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Report
*Recommendations
regarding the
implementation of the
“package label”*

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Executive Summary

The Labelpack A+ project consortium carried out an analysis of experiences, across the countries covered by this project¹, that could highlight strong and weak points of package label implementation. Based on difficulties encountered during each national implementation², proposals for the improvements of the package label from the point of view of different stakeholders, such as consumers, installers & dealers, manufacturers (& distributors) and public authorities (market surveillance and energy agencies) are pointed out.

The main purpose of this process carried out within the project is to inform the European Commission and national authorities involved in the energy labelling process about the state of the art of label implementation (especially package label), providing consequently suggestions about how it could be improved.

A large number of inputs are listed in the main report. Based on these, the Labelpack A+ partners have chosen to highlight some options, that according to their experience of three years implementing the referred project, are considered as the most relevant and practicable.

Include expected energy consumption

This is a positive measure in terms of consumer information, enhancing the consumer ability to assess different options. In particular in the case of a comparison between a water heating package and a water heating product, such measure would facilitate the consumer decision process. This proposal is not without caveats. Clear information on load profiles is necessary, in order to avoid comparisons between solutions addressing different load profiles. Furthermore, it should be clear to consumers and not had complexity to the label. On the other hand, such measure should not bring added efforts in testing by manufacturers, regarding products already in the market.

Review scale of energy efficiency classes system

The definition of the classes is critical for the adequate information of consumers. It is considered that the current classes can be improved, in order to offer a better understanding of performance differences. Lower classes have smaller intervals, which can be seen has benefitting less efficient products. On the other hand, more efficient systems using also renewables, are in upper energy efficiency classes. These classes (above A) have very large intervals, which render performance gains harder to be perceived by consumers, i.e., they are not so likely to lead to a change in energy efficiency class. Still, the revision of the classes requires caution on the process, considering the impact it can have in the market, on consumer choices and even on the confidence about the energy label. Namely, an impact assessment and consultation process should be carried out, taking also into account consumer perception and understanding regarding such changes.

¹ Austria, France, Germany, Italy, Portugal, United Kingdom

² For more information, see two other Labelpack A+ reports: *Package Label implementation assessment report (D4.1)* & *“Analysis of the implementation of the “package label” in several European countries (D4.6)*



Include different energy classes according to the system location

The different requirements and conditions in the three climatic regions lead to variations in the performance of products and systems. Nevertheless, these are always labelled according to the average region, even if more information is available regarding performance in other regions. This could be done by including different energy classes for the three climatic regions, for solar water heaters and heat pumps in particular. It would bring added value to consumers if they could identify immediately the energy efficiency class applicable to a product for the region where it is acquired. The process should be simple and allow for products to be sold all over Europe. One possible option would be to have three classes in the label, one per region. Such possibility exists already for other products (air-conditioning). As for systems, this process could be implemented by allowing the package label to be calculated and the label issued based on the location of the package. As the package label is more directly related to the system (combination of components) acquired by the consumer, the implementation of this measure would be much simpler.

Introducing labelling for existing boilers

The current regulation does not prevent procedures regarding indicative labelling of existing boilers to be introduced, as happened in Germany. Such initiatives are important to increase awareness among consumers regarding the efficiency of their boiler and the eventual necessity of changing or planning a change. Most replacements are classified as urgent replacements, due to break-down or malfunctioning of the space and/or water heater. Planned replacements are beneficial for introducing solutions different to the previous one installed, as it allows time for considering different options, considering benefits and costs, or even make necessary adjustments in the building.

Indicative labelling for new solar thermal systems

The retrofitting of existing space and water heaters with other components is not covered by the package label, under the current framework, even if the required information on the existing heater would be available. A package label applies to the installation of a number of components done simultaneously. This means that, for instance, an installer that adds solar thermal to an existing boiler cannot issue a package label. In several countries most of the solar thermal installations are retrofits, i.e., are installed in addition to an existing space or water heater. As the package label cannot be issued, its potential impact is not felt in such cases. Nevertheless, having the possibility to issue or update a package label could encourage consumers with more recent systems, unwilling to make a full change, to consider adding components that would improve the entire system.

Connecting Energy Labelling to Energy Performance of Buildings

The Energy Labelling Directive and the Energy Performance of Buildings are two pieces of regulations with similar goals but quite different application. There would be benefits in combining Energy Labelling to Energy Performance of Buildings, introducing common performance requirements mechanisms. While one addresses space and water heaters, either as products or systems, the other covers buildings as complex systems. Considering the relevance of heating in the total consumption of buildings, facilitating synergies between the two regulations would help consumers understand the impact of their choices of space and water heating systems in the overall performance of their buildings. The main caveat of this proposal is the complexity of its implementation,



considering that the two regulations are technically complex and the implementation of the EPBD varies significantly from one members state to the next.

The following proposal was considered relevant to be addressed, though the group could not reach a joint position.

Connecting labelling to support mechanisms

It is understood that defining the energy label for space and water heaters as a requirement for support schemes would promote strongly the use of the package label. In fact, it is already being introduced in some countries. Nevertheless, there have been difficulties in its application, indicating that more awareness and training about the labelling process is an important step. On the other hand, several concerns were brought up, arisen by the possibility that such measure might unbalance the market in favour of large manufactures and against small solar specialists. The main reason is the fact that is system suppliers are in a privileged situation, in comparison to specialists regarding the issuing of the package label, related to their range of solutions, their access to installers networks and their outreach capacity.

The last proposal is **not** recommended by the group. Even if that was the case, it was considered relevant to highlight why it is not recommended, based on its prominence among the several recommendations, though its implementation is not advisable.

Introduce data on economic benefit

The possibility to introduce data on the potential economic benefit that could derive from the choice of high efficiency classes system was considered relevant as an important facilitator of the consumer decision process. Nevertheless, it was not considered practicable, the main reason being the difficulty of having adequate and fair data applied at European level. Such difficulties are already felt by other products subject to energy labelling, such as “white goods”, where the differences in electricity price and changes over time make it hard, if not impossible, to provide clear information to consumers. Knowing that heating products and systems are much more complex, such task would be even harder. If some options were to be applied to ease the decision process, these could be based on online tools.

As referred above, the discussion summarised above referred only to a part of the inputs collected. A broader overview is included in the chapters “Perceptions of energy labelling for space heating and water heating systems” and “Practical suggestions”.



Introduction

a) Scope of the document

Scope of this document is to inform the European Commission and national authorities involved in the energy labelling process about the state of the art of label implementation (especially package label), providing consequently suggestions about how it could be improved through minor or major changes. In particular, the document is supposed to be used by who oversees reviewing the energy label for space heating and water heating systems.

b) Methodology

It is important to clarify that this document is meant as a list of suggestions given by the LabelpackA+ partners and has no statistical significance. Nevertheless, it is the result of a long work which involved all project partners, each of discussing with several national stakeholders. The final result is therefore embedding many different opinions from many different stakeholders (and stakeholder's categories). For this reason, some contributions contradict each other.

In particular, the methodology behind this document is as follows.

1. The starting point was the "Overall market assessment" described in another project deliverable (D4.1 – Package Label implementation assessment report). Such assessment was carried out as a SWOT analysis for each country. Strengths and weaknesses have been ordered in the following stakeholder's categories:
 - Installers & Dealers
 - Public authorities (market surveillance and energy agencies)
 - Consumers
 - Manufacturers (& distributors)
2. Each project partner has been assigned to one stakeholders' category and has been asked to spread the draft document showing strengths and weaknesses among selected stakeholders belonging to the same category in each country. This happened via interviews or queries, according to the choice of each partner.
3. Contributions from stakeholders were collected by project partners, worked-out by each of them and delivered to Politecnico di Milano and Assolterm, who were in charge of issuing the final document.
4. Politecnico di Milano and Assolterm prepared the draft and shared it with ADENE (responsible for D4.1 – Package Label implementation assessment report) and ESTIF (project leader) for comments.
5. The draft was presented at the European solar thermal associations meeting held on November 29th and at an advisory meeting with VHK Research Engineers (consultant of the EC and responsible for the review of energy label for space heating and water heating systems), held on November 30th. Both events were organised by ESTIF in Brussels.

