



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

Work Package 3: Methodology Re-Assessment
Deliverables 3.1-3.7

Draft

Guidelines
for the verification of washing
machines compliance to energy
labelling and ecodesign requirements

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Guidelines for the verification of washing machine compliance to energy labelling and ecodesign requirements (Draft)

Introduction

These Guidelines are prepared within the ATLETE II project that has been financed by the European Commission programme Intelligent Energy Europe to support the EU and Member States Authorities dealing with compliance and verification issues, in order to help optimizing the available human, financial and time resources and minimizing the inconveniences for all stakeholders when enforcing legislation concerning Energy Labelling and Eco-design requirements.

The objective of the *Guidelines for the verification of washing machines compliance to energy labelling and ecodesign requirements* is to define and describe in detail a globally applicable procedure for the verification of the compliance of this product group to the implementing measures under the eco-design framework Directive 2009/125/EC and the energy labelling framework Directive 2010/30/EU.

The work to be carried out in WP3 of ATLETE II builds upon the main methodological approach for a cost effective product compliance monitoring that has been described in the previous ATLETE¹ project. The procedure will be re-assessed and tuned-up not only to adapt it to the washing machine verification but also to eliminate the inconsistencies of some actions and elements that have been identified during the field work run on refrigerating appliances

The methodology re-assessment and tune-up includes the following actions:

- **Adaptation of the procedure for the model selection criteria:** the selection of the models to be tested will not be done in one unique moment at the beginning of the project but in a certain number of batches, to avoid on one side washing machine models disappearing from the market due to different reasons. A major issue to be solved will be also how to address manufacturers with a very low market share: the preferred solution for this project will be to immediately purchase 4 units of the models(s) to be tested for these manufacturers.

The hypothesis at the basis of ATLETE II is that 50 models of washing machines will be tested, covering suppliers with both a large and small market share. Based on the previous successful experience with the refrigerating appliances, the selection of the washing machines will be done among the best seller models for each supplier. In particular it is proposed to select:

- 5 washing machine models for each of the expected 4 manufacturers with a Market Share (MS) $\geq 10\%$ (for a total of 20 models);
- 3 models for each of the expected 3 manufacturers with $5\% \leq MS < 10\%$ (for a total of 9 models);

¹ATLETE-Appliance Testing for Energy Label Evaluation, Grant Agreement No. EE/08/728/SI2.528428, Deliverable 6.4 “Guidelines for EU Verification of Energy Related Products, Final Version, July 2011.

- 2 model for each of the expected 5 manufacturers with $1\% \leq MS < 5\%$ (for a total of 10 modes)
- 1 model for each of the expected 5 manufacturers with $0,5\% \leq MS < 1\%$ (for a total of 5 modes)
- and 6 models randomly selected for the remaining 252 manufacturers with a market share $< 0,5\%$.

The overall total is thus 50 washing machines models. Considering that 50% of the models will go to Step 2 (where 3 additional units of each model will be tested) the global number of washing machines that will be tested in the 5-6 selected laboratories will be 125.

- **Adaptation of the Voluntary Protocol:** the protocol applied in the ATLETE project has ensured the proactive participation of the manufacturers of refrigerating appliances under test. This will be done by CECED which will be also in charge of inviting all known washing machine manufacturers to sign the protocol that will be made publicly available on the project website. The listing of the manufacturers, the distribution of the Voluntary Protocol and its signature will take place before the selection of the models to be tested. The list of signatories and non-signatories of the Voluntary Protocol will be also made available to the public on the project website.
- **Adaptation of the procedure for the testing laboratory selection:** built upon the basic procedure set in the previous ATLETE project, the procedure will include a recognition Questionnaire on laboratories capability of testing washing machines and using the relevant measurement method. It is foreseen that the selection of the laboratories (done in WP 4) will result in 5-6 laboratories to be subcontracted for the testing.
- **Preparation of a Template for test results reporting:** laboratories involved in the project will be asked to send a copy of their test report for washing machines. On the basis and taking into consideration the elementary data involved in the EU labelling/ecodesign legislation for this specific product, a common test report layout with the minimum information to be provided by testing laboratories when reporting the results of both Step1 and Step 2 tests will be prepared, to improve the readability and comparability of the test results. The same template will be also used by the laboratories involved in the mini-Ring-Tests (mini-RTs) as part of their capacity building². The acceptance of the labs to use this template - in addition to their usual test report³ - will be one of the knock-out criteria in the Questionnaire to be prepared

² ATLETE II foresees an action for improving the know-how and testing capability of a significant group of laboratories, larger than those selected specifically for product compliance verification testing. This capacity building action will be carried out through “mini-ring tests” to be developed on labelling/ecodesign compliant models previously tested in the selected testing laboratories. It is expected that about 9 laboratories will be involved in the mini-ring tests (at least 3 labs for each mini-ring test) each testing 1 washing machine. The laboratories having positively answered to (i) the initial recognition Questionnaire and (ii) to the specific question about the availability to participate to the mini-RRT and (iii) not having been selected for the compliance verification, will be invited to take part to the mini-RRTs. For the moment it is foreseen that the washing machines of the first batch, found compliant to labelling and ecodesign requirements, will be used for the mini ring tests. The final preparation and development of mini-RT will be done in WP4 and WP6.

³ Since the common test report layout to be developed by ATLETE II will be a quite new document that will be validated during the field work, Laboratories will be asked to use it in addition to their usual test

for the laboratories assessment and selection and it will be also a condition to participate to the mini-RTs. The members of the ADCO Groups for energy labelling and for ecodesign will be contacted to share views on the form and content of this Template to look for their general agreement. Although project partners cannot force national Market Surveillance Authorities (MSA) to use this Template at EU level in the surveillance actions for washing machines, an attempt will be at least made to ensure that the content of the Template is in line with the MSA expectations.

Partners in other Intelligent Energy Europe projects involved in product testing, such as Ecopliant, will also receive this information, as well as the members of the ATLETE II IAC (International Advisory Committee).

- **Application of the new harmonised standard EN 60456:2011:** being ATLETE II focused on washing machine, the standard to be used for the conformity verification tests is EN 60456 Ed. 4, published at the end of 2011⁴ and all the other standards it mentions⁵. With the contribution of all partners the content of the new measurement method, will be analysed to evaluate possible areas of uncertainty of its application, to be later discussed with the selected testing laboratories and with the laboratories involved in the mini-Ring Tests. The aim is to create a common understanding and application of the new test conditions that foresee the use of the standard programme at 60°C and at 40°C at full and partial load. If necessary, a set of recommendations about the appropriate application of the standard will be prepared, to be verified during the field work (washing machines models testing and mini-RTs) and then delivered to the EU, the standardization bodies, the laboratories and the other stakeholders at the end of the project.

The correlation shown in Table 1, taken from the Final Report of the previous ATLETE project, indicates the modification to be introduced to make the methodology initially developed for refrigerating appliances applicable to other Energy Related Products. The modifications highlighted for washing machines will be addressed in these Guidelines.

The following main elements are described in this document:

- 1) the procedure for product compliance assessment
- 2) the procedure for the random selection of product models, including the Template for Call for Tender for the market research institute for the purchasing of market data where needed
- 3) the procedure for the selection of the testing laboratories, including a selection tool in the form of a Questionnaire and a specific Template for the Call for Tender for the laboratories
- 4) the standardised measurement procedure (the harmonised standard) for washing machines.

report in order to avoid the potential loss of data and information. Feedback by the laboratories on this new template will be also asked in order to finalise it in the final version of the Guidelines.

⁴ EN 60456:2011 Clothes washing machines for household use - Methods for measuring the performance. DAV (date of availability) 08.07.2011. DAV is the date when the definitive text in the official language versions of an approved CEN/CENELEC publication is distributed by the Central Secretariat. It supersedes EN 60456:2005 + A11:2006 + A12:2011.

⁵ EN 60456:2011 refers to EN50564:2011-62301:2011 “Electrical and electronic household and office equipment - Measurement of low power consumption” for the measurement of low power modes.

Table 1: Procedure elements to be modified to transfer the methodology from refrigerating appliances to the other appliances (source ATLETE, WP6, Final Report July 2011)

Products	Geographical scope	Technical scope	Sampling criteria	Laboratory selection criteria	Verification procedure	Actions after non-compliance	Harmonised standard	Reporting
REFRIGERATING APPLIANCES	OK	OK	OK	OK	OK	OK	OK	OK
WASHING MACHINES	if necessary, to be adapted	to be adapted to the specific product	if necessary, to be adapted	procedure valid, selection criteria to be adapted to the specific product	OK	OK	specific standard to be used for testing	to be adapted to the specific product
DISHWASHERS	if necessary, to be adapted	to be adapted to the specific product	if necessary, to be adapted	procedure valid, selection criteria to be adapted to the specific product	OK	OK	specific standard to be used for testing	to be adapted to the specific product
SIMILAR HOUSEHOLD APPLIANCES	if necessary, to be adapted	to be adapted to the specific product	if necessary, to be adapted	procedure valid, selection criteria to be adapted to the specific product	OK	OK	specific standard to be used for testing	to be adapted to the specific product
TV SETS	if necessary, to be adapted	to be adapted to the specific product	if necessary, to be adapted	procedure valid, selection criteria to be adapted to the specific product	OK	OK	specific standard to be used for testing	to be adapted to the specific product
HCV HOUSEHOLD APPLIANCES	if necessary, to be adapted	to be adapted to the specific product	probably to be adapted	procedure valid, selection criteria to be adapted to the specific product	OK	OK	specific standard or calculation methodology to be used for testing	major changes to be adapted to the specific product
OTHER PRODUCTS	if necessary, to be adapted	to be adapted to the specific product	probably to be adapted	Probably both procedure and selection criteria to be adapted	OK	OK	specific standard or calculation methodology to be used for testing	major changes to be adapted to the specific product

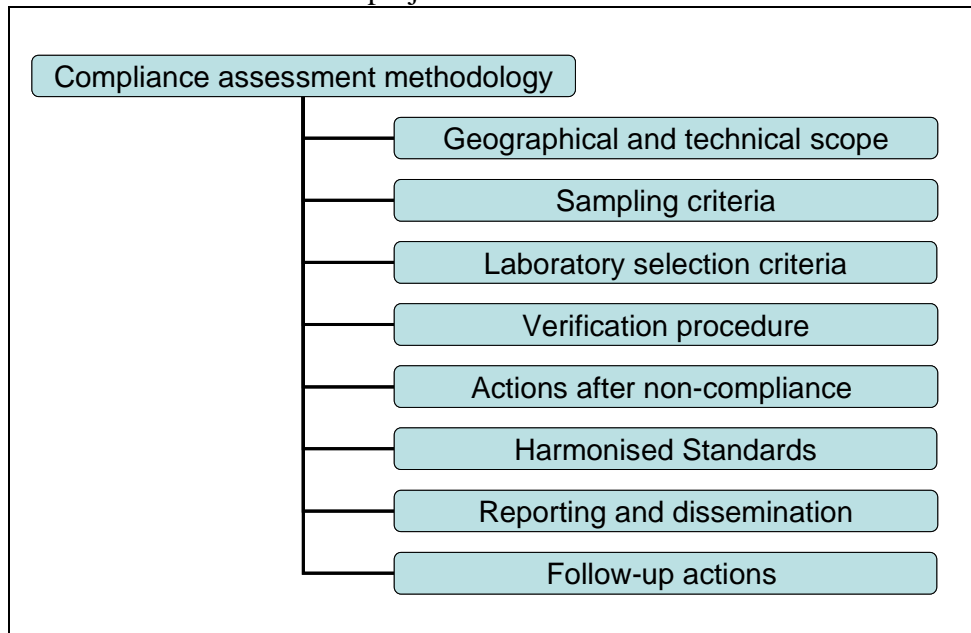
These Guidelines include the seven Deliverables to be prepared within WP3 of ATLETE II project, namely:

- D3.1: Procedure for the verification of washing machines
- D3.2: Criteria for the selection of the appliance models to be tested
- D3.3: Voluntary protocol for manufacturers pro-active participation
- D3.4: List of the EU independent laboratories for the testing of washing machines
- D3.5: Questionnaire for the selection of the laboratories
- D3.6: Template for Test results reporting
- D3.7: Draft recommendation for a harmonised application of the new standard for washing machines.

