ATLETE II
Appliance Testing for Washing Machines
Energy Label & Ecodesign Evaluation

PUBLISHABLE RESULTS ORIENTED REPORT

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Acknowledgment

We would like to express our gratitude for the engagements and support which was offered by all involved.

The project development and performance was only possible through the close cooperation of the project partners and the help of the project officer.

Particular thanks go to the laboratories, the manufacturers, and the other stakeholders which, through their professionalism and their proactive participation made the success of ATLETE II possible.

DISCLAIMER

The ATLETE II Project is solely intended to demonstrate that market surveillance testing is possible and cost-effective. It should be noted that the testing results published by the ATLETE II Project are indicative only. They are not legally binding and are without prejudice to any determination of compliance or non-compliance by a national market surveillance authority. In particular, they cannot be used to prove in law that an appliance is compliant or non-compliant.

Only the market surveillance authorities of the Member States have the legal right to officially declare whether an appliance placed on the market is compliant or non-compliant. It is up to each national market surveillance authority within the European Union to decide if actions are needed. Each market surveillance authority will have to establish non-compliance in accordance with the rules that are applicable in its Member State.

50 washing machines models have been selected randomly for testing. These 50 appliances represent only a small sample of the manufacturers’ product ranges. The published results therefore do not allow any statistically reliable inferences about the overall reliability of a manufacturer’s declarations of conformity.
Summary

The energy label tool has, since 1995, continued to provide easy-to-read information on the characteristics of a household product placed on the European market.

Accuracy and confidence in how the European energy label is used when explaining the characteristics of energy-using products is crucial. Information on the label is based on a declaration made by the manufacturer about its product.

Consumers need to be able to purchase products, confident in the knowledge that the information on the label is accurate. Meanwhile manufacturers need to be confident that they are operating in a market where all competitors play by the rules on a level playing field.

The purpose of the ATLETE II project was to then to enhance the implementation and verification of energy labelling and ecodesign implementing measures in the sector of washing machines in the EU internal market. ATLETE II was the successor of the previous accomplished ATLETE project dedicated to verification of conformity of refrigerators. The verification methodology designed for the product category refrigerators, again validated and revised for the market segment of washing machines, consequently will be applicable with very minor adaptations for any Energy-using Products (EuP).

ATLETE II is finally designed to demonstrate, and has actually demonstrated, that market surveillance and testing can be done in a systematic, effective and cost-efficient way. It helps transform the market and ensures the highest benefit for consumers, manufacturers and the environment.

In this framework the major outcomes of the project have been:

- To set out and validate an overall procedure for the compliance monitoring of the declared values for the EU policies;
- To carry out European-wide market surveillance on an EU policy measure by testing 50 randomly selected washing machines appliances;
- To carry out a first and large scale laboratory testing of a washing machine under the new Energy Labelling also applying a new measurement method; based on a wide selection process for assuring that the highest quality laboratories carry out the full testing of washing machines;
- To organize a mini-ring test exercise in order to ensure improved quality and consistence in testing washing machines;
- To carry out an in depth analysis on the implications of the Energy Labelling and the Ecodesign Directives on market surveillance activities by monitoring the activities carried out by the market surveillance authorities in this area and formulating a set of recommendations to make their actions more effectives.

In this report this set of outcomes is condensed in three main sections that concisely describe the achieved results:

- The field work, that illustrates the main results provided by the test carried out on the selected 50 washing machines models
The capacity building activity that relates the results provided by the mini ring test activity

The analysis on the implications implications of the Energy Labelling and the Ecodesign Directive on the market surveillance activities that outlines the results of the surveys undertaken by ATLETE II to monitor the activities of the Market Surveillance Authorities as well as the set of recommendations that have been consequently formulated.

Among these results, those provided by the field work are for sure the most important one. To better understand how these results have been achieved a previous chapter is dedicated to illustrate the main methodological steps that have been designed and undertaken. It is worth noting that the project methodology has to be considered as results per se. This methodology was initially developed during the ATLETE project and has been further assessed and validated in this project.

Main achievements of this methodology have been:

- The setting of a robust and transparent procedure for the selection of the laboratories and the washing machines models to be tested
- The production of a standard test report to compare and assess the laboratories results. This standard test report has been further validated during the mini ring test exercise
- The confirmation that two steps approach is crucial for completing proper verification procedure. Almost 25% of models tested in Step 2 (that is suspected non-compliance in step 1) occurred to be fully compliant after Step 2 (see paragraph 2.5)
- The setting of a communication protocol between ATLETE II and EU Member State Market Surveillance Authorities to inform them about all individual test results relevant to their own markets. The reporting to MSAs included test cases, where models were qualified as compliant or not compliant by the project consortium, but with documented remedy actions as well as those cases, which could not be concluded by ATLETE II

To know more about these results and the overall verification procedure we suggest to read the corresponding deliverables that are all downloadable from the project website. In particular the main project results are detailed in the following reports:

- The detailed description of the field work results is reported in the “Final project report with recommendation for MSA” (http://www.atlete.eu/2/test-procedures).
- The capacity building activity is outlined in the “Report on the mini ring tests” (http://www.atlete.eu/2/laboratories).

The overall methodology is described in the “Revised version of the guidelines” report (http://www.atlete.eu/2/test-procedures) and the report on the communication
actions between the project and the Market Surveillance Authorities is carried out by the: “Final report on the MSA communication action and follow up” (http://www.atlete.eu/2/market-surveillance-authorities)

Finally it is important to add that, in addition to the main results illustrated in this report, the project has produced a set of accompanying and ancillary outcomes that are more in depth described in the corresponding project deliverables. Among these results it is worth mentioning the following:

- The publication of a report comparing the old and the new measurement method for washing machines (Guidelines for WM verification: models and lab. selection, new standards and measurement methods (http://www.atlete.eu/2/test-procedures).
- The lay out of a technical report on the statistical analysis of the compliance test results ( “Final report on the statistical analysis of the compliance test results” http://www.atlete.eu/2/test-procedures).
- The publication of a Report on the effects of weak market surveillance activity that provides a quantitative assessment on the energy impact of the missed or not accurate controls carried out by the surveillance authorities (http://www.atlete.eu/2/market-surveillance-authorities).
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1 THE PROJECT IN BRIEF: OBJECTIVES, ACHIEVEMENTS, OUTCOMES AND MAIN FACTS

Energy labels and ecodesign requirements are crucial drivers for market transformation orienting consumers’ choices towards more energy efficient appliances. Consumers should be thus sure that the products found on the EU market comply with the legislative requirements.

Objectives

ATLETE II project is the successor of the first ATLETE project, both projects being financed by the European Commission in the framework of the Intelligent Energy Program. The general purpose of these projects has been to foster the European-wide implementation and control of energy labelling and eco-design implementing measures for appliances. The developed methodology is not limited to the specific appliances tested by these two projects (refrigerators, freezers and washing machines) but is applicable, with minor adaptations, to any other Energy-using Products (EuP).

The developed methodology is thus addressed to the Market Surveillance Authorities that play a crucial role to assure that the products found on the EU market comply with the legislative requirements thus realizing the potential of available technologies.

Despite the increasing attention dedicated to many Member States to the reinforcement of the surveillance activities there is still a long way to go (see i.e. Deliverable 2.4 on the “Implications of the Energy Labelling Directive (2010/30/EU) and the Ecodesign Directive (2009/125/EC) on market surveillance activities”).

