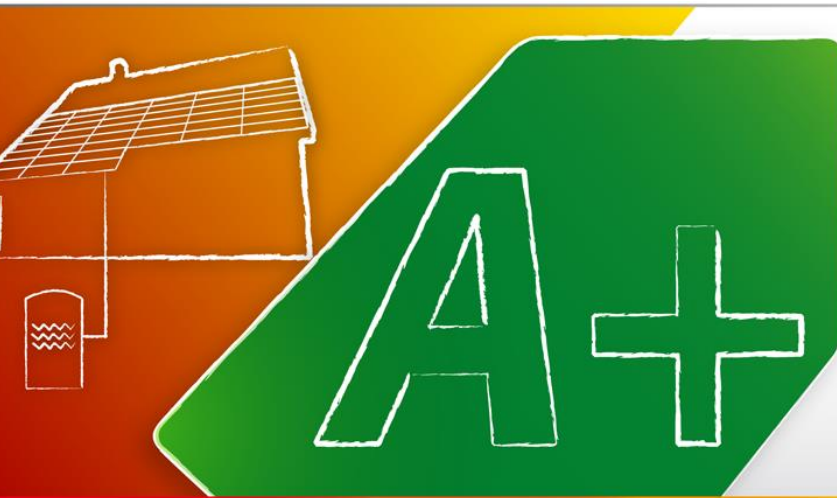




This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649905



“Common understanding
of the heating energy
labelling concept, key
elements”

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649905

PUBLICATION DATA

Title: Label Pack A+ - "Common understanding of the heating energy labelling concept, key elements"

Date of publication: Brussels, April 2018 (version 4)

Authors: Joana Fernandes, ADENE; Pedro Dias, Solar Heat Europe/ESTIF

Available at: www.label-pack-a-plus.eu/

Version	Date	Description of changes
1	July 2016	Original text
2	February 2017	Inclusion of Frequently Asked Questions. Several parts updated based on inputs and comments received.
3	October 2017	Several parts updated based on inputs and comments received.
4	April 2018	Update on outdated references: standards, "Implementing Guidelines", online tools and other.



Contents

EXECUTIVE SUMMARY	4
1 Introduction.....	5
2 Energy labelling of heating appliances	6
2.1 Definitions	6
3 Space heating appliances	8
3.1 Scope	8
3.2 Heating equipment's	8
3.2.1 Individual products:.....	8
3.2.2 Packages of Space Heating Equipment's:	8
3.2.3 Packages of Combination (Space and Water) Heating Equipment's:	9
3.3 Quick guide to Regulated Act No 811/2013.....	9
3.3.1 For individual products.....	9
3.3.2 For space heating packages.....	9
3.3.1 For combination heating (space and water) packages.....	9
4 Water heating appliances.....	10
4.1 Scope	10
4.2 Equipment's	10
4.2.1 Individual products:.....	10
4.2.2 Packages of Water Heating Equipment:.....	10
4.3 Load Profiles for water heaters (and for combination heaters).....	10
4.4 – Quick guide to Regulated Act No 812/2013.....	12
4.4.1 For individual products:.....	12
4.4.2 For water heating packages	12
5 Solar solutions.....	13
5.1 Solar systems data and the SOLCAL methodology.....	14
6 Accessory equipment for heating packages	15
7 Documents	17
7.1 Label	17
7.2 Product Fiche	19
7.3 Technical Documentation	21
7.4 Detailed information	22
7.5 Advertisement and promotional material	24
8 Actors and Responsibilities	25
8.1 Actors	25
8.1.1 Supplier.....	25
8.1.2 Dealer	25
8.1.3 System Designer	25
8.1.4 Installer	26
8.1.5 Installer Integrator.....	26
8.1.6 End-user	26
8.2 The market chain	26
8.3 Market Surveillance authorities.....	28
8.3.1 ICSMS.....	29
8.4 Relevant Stakeholders.....	30
ANNEX I – Terminologies by Country	31
ANNEX II –Solar Thermal related Standards	33
ANNEX III – Frequently Asked Questions.....	34



EXECUTIVE SUMMARY

This document presents the “common understanding of the energy labelling concept, key elements” and aims at setting the common framework within which the Label Pack A+ consortium develops its activity. It is a working document aimed at the consortium members, in order to guide their activities, namely the pilot actions to establish at the national levels and assure a common line of work and communication with the market actors.

The document briefly addresses the Ecodesign and Energy Labelling framework and the contextualization of the Regulated Acts No.811 and 812/2013 within these. The most relevant and innovative aspect introduced by these regulations lies on the introduction of a new concept in the energy labelling requirements, **the package labelling**, meant for the labelling of **heating systems composed by more than one appliance**, in an overall system evaluation perspective. To address the specifics of this new label, the distinction between individual products and package systems is presented, and both regulations are analysed in order to understand the different energy labelling application frameworks. The added value of solar packages is also addressed, as the combination of conventional heaters with solar systems has the potential to maximize the package's energy efficiency, providing a high energy class heating system.

The document also looks into the challenges addressing the end-consumer and the initiatives to disseminate and raise the community's awareness on the new energy labelling system. One of the most pressing issues is the definition of the consumer's hot water demand profiles as it affects the selection of the appliance's output range.

Regarding the documentation, this new legislation does not restrict itself to the calculation and presentation of the energy label in the considered heating appliances, and a wide set of documents should compulsory be displayed, or available upon request, namely the product fiche, technical documentation, detailed information and advertisement and promotional material.

The heating market chain is thoroughly addressed, identifying the various models possible and the responsibilities for issuing the package label in the different scenarios. The ultimate difference relies on the labelling of customized solutions when the responsibility for issuing and presenting the energy label to the end-consumer relies on the system distributor, which can either be the retailer or the installer integrator, depending on who assembles the customized system.

The competences of the different stakeholders along the value chain are discussed, from the public authorities, to the industry associations and consumer defence organizations, addressing also the market surveillance entities and their role in assuring the adequate implementation of the legislation.

Finally, a wide set of Frequently Asked Questions are listed and answered to help all the market agents to comply with their responsibilities and assure a successful approach to the market.



1 Introduction

The **Ecodesign and Energy Labelling frameworks** express the European Commission's goal towards reducing the energy consumed by products, at the design and manufacture stage, Ecodesign Directive, and at the operation stage, Energy Labelling Directive, recently repealed by the Regulation (EU) 2017/1369.

The Ecodesign Directive, Directive 2009/125/EC, established the framework for setting mandatory requirements for energy related products. The Directive targets equipment manufacturers, establishing minimum performance criteria for putting new products on the market.

The Energy Labelling Regulation 2017/1369, aims at providing the end-consumers with more information regarding the products energy performance, in order to better decide on the acquisition stage. It establishes the binding obligation for energy labelling and standard product information on the consumption of energy and other resources by energy-related products.

The technical specifications for each of the products covered by these regulations are set via Delegated Regulations, non-legislative acts of general application to supplement or amend certain non-essential elements of a legislative act, used where uniform conditions for implementing legally binding Union acts are required.

The regulations for space, water and combination heaters, Commission Delegated Regulation (EU) No 811/2013 and No 812/2013 were published in 2013 and are to enter in force on the 26th of September 2015.

Within this context, the **Label Pack A+** project was set, in the auspicious of the Horizon 2020 Programme, aiming to support the implementation of the energy labelling of heating appliances and boosting its impact on solar thermal products by using the "package label".

This document presents the "Common understanding of the energy labelling concept, key elements" and aims at setting the common framework within which the Label Pack A+ consortium develops its activity. It's targeted at the consortium members, in order to guide their activities, namely the pilot actions to establish at the national levels and assure a common line of work and communication with the market actors, assuring the success of the communication provided.



2 Energy labelling of heating appliances

The **Ecodesign and Energy Labelling Directives** were published respectively in **2009 and 2010**. The new energy labelling regulation was just published in July 2017, repealing the previous directive and setting the new framework for the energy labelling context. These regulations express the European Commission's commitment towards energy efficiency, compelling the market to offer more efficient energy consuming products, in a "from design to operation" perspective.

The delegated regulations set for space, water and combination heaters were published in 2013.

Commission Delegated Regulation (EU) **No 811/2013** of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the **energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device**¹

Commission Delegated Regulation (EU) **No 812/2013** of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the **energy labelling of water heaters, hot water storage tanks and packages of water heater and solar device**².

Commission Regulation (EU) **No 813/2013** of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for space heaters and combination heaters³

Commission Regulation (EU) **No 814/2013** of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to Ecodesign requirements for water heaters and hot water storage tanks⁴

The most relevant and innovative aspect introduced by these regulations lies on the introduction of a new concept in the energy labelling requirements, **the package labelling**, meant for the labelling of **heating systems composed by more than one equipment**, in an overall system evaluation perspective.

2.1 Definitions

Individual products: individual heater (space or water), individual combination heater (space and water) temperature control, solar device.

Package: a system that is offered to the end-user combining one or more heaters (water, space or combi) with one or more temperature controls (in the case of space and combi packages) and one or more solar devices.

Packages:

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 supplier.

Custom-made package – a package of products locally assembled by the dealer or installer, who combines a set of products (not necessarily with the same brand or within the offer of brands supplied

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0811>

² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0812>

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0813>

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013R0814>



by one exclusive supplier) commercialized by the dealer and assembled at the moment of sale to meet the demand of one precise client.

Place on the market: For the purposes of the European Union harmonized legislation, a product is placed on the market when it is made available for the first time on the European Union market. The operation is reserved either for a manufacturer or an importer i.e. the manufacturer and the importer are the only economic operators who place products on the market. When a manufacturer or an importer supplies a product to a distributor or an end-user for the first time, the operation is always labelled in legal terms as “placing on the market”. Any subsequent operation, for instance, from a distributor to distributor or from a distributor to an end-user is defined as making available.

As for “making available”, the concept of placing on the market refers to each individual product, not to a type of product, and whether it was manufactured as an individual unit or in series. Consequently, even though a product model or type has been made placed on the market before the energy labelling legislation entered in force on the 26th of September 2015, the very same product when placed on the market needs to display the energy label. (Source: The 'Blue Guide' on the implementation of EU product rules 2016, COMMISSION NOTICE of 5.4.2016), p.15)

For further definitions, please check the ANNEXES.



3 Space heating appliances

3.1 Scope

No 811/2013 - space heaters and combination heaters with a rated heat output ≤ 70 kW, packages of space heater ≤ 70 kW, temperature control and solar device and packages of combination heater ≤ 70 kW, temperature control and solar device.

3.2 Heating equipment's

The Energy labelling regulating covers products with a rated output up to 70kW.

3.2.1 Individual products:

- Space heater ≤ 70 kW;
 - Fuel boiler space heaters
 - Electric boiler space heaters
 - Cogeneration space heaters
 - Heat pump space heaters
 - Heat pump space heaters with fuel driven combustion unit
- Combination heaters;
 - Fuel boiler combination heaters
 - Electric boiler combination heaters
 - Cogeneration combination heaters
 - Heat pump combination heaters
 - Heat pump combination heaters with fuel driven combustion unit

Note – Regarding heat pumps, heaters designed for using gaseous or liquid fuels from biomass are excluded from these regulations. The labelling regulation for these products and packages are the regulations 2015/1187 and 1189. Other pieces of legislation, such as the Gas Appliances Directive might apply to them as far as appliances burning gaseous fuels are concerned.

3.2.2 Packages of Space Heating Equipment's:

- Packages of space heater, temperature control and/or solar device
 - Hot water storage tank
 - Solar device
 - Solar collector
 - Solar hot water storage tank, "Thermosiphon system", or pump in the collector loop



3.2.3 Packages of Combination (Space and Water) Heating Equipment's:

- Packages of boiler combination heater (space and water), temperature control and solar device
- Packages of heat pump combination heater (space and water), temperature control and solar device

3.3 Quick guide to Regulated Act No 811/2013

The Regulated Acts present the energy efficiency classes, the templates for the different labels, product fiches, technical documentation and other necessary documentation, for each equipment and combination of equipment for the package label.

3.3.1 For individual products

September 2015				
811 - Space heaters	Label	Product fiche	Technical docs	Alternative info
Individual space heaters				
Boiler space heaters	Annex III, 1.1.1	Annex IV, 1	Annex V, 1	Annex VI, 1
Cogeneration space heaters	Annex III, 1.1.2			
Heat pump space heaters	Annex III, 1.1.3			
Low temperature heat pumps	Annex III, 1.1.4			
Individual combination heaters				
Boiler combination heaters for space and water heating	Annex III, 2.1.1	Annex IV, 2	Annex V, 2	Annex VI, 2
Heat pump combination heaters for space and water heating	Annex III, 2.1.2			
Temperature controls		Annex IV, 3	Annex V, 3	
Solar devices		Annex IV, 4	Annex V, 4	

3.3.2 For space heating packages

September 2015				
811 - Space heaters	Label	Product fiche	Technical docs	Alternative info
packages of space heater, temperature control and solar device	Annex III, 3	Annex IV, 5	Annex V, 5	Annex VI, 3

3.3.1 For combination heating (space and water) packages

September 2015				
811 - Space heaters	Label	Product fiche	Technical docs	Alternative info
Packages of combination (space and water) heater, temperature control and solar device	Annex III, 4	Annex IV, 6	Annex V, 6	Annex VI, 4



4 Water heating appliances

4.1 Scope

No 812/2013 - water heaters with a rated heat output ≤ 70 kW, hot water storage tanks with a storage volume ≤ 500 litres and packages of water heater ≤ 70 kW and /or storage volume ≤ 500 litres and solar device.

4.2 Equipment's

4.2.1 Individual products:

- Water heater with a rated heat output ≤ 70 kW;
 - Conventional water heater (fossil fuel based)
 - Electric water heater
 - Solar water heater (thermos syphon system (with electric backup));
 - Heat pump water heater;
 - Heat pump water heaters with fuel driven combustion unit
- Hot water storage tanks with a volume ≤ 500 l

Solar device – Solar devices, according to the relevant definitions in the Regulations, are made of a solar collector, a solar hot water storage tank or a pump in the collector loop. This means that a solar device always contains a solar collector. The components of these systems are not to be labelled individually, as most of are not energy consuming products.

4.2.2 Packages of Water Heating Equipment:

- Packages of water heater and solar device

4.3 Load Profiles for water heaters (and for combination heaters)

One important feature when selecting the adequate water heater is the load profile. Load profiles are defined in distribution tables containing the time, the energy, kWh, the temperature, °C, and types (shower, dish washing, hand washing) of each “tapping cycle”. It represents a daily sequence of water draw-offs, a combination of useful water flow rate, useful water temperature, useful energy content and peak temperature.

The Regulated Act No 812/2013 presents eight load profiles, from XXS to XXL and each water heater meets at least one load profile.

The load profile is characterized by:

- The reference energy, Q_{ref} , which accounts for sum of the useful energy content of the water draw-offs, expressed in kWh;
- The useful water flow rate, f , the minimum flow rate, in litters per minute, for which the water is contributing to the reference energy;
- The useful water temperature, T_m , the water temperature in degrees Celsius
- The peak water temperature, T_p , the minimum water temperature in degrees Celsius.

