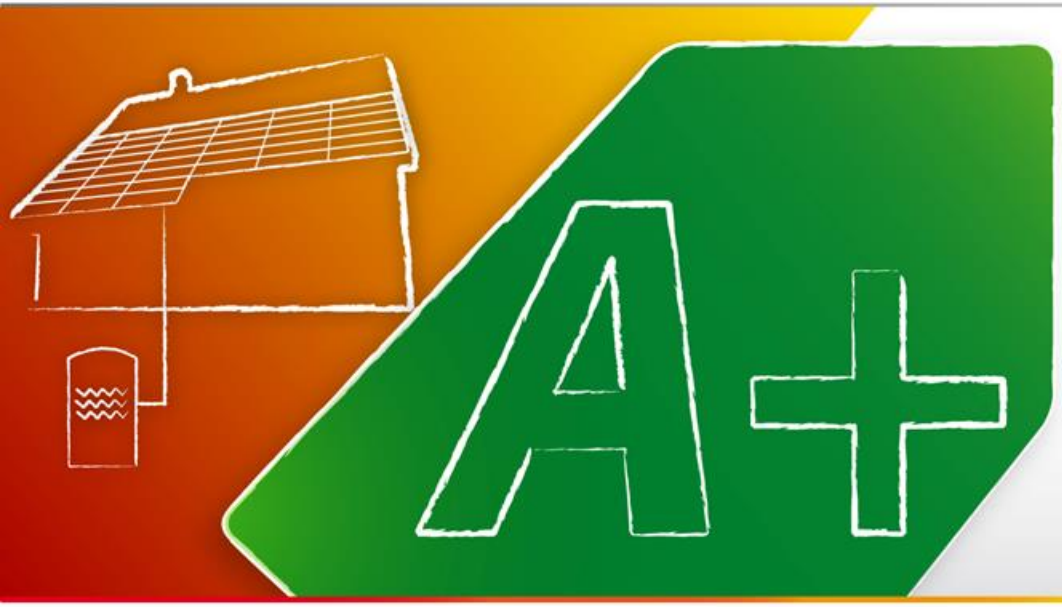
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649905

LabelPack A+



Solar thermal solutions within the Energy Labelling Context

General features

Place, Date

General context linked to solar thermal solutions

The Energy Labelling regulations refer to many “solar” items :

- Solar device: 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;
- Solar-only system: 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;
- Solar collector: a device designed to absorb global solar irradiance and to transfer the heat energy so produced to a fluid passing through it;
- Solar hot water storage tank: a hot water storage tank storing heat energy produced by one or more solar collectors.

General context linked to solar thermal solutions

Space heater, Regulation 811-2013, Energy Labelling of :

- space heaters,
- combination heaters,
- packages of space heater, temperature control and solar device,
- packages of combination heater, temperature control and solar device.

Only solar thermal solutions used in package are concerned here.

Conventional space heater with or without water heater, associated to a solar thermal solution are subject to label package.

Efficiency classes ranked from G to A+++ from 26th September 2015.

Common use with solar thermal system will often be "packages of combination heater, temperature control and solar device".

General context linked to solar thermal solutions

Water heater, Regulation 812-2013, Energy Labelling of :

- water heaters,
- hot water storage tanks,
- packages of water heater and solar device.

Solar thermal solutions could be found under “water heater”, as solar water heater (thermosyphon system with electrical back-up), and package of conventional water heater associated to solar device.

Hot water storage tanks will also be concerned if used to store hot water from solar collectors. This case will mainly be found in packages.

From 26th September 2015, efficiency classes of water heaters and storage tanks ranked from G to A, and efficiency classes of packages ranked from G to A+++.

Common use with solar thermal system will often be “water heaters” and “packages of water heater and solar device”.

Different labels

Three solutions are the most common associated to solar thermal solutions on the market:

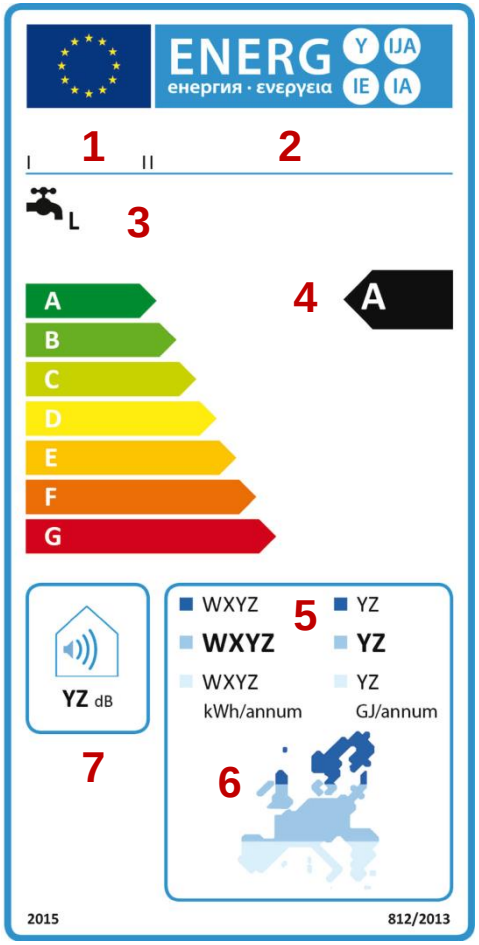
- Water heaters
- Packages of water heater and solar device
- Packages of combination heater, temperature control and solar device

The regulation on energy labelling defined a label type for each of these solutions, which will deliver specific information on efficiency and use.

Please note that solar only systems are not subject to energy labelling. But, when they are parts of a package, the manufacturer of the solar only-system has to provide technical documentation and the product fiche (see further).