To this end the ATLETE projects have been designed to demonstrate, and have actually demonstrated, that market surveillance and testing can be done in a systematic, effective and cost-efficient way, thus helping to transform the market to ensure the highest benefit for consumers, manufacturers and the environment.

In this framework the objectives of the ATLETE II project was to:

- Identify the examples of effective enforcement of existing labelling/ecodesign legislation and national market surveillance;
- Address the issue of the feasibility and affordability of verification compliance testing for Energy labelling and Eco-design requirements;
- Upgrade and share an effective procedure for the verification of the manufacturers' labelling/eco-design declaration including a methodology for the selection of laboratories and appliance models selection;
- Provide the European Commission and Member States with results of pan-European testing on a large number of the second most important household appliance: the washing machine;
• Inform national Market Surveillance Authorities in case of non-compliance, as well as of compliance, of each tested product model;

• Give concrete support to EU and National Authorities for and effective energy labelling and eco-design implementation;

• Raise National Authorities’ awareness of the effectiveness of the energy labelling/ecodesign on national energy efficiency.

Achievements and Outcomes

ATLETE II has largely achieved these objectives and, in addition to have demonstrated that that market surveillance is technically and economically feasible, provided that adequate human and financial resources are made available, has also provided the following important outcomes:

• The definition of a thorough, accurate and timely procedure for compliance verification. In this framework the project, creating in this way a stable framework for all stakeholders, has in particular:
  o Re-assessed the importance and need for Step 2 in the EU verification procedure.
  o Shown that producers involvement through the signature of the Voluntary Protocol allows timely “remedy actions” to be put in place.
  o Reconfirmed that laboratory testing is technically feasible and economically sustainable. And paradoxically it appears to be the “easiest” phase of the entire procedure
  o Tackled (and in most cases resolved) all non-compliance cases, before delivering the final results to MSA

• A qualified and independent products checks and test results made available to the Surveillance Authorities to reduce the burden and the use of national resources to develop market surveillance.

The ATLETE project have thus finally demonstrated that public financing – i.e. through EU Programmes and/or specific Tenders – is essential for the developing of pan-EU compliance verification projects and for prioritization of the products to be investigated.

Dissemination activities

To ensure transparency, the final results of the project are made publically available via the project website http://www.atlete.eu/2/ . Information made available includes the models tested, the laboratories involved, final overall results by model and parameter.

Moreover abundant dissemination material has been produced and distributed, several seminars have been directly organized and in many other, the ATLETE II project has been presented.

At least 5000 leaflets per country have been produced and distributed. Typically, leaflets have been circulated with suppliers, retailers, and during conferences. AEA, Austria, ensured the highest achievement, circulating 30 thousand leaflets, instead of 5 thousand.
Five press releases have been produced in several project’s country languages and disseminated via emails and media. The last English version of the press release has been circulated during the project’s final conference. The national translations of the press release have been subsequently prepared, published on the project website, and shared with national media.

ATLETE2 project participated and organised a total of 34 events in total (about 16 of them were international).

It is finally worth noting that about 94 articles have been monitored in total, including some high level national and European daily or electronic press/media. Almost all these articles were published after the ATLETE EU final conference (25 June 2014 Brussels) and the national conferences held in Austria, Czech Republic, Italy and Sweden.

During the period May 2012 – December 2014, the website was visited by over 7,300 users, with more than 29,000 page views. The highest percentage of visitors has been achieved in Italy (65%), followed by Poland, Germany, United Kingdom, Belgium, Czech Republic, France, China, Netherlands and Switzerland.

Main Facts

✔️ Consortium

The project consortium is made up of eleven partners from 8 different European countries:

- **Italy:**
  - ISIS (Institute of Studies for the Integration of Systems), Consultancy, Project Coordinator.
  - ENEA (Italian National Agency for new Technology, Energy and the Environment), National Energy Agency, responsible for the overall project methodology and final results evaluation

- **Belgium:**
  - CECED (European Committee of Domestic Equipment Manufacturers), Manufacturer Association, responsible for the Laboratories Selection and management of the Appliances Testing
  - ECOS, Environmental NGO, environmental policy and standardization experts
  - ECEEE (European Council for an Energy Efficient Economy), communication experts and policy experts

- **Czech Republic:**
  - SEVEN (SEVEN, The Energy Efficiency Center), consultancy, communication expert, policy expert.

- **France:**
ADEME (French Environment and Energy Management Agency), National Energy Agency, responsible for the initial Background Analysis

- **Austria:**
  - AEA (Austrian Energy Agency), National Energy Agency, policy expert

- **Germany:**
  - UniBonn (University of Bonn), University, Technical expert, standardisation expert

- **Sweden:**
  - SWEA (Swedish National Agency), National Energy Agency and MSA (market surveillance authority) for Ecodesign and Energy Labelling directives, policy expert, national market surveillance expert.

- **UK:**
  - ICRT (International Consumer Research & Testing), Consortium of Consumer Organizations, International cooperation of experts in consumer research and Testing including market research, purchasing products, evaluation of results and test publication

**Target Groups**
- Institutions, & Government organisations;
- Manufacturers & Retailers;
- Associations, Consumer Groups and NGOs;
- The media and general public

**Key Actors**
- National Energy Agencies;
- Manufactures & Importers

**Duration:**
30 months (May 2012 – October 2014)

**Budget:**
- Total Budget: 1.591.093 €
- Total EC financial contribution: 1.193.316 €
2 Verification Procedure for the Compliance Monitoring of the Declared Values

As outlined in the previous chapter, one of the main results of this project was the setting of an overall procedure for the compliance monitoring of the declared values for the EU policies and the delivering of the revised and assessed version of the “Guidelines for the verification of washing machines compliance to energy labelling and ecodesign requirements” having the objective to provide a supporting tool valid at EU and Member States level for the Authorities dealing with compliance and verification issues, helping to optimize the available resources and minimize the inconvenience for Authorities and industry while enforcing legislation concerning Energy Labelling and Eco-design requirements. This chapter briefly summarises the main, relevant, steps of the verification procedure applied in this project. For a more detailed explanation and interpretation of the various methodological steps please see the “Revised version of the “Guidelines for the EU testing of Energy Related Products” available in the project web site.

2.1 Introduction

The overall verification assessment includes the steps shown in Figure 1. The modular approach of this procedure allows upgrading, transferability and applicability to other products, by changing the relevant module(s) and/or adding new ones.
It is worth noting that the reference for the compliance verification is the Commission Delegated Regulation (EU) No 1061/2010 1061/201. Figure 2 below shows the new energy label for washing machines according to this delegated regulation.

Figure 2: Energy Label for Household Washing Machines according to the Commission Delegated Regulation (EU) No 1061/2010

2.2 Geographical and technical scope of the target products

A compliance verification action can be run at local, national, EU or even international level and can involve a single specific product or different products for which one or more (common) aspects need to be verified. A decision about the level of the action and the number of involved products is the pre-requisite for starting any actual procedure.

The geographical and technical scope of the ATLETE II project was:

- **Geographical scope:**
  - EU27 Member States as far as possible. If the external market statistical sources have a more limited scope, it should be evaluated that this limitation does not exclude specific markets
  - National relevant suppliers in 24 MS (exclusion of CY, LU and MT)
  - Other suppliers randomly selected.

- **Technical scope:** of the targeted appliances: automatic horizontal axis washing machines, front load and top load, washing machines are considered, divided into the following load capacity categories:
  - ≤ 5,0 kg
  - 5,5 and 6,0 kg
  - 6,5 and 7,0 kg
  - > 7 kg.
The above categories do not exist in the current energy labelling and ecodesign Regulations, but correspond to a market-oriented segmentation for which information is available from the market research firm(s) operating in the EU. It allows a better fine tuning of the selection of the washing machine models for testing.

