



## ANEC/BEUC COMMENTS ON CONSUMER RELEVANT ECODESIGN AND LABELLING REQUIREMENTS FOR BOILERS, CHP AND HEAT PUMPS

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## Summary

This paper focuses on consumer-relevant proposals by the European Commission regarding Ecodesign requirements and energy labelling of boilers, heat pumps and combined heat and power (CHP) applications. The European Commission's proposals were detailed in a set of working documents issued in April 2011, after a political and technical process of five years.

Given the time elapsed since the discussions started and considering the huge potential of energy savings that better boilers can deliver to consumers, it was only natural that consumers organisations expected the proposals to be tabled in 2011 to set ambitious targets.

### ***The sound methodological approach underpinning the target-setting...***

ANEC and BEUC support the Commission's proposal to set efficiency requirements at a product level and notably the proposal to tackle the energy efficiency of self-standing boilers without taking into consideration their combinations with e.g. controls.

We welcome the suggestion to base the energy label on a largely technology-neutral approach, under which comparison across technologies will be made easier for consumers.

### ***...is not complemented with ambitious Ecodesign targets proposals***

In this paper, ANEC and BEUC express their disappointment at the limited level of ambition of the actual targets proposed and suggest ways of improving the latter. We advocate for setting efficiency requirements on electric-resistance heaters. We ask that all heat pumps be subjected to the same set of requirements and that efficiency requirements be put boilers specifically designed to be operated with biofuels, as bio oil is only sustainable if it meets very specific criteria. We make a case for aligning the requirements proposed for boilers below 15 kW input with the more demanding requirements proposed for boilers between 15 kW and 70 kW input. We ask that the threshold of 4 kW be removed or reworded to avoid loopholes and suggest including a provision for a zero watt mode to allow consumers to switch off their appliances when no heating is required.

Because ambitious targets do not only regard the energy that can be saved by consumers, but also the emissions of pollutants and the noise that can be avoided, we call on the Commission to set limit values for CO, hydrocarbons and particulates, on top of stricter values for NOx. We welcome the noise requirements suggested for boilers and heat pumps, and request that a target value of 56dB(A) be set for CHP below 12 kW.

### ***Member States will be instrumental in complementing the proposals***

We strongly regret that no additional measures are mentioned in the proposals. We call on the Commission and the Member States to ensure that all boilers will be installed (and not bundled) with controls. With our members' surveys suggesting that consumers cannot entirely rely on the advice of intermediaries to inform them on the performance of boilers, heat pumps and CHP, we call on the Commission and the Member States to ensure that the training needs necessary to equip housing with appropriately-sized boilers are addressed.

### **Clear, credible and comparable information to consumers needs to be ensured**

In light of the aforementioned issues faced by consumers with installers, the Commission's two-pronged approach to the labelling of boilers (the product label and the installer label) is very much welcome as it allows for giving consumers a sense of the performance of the product they are purchasing. However, we raise several concerns regarding the proposals on the labelling and the advertisement of boilers.

It should first be made clear that the intrinsic efficiency of the boiler such as found on the product label should always be visible on the advertisement of combined solutions. Moreover, it should not be possible that different labels are in circulation at the same time. The "shifting label" prevents comparison of products and misguides consumers. We ask that one label only (A+ to G) be in force for the period from 12 months after publication of the Regulation, and that only one label (A+++ to D) for the period from 36 months after the publication of the Regulation. We express strong reservations on the pictograms and the climate map proposed for the heat pumps label. It is necessary for modern policy-making aimed at consumers to carry out field research on the actual perception of labels and symbols by consumers.

### **Benchmarks, third-party testing and tolerances**

ANEC and BEUC suggest that the benchmarks proposed are not helpful, as no separate benchmarks for fossil fuel boilers, CHP and heat pumps are given. We regret that the Commission did not provide more evidence on the estimated impact of third-party testing on the price of the appliances. We consider that the proposed tolerance level enables manufacturers to effectively put a product on the market one class above its actual class. We argue that it is technically possible to measure the efficiency with accuracy well below 5% and suggest a tolerance of 4% for the first round of tests, and none for the second round of tests.