1. D3.1 - Procedure for the verification of washing machines

The methodological approach proposed within ATLETE II for the compliance verification of washing machines includes several phases as shown in the below scheme (Figure 1), all addressed in these Guidelines.

Figure 1: Methodological approach for the compliance verification of washing machines within ATLETE II project



1.1 The procedure

A compliance assessment action for energy labelling and/or ecodesign can be run at local, national or EU level and can involve one product group or different products for which one or more parameters/requirements 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.

1.1.1 Geographical, market relevance and technical scope of the target products

1.1.1.1 Geographical and market relevance scope

In general, for any action at EU level the proper mix between EU and national relevant suppliers and the other suppliers should be found. Both categories need to be represented. For the ATLETE II project:

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

1.1.1.2 Technical scope

- *Technical scope* of the targeted appliances: for ATLETE II project automatic horizontal axis washing machines, front load and top load, 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.

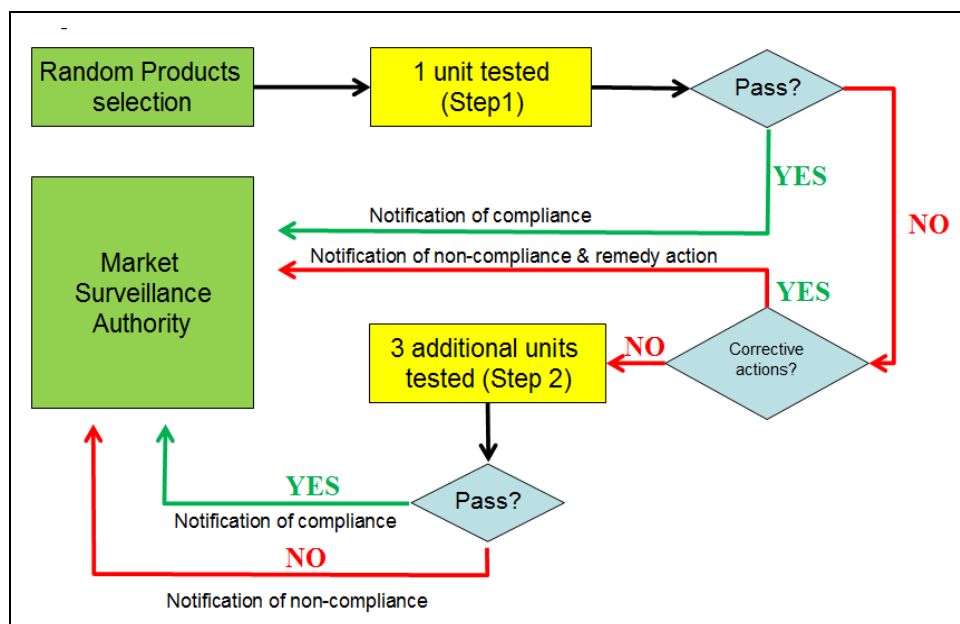
The above categories do not exist in the current energy labelling and ecodesign Regulations, but correspond to a market-oriented segmentation for which information is available from the market research firm(s) operating in the EU. It will allow to better fine tuning the selection of the washing machine 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.

1.1.2 The verification procedure phases

The verification procedure proposed in these Guidelines follows the two-step assessment established in the EU energy labelling and ecodesign Regulations for washing machines, with some additional elements taken from the currently most effective international verification schemes⁶. The procedure is presented in Figure 2.

Figure 2: ATLETE II proposed verification procedure scheme



⁶ US and Australia have a long tradition of market surveillance that has been considered when preparing this Guidelines.

The procedure includes:

- a preliminary formal verification
- Step 1 tests on one single unit of the model
- Intermediate phase for comments and possible suppliers voluntary follow-up
- Step 2 tests on three additional units of the same model
- Follow-up by the national Market Surveillance Authority.

1.1.2.1 Preliminary verification of product documentation

The verification of the presence of all mandatory documentation/declarations and of the consistency of the declared parameter values is an essential initial phase for any market surveillance action and a pre-requisite for developing the laboratory testing. The label and the product fiche have to be mandatorily provided by suppliers with the product when placed on the market along with the booklet of instructions⁷.

There is in fact little scope in going through the two-Step compliance verification for a model that is non-compliant on the basis of the declared values or when the reference (declared) values are not available for comparison with test results. Within ATLETE II, should this scenario become true, the involved models will be considered formally non-compliant but nevertheless sent to laboratory testing.

This preliminary verification of the completeness of the product information and documentation will be done by the laboratory upon receiving the appliances to be tested.

1.1.2.2 Step 1: test of one single unit

Before starting the tests, the laboratory should be required to check each sample, to ensure that it has no obvious operating defects or damages, for example due to an accident in the transportation.

One unit of the selected washing machine model is tested according to the applicable standards. If the labelling declarations/ecodesign requirements of the model comply with both the formal verification and the laboratory tests (considering the relevant tolerances) the model is deemed to have positively passed the verification and the procedure ends. If the unit fails even only one of the labelling/ecodesign requirements, or is not able to accomplish the test(s) requested for the specific product, Step 2 is triggered.

A representative of the supplier of the model under test should have the possibility to

- (i) check in situ (under supervision of the test laboratory) if the tested unit is not defective/damaged and
- (ii) attend at the test (under supervision of the test laboratory). The name of the possible witnesses will be communicated in writing to the Laboratory by the ATLETE II project leader; nobody will be allowed to witness a test without this authorization. In case of dissent with the testing conditions followed in the

⁷ ATLETE II does not deal with the technical documentation to be provided by the supplier upon request of the National Market Surveillance Authorities.

laboratory the supplier should report back to the project leader before the result of the Step is known.

A supplier who believes that the tested unit is defective should be able to inspect the unit in situ (under supervision of the test laboratory) and report on the findings to the project leader. The onus is on the supplier to provide evidence that a damage or defect capable of affecting the test results does exist; furthermore it must be demonstrated that the "defect" is peculiar to the test unit alone and not common to other samples of the stock of the appliance.

If the evidence is provided and accepted that the tested unit is defective or damaged, the Step 1 test will be cancelled and a new test will be undertaken at the same laboratory:

- (i) either on a second additional unit of the same model,
- (ii) or on three additional units of the same model (Step 2 of the verification), depending on the type of defect/damage.

The testing laboratories will report the results of the verification test for Step 1 only to the ATLETE II project leader and will consider such results confidential. In no case complete or partial information about the test results will be given to the supplier(s) of the model(s) under test or any third party. For each tested model, the test report will indicate:

- identification of the model;
- the value(s) declared by the manufacturers for all parameters to be tested for the specific model;
- (if relevant) all the values declared on the energy label and the product fiche delivered with the appliance and comments, if any, on the absence of some declarations;
- the measured values and comments, if any, on the validity of the declaration;
- difference, if any, between the data declared in the product fiche and the label applied on the product;
- all correspondence with the manufacturer (if any) and the ATLETE II project leader
- detailed information on the tests done and on the measurements made
- a copy (a picture) of the rated plate, of the technical fiche and the energy label accompanying each model.
- a picture of each model under test.

1.1.2.3 Intermediate phase with possible supplier voluntary follow-up

The supplier is informed by the project leader about the “suspected non-compliance” for a washing machine model and asked for:

- (i) comments on the test report and
- (ii) checks of possible product’s declaration(s) mistakes.

The supplier having signed the *Voluntary protocol for manufacturer’s pro-active participation* (see below) can choose to accept non-compliance after Step 1 tests and to correct the labelling/ecodesign declaration(s) accordingly without any adverse recognition concerning the possible results of Step 2 of the procedure, or alternatively may choose the option of proceeding to Step 2. For the supplier not having signed the voluntary protocol this alternative will not be available and Step 2 will be developed.

This intermediate discussion stage is not currently described in the two-step verification procedure established in the EU labelling/ecodesign legislation about energy using products. Within the previous ATLETE project this phase, considered reasonable and appropriate, was successfully introduced. It is therefore considered also for ATLETE II since it can reduce the duration and costs of a verification action and create a more favourable cooperation environment between the national Market Surveillance Authorities and the suppliers.

1.1.2.4 Voluntary protocol on the pro-active participation to the verification (D3.3)

A “*Voluntary protocol for manufacturer’s pro-active participation*” will be proposed by CECED to all manufacturers identified as eligible for the compliance verification, to be signed before the actual selection of the washing machine models to be tested.

By agreeing with this protocol manufacturers undertake - on a *without prejudice* basis - and in the event the energy labelling/eco-design declarations of one of their washing machine models are suspected to be non-compliant after Step 1 to:

- accept ex-ante the reliability of the laboratory and of the test results
- promptly take all the remedy actions necessary to correct the concerned declarations and/or information in line with the results of testing/verification procedure
- inform the project leader of these remedy actions
- provide evidence of the remedy action, once the action has been accepted by the *Project non-compliance Evaluation Committee (PEC)* created within ATLETE II and in charge of the non-compliance cases analysis.

The voluntary remedy action(s) will be proposed by each manufacturer to the project leader, to be discussed among PEC members for acceptance; in some cases the remedy action could require a verification through additional laboratory tests before it is eventually accepted by PEC.

For suppliers having signed the Protocol and having modified the non-compliant elements according to the (accepted) voluntary remedy action no further legal action and a more lenient sanction (if any) could be foreseen once notified by the project leader to the relevant MSAs, since the project leader will also inform MSA about the specific remedy actions.

The *Voluntary protocol for manufacturer’s pro-active participation* to be applied in ATLETE II project is presented in Annex I and constitutes Deliverable 3.3.

1.1.2.5 Step 2: test of three additional units

For all manufacturers not signing the Voluntary Protocol and for the signatories having chosen the option to proceed for Step 2 three additional units of the same model will be selected from the market and tested according to the applicable standard(s).

All parameters of the relevant Regulation(s) are re-verified even if they resulted correct in the first phase of testing.

Step 2 will be performed in the same laboratory that ran Step 1, in order to ensure highest coherence between the steps results. The initial laboratory check on each unit, to ensure that it has no obvious operating defects or damage, is repeated.

If the value for each measured parameter of the three units (including the relevant tolerance) complies with the corresponding declared values, then the model is deemed to comply; on the contrary the models fails. The same applies for the verification of the formal compliance to the labelling/ecodesign requirements.

As for Step 1, a representative of the supplier of the model under test will have the possibility to attend the test (under supervision of the test laboratory). The name of the possible witnesses will be communicated in writing to the Laboratory by the ATLETE II project leader. Nobody will be allowed to witness a test without this authorization. In case of dissent with the testing conditions followed in the laboratory the supplier shall report back to the project leader before the result of this second Step is known.

The testing laboratories will report the results of the verification test to the project leader with a copy of the testing report including the information already sent for Step 1 and will consider such results as confidential. Again, no complete or partial information about the test results will be given to the supplier(s) of the model(s) under test.

Suppliers will be contacted by the project leader in order to send a copy of the test report and the conclusions of the PEC about the compliance/non-compliance of the respective washing machine model.

