





Report

Package Label Implementation Assessment

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PUBLICATION DATA

Title: Label Pack A+ - "Package Label implementation assessment report"

Date of publication: Brussels, October 2017

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

Deliverable: Deliverable D4.1 Package Label implementation assessment report **Dissemination level:** PU: Public





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1 Executive Summary

This report covers different aspects regarding the assessment of the implementation of the package label in project countries. The assessment was initially focused on the implementation of the project. As it became clear that some of the issues regarding the national implementation when beyond the reach of the National Pilot Projects, the assessment was extended in order to address also more action related to the monitoring of the overall roll-out of the Package Label in the market.

This monitoring included gathering information, experiences from different stakeholders, as well as discussions with National Stakeholder Platforms. Starting from a SWOT analysis of each country's National Pilot Project implementation performance, it went further in order to outline barriers and potential solutions. This analysis was complemented with a series of national surveys/studies, namely in Germany, Portugal and Austria. These studies provided valuable indications, to a large extent confirming some of the common opinion among partners, regarding a less than ideal roll-out of the package label in the market.

Below we present a summary of the original Package Label Implementation Assessment, which was later complemented with the referred studies.

Legal framework in the participating countries

The lack of harmonization between the energy label and the Energy Performance in Buildings Systems calculation/consideration methodologies regarding heating solutions performance is a barrier to a wider consideration of the data included in the product/package fiche, as well as to dissemination of the opportunities associated to the adoption of more efficient, higher rated class heating solutions.

Some national support schemes, like the energy efficiency fund in Portugal, demand the package label, with a minimum energy class, for co-financing new heating systems. In Germany the indicative labelling of existing heating systems also allows raising awareness on the heating label and the potential to adopt more energy efficient solutions using solar thermal.

Potential support schemes, in tax reductions and tax credits are also on the table, using the package label and minimum performance requirement has a criterion for accessing these.

NSP Involvement

The level of involvement and commitment from the stakeholders in the participating countries is very different, directly related with the type of organizations involved: private companies, sectorial associations, public administration entities, professional associations, consumer associations, market surveillance entities.

- Strengths
 - Involving the most relevant stakeholders in the heating market that increase the outreach to consumers and installers;
 - The participants acknowledge the NSP meetings importance and relevance to express their opinions and concerns on the heating energy labelling matter;

Weaknesses

- The MoU was to formal and bureaucratic was not accepted / signed by several institutions / companies;
- Opportunities





- Reinforce the visibility given to the stakeholders' participation and commitment to the NSP, namely via media articles and participation in workshops and other events with media coverage;

• Threats

- Some agents raised the issue on how to evaluate how important and effective is the package label for the consumers and installers, how to evaluate if this tool has brought some added value to the heating market and if the added administrative burden is effectively worth it;
- The package label lacks momentum (superior endorsement) and the NSP participants' engagement is lost (namely since the lack of market surveillance is already acknowledge).

Trainings

Several types of trainings were/are organized in the participating countries, from policy professionals, to manufacturers, dealers and installers, system designers and end-consumers.

A common SWOT analysis to all these activities is proposed:

• Strengths

- High level endorsement is achieved when organizing the activities in cooperation with NSP members;
- Trainings with a theoretical and a practical part are very well received, where the participants are invited to simulate the calculation of different package labels (installers and other specialists) or perceive the value difference between different solutions and energy classes (end-consumer);

Weaknesses

- The energy labelling theme overall is a topic that still needs to be explored and further detailed to professionals and consumers, in particular it is critical to clearly present the heating label first and then explain the package label, which is a very specific topic;

• Opportunities

- Promote a training that addresses the energy labelling theme in a more general perspective, explaining the basics of the energy label and not only the heating label;
- Indicative labelling for packages composed of existing heaters and new solar thermal systems to tackle
 a large fraction of the solar market that relies on separate sells rather than in complete packages. It is
 also an opportunity for outlining the added value of the business proposition for a new heating system if
 the installer can "simulate" the class of the existing solution, according to this same regulation;

• Threats

- 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;
- A lot of installers rely on their supplier (manufacturer) to have the label; hence they don't develop interest in the package label trainings.

Regarding consumers, there is a lack of awareness on the topic, though the activities endorsed and the materials distributed, have been very well received. It is true that user's confidence on the label has been shaken in the last years and that the package label fails in not stating the energy consumption or efficiency of the solution. Also, the consortium acknowledges that developing attractive communication campaigns towards the end-users costs a lot of money. The social media campaign has provided a help and successful mean to reach a wide audience of end-consumers with low investment. Expectations regarding the video potential impact are high.

Online tool

Some of users' feedback and improvement suggestions regarding the tool are:





- Integration of the Solcal methodology in the online tool;
- Include information tips alongside each information input, information bubble or 'hover over' type function (for example indicate the unit into which the data has to enter on the tool);
- In the private area:
 - o registration of the supplier or dealer's commercial brand;
 - o registration of the package labels issued by each dealer;
 - allow the upload of products energy label and product fiche, associated to the user's private database;
 - connect the private area for the automatic filling of the commercial name of the package supplier and the constituting products (if chosen from the database).

Workshops, Fairs, Conferences and other events

- Strengths
 - Physical sessions are positive networking events;
 - Allows joining in one session several topics, covering the concerns of all the market actors;
- Weaknesses
 - Very few opportunities to present the heating label, since it's a very specific topic;
 - Presentation at booth for labelling turned out to be less attractive to visitors, more visible interactive activities during the fair would have been necessary to get more manufacturers and retailers to come by;

• Opportunities

- Join events, like fairs and wider conferences to guarantee a larger audience (dedicated to solar thermal, heating and cooling or energy efficiency)
- Promote more networking events between market agents and the direct contact between the market and the consumers;

• Threats

- Very specific topic, perceived as an obligation and not as an opportunity, so professionals do not want to lose their time with the subject;
- Hard to give a lot of detail.

On the national overall market assessment, a summary SWOT analysis can also be provided:

- Strengths
- The energy label is perceived by professionals as a valuable tool to communicate with the end-consumer, namely on the added value of solar thermal systems;
- Governmental services, responsible for defining incentives that support the acquisition of efficient heating systems acknowledge the added value of the package label, since it allows quantifying the expected savings of a new heating solution and rank solutions on a cost-benefit analysis;

Weakness

- The package label assumes all actors are aware of the existence of the individual label what is not always the case;
- Experts associate the package energy label to administrative procedures and do not perceive it as a way to positively distinguish their solutions;





- Installers feel no pressure for labelling due to inactivity of surveillance and only limited activity of consumer protection agencies;

• Opportunities

- Stronger implementation of product label would improve the implementation of package label;
- Associate the heating package label to national legislation like the buildings energy performance system, introducing the indicative labelling for existing systems and the new label in the energy efficiency opportunities;
- Associate the heating package label to national/regional and local incentives to the implementation of energy efficiency measures;
- Clarify market surveillance procedures for assessing compliance with the package label and promote synergies between MSO's and knowledgeable entities in this topic;
- The package label should include the expected energy consumption of the water heating system;
- Endorse a wider professionals/consumers communication campaign;

• Threats

- Most solar thermal systems are sold once a conventional heater is in place, so the package label does not cover a large fraction of the market;
- Lack of clear procedures regarding the market surveillance of custom packages;
- Enforcement of the labelling can also lead to more installers choosing to install only standard packages with the label already provided by the manufacturer.

Finally, success stories are short, but we highlight two in this summary:

The **Energy Efficiency Fund in Portugal** operated in 2016 an incentive scheme supporting the acquisition of new water heating systems, requiring the presentation of the package label both for completely new heating systems and for new solar systems to work with previous existing conventional heaters (requiring the indicative labelling of existing heaters). This demand made it possible to raise both professionals and consumers awareness on the heating package label. More than 1000 proposals were received in four months, outlining the market interest in such a support scheme. From the policy point of view the package label is also an added value in the proposal evaluation, as it allows quantifying the expected savings and attributing the incentives to the most beneficial proposals. **Old heater label:** The label for old boilers increases the awareness for efficiency and demonstrates the gap between old and new systems. Thus, it has a potential for creating customer awareness.

A transversal issue to all the topics is the lack of market surveillance activities, what hinders professionals' trust and will to comply with the package label requirements.





2 Legal framework in the participating countries

PORTUGAL

Portuguese Buildings Energy Performance System

In the Portuguese Buildings Energy Performance System space and water heating needs are considered in the calculation of the building's energy performance class. The technical systems in place to supress those needs, and their characteristics, are also identified and taken into consideration. The methodology to account for those systems considers the nominal efficiency of the equipment, which is not in line with the current methodology to define the equipment's energy class, seasonal efficiency. This hinders the possibility of professionals, responsible for the issuing the energy performance certificate (EPC), 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 (an essential measure to help dwellers in the adoption of the energy efficiency measures identified in the certificate).