According to comments arisen during the above-mentioned events, Politecnico di Milano prepared the final document, to be shared with the European Commission and with national authorities in each country.



c) Structure of the document

The present document is divided in two sections:

- The first 14 pages summarize the perception of energy labelling among stakeholders. This is in order to have the general feeling of the situation. In this section each table shows the "stakeholder category" on the left, followed by positive feedbacks and negative feedbacks.
- The second part of the document gives several "practical suggestions". Each table shows the "stakeholder category" on the left, followed by comments which are in favour and comments which are against each suggestion. Sometimes the fourth column shows specific practical comments given by interviewees.



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Perceptions of energy labelling for space heating and water heating systems



Energy label perception		
	Positive feedbacks	Negative feedbacks
Installers & Dealers	<p><u>Italy</u></p> <ul style="list-style-type: none"> It is the only way to compare between solar systems and other solutions for space heating and/or sanitary hot water. Several installers (4 out of 5) consider energy label valuable. <p><u>France</u></p> <ul style="list-style-type: none"> The energy label is useful to indicate the overall efficiency of a specific combination of products. <p><u>UK</u></p> <ul style="list-style-type: none"> It is a good way to provide comparisons between solar and other solutions but there are other ways (simulation software). It is simpler and less time consuming to do. 	<p><u>Italy</u></p> <ul style="list-style-type: none"> Installers do not think in a commercial way (e.g. reach a better class). Only few installers (mainly large ones) do it. Package label is difficult to communicate. Product label is simpler. Installers perceive the label as extra effort with little marketing value. Installers tend not to calculate the label. It is complicated for installers and turns into an additional cost for them. Showing the benefit of ST is always difficult. <ul style="list-style-type: none"> a) <p><u>France</u></p> <ul style="list-style-type: none"> The label has very little marketing value and is often seen as an extra effort, and additional charge of work by the installers, and is in most cases not asked by the consumer. <p><u>UK</u></p> <ul style="list-style-type: none"> The label is seldom considered a benefit for marketing and sales but rather a mere must, causing extra effort. Some stakeholders agreed generally that installers like to limit desk and admin work such as producing labels.



	Positive feedbacks	Negative feedbacks
Installers & Dealers	<p><u>Germany</u> Few installers perceive the energy label as a good solution to distinguish products.</p>	<p><u>Germany</u></p> <ul style="list-style-type: none"> • It is extra effort and extra responsibility, esp. with the package label. • Products are nearly all A-rated, meaning there is no distinction on the market. Therefore, it is of little use for marketing. Packages on the other hand provide too little information to justify high additional spending. The label in addition is often issued when the decisions have already been taken. The market is too busy to sell non-standard systems; installers do not have time to use the label. <p><u>EU</u></p> <ul style="list-style-type: none"> • Professionals, namely installers, associate the 'package label' to an additional administrative burden and do not perceive it as a way to positively distinguish their solutions.
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Overall, label is useful to positively distinguish solutions and can be used to boost national regulations (also public procurement initiatives) and energy efficiency incentives. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Lack of resources to properly inform and communicate with the whole market chain. • The labelling regulations need harmonization with other regulations, such as the buildings energy performance system to assure a coherent uptake and to guarantee that the added value of the label is transversally appropriated by other sectors to whom the label data can (and should) be useful. • The label should also accommodate, as it happens for air conditioning systems, different energy classes according to the geographic location (assures coherence in terms of energy label language).



	Positive feedbacks	Negative feedbacks
Consumers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • The energy label is a recognised tool that consumers understand from other existing product labels. • Colours associated with efficiency grades are a good way to understand the end result. • Overall in Italy the Energy Label has not yet been criticized for scandals. • Although the advantage on some occasions may be low, this tool will help consumers to be aware of their own consumption. • Without this label the consumer is left with no indication whatsoever. • The abolition of the label cannot lead to better results. It is certainly necessary to reform the label but it's even more needed to strengthen the level of communication. <p><u>UK</u></p> <ul style="list-style-type: none"> • Feedback from the NSP was that currently there is little consumer knowledge or enforcement. 	<p><u>Italy</u></p> <ul style="list-style-type: none"> • There is little perception of the energy label among end-users. <p><u>Portugal</u></p> <ul style="list-style-type: none"> • Lack of awareness of the consumer, which can be explained by the fact that it's a recent label and that if consumers don't find it in stores that doesn't make them aware. • Nevertheless, we should take into account that making changes at such an early stage can undermine the label's credibility in the eyes of the manufacturers... and that can be a problem with future labels. • Linking the package label to incentives can be a good way to raise consumer's awareness. • The package label needs to include perceivable information to the consumer, such as the expected kWh/annum. • The consumer cannot perceive (quantify) the added value of an A+ option as opposite to a F. It could be interesting to add something in the energy label that would state how much more efficient is one solution in comparison to the lowest energy class in the market: "spends 3 times less energy than the equipment with the lowest energy class, "saves 3 times more energy than a F", "saves x kWh compared to a F".



	Positive feedbacks	Negative feedbacks
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Consumers recognise and understand the energy label, and they see it as an important tool when choosing a new equipment. • The label can be improved, and we don't recommend it's abolishment. <p><u>Germany</u></p> <ul style="list-style-type: none"> • Label has led to increased competition among companies. 	<p><u>France</u></p> <ul style="list-style-type: none"> • Feedback from NSP (ADEME conducted an inquiry on the market penetration of the energy label in France for all energy related products) showed that there is also little knowledge of the label from the consumer's side, leading to very low enforcement from market surveillance entities. People mostly know the label from TV and fridges, but even for those popular products, the label is not a major factor in the purchase decision. <p><u>Germany</u></p> <ul style="list-style-type: none"> • Not feasible to control any but the manufacturer. Dealers and installers hardly expose their products. The package label should either be improved and add value to customer and installer or it should be abolished. Distinctions have to be created between different labels.
Manufacturers &	<p><u>Italy</u></p> <ul style="list-style-type: none"> • Manufacturers comply with the regulation, as they have anyway to construct according to Ecodesign, labelling is not a big additional effort. Product fiche is usually provided; it should maybe be easier to read. <p><u>France</u></p> <ul style="list-style-type: none"> • Manufacturers comply with the regulation 	



	Positive feedbacks	Negative feedbacks
Manufacturers & Distributors	<p><u>EU</u></p> <ul style="list-style-type: none"> • The energy labelling for space and water heaters (SWH) facilitates the comparison between different technologies. • The heating energy label allows manufacturers to distinguish their appliances from competing products and therefore communicate more effectively towards consumers. • The package label promotes the idea that a SWH system is the result of the adequate combination of different components. • The package label shows the improvement in the system in comparison to the primary heater, as the primary heater energy class is still acknowledged in the label. • Since the publication of the energy labelling and eco-design regulations for SWH, the number of solutions for hot water storage in the top two classes has increased significantly. It is possible to find in the market today several options already identified as being within Class A (best class for these products). <p><u>Austria</u></p> <ul style="list-style-type: none"> • The use of the label ensures a certain quality assurance and has therefore potential to positively influence the market situation. 	<p><u>EU</u></p> <ul style="list-style-type: none"> • The methodologies used do not compare properly the performance of different technologies. • The methodology used for the calculation of the package label does not reflect adequately the contribution of solar thermal. • Some of the options in terms of test methods (for instance, for storage) lead to important variations in the final result, allowing for manufacturers to choose methods base on what provides them the best result. • The possibility to form a package just adding a control waters downs the benefits of the package label. • The label is not considering seasonal variations, in particular in what regards space heating solutions. • Lack of interest in energy label results in market operators devaluing the label and its relevance to consumers and other stakeholders <p><u>Austria</u></p> <ul style="list-style-type: none"> • The energy labelling is mainly used for single products not for systems (package label). <p><u>France</u></p> <ul style="list-style-type: none"> • The label is not a plus for sales, or a market lever yet: the letter ranking does not make the performances of an economic solution compared to the performances of a “top of the line” product obvious