1.1.3 Meeting with test laboratories and other stakeholders

Meetings with laboratories and other stakeholders involved in the verification action, for the discussion of the views and differences in the application of the washing machine standard, are considered the best training for both the laboratories and the project partners. The potential ambiguities in the measurement method or the followed verification procedure that could be highlighted during the discussion will be then reported in the project final recommendations.

During ATLETE II project a number of meetings with the laboratories selected for the testing are foreseen. PEC members will be invited to participate to these meetings⁸.

1.1.4 Destination of product samples after the completion of the tests

The destination of all purchased washing machine at the end of the verification action has been agreed with the Commission during the negotiation of the ATLETE II project. Although formally owned by ICRT, the project partner in charge of scouting and purchasing, they were purchased with the public money of the IEE Programme. Therefore it is agreed that the tested appliances, including those used for the mini-RTs after their completion if still in acceptable conditions, will be recycled or donated to selected charities. In particular:

⁸ It is under evaluation the opportunity that these meetings are be organised in combination with the project meetings, in order to allow more consortium partners to participate.

- the products fulfilling the safety and the minimum requirements of the applicable legislation⁹ will be donated to selected charities located nearby the testing laboratories in order to maximise the benefits for the society and minimise the transportation costs
- the products not fulfilling the safety and/or the ecodesign requirements of the applicable legislation will be disposed according to the national legislation of the relevant laboratory country
- also models having been used for the mini-RTs will be donated to selected charities located nearby the last testing laboratory in order to minimise the transportation costs
- an additional option for the suppliers could be to pick up their tested models for own laboratories validation purposes and to deliver to the charities new units of the same models at their own expenses. In case the specific models are non-compliant with the ecodesign requirements this “exchange” will not be possible.

An alternative, to be discussed and agreed between project partners, laboratories and the Commission is that the donation/recycling is done by the partner responsible for the washing machines purchasing. The feasibility of this alternative will depend also on the transport costs.

In any case, a report proving the donation/recycling of the appliances will be prepared for the Commission and attached to the Final Report of the ATLETE II project.

1.1.5 Appliance models gathering

Building on the experience gained in the previous ATLETE project, the purchasing of the washing machines to be tested will be independent from the testing phase and in charge of ICRT through the organisation’s members. ICRT (in Task 5.2) will be in charge to scout availability of the selected appliances and to organise for the purchase and the logistic of the models for compliance testing.

The matching between the selected washing machines and the selected laboratories will be also under the responsibility of ICRT, with the support of CECED and considering the experience from the previous ATLETE project, taking into account:

- (i) the proximity factor of the purchase place with respect the laboratories localization
- (ii) the amount of tests to be done by each laboratory (no more than 10 models are expected) and, in case of very small manufacturers where 4 units per model will be bought, the storage issue of the units will have to be agreed upon as well.

For each purchased model a report will be prepared on the activities performed and the way the appliance has been found on the market. In particular if an equivalent model is chosen in replacement of the selected one, the report will indicate the problems in finding the original appliance (see chapter 2 of this document).

⁹At the time of drafting these Guidelines the main ecodesign requirements in force for washing machines are set in the product specific Regulation 1015/2010/EU.

CECED will be in charge of all the expenses for the purchase and the logistic¹⁰, from the shops to the laboratories, of the models selected for testing.

Whatever the selection criteria for the models to be tested, the verification action should tackle also models placed on the market in “small” batches, to avoid as much as possible that the lack of 3 additional units to be tested will in the end prevent the completion of the compliance verification, or that this is used as a way-out from the completion of the verification.

Some possible solutions were already identified in the previous ATLETE project:

- immediate purchase of 4 units for the selected model, at least for suppliers with a very low market share. This approach will increase the costs of the verification and in case a model passes Step 1 the other 3 units will be useless. Nevertheless, if 3 units will be left untouched in the original packaging they could be given back to the retailer; it is even foreseeable to purchase only the first unit and have the other 3 as a “free sample” to be paid only if tested. This approach could be proposed to retailers only if the time to finalise the test is acceptable, on the contrary the 3 units could remain unsold
- purchase of 3 units for each of the selected models, at least for suppliers with a low market share, to run Step 2 as the unique verification stage; this approach will increase slightly less the purchasing costs, but will decrease the testing costs since only Step 2 is run. However since could be considered as a proof of low trust in the selected models this option is discarded
- delete from the list of selected models those not available in at least 4 units: this approach will create areas with *de-facto* no compliance verification and is therefore discarded
- use “equivalent” models: this approach is applicable if a sufficient number of units of equivalent models(s) are available and if the “equivalent” models are actually equivalent.

Within the ATLETE II project the first solution, i.e. the immediate purchase 4 units for the selected model(s) will be followed for the manufacturers with a very low market share.

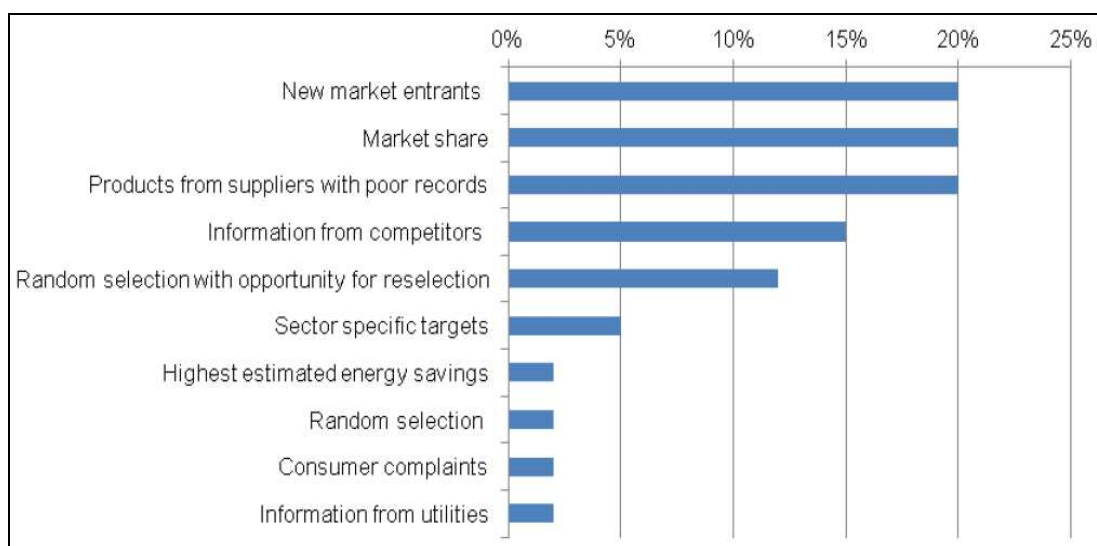
¹⁰ CECED will pay the invoices for washing machine purchasing, logistic and compliance verification testing, being the partner receiving the relevant budget from EACI.

2. D3.2 - Procedure for the selection of the models to be tested

2.1 The worldwide approaches for the models selection

Different approaches are possible and followed worldwide for selecting the models to be verified, with different expected outcome. A 2009-2010 survey¹¹ of energy efficiency programs in 14 (mainly G20) countries did show it is far more common to select products according to a set of criteria rather than choose a random sample from the market for testing (Figure 3). Generally the criteria are used in combination, and while different programs place emphasis on particular criteria, there is considerable similarity in the type of criteria used.

Figure 3: Models selection criteria used for verification testing in selected countries



2.1.1 The “random” selection

Within a pure “*random selection*” procedure, the most important issue is the models availability, mainly through a representative and reliable database of all the models sold on the EU/national market in a given time period. The database can be purchased externally from a firm specialised in EU/national market research, but the costs to collect (almost) all the available models of a given product in a given time moment will be quite high. This approach can be more easily followed in countries where a mandatory registration of the models is necessary before they can be placed on the market.

The resulting ‘failure rate’ (or the complementary ‘compliance rate’) gives a picture of the investigated market in a certain time moment, but the resources to be used are considerable because a large number of models have to be tested in order to assess the non-compliance share.

¹¹E3, Verification Testing Selection Criteria, Criteria for conducting verification testing under the Equipment Energy Efficiency Program, November 2011, available at www.energyrating.gov.au.

2.1.2 The “maximum failure” selection

Product models are selected according to criteria that maximise the probability of non-compliance. Individual models are not randomly selected from the market, but are chosen according to a set of criteria based on established ‘risk factors’, that indicate that a product has a higher probability of failure compared to the market. These factors are described in the following non-exhaustive list:

- suppliers and models with a demonstrated record of non-compliance because of the likelihood of a continuation of such historical trends
- where a third party, such as competitors, consumers, consumer groups or a Market Surveillance Authority provide evidence of non-compliance, for example the results of in-house or independent laboratory tests
- products that appear as new brands on the market or from suppliers that do not have any verification track record
- models tested in previous years are excluded from any further testing unless specific evidence becomes available to suggest that a re-test is needed.
- models with high volumes of sales because of their greater potential to impact on energy usage as compared to models with low sales volumes
- models with the highest claims for energy efficiency because of the market’s higher expectations with respect to the performance of these models as compared to models with low ratings
- newer models, because of their potential to remain on the market for a longer period as compared to older models
- more expensive or cheaper models, to ensure value for money to the consumers.

Another alternative for models selection is to look for models with highest energy efficiency, but these models are usually under the spot light also from competitors and, although having a high visibility, represent limited sale volumes on the EU market.

For the “maximum failure selection” the outcome is not representative of the market situation, but the use of the available resources is lower. This approach could be the best option for national Market Surveillance Authorities that have usually rather limited resources and would prefer to maximize the effectiveness of their compliance actions.

2.2 The ATLETE II semi-random selection within best sellers

The “semi-random selection” procedure focused on the best sold models is considered the most appropriate for any pan-EU or national-wide verification action, as demonstrated by the outcome of the ATLETE project on refrigerating appliances. In fact, best-seller products have the highest impact on the market because they present high sale volumes and many variants and usually are the products where commercial pressure is higher.

Updated information about the manufacturers’ market share at EU and at national level and a reliable database of the best sold models for each manufacturer is needed, but these data are available from well-known market research firms and could be either purchased or gathered through specific agreements with the market research firm(s).

Within ATLETE II 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 will be 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) are targeted and tested. The second half of the models will be 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/regionally¹² are also targeted.

The selection will be 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. In particular it is proposed to select:

- 5 washing machine models for each of the expected 4 manufacturers with a Market Share $\geq 10\%$ (for a total of 20 models);
- 3 models for each of the expected 3 manufacturers with $5\% \leq MS < 10\%$ (for a total of 9 models);
- 2 model for each of the expected 5 manufacturers with $1\% \leq MS < 5\%$ (for a total of 10 modes)
- 1 model for each of the expected 5 manufacturers with $0,5\% \leq MS < 1\%$ (for a total of 5 modes)
- and 6 models randomly selected for the remaining 252 manufacturers.

The above selection system will try 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 are not addressed.

Out of the list of the models identified for each market share range, a random selection is then performed through an external notary (to be subcontracted in WP4), to choose the actual models to be tested in laboratories.

To avoid that selected washing machine models disappearing from the market due to different reasons it is also foreseen that once the number of models to be verified per manufacturer is decided it will be immediately published on the project website for sake of full transparency with market actors, but the actual selection of the specific models to be tested will be done in 2-4 batches.

This approach will reduce the time-to-test (i.e. the time from the announcement that a specific model will be tested to the time of the actual completion of the tests including the purchase of the 1+3 units) at a minimum, thus reducing the possibility for the model to disappear from the market. As a consequence also the publication of the selected models list on the project website will be done in 2-4 steps.