Different labels

Solar water heaters in water heating energy efficiency classes A to G



Information available on the label:

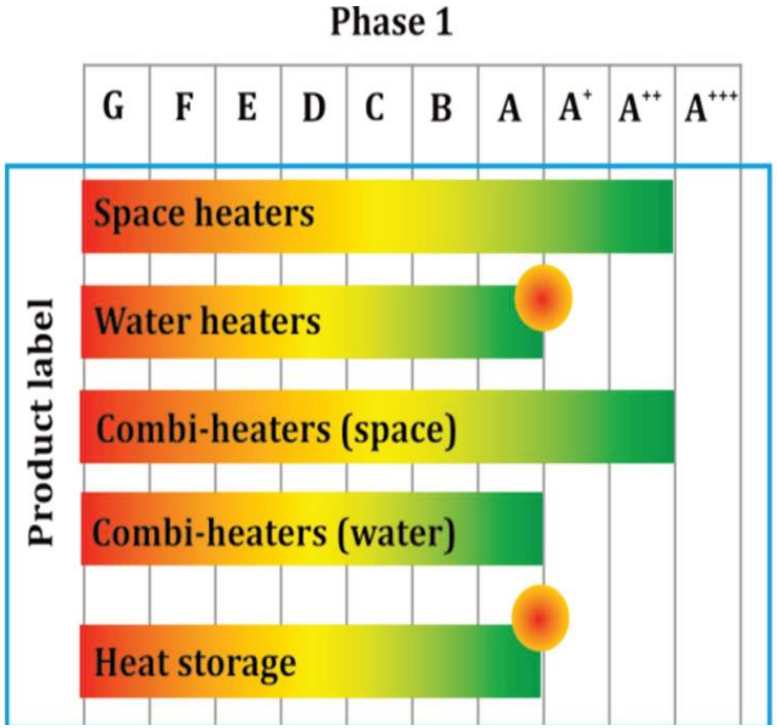
1. Supplier's name or trade mark;
2. Supplier's model identifier;
3. Water heating function, including the declared load profile;
4. Water heating energy efficiency class under average climate conditions;
5. Annual electricity consumption in kWh in terms of final energy or the annual fuel consumption in GJ in terms of GCV, under average, colder and warmer climate conditions;
6. European solar map displaying three indicative global solar irradiance zones;
7. Sound power level L WA , indoors, in dB.

Different labels

Solar water heaters in water heating energy efficiency classes A to G

Per se, solar devices do not require energy labels.

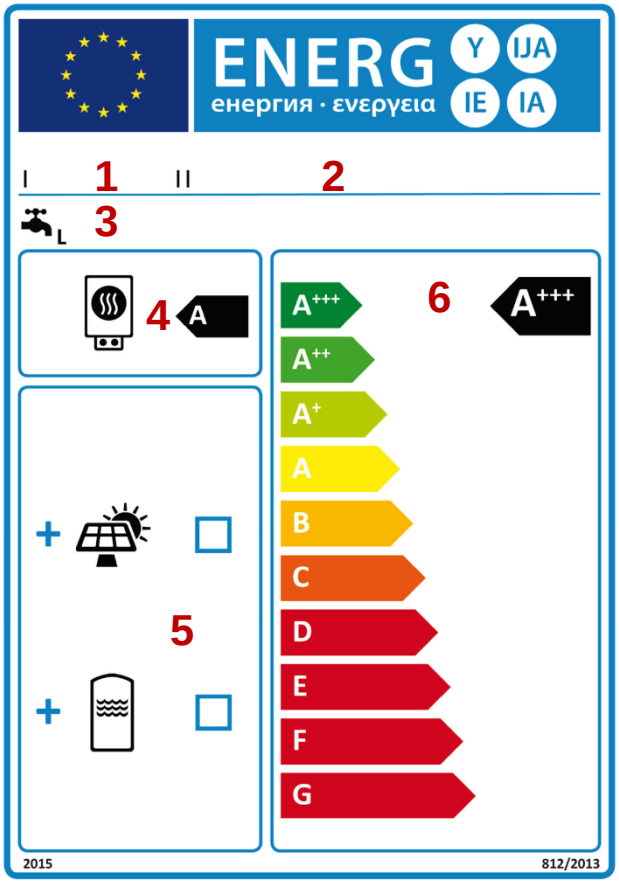
The exception to this are *thermosyphon* systems with integrated electrical resistance (the regulated acts define these equipment as solar water heaters). **According to the regulation's calculation procedures solar water heaters best energy class is limited to A, given that electrical water heaters 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**.



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)

Different labels

Label for packages of water heater and solar device in water heating energy efficiency classes A +++ to G

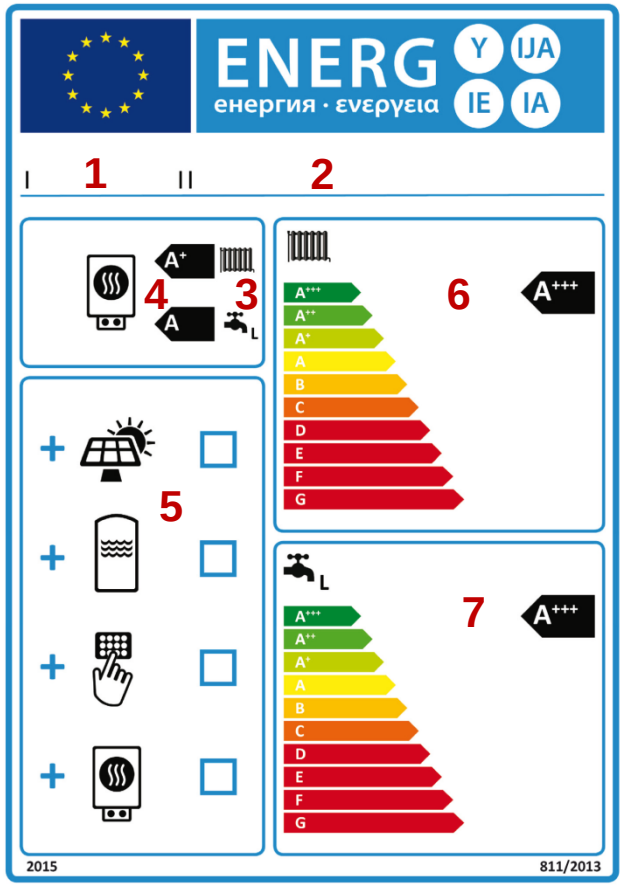


Information available on the label:

1. Dealer’s and/or supplier's name or trade mark;
2. Dealer’s and/or supplier's model(s) identifier;
3. Water heating function, including the declared load profile;
4. Water heating energy efficiency class of the primary water heater;
5. Indication of whether a solar collector and hot water storage tank may be included in the package of water heater and solar device;
6. Water heating energy efficiency class of the package of primary water heater and solar device.