The Q_{ref} for various load profiles is presented, with a calculation example for quantification of the profile in hot showers per day:



Profile	3XS	XXS	XS	S	M	L	XL	XXL
Qref (kWh)	0,345	2,100	2,100	2,100	5,845	11,655	19,07	24,53
Showers	0	1	1	1	2-3	3-4	7-9	11-12

Calculation: 40 liters/day per shower, water at 60°C, T water grid =15 °C => 2.1kWh/day

Heater load profile	Hot water needs associated to the profile	Application	
3XS	Seldom hand wash	Small offices	
XXS	Household washes	Small offices	
XS	Kitchen (dish wash) and household washes simultaneously	Offices	
S	Kitchen (small dish wash) household washes	Offices	
M	Kitchen, household washes and 2 showers	Residential (1-2 pax)	
L	Kitchen, household washes, showers or bath	Residential (3 – 5 pax)	
XL	Kitchen, household washes, showers and/or baths	Residential (5 – 8 pax)	
XXL	Kitchen, several household washes, showers and bath simultaneously	Residential (9 and more pax)	

Figure 1 – Hot water needs associated to the heater's load profile



4.4 – Quick guide to Regulated Act No 812/2013

4.4.1 For individual products:

	September 2015			
812 –Water heaters	Label	Product fiche	Technical docs	Alternative info
Individual water heater				
Conventional water heaters	Annex III, point 1.1.1	Annex IV, point 1	Annex V, point 1	Annex VI, point 1
Heat pump water heater	Annex III, point 1.1.3			
Storage tank	Annex III, point 2.1	Annex IV, point 2	Annex V, point 2	Annex VI , point 2
Solar water heaters	Annex III, point 1.1.2	Annex IV, point 3	Annex V, point 3	
Solar device		Annex IV, point 3	Annex V, point 3	

4.4.2 For water heating packages

	September 2015			
812 - Water heaters	Label	Product fiche	Technical docs	Alternative info
Package: water heater and solar device	Annex III, point 3	Annex IV, point 4	Annex V, point 4	Annex VI, point 3



5 Solar solutions

Per se, solar devices do not require energy labels.

The exception to this are *thermosiphon* systems with integrated electrical resistance (the regulated acts define these equipment as solar water heaters). According to the regulation's calculation procedures solar water heaters best energy class is limited to A, given that electrical water heaters have a predefined efficiency of 40%, and as so, an electrical water heater will be classified between C and D, enhanced to A with solar.

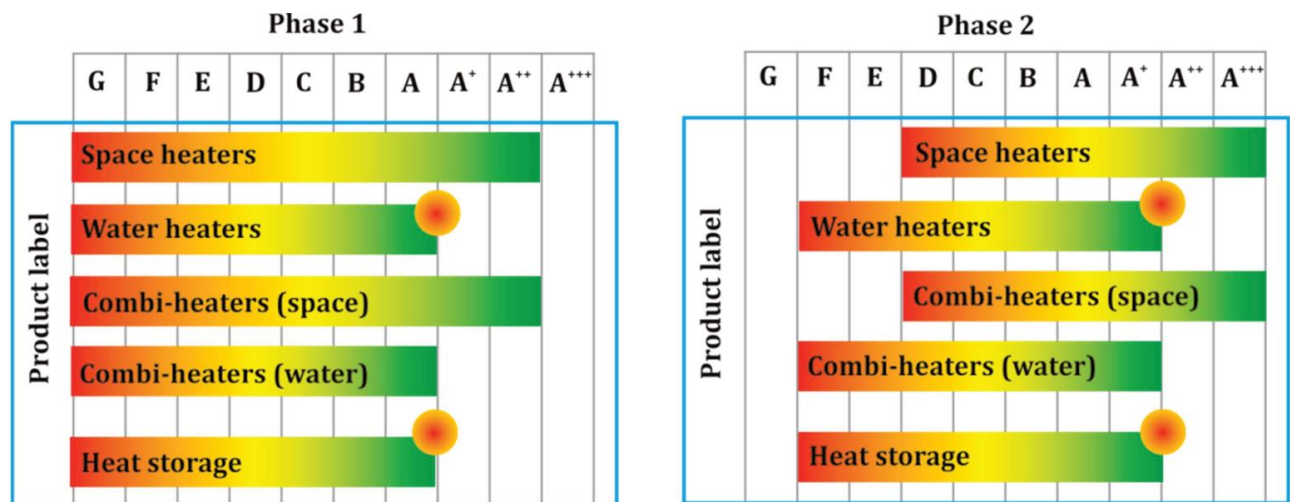


Figure 2 – Product labels energy class range, highlighting the solar enhanced solutions. (Source: “Ecodesign and the Energy label for solar thermal related products – Part 1., 2015, vAconsult)

To benefit from this new legislation, the solar industry should focus on pushing for solar driven heating solutions, that is “enlarging the solar industry’s pie” in the heating market, by attracting new clients who wish to purchase efficient, high energy class solutions.

This option is particularly interesting in package solutions, where the combination with solar systems has the potential to maximize the package’s energy efficiency.

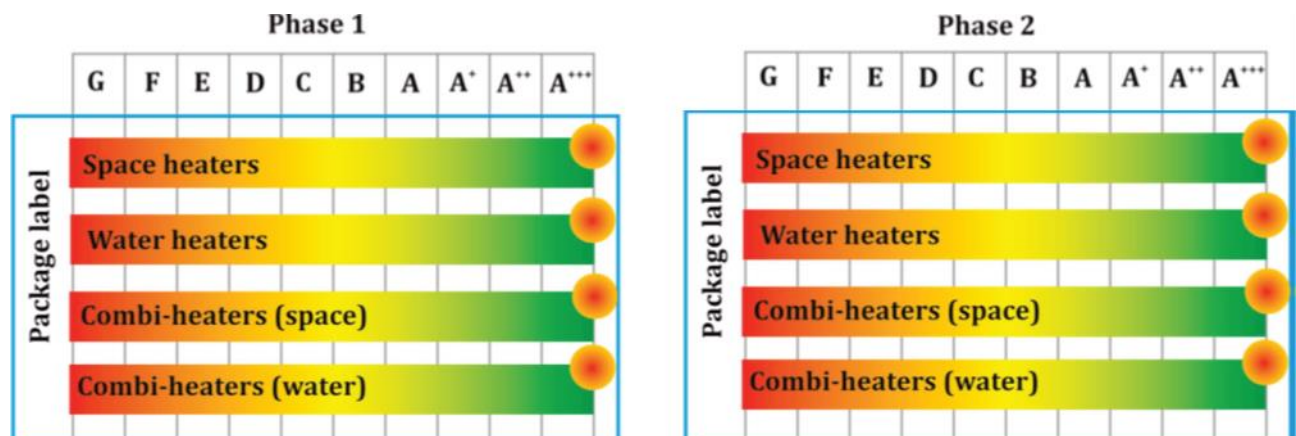


Figure 3 – Package labels energy class range, highlighting the solar enhanced solutions. (Source: “Ecodesign and the Energy label for solar thermal related products – Part 1., 2015, vAconsult)



When high class backup heaters are part of the heating package, the distinction in the added value of solar devices is limited to the range A to A⁺⁺⁺. The space for distinction between brands and types will be short, and the differences will mainly focus on the system size than on the system's efficiency. Additionally, the end-user perception on the differences between the A to A⁺⁺⁺ class is not clear, and the real added value of A⁺⁺⁺ classes is not correctly valued.

5.1 Solar systems data and the SOLCAL methodology

A package is a system that is offered to the end-user combining one or more heaters (water, space or combi) with one or more temperature controls (in the case of space and combi packages) and one or more solar devices.

While calculating the system energy efficiency and class several elements regarding the solar system are requested, such as the solar collector area and efficiency.

In the water-heating packages, meaning packages using water heaters or combi heaters, the energy efficiency of the system is based on:

- the value of the water heating energy efficiency of the water heater, expressed in %, taken from the water-heater product fiche.
- the value of a mathematical expression combining the reference energy volume (Q_{ref}) associated to each load profile, and the annual non-solar heat contribution (**Q_{nonsol}**) corresponding to annual contribution of electricity (expressed in kWh in “terms of primary energy”) and/or fuels (expressed in kWh in Gross Calorific Value) to the useful heat output of a solar water heater or a package of water heater and solar device, taking into account the annual amount of heat captured by the solar collector and the heat losses of the solar hot water storage tank.
- **Q_{aux}** , auxiliary electricity consumption, which is the annual electricity consumption of a solar water heater or a solar-only system that is due to the pump power consumption and the standby power consumption, expressed in kWh in terms of final energy.

Both Q_{nonsol} and Q_{aux} are to be calculated in an auxiliary tool for solar devices, available at the LabelpackA+ website, complementing the main package calculation tool⁵.

The SOLCAL methodology requires for the calculation of Q_{nonsol} :

Collector

- A_{sol} (m²)- The collector area;
- η_0 – The zero loss efficiency coefficient;
- a_1 (W/ m².K) – The first order heat loss coefficient;
- a_2 (W/ m².K²) – The second order heat loss coefficient;
- IAM – The incident angle modifier coefficient.

Heat storage

- V_{nom} (litres) – The nominal volume

⁵ <http://www.label-pack-a-plus.eu/home/calculate-the-label/>



- Vbu (litres) – The backup volume (the volume above the lowest part of the heat exchanger, an approximate value should be half of the nominal volume)
- Backup control – select if the backup control is permanently on (on a thermostat basis); only at night (controlled by a watch that sets the on hours) or only in emergency situations (manual on/off switch).
- Pbsol – The heat loss coefficient of the storage (this value corresponds to the standing value in W, presented in the tank energy label, divided by 45, which is the assumed temperature difference between the interior and the exterior of the tank)
- StoLOC – the location of the storage, inside or outside

For the calculation of Qaux the SOLCAL methodology requires the elements that characterize the pump and control system:

Pump & Control

- Solpump – The pump power (in the case of pumps with variable power the average power should be used)
- Solsb – The controller's power

The results are displayed for the M to XXL classes.

Only after calculating these elements should the user access the online tool and complete the system's energy efficiency and labelling class calculation.

6 Accessory equipment for heating packages

The Energy Labelling directive covers all products that consume energy, also including controls, which are defined using 'classes'. These run from Class I (a simple on/off room stat) to Class VIII (multi-sensor room control for use with modulating heating appliances). Each control class equates to a certain percentage uplift in system efficiency e.g. A class VI weather compensating control and room thermostat will add 4% efficiency to the heating system.

- Temperature controls (according to the Implementing Guidelines⁶ :
 - Class I - On/off Room Thermostat: A room thermostat that controls the on/off operation of a heater. Performance parameters, including switching differential and room temperature control accuracy are determined by the thermostat's mechanical construction.
 - Class II - Weather compensator control, for use with modulating heaters: A heater flow temperature control that varies the set point of the flow temperature of water leaving the heater dependent upon prevailing outside temperature and selected weather compensation curve. Control is achieved by modulating the output of the heater.
 - Class III - Weather compensator control, for use with on/off output heaters: A heater flow temperature control that varies the set point of the flow temperature of water leaving the heater dependent upon prevailing outside temperature and selected weather compensation curve. Heater flow temperature is varied by controlling the on/off operation of the heater.

⁶ Guidelines Accompanying Regulations (EU) No 811&812/2013, 813&814/2013, 2015/1187&1189 (2018) : http://www.label-pack-a-plus.eu/wp-content/uploads/2018/07/Guidelinespacewaterheaters_2018_final-official.pdf



- Class IV - TPI room thermostat, for use with on/off output heaters: An electronic room thermostat that controls both thermostat cycle rate and in-cycle on/off ratio of the heater proportional to room temperature. TPI control strategy reduces mean water temperature, improves room temperature control accuracy and enhances system efficiency.
- Class V - Modulating room thermostat, for use with modulating heaters: An electronic room thermostat that varies the flow temperature of the water leaving the heater dependent upon measured room temperature deviation from room thermostat set point. Control is achieved by modulating the output of the heater.
- Class VI - Weather compensator and room sensor, for use with modulating heaters: A heater flow temperature control that varies the flow temperature of water leaving the heater dependent upon prevailing outside temperature and selected weather compensation curve. A room temperature sensor monitors room temperature and adjusts the compensation curve parallel displacement to improve room comfort. Control is achieved by modulating the output of the heater.
- Class VII - Weather compensator and room sensor, for use with on/off output heaters: A heater flow temperature control that varies the flow temperature of water leaving the heater dependent upon prevailing outside temperature and selected weather compensation curve. A room temperature sensor monitors room temperature and adjusts the compensation curve parallel displacement to improve room comfort. Heater flow temperature is varied by controlling the on/off operation of the heater.
- Class VIII – Multi-sensor room temperature control, for use with modulating heaters: An electronic control, equipped with 3 or more room sensors that varies the flow temperature of the water leaving the heater dependent upon the aggregated measured room temperature deviation from room sensor set points. Control is achieved by modulating the output of the heater.



7 Documents

The equipment covered by the space and water heating regulations should compulsory present, or have available upon request, a set of documents. The most relevant information set in these documents regards the identification of the energy class on the label, but also all the relevant technical information that allows for the package label to be issued.

7.1 Label

The energy label is the most visible document in the heating appliance, which presents the energy class. The label also states information on the equipment supplier, the model and more detailed information on the appliance's technical characteristics like the rated heat power and the sound power level.