It is worth noting that ATLETE II will verify the compliance with the new energy label. Washing machine models bearing the old label (according to Directive 95/12/EC) due

¹² 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.

to their placing on the market before the mandatory application of Regulation 1061/2010/EU will not be selected for testing.

To gather the market data for the ATLETE II project the market research firm will be selected through a specific Call for Tender that will be published on the project website. A draft template for the “*Call for Tender for market research firm*” (Deliverable 5.1) is presented in Annex III¹³.

¹³ Since only one major market research firm is operating in the EU is able to provide the needed market data, the possibility to make a direct contract with this firm without going through the public Call for Tender was also explored. In the end the launch of a public Call for Tender was considered the preferred option.

3. Procedure for the selection of testing laboratories

A preliminary list of the potentially available and independent laboratories in the EU will be created (see Annex II.1) by collecting the information delivered by project partners as well as gathered within the first ATLETE project. This list constitutes Deliverable 3.4 of the project. Additional laboratories will be searched at first via the publication of a specific ‘*Call for Laboratory Interest*’ on the ATLETE II project web site (see Annex II.2), and later with the publication on the project website of all the documents related to the laboratory selection procedure.

In this way all independent laboratories able to test washing machines will have the possibility to be aware of the ATLETE II project and to make an informed decision about their participation to the laboratory selection procedure.

All answering laboratories will be then included in a final laboratory list to be invited to submit a bid.

3.1 The pre-selection procedure through a ‘recognition Questionnaire’

Reliable and transparent criteria are needed in order to select the most effective laboratories that will perform the tests of the washing machine models. A mix of knock-out criteria and a score system for other criteria will be applied to laboratories to select them from both the technical ability and the cost effectiveness points of view: knock-out criteria will eliminate the least qualified laboratories immediately without any further investigation, while the score system will allow to rank laboratories according to their capability in testing washing machines.

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., will be translated into a set of questions to create an ad-hoc ‘recognition Questionnaire’ (Deliverable 3.5).

The recognition Questionnaire will be 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 will be evaluated: for laboratories passing the knock-out criteria the final score will be calculated, allowing for a ranking of the laboratories against a rating scheme.

Bases on the laboratory ranking the pre-selection procedure will result in a ‘short list’ of about 8-10 potential candidate laboratories.

3.1.1 The selection criteria

The proposed selection criteria, including the knock-out ones are:

1. General Requirements

- Laboratory status: is the laboratory independent, owned by a manufacturer or by another involved stakeholder?

- Ability to test automatic horizontal axis washing machines according to EN 60456:2011 and related standard(s)
- Ability to report in English (the ATLETE II project language will be English)
- Accreditation for testing washing machines (EN 17025 and/or other similar ISO/EN standards)
- Capability to fully follow the given test method (EN 60456:2011) without in-house interpretation of test conditions
- Readiness to accept a visit of an expert from the project partners and of the representative of the manufacturer(s) of the tested unit(s)?

2. Laboratory experience

- Testing experience: involvement in standardisation activities, experience in previous Round Robin Tests/Performing tests for washing machines and relevant models tested over the past [4] years according to EN standard(s)
- Staff experience: including education and (periodic) training of technicians who will perform the tests, is re-training foreseen when new Editions of the standards are published?.

3. Testing capability

- Testing capacity: number of models of washing machines that can be tested in parallel (a minimum capability is needed for the project in order to conclude the tests within the time frame established by the ATLETE II project duration)
- Testing timing (within certain defined time frame related to the ATLETE II project duration).

4. Available equipment for testing

- Type of equipment used, including the reference machine(s)
- Accuracy of equipment, including meters
- Regular supply of the consumables (i.e. standard detergent, load, etc.) needed to test washing machines from a well-known source
- Calibration frequency, if any
- Control of the supply voltage and frequency stability.

5. Testing details

- Capability to test all testing requirements. For this project:
 - Energy (kWh) and water consumption (litre) for the average cycle, i.e. the combination of the standard 60°C and 40°C cotton programmes at full and partial load (for 7 runs)
 - Washing performance (per average cycle and for the single run)
 - Spinning performance as residual moisture content (in % per average cycle and for the single run)
 - Spin speed attained for the standard 60°C cotton programme at full load and half load and for standard 40°C at half load (in rpm)
 - Capacity (indirect)
 - Power consumption (W) and duration (min) of off-mode and left-on mode for the average cycle

- Ecodesign generic requirements¹⁴:
 - presence of the 20°C washing cycle (mandatory from 01.12.2013)
 - information on the booklet of instructions (mandatory since 01.06.2012)
 - identification of the standard programmes (mandatory from 01.12.2012)
- Noise: NOT measured.
- Maintenance and control of consumables (management of test load age, storage of standard detergent, etc.)
- Test room(s): number of test rooms and number of appliances that can be tested in parallel in each test room (if more than one)
- Test room(s) conditions: control of the temperature
- Conditions of the climatic chamber for load conditioning (if used)
- The tolerance for the different parameters: according to the new EU labelling and ecodesign legislation verification tolerances are:

Parameter	Unit	Tolerance	
		Step 1	Step 2
Delegated Regulation 2010/1061/EU			
Annual Energy consumption (AEC)	kWh	10%	10%
Energy consumption (E_t)	kWh	10%	6%
Programme time (T_t)	min	10%	10%
Water consumption (W_t)	litre	10%	10%
Remaining moisture content (D)	%	10%	10%
Power consumption (P_o and P_l)* if $> 1W$	W	10%	10%
Power consumption (P_o and P_l)* if $\leq 1W$	W	0,1 W	0,1 W
Duration of the left-on model (T_l)	min	10%	10%
Regulation 2010/1015/EC			
Washing performance	I_w	4%	4%
Water consumption (W_t) for the standard 60°C cotton cycle)	litre	10%	10%
Rated capacity (indirect)	kg	(0%)	(0%)

*EN 60456:2011 uses a different symbol for the two low power modes

6. Reporting and documentation

- Method for confirming validity of tests
- How and how frequently ambient conditions and parameters under test (ambient temperature, energy consumption, energy, voltage, time, etc.) are recorded.
- Are templates followed for the reporting of standard tests (i.e. tests run according to EN standards and EU legislation). Are the templates available for examination?
- Is the laboratory accepting to report test results using a template provided by the project and its own test report?

¹⁴ For ecodesign generic requirements the laboratory will be asked to check their presence only after the application date. In case of the requirement is legally applicable and is not present in the washing machine model under test the supplier will be asked to provide (i) the date of placing on the market of the model and (ii) if necessary the relevant documentation before the final verdict of compliance/non-compliance.

One of the knock out criterion is the time needed to perform a test, i.e. the capability to run the given number of test in the project time-frame. Since this can lead to reject highly qualified Laboratories just for timing constraints, in the Final Report of the project this will be clearly stated in order to avoid any negative effect on laboratories reputation.

3.1.2 *The rating system for laboratories selection*

A scoring system has been defined by giving a “weight” (score) to the answers of the recognition Questionnaire similarly to what already successfully experienced within the previous ATLETE project. The points achieved by each laboratory having passed the knock-out criteria are summed up allowing the laboratories ranking. The short-list of 8-10 laboratories will be selected from the initial laboratory list on the basis of threshold score values such as:

- Laboratory NOT accepted: $\leq 50\%$ of the max total score
- Situation to be further discussed: $> 50\%$ and $\leq 75\%$ of the max total score
- Accepted laboratories: $> 75\%$ of the max total score.

If necessary, the number of laboratories to be short-listed and the threshold score values could be modified during the selection procedure taking into consideration the total number of participating laboratories and the achieved scores.

3.1.3 *The scoring system for the recognition Questionnaire answers*

The scoring system for the questions in the recognition Questionnaire has been prepared and will be made publicly available after the conclusion of the laboratories selection procedure.

3.2 *The final selection criteria for laboratories*

The final selection of the 5-6 laboratories for the washing machines testing will be done taking into consideration three elements:

1. the score achieved with the recognition Questionnaire
2. the economic offers received from the laboratories to a specific “Call for Tender” issued by the project
3. a final inspection of an expert from the project Team including an interview with the laboratories designed representative.

In particular the Call for Tender will describe the selection criteria, to be made on the basis of the:

- *Recognition Questionnaire score*: the score achieved by each Laboratory on the recognition Questionnaire will weight 70% of the final result, complemented by possible direct visits of the experts to the Laboratory.
- *Offer score*: 30% of the final result will come from the pricing offer. Offers exceeding 3.200 Euro per appliance model unit will be discarded.
- *Test Timing*: timing for the test completion is considered a knock-out criterion, but no additional score will be given to Laboratories declaring to be able to provide testing results before the deadline.

An overall score will be assigned to each Laboratory according to the following system:

$$\text{Laboratory score} = (\text{pricing offer score} \times 0,3) + (\text{Questionnaire score} \times 0,7)$$

where:

- *pricing offer score* = [Max admissible price (in €) / Laboratory offer(in €)]× 100
- *questionnaire score*: number of absolute points achieved by the laboratory for the recognition Questionnaire.

To assure a full transparency of the Call for Tender, laboratories will be invited to deliver their offers to a notary (the name and address will be included in the Call for Tender document). All received offers will be opened at the same time by the notary and proposals will be evaluated considering the selection criteria.

A (possible) complementary visit of an expert of the project Team to the Laboratory will conclude the selection procedure. In the end 5-6 laboratories will be selected for the models testing.

3.3 The tools for the laboratories selection

3.3.1 Accompanying letter to the laboratories recognition Questionnaire

The accompanying letter to the laboratories Questionnaire is presented in Annex IV.1.

3.3.2 Laboratory recognition Questionnaire (D3.5)

The laboratory recognition Questionnaire is presented in Annex IV.2.

3.3.3 Template for the Call for Tender for testing laboratories

A template for the Call for tender for shortlisted laboratories is presented in Annex V.

3.3.4 Template for the Test results reporting (D3.6)

A template for the test results reporting according to the new standard for washing machines has been prepared and distributed to the selected laboratories. Some modifications were added after the completion of the tests of the first batch of washing machines, and the revised file was distributed to the labs.

The deliverable is in the form of a stand-alone excel file that includes non only the elementary data recorded by each lab during the test and the calculated test results but also a section about the analysis of the product documentation: energy label, product fiche and booklet of instructions as required by the energy labelling and ecodesign Regulations.

Finally, the file includes also a section for the verification of the ecodesign requirements related with the visual physical check of the washing machine and a summary table that allows a quick verification of the compliance/non-compliance of a model

4. Verification results reporting and dissemination

Different opinions do exist 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 be 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 other experience in USA has shown that 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 almost never disclosed the model and the supplier name. This is in part due to the fact that in some cases only the first Step of the verification procedure was run and therefore no final 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, the final recommendation of the first ATLETE project was that some guidelines are necessary, either defined by the EU legislator or within the ADCO Groups on ecodesign and labelling. One of the ATLETE II project outcomes will be a set of recommendations to MSAs and the European Commission, where also the issue of reporting the verification results is addressed.

As far as the ATLETE II project is concerned, all project documents, test results and final verdict about models compliance will be made publicly available on the project website after the completion of the field work. The project will also publish the list of countries where individual tested models are available (in case when the unit is purchased from one market, but the model is sold in several countries), and circulate the results to all respective MSA in these countries.

5. Measurement method: standard EN 60456:2011

5.1 Brief description

The main European standard for washing machines is EN 60456:2011 Clothes washing machines for household use - Methods for measuring the performance. It supersedes EN 60456:2005 + A11:2006 + A12:2011.

The DAV (date of availability) is 08.07.2011. DAV is the date when the definitive text in the official language versions of an approved CEN/CENELEC publication is distributed by the Central Secretariat.

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.