	Positive feedbacks	Negative feedbacks
Manufacturers & Distributors	<p><u>Germany</u></p> <ul style="list-style-type: none"> Manufacturers comply with labelling and info duties. Competition has increased and the overall standard of heating efficiency is better. Nearly All products are rated A. <p><u>EU</u></p> <ul style="list-style-type: none"> Water heaters are not complying has much as space boilers, regarding the web display 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Heater energy class is overrepresented. Additional components such as solar thermal lose relevance. Professionals associate the package energy label to administrative procedures and do not perceive it as a way to positively distinguish their solutions. The package label should, in principle, be abolished, as it does not allow a fair assessment of new or old equipment and can therefore create a false boundary that prevents individually adapted very good solutions. 25/33 answered that manufacturers lost interest in labelling due to the installer's negative feedback. Solar specialists urge not to over-emphasise the use of the label and the obligation since solar collectors do not have a label themselves and solar specialist are facing disadvantages in comparison with full system suppliers that offer a one-stop solution for installers. If the calculation method allows simpler combinations to reach A+ class, the benefit of energy labelling for the solar thermal industry will be lost and the solar industry will reduce its efforts in implementing the label.



Energy labelling favours large companies offering standard packages		
	Positive feedbacks	Negative feedbacks
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none"> “It is always preferable to offer a package standardised by the manufacturer, for warranty, compatibility of regulations, etc.” <p>b)</p> <p><u>Germany</u></p> <ul style="list-style-type: none"> Yes, it does. Other solutions appear to be too complicated to most installers. 	<p><u>UK</u></p> <ul style="list-style-type: none"> If installers find the creation of the label too cumbersome they are more likely to just not produce the label as there is no enforcement to be afraid of. In the UK the market for appliances is relatively disparate. So often the boiler, controls, hot water store and solar thermal panels will all be manufactured by different companies. Also merchants are unlikely to want manufacturers to create a package as it limits scope for them to create bespoke packages or to move stock.
Public	<p><u>Germany</u></p> <ul style="list-style-type: none"> Yes, they can better prepare for controls of market surveillance. 	
Consumers	<p><u>BSW</u></p> <ul style="list-style-type: none"> Yes, especially in the new housing sector standard packages are integrated. 	



	Positive feedbacks	Negative feedbacks
Manufacturers & Distributors	<p><u>EU</u></p> <ul style="list-style-type: none">• Since the label is widely perceived by the installer as an additional burden and added responsibility, manufacturers try to facilitate this process by providing calculation tools and/or pre-assembled packages.• Difficulties in compiling required data may drive installers to one-stop shops. <p><u>Germany</u></p> <ul style="list-style-type: none">• 21/31 agree	



A high share of solar thermal systems is installed keeping the existing heat generator (mainly gas boilers): in such situation no package label is required		
	Positive feedbacks	Negative feedbacks
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none"> • Yes, this situation is more than often observed in France, it constitutes over 90% of the solar thermal individual market. <p><u>BSW</u></p> <ul style="list-style-type: none"> • Yes, in the refurbishment, still a large part of the ST systems is installed after the boiler installation. 	<p><u>Italy</u></p> <ul style="list-style-type: none"> • Such figures are smaller in northern Italy. ST + biomass is very common, for example. • 4 out of 5 agree.
Public Authorities		<p><u>Portugal</u></p> <ul style="list-style-type: none"> • A labelling scheme for old heaters could be a good solution, provided that an adequate framework and a simplified methodology are defined, resources allocated and the added value of promoting the replacement of inefficient heaters widely communicated.
Manufacturers & Distributors	<p><u>EU</u></p> <ul style="list-style-type: none"> • Agrees. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> • 50% answered "no", 35% answered "yes".



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Practical suggestions



1) The role of public entities (national/EU)

Suggestion 1 – Connecting labelling to support mechanisms		
	Advantages	Drawbacks
Installers & Dealers	<p><u>Portugal</u></p> <ul style="list-style-type: none"> It pushes the market for more energy efficient solutions and raises professionals and consumers 	<p><u>Italy</u></p> <ul style="list-style-type: none"> Most requests for incentive are not packages, but single technologies. If yes, a massive information campaign about labelling + incentive mechanism should be done. <p><u>France</u></p> <ul style="list-style-type: none"> It would be advisable if the label was flawless, and if all manufacturers were able to provide it (meaning to spend time and money on something they do not think has marketing value at the moment), which is not the case, designed as it is. <p>c)</p> <p><u>Germany</u></p> <ul style="list-style-type: none"> This might also lead to less installations of renewables due to additional barrier. It might increase the use of label on the one hand, but could also lead to using more standard packages of single manufacturers



	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Yes, incentivize the procurement and recognition of energy efficient solutions, and quantifiable metrics for evaluate the savings. Higher performance of energy solutions should be recognized and receive incentives to the investment. The energy label allows quantifying this and linking the label to financial incentives. • It would also be an opportunity to raise consumers' and professionals' awareness on the energy label. <p><u>Germany</u></p> <ul style="list-style-type: none"> • Support mechanisms can be an option but should usually just be temporarily applied to new products on the market. • Might be a suitable way to increase the issuing of the label and increase awareness. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Connecting the package label to national incentive schemes might hinder applications to the incentive schemes, especially when referring to a new labelling scheme and to the very specific package framework where the labelling responsibilities are not exclusively with the supplier. <p><u>Germany</u></p> <ul style="list-style-type: none"> • Heat incentives often struggle to generate interest because of the high requirements and paperwork. Adding the label as an additional requirement would rather harm the consumer's interest. • The responsible authorities consider incentives to be responsible for commercial launch of new products/technologies on the market but not to promote an energy label which is already legally binding. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Support schemes can also look into additional taxes (burdensome) to non-energy efficient products, such as the taxes imposed to lamps, redirecting those taxes to energy efficient investment. • For a successful support mechanism consider the need to provide, during the proposal submission period, information and clarification sessions, in particular when considering new energy labels. • An incentive can also be related to the VAT applied to appliances with the higher class appliances benefiting from lower VAT rates.



	Advantages	Drawbacks	Comments
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Incentives can promote more efficient solutions. <p><u>Italy</u></p> <ul style="list-style-type: none"> • Absolutely necessary. This could help you understand the benefits in terms of efficiency. But above all, it ensures that incentives go in the direction of helping to improve the energy system and deliver expected results. • Linking incentives to a class jump/improvement helps to understand the tool's embeddedness and encourages the same consumers to use the tool. • The new framework regulation states that incentives will go only to higher energy classes. • Would force installers to promote energy labelling. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Incentives can also make the market "incentives dependent". <p><u>Germany</u></p> <ul style="list-style-type: none"> • The label does not allow to compare different technologies. It provides no info on the costs of the system. It is of little help to consumers. • In addition, ratings between expensive solutions such as heat pumps (electricity mix?) and other ones should be re-evaluated. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Incentives should focus exclusively in replacement and retrofit solutions also raising consumers on the energy performance of their existing heating solutions, advocating for a planned and conscious replacement. <p><u>Germany</u></p> <ul style="list-style-type: none"> • Might have to be linked with house energy efficiency.