Different labels

Label for packages of combination heater, temperature control and solar device in seasonal space and water heating energy efficiency classes A +++ to G



Information available on the label:

1. Dealer’s and/or supplier's name or trade mark;
2. Dealer’s and/or supplier's model(s) identifier;
3. Space and water heating function, including the declared load;
4. Seasonal space and water heating energy efficiency classes of the primary combination heater;
5. Indication of whether a solar collector, hot water storage tank, temperature control and/or supplementary heater, may be included in the package of combination heater, temperature control and solar device;
6. Seasonal space heating energy efficiency class of the package of combination heater, temperature control and solar device;
7. Water heating energy efficiency class of the package of combination heater, temperature control and solar device.

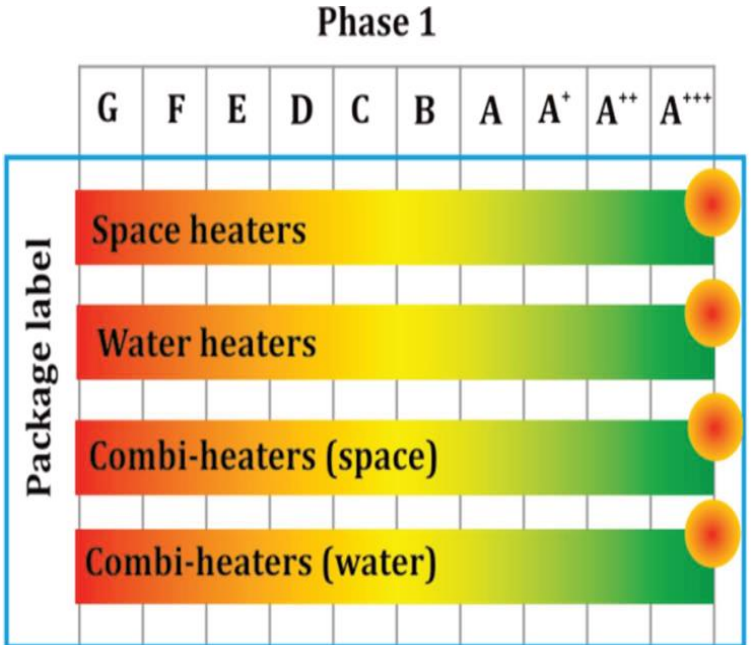
Different labels

Label for packages of water, space or combination heaters, temperature control and solar device in seasonal space and water heating energy efficiency classes A +++ to G

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.



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)

Product fiches

Each product should be delivered with a product fiche, which is more comprehensive than the label and contains detailed information on the appliance.

There is no specific template for this fiche, but the regulation sets a precise list of information and a specific order to present them.

The Fiche contents includes, amongst other:

- Specific information according to the appliance type,
- Load profile for which it was tested,
- Heating energy efficiency,
- Electricity consumption (when applicable),
- Sound power LWA indoors,
- Standby power consumption,
- Standing loss (for storage tanks)
- Indication of specific precautions that shall be taken when the appliance is assembled, installed or maintained
- …

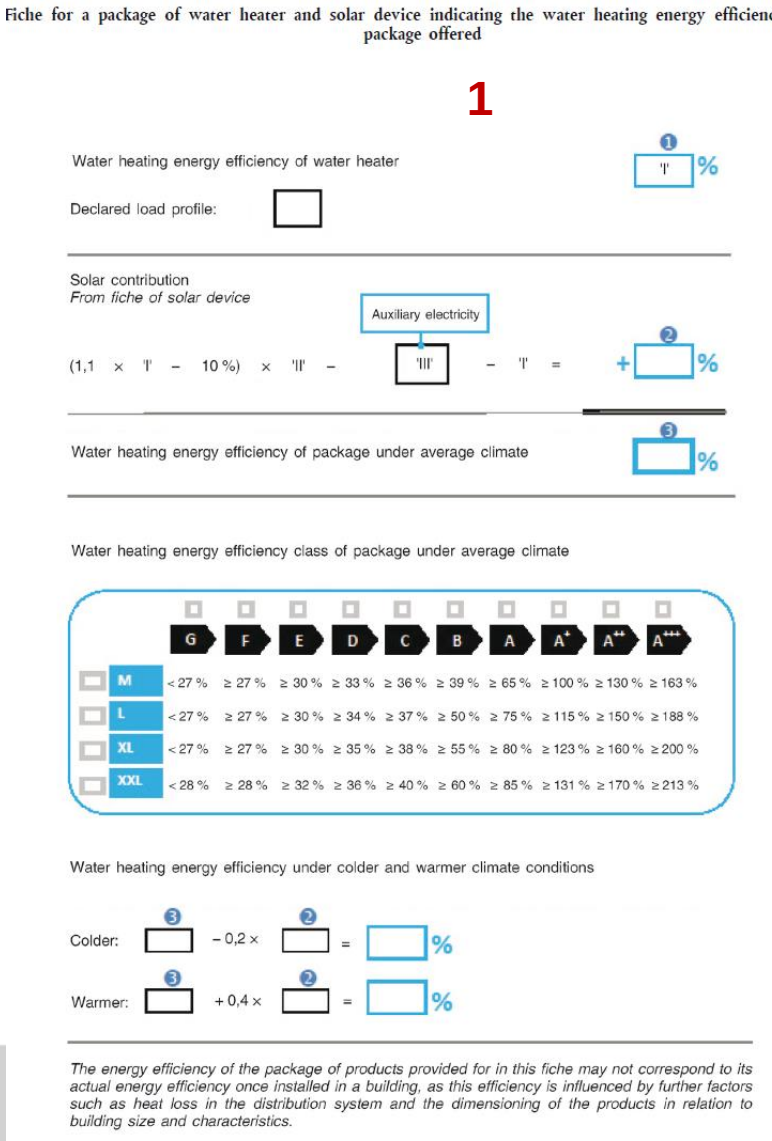
The same product fiche may cover a wide number of appliance models provided by the same supplier.