## Introduction

This paper outlines the main consumer-relevant issues related to the possible ecodesign requirements for boilers (Lot 1) and recommends improvement options. We give specific, technical recommendations to increase the energy efficiency of these products and highlight the need for a well-designed labelling scheme to inform consumers.

The paper updates our previous comments regarding boilers which we submitted for the first consultation forum meeting in February 2009 and again in July 2009.

## Scope

### 1 | “Product approach” VS “System approach”: time to break the deadlock

In private homes and commercial dwellings alike, boilers, heat pumps and Combined Heat and Power (CHP) appliances are typically part of a heating system. A heating system is made not only of the boiler, heat pump or CHP, but also of pipes, radiators, controls, storage tanks, etc. ANEC and BEUC acknowledge the fact that the efficiency of a heating system depends on the synergy between its various elements: the best heating system will only be as good as its weakest link.

However, some stakeholders have gone a step further in that logic to argue that it is not realistic to isolate the intrinsic performance of boilers, let alone to rank it on an energy scale. Consequently, these stakeholders have challenged the very idea of targeting boilers under the Ecodesign and the Energy Labelling directives. ANEC and BEUC do not share this vision. We do not subscribe to the idea that an inefficient boiler can turn into a very efficient boiler simply by changing its surrounding system, for example. We believe that improving the efficiency of individual parts of the system, starting with boilers, is a necessary step towards achieving overall system efficiency. That step should be addressed under the Ecodesign directive. Another step necessary to achieve system synergy is to ensure the homogeneity and the adequate sizing of systems. That second step should be addressed by means of the *installer label* as suggested by the European Commission and by a proper implementation of the Energy Performance of Buildings Directive by the Member States.

ANEC and BEUC see the risk that an endless debate on the respective merits of the product approach and the system approach will further delay the implementation of measures desperately needed. **We therefore strongly support the European Commission's proposal to set efficiency requirements at a product level and the Commission's two-pronged approach to labelling of boilers** (the *product label* to inform on the intrinsic efficiency of the product, the *installer label* to inform on synergies).

We also **call on the Commission and the Member States to ensure that the training needs necessary to equip housing with appropriately-sized boilers are addressed**. It is particularly important for consumers that the boiler is the right size for their needs: in many cases, installed boilers are too large and energy is wasted. Therefore correct size is key to ensure optimum efficiency and ensure that the gains from higher Ecodesign requirements are not offset in practice by inadequate sizing. Feedback from our member organizations on the ground shows that training is lacking in the area of cooling and heating appliances<sup>1</sup>.

## 2 | Ensuring installation with optimised controls

Controls are devices (thermostats, weather compensators, room sensors, etc) meant to enable fine-tuning of heat generation to address heating needs in an accurate and efficient way. Together with the boiler and other elements, controls define the energy efficiency of a heating system. Different technologies of controls enable different levels of fine-tuning and therefore different levels of system efficiency: e.g. basic thermostats do not allow consumers to set the temperature very precisely, which results in decreased efficiency. ANEC and BEUC welcome the Commission's handling of controls as far as the Ecodesign measure and the energy label for boilers are concerned. However, we have reservations on certain aspects of the Commission's proposal.

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<sup>1</sup> See Proteste n° 302, May 2009: In Portugal, our member's survey on the advice provided by air conditioner installers evidenced very weak practices, as in 40% of the cases the recommended air conditioning capacity was wrong for the scenario room while in almost 30% of the cases installers still recommended a conventional model (non-inverter). See also *Getting warmer: a field trial of heat pumps*, the Energy Saving Trust, UK, 2010; this report found a huge variation in performance levels, with many systems appearing to be installed incorrectly. The report emphasised the need for improved training.

With regards to Ecodesign requirements, **we support the Commission's proposal to tackle the energy efficiency of self-standing boilers without taking into consideration their combinations with controls.** This is in line with the aforementioned need to address the Ecodesign of boilers at the product level first. Including controls in a "boilers Ecodesign package" would have led to an automatic bundling of controls and boilers in sales. This bundling would have restricted consumer choice for different controls and could have led to a situation in which the delivered controls would not have been installed because the consumer had another preference. Consequently, the consumer would have been forced to invest additional money into new controls.

