



## **Discussion Paper**

# **Experiences with verification and enforcement of the EU Energy Label**

### **Disclaimer:**

*This paper presents evidence and opinions of the experts of the EnR working group for labelling and ecodesign and the CEECAP project<sup>1</sup>, and other contributors. It does not represent a common position of these groups or of the organisations that experts represent.*

### **Introduction**

The CEECAP project, in collaboration with the EnR working group for labelling and ecodesign promotes and facilitates the implementation of energy labelling and ecodesign in the European Union. Compliance checking is an important aspect of the project, and many lessons have been learned over the years. This paper summarises those lessons, and sketches possible changes in regulations and implementation practices that can improve compliance checking.

The paper is focused on checking the accuracy of labels. Checking the correct labelling in shops and via other retail channels is also an important aspect, but one that is well-described and for which there are no known systemic difficulties. Not every country seems to adequately check the correct labelling of products, but every one could if it would put in reasonable efforts. Checking label accuracy, however, does seem to have some difficulties stemming from the way the verification procedures are defined.

### **Observations about compliance checking of label accuracy**

#### **Countries that actually check appliances energy performance**

Energy performance declarations of labelled appliances are self-declared by suppliers. There is no defined procedure for this self-declaration; suppliers may determine the energy performance of a product as they see fit. National authorities have, under the European Union's internal market rules, the obligation to survey the market to check for non-compliance with regulations. This process of self-declaration and market surveillance is laid down in the 'New Approach'. Energy label directives do indirectly

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refer to a verification procedure, to be used by Member States when verifying compliance of a products energy performance declaration (on an energy label). This procedure consists of an initial EN test of one product as it is placed on the market and, if this test reveals a difference larger than the allowed tolerance (usually 15%), a further three tests. If the average result of those tests deviates more than an allowed tolerance (usually 10%), the product is deemed to have failed.

The directives, however, do not describe how Member States should perform the market surveillance; that is national decision. Various sources (CEECAP, ANEC) indicate that the great majority of European countries have never performed a single verification of the energy performance of an appliance. Countries in this category seem to include all new Member States, and also most of the EU-15. There are, as far as could be established, only three countries that regularly test appliances to check and enforce accurate energy performance indications, and one more where there is regular testing but not related to enforcement.

### **Availability of adequate test facilities**

Many countries in the new Member States, report a lack of adequate test facilities for energy performance tests in their territory (CEECAP, UNDP). There are, as far as could be established, no independent test laboratories that can test according to the latest EN standards in the countries reviewed (although one probably exists in Slovenia). The available test laboratories have no experience with energy performance testing according to EN and don't have the equipment needed to perform state-of-the art tests.

All EU-15 countries that have tested appliances have access to up to date test laboratories in their own or neighbouring countries; there is no information about the availability of test laboratories in other countries.

Naturally, one cannot performance tests if there is no laboratory to do so. It should be noted that there doesn't appear to be a legal barrier for outsourcing tests to a laboratory in another country; in fact, the Netherlands is already doing so. When asked, however, most governments don't seem to like this option or have never checked its validity.

### **Non-compliance of appliance energy performance declarations**

Government testing of appliances usually results in a small share of the tested products having a measured energy performance that deviates more than the allowed tolerance (15%) from the declared performance. The vast majority of products have a measured energy performance lower than the declared one, but within the allowed tolerance (ANEC, Swedish Energy Agency). In tests of 101 refrigerators, 15 had a measured performance more than 15% below the declared value, 82 had an energy performance between 0 and 15% below the declared one and only 4 an energy performance that was better than declared. Similar results were obtained for ovens, dishwashers, washing machines and tumble dryers (Swedish Energy Agency).

### **Average deviation recorded in verification tests**

The average measured energy performance, when testing one product, is 8% below the declared one (EnR). This is based on the results of testing one product (not followed by three, as required to establish non-compliance) and thus does not imply

that products on average do not comply with the directives. However, it does clearly indicate that, on average, suppliers overstate the energy performance of their products. It also is a strong indication that actual combined product and measurement tolerances are far below the allowed (plus or minus) 15% assumed in test standards.