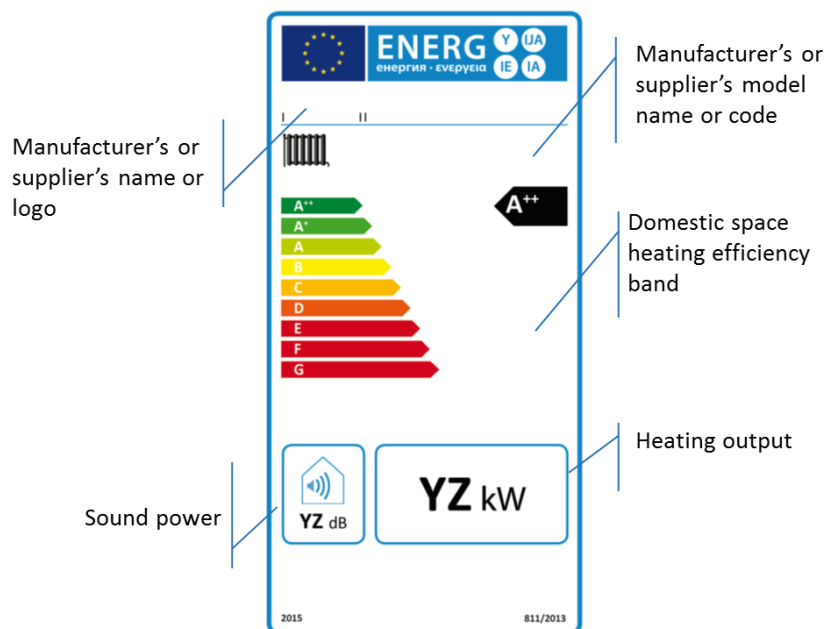


Figure 4 - Example of heating label: Boiler space heaters in seasonal space heating energy efficiency classes A ++ to G

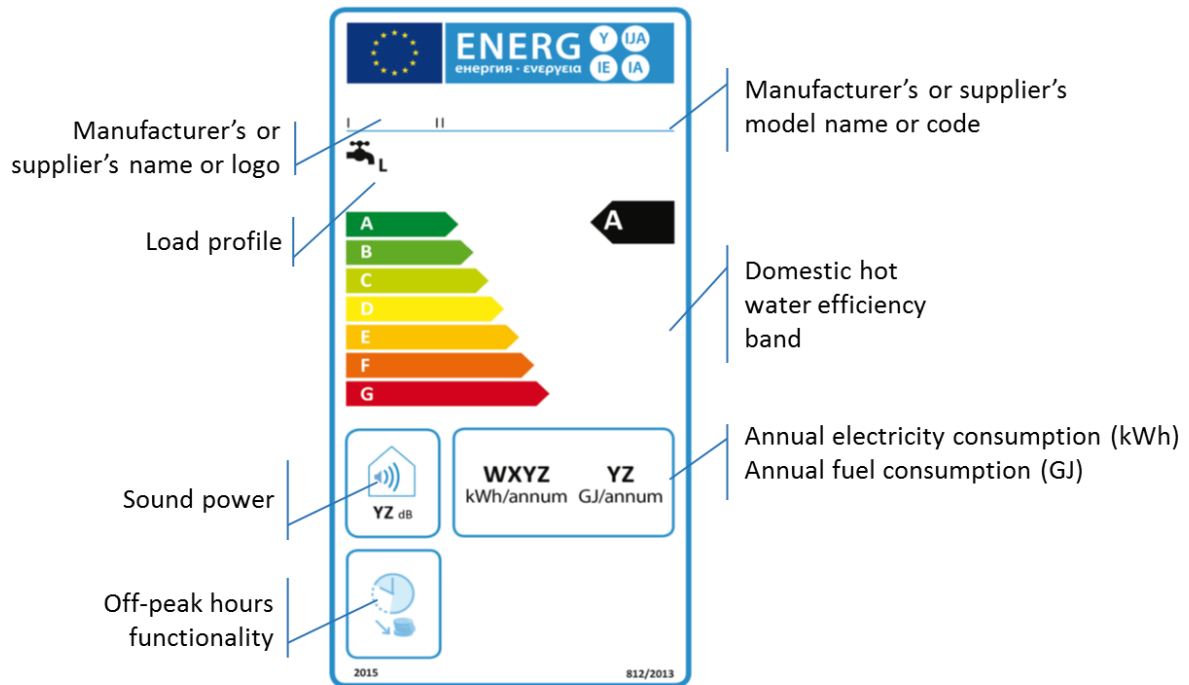


Figure 5 - Example of water heating label: Conventional water heaters in water heating energy efficiency classes A to G.

For packages an additional label should be issued identifying which appliances constitute the final solution. It's important to underline that this label does not replace the individual labels. For example, when installing a water heating system with a conventional water heater and a forced circulation solar thermal system, with a storage tank decoupled from the solar thermal collector, three labels must be issued: a label for the conventional water heating appliance, a label for the hot water storage tank and a label for the package of water heater and solar device. (See example in Figure 3)

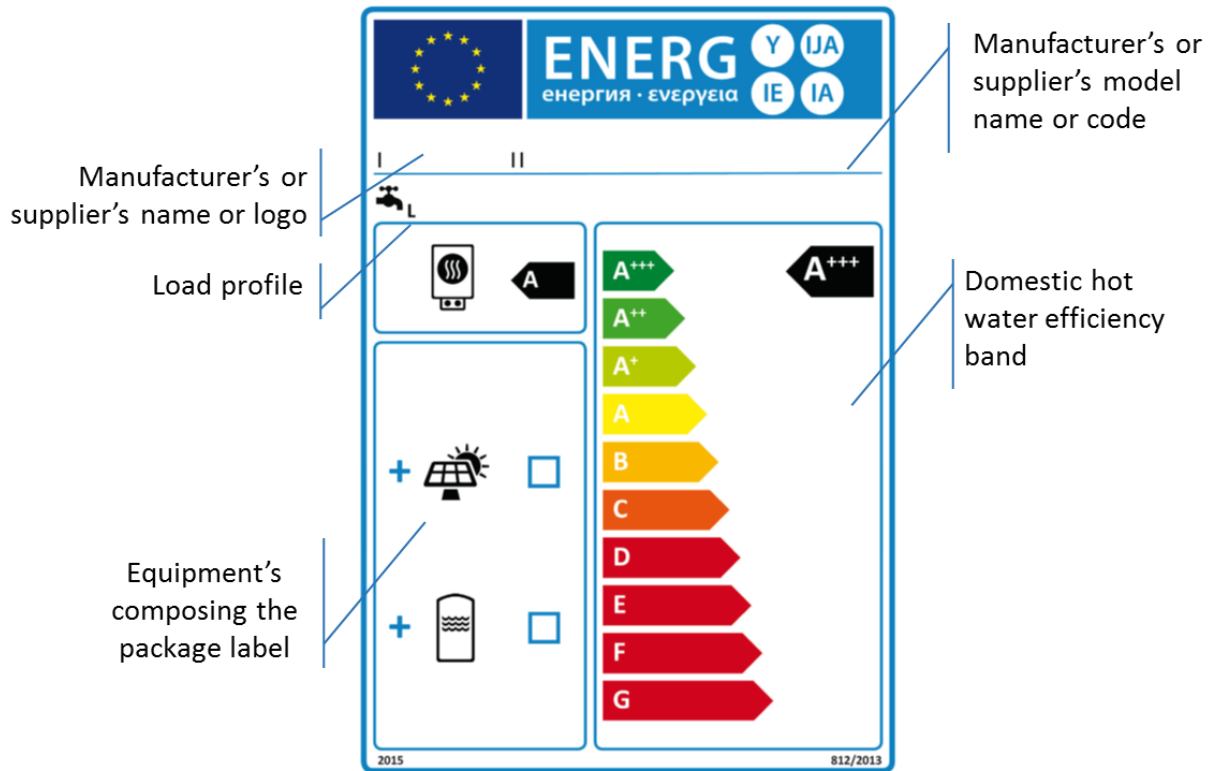


Figure 6 – Example of water heating label: Label for packages of water heater and solar device in water heating energy efficiency classes A +++ to G

7.2 Product Fiche

The product fiche contains detailed technical information on the appliance and it should be supplied with each appliance, included in the product brochure or other literature provided with the product.

Specific information according to the appliance type, namely load profile for which it was tested, heating energy efficiency, electricity consumption (when applicable), sound power L_{WA} indoors, standby power consumption, standing loss (for storage tanks) and indication of specific precautions that shall be taken when the appliance is assembled, installed or maintained are some of the information's listed in the product fiche.

The same product fiche may cover a wide number of appliance models provided by the same supplier.



PF-SWH

Product fiche

Group: Water heaters & storage tanks
Section: Solar devices
Reference: CDR 812/2013, annex IV, point 1

Date: 31/12/2013

1.1 (a) Suppliers name or trademark:				Informative section
				Load profiles: M L XL XXL Label classes: A B C D E F G
1.1 (b) Suppliers model identifier:				
Brand:	vAConsult			
Type:	Solar Water			
Model:	Mark IX			
Technical parameters:				
Description:	Symbol:	Value:	Unit:	
1.1 (c) Declared load profile:		L	- Annex VII, table 3	
1.1 (d) Water heating efficiency class (average climate):		0	- Annex II, point 1	
1.1 (e) Water heating energy efficiency (average climate):	$\eta_{wh} =$	163	% Annex VIII, point 3	
1.1 (f) Annual electricity consumption (average climate):	AEC =	25	kWh Annex VIII, point 4	
1/1 (g) not implemented				
1.1 (h) Thermostat temperature setting:		n.a.	°C	
1.1 (i) Sound power level:	Lwa =	15	dB Technical doc	
1.1 (j) Only off-peak hours operation:		n.a.	Yes/No	
1.1 (k) Special precautions:				
1.1 (l) Only applicable with smart control enabled:		n.a.	Yes/No	
1.1 (m) Water heating energy efficiency (colder climate):		149	% Annex VIII, point 3	
Water heating energy efficiency (warmer climate):		178	% Annex VIII, point 3	
Annual electricity consumption (colder climate):		28	kWh Annex VIII, point 4	
Annual electricity consumption (warmer climate):		23	kWh Annex VIII, point 4	
1.1 (o) Collector aperture area:	$A_{sol} =$	5.00	m ² Technical doc	
1.1 (p) Zero loss collector efficiency:	$\eta_0 =$	0.800	- Technical doc	
1.1 (q) First order heat loss coefficient:	$a_1 =$	3.50	W/(K.m ²) Technical doc	
1.1 (r) Second order heat loss coefficient:	$a_2 =$	0.000	W/(K ² .m ²) Technical doc	
1.1 (s) Incidence angle modifier:	IAM =	0.94	- Technical doc	
1.1 (t) Storage nominal volume:	V =	150	litres Technical doc	
Backup designated part of storage:	Vbu =	0	litres Technical doc	
1.1 (u) Pump power consumption:	solpump =	30	W Technical doc	
1.1 (v) Standby power consumption:	Solstandby =	5.00	W Technical doc	

Compliments: Solar Certification Fund (4C16-EcoDes-12)

vAConsult 2014

Figure 7 – Illustration of the product fiche of a solar water heater

(Source: "Ecodesign and the Energy label for solar thermal related products – Part 2., 2015, vAconsult)

A quick summary of the documents that apply to each system component is presented in Figure 8.

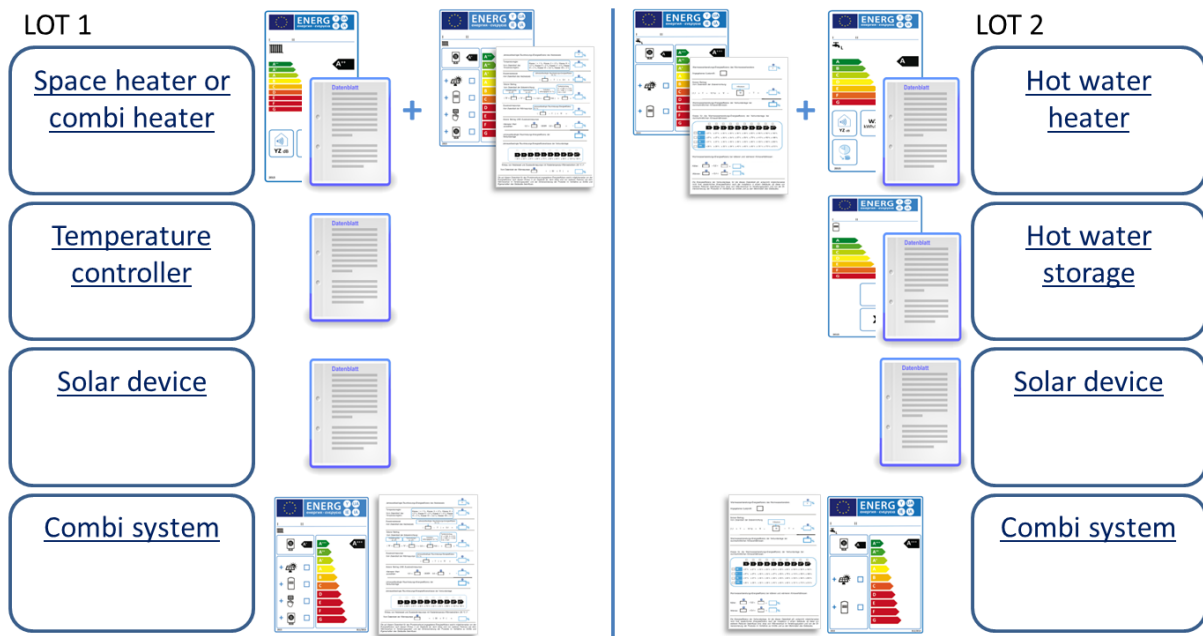


Figure 8 – Illustration of the product fiche of a solar water heater

7.3 Technical Documentation

The technical documentation is not a commercial document and is only to be made available upon request to the authorities of the Member States and to the European Commission.

The technical documentation details data such as references of the harmonized standards applied other technical standards and specifications used, and the results of measurements and calculations on specific technical parameters. Any specific precautions that shall be taken when the heating appliance is assembled installed or maintained is also to be stated in the technical documentation.



TD-SWH

Technical documentation

Group: Water heaters and hot water storage tanks
Section: [Solar] water heater
Reference: CDR 812/2013, annex V, point 1

Date: 31/12/2013

V.1(b) Description of the device:

Brand: vAconsult
Type: Solar Water
Model: Mark IX

Ref.	Description:	Symbol	Value	Unit	Determined according to:		
					Status ¹	Reference	
V.1(f)	From annex VII:						
VII.7(a)	Daily electricity consumption:	$Q_{el,d}$	0.100	kWh	HS	PUB 2014/C 207/03	
VII.7(b)	Declared load profile:	L	-	-		CDR 812/2013 annex VII, table 7	
VII.7(c)	Sound power level:		15	dB	Reg	Default. No moving parts	
VII.7(d)	Daily fuel consumption:	$Q_{fuel,d}$	6.000	kWh (GCV)	HS	PUB 2014/C 207/03	
VII.7(e)	Weekly fuel consumption:	$Q_{fuel,week}$	n.a.	kWh (GCV)	HS	PUB 2014/C 207/04	
VII.7(f)	Weekly electricity consumption:	$Q_{el,week}$	n.a.	kWh (GCV)	HS	PUB 2014/C 207/05	
VII.7(g)	Weekly fuel consumption:	$Q_{fuel,week}$	n.a.	kWh (GCV)	HS	PUB 2014/C 207/06	
VII.7(h)	Weekly electricity consumption:	$Q_{el,week}$	n.a.	kWh (GCV)	HS	PUB 2014/C 207/07	
VII.7(i)	Water heater eff. (nonsolar):	$\eta_{th,nonsol}$	0.90	-	HS	PUB 2014/C 207/07	
VII.7(j)	Collector aperture area:	A_{col}	5.00	m ²	HS	EN12975-2	
VII.7(k)	Zero loss collector efficiency:	η_{zlc}	0.800	%	HS	EN12975-2	
VII.7(l)	First order heat loss coefficient:	a_1	3.50	W/(K·m ²)	HS	EN12975-2	
VII.7(m)	Second order heat loss coefficient:	a_2	0.000	W/(K ² ·m ²)	HS	EN12975-2	
VII.7(n)	Incidence angle modifier:	IAM	0.94	-	HS	EN12975-2	
VII.7(o)	Storage nominal volume:	V	150	litres			
VII.7(p)	Backup designated part of storage:	V _{bu}	0	litres			
VII.7(q)	Pump power consumption:	solpump	30.00	W	Reg	PUB 2014/C 207/03, point 4.10	
VII.7(r)	Standby power consumption:	solstandby	5.00	W	?	Product specifications	
VII.7(s)	Annual auxiliary energy consumption:	Q_{aux}	103.8	kWh		Calculation	
V.1(g)	From annex VIII:						
			Average	Colder	Warmer		
VIII.2(a)	Water heating energy efficiency:	η_{th}	163	149	178	%	CDR 812/2013 annex VIII
VIII.2(b)	Annual electricity consumption:	AEC	25	28	23	kWh	CDR 812/2013 annex VIII
VIII.2(c)	Annual fuel consumption:	AFC	1511	1651	1382	kWh	CDR 812/2013 annex VIII
VIII.2(d)	Annual non solar heat contribution:	Q_{nsol}	1170	1300	1050	kWh	HS EN 12976

¹) HS= Harmonized standard. If not available, specify method according to PUB 2014/C 207/03 or 7/06 and specify subsection.