In the interest of consumers **we call on the Commission to ensure that all boilers will be installed with controls** in order to ensure an efficient operation of the heating system. It has therefore to be ensured that in all Members States a legal obligation to install boilers with controls will be enforced. Mandatory obligation to *install* controls along with boilers must be distinguished from *selling* boilers *bundled* with specific controls.

The Commission suggests that a malus of 3 percentage points applies on the efficiency reported on the product label of all boilers, to reflect the fact that bare boilers are not as efficient as boilers mounted with controls. A series of bonuses would then apply on the installer label to different controls with different efficiency potential<sup>2</sup>. The Commission suggests that the initial malus of 3% be brought back to 2.5% for boilers equipped with an open communication protocol. With open communication protocols, installation costs for consumers are lower as installers do not have to spend significant resources into attempting to connect elements underpinned by opposing proprietary communication protocols. Yet, lowering the malus to favour open communication protocols is an artificial fix unrelated to actual efficiency gains: there is indeed no guarantee that a consumer will in the future decide to add elements to his boiler and benefit then from the presence of open communication protocols. Moreover, it is unclear whether this 0.5% bonus will be sufficient to drive manufacturers of proprietary communication protocols towards open communication protocols. If it were not sufficient, the bonus could then provide manufacturers of open communication protocols with an

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<sup>2</sup> On the level of these bonuses: it is not acceptable that boilers' thermostats are put on the same level as room thermostats (i.e. 0% bonus). Both should be distinguished, e.g. by giving boiler thermostats an additional malus of 4 percentage points (this value is seen as a compromise between the previously – 2009 – suggested 8 points and the currently suggested 0 points).

unwarranted windfall effect. Still, **ANEC and BEUC support the reduced malus for open communication protocols, considering the widespread benefits that the latter can bring** to consumers in terms of alleviated installation costs.

It is proposed by the Commission that suppliers of a combination of a boiler and add-ons (be they controls, storage tanks, solar collectors, etc) may use the combined efficiency of the solution on their advertisements. This is not acceptable. **It should be made clear that the intrinsic efficiency of the boiler such as found on the product label should always be visible on the advertisement**, to ensure comparability across advertisements.

### **3 | Renewables visible on the Energy Label but excluded from the requirements**

The current working documents foresee no ecodesign requirements for purely solar-thermal appliances nor for biofuels-operated boilers. However, renewables are factored in the Energy Label: an appliance must be fitted with a solar component to be ranked in the top classes of the Energy Label. **ANEC and BEUC support the logic behind this approach**: it is indeed difficult to apply a single set of Ecodesign requirements to both solar-thermal and conventional solutions.

Still, not all renewable solutions should be considered equally. **ANEC and BEUC ask that efficiency requirements be put on boilers specifically designed for biofuels and that the latter are subjected to the Energy Label**. This concerns bio oil and bio diesel boilers and CHP (as there are usually no "specifically designed" biogas boilers). Bio oil is only sustainable if it meets very specific criteria. A number of studies<sup>3</sup> have shown that biofuels (mostly bio oil) can even cause more damage than good to the environment. The efficiency of bio oil boilers is basically the same as for fossil-fuel based boilers, except for maybe a small additional energy demand for pre-heating and spraying the bio oil<sup>4</sup>.

<sup>3</sup> See e.g. Institute for European Environmental Policy, *The indirect land use change impact of the use of biofuels in the EU*, November 2010

<sup>4</sup> Source: SENERTEC Dachs data on bio diesel BHKW  
[http://www.senertec.de/index.php?eID=tx\\_nawsecuredl&u=0&file=uploads/media/4798-092-011\\_technisches\\_datenblatt\\_dachs\\_02.pdf&t=1306493954&hash=5fec3d2b35780cca660b9d7f544cd35c](http://www.senertec.de/index.php?eID=tx_nawsecuredl&u=0&file=uploads/media/4798-092-011_technisches_datenblatt_dachs_02.pdf&t=1306493954&hash=5fec3d2b35780cca660b9d7f544cd35c); Jens Schuberth, boiler expert at Umweltbundesamt, Germany, bilateral communication.