Package fiches

Each package should be delivered with a fiche, which contains detailed information on the energy efficiency of the products and overall system.

There are specific templates for this fiche.

1. Package of water heater and solar device (812-2013, Annex IV)
2. Package of space heater, temperature control and solar device – Space heating efficiency (811-2013, Annex IV)
3. Package of combination heater, temperature control and solar device – Water heating efficiency (811-2013, Annex IV)



Fiche for a package of water heater and solar device indicating the water heating energy efficiency of the package offered

1

Water heating energy efficiency of water heater ❶ 'I' %

Declared load profile:

Solar contribution
From fiche of solar device

Auxiliary electricity

(1,1 × 'I' − 10 %) × 'II' − 'III' − 'I' = + ❷ %

Water heating energy efficiency of package under average climate ❸ %

Water heating energy efficiency class of package under average climate

	G	F	E	D	C	B	A	A+	A++	A+++
M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency under colder and warmer climate conditions

Colder: ❸ − 0,2 × ❷ = %

Warmer: ❸ + 0,4 × ❷ = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as this efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Package fiches

For preferential boiler space heaters and preferential boiler combination heaters, element of the fiche for a package of space heater, temperature control and solar device and a package of combination heater, temperature control and solar device, respectively, indicating the seasonal space heating energy efficiency of the package offered

2

Seasonal space heating energy efficiency of boiler — ① 'I' %

Temperature control
From fiche of temperature control
Class I = 1 %, Class II = 2 %, Class III = 1,5 %, Class IV = 2 %, Class V = 3 %, Class VI = 4 %, Class VII = 3,5 %, Class VIII = 5 %
+ ② %

Supplementary boiler
From fiche of boiler
Seasonal space heating energy efficiency (in %)
(① − 'I') × 0,1 = ± ③ %

Solar contribution
From fiche of solar device
Collector size (in m²) | Tank volume (in m³) | Collector efficiency (in %) | Tank rating A⁺ = 0,95, A = 0,91, B = 0,86, C = 0,83, D-G = 0,81
('III' ×) + 'IV' ×) × 0,9 × (/100) × = + ④ %

Supplementary heat pump
From fiche of heat pump
Seasonal space heating energy efficiency (in %)
(① − 'I') × 'II' = + ⑤ %

Solar contribution AND Supplementary heat pump
Select smaller value: 0,5 × ④ OR 0,5 × ⑤ = − ⑥ %

Seasonal space heating energy efficiency of package — ⑦ %

Seasonal space heating energy efficiency class of package

G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %

Boiler and supplementary heat pump installed with low temperature heat emitters at 35 °C?
From fiche of heat pump ⑦ + (50 × 'II') = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as the efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

For preferential boiler combination heaters and preferential heat pump combination heaters, element of the fiche for a package of combination heater, temperature control and solar device indicating the water heating energy efficiency of the package offered

3

Water heating energy efficiency of combination heater — ① 'I' %

Declared load profile:

Solar contribution
From fiche of solar device
Auxiliary electricity
(1,1 × 'I' + 10 %) × 'II' + 'III' − 'I' = + ② %

Water heating energy efficiency of package under average climate — ③ %

Water heating energy efficiency class of package under average climate

	G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency under colder and warmer climate conditions
Colder: ③ − 0,2 × ② = %
Warmer: ③ + 0,4 × ② = %

The energy efficiency of the package of products provided for in this fiche may not correspond to its actual energy efficiency once installed in a building, as the efficiency is influenced by further factors such as heat loss in the distribution system and the dimensioning of the products in relation to building size and characteristics.

Technical documentation

Each product or package should be delivered with a technical documentation. This document has to be provided upon request to the authorities of the Member States and to the European Commission.

Technical documentation is not a commercial document. There is no specific template, but it should contain specific information listed by the regulation:

- Supplier reference,
- Clear description of the product or package,
- References of the harmonized standards applied,
- Other technical standards and specifications used,
- Technical parameters,
- Any specific precautions that shall be taken when the space heater is assembled, installed or maintained.

Detailed information

If the consumer can not see the heater displayed, the dealer is responsible to provide him detailed information.

This situation could be met when the presentation of equipment is made through catalogues or advertising material (product not physically accessible).

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

The regulation sets for each product or package what would have to be include in this detailed information.

Global irradiance zones

Energy efficiency has to be calculated for average, colder and warmer climate conditions which are defined by 3 global geographical zones.

The energy label has to present energy efficiency under average climate condition.
Calculations have also to be made for colder and warmer conditions.

Climate condition = temperature and global solar irradiance conditions characteristic for a specific city

- **Average: Strasbourg**
- **Colder: Helsinki**
- **Warmer: Athens**

Technical parameters allowing these calculations for solar device are specified by the regulation (Delegated regulation 812-2013, Annex VII). Results for theses 3 climate conditions have to be included in the product or package fiches.

Load profile for water heating

Energy efficiency of a water heater has to be calculated depending on a specific load profile, from M to XXL.

The load profile is a given sequence of water draw-offs, over 24hrs.

It's the manufacturers responsibility to choose the load profile within which the water heater is tested. Each water heater meets at least one load profile.

The declared load profile shall be the maximum load profile or the load profile one below the maximum load profile that could be met with the water heating solution.

The maximum load profile is the one with the greatest reference energy that a water heater is able to provide while fulfilling the temperature and flow rate conditions of that load profile.