	Advantages	Drawbacks	Comments
Manufacturers & Distributors	<p><u>Italy</u></p> <ul style="list-style-type: none">National energy strategy already mentions that incentives should be revised. <p><u>EU</u></p> <ul style="list-style-type: none">Link to governmental subsidy scheme on solar thermal linked to the label class (currently in The Netherlands).Danger of system oversizing.	<p><u>Italy</u></p> <ul style="list-style-type: none">Would increase complexity. In Italy there is anyway a push for efficiency since the incentive mechanism is based on solar yield (from Solar Keymark). <p><u>Portugal</u></p> <ul style="list-style-type: none">The heating energy label is a technology differentiator (rather than a product one) and the support of incentive schemes can unbalance the market.	<p><u>Portugal</u></p> <ul style="list-style-type: none">Support schemes are good, but the label needs to be improved.



Suggestion 2 – Labelling as a tool for introducing performance requirements mechanisms			
	Advantages	Drawbacks	Comments
Installers & Dealers	<p><u>Germany</u></p> <ul style="list-style-type: none">• It should not make the installation more complicated since there is an installer shortage.	<p><u>Germany</u></p> <ul style="list-style-type: none">• Would favour full system providers. <p><u>UK</u></p> <ul style="list-style-type: none">• In the UK the permitted heating system is already high, any attempt at this stage to increase this would not be permitted due to the extra cost and the relatively little gain.	<p><u>Portugal</u></p> <ul style="list-style-type: none">• Responsibility declaration from the installer should be compulsory to present for each installation. It would prompt for more efficient systems and it could have information on the system's performance as well, meaning the energy label.



	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Heating solutions for new buildings should be more efficient than a threshold. Energy label could be used in this regard. <p>d)</p> <p><u>EU</u></p> <ul style="list-style-type: none"> • Public authorities can use the label as a way to compare technologies and raise the requirements regarding the allowed minimum performance of heating systems in building regulations and energy efficiency support schemes in such a way that packages including renewables can comply. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> • Most of the time just one offer is considered and not compared to alternative options. • All parts of the compound systems are already part of certain categories. The categories covered are most of the time just A++ - B. The range is too limited to make a difference to the consumer/installer. Differences should and could be shown with more detailed characteristic numbers. • It will not have the same effect compared to what we see with white goods. White goods are easier to label and do not depend as much on the consumer behaviour as water or space heating systems. Due to the fact it is a European label, it is even more difficult to adapt its calculation to the different regions. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • To assure the coherence among policies, namely eco-design, energy labelling, energy efficiency and buildings energy performance, a broader and synergic analysis ought to be achieved and disposed via guidelines on how to use and consider the energy label, and the available data, in these regulations.



	Advantages	Drawbacks	Comments
Consumers	<p><u>Italy</u></p> <ul style="list-style-type: none">It should be necessary to provide such a label on new building as a proof of consistent quality in the heating infrastructure. That said, it is evident that the label should be improved in the sense of making more evident the differences between different solutions. Nowadays it is too easy to reach A+ with minimum technology that are already the standard for new buildings on the market.		
Manufacturers & Distributors		<p><u>Germany</u></p> <ul style="list-style-type: none">19/26 answered “no”.	



Suggestion 3 – Enforce market surveillance			
	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> There are several light surveillance measures opportunities that can be pursued, namely if the energy label is transversally considered in more European and national regulations. <p>e)</p> <p><u>Austria</u></p> <ul style="list-style-type: none"> If activity of surveillance and consumer protection agencies can be forced, installers would feel more pressure for labelling. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> If surveillance agencies enforced the labelling, many installers might opt for using only pre-assembled packages. <p>f)</p> <p><u>Germany</u></p> <ul style="list-style-type: none"> There is a clear lack of staff and laboratories/technology is limited. Installers don't want to take the risk of falsely labelling their products and being charged with penalties. End-user do not notice if the energy label is being controlled or not. Lack of trust rather comes with mistakes in the labelling system itself, if manufacturers/installers notice it and it finally media pay attention. Many installers are more difficult to control than just a few manufacturers. Would make installers more reluctant to install packages. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> It's essentially a matter of budget and human resources, lack of a good distribution of resources among entities. Some market surveillance agencies are responsible for all products and services in the market (e.g. health issues) than the energy labelling. These responsibilities should be better distributed among government agencies. Some light measures are possible, e.g. require the energy label when issuing energy certificates for new buildings. Use existing administrative procedures to check the existence of the energy label together with the procurement/purchase document (budget proposal, order placement, invoice or receipt).



	Advantages	Drawbacks	Comments
Public Authorities			<p><u>Portugal</u></p> <ul style="list-style-type: none">• Via feedback from consumers, e.g. the fiscal code.• Synergies between energy agencies, national, regional and local would be beneficial. <p>g)</p> <p><u>Germany</u></p> <ul style="list-style-type: none">• Control in a transaction between installer/manufacture and end-consumer (via test purchases). Surveillance authorities would have to carry out “undercover” control.• Control the correctness of the label in laboratories. <p><u>EU</u></p> <ul style="list-style-type: none">• Provide the authority with clear guidelines about what to check and how to check.



	Advantages	Drawbacks	Comments
Consumers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • Several EU-Funded projects by now have proven that market surveillance is absolutely vital to implement the goal of the energy labels. It is even more so for the package label, whose evidence is not immediate since it is not displayed in the shops. • Despite the lack of official market surveillance activities, Banca d'Italia and Consob have been active so far. 		<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Use social media tools to promote "indicative" market surveillance. • Market surveillance agencies should collaborate at European level and should inform all market actors that they are aware and supporting the regulation (although they are not implementing any fields activities). <p><u>Germany</u></p> <ul style="list-style-type: none"> • Only if sided by information campaigns + help desk for consumers. <p><u>Greece</u></p> <ul style="list-style-type: none"> • The Greek solar thermal association offered to cover lab test costs for those manufacturers selected for controls. <p><u>EU</u></p> <ul style="list-style-type: none"> • H2020 has budget for this within the "Grants to identified beneficiaries"



Suggestion 4 – Improve communication			
	Advantages	Drawbacks	Comments
Installers & Dealers	<p><u>UK</u></p> <ul style="list-style-type: none"> A national body in each country already with a presence and significance in the country and industry concerned. RECC or MCS in the UK for example. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Communication can only be secondary. If no added value and no pressure is exerted the label will just be ignored. 	
	<p><u>Italy</u></p> <ul style="list-style-type: none"> Lack of awareness is attributable to the fact that there is no institutional communication that explains to citizens the instrument and its benefits. Another barrier is the fact that incentives are not related to the label. It would help to link the label to economic savings and overall to energy figures. 		
	<p><u>Portugal</u></p> <ul style="list-style-type: none"> It's a complex label and consumers need help to from the installer/dealer when he is choosing/buying a new equipment. 		



	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none">Let public authorities lead by example with Green Procurement measures supported in the energy label. Also, reinforce communication with other big players, such as building developers, utilities and banks to promote their use of the energy label and even demand it in the case of loans for refurbishment/retrofit activities.Reinforce communication on the energy label to the consumer, it's added value as a support decision tool, and to the professionals, raising their awareness on the penalties they can incur if they do not comply with the regulation.		
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none">The "load profile" isn't clear to the consumer and they need help in understanding it.Consumers still need more information and support to understand the label.		<p><u>Portugal</u></p> <ul style="list-style-type: none">The consumer cannot perceive (quantify) the added value of an A+ option as opposite to a F. The energy label monetization is an effort/exercise which distributors should be able to develop with the consumer. For this training for these market agents should be reinforced.



	Advantages	Drawbacks	Comments
Manufacturers & Distributors	<p><u>Italy</u></p> <ul style="list-style-type: none">• Manufacturers should implement communication activities in parallel to public initiatives. E.g. www.newenergylabel.com or QR codes for white goods.• Italian government had reserved a budget for communication but is not spending it. <p><u>EU</u></p> <ul style="list-style-type: none">• If market surveillance is in place, no need for big communication.		