It is worth noting that in general when defining the appropriate categorisation for the product group to be verified, the format of the available market and technical data should be taken into account, because very unlikely the information needed are available in the optimal format, and it is even less probable that a Market Surveillance Authority could change the consolidated data collection scheme(s) followed by the market research firms in order to match its own needs.

2.3 Sampling Criteria

A random selection within best seller products was re-confirmed also in the ATLETE II project as the most appropriate for the pan-EU exercise.

In fact, although national Market Surveillance Authorities have usually rather limited resources and would prefer to maximize the effectiveness of their compliance actions by using a “maximum failure” selection procedure, the aim of the ATLETE II project was to show how much the energy labelling scheme is trustful and to give a full picture of EU market. A high rate of non-compliance following a “maximum failure selection” would not have given a realistic indication of market compliance.

Another alternative for models selection could have been to go for the models with a high energy efficiency (A++ or A+++), but these models are usually under the spotlight also from competitors and although having a high visibility represent limited sale volumes on the EU market. Best-seller products have instead the highest impact on the market (high sale volumes and many variants) and usually are the products where commercial pressure is higher (i.e. higher pressure towards inappropriate use of the tolerance).

In practice, to guarantee that the tested products cover all manufacturers and brands operating within the Community market for washing machines, about half of the models were selected among the “overall EU (or national) top-sellers” according to the market share of the relevant manufacturers/importers; in this way bestseller models of all major brands in Europe (or at national level) were targeted and tested. The second half of the models was selected randomly within the remaining producers active on the EU27 (or national) market, thus ensuring that other manufacturers with a market share lower than 0.5% or operating only nationally/regionally were also targeted.

The selection has been based on the Market Share (MS) of each supplier (including all the owned brands) at European level according to the data provided by the subcontracted market research firm for a specific period of the year. This procedure lead to select the models according to the following procedure:

1 The identification of national producers in following countries AT, BE, CZ, DK, FR, DE, IT, NL, PL, ES, SE, UK with market share above 1% will be asked to the subcontracted market research firm.
5 washing machine models for each of the expected 4 manufacturers with a Market Share ≥ 10% (for a total of 20 models);
3 models for each of the expected 3 manufacturers with 5% ≤ MS <10% (for a total of 9 models);
2 model for each of the expected 5 manufacturers with 1% ≤ MS <5% (for a total of 10 modes)
1 model for each of the expected 5 manufacturers with 0.5% ≤ MS <1% (for a total of 5 modes)
and 6 models randomly selected for the remaining 252 manufacturers.

In total it was then proposed to purchase 50 models\(^2\). The above selection system tried to take into consideration as much as possible the share of the different load capacity of washing machines, to avoid that very small or very large capacity machines were not addressed.

Out of the list of the models identified for each market share range, a random selection was then performed through an external notary, to choose the actual models to be tested in laboratories.

Table 1 shows the final distribution of the purchased models by energy efficiency classes and load capacity. It is worth noting that the majority of the purchased models corresponds to the EE classes A+ and A++ and the load capacity of 6 and 7 kg and that this distribution roughly correspond to the current sales distribution as shown by Figure 3 and Figure 4 that provide the sales distribution for the year 2012 estimated on the basis of the CECED database\(^3\).

Table 1: Number of selected models by EE classes and load capacity

<table>
<thead>
<tr>
<th>Washing load capacity</th>
<th>Energy Efficiency classes</th>
<th></th>
<th></th>
<th></th>
<th>Tot per Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>A+</td>
<td>A++</td>
<td>A+++</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4,5</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>7</td>
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<td>1</td>
<td>3</td>
<td>4</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Tot per EE class</td>
<td>1</td>
<td>24</td>
<td>13</td>
<td>13</td>
<td>51</td>
</tr>
</tbody>
</table>

\(^2\) Actually 51 models have been tested, but only 50 models have been successfully evaluated. This was due to the fact that one specific model disappeared from the market and there was no further feedback from the manufacturer and possibility to conclude the testing

Figure 3: Distribution of energy efficiency classes of new washing machine models (based on the CECED database, 2012)

Figure 4: Distribution of washing machine models by load capacity (based on the CECED database, 2012)
2.4 Laboratories selection criteria

Reliable and transparent selection criteria were used, including a mix of knock-out criteria and a score system. Knock-out criteria eliminate immediately least qualified laboratories without any further investigation, while the score system allows to rank the remaining laboratories according to the expected testing capability.

Selection criteria, including the laboratory experience, testing capability, whether accredited for testing washing machines (and also for other appliances) according to EN 17025, available instruments, etc., were translated into a set of questions to create an ad-hoc ‘recognition Questionnaire’

The recognition Questionnaire was sent to the laboratories of the above mentioned final laboratory list along with an accompanying letter briefly explaining the project goals and the procedures, asking for a reply. The answers to the Questionnaire were evaluated: for laboratories passing the knock-out criteria the final score was calculated, allowing for a ranking of the laboratories against a rating scheme.

In summary:
- 20 laboratories were initially contacted
- 13 replied with a positive interest in the project
- 9 replied to an ad-hoc Questionnaire

Best labs were then contacted through a Call for Tender and visited by ATLETE II technical experts and 6 labs were finally selected for testing:

- CTTN - France
- LCOE - Spain
- SLG and VDE - Germany
- IMQ - Italy
- INTERTEK – United Kingdom

2.5 Verification procedure

2.5.1 The two step compliance verification procedure

Figure 5 outlines the adopted verification procedure. According to the essential requirements described in the EU legislation on labelling/ecodesign it foresees two testing steps plus an intermediate phase of voluntary corrective action (this last voluntary corrective action introduced for the first time in the ATLETE Project).
In particular:

- **Sample gathering**: test laboratories searched for and purchased the needed units of each selected model

- **Step 1**: testing of 1 unit per selected model
  - if all labelling declarations comply with the outcome of the tests, the model is considered as compliant
  - if the generic (formal) ecodesign requirements and or labelling documentation criteria were not met, the model was deemed to be verified as suspected non-compliant. However, according to the specification of the “Verification procedure for market surveillance purposes”\(^4\) no Step 2 testing was foreseen, as this step was only applied for measured values taking into account the verification tolerances. For those cases actions for suspected non-compliant models were considered as listed below.
    - if the unit fails even only one of the labelling declarations (or is not able to accomplish the test for the specific product), Step 2 is triggered
    - the relevant producer is informed about “suspected non-compliance” and asked for checks of possible declaration mistakes. The producer could choose to accept a non-compliance (and to correct the labelling declaration accordingly) or to proceed to Step 2.

- **Step 2**: three other units of the same model are purchased from the market and tested again (against a reduced tolerance for energy consumption)

- **Possibility to assist to the test**: a representative of the manufacturer of the model under test (under supervision of the test laboratory) had a possibility to assist the test of given model. In case of dissent with the testing conditions followed in the

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\(^4\) Stipulated in Annex III of the Commission Regulation 1015/2010 (ecodesign) resp. in Annex V of the Commission Regulation 1061/2010 (labelling). Verification tolerances for measured parameters are defined in Table 1 in the Annexes mentioned above.
laboratory, the manufacturer had the possibility to report back to the project leader before the result of the Step is known. Nonetheless no complaints were eventually raised.