Load profile for water heating

Energy efficiency of a water heater has to be calculated depending on a specific load profile, from M to XXL..

The regulation explore the method to calculate the load profile.

For example, if a 2 bedrooms dwelling is considered, 3 inhabitants could be expected, which 3 daily showers, which correspond to an L profile.

Each load profile could also be expressed by energy content of water draw-offs:

Load profile:	3XS	XXS	XS	S	M	L	XL	XXL	
Qref:	0.345	2.1	2.1	2.1	5.845	11.655	19.07	24.53	kWh/day

Due to ecodesign and energy labelling specifications on storage tanks, only load profile from M to XXL are concerned by the energy labelling.

Load profile for water heating

Identifying the consumer's water load profile is an essential step when helping the consumer to choose the most adequate solution.

Factors determining DHW profiles:

- **Season**
- **Day of the week**
- **Time of day**
- **Occupancy pattern**
- **Number of occupants**

DHW draw off points are:

- Bath
- Shower
- Sink
- (Washing machine)
- (Dishwasher)

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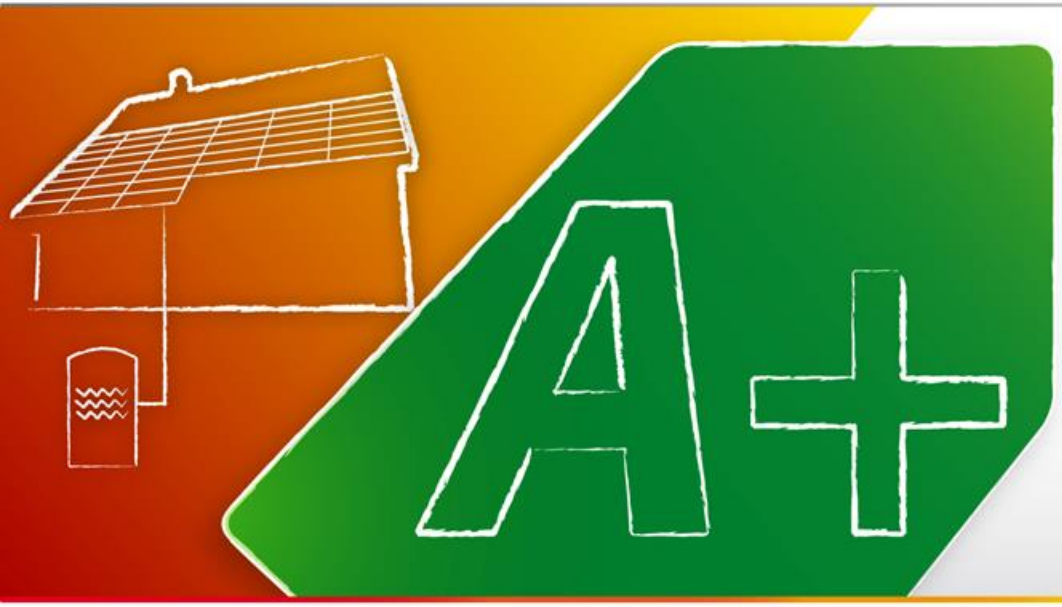
LabelPack A+



Solar thermal solutions within the Energy Labelling

Actors responsabilities

Place, Date

Actors involved 1/2

Energy Labelling concerns many actors through the market chain. Each of them could be responsible for some actions regarding the label edition.

Supplier: the one **responsible for the manufacturing of the product**. The supplier, its authorised representative in the Union or the importer who places the product in the European market, as the **responsibility of supplying all the relevant documentation, energy label, product fiche and additional documentation, to the dealer**, in order to guarantee that the information is made available to the end.-consumer. The responsibility regards individual product and standardized systems, a package of products assembled and supplied by the same supplier.

Dealer: the one **selling the products or packages delivered by the supplier**. He has to **ensure that the energy label is displayed at the moment of sale** and that all the relevant documentations is given to end-consumers. He **can also propose custom-made packages to his clients and in this case he is the one responsible for issuing the package label.**

Actors involved 2/2

Energy Labelling concerns many actors through the market chain. Each of them could be responsible for some actions regarding the label edition.

System designers: assume the definition of **more complex heating systems, assuring the compatibility between the building's heating needs and the most adequate solutions.** He is not officially involved in the labelling process, but is responsible for the procurement guidelines and as so, should simulate the expected energy class of the proposed heating system.

Installer: he could either just **install a product or a pre-assembled package** from a supplier or dealer, **or also propose his own custom-made package** to end-consumers. In this second case he is responsible for issuing the package label.

End-consumer, or end-user: **should be aware for the correct presentation of the energy labelling and correspondent documentation.**

Labelling responsibilities

Solar water heaters, hot solar water storage tanks and other products 1/2

As individual products, these appliances are directly put on the market by **the manufacturer, its representative or its importer in the European Union**.

These actors **are considered as the first to place the product on the market**.

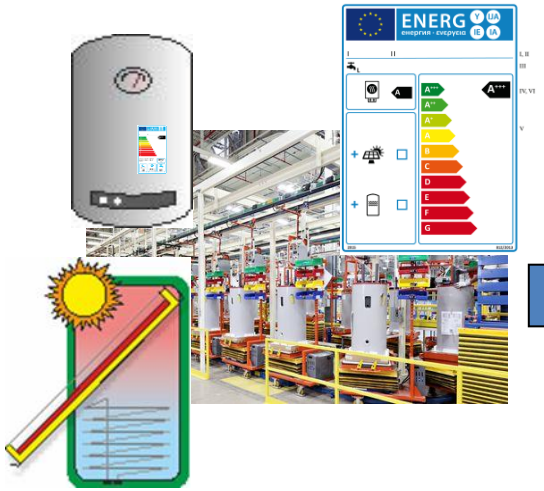
Therefore, they **are responsible for providing each product with**:

- a printed label
- a product fiche
- the technical documentation
- advertisement includes a reference to the energy efficiency class
- technical promotional material includes a reference to the energy efficiency

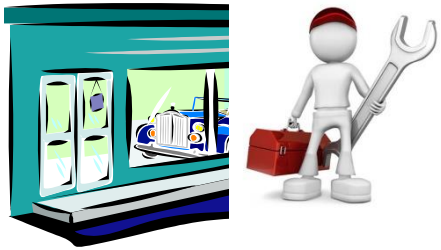
Other actors in the market chain until the end-consumer just have to ensure that all of the above documentation is correctly transmitted.