EN 60456:2011 refers to EN 50564:2011-62301:2011 “Electrical and electronic household and office equipment - Measurement of low power consumption” for the measurement of low power modes.

EN 50564:2011-62301:2011 is the European version of the international standard IEC 62301:2011 that specifies methods of measurement of electrical power consumption in standby mode(s) and other low power modes (off mode and network mode), as applicable. It supersedes EN 62301:2005 and incorporates FprAA (pr=22944), developed by the JWG TC108X-TC59X. It is applicable to electrical products with a rated input voltage or voltage range that lies wholly or partly in the range 100 V a.c. to 250 V a.c. for single phase products and 130 V a.c. to 480 V a.c. for other products.

The objective of this European Standard is to provide a method of test to determine the power consumption of a range of electrical and electronic household and office equipment in relevant low power modes, and the reporting of the results, generally where the product is not in active mode (i.e. not performing a primary function). It does not specify safety requirements or minimum requirements nor does it set maximum limits on power or energy consumption, but it contains limit values or procedures for verifying compliance with regulatory requirements.

It provides a method of measurement for a variety of modes which are defined elsewhere in other product specific standards.

The second edition of 50564:2011-62301 cancels and replaces the first edition published in 2005 and constitutes a technical revision. The main changes from the previous edition are as follows:

- greater detail in set-up procedures and introduction of stability requirements for all measurement methods to ensure that results are as representative as possible
- refinement of measurement uncertainty requirements for power measuring instruments, especially for more difficult loads with high crest factor and/or low power factor
- updated guidance on product configuration, instrumentation and calculation of measurement uncertainty

- inclusion of definitions for low power modes and use of these new definitions and more rigorous terminology throughout the standard
- inclusion of specific test conditions where power consumption is affected by ambient illumination
- Note Z5 specifies that where this standard is referenced by more specific standards or procedures, these should define and name the relevant conditions to which this test procedure is applied.

5.2 Draft recommendation for an harmonised application of the new standard for washing machines (D3.7)

A specific stand-alone document titled “D3.7 Recommendations for an harmonised application of the new standard for washing machines: Collection of the legislation and other provisions for washing machines has been published. An easy to found and complete collection of EU legislation and related papers for washing machines was in fact considered by project partners non only as an added value of the project but also an excellent – and currently missing - tool to support and facilitate the action of the national market surveillance Authorities, when asked to react to ATLETE II communications about compliance/non-compliance models.

This document collects and summarized in a unique paper all available EU legislation on energy labelling and ecodesign of washing machines, along with Corrigenda, Commission Communication and Commission opinions on the application of labelling and/or ecodesign requirements.

For each collected documents the link to the public website is given, but also there is the possibility to directly open each file by clocking on it.

6. Further adaptation of the verification procedure to other ErP

The described procedure, initially developed for the verification of the compliance of refrigerating appliances within the first ATLETE project has been now easily transferred to the washing machines by introducing some fine tuning and minor adaptations, as predicted in the outcome of ATLETE project.

The success of the following field work on 50 models of washing machines and the development of the mini-RT action will definitively prove that such modular procedure can be applied to a vast group of Energy-related Products.

References

1. ATLETE-Appliance Testing for Energy Label Evaluation, Grant Agreement No. EE/08/728/SI2.528428, Deliverable 6.4 “Guidelines for EU Verification of Energy Related Products, Final Version, July 2011.
2. EN 60456:2011 Clothes washing machines for household use - Methods for measuring the performance.
3. Commission delegated Regulation (EU) No 1061/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household washing machines, as amended by:
 - 27.09.2011: Corrigendum to Commission Delegated Regulation (EU) No 1061/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household washing machines (Official Journal of the European Union L 314 of 30 November 2010)
 - 16.11.2011: Corrigendum to Commission Delegated Regulation (EU) No 1061/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household washing machines (Official Journal of the European Union L 314 of 30 November 2010)
4. Commission Regulation (EU) No 1015/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines, as amended by:
 - 16.11.2011: Corrigendum to Commission Regulation (EU) No 1015/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household washing machines (Official Journal of the European Union L 293 of 11 November 2010)
5. E3, Verification Testing Selection Criteria, Criteria for conducting verification testing under the Equipment Energy Efficiency Program, November 2011, available at www.energyrating.gov.au .

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

Work Package 3: Methodology Re-Assessment
Deliverables 3.1-3.7

Draft

Guidelines
for the verification of washing
machines compliance to energy
labelling and ecodesign requirements

Rev. 3.0 - September 2012

Annexes

Annex I: D3.3 - Voluntary protocol for manufacturer's pro-active participation

I.1 The Voluntary Protocol

Protocol on the manufacturer's pro-active participation to the ATLETE II Project (Appliance Testing for Energy Label and Eco-Design Evaluation)

The undersigned,
(name of the company), with registered offices at
..... (address of the company's registered offices),

having regard to the ATLETE II Project (Appliance Testing for Washing Machine Energy Label and Eco-Design Evaluation) promoted by the EU Programme Intelligent Energy Europe and led by the *Istituto di Studi per l'Integrazione dei Sistemi* (ISIS) (the "ATLETE II Project Leader"), whose main goal is to increase European-wide implementation and control of energy labelling and eco-design requirements under the Energy Labelling Framework Directive 2010/30/EC and the Eco-design Framework Directive 2009/125/EC (the "Regulatory Framework");

having regard to the experience of ATLETE project and recommendation from the Commission and Project Partners to propose the "Protocol on the manufacturer's pro-active participation" also in the ATLETE II Project;

having regard to the *draft Guidelines for the verification of washing machine compliance to energy labelling and ecodesign requirements* (the "Guidelines"), which provide for a procedure for appliance testing to verify the correctness of the manufacturers' energy labelling/eco-design declarations;

therefore self-undertakes, in case the energy labelling/eco-design parameters of one of his appliance models would be found to exceed the verification tolerance after the first or second Step of the verification procedure, and without prejudice to his ability to challenge the factual findings made in the testing procedure, before its result is made available, to:

1. take within 30 (calendar) days after being informed by ATLETE II Project Leader of the results of the testing all the remedy actions necessary to correct the energy labelling declarations of the appliance model/s concerned in accordance with the results of the testing procedure, alternatively modify the product to make it comply with its energy label declaration; and
2. take within 30 (calendar) days after being informed by ATLETE II Project Leader of the results of the testing all the remedy actions necessary to fulfil the eco-design requirements for the appliance model/s concerned; and
3. inform within the same timeframe the ATLETE II Project Leader of the remedy actions taken to correct the energy labelling/eco-design declarations or parameters, and provide the ATLETE II Project Leader with the appropriate evidence of conformity and remedy actions taken, 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.

Executed in on (place and date of signature)

.....
(name and function of the company's representative)

This document must be signed by a duly authorised representative of the company and returned to ATLETE II project leader

1.2 The accompanying letter

To the attention of Chief Executive Officer of company

Dear Madam/Sir,

The aim of this communication is to propose to your company an active involvement in the ATLETE II Project.

ATLETE II (Appliance Testing for Washing Machines Energy Label & Ecodesign Evaluation) is co-financed by the European Commission through the Intelligent Energy Europe programme, aiming at increasing European-wide market surveillance of energy labelling and ecodesign requirements. Whereas the first ATLETE project developed in 2009-2011 was addressed to refrigerating appliances, ATLETE II deals with washing machines.

Within the Project 50 washing machine models will be tested and checked for compliance to the EU energy label and eco-design requirements set in delegated Regulation 1061/2010/EU and Regulation 1015/2010/EU. These washing machines will be randomly selected by a notary within bestselling models available on the Community market. The completed test results for each model will be delivered to the respective national market surveillance Authorities where the model is distributed and will also be published on the project web-site.

It is likely that at least one of your washing machines will be eligible for testing in a laboratory selected by the Project. Therefore the project consortium would like to invite you to consider signing the “*Protocol on the manufacturer’s pro-active participation to the ATLETE II Project*” attached to this letter.

The testing, developed strictly according to the relevant EN standards and the EU legislation provisions, foresees that one sample (one unit) of a chosen washing machine will be tested in the first Step. In case the test results exceed the admissible verification tolerance(s), three more samples of this washing machine model will be tested in a second Step.

If you sign this protocol you will have the exclusive opportunity to decide at the end of the Step 1 if to continue the testing to Step 2 with three more samples of the same model or to take immediate remedy actions, thereby accepting the outcome of Step 1 test.

The project partners of the ATLETE project, following the experience of the previous ATLETE project, and the recommendations of the European Commission proposed the development of such a Protocol to foster the proactive participation of all manufacturers in the Project and to shorten the time to correct any possible improper labelling or ecodesign declaration.

For the sake of full transparency, please be aware that the list of manufacturers invited to sign the aforementioned Protocol and the list of the signatories will be part of the publicly available documents of the ATLETE II project.

All further details concerning the Protocol, and the testing procedure are available on the project web-site www.atlete.eu.

If you deem it valuable for your Company to participate in a pro-active way in the ATLETE II Project, please send back the attached protocol, signed by a duly authorized person not later than **30th September 2012** to the ATLETE II project leader Mr Stefano Faberi, ISIS, Via Flaminia 21, 00196 Rome, Italy and scanned version at the email address: sfaberi@isis-it.com.

Please note also that no signature of the Protocol will be possible after 30 September 2012, because shortly after that date washing machines models will be selected for testing and testing procedure will commence.

Should you have any questions about the protocol and the whole procedure please contact Mr Stefano Faberi at your earliest convenience.

With best regards,

Stefano Faberi

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Annex II: EU independent laboratories for testing washing machines

The below list of independent laboratories known as being able to test washing machine has been prepared on the basis of information collected among washing machine testing experts. Laboratories are listed by Country. despite all effort has been done to identify the relevant laboratories in the EU and the list is thought to include most of them, it is not considered to be exhaustive.

Additional laboratories will be searched at first via the publication of a specific ‘*Call for Laboratory Interest*’ on the ATLETE II project web site, and later with the publication on the project website of all the documents related to the laboratory selection procedure.

In this way all independent laboratories able to test washing machines will have the possibility to be aware of the ATLETE II project and to make an informed decision about their participation to the laboratory selection procedure.

