

Ecodesign Directive for Ventilation Units

Claus Händel

*EVIA European Ventilation Industry Association
Avenue des Arts 46 Kunstlaan
1000 Brussels
Tel: +32 (0) 2 7327040*

*Claus Händel
Technical Secretary
Mobile: +49 177 2766379
E-Mail: claus.haendel@evia.eu*

Note: the contact addresses may be re-arranged

1 INTRODUCTION

Ventilation technologies are the key aspects to reach the target of nearly zero energy buildings. From 1st January 2016 on ventilation units have to comply with minimal energy efficiency criteria according EU Regulation No 1253/2014 of 7 July 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council. Furthermore, residential ventilation units will have an energy label according EU Regulation No 1254/2014 of 11 July. This is a logical path for the EU-Commission because the expected energy savings potential of ventilation products is high. Expected energy savings of fans and ventilation units might reach 540 TWh primary energy and this is equivalent to 2-3% of EU 28 total energy consumption (Table 1).

Table 1: Expected energy savings with Ventilation Products (Target 2020)

	End Energy	Primary Energy
Residential Heating Energy	222 TWh	244 TWh
Non Residential Heating Energy	150 TWh	165 TWh
Non Residential Cooling Energy	8 TWh	8 TWh
Non Residential Electricity	16 TWh	40 TWh
Total Fans covered by EU 327/2011	34 TWh	82 TWh
Total		539 TWh
		~ 2-3% of Total EU28

Considering that the Ventilation market for Non-Residential buildings is quite developed, EVIA sees further potential in developing the market for mechanical ventilation systems in existing buildings. In EU28 only approx.. 16% of residential buildings have mechanical ventilation systems, less than 1% have heat recovery (Figure 1).

2 ENERGY LABELLING FOR RESIDENTIAL VENTILATION UNITS

From 1st January 2016 on all residential ventilation units will get a label with class A+ to G. It will be a common label for all types (bidirectional, unidirectional, heat recovery and demand controlled). The so called Seasonal Energy Consumption (SEC) is a value considering the primary heating energy savings minus the primary electrical energy demand. The calculation depends on the following parameters:

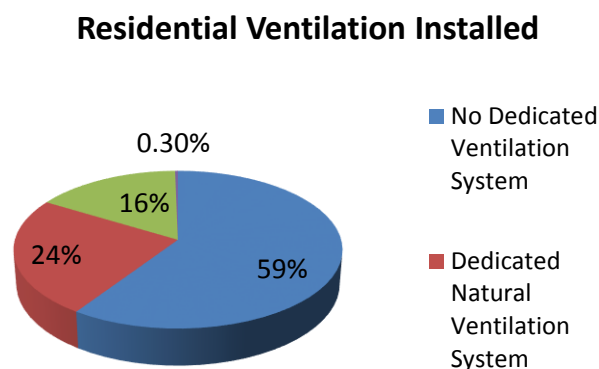
- Specific Power Input (SPI) depending on fan and controls electrical demand
- Heat recovery efficiency (if equipped with)
- Controls options (CTRL)

Consumer organisations are in favour of a common label, but there are also some critical aspects on this, because the scaling (A+ to G) does not consider aspects like:

- Tightness of building envelop and the resulting infiltration
- The impact of climate zone to the benefit of heat recovery units (cold climates higher, warm climates less)

So especially in refurbishments and in warm climates, a suitable ventilation system has to be selected based on full energy calculations for the entire building including the technical building systems with EPBD calculation methods.

Figure 1: Residential Ventilation Systems in building stock



3 CONCLUSIONS

Labelling might have an impact on consumers decisions investing in ventilation technology, because most of the other Technical Building Systems have a label (heating, cooling, lighting, etc.) and ventilation is playing in the same market.

Ecodesign will help to develop a more transparent market within Europe because the main performance data have to be delivered transparent in a common format based on common test method. Additional national certifications and restrictions will loose the impact and this will help to develop innovative and energy efficient products for whole Europe.

4 REFERENCES

COMMISSION REGULATION (EU) No 1253/2014 of 7 July 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units EU 1254/2014

COMMISSION DELEGATED REGULATION (EU) No 1254/2014 of 11 July 2014 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of residential ventilation units

Ecodesign Lot 10 Study and Supplementary Study, FGK, 2010