Suggestion 5 – Reduce number of regulations			
	Advantages	Drawbacks	Comments
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none"> Many installers claim that the responsibility they bear because of the label makes them subject to risk. So, they tend to turn to factory-made, standardized systems. <p><u>Germany</u></p> <ul style="list-style-type: none"> Yes, regulations are a burden for the installer doing their job. 		
Public Authorities	<p><u>Germany</u></p> <ul style="list-style-type: none"> With too many regulations and especially the responsibility for the generated label, installers tend to buy factory-made systems and just resell them. This weakens the position of installers and system designers in the market. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Regulations are needed to push the market for more energy efficient solutions. This increases quality demand message has to be passed on to the market, so that consumers value it and installers feel the need to comply with it. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Professionals tend to look exclusively to the burden they have at hands. If they can see and understand the overall picture and where their contribution enters and its impact maybe they can easier respond to these new challenges and become sponsors of the idea of energy efficiency.



Suggestion 6 – European product database		
	Advantages	Drawbacks
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none"> Big companies can spend time on both, designing a calculation tool and training installers to use it, but this solution is limited to the companies' products. For small solar specialists, this is not feasible. This trend could be changed with a unique tool, completed with a European-wide database. <p><u>Italy</u></p> <ul style="list-style-type: none"> Interviewed installers agree. <p><u>UK</u></p> <ul style="list-style-type: none"> Complexity is an issue and a simple tool for package label creation would help. <p><u>Germany</u></p> <ul style="list-style-type: none"> VdZ is providing a solution and it works well, if it is connected to software of the installers. 	<p><u>France</u></p> <ul style="list-style-type: none"> Legal problems involving intellectual property or patents could surface.



Manufacturers & Distributors	<p><u>Germany</u></p> <ul style="list-style-type: none">• 12/30 answered “yes”.	<p><u>Germany</u></p> <ul style="list-style-type: none">• 13/30 answered “no”.• Too much effort for companies.• Product data base excludes packages. <p><u>Portugal</u></p> <ul style="list-style-type: none">• The configuration of the European product database is still in definition and it's immature to open a precedent for third party entities to use the database, when data protection issues are not yet defined.
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2) Support measures

Suggestion 1 - Training			
	Advantages	Drawbacks	Comments
Installers & Dealers	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Through training, distributors and installers should be proactive agents in advising consumers to look into the information in the energy label. Professional training should also reinforce the energy label as a tool for professionals, to consider the data provided in the label and product fiche, increasing their appropriation of this tool to generate more business. 		<p><u>Portugal</u></p> <ul style="list-style-type: none"> Dealers, namely in the retail sector, should also be acknowledged in the training sessions as their direct link to the consumer is valuable.
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Public authorities should also be dynamic supportive entities to the market agents and for that they need to be aware and know the regulations, so trainings should also aim the public sector. <p>h)</p>		<p><u>Portugal</u></p> <ul style="list-style-type: none"> Provide trainings on the overall energy label context, all the appliances.
Consumers			<p><u>Portugal</u></p> <ul style="list-style-type: none"> Training/information sessions for consumers and how to improve their energy efficiency skills.



Suggestion 2 – Promote the creation of harmonized installation requirements to guarantee that the heating solution is performing according to expectations

	Advantages	Drawbacks
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none">ENERPLAN is designing it for large scale solar thermal installations, but it is still in progress.	<p><u>UK</u></p> <ul style="list-style-type: none">The UK already has a very regulated installation regime, any additional burden on installers may lead to lower performance standards as more move away from the regulated market. Also, each individual house type necessitates a very different approach. This is compounded by the UKs old and complex housing stock.
Public Authorities	<p><u>ADENE</u></p> <ul style="list-style-type: none">Guidelines should also cover the contact with the consumer, creating a brochure on how to assure the maximum performance of your heating systems (how to use, e.g. solar priority, smart maintenance steps, who to call when not working).	



Manufacturers & Distributors	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Installers should assume the responsibility of their installations via a declaration of responsibility pressing for quality installations. 	
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Suggestion 3 – Support the role of consumer protection agencies		
	Advantages	Drawbacks
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • These entities are a critical link in the communication with the consumers, knowledgeable entities on the best ways to communicate with consumers and attract their interest. 	
Consumers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • The support of consumer agencies for the ability to reach end users is crucial. • Waiting for public support, consumer associations should start implementing activities. 	



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Suggestion 4 – Provide tools to help monetize the label and calculate the operational costs		
	Advantages	Drawbacks
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none">• Monetization tools are a good awareness raising instrument for the costs of energy. We would not advocate for the EC to develop such tools, but rather motivate other European projects to focus on this subject.	
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none">• This kind of tools are strongly advised to help consumers choose the best option for their needs.• These tools should be available everywhere (in stores, online, with installers).	



3) Modification of the current energy label

Suggestion 1 – Include expected energy consumption of the water heating system (package)		
	Advantages	Drawbacks
Installers & Dealers	<p><u>UK</u></p> <ul style="list-style-type: none"> Most people understand kWh, or at least they should. <p><u>France</u></p> <ul style="list-style-type: none"> It would speak more directly to the user. 	<p><u>UK</u></p> <ul style="list-style-type: none"> For a consumer this is relatively meaningless.
Public	<p><u>Portugal</u></p> <ul style="list-style-type: none"> It would be a good input, giving visibility to the expected consumption, ensuring a coherent language with the water heater's label. Add something that states how much more efficient is one solution in comparison to the lowest energy class in the market: "saves 3 times more energy than a F", "saves x kWh compared to a F". 	



	Advantages	Drawbacks
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none">• Coherent with the message conveyed in the product label for water heaters. <p><u>Italy</u></p> <ul style="list-style-type: none">• Difficulty of providing certain data on savings. However, you can specify meter parameters, specifying under what conditions the given parameter respects that efficiency value. <p><u>Germany</u></p> <ul style="list-style-type: none">• Also washing machines present annual energy consumption in kwh on the energy label, based on general assumptions for the load profile. Same could apply for standard household and typical water consumption.	<p><u>Portugal</u></p> <ul style="list-style-type: none">• Adding more information can also make it more complex to the consumer.



Suggestion 2 – Introduce data on economic benefit brought by the choice of high efficiency classes system			
	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Italy</u></p> <ul style="list-style-type: none">• Would partially solve the problem of too large efficiency classes, distinguishing between products in the same class.• QR code could be an option to reduce the amount of information in the label.	<p><u>Germany</u></p> <ul style="list-style-type: none">• Difficult to calculate economic benefits by replacing an old heating system with a new one. It could be calculated in a standardized environment/house but the cost factors (gas/electricity price development, consumer behaviour etc.) are crucial for the calculation.	<p><u>France</u></p> <ul style="list-style-type: none">• The issue of economic benefit has been pointed out in an analysis of the label conducted by ADEME (national energy agency).



	Advantages	Drawbacks	Comments
Consumers		<p><u>Italy</u></p> <ul style="list-style-type: none">• Adding additional parameters that may indicate economic benefits can certainly be valid. But given the historical momentum and increased environmental sensitivity, parameters on environmental and climate benefits can capture the attention of end consumers. Price difficulty, which varies from country to country, may be exceeded by indicating savings percentages.• Only if easy to understand for consumers. <p><u>Portugal</u></p> <ul style="list-style-type: none">• It's very difficult to calculate savings to the consumers due to different energy prices.• The printed label can't be updated.• Presenting these values could give "false hopes" to the consumer.	



	Advantages	Drawbacks	Comments
Manufacturers & Distributors		<u>Italy</u> <ul style="list-style-type: none">Quantifying operational cost of heating is too difficult due to building modelling.	