- **Test reports**: the testing laboratories reported the test results to the project leader with a copy of the test report for Step 1 (and Step 2), and considered such results confidential.

- **Actions for non-compliant models**: were foreseen for both Step 1 and Step 2:
  - after Step 1: notification to national Market Surveillance Authorities, together with voluntary actions taken i.e. for manufacturer accepting the non-compliance, no legal actions after voluntary correction of the labelling declaration(s) were taken
  - after Step 2: notification to national Market Surveillance Authorities for legal actions after the end of all tests: non-compliance was disclosed.

### 2.5.2 Protocol on the manufacturer’s pro-active participation to the ATLETE Project

All manufacturers of the selected models were invited by the project leader to sign a protocol on the manufacturer’s pro-active participation to the project where they accepted to take proactively remedy actions would the tested products fail to show compliance. The protocol stated that, in case the energy labelling/eco-design declarations of one of appliance models were found to exceed the permitted verification tolerance of the relevant testing standard after the first or second Step of the verification procedure, and without prejudice to the ability to challenge the factual findings made in the testing procedure, before its result is made available, the manufacturer had the possibility to:

- take within 30 (calendar) days after being informed of the results of the testing procedure all the remedy actions necessary to correct the energy labelling/eco-design declarations of the appliance model/s concerned in accordance with the results of the testing procedure; and

- inform within the same timeframe the ATLETE II project leader of the remedy actions taken to correct the energy labelling/eco-design declarations, and provide the ATLETE II project leader with the appropriate evidence of these remedy actions, such as a copy of a letter sent to the trade, with a proof of the sending thereof, and a copy of brochures or leaflets marketing or advertising the concerned appliance model/s with the correct energy labelling/eco-design declarations, without disclosing any information which would be confidential.

In particular the protocol included:

- **Manufacturer “obligations”:**
  - acceptance ex-ante of the reliability of the testing laboratory
  - consideration of Step 1 results for possibly setting immediate remedy actions
  - set remedy actions for non-compliant models.

- **Manufacturer “positive feedback”:**
o possibility of assisting the test of own models and to raise concerns on the regularity of the test before the result is known

o remedy action communicated along with product non-compliances.

- Notification of suspected non-compliance:
  o after Step 1: notification to national MSAs, together with the verified voluntary actions taken, for their consideration
  o after Step 2: notification to national MSA for further actions, if any

In the end products were donated to selected charities or recycled, depending on conformity and compliance with the Ecodesign Regulation 1015/2010/EC

2.6 Tested parameters and harmonized standards

The tests were conducted on the following technical parameters:

- **Annual energy consumption** (labelling and ecodesign)
- **energy consumption** (labelling and ecodesign)
- **Programme time** (labelling and ecodesign)
- **water consumption** (labelling and ecodesign)
- **Remaining moisture content** (labelling)
- **spinning performance** (labelling)
- **power consumption** (in two low power modes: off mode and left-on mode)
- **washing performance** (ecodesign)
- **cycle and low power modes duration** (labelling and ecodesign)

To this end the main European standard for washing machines: EN 60456:2011 concerning the testing normative for Clothes washing machines for household use, have been applied by the selected laboratories. This standard entered in force the 7 of August 2011 and supersede the old ones. A detailed description of the standard and a comparison with the previous Edition is included in Deliverable 3.8 Report of the comparison of the old and the new measurement method for washing machines that is an independent stand-alone paper.

In addition to this set of technical parameters the following set of “generic requirements” ruled by the Ecodesign Directive were also assessed:

- **Energy labelling**
  - presence of energy label in the WM unit(s) to be tested
- presence of the product fiche, in the unit(s) to be tested or delivered by the supplier upon request, and of the mandatory declarations & in the requested order

- **Ecodesign generic requirements** (different deadlines)
  - Generic requirements about the washing machine
    ✓ presence and identification of the 20°C cycle
    ✓ identification of “standard programmes” on the machine front
  - Information in the booklet of instructions:
    ✓ indication of the standard programmes and of their performance
    ✓ power consumption of the off-mode and left-on mode
    ✓ recommendations on detergents use
    ✓ indicative information for the main washing programmes (duration, moisture content, energy and water consumption).

2.7 **Note on the Market Surveillance Authorities notification and follow up**

An important step of the whole verification procedure has been to formally inform the Market Surveillance Authorities (MSAs) on the results of the ATLETE II project’s testing activity and follow the notifications in order to investigate the type of action and the timing of reaction. This activity has been led by the Swedish Energy Agency (SEA), who is both a National Agency and a formal MSA.

To this end it is important to recall that the appointed Market Surveillance Authorities (MSAs) in each EU Member State have the legal power to enforce the applicable legislation, in this case the Ecodesign and Energy labelling legislations. MSAs normally make their own inspection plans, inspections and testing for enforcement purposes. MSAs also cooperate with each other and exchange test results and other information. MSAs can also cooperate with other stakeholders and can, in most cases and under certain conditions that may vary between MSAs, use test results provided by a third party, e.g. an independent project like ATLETE II.

All the project test results obtained from laboratories, both the compliant and non-compliant cases, have been immediately notified to the MSAs. The test results have been communicated by e-mail, using a specific communication protocol (see [http://www.atlete.eu/2/market-surveillance-authorities](http://www.atlete.eu/2/market-surveillance-authorities), “Communication protocol (template for data transmission”).

A good communication has also been established with the ADCO Group on Ecodesign and with the IEE project Ecopliant. Lessons learned about e.g. the use of third party tests have been transferred between the projects.

In the framework of this activity, a questionnaire regarding the use of test results from ATLETE II and also more general questions about the possibility to use third party test results was prepared and sent out to the MSAs. The main purpose of this questionnaire was to get additional feedback from the MSAs about the usefulness of these kinds of
projects, as a complement to their own MV&E activities (monitoring, verification and enforcement), and about third party test results in general.

The main feedback received from the national market surveillance authorities about this communication activity has been:

- MSAs in 23 EU member states have been informed about the product testing and the individual test results. All of these have been also invited to respond to the questionnaire looking at more information on the MSAs opinion on the ATLETE II type of activities, and searching for specific information about activities the individual MSAs may have undertaken based on the ATLETE II results.

- 13 individual MSAs, from 12 countries, have responded to the questionnaire, providing further insight on the activities undertaken and opinions on such international-level activities.

- In principle, the majority of the reactions received from MSAs were positive about the ATLETE II type of activities undertaken. Some of the feedback and reactions received include:
  - Necessity to provide fully professional and independent assessment of the product compliance.
  - Advantage of pre-negotiating the remedy actions with individual manufacturers.
  - Ability to share the testing activities among the MSAs in order to avoid any duplicity of activities.
  - Several MSAs confirmed that a national level surveillance action could be possible based on the ATLETE II activities, at least requesting a feedback from the respective economic operator.
  - The usefulness of covering a specifying product category was highlighted by MSAs which either would not cover this by their normal activities, or would not have sufficient national infrastructure in place such as the laboratory.

- It is finally worth adding that the majority of the MSAs consider use of accredited test laboratories of outmost importance. In addition, most MSAs consider that the laboratories should also be accredited according to relevant test methods, if the data is to be used for enforcement actions.

The outcome of this questionnaire have been eventually elaborated in the report on the “The implications of the Energy Labelling and the Ecodesign Directives on market surveillance activities”, see paragraph 3.4.

### 2.8 Verification results reporting and dissemination

Different opinions do exists about the opportunity to make the results of a compliance verification action publicly available, disclosing also the model and the supplier name.