Energy Efficiency Fund, FEE

As for supporting schemes the Energy Efficiency Fund, FEE launched a tender for co-financing the substitution of water heating products/systems in the residential and offices sector. The fund was open between July and November 2016, with an available amount of 500.000€.

Three schemes were possible:

- Acquisition of a solar thermal system to integrate with an already existing conventional heater. Promoters
 had to present an indicative package label with a minimum class A. Promoters had to justify, based on
 guidelines from the FEE, the energy class of the existing heater and calculate the package energy class.
- Substitution of the existing heating solution with the acquisition of a new heating package composed of a solar thermal system and a conventional backup heater. Promoters had to present the compulsory package label and the requirement for co-financing was minimum class A+.
- Substitution of the existing heater with the **acquisition of a more efficient conventional heater** Promoters had to present the compulsory heater label and the requirement for co-financing was minimum class A.

The co-financing rate was 60% and the evaluation of proposals was based on the expected energy savings and overall investment. More than 1000 proposals were received.

From the fund point of view the package label requirement is an added value as it allows setting very clear energy efficiency criteria and, based on the package efficiency, clearly estimate the savings and finance the most cost-effective solutions.

Based on a positive experience, the FEE will open new calls for financing water heating systems in 2017, using the same energy efficiency criteria.





GERMANY

Energy Savings Act of 2014

The energy savings act of 2014 (EnEV) which increased the efficiency standards with its second phase from 2016 on for new buildings. In practical terms this means that conventional gas boilers, the most common heat source usually do not comply the energy efficiency standards any more. Thus, some kinds of renewable heat source like biomass, solar or heat pumps have to be used or added to comply with the efficiency standards¹.

Label for old boilers

Another bright spot is the requirement to label heating boilers of 15 years of age or older. Though far away from indicating the factual efficiency of the boiler in use, the comparison of an old and a new label should clearly mark the higher efficiency of the new boiler or combination. Since January 2016 chimney cleaners and installers could label boilers of 15 or more years with a heating label, since 2017 this labelling is compulsory for chimney cleaners. The comparison of the old heater with a new label might incentivize house owners to look for more efficient heating systems².

FRANCE

The heating package label is not referred to or explicitly supported by any national regulations or supporting scheme so far.

Tax reduction

Reflections are in progress for the **tax reduction for the year 2018**, it could be granted for solar thermal, on the condition that the solar package (included one combined with an existing boiler) has a minimum performance for space and water heating.

French tax credit for Energy Transition

The integration of the energy label to the French tax credit for Energy Transition is listed as both an opportunity and a threat. It could be an opportunity to support quality installations, but also, it excludes from this essential funding scheme solutions such as combined solar systems (which are usually C) and non-labelled products (such as hybrid solar energy). This is being discussed at a Working Group on energy labelling and tax credit for energy transition lead by ADEME.

¹ <u>http://www.bmub.bund.de/themen/bauen/energieeffizientes-bauen-und-sanieren/energieeinsparverordnung/</u>

² http://www.bmwi.de/Redaktion/DE/Artikel/Energie/energieeffizienz-heizgeraete.html





In **CONCLUSION**, it is essential to coordinate the heating label market entry with other existing legal frameworks, such as the EPC system and incentives for energy efficiency.

Heating appliances performance, are, alongside with air conditioning equipment, considered in the overall calculation of the building energy performance. A common language and calculation procedures should be assured among these so that the advantages of opting for higher class solutions are stated in the EPC and clear for the consumer.

Also, energy efficiency incentives, supporting the acquisition of efficient heating solutions are one of the most successful tools to assure a good deployment of a new market tool such a labelling system.





3 SWOT analysis of the activities implemented within the NPP

3.1 NSP involvement

The level of involvement and commitment from the stakeholders in the participating countries is very different, directly related with the type of organizations involved: private companies, sectorial associations, public administration entities, trade associations, consumer associations, market surveillance entities.

The main reason for participation was to be informed about heating energy label and package label, given the limited amount of available information at national level.

Specific activities were developed with the NSP members, namely dedicated training to some NSP members and specific information materials.

Several market surveillance entities did not accept the invitation arguing that the package label was not in their priorities.

In an overall perspective, participating entities position regarding the LPA+ NSP can be summed as:

Private companies: high level of interest in the first session, followed by a decrease due to the low level of compliance from the market, mainly due to the absence of market surveillance activities,

Sectorial associations: interest in addressing the consumer,

Public administration: interested in assuring the good implementation of the heating label, though it's a very specific topic and the energy labelling overall still requires clarification, so the package label is not seen as a priority,

Trade associations: interested in the trainings, promoting quality renewable energies installations, though the label is seen as an obligation and not as an opportunity,

Consumer associations: interested in supporting the consumer understand the label, worried about so many novelties and the specificity of the package label;

Market surveillance entities: energy labelling surveillance is not a priority and, given that no indication from the European entities had been provided regarding the surveillance procedures for the heating package, namely the custom-made package, there is still lack of knowledge on how to proceed.

• Strengths

- It involves the most relevant stakeholders in the heating market that increase the outreach to consumers and installers,
- The participants acknowledge the NSP meetings importance and relevance to express their opinions and concerns on the heating energy labelling matter,
- NSP members acknowledgment in the national LPA+ webpages to increase their visibility,
- Digital banners developed for some of the NSP participants who were able to include a direct link to the LPA+ package label tool and offer this service to their website visitors,
- The creation of sub-groups within the NSP, for example one dedicated to policy and another on planning and design, is proven effective and allows gathering more participants and focus their attention on the most relevant subjects,





Weaknesses

- The engagement process, through a signed MoU was to formal and bureaucratic and for that not accepted / signed by several institutions / companies.
- Despite the stakeholders' involvement in the NSP their feedback to the instruments and materials developed was not has high has one could expect. Basically, due to the lack of time and resources to dedicate to a more in-depth analysis of the instruments,
- Some of the NSP participants would like to have direct access to the online labelling tool what was not possible given the need to quantify the number of labels and that is only possible accessing to the LPA+ webpage.

Opportunities

- Reinforce the visibility given to the stakeholders' participation and commitment to the NSP, namely via media articles and participation in workshops and other events with media coverage,
- Simplify the engagement process. A more informal state of commitment, which considers the entity participation in the NSP and logo display at the LPA+ national pages is more simple and easy to achieve,
- Update the website with recent information on the project and share it with the NSP,
- Increase media attention, highlighting the NSP importance in the overall,
- Invite some international project partners to join the third NSP meeting, making the event more appealing and eventually lead to a higher participation.

• Threats

- Some agents raised the issue on how to evaluate how important and effective is the package label for the consumers and installers, how to evaluate if this tool has brought some added value to the heating market and if the added administrative burden is effectively worth it. It's a challenge to assess this,
- The package label lacks momentum (superior endorsement) and the NSP participants' engagement is lost (namely since the lack of market surveillance is already acknowledge),
- Evaluation of the stakeholders has shown that the awareness among end users is very limited and detected many critical aspects of the existing label in terms of acceptance and understanding – thus leading to a critical review of the label itself by other stakeholders concerned such as the surveillance agencies, which raised the issue why enforcing a label with little benefit to the consumer and low acceptance among installers.

In **CONCLUSION** gathering a wide network of relevant stakeholders is important to know the market status, to understand the needs and validate solutions, as well as to access a wider target audience and assure a good market involvement. The NSPs capacity to cooperate is always compromised since it is voluntary, with no dedicated resources, meaning that an increasing involvement effort has to be made, namely acknowledging their points of view and needs. Market surveillance entities involvement is critical at the NSP level, since this is a key point for the success of the label in the market and assure the label's endorsement.





3.2 Training activities

3.2.1 Policy professionals

Addressing policy professionals responsible for assuring the implementation of energy labelling regulations and for the direct contact with consumers, namely regarding consumption conflicts.

The main remark continues to be the lack of engagement from the market surveillance entities.

• Strengths

- High level endorsement of the entities, recognizing the importance of the heating label and the importance of providing the technicians with know-how on the theme;

Weaknesses

- The energy labelling theme is still a challenging topic that needs to be thoroughly explained to these professionals,
- The heating label is a very specific topic,

• Opportunities

- Promote a training that addresses the energy labelling theme in a more general perspective, explaining the basics of the energy label and not only the heating label,
- Develop an Energy Label Manual to provide structured information to the professionals so that they can easily access all the relevant information regarding energy labels,

• Threats

- The lack of stronger market surveillance campaigns and consumers awareness on the energy label hinder professionals' interest on the subject.