Suggestion 3 – Review scale of energy efficiency classes system			
	Advantages	Drawbacks	Comments
Installers & Dealers	<p><u>UK</u></p> <ul style="list-style-type: none"> Review the accuracy and application of the load profiles. An automatic bump of one level with the inclusion of solar OR a super script or subscript to denote solar is included. <p><u>EU</u></p> <ul style="list-style-type: none"> Add exact efficiency figure next to energy class 		
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Improve/change the calculation methodology so that it is more beneficial to the solar thermal system, as solar is a free energy provider. 		<p><u>Portugal</u></p> <ul style="list-style-type: none"> Exclusively classify appliances/packages with renewables with the “+”. <p><u>Germany</u></p> <ul style="list-style-type: none"> Rescaling the efficiency categories and focus on costs and pay-back.



	Advantages	Drawbacks	Comments
Manufacturers & Distributors	<p><u>Austria Solar:</u></p> <ul style="list-style-type: none"> Limited range of improvement for technologies within their (predefined) classes hinders technological development. As the energy label got a new design (A instead of A+++), it is important to ensure that combinations with solar thermal systems get the best ranking. <p><u>Germany</u></p> <ul style="list-style-type: none"> If the calculation method allows simpler combinations to reach A+ class, the benefit of energy labelling for the solar thermal industry will be lost and the solar industry will reduce its efforts in implementing the label. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> The label is very recent and revising it can affect market trust in the label. This revision should only take place when undergoing the foreseen rescaling process (<u>according to Regulation 2017/1369</u>) 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Introduce a gap between conventional and renewable systems e.g. "max C" for conventional systems.



Suggestion 4 – Include different energy classes according to the system location for solar water heaters and heat pumps		
	Advantages	Drawbacks
Installers & Dealers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • Advisable. This is done for example in the Italian incentive program (Conto Energia Termico) for heat pumps. <p><u>UK</u></p> <ul style="list-style-type: none"> • As long as the area is big enough such as south, central and north Europe, this could be straight forward. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> • 27/31 answered “no”. • Solar Keymark serves as a reference.
Public	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • It would follow the air conditioning example and would be clearer for the consumer, in particular to highlight the value of solar thermal, which depends critically on the geographical location. The same would happen with the package label. 	
Consumers	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Positive as it communicates more directly with the consumer, who is already used to distinct classes per region as it happens with the air conditioning energy labels. • 	<p><u>Italy</u></p> <ul style="list-style-type: none"> • This info might arise some difficulty of understanding in end-consumers.
Manufacture	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Positive since no extra work is needed and it communicates better with the consumer. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> • Despite the positive effect any changes to the label should be carefully evaluate to prevent undermining the label with new changes to a still recent label.



4) Introducing new labels

Suggestion 1 – Introducing labelling for existing boilers			
	Advantages	Drawbacks	Comments
Installers & Dealers	<u>UK</u> <ul style="list-style-type: none"> Some felt that a voluntary labelling system along similar lines would be good where it provides an advantage to either party. 	<u>UK</u> <ul style="list-style-type: none"> Some felt this wouldn't help the package label and would probably add a degree of confusion. 	<u>UK</u> <ul style="list-style-type: none"> Without a mandatory servicing regime in the UK it is unlikely to be that widespread. <u>France</u> <ul style="list-style-type: none"> Such mechanism should remain voluntary, or only happen upon the checking of the system.
Consumers	<u>Italy</u> <ul style="list-style-type: none"> Recommendable especially in multifamily houses (medium power boilers). 		



	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Well received by public authorities, namely as a means to promote planned replacement of heating systems. Would help raising consumers' awareness on the performance of their existing heater and promote the retrofit or substitution for more efficient heating systems. A labelling scheme for old heaters could be a good solution, provided that an adequate framework and a simplified methodology are defined, resources allocated and the added value of promoting the replacement of inefficient heaters widely communicated. 		<p><u>Portugal</u></p> <ul style="list-style-type: none"> It could be launched with an incentive programme for heating systems replacement. It could be associated with the buildings energy performance, and when a certificate is issued the energy class of the existing heater could be assessed by the certification expert. It could also be associated with compulsory gas inspections (e.g. every 10 years?). <p><u>Germany</u></p> <ul style="list-style-type: none"> In Germany a labelling mechanism for existing boilers exists. The chimney sweepers have to control the houses during their visits and are obligated to attach a label to the existing boilers.



	Advantages	Drawbacks	Comments
Manufacturers & Distributors	<p><u>EU</u></p> <ul style="list-style-type: none"> This would create opportunities for planned replacement of water or space heating systems. <p><u>Austria</u></p> <ul style="list-style-type: none"> The heating boiler assoc. in Austria runs an initiative to label existing heating systems to stimulate refurbishment, no experiences on impact so far. <p><u>Italy</u></p> <ul style="list-style-type: none"> Assotermica is already working on a labelling for existing boilers, to be implemented during regular exhaust gas checks. It is mainly a tool for enhancing communication about obsolescence of one's boiler. <p><u>Portugal</u></p> <ul style="list-style-type: none"> Supports the consumer to consider a planned replacement or retrofit of existing inefficient solutions. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Risk of adding too much bureaucracy. A problem could occur in the process of rescaling the energy labels. Then the already labelled old boilers might have the same efficiency categories as the new ones. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Label cannot be voluntary; it must be mandatory. Additional incentives should be included. <p><u>Portugal</u></p> <ul style="list-style-type: none"> The calculating methodology should be simple and it should not require a compulsory visit to the house but rather happen when a visit is already planned, example for the building energy certification, or when an inspection takes place.



Suggestion 2 – Indicative labelling for new solar thermal systems supported by existing conventional heaters		
	Advantages	Drawbacks
Installers & Dealers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • Would be useful, the issue of existing systems being crucial. <p><u>UK</u></p> <ul style="list-style-type: none"> • Yes, if explained well. • Mandatory would be better to increase uptake and allow for effective comparison and awareness. Installers unlikely to do it voluntarily. 	<p><u>France</u></p> <ul style="list-style-type: none"> • It would not represent the performance of the whole system, so the concept of energy labelling would lose some of its interest.
Consumers	<p><u>Italy</u></p> <ul style="list-style-type: none"> • There is surely an expectation on this issue by consumers since solar thermal is the only important heating technology that has no product label and cannot therefore be compared with others. <p><u>Portugal</u></p> <ul style="list-style-type: none"> • That makes sense but must be simple and clear for the consumer. 	



	Advantages	Drawbacks
Manufacturers & Distributors	<p><u>Germany</u></p> <ul style="list-style-type: none"> Label for collectors could help and can show the contribution of the collector / info on the collector / difficult for refurbishments. <p><u>Italy</u></p> <ul style="list-style-type: none"> A high (or very high - up to 85% according to some manufacturers) share of solar thermal systems is installed keeping the existing heat generator (mainly gas boilers): in such situation no package label is required. A collector label would partially solve this problem. <p><u>EU</u></p> <ul style="list-style-type: none"> The fact that solar thermal systems do not have a product label affects the capacity to compare its performance and benefits with other technologies. Solar specialists not cooperating in the promotion of the label and the obligation since solar collectors do not have a label themselves and is not properly reflected in the calculations. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> Technical data is sufficient for the decision. Too many labels in the market. <p><u>Italy</u></p> <ul style="list-style-type: none"> No need in Italy, as the financing mechanism already supports efficiency. Would increase complexity.



5) Energy label and buildings

Suggestion 1 – Connecting Energy Labelling to Energy Performance of Buildings introducing performance requirements mechanisms			
	Advantages	Drawbacks	Comments
Public Authorities	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Energy labelling should be a component to consider for example in the buildings energy performance certificate calculation. 	<p><u>Germany</u></p> <ul style="list-style-type: none"> To integrate the heating system in an environment is relevant but requires too much effort to calculate it sufficiently exact to be of additional value. 	<p><u>Portugal</u></p> <ul style="list-style-type: none"> Identify in the buildings energy performance regulation minimum energy classes for heaters installed in new houses and whenever conducting deep retrofit. <p><u>Germany</u></p> <ul style="list-style-type: none"> The heating system could be related to the energy consumption of the building in order to calculate the specific operating costs and the CO2 emission. i)



	Advantages	Drawbacks	Comments
Public Authorities		<p><u>Others:</u></p> <ul style="list-style-type: none">Some Buildings Energy Performance Codes do not consider the same data for the characterization of the heating systems as presented in the energy label. This hinders the possibility of professionals, responsible for issuing the energy certificate, to consider the data included in the product's fiche in their calculation. It also prevents the identification of the equipment's energy class in the description of the existing solution, as well as the detailing of potential intervention measures in this area, acknowledging the possibility to install an equipment with a higher energy class. <p><u>EU</u></p> <ul style="list-style-type: none">EPBD has divided EU member states, they do not want to harmonize it.	