Labelling responsibilities

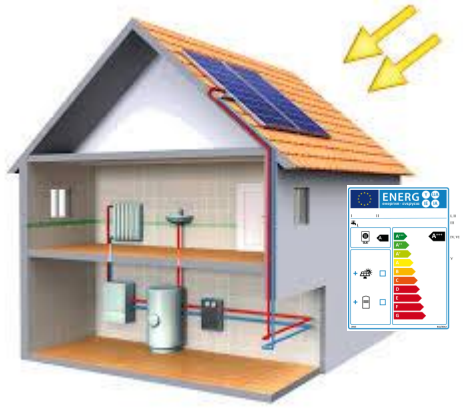
Solar water heaters, hot solar water storage tanks and other products 2/2



Supplier I



Dealer
Installer



Consumers

Labelling responsibilities

Packages of water heater and solar device 1/5

As packages, these products could be placed on the market by the manufacturer (or its representative.), the dealer or the installer.

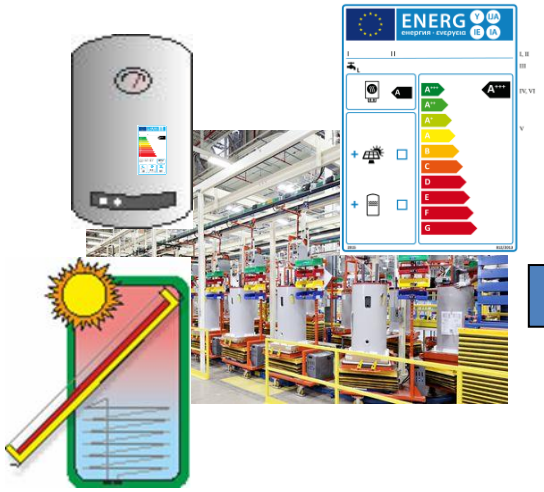
Therefore, **if the manufacturer is the one who pre-assembles the package with products from the same brand, he is the one responsible of calculating and issuing the package documentation** and therefore must provide:

- a printed label and a product fiche for each package component
- a printed package label, which must be displayed on the package
- a fiche for the package
- the technical documentation
- advertisement includes a reference to the energy efficiency class
- technical promotional material includes a reference to the energy efficiency

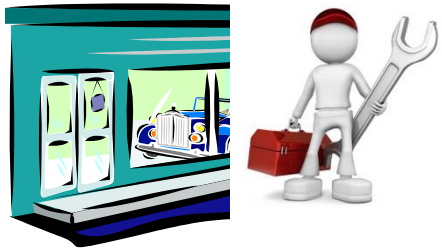
Labelling responsibilities

Packages of water heater and solar device 2/5

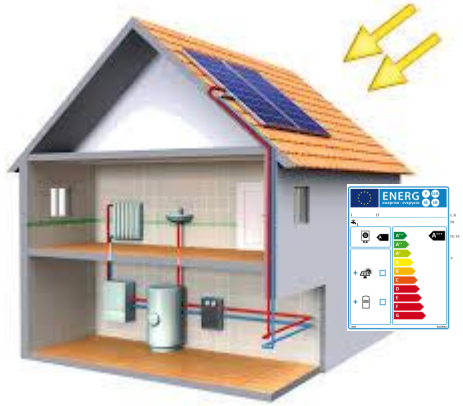
The manufacturer pre-assemble the package with its own elements or products.



Supplier I



Dealer
Installer



Consumers

Labelling responsibilities

Packages of water heater and solar device 3/5

If the dealer or the installer is the one responsible for defining the package and making the sale, than, he is the one **responsible for calculating and issuing the package label** and as so the one to provide:

- a printed package label, which must be displayed on the package
- a fiche for the package
- the technical documentation
- advertisement including a reference to the energy efficiency class
- technical promotional material including a reference to the energy efficiency

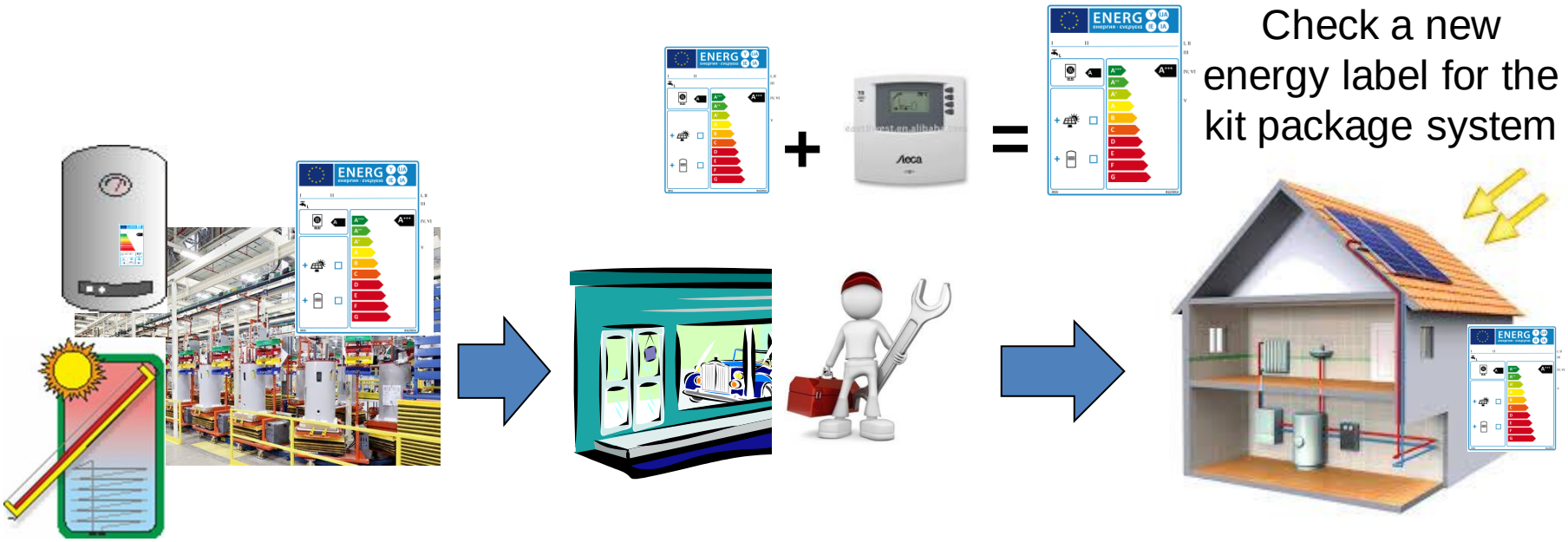
In order to calculate the efficiency of the package, the dealer or installer uses the data provided to each component by the manufacturer through product fiches.