#### 4 | The lower limit of 4 kW is a possible loophole for heat pumps

The European Commission suggests in the working documents that the forthcoming regulation covers appliances with a *rated input* of above 4 kW.

Yet, **it is unclear in the current version of the document whether the *rated input* considered here refers to *primary energy input* or to *electricity input*.** This is problematic, as both terms entail very different implications on the number of appliances potentially covered by the scope. The heat output necessary to properly heat a newly-built apartment with a heat pump often corresponds to an electricity input three to four times lower than the output (i.e. an input below 4 kW for a typical output of 9 kW in newly-built flats). Hence, if the rated input mentioned in the working document were to refer to electricity input, a significant number of heat pumps would be left out of the scope<sup>5</sup>. A quick survey of heat pumps commonly found in shops<sup>6</sup> shows that heat pumps for new built have a heat output of 4-6 kW (i.e. an electricity input of about 1-1,5 kW). Even a number of heat pumps intended for the built stock offer a heat output of 8-9 kW (i.e. an electricity input of 3 kW).

What constitutes a potential **loophole can be avoided by substituting *rated input* with *primary energy input*.** Another solution would be to **remove the lower limit of rated input for heat pumps altogether.**

### Level of ambition of the requirements

#### 5 | Lowering the ambition to protect consumers: a wrong solution to a real issue

The Commission suggests aligning the level of requirements for heat pumps and CHP with the level of requirements for boilers. We believe that setting technology-neutral requirements will not remove the worst-performing heat pumps and CHP from the market and will mean that very inefficient products can be placed on the market, even though consumers may be spending very large sums of money on these technologies. However, **we do understand the**

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<sup>5</sup> Such a gap in the energy input/output ratio does not apply to fuel-based boilers: the output will usually be slightly lower than the input in their case.

<sup>6</sup> See for example [www.stiebel-eltron.de](http://www.stiebel-eltron.de)

**value of setting technology-neutral requirements** in the overall objective of shifting the heating market from fossil-fuel boilers towards heat pumps and CHP. **A compromise solution could consist in removing the bonus given to heat pumps with a low global warming potential (GWP)** resulting from refrigerant leakage and replace it with a malus for heat pumps with a high GWP.

Notwithstanding concerns of alignment between technologies, the working documents prepared by the Commission reveal a **serious lack of ambition in the level of minimum efficiency requirements for boilers and heat pumps - and in some cases the absence of requirements altogether.**

Already in its 2009 proposal, the Commission had significantly lowered the ambition of its previous (February 2008) proposal. Two years have passed since 2009 and the ambition was again lowered, as if no technological progress nor market developments had taken place in the past three years.

The level of ambition was reduced in two ways. It was first reduced indirectly: the staged targets remain the same as in earlier (2009) versions of the working documents but the proposed deadline was not updated to reflect the delays in the process – the deadline was thus postponed by a year and a half. In other cases, the level of ambition was reduced directly: additional categories of products were created (some of them escaping requirements) and/or the staged targets were shifted back (i.e. first-stage targets have become second-stage targets).

In this position paper, ANEC and BEUC would like to focus on **the case of the cheapest boilers and heat pumps**. Specifically, we react here to three proposals meant by the European Commission to protect consumers:

a. the Commission's proposal not to set efficiency requirements on electric-resistance heaters

ANEC and BEUC would like to stress how outrageously inefficient electric-resistance heaters are compared to heat pumps and fuel-based boilers. It is understood that electric-resistance heaters have historically dominated a few markets as a result of the electricity being produced from renewable sources. We argue that including electric heaters in the scope could shift these markets to (much more efficient) heat pumps, put the electricity to a better use and eventually reduce the demand sufficiently to reduce electricity prices. That is why **ANEC and BEUC advocate for including electric-resistance heaters in the scope**. As the reluctance to include electric-resistance heaters in the

scope appears to come from a clearly delimited set of countries, other Member States should at least have the option to set stricter national standards<sup>7</sup>.