A compliance verification action is needed to prevent manufacturers who break the law from gaining a competitive advantage over those that adhere to it. In this respect the full
disclosing of the verification results, once the procedure has been completed and the final judgement on the tested models is reached, can only made public aware of those products and suppliers that do not follow the rules. This is the approach followed since many years at international level by the Australia’s market surveillance authority.

On the other side the USA has different experience. An unfair market advantage can derive to products and suppliers meeting the requirements over the competitors not having been selected for the verification action.

At EU level all Member States having developed market surveillance have not disclosed the model and the supplier name. Although this was in part due to the fact that in some cases only the first step of the verification procedure was run and therefore no conclusion could be drawn on the actual compliance of the tested models.

Although each national Market Surveillance Authority may decide a specific position on this issue, due to the subsidiarity nature of the controls within each Member State. It is nevertheless recommended that some guidelines are given by the European Commission or the ADCO Group on ecodesign and labelling.

For what concerns the ATLETE project all compliant and non-compliant models have been disclosed to:

- relevant manufacturers and project partners
- EU national Market Surveillance Authorities of the countries where each model was reported to be sold
- stakeholder experts via the Final Conference, held on 12th April 2011 in Brussels and the national events (such as the national workshop held in Rome on 21st June)
- general public: through media: interviews, press releases, articles, workshops, etc.

2.9 Adaptation of the methodology to other Energy Related Products

The modularity of the proposed methodological approach makes the adaptation to other appliances and products feasible with (minor) adaptations. In Table 2 the elements to be modified in order to transfer the methodology from refrigerating appliances to the other energy related products covered by a labelling/ecodesign legislation are qualitative described.
Table 2: Elements to be modified to transfer the methodology from refrigerating appliances to the other appliances

<table>
<thead>
<tr>
<th>Products</th>
<th>Geographical scope</th>
<th>Technical scope</th>
<th>Sampling criteria</th>
<th>Laboratory selection criteria</th>
<th>Verification procedure</th>
<th>Actions after non-compliance</th>
<th>Harmonised standard</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerating Appliances</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>Washing Machines</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>Dishwashers</td>
<td>if necessary, to be adapted</td>
<td>if necessary, to be adapted</td>
<td>procedure valid, selection criteria to be adapted to the specific product</td>
<td>OK</td>
<td>OK</td>
<td>specific standard to be used for testing</td>
<td>to be adapted to the specific product</td>
<td></td>
</tr>
<tr>
<td>Similar Household Appliances</td>
<td>if necessary, to be adapted</td>
<td>if necessary, to be adapted</td>
<td>procedure valid, selection criteria to be adapted to the specific product</td>
<td>OK</td>
<td>OK</td>
<td>specific standard to be used for testing</td>
<td>to be adapted to the specific product</td>
<td></td>
</tr>
<tr>
<td>TV Sets</td>
<td>if necessary, to be adapted</td>
<td>if necessary, to be adapted</td>
<td>procedure valid, selection criteria to</td>
<td>OK</td>
<td>OK</td>
<td>specific standard to be used for testing</td>
<td>to be adapted to the specific product</td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td>Geographical scope</td>
<td>Technical scope</td>
<td>Sampling criteria</td>
<td>Laboratory selection criteria</td>
<td>Verification procedure</td>
<td>Actions after non-compliance</td>
<td>Harmonised standard</td>
<td>Reporting</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>------------------------------</td>
<td>------------------------</td>
<td>---------------------------</td>
<td>-----------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td><strong>HCV HOUSEHOLD APPLIANCES</strong></td>
<td>if necessary, to be adapted</td>
<td>to be adapted to the specific product</td>
<td>probably to be adapted</td>
<td>probably to be adapted</td>
<td>OK</td>
<td>OK</td>
<td>specific standard or calculation methodology to be used for testing</td>
<td>major changes to be adapted to the specific product</td>
</tr>
<tr>
<td><strong>OTHER PRODUCTS</strong></td>
<td>if necessary, to be adapted</td>
<td>to be adapted to the specific product</td>
<td>probably to be adapted</td>
<td>Probably both procedure and selection criteria to be adapted</td>
<td>OK</td>
<td>OK</td>
<td>specific standard or calculation methodology to be used for testing</td>
<td>major changes to be adapted to the specific product</td>
</tr>
</tbody>
</table>
3 MAJOR PROJECT ACHIEVEMENTS

3.1 Overview

It is worth noting that, as in the case of chapter two on the verification methodology, a detailed analysis on the achieved results is carried out in deliverable 8.4: Final Publishable Project Report. Here we thus report a synthesis of main results of the project firstly highlighting the outcome of the field work (the most important output of ATLETE I) and then mentioning the achievements of the capacity building activity and those coming from the evaluation of the implications of the Energy Labelling and the Ecodesign Directives on market surveillance activities. Actually the laboratories capacity and quality and the awareness and engagement of the national surveillance authorities are pivotal elements to which entrust products reliability and thus realize the potential of available technologies.

3.2 The Field work

3.2.1 Overview

As already outlined 50 models of 29 manufacturers, present on the European Union market, have been tested to verify their compliance with EU efficiency labelling and ecodesign regulations in 6 European laboratories. It has to be noted that for one model selected the verification process has not been completed, since the manufacturer has gone bankrupt in the course of the ongoing verification procedure and hence have lost its capability to further react, especially to implement remedy actions. In order to sustain the number of 50 models to be tested, an additional model was selected at a later stage. All statistical results provided in this chapter are based on 50 successfully completed verification procedures.

The final test results show that 100% of appliances for which testing has been concluded complied with the energy efficiency class declaration and the energy consumption declaration.

Furthermore the following key results have been evaluated:

- **100%** compliance rate on the energy efficiency class and energy consumption declarations on the energy label
- **92%** compliance rate for functional performance class and parameters
- **84%** compliance of the product fiche
- **64%** compliance with the requirement to indicate the standard programme on the machine
- **38%** compliance rate for the ecodesign-requested information to be provided in the booklet of instructions

Table 3 shows the sequence of the field work achievements in accordance with the verification procedure.
Table 3: Overall results of the laboratory tests including physical checks and measurements.

<table>
<thead>
<tr>
<th>Number of tested models</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Models suspected non-compliant regarding technical and/or formal requirements</td>
<td>35</td>
</tr>
<tr>
<td>• Out of these: Models suspected non-compliant regarding both technical requirements and formal (generic ecodesign and documentation) requirements</td>
<td>7</td>
</tr>
<tr>
<td>• Out of these: Models suspected non-compliant regarding formal (generic ecodesign and documentation) requirements only</td>
<td>28</td>
</tr>
<tr>
<td>Models compliant after Step 1</td>
<td>15</td>
</tr>
<tr>
<td>Models suspected to be non-compliant after Step 1, Step 2 needed</td>
<td>4</td>
</tr>
<tr>
<td>Models compliant after Step 2 (technical compliance)</td>
<td>1</td>
</tr>
<tr>
<td>Models non-compliant after Step 2</td>
<td>3</td>
</tr>
</tbody>
</table>

Finally, the analysis of the results is summarized in Figure 6, in which the overall picture of the pan-European compliance of washing machines is presented. The first row of this picture shows that, as already outlined, the overall compliance rate is 30% only, mainly limited by a significant share of washing machines, being non-compliant regarding generic ecodesign requirements and/or energy labelling documentation requirements. However the other rows show that the compliance rate for functional performance class and parameters (i.e. water consumption or moisture contents) reached 92%. A 100% compliance rate has been evaluated on ecodesign minimum requirements on energy and water consumption as well as on the energy efficiency class and energy consumption declaration on the energy label.
Figure 6: Overall compliance results of ATLETE II project

Notably the outcome of ATLETE II concerning 100 % compliance for appropriate efficiency class and weighted Annual Energy consumption represents a significant improvement compared for the results of the first ATLETE project (targeting refrigerators and freezers), whereas the compliance rate for energy consumption and energy class were 77% resp. 79% only.