V.1(h) Precautions to be taken when assembling:

Supplier (name and address):

V.1(i) Empowered person:

Name:

Position:

Signature:

Compliance: Solar Certification Fund (4C E-BoxDes-Q)

vAConsult 2016

Figure 9 – Illustration of the technical document of a solar water heater

(Source: “Ecodesign and the Energy label for solar thermal related products – Part 2., 2015, vAconsult)

7.4 Detailed information

The detailed information package is a responsibility of the dealer and is to be provided to the consumers in the cases when they cannot be expected to see the product displayed. An example of such a situation is the presentation of equipment via catalogues or via advertising material, when the product is not physically accessible.

The information assembled is a compilation of the information displayed in the energy label and in the product fiche.



ANNEX VI

Information to be provided in cases where end-users cannot be expected to see the product displayed

1. WATER HEATERS

1.1. The information referred to in Article 4(1)(b) shall be provided in the following order:

- (a) the declared load profile, expressed by the appropriate letter and typical usage in accordance with Table 3 of Annex VII;
- (b) the water heating energy efficiency class of the model, under average climate conditions, in accordance with point 1 of Annex II;
- (c) the water heating energy efficiency in %, under average climate conditions, rounded to the nearest integer and calculated in accordance with point 3 of Annex VIII;
- (d) the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of GCV, under average climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VIII;
- (e) the sound power level, indoors, in dB, rounded to the nearest integer (for heat pump water heaters, if applicable);

in addition, for solar water heaters and heat pump water heaters:

- (f) the water heating energy efficiency in %, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 3 of Annex VIII;
- (g) the annual electricity consumption in kWh in terms of final energy and/or the annual fuel consumption in GJ in terms of GCV, under colder and warmer climate conditions, rounded to the nearest integer and calculated in accordance with point 4 of Annex VIII;

in addition, for solar water heaters:

- (h) the collector aperture area in m², to two decimal places;
- (i) the storage volume in litres, rounded to the nearest integer;

in addition, for heat pump water heaters:

- (j) the sound power level, outdoors, in dB, rounded to the nearest integer.

1.2. Where other information contained in the product fiche is also provided, it shall be in the form and order specified in point 1 of Annex IV.

1.3. The size and font in which the information referred in points 1.1 and 1.2 is printed or shown shall be legible.

Figure 10 – Example for a detailed information for water heaters.



7.5 Advertisement and promotional material

Any advertisement and technical promotional material should reference the equipment energy efficiency class.



Figure 11 – Example of a hot water storage tank with the energy label

This is particularly important as advertising and knowing the energy efficiency class of the products under consideration, is crucial in the decision-making process.

This also applies to web advertising and sales, where the energy class should also be displayed.

Gas Tankless Water Heaters

Highest performance, efficiency and flow rate

	Specifications
Condensing/Non-Condensing	Condensing
Application	Residential or Commercial
Max Input (BTU)	225,000
Max Input (BTU)	25,000
Capacity at 35°F (Min. gpm)	12.1
Capacity at 55°F (Min. gpm)	7.7
Indefinite/Continuous	Up to 24 Units
Min Flow Rate	0.5 GPM
Temp Range (°F)	100-140
Temp Stability (°F)	±1-2
Output Temp (°F)	122
Energy Factor	94%
Thermal Efficiency	94%
Installation Options	Indoor or Outdoor (for outdoor, 4-8 required)
Dimensions (or x h x d)	17 7/8" x 26 1/2" x 13 1/2"
Weight (lbs.)	74
Inlet Connection	1/2" NPT
Outlet Connection	1/2" NPT
Gas Inlet Connection	1/2" NPT

Figure 12 – Example of a water heater display online



8 Actors and Responsibilities

The heating solutions supply market involves several actors: the manufacturer, or supplier as defined in the legislation; the dealer or retailer who distributes the equipment's, the installer who can act as dealer and installer or exclusively as responsible for installing the heating solution at the end-consumer's residency and the end-consumer who assures that the heating equipment he has just acquired bears the energy label. Additional to this, the market chain can also integrate the system designer who is responsible for designing and conceiving the heating system, typically more complex systems, namely package systems. In this case, the system designer should also be aware of the energy labelling legislation and provide the most efficient solutions.

8.1 Actors

8.1.1 Supplier

Suppliers are understood as the one's responsible for the manufacturing of the product. According to the regulation "Supplier" means the manufacturer or its authorised representative in the Union or the importer who places or puts into service the product on the Union market."

Article 3 – **Responsibilities of suppliers** placing space heaters on the market and or putting them into service, including those integrated in packages of space heater, temperature control and solar device, shall ensure that each piece of equipment is provided with:

- (a) a printed label
- (b) a product fiche
- (c) the technical documentation
- (d) advertisement includes a reference to the seasonal space heating energy efficiency class
- (e) technical promotional material includes a reference to the seasonal space heating energy efficiency

The supplier must present all the documentation regarding each individual piece of equipment. If it is the case when the supplier is also offering a pre-assembled heating package solution, it is the supplier's responsibility to also ensure the calculation and presentation of the package's energy label, which provides the combined energy efficiency rating.

8.1.2 Dealer

The dealer should ensure that individual equipment and pre-assembled packages are displayed for sale bearing the energy label, and that the advertising complies with the guidelines defined in the legislation. If the dealer is to propose a custom-made package to the customer, he is responsible for issuing the package label. In any of the cases, he must assure that the end-user receives all the documentation regarding the energy efficiency and technical characteristics of the individual heating equipment.

8.1.3 System Designer

In more complex heating systems designers may be contracted to outline the system, assuring the compatibility between the buildings heating needs and the most adequate solutions. The system designer does not have a direct responsibility in the labelling provision but, can be an important player in the global chain, namely in the definition of the guidelines for the procurement process, identifying in the procurement technical documents the requirements to be met by the equipment's, namely the energy class. To this, the system designer should simulate, in the project definition stage, the energy class of the heating system and



present this energy label simulation to the customer as part of the system's technical project. This information is to be delivered to the installer, who installs the system and issues the final energy label. This provision of an energy class simulation by the system designer is essential to make the customer aware of the proposed system's energy class and prevent any discontents with this regard after the system is installed.

8.1.4 Installer

The new Energy Label will be supplied with each individual and pre-assembled package heating system by the manufacturer.

It will be the installer's responsibility to ensure that the customer has received the energy label, and additional documentation of the heating appliance, at the point of sale.

8.1.5 Installer Integrator

If the heating system contains different products, whoever is responsible for the packaging, is responsible for providing a package label when combining a heating appliance with a temperature control and/or solar device, hot water storage tank or a supplementary heating appliance.

The professional who puts the package together is the one responsible for producing a package label. That package label will need to provide the combined energy efficiency rating of the whole system rather than only the ratings of each individual component. This could be the manufacturers' responsibility if they supply a pre-assembled package, **or the installer's if the items are bought individually, as separate parts, and the installer is the system integrator**. If this is the case, the installer is responsible for calculating the overall package efficiency, this information must be recorded, regarding each product on a document known as a fiche and systematized in the energy label that provides the combined energy efficiency rating.

8.1.6 End-user

The end user should be aware for the correct presentation of the energy labelling and correspondent documentation. He should require the presentation of the energy label, being aware of the additional labels if a package is provided, and inquire the commercial responsible for the sale if the documentation is not available. In case of doubt the consumer can contact the consumer protection agencies and/or report to the market surveillance authorities in case of detecting non-compliance.

8.2 The market chain

The market chain in the supply of heating solutions can be presented in two distinct models:

- Individual equipment or standardized combined packages
- Custom-made packages

In the first solution, the energy label, and all the additional documentation are a responsibility of the manufacturer. The manufacturer is responsible for providing all the technical information, all the documents presented in detail in chapter 7, regarding individual equipment and complete package, to the dealer, be it a commercial dealer or an installer integrator. The dealer or installer integrator, the one making the sale to the final customer is responsible for providing the documentation to the end-consumer. Recall that in the case of standardized or custom-made packages, the end-user should receive the energy labels from the individual equipment and the label for the package.



When the dealer is the one making the sale, the installation is usually contracted by the dealer itself, or the dealer suggests a network of installers with whom it usually works and that offer guarantees to the good installation of the heating equipment.

In the second solution, of custom-made packages, several situations can occur:

- The dealer assembles a custom-made package;
- The installer integrator assembles a custom-made package;
- The dealer or the installer propose changes to a standardized package;
- The heating systems are designed by a system designer.

The **dealer assembles a custom-made package** and, as so, is responsible for providing the package label, beyond the individual documentation each piece of equipment must carry. In this case the installer has no responsibility regarding the emission of the package energy label.

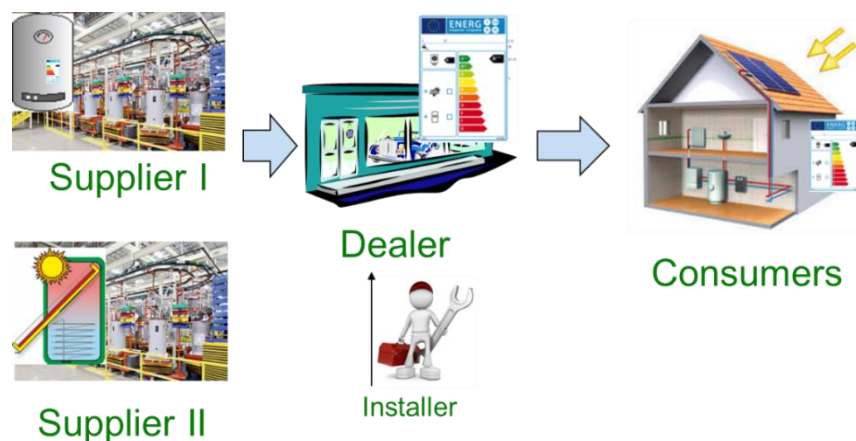


Figure 13 - Supply chain when the dealer is responsible for the custom-made package

When the **installer acts as a dealer and offers a custom-made package** he is the one responsible for providing the package documentation, namely the package energy label.

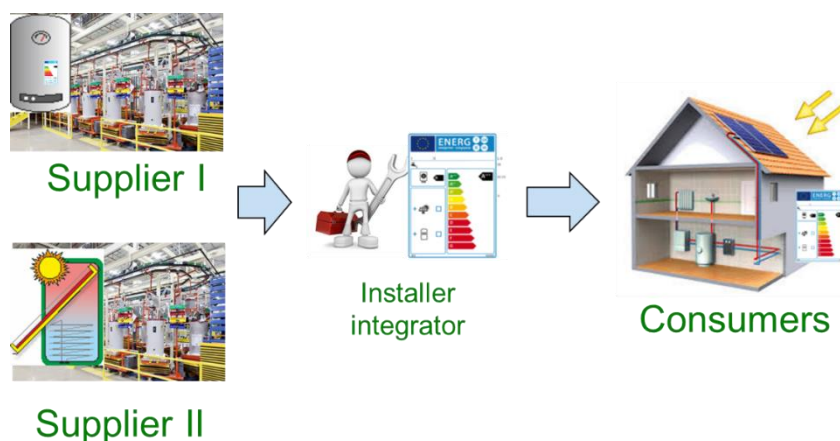


Figure 14 - Supply chain when the installer integrator is responsible for the custom-made package



There's a third possibility, when the dealer or installer proposes additional or changes equipment to a standardized package, for example a more intelligent controller, a second hot water storage tank, among other possibilities, and, in this case, the installer should issue a new label for the final solution installed.

The expectancy is that the manufacturers will most likely provide all kinds of pre-assembled packages to prevent this kind of situations.

In the event of a more complex package system, designed by a system designer, and although the package labelling is not the designer's responsibility, he should, as a good practice and to make the client aware, simulate the expected energy efficiency class of the system. As a requisite, this expected energy class should be presented in the procurement process and validated by the final dealer or installer of the solution, according to whom the labelling issuing responsibility stands.

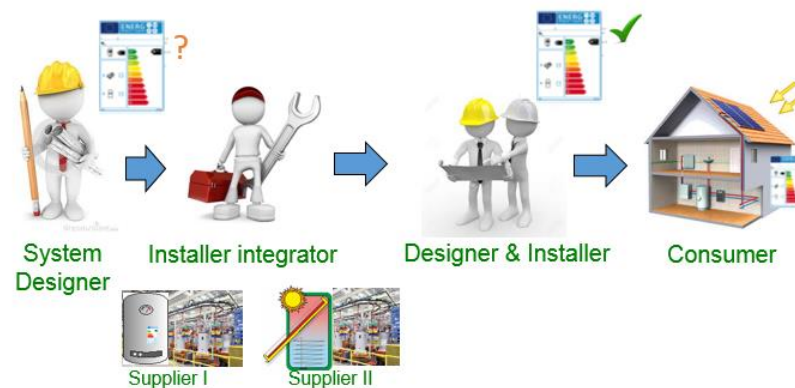


Figure 15 - Supply chain when the system designer is responsible for the heating package solution.

8.3 Market Surveillance authorities

Market surveillance authorities are responsible for economic surveillance activities, monitoring the enforcement of the regulation and preventing the misappropriation of legal acts.

Surveillance authorities are mandated to operate in public spaces, public commercial spheres where economic transactions take place. Regarding the energy labelling of equipment's, the main task of the surveillance entities is to assure the presence of the energy label in the equipment at the moment of sale, verifying also the format of the label, to assure that the right label is provided to the final consumer.

