

► 18th March 2013

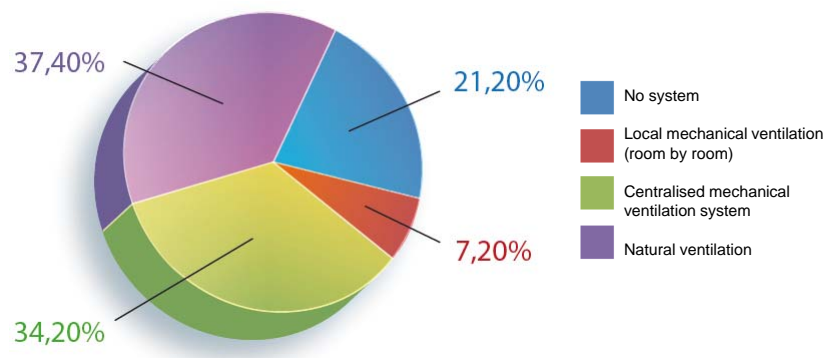
## AIVC International Workshop

### Quality of ventilation systems in residential buildings in France

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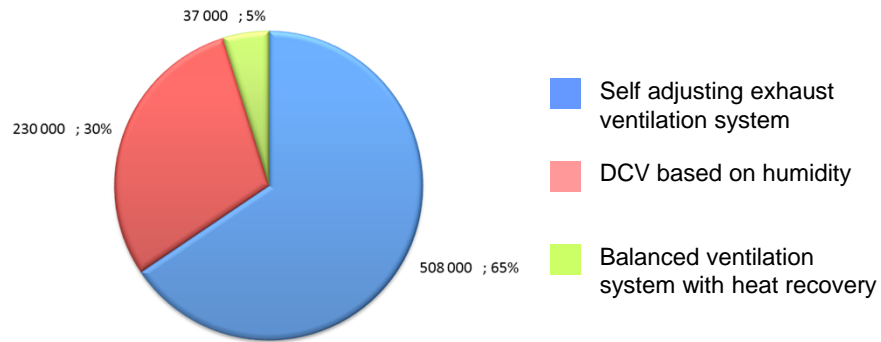
### Ventilation systems in France *French market – existing buildings*



Source Air.h association



**Ventilation systems in France**  
**Sales 2012 - Individual mechanical ventilation units**

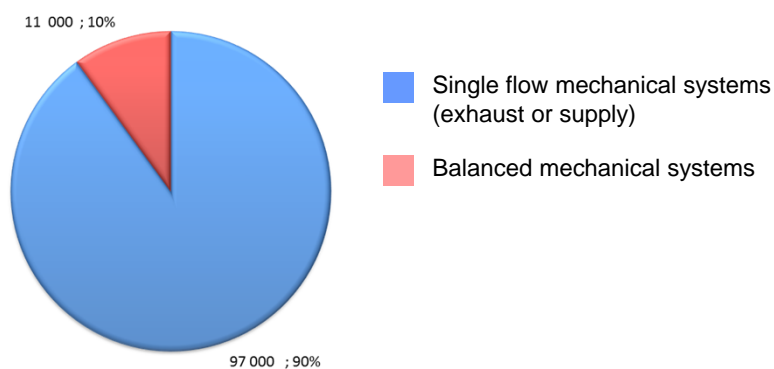


Source Uniclimate

+ 455 000: Decentralised ventilation units



**Ventilation systems in France**  
**Sales 2012 – Collective and non residential mechanical ventilation units**



Source Uniclimate



## Ventilation systems in France

### *French Regulation*

- **Ventilation for residential buildings:**
  - **Bylaw 24<sup>th</sup> of March 1982 modified in 1983**
    - Air inlets in bedrooms or livingrooms and air outlets in technical rooms
    - Minimum exhaust air volume flows for each technical room
    - For DCV with basic lower air flows: Technical Assessment
  - **Bylaw 22<sup>th</sup> of October 1969**
    - Ventilation system (natural or mechanical) : with air inlets in bed rooms and living rooms and air outlets connected to ducts in technical rooms
- **Existing building before 1969 : no regulation**



## Ventilation systems in France

### *French Regulation*

- **Specific installations for ventilation and combustion products extraction:**
  - **Require: Commissioning and maintenance each year**
- **Acoustic : Bylaw 1999**
  - Defines acoustic level by room (35 dB(A))
  - Limits noise of ventiation systems
  - Limits noise transmitted from one dwelling to another



## Ventilation systems in France

### *French Regulation*

- **Energy Performance**
  - **New buildings**
    - RT 2012: hourly calculation of energy consumption of building and its equipments; based on average electric power consumption, fresh air volume flows, heat recovery efficiency, envelope air tightness
    - Voluntary Labels: + commissioning and test of ductwork airtightness
  - **Existing buildings**
    - RT « existant »: high renovation program = energy consumption calculation
    - RT « élément par élément » = install air inlets when improving building envelope or windows