3.2.2 Ecodesign & Labelling – Technical compliance

The following charts (Figure 7) give evidence about the variation of measured values compared to declared values and matched with the permitted tolerance level. All these figures show that all the measured parameters are within the tolerance levels and in four cases the average WM performance is even below this level.
The measured values for Annual Energy Consumption do not exceed the tolerance level for all tested models. The average value of the variation between measured and declared values is -5.53%, i.e. overall the measured energy consumption is even lower than declared.

Only 2 out of 50 models exceed the tolerance level and the majority of the tested models declared water consumption values greater than those measured.
Also for the parameter concerning the standard programme time the tolerance level is not exceeded by any model. The variation between the measured and declared values is very little (-0.79%).

In this case the accepted tolerance range was not met by 2 models but the average is abundantly below the tolerance threshold. The overall average of the variation between measured and declared values was -2.32%.
For the spin speed the average value is greater than the tolerance level but apparently this difference does not influence the remaining moisture content that is a parameter that might have some impact if a drier is used after the washing cycle.

For what concerns the washing performance all tested models showed a measured washing performance within the tolerance level.

Figure 7 Variation of measured values compared to declared values for the main six washing machines functional parameters
3.3 The capacity building activity

3.3.1 Aim and methodology

This task was envisaged to test and understand the difficulties met by the laboratories to perform the measurement procedures envisaged by the new labelling scheme by carrying out a mini ring test exercise. To this end two washing-machines, found to be fully compliant in the main test of ATLETE II, were offered to five laboratories willing to participate in this mini ring-test\(^5\). The detailed analysis of this mini ring test activity is carried out in deliverable D6.3.

These machines were tested a total of eight times (machine M in laboratories A, B and C, and machine W in laboratories A to E). An independent observer visited the laboratories during the tests and checked the general laboratory conditions and the equipment used for the measurements. The report of the observer and the results of the testing as reported by the laboratories have been then analysed in an anonymous way, especially regarding the qualification of the laboratory to perform tests according to the directives of EcoDesign and Energy Labelling of washing-machines according to the harmonised European standard EN60456:2011.

The general laboratories was found in good conditions, and, in particular that observer noted that:

- All instruments were properly calibrated and documented.
- All labs visited were in a position to execute the test in good conditions and all staff involved clearly had a thorough knowledge of the Standard EN 60456:2011.
- Several small differences in interpretation or in the modus operandi were noted, but none of them looked likely to have any important influence on the results.

A more striking difference is the way in which the strips were treated after washing (to control the washing performance) but the treatment of the strips after washing is not specified in the new standards as repeated tests have shown that there is no significant influence of how the strips are treated between washing and measuring them.

3.3.2 Results

Results of the measurements were reported in the standardised template developed in ATLETE II and these data were in addition compared to the data as measured and reported by the laboratory performing the main test on those machines. On the other hand, the data are compared, where available, to the so called “expanded uncertainties” as indicated in IEC TR 62617 “HOME LAUNDRY APPLIANCES –UNCERTAINTY REPORTING OF MEASUREMENTS”.

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\(^5\) Despite the efforts made and the offer to reimburse the time dedicated to the tests only 5 laboratories out of the 15 contacted accepted (or had the capacity) to participate to this mini ring test exercise.
Total of the tested parameters were more or less found within the tolerances of the regulation with some exception of one out of the five tested laboratories. In some cases there were some discrepancies between the results of the two tested washing machines.

For sake of example we report here the result of the most important parameters (at least for what concern the use of the fossil and water resources), that is the test concerning the energy and water consumption and the energy efficiency index (EEI).

The test on energy consumption shows good compliance for the machine M but there were more variations between the labs for testing machine W. Labs A and B especially lay clearly outside the range defined by the expanded uncertainty (Figure 8).

![Figure 8: Average total energy consumption of all eight tests of the mini ring-test compared to the results of the complying laboratory. The range of the expanded uncertainty is given as indicative information.](image)

The contrary happened for the water consumption measurement. Here the average total water consumption (Figure 9) for machine M shows values for all three laboratories which are somehow higher than the expanded uncertainty range forecasted, taking the value of the complying laboratory as a baseline. All values for machine W are instead within the expected range, except for lab A. The values are within the tolerances of the regulation (except for lab A) compared to the declared values (50 l for machine W and 51 l for machine M calculated from the annual water consumption declared).
Finally, Figure 10 shows the results on the EEI that is the measure which defines the energy efficiency labelling value. The measured values confirmed for all the tested laboratories, but with the exception of laboratory A, the declared EEI: below 52 for machine W (A++) and below 46 for machine M (A+++).
3.3.3 Conclusions

The mini ring-test as executed has proved to be a valuable exercise to see how well laboratories can reproduce the data of a fully compliant machine measured in a complying laboratory. Out of all the laboratories, only lab C has been found to be able to reproduce the data to a large extent. All the other laboratories need to check their internal procedures and their compliance with the requirements of the measurement standard EN60456:2011 and Ecodesign and Energy Labelling regulations. To ease this process, they were individually informed about the findings learned from the mini ring-test. The onus is now on them to prove (and practice) what they have learned by participating in a forthcoming ring-test which may be organised by CENELEC TC59X WG1 or another party.

3.3.4 Learned lesson

The general information learned from the mini ring-test is as follows:

• The template should be extended to include the calculation of relative combined uncertainties for relevant measures and should give information on the expanded uncertainties to allow assessment of the accuracy of the test carried out.
• TC59X WG1 should be asked to provide expanded uncertainties for all relevant measures.
• Data from each of the 50 machines measured should be analysed regarding the relative combined uncertainties to get more experience concerning this new concept of qualification of data measured in case of verification.
• Laboratories used for verification of machines should first show competence and compliance with the measurement standard by taking part in a ring-test.

3.4 The implications of the Energy Labelling and the Ecodesign Directives on market surveillance activities

3.4.1 Background and objective of the analysis

As of 2014, 15 energy labelling and 25 ecodesign product category specific regulations were prepared and entered force, with at least ten more being under preparation and twelve more being under study.

This specific legislation is automatically valid at the EU level, involving all individual EU member states. The values declared on the energy labels and all the other information provided by suppliers and retailers is based on the manufacturer self declarations. It is then up to the single EU member states to designate specialized market surveillance authorities, tasked to verify these claims.

In order to understand then the role and the effectiveness of these market surveillance authorities the ATLETE and ATLETE II projects undertook two in depth reviews and questionnaires on the national level market surveillance legislation and activities, the first one in 2010, the second one in 2013. In addition, the ATLETE II team has also conducted a detailed MSA questionnaire on the model and country specific results of its tests.
In addition to the ATLETE and ATLETE II projects, several other initiatives and projects have been conducted recently, to monitor, collect, and evaluate the legal system, competences, and level of activities undertaken by individual Market Surveillance Authorities in individual countries (all EU MS, or selected countries).