3.2.2 Manufacturers

Though not necessarily in need of training but in need of information, manufacturers, especially producer of components and solar parts were informed on the labelling requirements and the training offers and materials available as well as the process up to the integration of the label. As direct interactors with dealers and installers, manufacturers must provide the right to information on the labels and the overall process.

Strengths

- Solar associations have a good access to manufacturers of solar systems and components and could inform them on the requirements and obligations, as well as present them the existing support material,
- Manufacturers, in addition, would provide feedback on how dealers and installers were receiving the heating labelling.

Weaknesses

- To use manufacturers as multipliers did not work as foreseen, since only very few integrated / informed on the project on their website,





- Many manufacturers organize installers' trainings. Despite the contacts with the LPA+ consortium we do not know if the LPA+ materials were adopted in these trainings.

Opportunities

- Since the label is widely perceived by the installer as additional burden and added responsibility, manufacturers do everything to alleviate this extra effort and provide comfortable solutions, pre-assembled packages.

Threats

- Manufacturers' representatives 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.

3.2.3 System Designers

System designers working in the heating and solar markets are not one of the main targets of the package label. Nevertheless, they can act as dealers, such as installers, and as system prescribers for more complex heating solutions, being considered as consultants with strong influence on the end consumer / decision maker for refurbishments. Installers may also delegate the package label calculation to system designers.

Strengths

- Trainings with the system designers association allows a wide dissemination through professionals,
- Information on ErP Labelling and connection with solar thermal, on realistic system calculations and required data could be given at the trainings, increasing confidence on package labelling,
- Trainings with a theoretical and a practical part are very well received, where the participants are invited to simulate the emission of different package labels.

Weaknesses

- System designers are usually involved in larger multifamily buildings / commercial / industrial installations where the labelling is not required. The heating system for smaller units is usually rather promoted by a combination of architect and heating system installer,
- Very new topic for system designers, which required more time in the trainings to explain the products versus package label,
- No specific brochure or flyer has been realised. The professionals' brochure serves the dissemination purpose and not the information purpose.

• Opportunities

- Involving designers may enhance heating label awareness, as designers are usually more sensible to energy efficiency issues compared to installers,
- Indicative labelling for packages composed of existing heaters and new solar thermal systems to tackle a large fraction of the solar market that relies on separate sells rather than in complete packages.

Threats

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 the 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.

3.2.4 Installers

Installers are the main target audience of LPA+ training activities. The feed-back of the activities organized so far can be summed up:

• Strengths

- Good materials and the level of satisfaction upon participation is high,
- Participants acknowledge the importance and relevance of the trainings for their daily work,
- Satisfaction surveys allow perceiving the quality of the sessions,
- Using multimedia training material and case studies makes training courses easier to follow and understand,
- Providing information on how to use the energy label as a marketing tool during the offering,
- Free SPOC sessions (accessible via internet), allow reaching a wider audience and promote national wide partnerships to promote the trainings at regional and local level.

Weaknesses

- Enquiries among installers as well as the trainings showed that the label was seldom considered a benefit
 for marketing and sales but rather a mere must. Lack of pressure from market surveillance adds to the
 fact that usually only the material of the supplier is added to the sales information and lack of demand of
 the consumer adds,
- Although the trainings were well attended the lack of market demand and of surveillance activities easily justify the "irrelevance" that has been given to the topic,
- For several specific cases it is still not clear how to calculate the package label,
- SPOC videos are very heavy and imply the access to good internet connections.

• Opportunities

- Promote a training that addresses the labelling topic in a more broader perspective, explaining the basics of the energy label, and not only the heating label, also in the view of the latest proposals from the EU Commission to reduce the complexity of the scales and reform the label,
- Use future training sessions to present the cases where solar thermal systems have more impact and can benefit the installers marketing strategy. Explain the basis of why energy labelling is important with case studies,
- Involving external trainers would increase the number of market actors trained through the project (indirectly),
- Develop an Energy Label Manual to provide structured information to the professionals so that they can easily access all the relevant information regarding energy labels,
- Promote a multi-channel campaign engaging the public and consumers in large shopping malls,
- Offer information about case-studies that show clear gains with the label,
- Adapt the information given to the public instead of speaking kW speak in Euros,
- Information of consumers to demand for a higher class label.





Threats

- Clearly the growing lack of interest on the implementation of the label due to lack of surveillance and lack of request from consumers,
- A lot of installers rely on their supplier to have the label; hence they don't develop any interest in the package label trainings,
- Package label does not really show the efficiency increase which is being reached, due to different class amplitude, too high rating of boilers and heat pumps, lack of exact efficiency figure in the label,
- Uneducated public on the topic,
- Consumer agencies do not recommend the label thus interest and demand from consumers will remain low,
- Surveillance agencies do not enforce the labelling yet, and if they did, many installers might opt for using only pre-assembled packages.

In **CONCLUSION** training activities were, in general, positively received by the different stakeholders. One aspect worth highlighting is the fact that the energy labelling topic is still not as widely spread has one could assume, namely within installers. These actors have never dealt with the energy label and are now confronted with not only the product label, but with the responsibility of calculating the package label in some situations, what is perceived as an administrative burden and not a marketing opportunity. Though the trainings also focused on the communication aspects of the package label towards the consumer, the added value of the package label and the benefits of this communication and decision support tool were not were successfully passed on to the professionals. Also, focus has to be placed on the wider approach of the energy label, from the overall context to synergies with other appliances and common communication strategies.

3.2.5 Consumers

Consumers were approached via press releases as well as via dedicated workshop and participation in events. One of the most important thing noted during consumers activity, has been the interest in the economic savings.

• Strengths

- The heating label is similar to known labels due to positive experience with white products,
- High level of participation in the training activities. These activities were promoted in several channels: consumer specific magazine, radio and journals,
- The materials and information produced are clear and understandable. With eye-catching graphics,
- Partnerships with banks, associating good loan conditions to energy efficient solutions, to broadly disseminate the package label in their portals.

Weaknesses

- Lack of awareness of the consumer regarding the heating label (due to the lack of market surveillance and the lack of interest from shop owners to comply with the regulations),
- The heating label is a complex and very specific topic to the consumer,
- The heating label doesn't include the economic added value for the consumer ("what's in it for me?", "How do I save money from choosing a higher class package?"),
- The label does not consider the total environment of the heating system, e.g. the insulation of the house as well as consumer behaviour,
- The lack of data on the environmental and economic benefits brought by the choice of class A +.





• Opportunities

- Address the heating label in a general perspective,
- Provide tools to help monetize the label and calculate the operational costs,
- Provide information to help consumers understand the different areas of the label, add explanations to the label since it is not self-explanatory,
- Reform the label and make it more concise and appealing to the end user since in a representative enquiry most interviewees opted for a reform of the label instead of complete abolishment,
- Make the label smarter by combining it with energy efficiency performance indicators,
- Engage national coverage entities to communicate the label to the consumer.

• Threats

- Consumers are highly critical towards new labels due to labelling scandals, especially in the automotive sector,
- The lack of surveillance from the market surveillance agency is acknowledged by the consumers reducing their trust in the energy label,
- For some consumer rights agencies the label is not in the consumer interest and thus the labels are not promoted but publicly criticised,
- Attractive communication to end-users usually costs a lot of money, this could limit the possibilities for better communication in the future.

In **CONCLUSION** consumers awareness on the heating label, moreover on the package label is still low. Even though several consumers are already aware of the energy label and look for it in their purchase decisions wider communication campaigns are necessary to increase the consumer perception of the added value of the label and choosing more efficient products. For the heating package label in particular the lack of information on kWh, or efficiency, makes it more complex to understand the value of the label. Focus should be given to wider communication campaigns, whenever possible in cooperation with consumer agencies.

3.3 Online tool

Users' feedback and improvement suggestions regarding the tool mainly regard:

- Integration of a database provided with data of the manufacturers could be a plus,
- Flaws of users easily to be integrated since those have to copy the data from data sheets,
- Integration of the Solcal methodology in the online tool,
- In Solcal, storage volumes should be defined in a clearer way. To avoid uncertainty around the terms used, it could be changed to "solar dedicated volume" and "total volume" for example,
- Include information tips alongside each information input, information bubble or 'hover over' type function (for example indicate the unit into which the data has to enter on the tool, or data range),
- In the private area:
 - o registration of the user's commercial brand,
 - o registration of the package labels issued by each user,
 - allow the upload of products energy label and product fiche, associated to the user's private database,
- Connect the private area with the online tool for the automatic filling of the commercial name of the package supplier and the constituting products (if chosen from the database),





- No reliable financing mechanism for sustaining the tool in the future.

