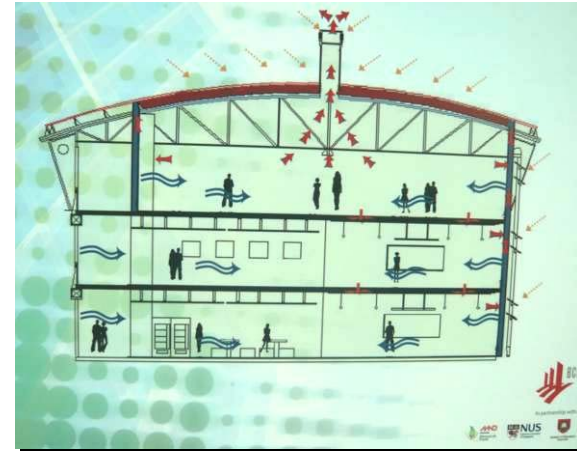


EPBD recast and industry...

- **HVAC systems**

Ventilation

- Demand controlled ventilation
 - New sensors –
CO₂, VOC, IAQ
- Low pressure distribution network
- Filtering issues
- Natural ventilation systems



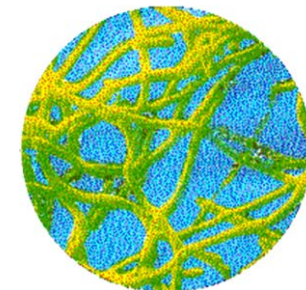
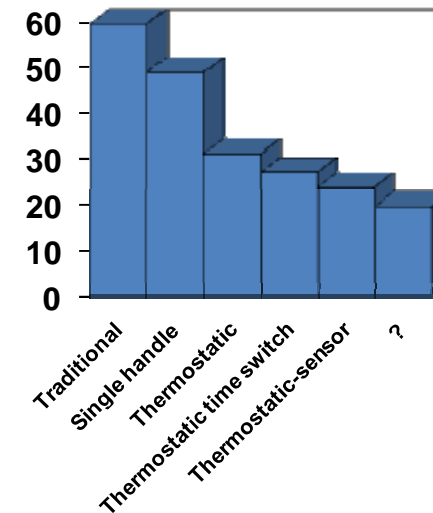
EPBD recast and industry...

• HVAC systems

Hot water

- Hot water demand
- Energy efficient hot water generation
- Distribution
 - Circulation
 - Fixtures control
- Legionella!!!!

Hot water demand
litres/shower



Legionella
pneumophila

EPBD recast and industry...

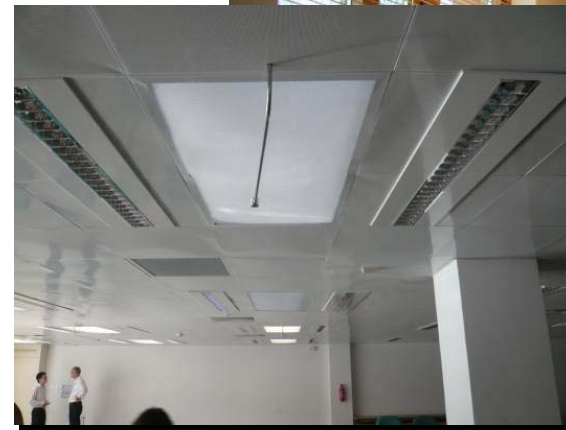
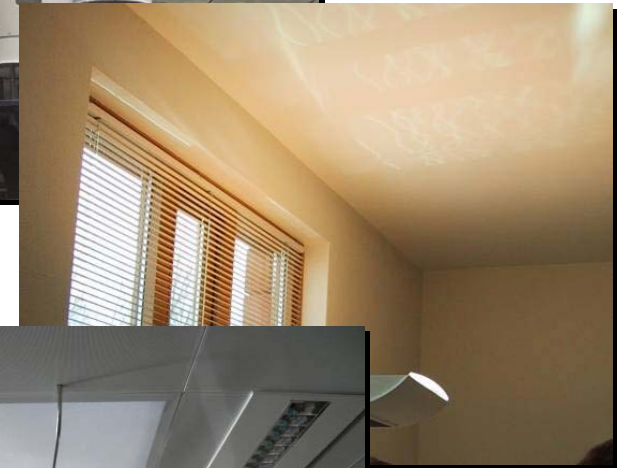
- **Lighting**

Daylighting

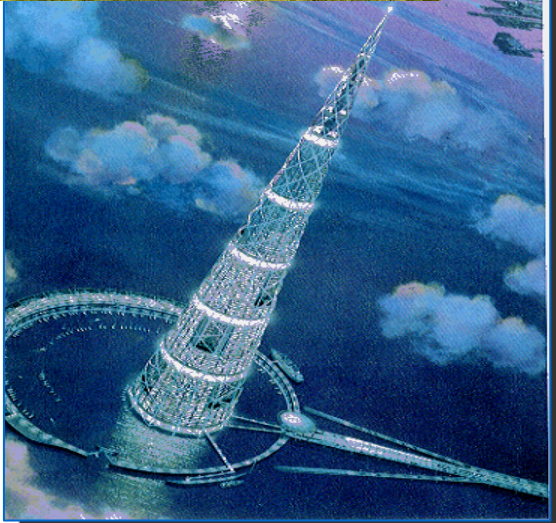
Energy efficient light sources

Light guides

Control system



EPBD 2020 building?



Heat energy absorbed by glazing by program stack effect

Natural exhaust from offices

Glass canopy

Solar panels for hot water heaters

Next REHVA events

10. CLIMA congress 9.-12.5.2010 Antalya

and



Thank you for your attention...

Karel Kabele

[http:// www.rehva.eu](http://www.rehva.eu)



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