On the basis of this abundant material it has been undertaken an analysis to collect and evaluate the recent developments of the member states market surveillance on the energy label and Ecodesign compliance rate around EU. The analysis has been developed by the deliverable D4.2: “Implications of the Energy Labelling Directive (2010/30/EU) and the Ecodesign Directive (2009/125/EC) on market surveillance activities”

To this end the report analyzed the following documents:

Within this document, the following main projects are documents are taken into consideration:

<table>
<thead>
<tr>
<th>Project / activity</th>
<th>Area</th>
<th>Main content</th>
</tr>
</thead>
</table>
| ATLETE             | Methodology review, 2010 | Identification of main obstacles  
Summary of recommendations defined |
| ATLETE II          | MSA questionnaire, 2013 | Review of the national legislation and activities undertaken by individual MSAs  
Identification of main obstacles  
Summary of recommendations defined |
| Come On Labels     | National legislation review | Identification of main obstacles  
Summary of recommendations defined |
| Ecopliant          | Best practice guidelines, 2014 | Specification of the type of MSAs active in individual member states  
List of recommendations provided |
| Energy label evaluation | Literature review, 2013 | Summary review of activities undertaken by individual MSAs  
Identification of main obstacles |

### 3.4.2 Main results

The results of this analysis may be divided in two parts. The first part provides an overview on the way the market surveillance authorities (MSA) are carrying out the activities required to control the fulfilment of the rules envisaged by the energy labelling and ecodesign directives. The second part concerns a list of recommendation addressed to the member states and the MSA themselves to try to make their service more effective.

**Outcomes on the monitoring of the activities undertaken by the MSAs**

The activities that the MSAs have to undertake concern the retailers control and the product testing and have been monitored as follow by ATLETE II6:

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6 In 2012, ADEME undertook a questionnaire within the ATLETE II project with some 180 questions or information requests, sent to all 27 EU member state representatives
In order to control the provision of the new energy label, inspectors accomplish visits to shops. Visits may be systematic or random but 8 MS (out of 23 that responded to the questionnaire) chose to systematically visit shops. A systematic visit is one based on risk principle (selected by half of 8 MS who conducted systematic visits to shops) for instance. Shops that have previously committed offences or that were targeted by NGOs complaints are chosen to be controlled.

Almost half (11 MS out of 23 MS who responded) of the MS currently control the compliance of catalogues. Control of catalogues will further increase regardless of the fact that their use is not widely spread among consumers in some MS such as Finland and Greece.

More than half (13 MS out of 21 MS who responded) of the MS currently control the compliance of internet sales. Control of internet offers will further increase in coming years as 5 out of the 8 MS who do not perform a control on internet offers at present, intend to do it in future.

The number of MS that control the provision of the product fiche varies from one MS to another. In 2012, 13 MS reported that they verify the provision of the product fiche.

Product testing does not occur in every Member State. Around 50% of Member States reported that they performed verification tests. Commonly MS that do not test products mention high costs as an issue. This is the case for six Member States. Additionally, two other MS stated lack of resources as the issue as the MSA has too many other subjects to deal with. Half of the Member States that do not undertake compliance verification testing confirmed that they expect to start verification testing depending on budgetary constraints.

For what concerns in particular the washing machines is was detected that:

- Majority of MSA (6 MS out of the 7 MS who provided feedback on product compliance level) estimate that the current compliance rates for energy labelling and Ecodesign requirements of washing machines are approximately similar as other products.

In addition to this overall analysis and basing on the ATLETE and ATLETE II findings and on all other publicly available similar sources of information, it was processed state of art on the activities carried out by each of the EU member states and to the corresponding allocated resources to monitor the accomplishment the Energy Labelling and Ecodesign schemes. This a comprehensive (and probably unique) overview is shown in Table 4.
<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Product testing activities</th>
<th>Number of shop visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Declared confidential</td>
<td>No testing, or not published</td>
<td>Around 70 shops per year</td>
</tr>
<tr>
<td>Belgium</td>
<td>Up to 100 field inspectors</td>
<td>25 lamps in 2010 (22 noncompliant)</td>
<td>202 in 2011, typically 100 – 250, sporadically more then 1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 fridges in 2010-2011 (1 noncompliant)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 dishwashers in 2011</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Up to 134 market surveillance inspectors</td>
<td>No testing</td>
<td>No / 100 – 250</td>
</tr>
<tr>
<td>Cyprus</td>
<td>2 part time at ministry level</td>
<td>No testing</td>
<td>20 – 50</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>2 part time at authority level, number of inspectors not known</td>
<td>No testing, only 6 refrigerators in 2011 (all compliant)</td>
<td>4 in 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18 in 2011, Ca. 300 in 2012</td>
</tr>
<tr>
<td>Denmark</td>
<td>5-6 part time at authority level</td>
<td>Yes, 60 per year + 150 technical declarations and CE marks in 2012</td>
<td>50 – 100 shops inspected, plus catalogues, internet shops, advertising</td>
</tr>
<tr>
<td>Estonia</td>
<td>2 part time at authority level</td>
<td>Yes, 2 per year</td>
<td>100 – 250</td>
</tr>
<tr>
<td>Finland</td>
<td>1 full time and 1 part time at authority level, 3 field inspectors</td>
<td>Yes, 5 -10 per year</td>
<td>250 up to 1000 inspected</td>
</tr>
<tr>
<td>France</td>
<td>Part 1 part time at ministry level 1 part time at energy agency</td>
<td>No testing</td>
<td>No (only 2005 study)</td>
</tr>
<tr>
<td>Germany</td>
<td>Regional government responsibility, 1 part time at ministry</td>
<td>Yes, varies from year to year, not centrally reported</td>
<td>Unknown, not reported centrally</td>
</tr>
<tr>
<td>Greece</td>
<td>5 part time at authority level</td>
<td>No testing</td>
<td>7 in 2012</td>
</tr>
<tr>
<td>Country Source</td>
<td>Staff resources dedicated</td>
<td>Product testing activities</td>
<td>Number of shop visits</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------</td>
<td>---------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Hungary</td>
<td>30 part time authority level</td>
<td>Yes, 200 per year</td>
<td>20-50</td>
</tr>
<tr>
<td>Italy</td>
<td>Not available</td>
<td>Yes, numbers or results not known</td>
<td>Ca 10-50, not reported</td>
</tr>
<tr>
<td>Latvia</td>
<td>1 full time and 2 part time, plus 30 enforcement authority level</td>
<td>No testing</td>
<td>No / 50-100 (different sources)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>11 part time</td>
<td>No testing</td>
<td>No / 50-100 (different sources)</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Not available</td>
<td>0 – 5 per year</td>
<td>20 – 50</td>
</tr>
<tr>
<td>Malta</td>
<td>4 on market surveillance</td>
<td>No testing</td>
<td>20 in 2012 and 20 planned in 2013</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4 full time and 1 part time at energy agency</td>
<td>Yes, 70 – 100 per year</td>
<td>700 shops inspected, 250 – 1000</td>
</tr>
<tr>
<td>Poland</td>
<td>Not available</td>
<td>No testing</td>
<td>No, sporadically 20 – 50</td>
</tr>
<tr>
<td>Portugal</td>
<td>Not available, but 350 market surveillance staff</td>
<td>No testing</td>
<td>No in 2011 and 2012</td>
</tr>
<tr>
<td>Romania</td>
<td>40 inspectors</td>
<td>No testing</td>
<td>No / More then 1000 (different sources)</td>
</tr>
<tr>
<td>Slovakia</td>
<td>10 part time at authority level</td>
<td>No testing</td>
<td>At random or non-compliant</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Not available</td>
<td>No testing</td>
<td>Not available</td>
</tr>
<tr>
<td>Spain</td>
<td>1 full time (energy agency) and regional government responsibility</td>
<td>About 40 by IDEA in 2008 – 2012 About 75 by Regional Governments in 2011 – 2012 About 20-30 by manufacturers in 2010-2012</td>
<td>In 10 regions, 450 appliances and 350 CFLs in 2011</td>
</tr>
</tbody>
</table>
### The main recommendation formulated on the basis of the analysis carried out

As already mentioned this analysis has permitted to formulate several recommendations with the aim to fill the main weakness and gaps found and seek solutions for the improvement of the whole market surveillance activity.