Strengths

- Calculations and results are in conformity with EU regulations and it is easy to use,
- Easy to access via website,
- Free of charge,
- The structure and reduced design give a good overview, the tool is B2B oriented,
- It is company independent,
- Possibility to have personal accounts.

Weaknesses

- It works well in google chrome but not in internet explorer,
- SOLCAL is not embedded in the tool so far,
- No database connection which provide data directly form the manufactures,
- Design is very basic, a lot of explanation comes on the website,
- Products cannot be uploaded from personal databases (in excel or other formats),
- No connection to the private database data, namely regarding solar systems and inputs to Solcal,
- No interface to professional software used by installers to make offers thus it is extra effort and easily can lead to mistakes,
- Optimised for personal computers only.

• Opportunities

- Improve the tool addressing the suggestions from users,
- Implementation of responsive design,
- Including SOLCAL may facilitate the APP use,
- Creation of an App could facilitate many installers,
- There could also be a remark about the risk of calculating a performance without the needs being covered such as "The performance is calculated provided that the system allows to cover annual needs in domestic hot water".

• Threats

- Parameters have to be entered correctly, otherwise wrong labels will be issued,
- Tools from commercial brands can be more appealing and having the product database makes it easier to go for standard packages or brand customized packages,
- Delays in implementation of the final version of the calculation tool will delay as well the use of the tool by installer.

In **CONCLUSION** the online tool still needs improvements to be recognized as an alternative to manufacturers, brands tools. The fact that the SOLCAL methodology is not embedded in the tool is a strong weakness and compels experts to look for other tools. The users' area can be helpful, but it also needs improvements. It could be an opportunity to personalize the tool for experts and reinforce its use in the market.





3.4 Helpdesk

The helpdesk service is available in all the partner countries in several contact forms: direct phone contact, email or through the project's website.

Strengths

- Diverse forms of contact,
- Fast response, also including highly technical enquiries by manufacturing in the phase of introduction of the labelling needed by manufacturers,
- Support is given by each NPP responsible, supported by the overall consortium and also by the national NSP members if needed,
- Allows the help desk responsible to understand potential issues and suggest/introduce countermeasures, like updated FAQs,
- Several FAQs have been made available for download in all national webpages.

Weaknesses

- Lack of promotion,
- Very specific topic. Some of the questions relate to other energy labels and not solely the heating or package energy labelling,
- Existence of other, non-dedicated, helpdesks that cannot provide correct support nor redirect the user to the LPA+ helpdesk.

• Opportunities

- Extend the helpdesk to other energy labels and not exclusively the heating label,
- Reinforce awareness on the helpdesk service disseminating it more intensively namely with the NSP,
- Ask other helpdesks to direct calls or emails to the LPA+ helpdesk,
- Make the helpdesk more visible via communication campaigns such as Twitter, but also via consumers' organisations.

• Threats

- The market does not know the helpdesk service is available and does not receive adequate feedback and ends of neglecting the package label,
- Lack of awareness continues, other organisations direct questions to different tools or websites,
- Periods of weak interest and requests make it harder to raise users' awareness on the help desk afterwards.

In **CONCLUSION** the helpdesk service is not sufficiently disseminated. Links to other support services, namely conveyed by the entities in the NSP could be reinforced. Also, the service is provided to a niche of professionals, making it harder to disseminate.





4 SWOT to the communication activities

4.1 National Website

• Strengths

- Content is clear, easily comprehensible, and all of the content (brochure, FAQ, guidelines, etc.) is available online,
- A lot of information available in national language.

Weaknesses

- The national websites can only be reached via search engine or the writer national projects,
- The webpage link ought to be more appealing, namely in national language,
- Low average time on webpage and high exit rate,
- Very strict/rigid in terms uploading contents namely images,
- Still some messages, like the calendar and the "national stakeholders" are in English and not in the national languages,
- The website gives information properly but is only little motivating for energy labelling, if used by consumers it would need more emotional explanation on the issue,
- A different configuration (for the whole LPA+ website) would have been easier to manipulate for actors in whole Europe: a translation option with flag, like most websites have, instead of having to get to the national projects pages,
- Lack of monitoring metrics to know how many times the materials have been downloaded.

• Opportunities

- Improve the national webpages according to partner's feedback,
- NSP members have been officially asked to link their institutions' websites to the project webpage, which
 might lead to increase in visits,
- The planned video on LabelPack A+ should help to provide emotional explanations on the website, also responsive design implementation and mouse-over label symbols explanation should help,
- Include case studies and real examples of the package label application.

• Threats

- Comprehensive reworking the website as mentioned above takes a lot of time and money not fully calculated in the proposal,
- After the project, what will happen? How is the information to be kept updated?
- The website isn't mobile friendly.

In **CONCLUSION** one of the most visible issues hindering the website's wider visibility at the European and national scales is the name's "labelpackaplus" which is not intuitive to look for information and it should have been translated to national languages. Also, the website is not flexible in terms of content, does not have an associated newsletter or feedin service. The website would also benefit from a social media campaign, namely addressing professionals, via twitter or LinkedIn.





4.2 Workshops, Fairs, Conferences and other events

Strengths

- Physical sessions are positive networking events,
- Allows joining in one session several topics, covering the concerns of all the market actors,
- Informs a wide number of different persons if the event is well visited,
- If time permits it can have the character of a training.

Weaknesses

- Very few opportunities to present the label (conferences, fairs, etc.),
- It's difficult to attract professionals to spend time in such a specific topic, especially when the added value is not straightforward,
- Large mixture of people, hard to target the right people,
- The label presentation at booth level in fairs is not very attractive, more visible interactive activities would have been necessary to get manufacturers and retailers attention,
- Presentations are often not immediately made available to the audience,
- Often events do not attract many visitors and most of the times visitors are more into networking and not focusing on workshop and training events,
- Direct contact with people is the one that delivers greater communication results but, at the same time, it has obvious limits in reachable numbers.

• Opportunities

- Join events, like fairs and wider conferences to guarantee a larger audience (dedicated to solar thermal, heating and cooling or energy efficiency),
- Promote more networking events between market agents and the direct contact between the market and the consumers,
- Opportunity to promote training sessions,
- Cooperation with the European/National Solar Days would be an added value.

• Threats

- Very specific topic, perceived as an obligation and not as an opportunity, so professionals do not want to lose their time with the subject,
- Difficult to measure success,
- Hard to give a lot of detail,
- Attractive presentation of an issue at fairs costs a lot of money, this could limit the possibilities for better Label Pack A+ presentation,
- Low interest in solar thermal systems hinders a batter appropriation of the package label.

In **CONCLUSION** workshops, fairs, conferences and other events are not perceived a very successful tool to communicate the heating package label. On potential model could be linked to wider thematic events, with mid-day workshops (networking events) to present the heating label context, complementary training sessions, display of products and packages and on-site helpdesk.





4.3 Social media campaigns

• Strengths

- Easy and quick to use,
- Reaches wider audiences,
- The social campaign, through captivating images and fast and instant messages, has allowed to reach out a large number of end users, thus raising awareness in those who were not concerned by the topic,
- Allows targeting different audiences,
- High and "democratic" reach,
- Popularity increase,
- Low investment,
- Twitter has proved to be very popular and active.

Weaknesses

- The theme is unattractive to end consumers, despite the opportunity one can grasp thanks to the label. The title is far from having a concrete meaning in some languages and therefor does not help in social interaction and to raise interests in consumers,
- The images designed by the consortium do not present the energy label or did not present a solar thermal panel until the very last one, which may make it hard for people to link the project to anything concrete,
- Social media like Facebook or Google are still not a highly professional environment; not even LinkedIn,
- Some key organisation may not use social media,
- Dependent on followers (if not paid for ad),
- Doesn't allow follow-up of people's interest,
- Not target-driven,
- Restrictions on use by employees of companies,
- Potential negative feedback.

• Opportunities

- Possibility to advertise (? paid advertisement),
- Share content,
- Create awareness through the video and photos,
- Possibility to create viral content when the topic is really creative,
- Partnership with other entities (encourage sharing among NSP entities),
- Target companies to attend training,
- Stronger promotion of the national website (by redirecting to a specific article).