Additionally to the package label, the dealer or the installer must also provide to the end-consumer the energy label and the product fiche for each package component.

Labelling responsibilities

Packages of water heater and solar device 4/5

The dealer or the installer add components to a pre-assembled package.



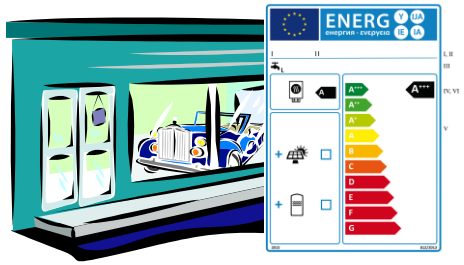
Labelling responsibilities

Packages of water heater and solar device 5/5

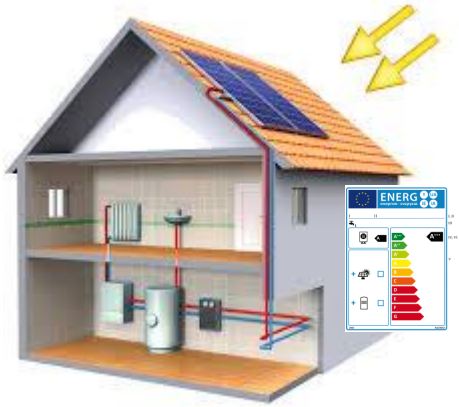
The dealer or the installer define the package from scratch.

Manufacturer I

Manufacturer II



Dealer/Installer



Consumers

Labelling responsibilities

Packages of combination heater, temperature control and solar device

As packages of water heater and solar device, these appliances could be place on the market by the manufacturer (or its representative), the dealer or the installer.

Therefore, responsibilities sharing is the same as above.

The actor who design the package will have to calculate package space and water heating efficiency, based on efficiency of each component.

Package label calculation

Water heater packages including solar device have a dedicated energy efficiency calculation

This calculation takes into account:

- Water heating energy efficiency of the primary water heater (output in %)
- Solar contribution (from fiche of solar device) and the auxiliary electricity

The result is for average climate condition.

The package fiche allow to calculate the result under colder and warmer climate condition.

Detailed calculation method on annex IV of Delegate regulation 812-2013.

Package label calculation

Combination heater packages including solar device have a dedicated energy efficiency calculation for space and water heating

For space heating, this calculation take into account:

- Space heating energy efficiency of the primary generator (boiler, cogeneration or heat pump)
- Contribution of the temperature control (if applicable)
- Contribution of a second boiler (if applicable)
- Solar contribution (from fiche of solar device and water tank)
- Contribution of supplementary heat pump (if applicable)

Detailed calculation method on annex IV of Delegated regulation 811-2013.

Package label calculation

Combination heater packages including solar device have a dedicated energy efficiency calculation for space and water heating

For water heating, this calculation take into account:

- Water heating energy efficiency of the primary water heater (output in %)
- Solar contribution (from fiche of solar device) and the auxiliary electricity

The result is for average climate condition.

The package fiche allow to calculate the result under colder and warmer climate condition.

Detailed calculation method on annex IV of Delegated regulation 811-2013.

Energy labelling on existing appliances

Energy Labelling applies for systems placed on the market. How should be managed the situation of a package is created on-site by the installer, based on existing appliance ?

For example, a house is equipped with a boiler which is not so old, and the owner wants to add a solar water heater.

Due to the existing boiler, the installer could propose to add:

- A solar water heater with electrical back-up: energy labelling for product applies in this case.
- A solar only system, the existing boiler will ensure the back-up. The finished installation will be a combination heater, but in this case, there is no obligation of setting a package label.
    - However, if the installer has access to data of the existing boiler, he could calculate the energy efficiency to argue the relevance of his solution to the end-user.