b. the Commission's proposal to set tougher requirements on *low temperature* heat pumps than on *high temperature* heat pumps

The Commission argues that *low temperature* heat pumps require existing housing to be retrofit with expensive floor heating systems to provide sufficient heating. We argue that this argument does not justify in itself to set differentiated requirements for *low* and *high temperature* heat pumps. A single set of requirements would guarantee a level-playing field between the two categories of heat pumps, something very relevant for new built where consumers can chose from the onset between *low temperature* heat pumps with floor heating and *high temperature* heat pumps with conventional radiators. This choice should not be artificially disrupted by differentiated efficiency requirements. Interpretation of 2008 data<sup>8</sup> suggests that the current Commission's proposal would clearly disadvantage ground-to-water heat pumps. **ANEC and BEUC thus ask that all heat pumps products be subjected to the same set of requirements.**

c. the Commission's proposal not to establish the best technology (the *condensing* technology) as a target for small boilers but only for boilers above 15 kW input

In the case of fossil-fuel boilers, minimum efficiency requirements proposed for small boilers for the second stage (2015) would correspond to the *low temperature* technology, i.e. a somewhat outdated and under-performing technology. The Commission's argument to support this proposal is twofold. First, for boilers purchased and used by a single household, the difference in price between the two technologies would be too extreme. Moreover, the Commission argues that retrofitting the built stock with *condensing* technology would not make sense as the rest of the heating system (e.g. old chimneys) could not accommodate *condensing* without a very expensive overhaul. Hence the alleged need to continue offering consumers the option of buying cheaper, *low temperature* boilers.

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<sup>7</sup> This principle that Member States may choose to set stronger requirements in their national building code than basic respect of Ecodesign targets should be strongly stated in the Ecodesign measure. Since October 2010, under UK law, any replacement or new gas or oil boiler must be a condensing boiler which is 90% efficient under the UK Building Regulations (rare exceptions can apply). This UK legal requirement has greatly helped drive the market forwards and help UK consumers.

<sup>8</sup> Dr. Falk Auer, *Schlussbericht Zweijähriger Feldtest Elektrowärmepumpen am Oberrhein: Nicht jede Wärmepumpe trägt zum Klimaschutz bei*, December 2008.

**ANEC and BEUC argue that the consumer protection argument does not hold.** First, it must be pointed out that the proposal would affect a lot of single-family home boilers for new built where installed boilers are small as a consequence of the better insulation and lower heating demand. Yet, newly built housing can accommodate the condensing technology without the need to refurbish other parts of the system such as chimneys. Where refurbishment of other parts of the system will often be needed, i.e. in the built stock, we argue that the costs can be kept at affordable levels (e.g. stainless steel or plastic tubing for old chimneys cost between 25 and 75 euros per meter). Moreover, we argue that it is possible to find on the market *condensing* small boilers in the same price range as *low temperature* boilers, even though the *average* difference in price between the two technologies is indeed significant. According to our data of 2005, initial upfront costs stemming from installing a *condensing* boiler in an existing dwelling can be recovered in 5 to 8 years. Where the chimney/system issue exists, we argue that this issue is ultimately independent from the size of the boiler. If anything, that issue is more problematic in multi-family dwellings, but costs there are shared among multiple consumers anyway or covered by social housing agencies. In any case, the chimney issue should be addressed under other instruments (e.g. refurbishment subsidies) in the rare cases where it might be problematic. ANEC and BEUC understand that the Commission's proposal was included to address the case of multiple small apartments sharing one big chimney, reported in one particular country<sup>9</sup>. Yet, no data was provided on the ownership structure of these dwellings (if they are owned by social housing agencies, single households do not have to bear excessive costs), nor on estimated costs of retrofits in these buildings. In the absence of such data and demonstrated evidence, it would be **dangerous that a minor, unsubstantiated case justifies non-ambitious requirements on small boilers in the whole European Union**<sup>10</sup>. **ANEC and BEUC hence recommend that the proposed requirements for boilers below 15 kW input be correspond to the requirements for boilers between 15 kW and 70 kW input.** Should the case eventually be substantiated, we demand that a timetable for the phase-out of non-condensing boilers be set (an additional stage for boilers below 15 kW should be introduced).