These recommendation can by divided in two sets, the first addressing to the relationship and the activities the MSAs should foster and undertake at the International and EU level and the second to activities they carry out at national level.

#### Recommendations for Market Surveillance Authorities on International & EU level

- **Foster Cooperation among MSAs and align strategies on national level.**

  More cooperation among member states (MS) and coordination of MV&E activities at EU level will quickly and effectively promote the adoption of best practices on carrying out market surveillance activities. Elements crucial for enhanced cooperation are the exchange of experience between MSAs for a better planning and coordination of national efforts and supporting the development and adoption of best practices among authorities.

  Furthermore the following actions should be considered, amongst others:

  - Streamline the process of sharing and adaptation of results of market surveillance from other countries
  - Facilitate elaboration of guidelines or FAQs on proper label display, content of individual documentation, etc. and disseminate it to the stakeholders
  - Resolve the issue of model identification (equivalent model names and product lines)

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• Access to adequate test laboratories and resource sharing for testing activities

Testing products according to the respective harmonised standards requires well experienced testing laboratory infrastructure. Most likely such well-established labs are not located in every Member State for every product category, relevant for Market Surveillance. This fact could pose a significant barrier for some MSAs to accomplish verification for specific product categories. To overcome this challenge MSAs of different Member States shall be encouraged to share resources for testing. For example, either by promoting the use of laboratories from other member states or endorsing the test results already performed in other countries within EU. Based on feedback from MSAs accredited labs should be first choice to enable more MSAs to be able to use test results directly since a number of MSA require that only accredited labs are used for market surveillance purposes.

A jointly used test report template, as established in ATLETE II, could further enable the shared use of test data, as terms used in the template could be easily exchanged to the relevant native expressions, without requiring changes in the content part of the test report itself.

Recommendations for Market Surveillance Authorities on national level

• Follow a strategy and communicate about

MSAs may consider communicating about their defined priorities and the main activities, to actually provide a proactive signal towards manufacturers and importers. MSAs are encouraged to support the active role of the EC to achieve overall higher efficiency of market surveillance actions and take active part in the share of experience and in the alignment of overall strategies and plans. Especially any optimisation of workflows should be envisaged to better make use of shared results of market surveillance activities.

• Strive for the best possible impact

MSAs ensure that the penalties for non-compliance are truly effective, proportionate, and dissuasive, taking into account the extent of the non-compliance and number of non-complying unites placed on the market. MSAs are invited considering the ability to charge the costs of tests of products confirmed as non-compliant to the respective manufacturer.

It is suggested to undertake evaluation of the technical documentation and confront the respective manufacturer with Step 1 results already, and explore ways to accelerate the process, while lowering resource efforts and ensuring appropriate remedy actions.

• Be cautious in the procurement process of selected products

MSAs in general aim at a shortest possible time to sanction (if necessary). The longer the verification procedure will take, the more likely the product will be no longer available on the market or of Step 2 has to be taken, the more difficult purchasing of 3 additional units of the same model will be. When selecting specific models for conformity checking MSAs should consider the full list of equivalent models available on the market.

• Increase consumer awareness regarding energy efficient products
Further increase in consumer awareness on the benefits of energy efficient products will pull the market further. As in many member states the compliance testing of products was carried out based on consumer complaints, an increase in level of awareness of consumers may positively impact the identification of likely non-compliant products via an increase in consumer complaints, thus positively influencing the overall MSA.

- **Making results of product testing publically available**

Records of enforcement actions should be made publicly available. A few Member States (e.g. Bulgaria, Czech Republic, Denmark, and UK) already provide some information concerning compliance checks in shops but no testing results are reported. Such practices should also be considered by MSAs of other countries in EU and may cover information on compliance checks in shops as a first step. The results of product testing can be made public as the next step highlighting both the compliant and non-compliant product models/companies. This would ensure greater visibility and transparency to the activities carried out by the MSA. It should likely push the market towards greater compliance levels due to the fear of transgression being punished.

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**The recommendations formulated by the Ecodesign Directive Evaluation Study**

It is worth noting that the recommendations formulated on the basis of the outcomes of the ATLETE II project are perfectly aligned on those published as result of the “Evaluation of the Ecodesign Directive” Study\(^1\)

“Effective enforcement is essential for the credibility of the whole system and to avoid undermining the efforts of enterprises committed to the spirit of the legislation. Member State surveillance authorities need to scale up the level of activity in this area and be more transparent across the range of their activities. Given the savings resulting from the Ecodesign Directive requirements there is a strong justification for additional effort in this direction.”

“The Commission should take a more active role in promoting co-operation (through the ADCO (Administrative Cooperation for Market Surveillance group) and the sharing of information, including the sharing of investigation results. Furthermore, a review and comparison of penalties imposed by Member States should be undertaken and kept up to date.”

... 

“Surveillance authorities should publish the results of their activities on a dedicated website for Ecodesign and related activities (such as the Energy Label)”

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4 Final Policy Conclusions and recommendations

1. The ATLETE II project has proven that a pan-EU compliance verification exercise can be done in a systematic, effective and cost-efficient way. An effective, accurate and timely procedure for compliance verification has been defined, that creates a stable framework for all stakeholders.

2. The project has re-assessed the importance and need for Step 2 in the EU verification procedure.

3. Laboratory testing has been reconfirmed to be technically feasible and economically sustainable. And paradoxically it appears to be the “easiest” phase of the entire procedure compared to the evaluation of proper implementation of generic Ecodesign requirements.

4. Producer’s involvement through the signature of the Voluntary Protocol has allowed timely “remedy actions” to be put in place.

5. The ATLETE II project has offered MSAs qualified and independent products checks and test results, to reduce the burden and the use of national resources to develop market surveillance.

6. The project was able to tackle (and in most cases resolve) all non-compliance cases, before delivering the final results to MSA.

7. Public financing – i.e. through EU Programmes and/or specific Tenders – is essential for the developing of pan-EU compliance verification projects and for prioritization of the products to be investigated.

8. The ATLETE II project has clearly documented that the compliance rate for generic ecodesign and documentation requirements was lower than technical compliance based on the test sample of 50 washing machine models. It can be expected that manufacturers will further improve in meeting those formal requirements, even initiated by the project’s outcome. Beyond that, the ATLETE II team encourages the European Commission first to rephrase certain possibly unclear or ambiguous formal requirements and second to consider voiding selected requirements, which may cause difficulties in the implementation and verification in the framework of further revision of the ecodesign and labelling regulations for washing machines. Notably the requirement regarding the declaration by the supplier in the product fiche amongst others, including weighted power consumption of the off-mode and of the left-on mode (Annex II of delegated Regulation 1061/2010) to be documented as rounded to two decimal places is suggested to be discarded or at least adapted. The fulfilment of this requirement can be seen as significantly fault-prone based on the project’s findings but on the other hand is expected to have very limited relevance from the consumer’s perspective.