Manufacturers & Distributors	<p><u>Portugal</u></p> <ul style="list-style-type: none">• The harmonization with the national regulations is essential to assure the compliance with minimum requirements and access the relevant data without the need to test the product for other conditions, what implies extra testing costs.		
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Suggestion 2 – Integrate label with information if an efficient heating system is appropriate for the house and if it will be efficient in the building		
	Advantages	Drawbacks
Installers & Dealers	<p><u>France</u></p> <ul style="list-style-type: none">Standardised types of installation could be given, taking into account the surface, the insulation, the exposition of the building.	<p><u>Italy</u></p> <ul style="list-style-type: none">Easiness versus correctness, it would be too complicated. <p><u>UK</u></p> <ul style="list-style-type: none">The creation and output of the label would be overly complicated. A system should not be proposed if it is not suitable.
Public		<p><u>Portugal</u></p> <ul style="list-style-type: none">The energy label is a communication tool. It does not overcome the need for specialized consultancy regarding the definition of the most adequate heating solutions.



Consumers		<p><u>Italy</u></p> <ul style="list-style-type: none">• It should be noted that it's up to installers to ensure that the system to be installed is compatible with the house. The label orients the purchase but should not guarantee the full compliance because of installation variability. <p><u>Portugal</u></p> <ul style="list-style-type: none">• Putting more information will make it more complex to the consumer, maybe this information could be added to the product fiche.
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ANNEX I

Selection of recommendations for the Commission and national public authorities regarding the implementation of the “package label”





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Scope of the document

This document is part of Deliverable D4.3 – Recommendations for the Commission and national public authorities regarding the implementation of the “package label”.

It is meant as a selection of those recommendations (among the 18 included in the main deliverable) which the LabelPackA+ consortium considers most significant and worth to be considered by the EU Commission and by National Public Administrations.

For each recommendation, the overall position of LabelPackA+ consortium is mentioned. Furthermore, some detailed explanations explaining the reasons for such position.

In the following, all 18 recommendations described in the main deliverable are listed. Those which have been selected are underlined:

- Connecting labelling to support mechanisms
- *Labelling as a tool for introducing performance requirements*
- *Enforce market surveillance*
- *Improve communication*
- *Reduce number of regulations*
- *European product database*
- *Training*
- *Promote the creation of harmonized installation requirements*
- *Support the role of consumer protection agencies*
- *Provide tools to help monetize the label*
- Include expected energy consumption
- Introduce data on economic benefit
- Review scale of energy efficiency classes system
- Include different energy classes according to the system location
- Introducing labelling for existing boilers
- Indicative labelling for new solar thermal systems
- Connecting Energy Labelling to Energy Performance of Buildings
- *Integrate information if an efficient heating system is appropriate*



Selected recommendations

Connecting labelling to support mechanisms

It is understood that defining the energy label for space and water heaters as a requirement for support schemes would promote strongly the use of the package label. In fact, it is already being introduced in some countries. Nevertheless, there have been difficulties in its application, indicating that more awareness and training about the labelling process is an important step. On the other hand, several concerns were brought up, arisen by the possibility that such measure might unbalance the market in favour of large manufactures and against small solar specialists. The main reason is the fact that is system suppliers are in a privileged situation, in comparison to specialists regarding the issuing of the package label, related to their range of solutions, their access to installers networks and their outreach capacity.

Overview on the position by each LabelPackA+ partner ³

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
NO	NO	YES	NO	YES	X	NO	X	YES	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **neither in favour, nor against** this option. In the following, specific comments

General comments:

- Some concerns were arisen by the possibility that such measure might unbalance the market in favour of large manufactures and against small solar specialists.
- If this measure was adopted, it would anyway be left to each Member State to decide how to link energy labelling to support mechanisms, as such mechanisms differ from country to country.

Specific comments:

- Austria Solar does not favour this suggestion, as the label is not considered a benefit for marketing and sales but a mere must, causing extra effort, and nearly all products are A-rated already, there is little motivation for public authorities to link it to subsidies obligatory". Furthermore, the Austrian government does not want to change the incentive mechanism for technologies with decreasing market, such as solar thermal.
- According to BSW, a connection of the package label to national support schemes might be acceptable, provided that:
 - It is being acknowledged that a solar device is a heater and not only an efficiency technology.
 - Adjustment of the calculation formulas of the contribution of solar device according to its contribution to the heating system (e.g. annual efficiency of solar collectors and correlations to results according to the German standard DIN V 18599:2017) to create a level playing field of all heating technologies (reference: Proposal of Solar Heat initiative).

³ "X" means that the partner was not present during the selection of most significant recommendations



- Readjustment of the formulas of the calculation of the package label to guarantee that it is no longer possible to gain "A+" with the combination of gas heater + controller, plus a redefinition of scales between the classes.
- Solar device retrofiting is being considered in the calculation and a label option provided for such stand-alone packages
- A compulsory database for all products and components and a simple to use tool is being provided to facilitate the labelling of all kind of packages
- Only efficient, renewable, combinations are supported in the support scheme

Include expected energy consumption

This is a positive measure in terms of consumer information, enhancing the consumer ability to assess different options. In particular in the case of a comparison between a water heating package and a water heating product, such measure would facilitate the consumer decision process. This proposal is not without caveats. Clear information on load profiles is necessary, in order to avoid comparisons between solutions addressing different load profiles. Furthermore, it should be clear to consumers and not had complexity to the label. On the other hand, such measure should not bring added efforts in testing by manufacturers, regarding products already in the market.

Overview on the position by each LabelPackA+ partner ⁴

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
YES	YES	YES	YES	YES	X	YES	X	YES	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

General comment: the problem of load profiles must be addressed and solved.

Specific comments:

- BSW underlines that more training and additional information for end-users in the product fiche would be needed. New tests must be avoided since they are expensive and time consuming. The calculation method of solar heating provides the solar fraction and so can be used to show the expected energy consumption compared to the energy delivered by the solar device for a reference case. The method provides also a solution for the load profiles.
- Austria Solar thinks that as happens with refrigerators and washing machines, including kWh/annum in the label will enable end users to clearly distinguish between different systems.
- ADENE does not consider the issue of load profiles as a problem: it would be relatively easy to address by defining a standard profile.

⁴ "X" means that the partner was not present during the selection of most significant recommendations



Introduce data on economic benefit

The possibility to introduce data on the potential economic benefit that could derive from the choice of high efficiency classes system was considered relevant as an important facilitator of the consumer decision process. Nevertheless, it was not considered practicable, the main reason being the difficulty of having adequate and fair data applied at European level. Such difficulties are already felt by other products subject to energy labelling, such as “white goods”, where the differences in electricity price and changes over time make it hard, if not impossible, to provide clear information to consumers. Knowing that heating products and systems are much more complex, such task would be even harder. If some options were to be applied to ease the decision process, these could be based on online tools.

Overview on the position by each LabelPackA+ partner ⁵

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
NO	NO	NO	NO	NO	X	NO	X	NO	NO	X

According to the table above, the overall position of the LabelPackA+ consortium is **against** this recommendation.

General comments: The main concern is the difficulty of having adequate data at European level. If such modification was to be applied, a good reference might be the “Digi-Label” tool developed in the framework of EU project Digi-Label.