II.1 D3.4 - List of the EU independent laboratories for the testing of washing machines

No	Laboratory	Country	Post code	Town	Address	Contact point	Email	Telephone
1	Elektrotechnický zkušební ústav s.p.	Czech Republic	171 02	Praha	Pod listem 129	Ing. Ondřej Šlechta	oslechta@ezu.cz	+ 420 266 104 481
2	Danish Technological Institute	Denmark	2630	Gregersebsvej, Taastrup	Gate/port 50	Mr Jorgen Kjeldgaard	Jorgen.kjeldgaard@teknologisk.dk	+45 2270 5646
3	C.T.T.N-I.R.E.N.	France	69130	Ecully	95 chemin des Mouilles	Mr Alain Ribes	a.ribes@cttn-iren.fr	+33 04 78 33 08 61
4	LGA Qualitest GmbH	Germany	90431	Nürnberg	Tillystrasse 2	Mrs Christine Gluth	christine.gluth@lga.de	+49 911 655 5825
5	SLG Prüf- und Zertifizierungs GmbH	Germany	09232	Hartmannsdorf	Burgstädter Strasse 20	Mr Christoph Blechschmidt	ch.blechschmidt@slg.de.com	+49 3723 7323 844
6	VDE-Institute	Germany	63069	Offenbach	Merianstr.28	Mr Christoph Türk Mr Wolfgang Heukeroth	christoph.tuerk@vde.com ; wolfgang.heuckeroth@vde.cpm	+49 69 8306 425 / 488
7	wfk - Institut für Angewandte Forschung GmbH	Germany	47807	Krefeld	Campus Fichtenhain 11	Mr Christoph Bartoschek	c.bartoschek@wfk.de	+49 2151 8210 145
8	ipi-Institut für Produktforschung und Information GmbH	Germany	70190	Stuttgart	Neckarstraße 155	Mr. Joachim Vollmer	jvollmer@ipi.de	0049 711 93 18 15-130
9	IMQ S.p.A. Istituto Marchio di qualità	Italy	20138	Milano	Via Quintiliano, 43	Ing. Filippo Brivio	filippo.brivio@imq.it	+39 02 5073484

No	Laboratory	Country	Post code	Town	Address	Contact point	Email	Telephone
10	A.E. s.r.l. Appliances Engineering	Italy	21026	Gavirate (VA)	Via della Ciocca, 5	Mr Aries Rolando Ms Federica Luzzardi	raries@ae-online.it fluzzardi@ae-online.it	+39 0332 742361
11	SOHIT	Netherlands	6702	EA Wageningen	Vadaring 74	Mrs Inge van Kessel	Inge.vanKessel@sohit.nl	+31 317 466212
12	TSU - Technický skúšobný ústav Piešťany, š.p.	Slovak Republic	921 01	Piešťany	Krajinská cesta 2929/9	Mr. Peter Galo	galo@tsu.sk	--
13	EVPU a.s	Slovak Republic	018 51	Nová Dubnica	Trenčianska 19	Ing. Dušan Novotný	novotny@evpu.sk	+421 42 44 03 400
14	LCOE	Spain	28906	Getafe (Madrid)	C/Eric Kandel, 1 - Tecnogetafe	Mr Rafael Guirado Ms Sonia Martin	RGuirado@lcoe.etsii.upm.es smartin@lcoe.etsii.upm.es	+34 914918168 ext 216 +34 914918168 ext 256
15	LGAI Technolo- gical Center, Campus UAB	Spain	8193	Bellaterra – Barcelona	Crta. de Acceso a la Universidad de Medicina s/n.	F. Amiconi	--	+34 900 10 30 67
16	Swedish Energy Agency	Sweden	118 53	Stockholm	Rosenlundsgatan 5	Mrs Helena Nilsson	Helena.Nilsson@energimyndigheten.se	+46 70 288 99 08
17	SWEREA Swedish textile institute	Sweden	SE-431 22	Möln dal	P.O. Box 104 Visiting address: Argongatan 30, SE-431 53 Möln dal Swerea AB P.O. Box 55970 SE-102 16, Stockholm	Ms. Anne Charlotte Hanning	info@swerea.se	+46 31 706 60 00 +46 8 440 45 00
18	EMPA Testmaterialien AG	Switzerland	9015	St. Gallen	Mövenstr. 12	Mr Daniel Fäh Mr Felix Frey	daniel.fah@empa-testmaterials.ch felix.frey@empa-testmaterials.ch	+41 71 311 80 55
19	Intertek UK	UK	MK5 8NL	Milton Keynes	Davy Avenue, Knowlhill	Mr Jeremy Owens	jeremy.owens@intertek.com	+44 1908 857766

II.2 Call for Laboratory Interest

Call for Interest in Participating to the Selection of Laboratories for the European Project ATLETE II¹⁵

Dear Madam or Sir,

I am addressing you as project coordinator of the ATLETE II Project - Appliance Testing for Washing Machines Energy Label & Eco-design Evaluation, that started in May 2012 promoted by the EU Programme Intelligent Energy Europe.

Partners of the project are CECED, the Italian, French, Austrian and Swedish Energy Agencies, SEVEN, ECOS, University of Bonn, ECEEE, ICRT and ISIS as project leader. Extensive information about the project can be found on the website: www.atlete.eu.

The main goal of ATLETE II is to increase European-wide implementation and control of energy labelling and eco-design measures for washing machines as well as to assess the application of the new standard EN 60456 for this product.

The project's core part is the laboratory testing of 50 models of automatic horizontal axis washing machines sold throughout Europe. The laboratory tests are planned to start not before November 2012 and will last no longer than by end April 2014 including the reporting period. The testing will be done in 3 separate batches during the overall testing period.

Several laboratories will be selected through an ad-hoc procedure to carry out the testing.

Each selected laboratory will be asked to test approximately 10 models of washing machines. At the beginning one single unit for each model will be tested as the first Step of the two phase testing procedure foreseen by the EU energy labelling and eco-design implementing measures. For model(s) failing to pass the first Step (i.e. showing at least one of the measured parameters not in agreement with the rated values and the specific measurement tolerances) additional 3 units could be tested in the same laboratory.

With this Call for Interest I would like to:

- inform you about the starting of the project, its timeframe and general assumptions
- ask you to express interest to take part in the selection procedure **by replying to this announcement not later than 31st July**. Should this be case, I kindly ask you to send me an anonymous example of your test report for washing machines.

In case of your positive reply, you will be contacted with a detailed technical Questionnaire to be filled in and delivered back to the project leader.

¹⁵ The Call for interest has already been published in the ATLETE II project website.

Should you need further information or details of the project and procedure, please contact:

Mr Michał Zakrzewski, at the following e-mail address: michal.zakrzewski@ceded.eu .

Yours faithfully,

Stefano Faberi

ISIS
Via Flaminia, 21
I-00196 Rome, Italy
Tel +39 06 3212655

Annex III: D5.1 - Template for Call for Tender for market research firm

Call for Tender in providing Market Data¹⁶

Background

ATLETE II Project (Appliance Testing for Washing Machines Energy Label & Ecodesign Evaluation) started in May 2012, promoted by the EU Programme Intelligent Energy Europe. The main goal of ATLETE II is to continue the process initiated with ATLETE I Project and to further increase European-wide implementation and control of energy labelling and eco-design implementing measures for appliances.

The project's core part is the field work of testing 50 washing machines, to be randomly selected within a shortlist of models. The intention is to focus on:

- the bestseller products for each manufacturer/producer that has a market share above 0,1% on the EU 27 market,
- and national champions in following countries AT, BE, CZ, DK, FR, DE, IT, NL, PL, ES, SE, UK with market share above 1%; the detailed selection procedure is being set up within the project development.

The tests are going to start in November-December 2012.

Call for tender

This call for tender is to ask for a declaration of interest in providing market data in order to create a short list of products out of which random selection of washing machines will be completed, and a quotation for the service offered. The technical detail of the requested market data are shown in Annex.

Your declaration of interest, along with a description for the proposed service and pricing should be sent to Michał Zakrzewski by e-mail <michal.zakrzewski@ceced.eu> by 18 September 2012.

Should you need further information to structure your proposal, please contact Michał Zakrzewski, responsible for this part of the project at michal.zakrzewski@ceced.eu .

More information on the project on www.atlete.eu

Yours faithfully,

Stefano Faberi

¹⁶ See footnote No 8. The Call is already published on the ATLETE II project website.

Annex: Technical elements of the market data

Companies willing to provide their offers, should demonstrate that market data delivered by them cover at least 60% of at least 85% of the EU 27 markets, and collected through retailers panels.

The delivery should be provided in two sets:

1. list of all producers and contact addresses (if possible) split in market share classes;
2. list of 10-20 best selling models, selected according to the producer market share and product category. For each model there should be an indication in which countries it can be found in the shops and average unit price.

The list of appliances should be provided for automatic horizontal axis washing machines, divided into the following capacity categories:

- ≤ 5,0 kg
- 5,5 and 6,0 kg
- 6,5 and 7,0 kg
- > 7 kg.

The delivery date of the market data is expected in 3 batches. The first delivery should be done by the 15th October 2012 covering 4-month period of June-September 2012. The following two deliveries should be completed around April and September 2013 covering respective 4-months periods. All exact dates to be confirmed when signing the contract.

Annex IV: The laboratories recognition Questionnaire

IV.1: Accompanying letter to the laboratories recognition Questionnaire

Accompanying letter to the laboratories Questionnaire

Dear Madam or Sir,

The ATLETE II project Team is in the process of developing a compliance verification action aimed at increasing European-wide implementation and control of energy labelling and eco-design implementing measures for Energy Related Products

The action's core part is the field work of testing 50 models of automatic horizontal axis household washing machines (the “Product”), to be randomly selected within a shortlist of models representative of those sold throughout Europe.

The tests are planned to start in <month> 2012 and will last until April 2014 together with reporting period.

Some laboratories will be selected to conduct the testing procedure. Each selected laboratory will be asked to test approximately 10 models of the Product in the first Step of the two phase testing procedure foreseen by the EU labelling and ecodesign Regulations. For model(s) failing to pass this first Step additional 3 units could be tested in the same laboratory.

The testing laboratories will be requested to test the Product according to the applicable standard EN 60456:2011 and related standard(s) for energy labelling/ecodesign requirements. Technical details and laboratory requirements can be found in the Annex to this letter and in the attached laboratory recognition Questionnaire.

Your laboratory has been identified as a potential testing laboratory within the ATLETE II Project.

Enclosed please find the laboratory recognition Questionnaire, that we kindly ask you to fill in if you are interested in participating in the Project. Send your replies by e-mail until <date> 2012 to Mr. Stefano Faberi (sfaberi@isis-it.com) from ISIS, the project coordinator and copy to Mr. Michał Zakrzewski (michal.zakrzewski@ceced.eu) from CECED.

On the basis of evaluation of the recognition Questionnaire's answers, appropriate laboratories will be shortlisted. Among them, a Call for Tender will be organised, leading to the selection of the laboratories having proposed the best economic offer and after a visit of an expert on behalf of the ATLETE II project Team, before final signature of the contract. The possibility to verify the answers given in the Questionnaire during the visit of the expert is considered an essential condition to fulfil the selection process criteria.

Should you need further information or details about the Questionnaire, please contact Michał Zakrzewski, at the following e-mail address: <michal.zakrzewski@ceced.eu>.

Thank you for expressing your interest to participate in the ATLETE II project activities.

Yours faithfully,
Stefano Faberi

Stefano Faberi
ISIS
Via Flaminia, 21
I-00196 Rome, Italy
Tel +39 06 3212655

Annex: Technical elements of the testing procedure for washing machines

Following household washing machines have been selected for testing: fully automatic washing machines, divided into the following capacity categories:

- ≤ 5,0 kg
- 5,5 and 6,0 kg
- 6,5 and 7,0 kg
- > 7 kg.

The following parameters will be measured for the combination of the standard 60°C and 40°C cotton programmes at full and partial load (7 runs):

1. energy consumption (in Wh per average cycle and for the single run)
2. water consumption (in litre per average cycle and for the single run)
3. Washing performance (per average cycle and for the single run)
4. Spinning performance as residual moisture content (in % per average cycle and for the single run)
5. Spin speed attained for the standard 60°C cotton programme at full load and half load and for standard 40°C at half load (in rpm)
6. Capacity (indirect) in kg
7. Power consumption (W) and duration (min) of off-mode and left-on mode
8. Ecodesign generic requirements¹⁷:
 - (i) presence of the 20°C washing cycle (mandatory from 01.12.2013)
 - (ii) information on the booklet of instructions (mandatory since 01.06.2012)
 - (iii) identification of the standard programmes (mandatory from 01.12.2012)

Noise is NOT measured.

¹⁷ For ecodesign generic requirements the laboratory will be asked to check their presence only after the application date. In case of the requirement is legally applicable and is not present in the washing machine model under test the supplier will be asked to provide (i) the date of placing on the market of the model and (ii) if necessary the relevant documentation before the final verdict of compliance/non-compliance.