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<sup>9</sup> See Marcogaz comments of June 2009 and France comments.

<sup>10</sup> For example, in the United Kingdom, condensing boilers have been made a minimum standard, so the associated problems are apparently solvable (see footnote 7).

## 6 | Emissions of pollutants in the use-phase must be tackled more comprehensively

The working document identifies NO<sub>x</sub>, CO, Hydrocarbons, Particulates and the refrigerant fluid in heat pumps as significant environmental parameters. The draft Ecodesign measure however foresees threshold values only for NO<sub>x</sub> emissions. We therefore reiterate our previous comments and **call on the Commission to set limit values not only for NO<sub>x</sub> emissions but also for CO, hydrocarbons and particulates in the Ecodesign requirements**. Such measures should be based on existing legislation in EU Member States. Regarding the actual limit values suggested for NO<sub>x</sub>, we regret their new substantial weakening compared to earlier versions of the working documents (e.g. increase from 42 mg/kWh to 105 mg/kWh for oil boilers in the 2009 working documents, and to 120 mg/kWh in the April 2011 working documents!).

It is understood that historical developments have led certain national markets to be populated with highly NO<sub>x</sub>-emitting appliances<sup>11</sup>, while other markets mostly comprise highly CO-emitting appliances. To ensure a level-playing field on the European market, **ANEC and BEUC ask that a corresponding limit be put on CO emissions level as well**. We would like to mention that technical standards exist for measuring CO<sup>12</sup>. The German Eco-label refers to these standards and is awarded to boilers which have lower emissions and which have a higher efficiency than based on current standards. The Blue Angel 2006 criteria specify that boilers up to 70 kW have to meet the following requirements on emissions:

NO <sub>x</sub>	CO	Organic components (C <sub>x</sub> H <sub>y</sub> )	Carbon particulate matter
110 mg/kWh (63 ppm)	60 mg/kWh (56ppm)	15 mg/kWh (9ppm)	Has to be lower than 0.5

Data recently collected in view of an update of the Blue Angel show average CO emissions of 10mg/kWh in a sample of 25 gas-condensing boilers. As these criteria exist and are verifiable, we insist on setting binding values in the Eco-design regulation. The Ecodesign criteria should however be more ambitious than the Blue Angel criteria as the latter are dating from 2006 and the level of ambition would be outdated by the time the Ecodesign requirements apply.

<sup>11</sup> The United Kingdom appears to be the most relevant exemple, although about 95% of the boilers sold there are gas-fired boilers (source: UK Market Transformation Programme report)

<sup>12</sup> DIN 4702 Part 8, DIN-EN 267 "Automatic forced draught burners for liquid fuels", BS-ISO 2046-1 and BS-ISO 3046-3.

We understand that the Commission is not entirely satisfied with existing standards, said to measure CO emissions at the wrong time (use phase instead of start-up). Yet CO emissions during start-up relate to CO emissions during use phase, so one would be able to function as a proxy for the other. In that regard, **setting a target value based on the aforementioned standards is an acceptable solution**; a sub-optimal standard is better than no standard at all. The Commission should then issue a mandate for developing a harmonised standard taking into account start-up/stop phases.

Combined Heat and Power (CHP) emits various pollutants while producing heat. The latest proposal of the European Commission suggests that a specific requirement be set for pollutants from CHP solutions: the criterion considered will be how a given CHP solution compares against the state-of-the art CHP solution on that aspect. **ANEC and BEUC welcome this move away from the previously suggested “bonus” approach**, where CHP solutions would have received a more or less significant bonus when emitting fewer pollutants than other technologies. However, we regret that **the actual level of the specific requirement is far from the benchmark** (even though the benchmarks might only be achievable with non-standard technology). The bench-mark is indeed of 35 mg/kWh for fossil fuels and 70 mg/kWh for CHP. The German Blue Angel is not as demanding, requiring 60 mg/kWh for gas boilers and 250 mg/kWh for gas CHP.

