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Place, Date



# Background of ErP-Directive on Eco Design and Energy Labelling

# EU – Climate protection goals

# Goals for 2020 (approved in 2007):

- 20% CO2-Reduction
- 20% Renewable Energies
- 20% less energy use

# Goals for 2030 (approved 2014):

- 40% CO2-Reduction
- 27% Renewable Energies
- 27% less energy use

# Instruments of the EU

- Directive on energy efficiency (2012)
- European Parliament Building Directive (EPBD) (2010)
- Directive on the use of Renewable Energies (2009)
- Eco Design Directive (ErP) (2009)
- Energy Labelling Directive (2010)
- EU-Energy and Climate Policy

# Basics

# LabelPack

# Eco Design (Directive 2009/125/EC)

# Eco Design regulates the market by defining product design

- Establishment of minimal criteria for products (energy efficiency and environmental aspects)
- Harmonization in the EU to reduce free trade barriers

# Energy Labelling (Directive 2010/30/EU)

- Energy Labelling displays the product's energy efficiency, aiming to support the consumer's purchase decision into more energy efficient products and prompt manufacturers to produce more efficient products
- The best possible technology is to be supported

EU-Directives include regulations on Eco Design and Labelling and have been transferred into national directives (so called delegated directives)

In the different EU countries, only the national translation is legally binding.

# Basics



# **Energy Labelling**

- The energy efficiency class runs from G to A (or up to A++), G being the lowest class, identifying products which consume more energy, and A the highest class, identifying the most energy efficient products
- The energy class relates to the use of energy during the product's operation, not considering the manufacture or end-of-life stages





# Content of the Labelling Regulation

- Offers that address the end consumer have to provide information on energy efficiency of the products (data sheet and energy efficiency label).
- This serves to guarantee the consideration of energy efficiency criteria for the buyer decision.
- Responsibility at the Point of Sale, which can be the installer, dealer or wholesaler, depending on who is in contact with the client.
- Manufacturers have to comply with information obligations, providing at least data sheets.
- To cover the variety and complexity of heating systems, many different labels have been developed.



# **Relevant Product Groups**

### Which product groups have relevance for Eco Design and Labelling?

- Energy related Products (e.g. household devices) and products that do not use energy, but influence energy consumption
- Europe wide market volume of at least 200.000 pieces / year (in product groups).
- Products with high relevance for the environment and high energy saving potential.
- Products with high potential for improvements for the environment

### **Product groups with relevance for the heat market:**

- Lot 1 Space heaters (EU-Directive 2013/813/EU, EU-Directive 2013/811/EU)
- Lot 2 Water heaters (EU-Directive 2013/814/EU, EU-Directive 2013/812/EU)
- Lot 10 Residential Air conditioning
- Lot 11 E-Motors, Pumps, Ventilators
- Lot 15 Solid Fuel Boilers
- Lot 20 Local Room Heaters

See also: <u>http://www.eceee.org/ecodesign/products</u>



# **Relevant Product Groups**

Lot 1 Space heaters ٠











Gas, Electric

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	5	
YZ at	YZ kaw	3
Co	mbi b	oiler









# **Relevant Product Groups**

### Lot 2 Water heaters





Water heaters Gas, Oil, Electric

Solar-Water heaters



DHW Heat Pumps



DHW cylinders buffer tanks







# Relevant Product Groups in the Heating Market

	Eco Design	Energy Labelling
Space heaters	0-400 kW	0-70 kW
Heat pumps	0-400 kW	0-70 kW
Low-temp. Heat pumps	0-400 kW	0-70 kW
Comb. Heat Power	0-400 kW ≤ 50 kWel	0-70 kW ≤ 50 kWel
Water heaters or combi. Systems	0-400 kW	0-70 kW
Hot water storage tank	≤ 2000 litres	≤ 500 litres
Packages of these products with control technology or solar thermal		0-70 kW Storage ≤ 500 litres*

Exemptions: Solid fuels, Bio mass / Steam and air driven heating systems / Existing heating systems

\*storage tanks  $\leq$  2000 I have to be provided with a data sheet



# Labelling categories

	Class	Seasonal related heating efficiency %	
	A+++	>150	
	A++	125- <150	
	A+	98- <125	
	А	90- <98	
	В	82- <90	
	С	75- <82	
	D	36- <75	
	E	34- <36	
	F	30- <34	
	G	<30	
www.label-pack-a-plus.eu			





What's new in the Labelling of Heating Appliances?

It's the first energy labelling regulation addressing Package systems

Package systems are systems constituted by conventional heaters combined with solar devices and/or temperature controls.

- Standard package a package of products, pre-assembled by the supplier as a standard solution, constituted by a set of products supplied by the same manufacturer.
- Custom-made package a package of products (not necessarily from the same brand) assembled by the dealer (installer, seller) at the moment of sale to meet the demand of one precise client.



# What's new in the Labelling of Heating Appliances?

In the case of acquiring a package system, the end-consumer should receive, additionally to the individual product energy labels, an energy label stating the energy class of the whole system, considering the assembly of products.

The legislation also applied to internet purchases, where the electronic energy label and fiche should be available for consultancy.