Tolerances for the measured parameters are:

Parameter	Unit	Tolerance	
		Step 1	Step 2
Delegated Regulation 1061/2010/EU			
Annual Energy consumption (AEC)	kWh	10%	10%
Energy consumption (E_t)	kWh	10%	6%
Programme time (T_t)	min	10%	10%
Water consumption (W_t)	litre	10%	10%
Remaining moisture content (D)	%	10%	10%
Power consumption (P_o and P_i)* if $> 1W$	W	10%	10%
Power consumption (P_o and P_i)* if $\leq 1W$	W	0,1 W	0,1 W
Duration of the left-on model (T_l)	min	10%	10%
Regulation 1015/2010/EU			
Washing performance	I_w	4%	4%
Rated capacity (indirect)	kg	(0%)	(0%)

*EN 60456:2011 uses a different symbol for the two low power modes

Testing shall be based on the current harmonised standard EN 60456:2011 and related standard(s) and shall be conducted according to the following procedure:

Each laboratory will check each sample, before Step 1, to ensure that it has no obvious operating defects or damages, for example due to an accident during transport.

Step 1: one unit of each selected model will be tested. In particular:

- if all the model labelling declarations/ecodesign requirements comply with the outcome of the tests, the model is deemed to have passed the verification
- if the unit fails to comply with even only one of the labelling/ecodesign requirements, or will not be able to accomplish the test for the specific product, Step 2 will be triggered
- the relevant producer will be contacted by the project leader to be informed about suspected non-compliance (in Step 1) and asking for checks of possible declaration mistakes. The producer may choose to accept a non-compliance and to correct the energy labelling declaration or the ecodesign requirement accordingly, or may choose to proceed to Step 2.

Step 2: three other units of the same model will be tested again

- **Check of the sample to be tested:** the laboratory will check each sample to ensure that it has no obvious operating defects or damage.
- **Possibility to assist to the test:** representatives of the ATLETE II project Team will be always allowed to assist the tests. A representative of the manufacturer of the model under test will be allowed to assist the tests under supervision of the test laboratory personnel. The name of the possible witnesses will be communicated in writing to the Laboratory by the ATLETE II project leader. Nobody will be allowed to witness a test without this authorization. In case of dissent with the testing conditions followed in the laboratory, the manufacturer shall report back to the ATLETE II project leader before the result of the Step is known.

- **Samples delivery:** the selected samples will be delivered to the laboratory testing facility by the project organisers.
- **Tests results:** the laboratory will report the results for Step 1 and Step 2 only to the ATLETE II project leader and will consider such results confidential. In no case partial or total information about the test results should be given to the supplier(s) of the model(s) under test.
- **Reports on tests performed:** for each tested model, the report¹⁸ will indicate:
 - identification of the model;
 - the value(s) declared by the manufacturers for all parameters to be tested for the specific model;
 - all the values declared on the energy label and the product fiche delivered with the appliance and comments, if any, on the absence of some declarations;
 - the measured values and comments, if any, on the validity of the declaration;
 - difference, if any, between the data declared in the product fiche and the label applied on the product;
 - all correspondence with the supplier (if any) and the ATLETE II project leader
 - detailed information on the tests done and on the measurements made
 - a copy (a picture) of the rated plate, of the technical fiche and the energy label accompanying each model
 - a picture of each model under test.
- **Test Reports template:** a template for test report will be distributed to the laboratory at the time of the signature of the contract. The laboratory will be requested to report the tests results on washing machines according to this template (if any) and through our usual test report.

¹⁸ Laboratory will be asked to provide the test results according to a test report template prepared by the ATLETE II project and according to its usual test report.

IV.2: D3.5 - Laboratory recognition Questionnaire

Laboratory Recognition Questionnaire for household washing machines

Name of the Laboratory responsible	Give the title and name of the laboratory responsible who will sign the testing report	
Part 1: Introductory elements	to be signed by the Laboratory responsible before filling in the Questionnaire	
I <laboratory responsible> hereby declare under my responsibility that:		
a	The laboratory is not owned by a household appliance manufacturer.	
b	The laboratory is willing to take part to the selection procedure of the verification action.	
c	The laboratory will use English in all communications within the verification action.	
d	I accept an audit to our laboratory, with our attendance, by an expert delegated by the ATLETE II project Team and/or by a representative of the manufacturer(s) of the appliance unit(s) under test.	
e	The laboratory is able to test automatic washing machines according to EN 60456:2011 and related standard(s)	
f	All necessary standard consumables for testing household washing machines of each load capacity are available to the Laboratory	
g	The supply voltage to each tested appliance is kept stable within $(230 \pm 1\%)$ V or better.	
h	The supply frequency to each tested appliance is kept stable within $(50 \pm 1\%)$ Hz or better.	
i	The temperature of the laboratory supply water to each tested appliance is within $15^{\circ}\text{C} \pm 2$ K during the testing.	
j	The static (gauge) pressure of the laboratory supply water at the inlet to each tested appliance is kept stable within (240 ± 50) kPa throughout the test.	

k	The temperature of the test room(s)/site(s) is within $23^{\circ}\text{C} \pm 2 \text{ K}$ during the testing of the washing machines.
l	The total hardness of the water used for the washing machine testing is $(2,5 \pm 0,2) \text{ mmol/l}$
m	The laboratory checks the ratios of a new batch of the stain test strips delivered to the laboratory
n	The laboratory has tested automatic horizontal axis washing machines in the last 4 years and we will provide you detailed information on the number of tests per year.
o	We will provide you a recent (anonymous) example of a test report for a automatic horizontal axis washing machine with the appliance load scheme and including the chart (i.e. the plot or the numerical data) of the records for the parameters measured under EN 60456:2011 for the energy labelling delegated Regulation 1061/2010/EU and the ecodesign Regulation 1015/2010/EU.
p	We will provide you an example of a recent (i.e. not older than three months) 24h record of the test room/site temperature.
q	We will provide a complete list and the latest calibration certificates of the measuring instruments.
r	We will report the tests results on washing machines according to the ATLETE II template test report (if any) and through our usual test report.
s	The laboratory has the capability and we accept to store all the washing machine units that will be assigned to the laboratory for the compliance verification
t	We enclose as an Annex our feedback to the Questionnaire.
	Date: Signature:

NOTE: If any of the above statements a-t can not be agreed upon by signing by the Laboratory responsible please do NOT continue with the compilation of the Questionnaire.

Part 2: Laboratory Questionnaire		to be filled in by the Laboratory responsible	
	Questions	Notes	Answers
1	<u>General aspects</u>		
1.1	What is the legal status of your laboratory?	State-owned, owned by a NGO Consumers' Association, private,...	
1.2	How many people are employed in your lab for testing appliances (excluding management, administrative, etc)?		
1.3	Is your laboratory certified in accordance to ISO or EN Standards?	ISO 17025, and/or EN 45001 and/or ISO 9000 or similar	
1.3.1	If yes since when?		
Please add certificates and documents of latest renewal			
1.4	Please describe the background education of the personnel who will perform the tests and the training, if any, done at the laboratory		
1.4.1	Is re-training foreseen for (major) changes in test conditions?	For example due to new Editions of ISO, IEC, EN standards	
1.5	How long is on average in your laboratory a test (see Annex for the details) for washing machines according to EN 60456:2011?		
1.6	How many different people can perform the tests on washing machines?		
1.7	Please indicate if you already took part to any Round Robin Test or Proficiency Tests for the product concerned by this project.	yes/no	
If yes, please add relevant documentation (references) of the RRT(s)			

	Questions	Notes	Answers
1.8	Do you have a documented operating procedure on application of uncertainty of measurement?	Based on e.g. ISO/IEC GUM, Guide to Expression of Uncertainty in Measurement, IEC Guide 115, or similar	
If Yes, please provide a copy			
1.9	Do you have documented internal 'good laboratory practices procedures' for the measurement of the products concerned by this analysis?	e.g explaining the need and the procedure to control the standard load age, the need and frequency of the calibration of the measurement system, the way to assure to correctly run the tests, etc.	
1.9.1	Does the internal 'good laboratory practices procedures' specifically addresses the management of partial loads?	If yes, please describe this section in detail	
If yes please add all relevant documentation			

	Questions	Notes	Answers
2	<u>Measurement equipments</u>		
2.1	Which type of equipment and relevant tolerances do you use to measure the temperature?	according to EN 60456:2011	
2.2	Which accuracy (in K) have the ambient temperature meters in the used range/setting?	according to EN 60456:2011	
2.3	Which accuracy (in K) have the inlet water temperature meters in the used range/setting?	according to EN 60456:2011	
2.4	Which accuracy (in Wh) have the energy meters in the used range/setting?	according to EN 60456:2011 and EN 62301:2011	
2.5	Which accuracy (in %) have the water pressure meters in the used range/setting?	according to EN 60456:2011	
2.6	Which accuracy (in %) have the voltage meters in the used range/setting?	according to EN 60456:2011	
2.7	What scan interval do you use for the test room ambient temperature?		
2.8	What scan interval do you use for the water inlet temperature?		
2.9	What scan interval do you use for water pressure?		
2.10	What scan interval do you use for energy?		
2.11	At which regular intervals are the measurement equipments calibrated?		

	Questions	Notes	Answers
2.12	What is the stability of the supply voltage to each tested washing machine?		
2.13	What is the stability of the supply frequency to each tested washing machine?		
2.14	What recording interval do you use for the test room ambient temperature?		
2.15	What recording interval do you use for the water inlet temperature?		
2.16	What recording interval do you use for the water inlet pressure?		
2.17	What recording interval do you use for energy consumption?		
2.18	What recording interval do you use for water consumption?		
2.19	Which type of spectral photometer are you using for reading the test strip?		
Specify supplier and model			

	Questions	Notes	Answers
3	<u>Reference machine and consumables</u>		
3.1	Which type of Wascator reference machine is used in your laboratory?	FOM 71 MP lab or FOM 71 CLS	
3.1.1	is the Wascator reference machine operated under stabilized voltage supply?		
3.2	When was the last maintenance of the Wascator reference machine developed?	Please provide the calibration protocol	
Please provide the protocol of the last maintenance			
3.2.1	In this respect, was the inlet water pressure checked?		
3.2.2	and was the filling time requirement from the maintenance document used?		
3.3	Who is the supplier of stain test strips used.	Please provide the name	
3.3.1	What is the batch number of stain test strips used in 2012?	Please provide the list	
3.3.2	Are you using the measured ratios of new batches of stain test strips delivered to the laboratory as a general qualification criteria for the test system within the laboratory?	Please describe in particular the actions if the measured ratios in your laboratory are not in line with those given in EN60456:2011	
3.3.3	Where and how are the stain test strips stored (refrigerator, freezer, ambient, dark place, etc.) before use?	Please describe in detail	
3.4	Who is the supplier of base load used in your laboratory ?	Please provide the name	
3.4.1	Which washing machine are you using for the for pre-treatment / normalization of test loads?	Please describe	

	Questions	Notes	Answers
3.4.2	How is conditioning of base load done: in a climate chamber or with the bone dry method?	Please describe the procedure	
3.4.3	If bone dry method is used, is the laboratory equipped with a large capacity dryer with manual or timer control? Is this dryer electricity or gas driven?	Please describe the used dryer	
3.4.4	If bone dry method is used, is the coefficient to link bone dry weight to conditioned weight measured?	Please describe the procedure	
3.4.5	Is a full record available of the history of each item of the standard load for the number and type of usages?	Please describe	
Please describe your system and provide an example (copy or a printout) of the recording			
3.4.6	Which system are you using for the conditioning of the base load in the ambient controlled room/chamber?		
3.4.7	Provide a report covering the latest available 6 months period with all data for the conditioning of the loads used for Wascator runs.		
3.5	Who is the supplier of detergent used for washing machine test?	Please provide the name	
3.5.1	Provide batch number of standard detergent components used in 2012.	Please provide the list	
3.5.2	Where are the detergent components kept for storage?	Please describe	