Review scale of energy efficiency classes system

The definition of the classes is critical for the adequate information of consumers. It is considered that the current classes can be improved, in order to offer a better understanding of performance differences. Lower classes have smaller intervals, which can be seen has benefitting less efficient products. On the other hand, more efficient systems using also renewables, are in upper energy efficiency classes. These classes (above A) have very large intervals, which render performance gains harder to be perceived by consumers, i.e., they are not so likely to lead to a change in energy efficiency class. Still, the revision of the classes requires caution on the process, considering the impact it can have in the market, on consumer choices and even on the confidence about the energy label. Namely, an impact assessment and consultation process should be carried out, taking also into account consumer perception and understanding regarding such changes.

Overview on the position by each LabelPackA+ partner ⁶

⁵ “X” means that the partner was not present during the selection of most significant recommendations

⁶ “X” means that the partner was not present during the selection of most significant recommendations



SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
YES	YES	YES	YES	YES	X	YES	X	NO	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

General comment: the LabelPackA+ project Consortium is in favour of rescaling but will not go in the detail of how the rescaling should be made.

Specific comments:

- ADENE suggests waiting for the revision of the regulation, as it is too early to change the label after only 2,5 years.
- Assolterm suggests applying a first light change immediately, that is showing the exact efficiency figure besides the efficiency class. The rescaling could occur later with the revision of the regulation.
- SHE: expressed concerns about the impact of the revision of the PEF in the current classes, namely benefitting less efficient solutions. Before a change, an assessment would be needed.
- DECO is against this recommendation because it would imply a big change in the energy label, thus undermining its credibility.
- Austria Solar wishes that the rescaling will allow heating systems without solar to reach B as maximum efficiency class. This would be a strong signal in favour of solar thermal technology.

Include different energy classes according to the location

The different requirements and conditions in the three climatic regions lead to variations in the performance of products and systems. Nevertheless, these are always labelled according to the average region, even if more information is available regarding performance in other regions. This could be done by including different energy classes for the three climatic regions, for solar water heaters and heat pumps in particular. It would bring added value to consumers if they could identify immediately the energy efficiency class applicable to a product for the region where it is acquired. The process should be simple and allow for products to be sold all over Europe. One possible option would be to have three classes in the label, one per region. Such possibility exists already for other products (air-conditioning). As for systems, this process could be implemented by allowing the package label to be calculated and the label issued based on the location of the package. As the package label is more directly related to the system (combination of components) acquired by the consumer, the implementation of this measure would be much simpler.

Overview on the position by each LabelPackA+ partner ⁷

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
YES	NO	YES	YES	YES	X	NO	X	YES	NO	X

⁷ "X" means that the partner was not present during the selection of most significant recommendations



According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

Specific comments:

- ADENE explains that this would reflect real system behaviour: as a matter of facts, a given system with a given energy label usually has a better efficiency if installed in a hot country like Portugal due to milder climate conditions.
- BSW raises the problem of systems labelled in a country but sold in another country. Classes should be given for all climate zones (see SOLERGY label as a reference).
- SHE is in favour only for product label, not for package label. Package label could be issue for the specific region the system is installed in.
- According to Legambiente, introducing expected consumption in kWh (see recommendation n. 2) would be enough.
- Austria Solar: Securing that heating systems without solar can reach B at maximum would be a strong signal in favour of the advantage of solar thermal technology

Introducing labelling for existing boilers

The current regulation does not prevent procedures regarding indicative labelling of existing boilers to be introduced, as happened in Germany. Such initiatives are important to increase awareness among consumers regarding the efficiency of their boiler and the eventual necessity of changing or planning a change. Most replacements are classified as urgent replacements, due to break-down or malfunctioning of the space and/or water heater. Planned replacements are beneficial for introducing solutions different to the previous one installed, as it allows time for considering different options, considering benefits and costs, or even make necessary adjustments in the building.

Overview on the position by each LabelPackA+ partner ⁸

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
YES	YES	YES	YES	YES	X	YES	X	YES	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

Specific comments:

- Austria Solar hopes that labelling of existing heating systems will be combined with a limited permission for boilers below a certain threshold (e.g. class D).

⁸ "X" means that the partner was not present during the selection of most significant recommendations



Indicative labelling for new solar thermal systems

The retrofitting of existing space and water heaters with other components is not covered by the package label, under the current framework, even if the required information on the existing heater would be available. A package label applies to the installation of a number of components done simultaneously. This means that, for instance, an installer that adds solar thermal to an existing boiler cannot issue a package label. In several countries most of the solar thermal installations are retrofits, i.e., are installed in addition to an existing space or water heater. As the package label cannot be issued, its potential impact is not felt in such cases. Nevertheless, having the possibility to issue or update a package label could encourage consumers with more recent systems, unwilling to make a full change, to consider adding components that would improve the entire system.

Overview on the position by each LabelPackA+ partner ⁹

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
YES	YES	YES	YES	YES	X	YES	X	YES	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

Specific comments:

- BSW considers indicative labelling for new solar thermal systems should be voluntary.
- Legambiente: It should be possible for Member States to allow for issuing a package label when installing a solar thermal panel on existing systems where the main heater is not changed. This should be possible not only when heaters have been installed after the entry into force of Package Labelling regulation, but eventually on all systems when a labelling scheme for existing heaters and water heaters is in place. The label should bear no distinction compared to the existing labelling scheme.

Connecting Energy Labelling to Energy Performance of Buildings

The Energy Labelling Directive and the Energy Performance of Buildings are two pieces of regulations with similar goals but quite different application. There would be benefits in combining Energy Labelling to Energy Performance of Buildings, introducing common performance requirements mechanisms. While one addresses space and water heaters, either as products or systems, the other covers buildings as complex systems. Considering the relevance of heating in the total consumption of buildings, facilitating synergies between the two regulations would help consumers understand the impact of their choices of space and water heating systems in the overall performance of their buildings. The main caveat of this proposal is the complexity of its implementation, considering that the two regulations are technically complex and the implementation of the EPBD varies significantly from one member state to the next.

⁹ "X" means that the partner was not present during the selection of most significant recommendations



Overview on the position by each LabelPackA+ partner ¹⁰

SHE	BSW	ADENE	ENERPLAN	ASSOLTERM	STA	AUSTRIA SOLAR	APISOLAR	DECO	LEGAMBIENTE	ECLAREON
NEUTRAL	YES	YES	NEUTRAL	NEUTRAL	X	NEUTRAL	X	YES	YES	X

According to the table above, the overall position of the LabelPackA+ consortium is **in favour** of this recommendation.

General comment: Problem of need for modifying the EPBD.

After a discussion about this issue, following comments were arisen:

- The calculation methodology for accounting space and water heating needs to be used in the EPBD certification is defined at the Member States level. There are guidelines available, CEN standards, which could require a revision, namely EN 15316.
- Currently Solar Heating Initiative (SHI) is working on a validation of its proposal with a simulation program. If this led to reasonable results, even different EPBD Standards would not be a problem.

Specific comments:

- ADENE is in favour given that harmonised data is available.
- Legambiente: EPB label is perceived by most consumers as an overarching label covering all aspects of energy within the building and, such the situation being, there is often a confusion about the role of the package label, that in this perspective can be seen as a “lesser” and non-useful label. The argument here is that the values and performance taken into consideration by package label are embedded in the EPB label too, to some extent. It is also confusing when the two labels do not match exactly (i.e. when the improving of Product Label does not lead to the improving of EPB label). There is the need for a stronger accordance/integration between the tools and a better communication towards end consumers.
- BSW:
 - The SHI proposal overcomes the obstacle of integrating the heating system in the building environment with a simple but rather precise method derived from results of calculations acc. to DIN V 18599

¹⁰ “X” means that the partner was not present during the selection of most significant recommendations



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End of Document

About the Labelpack A+ Project

The 'Label Pack A+' 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 or 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