## **7 | A Zero watt mode is needed**

As CH-boilers are often only used during the heating season, we consider it important to avoid energy losses from standby during the rest of the year. We therefore suggest including a provision for a zero watt mode/ hard-off switch which would allow consumers to switch off the appliance during the seasons when no heating is required.

## **8 | Limits on noise progress consumers’ satisfaction and should be extended to CHP**

**ANEC and BEUC welcome the Commission’s proposal to include noise limits on boilers and heat pumps.** This is all the more important for indoor applications. We demand that limits on noise also be established for CHP applications given the usually high levels of noise of the latter.

Based on our research<sup>13</sup>, **a target value of 56dB(A) would be appropriate for CHP below 12 kW.**

## The Energy Label

### **9 | The information needed by consumers is best provided by the Energy Label (“product label”)**

It is sometimes said that boilers and other large heating and cooling appliances are not found on the shelves of retailers in the way that other appliances such as fridges, coffee machine or TVs are found. It has been argued, instead, that consumers mostly purchase these appliances through intermediaries, namely installers, who present consumers with a more or less populated list of options to purchase from. Some stakeholders have argued that this specific channel of distribution nullifies the need for an Energy Label summarizing the performance information for consumers. ANEC and BEUC accept that boilers, heat pumps and CHP are not typical appliances when it comes to the purchasing process. However, given the serious shortcomings witnessed by several of our member organisations on the installers’ side, we believe that **consumers cannot entirely rely on the advice of intermediaries** to inform them on the performance of boilers, heat pumps and CHP. This is why **we strongly support the two-pronged approach to labelling suggested by the Commission** in that it guarantees that consumers will be given a minimum sense of the intrinsic performance of the appliance they might purchase.

### **10 | The format of the label**

ANEC and BEUC welcome the **significant progress made on the front of the format of the Energy Label for boilers and CHP** since the previous working documents were circulated in 2009. A first source of **satisfaction is the proposal to define class boundaries independent of the energy source and of the technology within each product category** (except for low temperature heat pumps for which class boundaries are raised by 25

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<sup>13</sup> We analyzed the data sheets for sample noise values of 9 micro CHP solutions. Details available upon request.

percentage points). This proposal will ensure that consumers are provided with a fair comparison between the efficiency allowed by the various sources of energy. A second source of **satisfaction lies in the mention of noise levels on the label**. Yet, we still have **significant concerns over the complexity for consumers of the heat pump label** in particular (see below).

Regrettably, it is proposed - as too often in Ecodesign implementing measures - that **the class boundaries remain identical over time. This proposal will not contribute to the stimulation of the market**. It actually entails a resource-consuming process of renegotiation when the time has come to revise the regulation.

The preference of consumer organisations has always been for a closed A to G label but our comments are aimed at making the best for consumers from the new system that has been put in place. It is on this basis that we support the Commission's proposals for A+ to require the input of renewable energy sources in the first phase so that the energy label provides an incentive to move to the more efficient renewable technologies.

## **11 | The “shifting label” prevents comparison of products and misguides consumers**

Similarly to the Energy Label for TVs which will become mandatory at the end of 2011, the Energy Label proposed for boilers, heat pumps and CHP is a “shifting label”. The latter notion refers to the fact that labels with different energy scales will be available simultaneously for a same category of appliances. This is very confusing for consumers. It is proposed that manufacturers may choose from the beginning whether they will use an energy label with a A<sup>+</sup>-G scale, a A<sup>++</sup>-E scale or even a A<sup>+++</sup>-D scale<sup>14</sup>, depending on whether their appliance can achieve a performance ranking of A<sup>++</sup>/A<sup>+++</sup> or not. The effect on consumers' perception is obvious: consumers might purchase a boiler X ranked A<sup>+</sup> on an A<sup>+</sup>-G scale thinking they are purchasing the best-available boiler, when in fact other boilers can already achieve an A<sup>++</sup> or A<sup>+++</sup> ranking! **ANEC and BEUC call on the Commission to prevent what is yet another confusing breach into the very concept of an energy scale**. We ask that one label only (A+ to G) be in force for the period from 12 months after publication of the Regulation, and that only one label (A+++ to D) for the