### ***Reported difficulties in enforcing label accuracy***

#### **Cost and duration of the verification test procedure**

A consumer association and a country that has tested appliances for verification of the energy performance declaration report that the cost of the procedure and its duration are substantial barriers. Testing according to the EN standard is relatively expensive, and the requirement to perform tests on four products before non-compliance can be established is seen as especially burdensome (ANEC, Swedish Energy Agency). Countries further point to the long procedure needed to establish non-compliance, which can take up to two years including enforcement action (ANEC). The complexity and cost of the procedure is reported as a major reason for many countries not to do verification testing at all (CEECAP, UNDP).

#### **Difficulties in enforcing compliance**

Two countries report that it is difficult to accurately enforce correct energy performance declarations, even if verification tests show that the measured value differs more than is allowed from the declared one. The duration of the procedure and the frequent changes of model types lead to countries experience that products are no longer on the market once the verification procedure is completed (ANEC, Swedish Energy Agency). This greatly reduces the effectiveness of the verification procedure. Many countries, informally, report that legal consequences of non-compliance are unclear or disproportionately low. Quite often, there is no established procedure for legal action once a test would reveal non-compliance, and even if one can be established, maximum punishment is often very low, e.g. fines of a few hundred Euro (CEECAP, UNDP).

#### **Large variety of product type numbers**

Model type numbers change rather frequently, and the number of models on the market is rather large. Ceced estimates that, at any given moment, there are about 30,000 models of refrigerators / freezers, washing machines and dishwashers on the European market. Anecdotal information indicates that many of these type numbers relate to basically the same product, with some minor variations (colour, feature, etc) or just intended for a different market in Europe. Information linking the various type numbers to basic product designs is not made available; there is no requirement to do so and this probably would include confidential marketing data of suppliers. Enforcement authorities notice this fact occasionally, however, when requesting product test data: it has been observed that the energy performance for one model type is supported by a test report for another one (even a different brand name), but essentially the same technical design.

No government can be expected to be able to test tens of thousands products. The information also points to a great imbalance in the efforts required to establish an energy performance declaration and those required to establish non-compliance: the procedure to declare an energy performance is undefined and suppliers have (and use)

the liberty to assume the energy performance of one model type based on the known performance of another, similar one, but enforcement authorities must test each and every different model type in a complex procedure. Combined with the frequent changes in type numbers, it can reasonable be assumed that energy label declarations are effectively impossible to enforce.

The variety of type numbers also makes it virtually impossible to effectively share information about performed verification tests among enforcement authorities. This could be effective if it were clear that model type A, tested in one country, is similar to model types B, C and D on the market in other countries. The differentiation in model type numbers effectively blocks this route. As stated before, however, it doesn't stop suppliers from re-using the same energy performance declarations.

### ***Discussion of possible improvements***

In this paper, a number of issues are identified that need addressing to enable an effective enforcement of energy performance declarations:

- Availability an quality of test facilities
- Complexity of verification procedure and allowed tolerances
- Variety of model types and lack of information linking model types to basic designs
- Lack of testing appliances in many countries and lack of information sharing

Suggested improvements are discussed below.

### **Improved availability and quality of test facilities**

There appears to be a lack of test laboratories in some countries that have the equipment and experience to adequately conduct energy performance tests. While no one can mandate the construction of a test laboratory, it appears that the organisation of round robin testing and some training of laboratory staff would improve the capacities of existing laboratories to test according to the latest standards. It could also be considered to certificate laboratories that have participated in round robin testing and/or register these as notified bodies. There is currently no requirement to use accredited laboratories or notified bodies for verification tests, but Member States could choose to select only those laboratories for verification testing. Since such procedures to improve the quality of testing, this could be recognised by a lower allowed measurement tolerance when performing tests (see also next point).

### **Information about the basis for energy performance declarations**

The large variety of model types implies that enforcement authorities would have to verify an impossible large number of products in order to cover a reasonable share of the market. Currently, even the most active national authorities limit their testing to some 20-30 model types per year, equivalent to 0.1% of the market. Enforcement authorities are obliged to first establish a reasonable suspicion that a product is likely not to comply with the regulations, before they can request additional technical information about the product. This requirement is unclear, and in some jurisdictions a first test is required to establish a reasonable suspicion. Overall, this creates an unacceptable disadvantage for enforcement authorities.