• Threats

- Bad comments,
- Presence of competing ideas/solutions,
- Timing in social media determines the effects of postings, best times are before and after work,
- No way of reaching the installers through interactive campaigns has most of them does not use social media (Twitter for instance).

In **CONCLUSION** social media campaigns can be reach a wide audience though investment has to be made in engaging content, like videos, infographics, easy to understand and share. Social media activity is quite dynamic,





what does not happen with the LPA+ websites content, meaning that it is difficult to create a synergic duo since users access the website once and do not come back.

4.4 Materials

A wide range of materials have been developed addressing manufacturers, dealers, policy professionals, installers and consumers.

• Strengths

Specific materials for different agents: professionals and consumers.

Weaknesses

- Low distribution range, over the project since other actors occupy the labelling market niche,
- A topic that is difficult to disseminate,
- The lack of data on the possible energy and cost savings. These two figures, albeit indicative, would have made easier to understand the importance of the action required by the project: that of choosing class A +,
- Condenser information, not always easy to read or understand,
- Difficult to keep track on the usefulness of the printed versions of the leaflet.

• Opportunities

- Videos for consumers,
- A video tutorial could also be made available to explain to users online how to use the online tool, it could appear next to the tool, to be more user friendly,
- Promote the distribution of materials through partners and other stakeholders and other associations, smaller companies that do not have their own channels,
- Promote the distribution of materials through wide media, like free distribution journals,
- Promote the distribution of materials in commercial areas (shops, etc.)
- Promote the distribution of the digital versions in newsletters, websites of NSP,
- Threats
 - Very specific topic. The materials assume that the target audience (professionals and consumers) are knowledgeable on the energy label context which is not always the truth. This specificity of the contents may draw the audience's focus away.

In **CONCLUSION** the distribution of materials, to be successful and reach a significant audience, needs to happen in partnership with sector associations, professional's networks or retailers, namely if the goal is to reach the final consumer. To reach professionals specialized magazines are the best mean, and for that financial resources for paid marketing need to be available.





5 Overall market assessment

PORTUGAL

- Strengths
- The energy label is perceived by professionals as a valuable tool to communicate with the user,
- The sectorial associations are committed to the package label and they have a good representation and receptiveness in the market,
- Governmental services, responsible for defining incentives that support the acquisition of efficient heating systems acknowledge the added value of the package label.

• Weakness

- The heating label introduces 10 new product labels and three labels for the package. The package label assumes all actors are aware of the existence of the individual label what is not always the case,
- Professionals associate the package energy label to administrative procedures and do not perceive it as a way to positively distinguish their solutions,
- Lack of support to national manufacturers/suppliers.

• Opportunities

- Associate the heating package label to national legislation like the buildings energy performance system, introducing the requirement to identify the energy efficiency class of the existing heating equipment,
- Associate the heating package label to national/regional and local incentives to the implementation of energy efficiency measures,
- Reinforce communication with Government organizations, namely heating system prescribers, to assure they include in their requirement procedures the package label indication and also demand the inclusion of the package label energy class indication in the proposals received,
- Reinforce communication with real estate developers so that they demand the package label to their suppliers and also, to make sure they make the package label available to the new property owners;
- Clarify market surveillance procedures for assessing compliance with the package label,
- Indicative labelling for new solar thermal systems supported by existing conventional heaters,
- The heating label of solar heaters and heat pumps should include different energy classes according to the system location (similar to the label of air conditioning systems),
- The package label, including solar thermal systems should include different energy classes according to the system location (making use of the information provided in the system fiche),
- The package label should include the expected energy consumption of the water heating system.

- Most solar thermal systems are sold once a conventional heater is in place, so the package label does not cover a large fraction of the market,
- Lack of clear procedures regarding the market surveillance of custom packages.





GERMANY

• Strengths

- The energy label is perceived by a few professionals as a valuable tool to indicate added value of specific product combinations to the user,
- The package label has been pushed forward by a number of companies (solar specialists) with great enthusiasm. Initiatives to push for the package label have been developed and financed as an opportunity to push the heating and solar market again,
- Support existed in the beginning by implementing governmental agencies and surveillance agencies
- The labelling system for old heating boilers might have a positive impact on the label.

• Weakness

- Installers face many different regulations they have to implement in 2015 / 2016,
- There is a shortage of installers, given the good conditions in the construction market,
- Installers avoid the risk of wrong labelling and opt for standard, manufacturer labelled packages,
- Installers perceive the label as extra effort with little marketing value,
- Inactivity from market surveillance agencies and limited activity of consumer protection agencies,
- Consumer protection agencies do not support the label,
- Consumers are not aware of the label and are highly critical of labels due to scandals,
- Consumers do not understand the label,
- The label provides no information regarding the system's appropriateness to the building,
- Energy savings are not a big topic in Germany, heating is an even more neglected topic,
- Solar systems are often installed after the boiler thus no heating label is needed and issued.

• Opportunities

- Associate the heating package label to national buildings energy performance system, introducing the requirement to identify the energy efficiency class of the existing heating equipment,
- Associate the heating package label to national/regional and local energy efficiency incentives,
- Reinforce communication with Government organizations, namely heating system prescribers, to assure they include in their requirement procedures the package label indication and also demand the inclusion of the package label energy class indication in the proposals received,
- Reinforce communication with real estate developers so that they demand the package label to their suppliers and also, to make sure they make the package label available to the new property owners,
- Clarify market surveillance procedures for assessing compliance with the package label,
- Indicative labelling for new solar thermal systems supported by existing conventional heaters,
- The heating label of solar heaters and heat pumps should include different energy classes according to the system location (similar to the label of air conditioning systems),
- The package label, including solar thermal systems should include different energy classes according to the system location (making use of the information provided in the system fiche),
- The package label should include the expected energy consumption of the water heating system,
- Raise energy efficiency standards to a limit that only packages including renewables can comply.

Threats

- The label does not cover a large share of the solar market, solar is sold after the conventional heater, Lack of clear procedures regarding the market surveillance of custom packages,
- Enforcement of the labelling will reduce the number of installers who will either no more install heating packages or only pre-manufactured ones by whole system suppliers.





FRANCE

• Strengths

- The package label gives the performance of the solar system with its backup. It is the only way to have the comparison between the solar system and other products providing space heating and/or sanitary hot water.

• Weakness

- The problem is that the package label is not an easy process, in all cases. When it is done by the manufacturer, the installer has to use a tool (generally on the manufacturer's website) to get the package label with the chosen solar devices and the number of solar panels,
- When it is done by the installer, it asks to make a specific process (to build himself the package label) and it's too complicated for an installer. The consequence is that the installer will choose another product that will not need additional work.

• Opportunities

- The opportunity would be to have incentives and tax reduction based on the package label. For an easy use, the package tool should be easier and the parameters of each part of the solar device should be found easily,
- The other possibility could be to have a panel label, but it would not give the performance of the solar system to be compared with other products (like boilers or heat pumps).

- The principal threat is the risk that there will be no package label done for solar systems because it's too difficult for installers to get it. This is a threat for the solar market because it makes solar systems' performance not visible and not comparable to other products,
- And the market surveillance will not check the package label because it's too difficult and too heavy to be handled by authorities and to be done by installers.





ITALY

- Strengths
- Package label is considered by several manufacturers a positive tool to promote solar thermal towards the end user.

• Weakness

- The main weakness of the package label in Italy is the lack of market surveillance, which prevents installers from having strong motivation in using this tool,
- 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,
- In many cases the use of solar thermal panels does not improve efficiency class (although it obviously improves the real efficiency).

• Opportunities

- Stronger implementation of product label would probably improve, at the same time, the implementation of package label,
- Connecting the package label to national incentive schemes could, according to some stakeholders, enhance the use of the label,
- Some manufacturers suggest connecting the package label to the operating book (libretto di caldaia in Italian) of each heat generator. Feasibility has to be investigated,
- The package label should be modified, not only showing the energy class, but also the exact efficiency figure,
- The package label should be modified rescaling efficiency classes so as to encourage the use of RES (and especially solar thermal panels).

- Few information is available with regard to the implementation of the product label for heating appliances.
 Looking at information from other EU countries, though, it seems that product label is not implemented enough, probably leading to scarce awareness towards package label.
 Market surveillance activities are needed in this regard,
- Connecting the package label to national incentive schemes could, according to some stakeholders, hinder applications to the incentive schemes.





AUSTRIA

- Strengths
- Suppliers emphasize the positive aspect of quality insurance of products in labelled heating systems.
- Weakness
- Due to the weak interest of ministries and surveillance authorities there are no/respectively limited possibilities to control the use of the package label.