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<sup>14</sup> Although the working documents do not appear to make it clear when A<sup>+++</sup> can be used – see Energy Labelling draft regulations Article 3(1)(f)(b): the A<sup>+++</sup> label is not mentioned there anymore. We assume this is a mistake.

period from 36 months after the publication of the Regulation. **Crucially, it should not be possible that different labels are in circulation at the same time.**

## **12 | The need to test elements of the label on consumers prior to circulation**

A source of concern with the Energy Label for boilers, heat pumps and CHP is the presence on the label of previously untested pictograms and other imagery. We refer here to the **necessity for modern policy-making aimed at consumers to carry out field research on the actual perception of labels and symbols by consumers.** ANEC and BEUC are of the opinion that what might “make sense” to a designer or to a policy-maker might not make sense to large categories of consumers. That is why it is necessary that the European Commission applies the principle developed in its own Energy Efficiency Plan of March 2011 of “*survey[ing the] consumer understanding of energy labels*” to the imagery it includes in the Energy Label for various product groups. The same reasoning should apply to the decision to opt for largely text-free labels.

Specifically, we express **strong reservations on the pictograms and the climate map proposed for the heat pumps label.** The map regarding the different climate zones (average, colder, warmer) is not self-explanatory. In addition, it is too small to allow easy identification of the relevant climate. Using so many different colours also increases the potential of mislabelling as the printout would rely on a very high quality. In summary, the heat pump labels look extremely complicated and difficult to understand, and a long way now from a simple A-G label. We urge the Commission to test this on consumers before finalisation of the design. Otherwise, the risk is that a label is brought in that is unintelligible to consumers and therefore defeats the purpose of the energy label.

## Benchmarks, certification and additional measures

### **13 | Benchmarks**

The benchmarks suggested are not helpful, as no separate benchmarks for fossil fuel boilers, CHP and heat pumps are given. **There should be separate**

**benchmarks for each technology.** Independent benchmarks are difficult to acquire because different performance indicators and calculation methods are used in different documents<sup>15</sup> (e.g. 92/42/EEC of 21 May 1992, German Blue Angel, prep study). We however refer to ECOS/INFORSE data for gas-condensing boilers.

## 14 | Third-Party Testing and tolerances

Mandatory third-party testing has been removed in the latest version of the Commission's working documents, with the standard procedure now relying on self-certification. **ANEC and BEUC regret that the Commission did not provide more evidence on the estimated impact of third-party testing on the price of the appliances** to support its new proposal. We are not convinced that a general reference to the General Product Safety Directive is sufficient in order to exclude possible negative health effects for consumers. As the Eco-design measure asks for boilers to be third-party tested, we consider binding legal values on NOx and CO emissions important as these would consequently also be subject to the testing procedure. In addition, market surveillance authorities would have clear reference values when enforcing the requirements on emissions.

The tolerance level which applies to both seasonal space heating and water heating is proposed at 8%<sup>16</sup>. We consider that this tolerance level is too high, especially when the energy efficiency classes tend to span 8% too. **Manufacturers are therefore effectively permitted to put a product on the market one class above its actual class.** Based on our members' experience in testing boilers, we argue that it is technically possible to measure the efficiency with accuracy well below 5%. When several tests are conducted (such as is suggested for the second round of testing), the tolerance must be much lower. It should even be possible to allow no tolerance at all, because the different errors should level out each other. **We therefore suggest a tolerance of 4% for the first round of tests, and none for the second round of tests.**

## 15 | Additional measures

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<sup>15</sup> E.g. Directive 92/42/EEC of 21 May 1992, German Blue Angel, Preparatory Study for Ecodesign lot 1 Boilers.

<sup>16</sup> Ecodesign working documents, Annex VIII



**ANEC and BEUC strongly regret that no additional measures are mentioned in the proposed working documents** (such as installation requirements, training of installers, subsidies for low-income households or incentives for early and better replacement of boilers). Comprehensive and urgent action from Member States to set such measures under Article 8 of the EPBD should not be taken for granted. The provisions of the EPBD should not prevent the Commission from guaranteeing that the most urgently-needed measures are indeed taken.

**END**