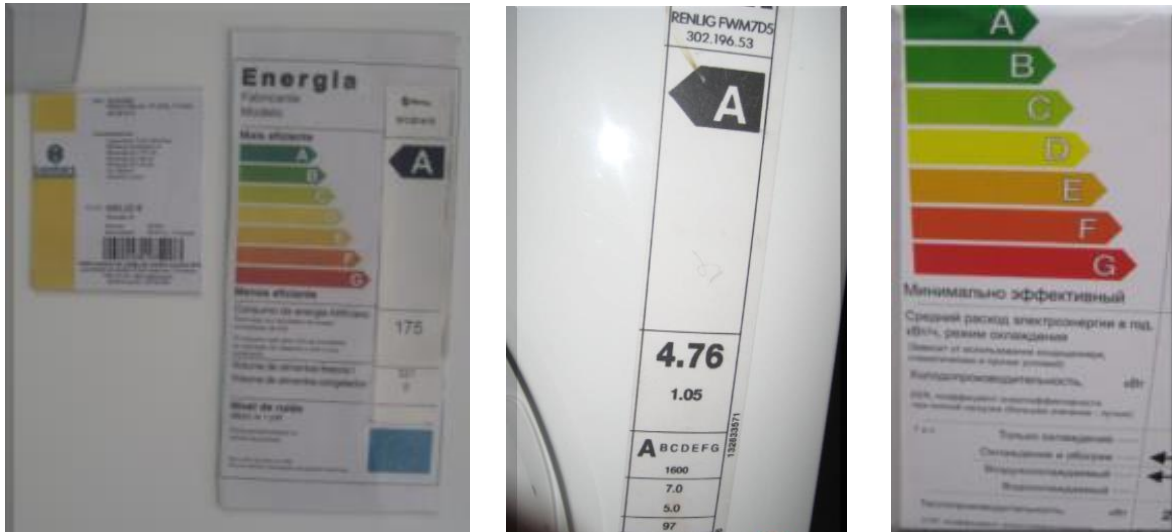


Figure 16 – Examples of non-complying energy labels (first and second figures: the energy class and the energy consumption data are not embedded in the same label, as a second tape is added; third figure: the label format is incorrect and is not presented in the country's national language)

Regarding the package label, market surveillance authorities can only access and verify the compliance with the legal requirements, namely in terms of the energy labelling displaying in complete packages available in the market. The process to verify the compliance with the directive in the cases where the installer is the system integrator, assembling the system in the final consumer's house, are still unclear, as the surveillance entities do not have a direct way to validate if the consumer was informed of the package's energy class and if the customer received all the compulsory documentation.

Some measures could be implemented to facilitate the market surveillance activity in this task, namely:

- collaboration with national installer associations and local authorities, especially with regard to the implementation of the package label;
- manufacturers could support the authorities with product related information, namely uploaded in the Label Pack A+ platform;
- when inspecting the installer integrator activity, the market surveillance authority can request a copy of the energy labels issued according to the sales registry;

Either way, the final consumer's awareness for the package label is essential and in the act of non-compliance the final user can complain to the market surveillance authority. In this sense, the creation of focus groups and the interaction with consumers associations is extremely important.

8.3.1 ICSMS

The ICSMS - internet-supported information and communication system for the pan-European market surveillance, creates the basis for an effective and efficient cooperation between the market surveillance bodies in Europe.



Supported by the internet, it enables a comprehensive exchange of information between all the market surveillance bodies⁷. This platform can be an important tool for the exchange of experiences regarding the surveillance of the package label.

8.4 Relevant Stakeholders

Industry Associations – are essential actors to promote the direct contact with the manufacturers. Manufacturers are an essential link as they possess all the information regarding the equipment and should be called to cooperate with the Label Pack A+ project, namely uploading product information in the platform for the emission of package labels in the case of custom made packages, and access to pre-defined labels.

Installers Associations – Installers are the central figure of this legislation. Installers associations are essential in the validation of contents for the training activities and in the contacts with installers to disseminate the training sessions and foster partnerships with relevant events and other initiatives.

Training Centres – several training centres offer training courses for the installation of heating equipment, namely for the installation of solar thermal systems. These training centres are a crucial contact point with installers, new to the heating market, who should receive, at the earliest stage of their entering in the market, information on the energy label, and in particular the package label. Synergies can be built with these entities to provide training in loco, based on the materials developed within Label Pack A+.

Consumer Protection Entities – consumer protection entities are key partners in the contact with the end-consumer, providing information on new legislation and offering support to clarify issues addressing the market and receiving complaints on the market activity. The Label Pack A+ consortium can benefit largely from the contact with these entities, providing training to the actors in direct contact with the consumers and receiving information on non-compliance activities, identifying key areas for additional action.

Market surveillance entities – the relation with market surveillance authorities is a synergetic one. The Label Pack A+ consortium can provide information, namely via the database platform, and training to the technicians operating on the field. The market surveillance authorities' procedures for evaluating compliance with the delegated acts 811/2013 and 812/2013, can also be designed with the contribution of the Label Pack A+ consortium, since the custom-made systems package label can be difficult to access.

⁷ <https://webgate.ec.europa.eu/icsms>



ANNEX I – Terminologies by Country

EN	PT	DE	IT	FR
Solar collector - means a device designed to absorb global solar irradiance and to transfer the heat energy so produced to a fluid passing through it; (811)	Coletor solar - um dispositivo concebido para absorver a radiação solar global e transferir a energia térmica assim produzida para um fluido que passa através dele;	„Sonnenkollektor“ bezeichnet eine Vorrichtung, die dazu ausgelegt ist, Gesamtsonneneinstrahlung zu absorbieren und die so erzeugte Wärmeenergie an ein durch den Kollektor strömendes Fluid weiterzugeben	Collettore solare - un dispositivo progettato per assorbire l'irraggiamento solare globale e trasferire l'energia calorifica così prodotta verso un fluido vettore;	Capteur solaire - un dispositif conçu pour absorber l'irradiation solaire globale et transférer l'énergie thermique ainsi produite à un fluide qui le traverse
Solar device - means a solar-only system, a solar collector, a solar hot water storage tank or a pump in the collector loop, which are placed on the market separately; (811&812)	Dispositivo solar - um sistema exclusivamente solar, um coletor solar, um reservatório de água quente solar ou uma bomba no circuito do coletor, comercializados separadamente	„Solareinrichtung“ bezeichnet eine reine Solaranlage, einen Sonnenkollektor, einen solarbetriebenen Warmwasserspeicher oder eine Pumpe im Kollektorkreislauf, welche separat in Verkehr gebracht werden	Dispositivo solare - un sistema esclusivamente solare, un collettore solare, un serbatoio per l'acqua calda di origine solare o una pompa del circuito del collettore, ciascuno commercializzato separatamente	Dispositif solaire - un système tout solaire, un capteur solaire, un ballon d'eau chaude solaire ou une pompe de boucle de captage, qui sont mis sur le marché séparément
Solar water heater - means a water heater equipped with one or more solar collectors, solar hot water storage tanks, heat generators and possibly pumps in the collector loop and other parts, a solar water heater is placed on the market as one unit;	Aquecedor de água solar - um aquecedor de água equipado com um ou vários coletores solares, reservatórios de água quente solares, geradores de calor e, eventualmente, bombas de calor no circuito dos coletores e outros componentes; um aquecedor de água solar é colocado no	„solarbetriebener Warmwasserbereiter“ bezeichnet einen Warmwasserbereiter, der mit einem oder mehreren Sonnenkollektoren, solarbetriebenen Warmwasserspeichern, Wärmezeugern und möglicherweise Pumpen im Kollektorkreislauf sowie mit sonstigen Bauteilen ausgestattet ist; solarbetriebene Warmwasserbereiter	Scaldacqua solare - uno scaldacqua munito di uno o più collettori solari, serbatoi per l'acqua calda di origine solare, generatori di calore ed eventuali pompe nel circuito del collettore nonché altre parti; uno scaldacqua solare è commercializzato	Chauffe-eau solaire - un chauffe-eau équipé d'un ou de plusieurs capteurs solaires, ballons d'eau chaude solaires, générateurs de chaleur et éventuellement pompes de la boucle de captage et d'autres éléments; un chauffe-eau solaire est mis sur le marché en tant que



	mercado como uma só unidade;	werden als Einheit in Verkehr gebracht;	come unità a sé stante	produit unitaire (812)
Solar only systems - means a device that is equipped with one or more solar collectors and solar hot water storage tanks and possibly pumps in the collector loop and other parts, which is placed on the market as one unit and is not equipped with any heat generator except possibly one or more back-up immersion heaters; (811&812)	Sistema exclusivamente solar - um dispositivo equipado com um ou mais coletores solares e reservatórios de água quente solares e, eventualmente, bombas no circuito dos coletores e noutros componentes, que é comercializado como uma só unidade e não está equipado com geradores de calor, com a eventual exceção de um ou mais aquecedores de imersão auxiliares;	„reine Solaranlage“ bezeichnet eine Vorrichtung, die mit einem oder mehreren Sonnenkollektoren und solarbetriebenen Warmwasserspeichern sowie möglicherweise mit Pumpen im Kollektorkreislauf und sonstigen Bauteilen ausgestattet ist, auf dem Markt als ein Gerät bereitgestellt wird und mit keiner Wärmequelle außer eventuell einem oder mehreren Hilfs-Tauchheizelementen ausgestattet ist;	Sistema esclusivamente solare - un dispositivo munito di uno o più collettori solari e serbatoi per l'acqua calda da energia solare ed eventuali pompe del circuito del collettore nonché altre parti, commercializzato come singola unità e privo di generatori di calore, fatta eventualmente eccezione per uno o più elementi riscaldanti ausiliari a immersione;	Système tout solaire - un dispositif comprenant un ou plusieurs capteurs solaires et ballons d'eau chaude solaires ainsi que, éventuellement, des pompes de boucle de captage et d'autres éléments, qui est mis sur le marché sous forme unitaire et n'est pas équipé de générateur de chaleur, à l'exception éventuelle d'un ou plusieurs thermoplongeurs de secours (811 & 812)
Package of water heater and solar device - means a package offered to the end-user containing one or more water heaters and one or more solar devices; (812)	Sistema misto de aquecedor de água e dispositivo solar - um sistema misto oferecido ao utilizador final que contém um ou mais aquecedores de água e um ou mais dispositivos solares;	„Verbundanlage aus Warmwasserbereiter n und Solareinrichtungen“ bezeichnet eine für den Endnutzer erhältliche Verbundanlage aus einem oder mehreren Warmwasserbereitern und einer oder mehreren Solareinrichtungen;	Insieme di scaldacqua e dispositivo solare - un insieme proposto all'utilizzatore finale contenente uno o più scaldacqua e uno o più dispositivi solari	Produit combiné constitué d'un chauffe-eau et d'un dispositif solaire - une combinaison proposée à l'utilisateur final contenant un ou plusieurs chauffe-eau et un ou plusieurs dispositifs solaires (812)



ANNEX II –Solar Thermal related Standards

List of main solar thermal related standards (as of April 2018):

- EN 12975-1:2006+A1:2010: Thermal solar systems and components - Solar collectors - Part 1: General requirements; Published 2010-10-20
- EN 12976-1:2017: Thermal solar systems and components - Factory made systems - Part 1: General requirements; Published 2017-01-25
- EN 12976-2:2017: Thermal solar systems and components - Factory made systems - Part 2: Test methods; Published 2017-01-25
- EN 12977-1:2018: Thermal solar systems and components - Custom built systems - Part 1: General requirements for solar water heaters and combisystems; Published 2018-04-04
- EN 12977-2:2018: Thermal solar systems and components - Custom built systems - Part 2: Test methods for solar water heaters and combisystems; Published 2018-04-04
- EN 12977-3:2018: Thermal solar systems and components - Custom built systems - Part 3: Performance test methods for solar water heater stores; ; Published 2018-04-04
- EN 12977-4:2018: Thermal solar systems and components - Custom built systems - Part 4: Performance test methods for solar combistores; Published 2018-04-11
- EN 12977-5:2018: Thermal solar systems and components - Custom built systems - Part 5: Performance test methods for control equipment; Published 2018-04-04
- EN ISO 22975-1:2016: Solar energy - Collector components and materials - Part 1: Evacuated tubes - Durability and performance (ISO 22975-1:2016) ; Published 2016-10-26
- EN ISO 22975-2:2016: Solar energy - Collector components and materials - Part 2: Heat-pipes for solar thermal application - Durability and performance (ISO 22975-2:2016); Published 2016-10-26
- EN ISO 22975-3:2014: Solar energy - Collector components and materials - Part 3: Absorber surface durability (ISO 22975-3:2014); Published 2014-07-02
- EN ISO 9488:1999: Solar energy - Vocabulary (ISO 9488:1999) ; Published 1999-10-01
- EN ISO 9806:2017: Solar energy - Solar thermal collectors - Test methods (ISO 9806:2017); Published 2017-11-15
- EN 15316-4-3:2017: Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-3: Heat generation systems, thermal solar and photovoltaic systems, Module M3-8-3, M8-8-3, M11-8-3; Published 2017-05-03



ANNEX III – Frequently Asked Questions



“Common understanding
of the heating energy
labelling concept,

**FAQs: Frequently
Asked Questions”**

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649905



PUBLICATION DATA

Title: Label Pack A+ - “Common understanding of the heating energy labelling concept, FAQs”

Date of publication: Brussels, February 2017, final version April 2018

Authors (project leader): ESTIF – European Solar Thermal Industry Federation

Available at: www.label-pack-a-plus.eu/



CONTENTS

FAQs – Frequently Asked Questions	6
1 GENERAL CONTEXT	6
1.1 What is the energy labelling context?	6
1.2 What is the energy labelling?	6
1.3 How to read the energy label?	6
1.4 How much more efficient an A++ or an A+ product or package is than an A one? (in other words: A is already very good, why should I choose a A+ or A++?)	7
2 THE HEATING ENERGY LABEL.....	8
2.1 When did the heating energy labelling regulation enter in force?	8
2.2 Which heating equipment's are labelled?	8
2.3 What change will come concerning boiler classes?	8
2.4 Is there any labelling provided for heating systems based on pellets or generally biomass?	8
2.5 What is the heating package label?	8
2.6 How is the heating energy labelling processed?	9
2.7 Which data influences the energy class of the package label of combined systems?	9
2.8 Are district heating plants affected by the energy labelling?	9
2.9 What is the range of energy efficiency classes associated to solar thermal labels?	9
2.10 What is the energy label's added value for the end-user?	9
2.11 Can suppliers and dealers support installers concerning the calculation of package labels? ..	9
2.12 If an installer combines a package within the scope of the regulation at the customer's site, possibly with parts from different suppliers/dealers? Is the installer then to be seen as a supplier who has an obligation to make a package label for the combination installed? The regulation does not mention installers and the role of installers.....	9
2.13 What is the energy label's added value for the heating industry?	10
2.14 Is the energy labelling a risk or an opportunity for the solar thermal industry?	10
2.15 What is the energy label's added value for the solar industry?	10
2.16 Can I estimate the savings of a new system based on the energy label?	10
2.17 Are photovoltaic systems affected by the Energy Labelling or Eco Design guidelines?	11
2.18 Is the energy efficiency class of the heating energy labels to be rescaled?	11
2.19 I need more information on the heating energy label. Who can provide?	11
3 LABELLING AND PRODUCT FICHES	12
LABELS.....	12
3.1 Where should the heating energy label be available?	12
3.2 Should the energy label be displayed in the heater itself or is it enough to mention the energy efficiency class in the technical documents?	12
3.3 Who is responsible for issuing and making available the product label?	12
3.4 Which components of the heating package are labelled?	12
3.5 Who is responsible for incorrect labelling?	12
3.6 Where are the label design requirements stated?	12
3.7 Must the energy label be available in advertising materials as prize lists, product fiches, websites, etc.? ..	13
3.8 Who is responsible for issuing the package label?	13
3.9 Which heating systems are labelled with the package label? Does the package label apply exclusively to systems with solar thermal systems?	13
3.10 Who is responsible for making the package label available to the consumer?	13
3.11 How should the solar thermal system information be made available for the consideration in packages?	13
3.12 Is the package label the only label to present when commercializing a heating package? ...	13