• Opportunities

- The successful implementation of the package label could lead to a stronger use of solar thermal technology within the labelled heating systems.

- The involvement of ministries and surveillance procedures must be clarified at federal state level,
- If the calculation method prefers other combinations for A+ systems, the solar thermal industry will lose interest and therefore reduce its efforts in implementing the label.





UK

• Strengths

- The energy label is a recognised tool that consumers understand from other products,
- It's a good way to show the added value of renewable technologies.

• Weakness

- Package labels are rarely used in the UK due to the decline in the market,
- There is very low awareness and understand of the heating package label,
- Lack of incentives for professionals.

• Opportunities

- Reinforce communication with the regulation office,
- Increase consumer awareness,
- Include in policy to increase awareness.

- Solar thermal is very rarely sold as a package, solar thermal industry has declined in the UK and installers and consumers need to be re-educated on the benefits,
- Outcome of Brexit agreement, confusion in the UK around what will remain in UK legislation.





6 Success stories

PORTUGAL

The **Energy Efficiency Fund in Portugal** open, in July 2016, an incentive scheme supporting the acquisition of new water heating systems. In the proposal it required the presentation of the compulsory package label, for completely new heating systems, and indicative package label for the systems integrating existing conventional heaters and new solar thermal systems. This demand made it possible to raise both professionals and consumers awareness on the heating package label. More than 1000 proposals were received in four months, outlining the market interest in such a support scheme. From the policy point of view the package label is also an added value in the proposal evaluation, as it allows quantifying the expected savings and attributing the incentives to the most beneficial proposals. This positive experience may be repeated this year in the launch of a new incentive programme using the same criteria, demanding the package label.

The heating package energy label is a very specific topic. To attract more interest in the theme and also directly provide support for addressing specific topics regarding the energy label a complete **Manual on the Energy Label** was developed presenting all the energy labels in force, targeting professionals, namely those in direct contact with the consumer. To disseminate the Manual training sessions addressing public policy organizations and retailers' associations were organized. A special focus is given to the heating label and the package label, outlining the novelties introduced by the package label, the agents' responsibility and how to communicate the package label to the consumer.

GERMANY

VdZ- platform: The VdZ-platform is a performant and easy to use platform that enables the installer to reduce the risk of wrong labelling and to operate with up to date data. It fairly diminishes the effort of the installer and enables him to use the software he is used to.

Old heater label: The label for old boilers increases the awareness for efficiency and demonstrates the gap between old and new systems. Thus, it has a potential for creating customer awareness.

ITALY

Energymed: On April, 1st, 2017, the whole Italian LabelPack A+ consortium participated in **Energymed**, one of the main Italian exhibitions about renewable energy and energy saving. Assolterm, A free training course about package labelling was organized within a workshop about efficient building heating and cooling. The training course had a great participation (40 trainees, mainly designers and planners, which was the main missing stakeholder category for Italian trainings); the workshop was attended by approximately 50 people. Furthermore, there was a stand at the exhibition, where flyers have been distributed and the project roll-up exhibited. The Italian Label Pack A+ team was available at the stand for those installers wishing to calculate labels. In order to promote the project website, 2.000 shoppers (bags) with LabelPackA+ logo and website link have been printed and distributed to exhibition visitors.





AUSTRIA

The LPA+ activities attracted the attention of ORF, the largest Media in Austria. An end-consumer orientated article was published on ORF online, reaching thousands of people. Dedicated press clippings via the OTS service (part of the Austrian Press Agency) raised the awareness also among the NSP members.

Several activities, namely consumer oriented were successfully organized at the *Energiesparmesse* Wels, the major fair in the heating & energy sector in Austria, where a presentation on Label Pack A+ took place on the main stage on Saturday, with major attendance by end-consumers.

UK

After the first disturbing news, the UK government decided not to remove solar thermal from the Renewable Heat Incentive. This support signal was immediately perceived by the market with a small increase in solar thermal sales. The strategy is now to peruse with better communication to gain consumer confidence and increase the number of packages being sold.





Annex I: Surveys on the implementation of the package label in Germany

1) Introduction

As part of the monitoring of the package label implementation, the German partners of the project developed three surveys. One of these surveys was directed to professionals and other stakeholders, assessing the interest and use made of the package label, another was addressing specifically installers, enquiring about the utility and relevance of the package label and the third was focused on training needs.

2) Survey among professionals on the package label implementation in Germany

The first survey was conducted among professionals and their associations such as chambers of crafts and guilds and was carried out via internet in the period of June 30 to July 21, 2016 with 131 addresses being reached, including in particular chambers of crafts, guilds and other companies, which had been identified for the National Stakeholder Platform. 108 replies were received of which 81 are considered to be usable (double and multiple replies cannot be excluded). The evaluation was carried out by eclareon together with BSW-Solar.



Figure 1: Overview of surveyed institutions and organizations

The main part surveyed organizations in the area of public institution came from the local or municipal level (27 out of 41). But also, representatives from the federal level (seven) as well as the national level (six) were interviewed. The surveyed persons of the private sector were mostly plumbers (28 out of 54). Furthermore, eight manufacturers and one distributor were represented. Finally, 37 NGO's could be interviewed of which industry associations and chambers 18 industry associations and chambers as well as six consumer protection organization were represented.

With the help of the replies from the various groups of interests, the picture that the first survey screened should be analysed and examined critically.





a. Requests for trainings and other support

As we could observe from the survey at the beginning of the year the majority of the respondents had no





Figure 2: Requests for support from professionals in the heating sector

number of inquiries asked by professionals regarding the package label has changed since the introduction of the label, the surveyed organizations were asked to classify the frequency of the inquiries in four categories, before and after the introduction of the label.

and Error! Reference source not found.

show a pretty similar picture for both cases: About two-thirds of all answers stated that interest in advanced education or trainings even by knowing that it would not cause any extra costs. Therefore, the organizations and their associations now have been asked to what extent they have received requests for any kind of support so far. **Error! Reference source not found.** shows the results and reinforces the assumption that the interest in the new label is low. Almost a year after the introduction of the new label pack only half of the interviewed persons answered that they have ever received any requests for support.

In order to determine whether and to what extent the







there was a very little demand for information or even training support before the introduction of the label and still is since then (42 out of 65 before the label introduction and 43 out of 67 after the introduction of the label). Only eight of the interviewed organizations have noted, that they had a very high number of request before



the introduction of the label and seven organizations noted a very high request for support after the introduction of the label. The remaining answers range between medium and high inquiries for support.

Finally, the surveyed organizations should indicate whether they know other brands on the market (for example of manufacturers or distributors) that supply the market with information about the label (see Figure 5) and if so, whether they offer trainings or not. More than half of the interviewed person stated that they do

know brands who offer trainings (33 out of 54) but only 21 of them have also been invited to those. At least 19 of all surveyed organizations said that their technicians have attended these trainings.





If you know brands (for example manufacturers or distributors) who supply the market with information about the label...



Figure 5: Information supply by other brands

Since it does not seem as if there has been lot of enlightenment regarding the new label, the interviewed person should now approximate the extent to which there is any interest in the label at all.



To the question whether the interest in the EU energy efficiency label has increased or decreased since its introduction almost half of the surveyed organizations answered that there was and still is no interest at all (32 out of 70) (see **Error! Reference source not found.**). 16 organisations thought that there was no change at all and the number of those who observed an increase (12) and the number of those who observed an decrease (10) is roughly the same. Since the answers diverge strongly no general tendency can be derived from this question.

b. Calculation of the package label

The creation of a package label is an aspect that needs intense support. Therefore, the use of the various calculators is explained in the training courses very detailed. Here also most of the question from professionals arise. The calculation tools therefore are of very high importance for the organizations. The most widely known and used tool is the VdZ-tool, called "heizungslabel.de". 43 of all organizations surveyed indicated that they are familiar with this tool. Secondly the calculating tool of the LabelPackA+ was mentioned (13). A third



Figure 7: Known calculator tools for package system labels





calculation tool, the tool of the EU-Commission (ZIP-Data) was also mentioned (8) but is apparently not of a big matter as the others (compare **Error! Reference source not found.**).

To use the calculation tool detailed information provided by the companies about the heating product are required. Unfortunately, some of the private companies and other big companies do not offer all this information



Figure 8: Understanding and use of information provided by private companies

or the information they offer are not useful. 22 out of 42 interviewed organizations recognized that the information provided by private companies are not understandable for consumers and even for some professionals (8) the information is not always useful (see **Error! Reference source not found.**).