## Ventilation systems in France

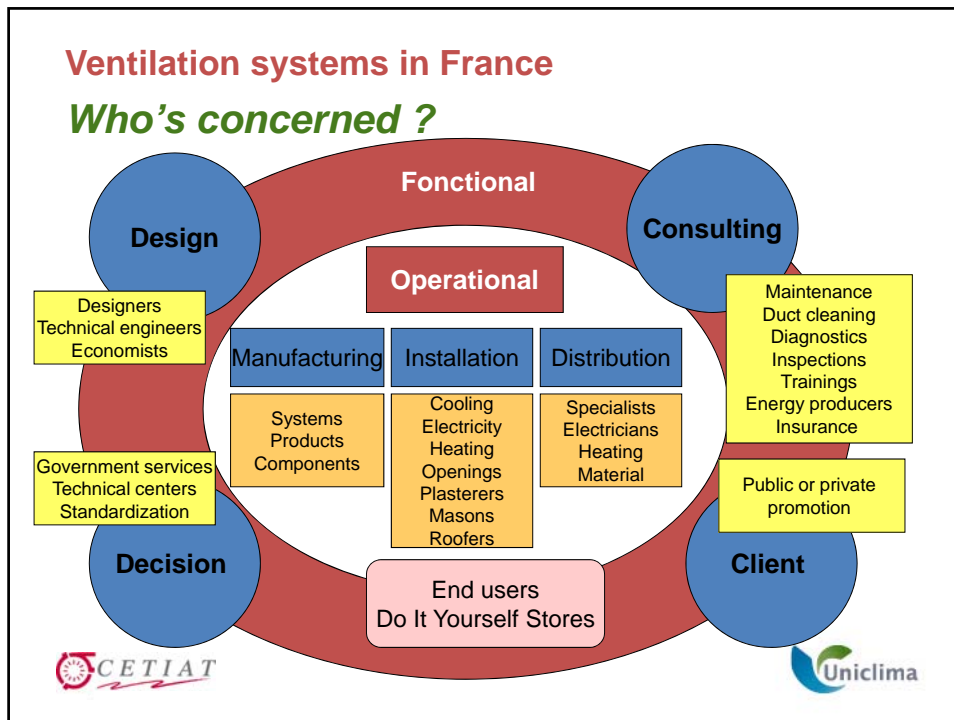
### *Unified technical rules*

- **DTU 68.1 & 68.2**
  - Under revision → NF DTU 68.3
  - Guidelines for design, installation, commissioning, maintenance
  - Residential mechanical ventilation system only

### *Certification programs*


- **NF VMC: self adjusting system, air inlets, air outlets, units - single and balanced flows**
- **CSTBat: for DCV units, air inlets, air outlets**
- **Eurovent certification: AHU, heat recovery**





**Ventilation systems in France**  
*Voluntary measures to improve installation*

- **Technical program called «RAGE»**
  - To improve competitiveness of installers for energy performance of existing buildings
  - Creates technical supports (training and commun rules) on construction products and HVAC equipments

 PROGRAMME D'ACCOMPAGNEMENT DES PROFESSIONNELLS  
« Règles de l'Art Grenelle Environnement 2012 »  
[www.reglesdelart-grenelle-environnement-2012.fr](http://www.reglesdelart-grenelle-environnement-2012.fr)

- **6 recommendations on Ventilation Installation**

**CETIAT** **Uniclimate**

## Ventilation systems in France

### *Voluntary measures to improve installation*

- **Products performances display recommendation by Uniclimate:**
  - For users to compare products
  - List of minimum characteristics and their definitions on communication media (website, package ...)
  - 19 products covered for residential and non residential equipments



## Ventilation systems in France

### *Voluntary measures to improve installation*

- **Technical Guides**
  - Ductwork airtightness, Air flowrates measurements, systems, design ...



## Ventilation systems in France

### *Voluntary measures to improve installation*

- Uniclimate process in creating :

- Specific training on ventilation
- (1 day)
- Technical guide: 14 technical
- recommendations to install
- mechanical ventilation systems



## Ventilation systems in France

### *Conclusion*

- Today :
  - + Ventilation regulation for new buildings
  - + Performance of equipments - Labelling
  - + Voluntary process to improve the quality of installation
  - No inspection required
  - No specific training or qualification for installers



## Ventilation systems in France

### *Conclusion*

- Tomorrow :
  - + Higher performance of equipments with ERP and Labelling regulations
  - + Opportunity with next EPBD recast to require inspection on ventilation installation

New trends: multifunctions systems, ventilation combined with heating, cooling, hot water, ... new responsibilities for installers



## AIVC

### *Quality of ventilation installation*

**Thank you !**

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