3.13	How is the information concerning the data of the components necessary for calculating the package label provided to the installer?	14
3.14	Which tools for calculating the package label are available?	14
3.15	Should the package label be printed or is handwriting possible?	14
3.16	When substituting a component or upgrading an existing heating system is the package label required?	14
3.17	Are freshwater stations labelled too? Is it considered a single component within the package labelling?	14
3.18	Can energy labelling calculations be used as examples in advertising, underlining the influence of the various criteria, e.g. heater profile, components used, in the package class?	14
	PRODUCT FICHES	15
3.19	Where is the information concerning the package fiche for calculation of the package label provided?	15
3.20	Are there free product databases (solar thermal collectors, boilers, tanks, etc.) displaying the required information for calculating the package label?	15
3.21	Are suppliers compelled to provide the dealers all the technical data of a product?	15
3.22	Who is responsible for providing the product and package fiches in a heating package compiled by an installer?	15
3.23	When should the installer provide the product and package fiches? Is it possible to provide them only upon the authorities' request?	15
4	DEVICES AND COMPONENTS	16
	SOLAR THERMAL COLLECTORS	16
4.1	Which information, concerning the solar thermal collectors, should the manufacturer provide to enable the calculation of the package labelling? Is the collector efficiency enough?	16
4.2	Which data concerning temperature controls has to be included in the product fiche?	17
4.3	Are there minimum performance standards concerning the energy efficiency output of solar thermal collectors for the energy labelling?	17
4.4	Are solar thermal collectors' product fiches compulsory for all the solar collectors in the market, or only for those integrating a heating package?	17
4.5	The overall solar thermal collector surface is considered in the calculation of the water heating system (SOLCAL) as well as in the calculation of the space heating system. Is that correct?	17
4.6	Does the EN 12975-2 norm for certified collectors require separate documentation of data concerning the solar collector performance in different climate zones?	17
4.7	Regarding the solar thermal collector aperture area, how many decimal places should be presented?	18
4.8	Are PVT-collectors considered within the energy labelling?	18
4.9	Are there any restrictions concerning the source of the solar thermal collector certification within the guidelines of the energy labelling?	18
	BOILERS	18
4.10	Is the labelling provided for tap water boilers and for supplementary boilers as well?	18
4.11	Are boilers with a storage volume of more than 500 litres considered in the package label calculation?	18
4.12	Does a solar thermal heating system with two or more e.g., 1.500 litres boilers connected in series require a package label?	18
4.13	Does a boiler with a volume of more than 2.000 litres require a package label?	18
4.14	Calculating the package label of a combination system: has the hot water production and the space heating energy production of a multi boiler to be presented separately?	18
4.15	How to calculate supplementary boilers with an integrated hot water storage tank or supplementary boilers with coiled tube exchanger? Which is the volume data needed for calculation?	



4.16	Should a 1000-litres-multi-boiler, as a part of a heating and hot water producing package, considered into the labelling calculation? How to deal with the different volumes?	19
STORAGE TANKS		19
4.17	Should a fireplace with an integrated water tank, as a part of a combined system, be referred to in the package energy class calculation?	19
4.18	Are there any exclusions concerning standards for hot water storage tanks mentioned in the draft of the EN 12977, EN 12897, EN 15332?	19
4.19	How to deal with storage tanks with integrated heating energy producers? Does the measurement procedure refer to the storage tank and the heating device as a whole unit? Or has the measurement of the boiler and the heating device to be made separately?	19
4.20	How to deal with combined systems for space and water heating which include a supplementary storage tank (with internal coiled tube for hot water production) with a volume of more than 500 litres? Should the energy efficiency class only report to the space heating function, or has the water heating function to be considered as well?	19
4.21	How to deal with multi storage tanks, e.g. 200 litres fresh water and 550 litres supplementary storage? Does a supplementary storage tank need a labelling?	20
4.22	Do solar hot water storage tanks (solar devices designed to be connected to solar collectors) have to comply with ErP requirements and to be labelled as hot water storage tanks?	20
4.23	Is it mandatory to label a solar natural circulation system as a hot water storage tank?	20
THERMOSIPHON-SYSTEMS		20
4.24	How are thermosiphon systems dealt with in the directive of energy related products (ErP)?	20
4.25	Are thermosiphon – solar driven warm water producers labelled with the product label, the package label or both?	20
HEAT GENERATING COMPONENTS		21
4.26	What are the rounding rules for the performance figures of heat pumps?	21
4.27	Has a heating cartridge or a single glow bar to be labelled as a heat generator? Is the market release of heating cartridges or single glow bars with efficiency of 40% or less possible?	21
4.28	How to calculate the annual energy consumption of a heat producer (except heat pumps)?	21
4.29	Is the maximum heat nominal capacity P_{rated} , the correct data to use in a modulating boiler concerning a combined system for space and water heating including solar heat for calculating the solar output?	21
4.30	How to calculate η_{wh} if there is no information concerning boiler data?	22
CONTROLLERS		22
4.31	How to consider a system with more than one temperature controller? E.g. concerning tele monitoring or space sensors with operating units?	22
4.32	How is the contribution of a heat sensor concerning the seasonal efficiency of the space heater defined?	22
5	CHARACTERISTIC VALUES AND GUIDELINES FOR CALCULATION	23
5.1	Shall the heat losses of the distribution pipes be considered?	23
5.2	Has the focus of the tapping profile to be laid on the possible maximum output of the system or on the needs of the consumer?	23
5.3	In the water heating package which load profile has to be used? The one indicated in the conventional hot water heater, or does it depend on the installer's decision?	23
5.4	How to label a water heater with a rated heat output < 70 kW, declared ErP compliant according to load profile 4XL (Reg. 814/2013). Is it correct to label this appliance using load profile 2XL (the highest one given by the Labelling regulation 812/2013)?	23
5.5	Are boiler or heat pump manufacturers able to provide the required technical specifications without any knowledge about the future heating package?	24



5.6	Does SOLCAL as a calculation tool provide the data needed for setting the efficiency of a solar driven warm water producer with an electrically driven supporting heater? Or are system tests required?	24
5.7	In the SOLCAL methodology, in situations that we have a modelling pump, which is the pump power, Solpump to consider? The maximum power?	24
5.8	In SOLCAL, the heat losses coefficient of the storage tank (psbsol) is required (in W/K). In the product fiche of the storage, I just find the heat losses (in W). How can I calculate the coefficient? ...	24
5.9	In the case when selecting a heat pump to what corresponds the “Seasonal space heating energy efficiency of heat pump (in %)”? Is it to the average climate conditions? Since that the upcoming information regards colder and warmer climates this would be the missing one no?	24
5.10	In a package system, consisting of a preferential heater and a thermosiphon system does the user acknowledge the existence of a storage tank?	24
5.11	How to deal with packages of a space heater or a solid fuel boiler, temperature control and solar device made with storage tanks larger than 500 l?	24
6	MARKET SURVEILLANCE	25
6.1	Will the market still offer unlabelled heating products or systems?	25
6.2	Can the end consumer be held accountable for installing unlabelled products?	25
6.3	Who is responsible for assuring that only labelled products are installed?	25
6.4	Is the labelling process reliable? Is somebody checking the labels?	25
6.5	What are the fees imposed to the professionals that do not comply with the labelling regulation and do not present the product and/or system label to the consumer?	25



FAQs – Frequently Asked Questions

Providing standardized answers to the market actors to assure that everyone communicates in a harmonized way.

1 GENERAL CONTEXT

1.1 What is the energy labelling context?

The European Commission launched in 1992 the first Council Directive 92/75/EEC of 22th September 1992 on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances. Since then, this framework suffered several changes and a new Directive was published in 2010, the Energy Labelling Directive, 2010/30/EU, on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products. The goal is to drive improvements in the efficiency and performance of energy consuming products and ensure that end users are aware of the level of energy efficiency inherent to their appliances. As such, the Directive will help European governments reduce carbon emissions and improve the overall efficiency of the housing stock, while helping homeowners to reduce their energy bills.

1.2 What is the energy labelling?

Energy labelling is the categorization of a product according to its energy consumption during the operation stage. The energy labelling is recognized by the application of a label, with which we are already familiar for its application in refrigerators, washing machines and other domestic appliances at the point of sale. The label introduces uniformed information regarding products of the same type, providing potential purchasers with supplementary standardised information on those products' costs in terms of energy consumption.

1.3 How to read the energy label?

The energy label provides information on the equipment's supplier and the model. Regarding energy the label presents an energy class chart, from G to A, where A identifies the most energy efficient equipment, meaning with the lowest energy consumption during use, and G represents the most inefficient product, with the highest energy consumption during use.

The general chart presents 8 classes. Nevertheless, there are some product classes up to A+++, with a total number of 10 classes, depending on the sectors dynamic in enrolling in the deployment of more efficient products. This evolution in energy efficiency is gradually recognized and prompt by the European Commission.

Regarding space and combi heating equipment until the 25th of September 2017 the energy label presents 9 classes, from G to A++. From the 26th of September 2017 onwards, the label will present 7 classes from D to A+++.

For water heating equipment until the 25th of September 2017 the energy label presents 8 classes, from G to A, while after this date, the label will suffer a revision with classes from F to A+, being F the lowest class.



Note that information on energy use during manufacturing and regarding the product disposal at the end of life is not presented.

1.4 How much more efficient an A++ or an A+ product or package is than an A one? (in other words: A is already very good, why should I choose a A+ or A++?)

Recent research in the field of household refrigerators identified a common perception that an A+++ -label is only marginally better than an A-label. However, this is not the case, as an A-label refrigerator can consume up to over 50% to 60% three times as much electricity as an A+++ -class.

This order of magnitude of difference between a common and the highest label class is also the case for solar thermal products



2 THE HEATING ENERGY LABEL

2.1 When did the heating energy labelling regulation enter in force?

The eco-design and energy labelling regulations for space heaters and water heaters were published in 2013, in line with the European Commission Energy Labelling Directive, 2010/30/EU.

2.2 Which heating equipment's are labelled?

The energy labelling regulations, delegated regulations n. ° 811/2013 and n. ° 812/2013, introduce Europe-wide energy labelling requirements respectively for space and water heaters. The products considered are boilers, combination boilers, heat pumps, cogeneration heaters, gas and electric water heaters, solar thermal heaters (thermosiphon with integrated electrical resistance) and other heating products up to 70kW and hot water storage tanks below 500 litres.

Excluded from the heating energy labelling are plants for cogeneration, biogas and biomass plants and plants based on solid fuels, as referred to in detail in the Delegated Regulations n. ° 811/2013 and n. ° 813/2013.

2.3 What change will come concerning boiler classes?

The classification of boilers within the range of A to G is used from September 26th, 2015 until September 26th, 2017. From then on, only classes A+ to F are allowed on the market.

2.4 Is there any labelling provided for heating systems based on pellets or generally biomass?

Not yet. A new delegated regulation, 2015/1187 has already been published but the energy labelling of solid fuel boilers and packages of a solid fuel boiler, supplementary heaters, temperature controls and solar devices will only enter in force in April 2017.

2.5 What is the heating package label?

Package is a system that is offered to the end-user combining one or more heaters (water, space or combi) with one or more temperature controls (in the case of space and combi packages) and one or more solar devices. The packages can be standard, a system pre-assembled by the supplier constituted by a set of products from the same brand, or it can be a custom-made package, a package of products locally assembled by the dealer or installer, who combines a set of products (not necessarily with the same brand) commercialized by the dealer and assembled at the moment of sale to meet the demand of one precise client.

The package label is issued by the manufacturer, in the case of pre-assembled packages, or by the dealer/integrator installer in the case of custom-made packages.

For package systems an additional label should be issued, identifying the equipment constituting the final solution. It's important to underline that this label does not replace the individual labels. For example, when installing a water heating system with a conventional water heater and a forced circulation solar thermal system, with a storage tank decoupled from the solar thermal collector, three labels must be issued: a label for the conventional water heating equipment, a label for the hot water storage tank and a label for the package of water heater and solar device.



2.6 How is the heating energy labelling processed?

The label is a responsibility of the market. Regarding individual equipment and pre-assembled packages, meaning the combination of a conventional heater with a renewable energy equipment, the manufacturer has the responsibility of issuing and making available the energy label, as well as all the relevant documentation, to the dealer. As for custom-made packages, the professional, dealer or installer integrator, responsible for assembling the package has the responsibility of issuing and providing the energy label and additional documentation to the final customer.

2.7 Which data influences the energy class of the package label of combined systems?

Regarding the space heating function, the rated power and efficiency of the boiler (or heat pump) and the size and efficiency of the solar thermal system. Regarding the water heating function, the efficiency of the heater, size and technical characteristics of the solar thermal collectors, volume and losses of the storage tank and the control of the backup heater.

2.8 Are district heating plants affected by the energy labelling?

No.

2.9 What is the range of energy efficiency classes associated to solar thermal labels?

Package labels present an energy efficiency scale that goes from G to A+++ . Solar thermal heaters (thermosiphon with an integrated electric resistance) have a product label, and the energy efficiency classes ranges from G to A (the label is revised on the 26th of September 2017, and a new scale from F to A+ will enter in force).

2.10 What is the energy label's added value for the end-user?

Energy labels help consumers choose energy efficient products and adequate their needs to the best market offer. Choosing energy efficient products directly impacts their energy bill, reducing the billing related to the use of their equipment. When choosing a new energy user equipment, the final consumer should attend to his profile of consumption regarding that specific equipment and calculate how much the option for a class A equipment will represent in terms of billing savings.

According to the European Commission, the global result of applying energy labels and standards to house appliances (general housing appliances and not only heating equipment) will represent an energy saving of around 166 Mtoe by 2020, roughly equivalent to the annual primary energy consumption of Italy. For consumers, this can mean savings of €465 per year on household energy bills. Moreover, energy efficiency measures will create €55 billion in extra revenue for European companies⁸.

2.11 Can suppliers and dealers support installers concerning the calculation of package labels?

Yes, of course

2.12 If an installer combines a package within the scope of the regulation at the customer's site, possibly with parts from different suppliers/dealers? Is the installer then to be seen as a supplier who has an obligation to make a package label for the combination installed? The regulation does not mention installers and the role of installers.

⁸ Source: <http://ec.europa.eu/energy/en/topics/energy-efficiency/energy-efficient-products>



The regulation does not refer to 'installer', but it does refer to 'dealer'. A package label has to be provided by the dealer defined in the Energy Labelling Directive as “retailer or other person who sells, hires, offer for hire-purchase or displays products to end users”. If the person installing the product is doing any of these, he/she will be considered the “dealer” and the package label is required.

2.13 What is the energy label's added value for the heating industry?

The introduction of the energy labelling in the heating appliances market is an added value for the industry that can publicly disclaim the efficiency of their products, putting to light the efforts endorsed in the last decade regarding the production and commercialization of affordable and more sustainable heating solutions.

This tool provides the market with new communication mechanisms to present the most efficient heating solutions to the final consumer, illustrating, via the energy label, the variety of solutions and the added value of a new water heater in comparison to an older one.

The package label will additionally show the advantages of renewable energy technologies, namely solar thermal, and controllers, enhancing how renewable technology and controls can bring up the system's rating and efficiency.