Nevertheless, even though it seems like there is an issue when it comes to receive useful information from private companies, the customers do not notice a problem. Only two of the organisation stated that there have been complaints from their customers because the offered heating product had no label at all.

c. Future market effects due to the label

Based on the previous results, the logical conclusion is that the package label has no or has only low influence on the German heating market so far. To confirm this thesis, the organizations have now been asked what

effect of the package label is expected in the sales success of solar energy in the next 12 months (see **Error! Reference source not found.**). Of the 77 respondents, none believed that the package label would have a very strong impact on the sales success and only one expected a distinct increase on the sales figures. 35 of the respondents, on the other hand, saw no or only a small effect on the sales success in the next 12 months due to the introduction of the package label and 41 of the respondents could not make any statement so far.



Figure 9: Expected effect of the package label in the sales success of solar energy

The final question of the survey should highlight

the various reasons for the rejection of the new energy label. The organizations should give their personal assessment for the reasons why the package label for solar thermal energy has only penetrated the German market moderately since its introduction (see **Error! Reference source not found.**). A large number of the respondents could not make any statements here, but among those who have classified the stated reasons, a trend can still be figured out: If this statistic is taken as the basis, it is the combination of ignorance or rejection of the label on the part of the craftsmen and the current situation of the solar thermal market, which reinforces the low demand for the label. In addition, it was often noted that the complexity of producing the label is a major obstacle by dealing with the package label.







Figure 10: Reasons for the moderately penetration of the package system label in the German market

3) Survey among experts of the heating market

Now a last survey was carried out by the *co2online GmbH*, in which the craftsmen and other experts of the heating market were personally contacted via Email. 132 out of the 2000 craftsmen who were contacted, answered all 48 questions asked, though only some of the question referred to labelling with the EU label and the label for old heating systems in Germany. The survey period thereby was 9 September to 19 September 2016.

It has to be pointed out that the database includes craftspeople who signed up due to some kind of interest for energy efficiency and renewable energy. Thus, one would have to consider the questioned persons as such with a strong interest in the use and promotion of these technologies.

a. New package label

To the question whether the surveyed person discuss the new label in their customer meetings, almost 59 % said that they would use the label at meetings for the illustration of the different energy efficiencies of the heating systems either led by their own impulse or on demand (Figure 11). 23 % stated that they only mention the label because of the legal obligation meaning that they shortly explain the label to their customers before selling it. Only 8 % of the experts indicated that they do not use the label at all.







Figure 11: Mentioning of the label in customer meetings

The answer is very interesting since it can be assumed that the customer is sufficiently informed about the label and its advantages and yet the label has almost no influence on the heating market so far, as the BSW-solar survey showed before.

It should be clarified now what influence the component label finally has on the customers when it comes to selecting a new heating system. Even though the customer is aware of the advantages and chances the new label brings, two-third of all respondents stated that they do not see any influence of the label on the customers' choice when building a new heating system. Moreover Figure 12 shows clearly the majority of the customer don't see any reason to choose renewable energies more often because of the label. Only 17 % mentioned that their customers would also choose renewable energies because of the new package label and 5 % said that their customers would choose renewable energies even more often now.



Figure 12: Influence of the label when selecting a new heating system

Apparently, the customers do not see the need to use the new possibilities despite the intensive efforts of the craftsmen in the form of meetings and instructions which should serve to integrate and implement the package label.

The response to this minimal reaction of the customer to the new label is obvious. Nearly 46 % of the craftsmen who think that the label has an impact on their offers for the customers, use complete systems of the big





system providers (Figure 13). Another 38 % of them only use a certain range of product combinations for the package label. In most cases, an unnecessary additional effort was stated as the reason for this behaviour.



Figure 13: Impact of the package label on the offers of craftsmen (1)

Those craftsmen who think that the label doesn't have any impact on their offers said that they don't change their methods when it comes to creating offers for their customers. Mostly they either still sell package systems with components of different manufacturers (52 %) or they still sell only complete systems of one of the big system providers (40 %) (Figure 14).



Figure 14: Impact of the package label on the offers of craftsmen (2)

b. Label for old heating systems

The label for old heating systems also had its difficulties so far. In many cases, the label has been ignored completely or only implemented barely, which is why the question arises where the problems could be. Accordingly, the respondents were asked how the owners react to the label for old heating systems (compare Figure 15). The answer is that most of the owners are indifferent to the label and do not exactly know what to do with it (40 %). 13 % of the respondents even said that the owners react rejecting to the implementation of





the label. Only a small percentage of 9 % stated that the owners are really interested in the label and its statement.



Figure 15: Reaction of the owners to the label for old heating systems

The fact that the label for old heating systems does not have a positive effect for craftsmen and other experts becomes also apparent when one considers Figure 16. Nearly two-thirds of all respondents said that they could not conclude any additional contract due to the label for old heating systems (62 %). Only 3 % believed the new label has made a difference.



Figure 16: Additional contracts due to the label?

Apparently neither the new package label nor the label for old heating systems met with approval. The next questionnaire therefore should highlight the various reasons for this status quo.

c. Valuation of the heating label

The following questionnaire should compare effort and benefit of all types of heating labels in the eyes of the craftsmen (see Figure 17). The surveyed person should thereby weigh the economic benefits for their businesses.







Comparing effort and benefits of all types of heating label: weigh the the

Figure 17: Comparison of effort and benefits with regard the heating label

As one can clearly see, most of the craftsmen complained about the labels generally (42 % saying the effort clearly prevails, 29 % saying the effort prevails barely). Only 15 % of all respondents said that they can see any benefit at all. 3 % of those indicated that the benefit of the heating label clearly prevails compared to the effort.

Now one can clearly see that the new package label is mostly seen as superfluous and is not be seen as an advantage at all but why is that the case?

Just as the BSW-solar-survey did, the co2online-survey should also end with the highlighting of the various reasons for the rejection of the new energy label. The organizations should give their personal assessment for the reasons why the package label for solar thermal energy has only penetrated the German market moderately since its introduction (see Figure 18). The surveyed person could thereby also state more than one reason which is why there are more than 132 answers given (number of person surveyed). And again, we have the same picture: The main reasons for the rejection of the package label is claimed to be a combination of the complexity in the labelling and the difficult market situation of solar thermal energy. This reinforces on the other hand the low demand for the label from the customer side. But also, the ignorance and rejection in the craftsmen was indicated as one of the main reasons for the moderately penetration of the package label in the German market.

As a further important reason, the inadequate market surveillance system was also mentioned, which only enables ignoring the new label at all.







Figure 18: Reasons for the moderately penetration of the package system label in the German market

In the end, all respondents had the opportunity to state their wishes and criticisms regarding the introduction of new package label for heating systems. In the following, the indicated aspects are listed, sorted by the number of occurrences (starting with the most frequently mentioned point):

- The calculation of the label itself is very complicated
- The new labelling means much extra work
- The new labelling costs a lot of time and money
- The purpose of the label is not clearly visible to many customers
- Not all the manufacturers provide their data on the central server. The selection of the manufacturer data therefore means much extra effort
- The responsibility is with the craftsmen, while politics and media do not have to worry about the clarification of the end customers

As suggested because of the previous surveys, the final feedback from the organizations surveyed here once again clearly shows how unpopular the new heating label is. It is simply considered as superfluous and brings extra effort while the advantages of the label are not visible respectively hardly something to speak of.





Annex II: Assessment of the roll-out of the energy labelling for space and water heaters in Portugal

1) Introduction

In the framework of Directive 2010/30/EU of the European Parliament and of the Council, of 19 May 2010, the Ecodesign and Energy Labelling Delegated Regulations for space and water heaters, products and systems were published in 2013.

Since 26 September 2015, the energy label, already well known for products such as washing machines and dishwashers, refrigerators, televisions and, more recently, vacuum cleaners, has become mandatory also for products and systems of ambient heating and hot water production.

2) Assessment of implementation in stores (physical and virtual)

One year after the entry into force of the Delegated Regulations, DECO/Proteste wanted to know to what extent distributors were fulfilling certain responsibilities assigned to them in the energy labelling of products.

These distributors shall ensure that, at the point of sale, each water heater bears the energy label on the front of the appliance, clearly visible. In virtual stores (online), the energy label must be shown in the display mechanism next to the product price, with a size that makes it clearly visible and readable. It can also be presented in "nest", obeying, among others, the following requirements:

- The image used to access must be a colour arrow corresponding to the energy efficiency class of the product indicated on the label;
- The arrow shall indicate the energy efficiency class of the product, in white and with characters of equivalent size to those of the price;
- The image must be shown in the display mechanism next to the price of the product and refer, by hyperlink, to the label.

