ARCHITECTS & QUALITY OF VENTILATION SYSTEMS

Architect Sara Van Rompaey
ACE WG Environment and Sustainable Architecture & Urban Issues
sara.vanrompaey@skynet.be

1. Concerns of the architects regarding the quality of ventilation systems

1.1

Quality of ventilation systems is important for architects: for the buildings and the inhabitants – 10 years liability

A good ventilation system/ strategy will ensure **health and comfort conditions** for the occupants and will reduce heating and cooling demands → **more sustainable homes**

1. Concerns of the architects regarding the quality of ventilation systems

1.2

Knowledge of the architects about ventilation is still **insufficient**: a lot of misunderstandings and prejudice

There is a **knowledge gap** in the residential design about the need for mechanical ventilation systems in today's airtight buildings.

1. Concerns of the architects regarding the quality of ventilation systems

Study Zehnder, StorkAir, Hopper 06/2012

DESIGN PROCESS: architects

- still **choose** the ventilation system in function of the desired E-level for the building permit.
- do not **inform** their clients enough: comfort level and pros and cons are not enough taken into account. (SIMPLE system)
- should **plan** the ventilation already **during the design phase** e.g. locate the HRV unit close to an outside wall, think of the integration of the necessary ducts, intakes and exhausts in the building.

1. Concerns of the architects regarding the quality of ventilation systems systems

Study Zehnder, StorkAir, Hopper 06/2012

BUILDING PROCESS: architects

- should have a **consulting role** informing the client about the use and maintenance of ventilation systems: replacement of filters of a balance-system, cleaning of channels etc.
- should **inform** the client about benefits, cost, risks and possible malfunctions of the proposed ventilation system.
- should provide the client with a **maintenance plan**, and convince him to take a **maintenance contract**.

1. Concerns of the architects regarding the quality of ventilation systems

1.3

Importance of **communication** between architect, client, HVAC designer and installer at the **beginning of the design process.**

Efficient collaboration between all the key actors from the start of a building or renovation project is the best guarantee for a good and healthy ventilation of the house.

Problem: especially in retrofitting projects currently the role of the architect is weakened.

2. Ways to improve the quality of ventilation systems

Up-to-date training of the architects to meet the new market needs and strengthen their role as project team coordinators especially in the retrofitting processes.

2. Ways to improve the quality of ventilation systems

Role of the architects organisations:

ACE (Architects Council of Europe)
UIA (International Union of Architects)
their members (National professional bodies)

- **Organisation of CPD** (Continuous Professional Development) **for architects** in collaboration with the industry: **training about energy efficiency for professionals** already in practice

2. Ways to improve the quality of ventilation systems

Role of the architects organisations:

- **Involvement in EU projects:** as a dissemination partner (e.g. the ACE can reach 530.000 architects) all over Europe.
  cfr. IEE open call 2013

INTELLIGENT ENERGY EUROPE

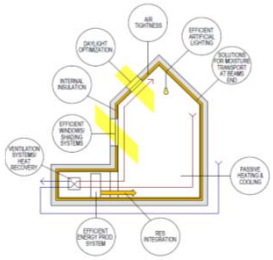
2. Ways to improve the quality of ventilation systems

Role of the architects organisations:

- **Dissemination of results of EU projects:**

3encult
EFFICIENT ENERGY FOR EU CULTURAL HERITAGE

Ventilation systems / heat recovery



2. Ways to improve the quality of ventilation systems

Role of the architects organisations:

- **Dissemination of research results of ACE member organisations:**
  e.g. RIBA CarbonBuzz project: highlights the **performance gap** = difference between **investment and design stage expectations** (by a.o. the architect) and **actual outcomes**.
  (**compliance** versus **performance**)

CarbonBuzz
an RIBA CIBSE platform

3. other ways of progress?

Training across sectors (installers, HVAC designers, architects)

One concern:

- **THE** challenge for architects by 2020 is:
  deep energy retrofitting of **existing buildings**: realising airtightness and integrating ventilation systems in existing buildings.

3. other ways of progress?

One concern:

- **EVEN MORE** a challenge will be
  the energy efficient retrofitting of **historic buildings**
  because of the heritage values:

balance between
preservation requirement
and evolution need

Geraardsbergen (B) 09/12