# Product label (e.g. Comb. HP) LabelPack



# Information on the label

- 1. Manufacturer
- 2. Number of model
- 3. Function (heat / hot water)
- 4. Efficiency class
- 5. Heating capacity (kW)
- 6. Noise emissions (db)
- 7. Additional production of electricity
- 8. Further examples for additional information (no. 5-7)

### WXYZ 5 4 = YZ = YZ YZ kW XYZL 8 YZ kW WXYZ = YZ =YZ · YZ (-0)) YZ xw YZ YZ YZ WXYZ YZ dB Whiteman Galannum WXYZ ΥZ kWh/annum GJ/annum YZ d8

# The Product label is provided by manufacturer!

Product labels – Space heaters : A++ to G (until 2017)



No hot water production foreseen / possible

For non solar systems usually combi systems for heating and hot water production are common

Product labels – Hot water heaters : A to G (until 2017) LabelPack



Conventional e.g. gas flow type heater or boiler and storage tank

Solar driven e.g. Thermo siphon+ electrical heater With heat pump



Stand alone systems, which do not serve space heating Hot water heater with electrical back up is also labelled Product labels for combi systems: A++ to G (until 2017)



Not only combined systems (flow type heater with boiler) but also boiler / heat pump in combination with non solar storage tank needs combi label

## Product label storage tank A to G (until 2017)



Hot water storage tank



### Information:

Currently most storage tanks are rated either "C" seldom "B"

Only label necessary for pure solar package without boiler or heat pump (e.g. retrofit with solar)

Duties of manufacturers / dealers / installers – Product label



# Duties of the manufacturer / provider:

- Provision of label according to EU regulation
- Provision of a product data sheet as basis for package labels
- Provide technical documentation upon request
- Include information on label classes in advertisement and sales material

### Duties of the dealer:

- Guarantee visibility of the label at the point of sale
- Advertisements with information on the price has to provide information on the label class
- Technical sales material has to provide information on the class



# The package label How is it composed



**** ***** ENERG У ЏА енергия · ενεργεια IE IA				
1 1 1 2 3				
5 A+	A*** 4 A*** A**			
+ 🚔 6 🗖	A <sup>+</sup>			
+ 🔤 7 🗖	B C			
+ 况 8 🗖	D E			
+ 💽 9 🗖	F G			

# Example: Only heating system

Information on the label

- 1. Manufacturer
- 2. Number of model
- 3. Function (heat (/ hot water))
- 4. Efficiency class (for entire combination
- 5. Efficiency primary boiler
- 6. Solar energy system
- 7. Storage tank
- 8. Temperature control
- 9. Additional heating system

The package label is provided by the dealer or installer

# Package label – Overview: A<sup>+++</sup> to G



Space heater, Temperature control and solar installation

ENERG (Y) (IJA енергия · ενεργεια П IIIII A+++ + 👜 赐 G 2015 811/2013 Hot water and solar installation e.g. flow type Boiler + solar system Combi heating system, temperature controller and solar installations





Only heating system

### Only hot water

DHW + Space heating combined



# How to design a package label

Combi heating system with boiler

Combi heating systems, temperature- controller and solar system Y (IJA) A\*\* A **Product data sheet** E) IA енергия · ενεργεια Combi heater (1) **YZ** <sup>kW</sup> YZ dB A\*\*\* Combi-Label Heating sys. A\*\* A++ **Product data sheet** Ê Solar collector Е E G Storage (Label) • wYZw ₩, J ZYX A+++ Combi-Label Hot water A++-飘 Temperature • controller D 2015 811/2013

## Duties of manufacturers / dealers / installers

- Pre-assembled package label

# Duties of the manufacturer / provider:

- Provision of label according to EU regulation
- Provision of a product data sheet as basis for package labels
- Provide technical documentation upon request
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### Duties of the dealer:

- Guarantee visibility of the label at the point of sale
- Advertisements with information on the price has to provide information on the label class
- Technical sales material has to provide information on the class



LabelPack

## Duties of manufacturers / dealers / installers – Pre-assembled package label





Supplier I

## Dealer Installer

Consumers

Duties of manufacturers / dealers / installers – Pre-assembled package label



# Duties of the manufacturer / provider:

- Manufacturer offering a preassembled package solution for space and/or water heating have to edit and provide the package label
- Product labels and data sheets and information from the products used in the package have also to be provide

### Duties of the dealer:

Just have to provide label and information received from the manufacturer to the consumer



Duties of manufacturers / dealers / installers – Pre-Assembled/custom made Package label





Duties of manufacturers / dealers / installers – Custom made Package label





Duties of manufacturers / dealers / installers – Custom made Package label





Supplier II

### Duties of manufacturers / dealers / installers – Custom made Package label



# Duties of the manufacturer / provider:

- Provision of additional label according to EU regulation if package is offered, e.g. Temperature controller / solar system
- Provision of a product data sheet as basis for package labels

### Duties of the dealer:

- Dealers who compile the package themselves, have to fill in and calculate the package labels and provide this information for the customer.
- Advertisement have to include information on the efficiency class
- Technical sales material has to provide information on the class



Timetable 2015 to 2017 for the Labelling LabelPack