For the survey, two products of common use were chosen, water heaters and heaters. In September and October 2016, 50 physical stores (located in larger urban areas) and 13 online stores were visited. Each visit required to check products present and verify if they bore the energy label and, if so, whether the affixing / making available of the label complied with the applicable rules.

One of the main conclusions is that there were too many labels missing. One year after the entry into force of these Regulations, most physical and virtual stores were still not fulfilling the obligation to present the energy label in all water heaters and heaters.



Figure 1: Overall visit's results





Products exhibiting the

energy label - Stores

Figure 2: Survey Results:Stores

All

Most

Half

7. 14%

18.36%

Of the 50 physical stores visited, only four displayed adequately the energy label next to appliances on display. Of the 13 online stores checked, only one stood out positively, with more than 90% of the relevant products showing the label (figure 1).

Only in four stores did all the water heaters and heaters on exhibited bear the energy label. In half of the stores there were no energy labels (seven cases) or only a minority of products had affixed them (18 cases). In total we controlled 719 devices, of which 415 had the label affixed (about 58%) and 304 did not (about 42%).

In the 49 stores with gas water heaters on display the situation was as follows:

- most stores (40) did not respect the obligation to have all products labelled;
- In 15 stores there were no heaters with an energy label and in another 10 only a minority showed it;
- In total 434 water heaters were checked, of which 236 had the energy label (about 54%) and 198 did not have (almost 46%).

Regarding those exhibiting electric water heaters (46), the situation was:

- Only a minority of stores (15 cases) presented the label on all products;
- On the contrary, 31 were in default because there was no energy label (11 cases) or because it only existed for some heaters.
- In total, 285 devices of this type were controlled, of which 179 exhibited the label (almost 63%) and 106 did not (about 37%).



Figure 3: Survey Results:Online

The situation of the 13 virtual stores assessed, regarding the presence of the energy label for the controlled products, was:

- No online store presented the energy label for all products, and only two did so for the majority (the best-performing shop had 91.5% of labelled products).
- In 6 stores, no product was found showing the energy label.
- Often, the energy label seemed to exist but was not accessible (no link when clicking on the image).

According to the regulations, the suppliers have the obligation to provide the label, while the dealers are responsible for placing it on all products displayed at the points of sale. Most stores did not exhibit the energy label for all water heaters checked and labels were often not well placed. It was also verified that there were different practices between stores part of the same chain. In many cases, there is likely a lack of awareness





of the responsibility of stores in this regard. Furthermore, it is likely that there is also a lack of market surveillance or that it is ineffective.

3) Online survey to consumers

Part of the work assessing the implementation of the energy labelling for space and water heaters, DECO/PROTESTE has also conveyed a survey to consumers, carried out between May and September 2016, on the energy label. Some of the questions addressed the space and water heaters specifically. There was a total of 210 answers registered.

Some of the highlights of the overall survey can be briefly summarized as follows:

- 63% of the consumers already consults the energy label when purchasing a new appliance;
- 68% of the respondents stated to know which indicator is presented in the label and where able to detail their answer with respect to the equipment's energy consumption;
- 75% of respondents claimed not to know how to estimate the costs of using the equipment, based on the information presented in the label.
- As for the main sources of information, 37% responded these were the suppliers and installers. 28% preferred the internet.

Specifically, regarding the heating label 45 and 50% respectively stated to be aware of the existence of the space and water heaters label.



Do you already know the energy label for water heaters (ex: gas or electric WH)?



Figure 4: Awareness about the energy labelling of space and water heaters

Furthermore, 33% responded positively to the package label and 86% of the inquiries claimed to know that the water heating pictogram regarded the water heating capacity.

Do you already know the energy label for

Do you know that besides the product label for space heaters, there is also a package label for systems combining a conventional system and a solar thermal?



Figure 5: Awareness about the package label for space heaters





Annex III: Executive Summary: Study on economics of solar thermal system combinations as basis for arguments on System Labelling

Study on economics of solar thermal system combinations as basis for arguments on System Labelling, Author: Austrian Energy Agency GmbH Commissioned by Austria Solar, Report Oct 2016

Summary

The EU Package Label aims for the assessment of energy efficiency for the combination of boilers and solar thermal systems. Unfortunately, in the comparison of heating costs published by Austrian Energy Agency combined systems of boilers and solar thermal systems are not included. Because combined systems are not included in this very important decision tool for consumers and professionals, market impact of EU Package Label is being diminished, regarding the aim to communicate efficiency of combi-systems to consumers.

Goal of the study was to assess the combination of boilers and solar thermal systems by the calculation method of heating cost comparison by the Austrian Energy Agency. The evaluation covers different energy sources and the perspectives of energy, economy and ecology. The evaluation is a prerequisite to an inclusion of combi-systems to the heating cost comparison. Thus, this needs to be done for the possibility to communicate the advantages of EU Package Label to consumers by the well-known comparison.

Results of the study show that implementing a solar hot water system leads to a reduction of primary energy demand at all boiler types considered. Energy costs are decreased thereby. Highest reductions can be observed for oil and gas heating systems in new buildings, up to 25 % or 274 \in /a. The combination of a boiler and solar domestic hot water system reduces CO₂ emissions up to 29 %, by 1,184 kg/a with an oil heating system in a new building. But the solar domestic hot water system increases investment costs by 440 \in /a, amortisation within lifespan of the installation therefore cannot be concluded.

Combination of a solar heating system with a gas boiler shows a reduction of 4,761 kWh/a in energy demand and a reduction of energy costs by 817 \in /a (-65%). Yet, the solar system increases investment costs by 1,477 \in /a and leaves even a gas condensing boiler with solar thermal support behind conventional gas boilers systems in full cost comparison. However, CO₂ emissions for a solar supported gas heating system are considerably lower at 1,565 kg/a compared to a gas heating system without solar support (-42%).

Calculation for solar houses with over 50 % solar coverage show distinctly lower energy demand, in case of a wood boiler by 11,424 kWh/a and a reduction in energy costs by 676 \in /a (-65%). But the solar thermal system increases investment costs by 2,030 \in /a (+89%), which is the highest full costs within the comparison. It leaves a solar house with wood boiler and solar system behind a wood boiler only, in direct full cost comparison. Anyhow the solar house with a combi-system shows the lowest CO₂ emissions within the comparison.





Summarizing the study notes high reductions in energy costs and CO₂ emissions by combi-systems. <u>Based</u> on the calculation assumptions of the heating cost comparison though no economic amortisation of investment costs in the lifespan of solar installations can be reached. Implementation of a solar thermal combi-system consistently leads to an increase of annual full costs in comparison.

Conclusion for the project LabelPack A+

The results were critically discussed with the Austrian Energy Agency, as calculations are based on unrealistic assumptions. In detail the following assumptions lead to uneconomic valuation of combi-systems with solar thermal:

- annual interest rate of 3 % over the next 20 years (interest rate since 2015 below 2 %)
- energy price forecast of constant 3 % annually over the next 20 years (energy prices changed by the factor of 2-3 for oil and gas in the last 15 years)
- annual yield of solar thermal systems of 350 kWh/m², as a study of the Austrian Energy Agency in 2014 approved a solar yield of 538 kWh/m², including efficiency increase by reducing boiler operation

These unrealistic assumptions in general lead to no profitability of solar combi-systems. The Agency refused to correct the assumptions, therefore an inclusion of combi-systems to the well-known heating cost comparison - the goal of the study - was cancelled.

Support of the study to project partners in WP2

The study was initiated to deliver profound arguments on advantages of solar thermal combi-systems for consumers and professionals. The serious evaluation of economic and ecological advantages of combisystems by the renowned Austrian Energy Agency should give relevant arguments to promote installation of solar thermal combi-systems addressed by the project LabelPack A+. The integration of the systems to the heating costs comparison should help to raise interest on the package label from consumer and professionals. Regarding professionals the study should have supported argumentations for the common training and information package worked out in WP2. The study should have stimulated similar analyses in other countries to integrate combi-systems in common heating costs comparison tools.

Unexpectedly the results were not beneficial for LabelPack A+ purposes, because of calculation methods based on unrealistic low forecasts of energy price and solar yields for solar thermal combi-systems by the Austrian Energy Agency. Since project partners anticipated similar problems in commissioning studies to energy agencies in other countries, the learning effect was that this strategy was objected finally. As the results counteracted the purpose of the EU Package Label, they have not been included in the training and information package. Nevertheless, the study was a crucial part of basic preparation of "industry and community-oriented training materials for WP 3 actions", thus it was in line with the aim of delivering promotive strong arguments for the success of WP3 trainings.