A more balanced approach would be to require that suppliers make available the technical documentation that is the basis for their energy performance declaration when a product is placed on the market, as is currently proposed by the European

Commission in its proposal for the revision of the New Approach. This would allow enforcement authorities to verify if the declaration is based on a sound technical analysis and/or on a test by a reputable laboratory, as a first step towards checking compliance. This would allow enforcement authorities to focus their attention on more questionable products, thereby increasing the efficiency of market surveillance activities.

Such a requirement should be accompanied by the requirement to make available a list of all model types that share the same technical basis for their energy performance declaration. This would allow enforcement authorities to check if a similar product has already been verified before, in their or another jurisdiction in the EU – thus further increasing the efficiency and effectiveness of compliance checking.

### **Reduced complexity of verification procedure and allowed tolerances**

The current verification procedure is unnecessarily complex and tolerances are larger than needed. Energy labelling verification procedures generally require that it is necessary to first test one product, and then three more to establish non-compliance. This procedure also allows for three types of tolerances: laboratory and standard tolerances (inherent of the measurement) and, in the first test and subsequent tests, production tolerances (inherent variation of mass-production). Since there already is an allowance for production tolerances, it is only reasonable to assume that, if a product's energy performance is found to deviate more than the combination of measurement tolerances and a reasonable allowance for production tolerances, the product does not comply. In that case a settlement can be proposed to the supplier.

If a supplier is convinced that the tested product is a particularly bad one (or particularly good, the procedure currently also applies to a measured energy performance much better than declared), a supplier could require that the enforcement authority continues with further tests. These further tests should then demonstrate that the average measured energy performance is equal to the declared energy performance, allowing for measurement tolerances. However, if the average result of the tests confirms non-compliance, the supplier should be charged for the cost of testing in addition to a fine for putting non-compliant products on the market.

There further is little justification for specifying a fixed allowance for measurement in regulations or standards. Laboratories can improve their competence, and reduce their measurement tolerances, via participation in round-robin tests and by other means. Such progress should be rewarded, as it allows for a more accurate testing of products, which benefits all. Regulations should refer to the measurement tolerances established in tests as the allowed tolerance for compliance checking. It would then be up to the enforcement authority to demonstrate the measurement tolerance of the laboratory being used.

### **More testing and sharing information between enforcement authorities**

Given the current level of verification testing, a call on Member State authorities to perform (more) tests and take legal action in case of non-compliance would be justified. To make sure that Member States can improve their market surveillance without having to spend unrealistically large budgets on verification testing, however,

requires that testing is made more efficient and that results can be shared among enforcement authorities. Previous sections have outlined proposals to make verification testing more efficient as a means of market surveillance. These proposals would also put in place necessary requirements to allow for a sharing of test results among enforcement authorities in EU countries. To facilitate this further, it would be useful if the European Commission would maintain a register of performed verification tests, listing the product tested, the results of the test and related model types in other EU countries. This would allow an enforcement authority to check if products have been found to comply or not in other countries, and thus contribute to a more harmonised implementation of regulations in the EU.

### ***Conclusions and Implications***

This paper has clearly outlined some difficulties with current verification procedures and how these hinder an effective surveillance of the market regarding the declared energy performance of appliances. It also includes proposed solutions to these problems, to make procedures and regulations more ‘market surveillance-friendly’, facilitating an effective and efficient verification of products rather than making it virtually impossible to do so.

These are necessary but not sufficient conditions for a better verification of energy performances. It is also required that all Member States take up their responsibility to check compliance and enforce if needed. The current level of activity in many EU countries is insufficient today, to check if a label class is indicated correctly. This will only be more important soon, when products may be allowed on or banned from the market based on their energy performance declaration, under the Ecodesign directive. This directive can only fail if the majority of Member States do not enforce it.

### ***Sources:***

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