2.14 Is the energy labelling a risk or an opportunity for the solar thermal industry?

The energy labelling of heating products and systems offers an opportunity for the solar thermal industry to present the solar energy output in a consumer-friendly way. Furthermore, the label and product fiches information report to primary energy, for the sake of comparability with the conventional solutions.

2.15 What is the energy label's added value for the solar industry?

The energy labelling regulation offers important new opportunities to communicate the benefits of a solar thermal system to the customer. The package label will show the advantages of renewable energy technologies, namely solar thermal systems, and controllers, enhancing how renewable technology and controls can bring up the system's rating and efficiency. This will attract new consumers and, improve the business for all solar suppliers and dealers.

2.16 Can I estimate the savings of a new system based on the energy label?

Space heating equipment presents, in the energy label, the rated heat output in kW. Considering the number of hours, the equipment is to be used the end-consumer could be expected to estimate the foreseen energy consumption per year. Nevertheless, space heating equipment's normally work at part-load, what implies that the assumption of the pre-mentioned calculus would lead to an overestimation in the energy invoice. In this sense, it is difficult to estimate the savings between heating systems solely with the information from the energy label.

Water heaters energy label present the expected annual electricity consumption per year in kWh and/or the annual fuel consumption in GJ, according to the load profile for which the equipment was tested.

Knowing the contracted electricity tariff the consumer can calculate how much he can save acquiring a more energy efficient equipment.



2.17 Are photovoltaic systems affected by the Energy Labelling or Eco Design guidelines?

No.

2.18 Is the energy efficiency class of the heating energy labels to be rescaled?

Yes, the first rescaling will enter in force on the 26th of September 2017. Regarding space heaters, the new scale will range from D to A+++, combination heaters, will range from D to A+++ (space) and F to A+ (water). Regarding water heaters the new scale will range from F to A+ and hot water storage tanks also from F to A+. The package labelling scale, both for space heating and water heating systems does not suffer any changes, from G to A+y++.

2.19 I need more information on the heating energy label. Who can provide?

At the European level, the Label Pack A+ project provides all the information on the context, the process and the regulations requirements.

At the national level the National Energy Agencies and similar bodies should provide information on the adoption of legislation into the national context and the available mechanisms to comply with it.

Also, the market surveillance authorities and the consumer protection associations provide information on the market obligations and consumers rights and the channels to report on non-compliances.

At the local levels the local authorities can also provide assistance, mainly forwarding to the competent entities.

The manufactures, and the respective associations, have also a deep understanding of the legislation and can provide helpful information regarding market access.



3 LABELLING AND PRODUCT FICHES

LABELS

3.1 Where should the heating energy label be available?

The supplier has to supply a printed label with each product placed on the market (along with the product fiche). The supplier has to ensure also that any advertisement on the heater, referring its energy characteristics or disclosing its price, also references the energy class.

The dealer has to make sure that the energy label is available to the consumer, normally placed on the product in display at the store. All the advertisement and technical promotional material also has to reference the heater energy class.

These guidelines are true for physical and online sales and also apply to renting.

3.2 Should the energy label be displayed in the heater itself or is it enough to mention the energy efficiency class in the technical documents?

Whenever it is compulsory for the heater to present an energy label (in general heaters below 70kW), this should be evidenced and the label displayed with the heater. The dealer should also make available to the consumer the product fiche, where all the relevant technical characteristics of the heater are stated, including the energy efficiency class. As for heating packages, the label should be displayed when it's a standard package, available to the consumer at the store as a close system, or, when dealing with customized packages, the energy label should be calculated by the dealer and made available to the consumer during the procurement process.

3.3 Who is responsible for issuing and making available the product label?

The supplier (manufacturer/legal importer) is responsible for issuing and making available to the dealer the energy efficiency label of individual heaters and standard heating packages.

3.4 Which components of the heating package are labelled?

Individual heaters (including solar thermal thermosiphons with an integrated electric heater), as well as hot water storage tanks are to have an individual energy efficiency label, as well as a product fiche. Solar thermal collectors and control units are not labelled but should present the corresponding product fiche, where the relevant data to issue the package label is presented.

3.5 Who is responsible for incorrect labelling?

Incorrect labelling can cause claims out of liability of defects due to service contracts and/or out of compensation for the end consumer. The consumer himself is held responsible for verification and proofing of these claims.

Due to the law against unfair competition incorrect labelling can be reprimanded. Competitors and controlling organisations (e.g. market surveillance) are asked to observe the market concerning offences against fair competition.

3.6 Where are the label design requirements stated?



The labels design is defined in the Delegated Regulations. Manufacturers can freely access the European Commission's official label generator for the correct labelling of individual products⁹.

For packages, namely customized packages, the Label Pack A+ consortium developed an online tool, freely available¹⁰.

3.7 Must the energy label be available in advertising materials as prize lists, product fiches, websites, etc.?

The energy efficiency class of the heater should be indicated in any advertising and technical promotional material concerning the heater. At the store, and for online sales, the label and product fiche should be available to the consumer.

3.8 Who is responsible for issuing the package label?

Package is a system that is offered to the end-user combining one or more heaters (water, space or combi) with one or more temperature controls (in the case of space and combi packages) and one or more solar devices. The packages can be standard, a system pre-assembled by the supplier constituted by a set of products from the same brand, or it can be a custom-made package, a package of products locally assembled by the dealer or installer, who combines a set of products (not necessarily with the same brand) commercialized by the dealer and assembled at the moment of sale to meet the demand of one precise client.

The package label is issued by the manufacturer, in the case of pre-assembled packages, or by the dealer/integrator installer in the case of custom-made packages.

3.9 Which heating systems are labelled with the package label? Does the package label apply exclusively to systems with solar thermal systems?

The package label exists whenever a heater is combined with a temperature control device, with a hot water storage tank, with a supplementary heater (in the case of space heating), or with a solar thermal system (in the case of space and water heating). Some examples of heating packages can include boilers and solar thermal collectors, boilers and heat pumps, heat pumps and solar thermal collectors and cogenerations of heat and power.

3.10 Who is responsible for making the package label available to the consumer?

The professional responsible for selling the package to the end consumer is held responsible for supplying the package label, regardless of whether it is the manufacturer or the retailer who sells the system. (For further details see page 5, article 3(5) a – Lot 1 (811/201) or page 4, article 3 (4)a – Lot 2 (812/2013))

3.11 How should the solar thermal system information be made available for the consideration in packages?

The solar thermal collectors do not present an energy efficiency label but should present the product fiche with the relevant data to calculate the package label.

3.12 Is the package label the only label to present when commercializing a heating package?

⁹ <http://eepf-energylabelgenerator.eu/en/eepf-labels>

¹⁰ <http://www.label-pack-a-plus.eu/home/calculate-the-label/>



No, the package label does not replace the individual labels. For example, when installing a water heating system with a conventional water heater and a forced circulation solar thermal system, with a storage tank decoupled from the solar thermal collector, three labels must be issued: a label for the conventional water heater, a label for the hot water storage tank and a label for the package of water heater and solar device. The product respective product fiches should also be made available, as well as the package fiche.

3.13 How is the information concerning the data of the components necessary for calculating the package label provided to the installer?

The supplier is responsible for issuing the product fiche for all the components that can be assembled within the package.

3.14 Which tools for calculating the package label are available?

For heating packages, a non-official tool is provided on the project website of LabelPackA+¹¹ Other options include using the official artworks or the official product label generator¹², provided all the information required is available/known.

3.15 Should the package label be printed or is handwriting possible?

The label should respond to the design established in the Delegated Regulations, which means that handwriting is not an option.

3.16 When substituting a component or upgrading an existing heating system is the package label required?

No. Only fully new packages require a package label. Nevertheless, the individual products subjected to the energy label (heaters and hot water storage tanks) should present the labels in any case.

3.17 Are freshwater stations labelled too? Is it considered a single component within the package labelling?

No, freshwater stations are not considered in the heating labelling regulations.

3.18 Can energy labelling calculations be used as examples in advertising, underlining the influence of the various criteria, e.g. heater profile, components used, in the package class?

Yes, that can be used.

¹¹ <http://www.label-pack-a-plus.eu/home/calculate-the-label/>

¹² <http://eepf-energylabelgenerator.eu/en/eepf-labels>



PRODUCT FICHES

3.19 Where is the information concerning the package fiche for calculation of the package label provided?

The content of the package fiches, which details the calculation procedure for the package energy efficiency class, is detailed in Annex IV, section 5 and 6 of the Commission Delegated Regulation (EU) N.º 811/2013 for space and combination packages and in Annex IV, section 4 of the Commission Delegated Regulation (EU) N.º 812/2013 for water packages.

3.20 Are there free product databases (solar thermal collectors, boilers, tanks, etc.) displaying the required information for calculating the package label?

National wide there are several manufacturing companies that provide the technical characteristics of their products in their websites, available for the dealer to consult and use in the package label calculation. Also, some manufacturers have opted to deploy brand specific labelling tools where the dealer can access the product information. Despite the case, the dealer should always refer to the manufacturer for the product fiche.

Regarding solar thermal collectors the Solar Keymark database is freely available for consultation¹³.

If using the free online LabelPack A+ calculation tool, the dealer should insert the information manually.

3.21 Are suppliers compelled to provide the dealers all the technical data of a product?

Yes, the supplier is responsible for the product's label (when applicable) and product fiche, according to the parameters listed in the Commission's Delegated Regulations.

3.22 Who is responsible for providing the product and package fiches in a heating package compiled by an installer?

The supplier is responsible for providing the products label (whenever applicable) and product fiches. Whenever we are dealing with a standard package, the supplier also assures the package label and package fiche. When the installer assembles a custom-made package, he is responsible for issuing the package energy efficiency label and the corresponding package fiche.

3.23 When should the installer provide the product and package fiches? Is it possible to provide them only upon the authorities' request?

The installer should provide the product and package fiches whenever offering a commercial proposal to the end-consumer. Upon authorities request he should make available the specific technical documentation, as specified in the Commission's Delegated Regulations (EU) No. 811/2013 and 812/2013, in Annex V.

¹³ Available in <http://www.solarkeymark.org> , under "List of Certified Products"



4 DEVICES AND COMPONENTS

SOLAR THERMAL COLLECTORS

4.1 Which information, concerning the solar thermal collectors, should the manufacturer provide to enable the calculation of the package labelling? Is the collector efficiency enough?

All the data needed concerning solar thermal devices is listed in the Commission's Delegated Regulations (EU) N.º 811/2013 and N.º 812/2013, in the annex concerning the detail of the product fiche.

Commission Delegated Regulation (EU) N.º 811/2013 – Space heating

- (a) supplier's name or trade mark;
- (b) supplier's model identifier;
- (c) the collector aperture area in m^2 to two decimal places;
- (d) the collector efficiency in %, rounded to the nearest integer;
- (e) the energy efficiency class of the solar hot water storage tank;
- (f) the standing loss of the solar hot water storage tank in W, rounded to the nearest integer;
- (g) the storage volume of the solar hot water storage tank in litres and m^3 ;
- (h) the annual non-solar heat contribution $Q_{\text{non-sol}}$ in kWh in terms of primary energy for electricity and/or in kWh in terms of GCV for fuels, for the load profiles M, L, XL and XXL under average climate conditions, rounded to the nearest integer;
- (i) the pump power consumption in W, rounded to the nearest integer;
- (j) the standby power consumption in W, to two decimal places;
- (k) the annual auxiliary electricity consumption Q_{aux} in kWh in terms of final energy, rounded to the nearest integer

Commission Delegated Regulation (EU) N.º 812/2013 – Water heating

- (a) supplier's name or trade mark;
- (b) supplier's model identifier;
- (c) the collector aperture area in m^2 , to two decimal places;
- (d) the zero-loss efficiency, to three decimal places;
- (e) the first-order coefficient in $\text{W}/(\text{m}^2 \text{ K})$, to two decimal places;
- (f) the second-order coefficient in $\text{W}/(\text{m}^2 \text{ K}^2)$, to three decimal places;
- (g) the incidence angle modifier, to two decimal places;
- (h) the storage volume in litres, rounded to the nearest integer;
- (i) the annual non-solar heat contribution $Q_{\text{non-sol}}$ in kWh in terms of primary energy for electricity and/or in kWh in terms of GCV for fuels, for the load profiles M, L, XL and XXL under average climate conditions, rounded to the nearest integer;
- (j) the pump power consumption in W, rounded to the nearest integer;



(k) the standby power consumption in W, to two decimal places;

(l) the annual auxiliary electricity consumption Q_{aux} in kWh in terms of final energy, rounded to the nearest integer.

4.2 Which data concerning temperature controls has to be included in the product fiche?

The Commission Delegated Regulation (EU) N.º 811/2013, Annex IV, Part 3 “product sheet temperature controls” details that the following data has to be provided in the following order and shall be included in the product brochure or other literature provided with the product:

(a) supplier's name or trade mark;

(b) supplier's model identifier;

(c) the class of the temperature control;

(d) the contribution of the temperature control to seasonal space heating energy efficiency in %, rounded to one decimal place.

It is acknowledged in the regulation that one fiche may cover a number of temperature control models supplied by the same supplier.

4.3 Are there minimum performance standards concerning the energy efficiency output of solar thermal collectors for the energy labelling?

No.

4.4 Are solar thermal collectors' product fiches compulsory for all the solar collectors in the market, or only for those integrating a heating package?

Product fiches are compulsory for all solar thermal collectors on the market.

4.5 The overall solar thermal collector surface is considered in the calculation of the water heating system (SOLCAL) as well as in the calculation of the space heating system. Is that correct?

Yes. For the water heating system, the overall collector surface area is an input for the Q_{nonsol} calculation (a calculation developed using the SOLCAL methodology), while in space heating system the area is a direct input in the label calculation.

4.6 Does the EN 12975-2 norm for certified collectors require separate documentation of data concerning the solar collector performance in different climate zones?

No. The influence of different climate zones can be calculated in the package label tool. For warmer regions add 40% and for colder regions subtract 20%.



4.7 Regarding the solar thermal collector aperture area, how many decimal places should be presented?

The solar collector aperture area should be presented in m², rounded to two decimal places.

4.8 Are PVT-collectors considered within the energy labelling?

Yes, but only the ratio of the solar heating output is included in the calculation.

4.9 Are there any restrictions concerning the source of the solar thermal collector certification within the guidelines of the energy labelling?

No, there are no restrictions concerning the certification process, as long as all the required data is included.

BOILERS

4.10 Is the labelling provided for tap water boilers and for supplementary boilers as well?

Yes, all heaters up to 70kW are considered in the energy labelling (for exemptions report to the Commission Delegated Regulations (EU) N. ° 811/2013 and N. ° 812/2013)

4.11 Are boilers with a storage volume of more than 500 litres considered in the package label calculation?

Yes, all boilers up to 70kW are considered within the energy labelling regulation. Energy relevant data must be part of the product fiche of the boiler.

4.12 Does a solar thermal heating system with two or more e.g., 1.500 litres boilers connected in series require a package label?

Yes, if the boilers are up to 70kW.

4.13 Does a boiler with a volume of more than 2.000 litres require a package label?

All the boilers up to 70kW have to present an energy label. If sold in an integrated package with other components the package label has to be presented also. Regarding hot water storage tanks, the energy label is compulsory for tanks up to 500 litres. Nevertheless, if integrated in a package all the components have to be considered in the calculation of the package energy efficiency.