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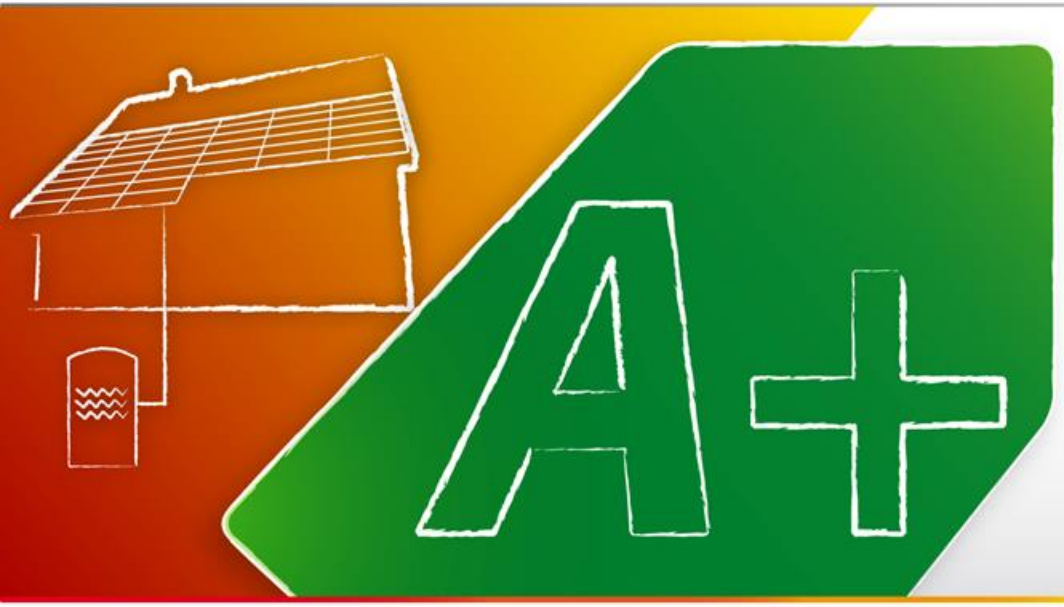
LabelPack A+



Solar thermal solutions within the Energy Labelling

Energy labelling promotion & market surveillance

Place, Date

Energy labelling promotion

The professional who places the product or the package on the market is responsible of editing the energy label and the related documentation. Nevertheless all the professionals in the market chain, particularly those who will be in contact with the end user, are responsible for the promotion of the energy label.

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.

But, in its showroom, or during fairs, manufacturers, dealers or installers have to affix the label on the outside of the front of the appliance, in such a way as to be clearly visible.

If the product can not be displayed to the end consumer before buying, he should received a detailed information on the product or package.

Detailed information are listed in the regulation: 811-2013, Annex VI; 812-2013, Annex VI

Energy labelling promotion

At the point of sale, the seller should be able to explain the label to end-consumers and help them to choose a solution according to their needs.

- Present different solutions which fit the consumer's needs, based on the estimated load profile in case of a water-heater and the heating needs in case of space heating solutions;

- Present the energy efficiency differences between solutions, namely translating those differences in terms of annual savings in the energy billing;

- Inform the consumer of the exact energy efficiency depending on the region (i.e. average, colder, warmer climate conditions);

- Use flyers and other materials made available by the Commission, the Label Pack A+ project and professional associations, such as the national solar associations.

Energy labelling promotion

How to estimate the savings of a new system on the basis of the energy label?

Space heating equipment: the energy label presents the rated heat output in kW.

Information requested for savings estimation:

- Number of hours the equipment is expected to be used per year.
- Current energy bills for space heating (with the mention of output in kW).

Water heaters: the 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 witch the equipment was tested.

Information requested for savings estimation:

- Current contracted electricity tariff by the consumer.
- Current energy consumption for water heating.

Energy labelling promotion

How much more efficient an A++ or an A+ product or package is than an A one?

Class A is already very good, why 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 consumes over 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

NEW!!

Energy labelling promotion

How to achieve higher efficiency classes in space heating?

In packages, space and water heater are test separately.

For space heater efficiency, the solar system adds to the energy efficiency of the backup space heater.

The main influencing parameter in space heater efficiency is the backup and its output power. The higher he is, the lower will be the solar device contribution to needs, and the lesser will be the effect on the global energy efficiency.

Then, based on a high performance condensing boiler:

- A+ is certainly reachable only by adding a solar device,
- A++, only with a small rated output of the boiler(low energy house)
- A+++, only by adding to A++ case a correctly design and dimensioned to needs solar device

NEW!!

Energy labelling promotion

How to achieve higher efficiency classes in space heating?

If the boiler has a B class, the A class could be reach through a package by adding a solar device, even if switching from B to A involved an 8% threshold to be compensated.

In order to reach high label classes for packages, the following recommendations apply:

- Combine the solar device with a space heater with a low rated heat output,
- Combine a correctly dimensioned solar device to best match heating needs (collector area and storage volume),
- Use a glazed or vacuumed collector,
- Combine a storage tank with highest energy efficiency class.

NEW!!

Energy labelling promotion

How to achieve higher efficiency classes in water heating?

In order to reach a high efficiency class in water heating, the solar contribution has to be maximized, considering water heating needs.

Some advices could help in maximizing the efficiency of the water heating process:

- Focus have to be set on energy efficiency of the back-up water heater and the solar fraction.
- The solar fraction have to be maximized: above 50%, top of class could be easily reached.
- Solar device added to a low class back-up water heater is a good decision to raise the label class to a higher value. As example, an electrical water heater, classified E could be upgrade with solar device and reach a A level.
- If the back-up water heater has a high efficiency (A), adding a well dimensioned solar device in a package frame could rise the efficiency to A+++.

Energy labelling: added value for the end-consumer

Energy labels help consumers choose energy efficient products and adequate their needs to the best market offer.

By choosing energy efficient products, end-consumers:

- directly impacts their energy bill,
- reduce theirs bills related to the use of their equipment;
- could calculate how much the option for a higher class equipment will represent in terms of billing savings.

Market surveillance

In each member state, a market surveillance authority will be in charge of verifying the application of the regulation.

This authority will be responsible for

- economic surveillance activities,
- monitoring the enforcement of the regulation,
- preventing the misappropriation of legal acts.

Concerning the energy labelling, it's mission will be to:

- assure the presence of the energy label in the equipment at the moment of sale,
- verify the format of the label,
- assure that the right label is provided to the final consumer.

Market surveillance

There are some specificities for package labels:

This authority will only be able to:

• access and verify the compliance with the legal requirements regarding complete packages available on the market.

As the process to verify the compliance with the directive in the cases where the installer assemble the system in the final consumer's house, is still unclear, 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.

However, the consumer has to be informed and receive this documentation.

He should ask for it to the installer before signing the deal.