4.14 Calculating the package label of a combination system: has the hot water production and the space heating energy production of a multi boiler to be presented separately?

For combination systems the energy efficiency class is calculated in two distinct steps, one for the space heating and another for the water heating. The energy label presents two distinct energy classes and the package fiche is composed of two sheets, one corresponding to the space and another to the water heating. The solar thermal collectors' area is fully considered in both calculations, as well as the overall storage volume of the boilers and energy losses.



4.15 How to calculate supplementary boilers with an integrated hot water storage tank or supplementary boilers with coiled tube exchanger? Which is the volume data needed for calculation?

Only the boiler volume as a whole is needed, there is no distinction.

4.16 Should a 1000-litres-multi-boiler, as a part of a heating and hot water producing package, considered into the labelling calculation? How to deal with the different volumes?

Yes, the whole volume has to be considered in the calculation.

STORAGE TANKS

4.17 Should a fireplace with an integrated water tank, as a part of a combined system, be referred to in the package energy class calculation?

No, a fireplace is not considered a supplementary heater and as so should not be considered in the package energy class calculation.

4.18 Are there any exclusions concerning standards for hot water storage tanks mentioned in the draft of the EN 12977, EN 12897, EN 15332?

There is no new procedure planned. Using the procedures of the standards EN 12977, EN 12897 and EN 15332. In Lot2, Annex IX there is a tolerance mentioned: the maximum between the measured value and the nominal value is 2%.

4.19 How to deal with storage tanks with integrated heating energy producers? Does the measurement procedure refer to the storage tank and the heating device as a whole unit? Or has the measurement of the boiler and the heating device to be made separately?

A storage tank with one or more integrated heat producers is a space heating system, water heating system or a combined heater. In any case it should receive a product label. It only requires a package label if is part of a combined system including a temperature control and/or a solar thermal system.

Further information concerning the calculation of the energy efficiency of space and water heating is offered in the memorandum of the Commission for Execution of the Directive for space heating (2014/C207/02) and for hot water production (2014/C 207/03). It is not possible to make any general decisions concerning engaged or separate calculation.

4.20 How to deal with combined systems for space and water heating which include a supplementary storage tank (with internal coiled tube for hot water production) with a volume of more than 500 litres? Should the energy efficiency class only report to the space heating function, or has the water heating function to be considered as well?

The energy efficiency class has to be calculated for the combined product, one class for each function. The whole volume is used for both calculations.



4.21 How to deal with multi storage tanks, e.g. 200 litres fresh water and 550 litres supplementary storage? Does a supplementary storage tank need a labelling?

Up to a volume of 500 litres a storage tank labelling is mandatory. For tank with a volume more than 500 litres a product sheet has to be provided for the package label calculation.

4.22 Do solar hot water storage tanks (solar devices designed to be connected to solar collectors) have to comply with ErP requirements and to be labelled as hot water storage tanks?

A solar hot water storage tank is a subcategory of a hot water storage tank and has in consequence to meet the relevant requirements under the Regulations.

4.23 Is it mandatory to label a solar natural circulation system as a hot water storage tank?

A natural circulation system consists of a solar hot water storage tank specifically designed to be connected to one or more solar collectors. The product is only able to work in this specific configuration and is sold using a single model identifier.

The natural circulation system is a solar only system. If the tank is never sold as a single device, it does not need to be labelled as a hot water storage tank. The necessary information for issuing the package label shall be provided.

THERMOSIPHON-SYSTEMS

4.24 How are thermosiphon systems dealt with in the directive of energy related products (ErP)?

- a) A pure solar thermal thermosiphon, with no electrical resistance integrated in the hot water storage tank, does not require an energy label. It should present an energy label for the hot water storage tank, together with the respective product fiche and a product fiche for the solar collector.
- b) A thermosiphon with an integrated electrical resistance as a backup heater is considered a solar water heater and it should present an energy label and the respective product fiche.
- c) A pure solar thermosiphon assembled with a conventional heater should receive a package label and the respective package fiche. (all the documentation referred to in a) should also be made available).

If a separate measuring of the collector and the boiler is not possible, the measuring of the system has to be done due to the guidelines of SOLICS, included in the transitional methods¹⁴.

4.25 Are thermosiphon – solar driven warm water producers labelled with the product label, the package label or both?

Systems with supporting electrically driven immersion heater are labelled with the product label. To issue the package label is not possible since the data for η_{WH} is usually missing. It is allowed to use the following formula: $\eta_{WH} = \eta_{WH_calc} \cdot 0.95$

¹⁴ Commission communication 2014/C 207/02 – transitional methods for space heaters
[http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014XC0703\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014XC0703(01)&from=EN)



HEAT GENERATING COMPONENTS

4.26 What are the rounding rules for the performance figures of heat pumps?

The product label for heat pumps rounds the heating potential to the next whole number. Specifications for technical parameters should be given by each national authority.

4.27 Has a heating cartridge or a single glow bar to be labelled as a heat generator? Is the market release of heating cartridges or single glow bars with efficiency of 40% or less possible?

Due to the directive heat producers such as burners or cartridge heaters are considered components and as such no separate product labelling is required.

Until the 1st of January 2018 these heat producers are allowed in the market, if they are designed to substitute existing devices of the same kind. Appropriate information referring to the specific type of heating system has to be provided on the wrapping of the product or on the product itself.

4.28 How to calculate the annual energy consumption of a heat producer (except heat pumps)?

The annual energy consumption Q_{HE} in GJ of space heating for boilers in an average climate is calculated with the formula¹⁵

$$Q_{HE} = \frac{H_{eh} \times P_{design}}{\eta_s} \times \frac{3,6}{1000}$$

- $H_{eh} = 2066$ = equivalent for working hours per year
- P_{design} in kW described either as

a)

$$P_{design} = \frac{P_{rated} \times 800}{2066}$$

or

P_{design} = arithmetic mean of the maximum and the minimum effective energy output multiplied with 800 and divided by 2066

4.29 Is the maximum heat nominal capacity P_{rated} , the correct data to use in a modulating boiler concerning a combined system for space and water heating including solar heat for calculating the solar output?

No, only the data of P_{rated} is used. There is no reference to the modulating property of the boiler.

¹⁵ Guidelines Accompanying Regulations (EU) No 811&812/2013 , 813&814/2013, 2015/1187&1189 (2018) :

http://www.label-pack-a-plus.eu/wp-content/uploads/2018/07/Guidelinespacewaterheaters_2018_final-official.pdf



4.30 How to calculate η_{wh} if there is no information concerning boiler data?

This information needs to be provided by the supplier of the product. For more detail please report to the Implementing Guidelines [Page 27 \(Part 6.4.1\)](#).

Also, if the information missing reports to a space heating boiler, that, due to the installation arrangement also produces hot water, the Label Pack A+ project has produced a excel file that allows you to calculate the water heating efficiency of the space heating boiler, based on the space heating characteristics¹⁶.

CONTROLLERS

4.31 How to consider a system with more than one temperature controller? E.g. concerning tele monitoring or space sensors with operating units?

The rules are that the efficiency date of all controllers of a combined system have to be referred to as centralized in one controller.

4.32 How is the contribution of a heat sensor concerning the seasonal efficiency of the space heater defined?

According to the guidelines concerning the efficiency inputs mentioned in the transitional document 813 number 6.

From class I devices (on/off space thermostats: efficiency input 1%) up to class VIII (space heat controllers with several sensors for a modulated heating system: efficiency input 5%).

The operation area of the controller (on/off or modulated heat producer) has to be referred to and mentioned in the data sheet of the controller. For further information see the transitional document with reference to 813/2013¹⁷

¹⁶ Support file: Calculating the water heating efficiency of the space heating boiler <http://www.label-pack-a-plus.eu/wp-content/uploads/2015/09/Calculo-de-Eficiencia-AQS-em-caldeiras-de-aquecimento-ambiente.xlsx>

¹⁷ Commission communication 2014/C 207/02 – transitional methods for space heaters [http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014XC0703\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52014XC0703(01)&from=EN)



5 CHARACTERISTIC VALUES AND GUIDELINES FOR CALCULATION

5.1 Shall the heat losses of the distribution pipes be considered?

No. The characteristics of the installation are not considered in the energy labelling.

5.2 Has the focus of the tapping profile to be laid on the possible maximum output of the system or on the needs of the consumer?

The heater load profile is defined by the manufacturer according to the load profiles applied in the testing of the heater. The consumer should select a heater according to his heating needs and for this he should consult a qualified professional and follow the indicative guidance from the table below.

Heater load profile	Hot water needs associated to the profile	Application	
3XS	Seldom hand wash	Small offices	
XXS	Household washes	Small offices	
XS	Kitchen (dish wash) and household washes simultaneously	Offices	
S	Kitchen (small dish wash) household washes	Offices	
M	Kitchen, household washes and 2 showers	Residential (1-2 pax)	
L	Kitchen, household washes, showers or bath	Residential (3 – 5 pax)	
XL	Kitchen, household washes, showers and/or baths	Residential (5 – 8 pax)	
XXL	Kitchen, several household washes, showers and bath simultaneously	Residential (9 and more pax)	

5.3 In the water heating package which load profile has to be used? The one indicated in the conventional hot water heater, or does it depend on the installer's decision?

The load profile of the conventional water heater is defined by the manufacturer according to the load profile used for testing the product. In the package label, the same load profile applies to the package, independently of the solar thermal collector field dimension and the storage capacity of the hot water tank.

5.4 How to label a water heater with a rated heat output < 70 kW, declared ErP compliant according to load profile 4XL (Reg. 814/2013). Is it correct to label this appliance using load profile 2XL (the highest one given by the Labelling regulation 812/2013)?

The water heater is in the scope of the energy labelling Regulation and in consequence needs to be labelled. The load profile to be used is one of the load profiles provided in such Regulation.



5.5 Are boiler or heat pump manufacturers able to provide the required technical specifications without any knowledge about the future heating package?

Yes, the calculation of the heater's efficiency, η_{wh} , is an independent procedure deployed by the manufacturer and it applies to individual heaters and package integrated.

5.6 Does SOLCAL as a calculation tool provide the data needed for setting the efficiency of a solar driven warm water producer with an electrically driven supporting heater? Or are system tests required?

The SOLCAL result is not appropriate for the calculation of a combined system.

Otherwise the evaluation of the η_{wh} for a solar driven warm water producer with an electrically driven heating element is only possible through load profile depending testing.

For avoiding testing the following formula is accepted: $\eta_{wh} = \eta_{wh_calc} \cdot 0.95$

5.7 In the SOLCAL methodology, in situations that we have a modelling pump, which is the pump power, Solpump to consider? The maximum power?

In the case the pump is a modulating pump, with at least three stages of modulation, the power to be used for the label is half of the maximum power. For non-modulating pump or pump with less than three stages, the maximum power must be used.

5.8 In SOLCAL, the heat losses coefficient of the storage tank (ψ_{sol}) is required (in W/K). In the product fiche of the storage, I just find the heat losses (in W). How can I calculate the coefficient?

The coefficient can be calculated dividing the heat losses by 45 K, which is a conventional temperature difference defined in the standards.

5.9 In the case when selecting a heat pump to what corresponds the “Seasonal space heating energy efficiency of heat pump (in %)”? Is it to the average climate conditions? Since that the upcoming information regards colder and warmer climates this would be the missing one no?

Yes.

5.10 In a package system, consisting of a preferential heater and a thermosiphon system does the user acknowledge the existence of a storage tank?

The storage tank should only be registered in a package system when it has its own energy label, according to the regulations. In the case of a thermosiphon system, labelled as a solar water heater, the user does not need to acknowledge the storage tank.

5.11 How to deal with packages of a space heater or a solid fuel boiler, temperature control and solar device made with storage tanks larger than 500 l?

Energy label classes are only provided for storage tanks with a capacity up to 500 l. Packages incorporating a storage tank with a volume larger than 500 l and a space heater or water heater with a capacity below 70 kW are in principle covered by the definitions of the Regulations.

In order to properly calculate the solar contribution, the tank rating can be calculated according to the standing loss S using table 4 of Regulation (EU) 811/2013.



6 MARKET SURVEILLANCE

6.1 Will the market still offer unlabelled heating products or systems?

From the 26th of September 2016 suppliers cannot place new heaters with a power below 70kW on the market without an energy label and the additional documentation. There is a period for selling the existing stock of heaters, with no label, and that are also exemptions, which consider products not commonly used in the residential sector.

6.2 Can the end consumer be held accountable for installing unlabelled products?

No, the responsible for issuing/making available the energy label lies with the supplier or dealer. Therefore, the installer (acknowledge in the regulation as dealer) can be accused of neglecting the legal guidelines for new heating products or systems up to 70 kW. Whenever the consumer identifies a noncompliance situation he can report it to the national consumer protection entities or to the market surveillance organization.

6.3 Who is responsible for assuring that only labelled products are installed?

The national market surveillance entities are responsible for monitoring the market and assuring that all the products available on the market comply with the European legal requirements.

6.4 Is the labelling process reliable? Is somebody checking the labels?

The labelling of individual products and standardized packages is the manufacturer's responsibility and it is based in test and certification procedures conveyed by qualified entities.

Market surveillance authorities are responsible for economic surveillance activities and regarding the energy labelling of heating products Annex VIII in the Regulated Acts No.811/2013 and Annex IX in No.812/2013 establishes the verification procedure for market surveillance purposes.

6.5 What are the fees imposed to the professionals that do not comply with the labelling regulation and do not present the product and/or system label to the consumer?

According to the Labelling Directive, each country is responsible for defining the fees to which non-complying professionals are sanctioned. The Labelling Directive should be transposed into the national legislation and within that one of the articles should deal with fees.

As an example, we present the Portuguese case. The labelling directive is transposed into the national law via the Decree Law 63/2011. The fees are established in article 17^o and are:

- From 150€ to 1500€ when the label is miss appropriated (wrong apposition in the product, miss use of symbols and inscriptions that do not comply with the regulation)
- From 250€ to 2500€ when the energy label, and complementing documents, are not made available to the consumer
- From 300€ to 3000€ when the supplier does not provide the label and complementing documents or when the data in the documentation is not correct.

More FAQs available in the Commission's guidelines¹⁸:

¹⁸ Guidelines Accompanying Regulations (EU) No 811&812/2013 , 813&814/2013, 2015/1187&1189 (2018) : http://www.label-pack-a-plus.eu/wp-content/uploads/2018/07/Guidelinespacewaterheaters_2018_final-official.pdf

End of Document

About the Labelpack A+ Project

The 'LabelPackA+' project aims at supporting the implementation of the energy labelling of heating appliances while boosting its impact, the focus being on the "package label" and its potential to push for the uptake of renewable technologies, in particular solar thermal, in combination with more efficient conventional technologies.

The project addresses one of the main challenges related to this particular energy labelling process in relation to other Energy-related Products : the issuing of the package label by installers. This challenge involves the preparation of the industry, retailers and installers for this process, including the communication to the final consumer.

More information at:

www.label-pack-a-plus.eu