	Questions	Notes	Answers
<u>4</u>	<u>Test room and ambient controlled room/ chamber</u>		
4.1	How many test rooms do you have in your Lab for testing washing machines?		
4.2	How many appliances can you test at the same time in each room?		
4.3	How many appliances are you able to test in total at the same time?		
4.4	What is the humidity range of your ambient controlled room or chamber?		
4.4.1	How frequently are you measuring it?		
4.5	What is the temperature range of your ambient controlled room or chamber?		
4.5.1	How frequently are you measuring it?		
Please deliver at least three pictures (made anonymous) of a previous measurement: - test washing machine measurement place with the set up for testing; - an appliance prepared for tests according to EN 60456:2011			

	Questions	Notes	Answers
5	<u>Test experience</u>		
5.1	In which standardisation activities relevant for washing machines is the personnel of your laboratory actively involved? Please specify the Standardisation body, the relevant TC or SC and the WG(s)		
5.2	How long is your experience in performing tests on washing machines? Please provide evidence		
5.3	How many washing machines have you tested in each of the last 4 years in your laboratory as far as performances according to EN 60456 is concerned? Please provide detailed info	according to EN 60346:2011 and/or the previous Editions of the standards	
5.3.1	How many washing machines (energy consumption) have you tested in the last 4 years in your laboratory?	according to EN 60346:2011 and/or the previous Editions of the standards	
5.3.2	How many washing machines (washing performance) have you tested in the last 4 years in your laboratory?	according to EN 60346:2011 and/or the previous Editions of the standards	
5.3.3	How many washing machines (spinning performance) have you measured in the last 4 years in your lab?	according to EN 60346:2011 and/or the previous Editions of the standards	

Part 3	Documentation	Test reports and recordings to be provided
1	Please provide an example of a test report on a test according to EN 60456:2011, the report may be made anonymous	
2	On a voluntary basis: please provide an example of a test report on a test according to the previous Edition of the standard EN 60456:2005, the report may be made anonymous	
3	Please provide an example of a record of the test room temperature and climatic chamber (if used for the conditioning of the load) temperature and humidity	
4	Please provide a complete list and the latest calibration certificates of the measuring instruments and of the reference machine	

Annex V: D4.2 - Template for the Call for Tender for shortlisted laboratories

Call for tender for shortlisted laboratories

1. Background of the project and introduction to the call for tender

The ATLETE II project (the “Project”) is in the process of developing a compliance verification action aimed at increasing European-wide implementation and control of energy labelling and eco-design implementing measures for Energy Related Products

The action’s core part is the field work of testing of 50 models of automatic horizontal axis washing machines (the “Product”), to be randomly selected within a shortlist of models representative of those sold throughout the EU.

The tests are planned to start in December 2012 and will last until April 2014 together with reporting period.

A number of laboratories will be selected through this Call for Tender to conduct the testing procedure.

Each selected laboratory will be asked to test approximately 10 models of the Product in the first Step of the two phase testing procedure foreseen by the EU labelling and ecodesign implementing measures. For model(s) failing to pass the first Step additional 3 units could be tested in the same laboratory.

In addition, each testing laboratory will be requested to collect the label, the product fiche and the booklet of instructions included in the documentation accompanying each model of the Product.

Your replies to the technical details and laboratory requirements addressed in the recognition Questionnaire circulated by the ATLETE II project leader on 7th October 2012 were ranked high. Your laboratory is therefore invited to reply to this Call for Tender. Only offers delivered by 30th November 2012 via registered mail to the notary Jones Day (CECED Law Company), will be taken into consideration. All offers will be opened at the same time by the notary and proposals will be evaluated considering the selection criteria in point 6.

2. Technical requirements

The technical requirements of the testing procedure for washing machines are:

2.1 Parameters to be measured or checked for each unit of the tested Product:

The following parameters will be measured for the combination of the standard 60°C and 40°C cotton programmes at full and partial load (7 runs):

1. Energy consumption (in Wh per average cycle and for the single run)
2. Water consumption (in litre per average cycle, for the single run and for the standard 60°C cotton programme)

3. Washing performance (per average cycle and for the single run)
4. Spinning performance as residual moisture content (in % per average cycle and for the single run)
5. Spin speed attained for the standard 60°C cotton programme at full load and half load and for standard 40°C at half load (in rpm)
6. Capacity (indirect) in kg
7. Power consumption (W) and duration (min) of off-mode and left-on mode (per average cycle and for the single run)
8. Ecodesign generic requirements¹⁹:
 - presence of the 20°C washing cycle (mandatory from 01.12.2013)
 - information on the booklet of instructions (mandatory since 01.06.2012)
 - identification of the standard programmes (mandatory from 01.12.2012)

Noise is NOT measured.

Tolerances for the measured parameters are:

Parameter	Unit	Tolerance	
		Step 1	Step 2
Delegated Regulation 2010/1061/EU			
Annual Energy consumption (AEC)	kWh	10%	10%
Energy consumption (E_t)	kWh	10%	6%
Programme time (T_t)	min	10%	10%
Water consumption (W_t)	litre	10%	10%
Remaining moisture content (D)	%	10%	10%
Power consumption (P_o and P_l)* if $> 1W$	W	10%	10%
Power consumption (P_o and P_l)* if $\leq 1W$	W	0,1 W	0,1 W
Duration of the left-on model (T_l)	min	10%	10%
Regulation 2010/1015/EU			
Washing performance	I_w	4%	4%
Water consumption (W_t) for the standard 60°C cotton cycle)	litre	10%	10%
Rated capacity	kg	(0%)	(0%)

*EN 60456:2011 uses a different symbol for the two low power modes

2.2 Appliance testing: testing shall be conducted according to the following two steps verification procedure, based on the current standard EN 60456:2011 and related standard(s).

Step 1: one unit of each selected model will be tested:

- before the beginning of the test each sample will be checked to ensure that it has no obvious operating defects or damage for example due to an accident during transport;

¹⁹ For ecodesign generic requirements the laboratory will be asked to check their presence only after the application date. In case of the requirement is legally applicable and is not present in the washing machine model under test the date of placing on the market of the model will be asked to the supplier before the final verdict of compliance/non-compliance.

- if the unit fails to comply with even only one of the energy labelling declarations/ecodesign requirements, or is not able to accomplish the test for the specific product, a second step (Step 2) will be triggered;
- a test report of Step 1 will be sent within 5 working days from the completion of Step 1 tests to the ATLETE II project leader, including a copy of the label, the product fiche and the booklet of instruction found in the model documentation;
- laboratory will wait for further actions to be communicated (if any) for that specific model;
- the ATLETE II project leader will communicate promptly to the Laboratory if Step 2 has to be developed for that specific model.

Step 2: three other units of the same model will be tested again:

- before the beginning of the test each sample will be checked to ensure that it has no obvious operating defects or damage for example due to an accident during transport;
- all parameters described in item 2.1 will be re-measured or re-checked for the three additional units of the model, irrespective of the fact that a specific parameter resulted compliant with the relevant labelling declaration/ecodesign requirement in Step 1;
- A test report of Step 2 will be sent within 5 working days from the completion of Step 2 tests to the ATLETE II project leader, including a copy of the label, the product fiche and the booklet of instruction found in the model documentation of each of three units.

2.3 Reporting: the reports on tests performed for each tested model unit will be done according to the ATLETE II template test report (if any) and through the lab usual test report and will indicate:

- identification of the model;
- the value(s) declared by the manufacturers for all parameters to be tested for the specific model;
- (if relevant) all the values declared on the energy label and the product fiche delivered with the appliance and comments, if any, on the absence of some declarations;
- (if relevant) all the pertinent values or elements indicated in the booklet of instructions
- the measured values and checked parameters and comments, if any, on the validity of the declaration(s);
- difference, if any, between the data declared in the product fiche and the label applied on the product;
- all correspondence with the manufacturer (if any) and the ATLETE II project leader
- detailed information on the tests done and on the measurements made
- a copy of the rated plate, of the technical fiche, the energy label and the booklet of instruction for each washing machine unit.

3. Details of the testing procedure

3.1 Product to be tested: following groups of automatic horizontal axis washing machines have been selected for testing:

- $\leq 5,0$ kg

- 5,5 and 6,0 kg
- 6,5 and 7,0 kg
- > 7 kg.

3.2 Samples gathering: the selected samples will be delivered free of charge to the Laboratory testing facility. The list of the models assigned to the Laboratory will be communicated by the ATLETE II project leader.

4. Timing for performance of the tests

The tests are planned to start in December 2012 and will last no longer than April 2014 (including all the reporting). Therefore all testing activity shall be finalised as much as possible by end of February 2014.

The Products to be tested will be delivered in three batches, indicatively on December 2012,

5. Pricing proposals

Each Laboratory is kindly asked to propose its best offer for the activities mentioned under items 2 and 3.

Within the frame of the verification action under planning a maximum amount of 3.200,00 Euro per appliance model unit, covering all costs (testing and reporting) for each tested washing machine unit has been foreseen.

6. Selection criteria

The selection of Laboratories will be made on the basis of the information delivered for Items 4 and 5 and of the total score achieved on the recognition Questionnaire:

- *Recognition Questionnaire score:* the score achieved by each Laboratory on the Questionnaire will weight 70% of the final result, complemented by possible direct visits of ATLETE II expert(s) to the Laboratory.
- *Offer score:* 30% of the final result will come from the pricing offer. Offers exceeding 3.200,00 Euro per appliance model unit will be discarded.
- *Test Timing:* timing for the test completion is considered a knock-out criterion, but no additional score will be given to Laboratories declaring to be able to provide testing results before the deadline.

An overall score will be assigned to each Laboratory according to the following system:

$$\text{Lab score} = (\text{pricing offer score} \times 0,3) + (\text{recognition Questionnaire score} \times 0,7)$$

where:

- pricing offer score = [max possible amount (in €) Laboratory offer (in €)] × 100
- questionnaire score: number of absolute points achieved by the Laboratory for the recognition Questionnaire

7. Terms of payments

The payment as indicated in item 5 will be done 30 calendar days after the final report of testing for the last of the washing machine model assigned to the Laboratory is delivered by the Laboratory, upon receiving an invoice indicating the testing reference to the ATLETE II project.

8. Restriction on publicity actions

The laboratories are not allowed to disclose any information concerning their activity in the frame of this verification action to other entity then the ATLETE II project leader.

9. Right to audit

Representatives of the ATLETE II project team will be always allowed to assist the tests. A representative of the manufacturer of the model unit(s) under test may be allowed to assist the tests under supervision of the test Laboratory personnel. This means that each test can be witnessed by at least two people. In case of dissent with the testing conditions followed in the Laboratory, the manufacturer shall report back to the ATLETE II project leader before the result of the on-going verification Step is known

The name of the possible witnesses will be communicated in writing to the Laboratory by the ATLETE II project leader. Nobody will be allowed to witness a test without this authorization.

10. No commitment by the ATLETE project

The testing Laboratory that will be finally selected within the verification action cannot claim or deliver information to the market in any extent, that the Laboratory is granted the status of “ATLETE II recognised laboratory”.

11. Subcontracting of activities

Only the Laboratory that has been contracted within the verification action can perform the tests. It is not allowed to subcontract the tests to other laboratories.

12. Confidentiality

The Laboratory is obliged to keep all the results of testing as strictly confidential. They can be disclosed only to the ATLETE II project leader or its delegate.

Any results, confidential or sensitive information derived from the activity of the laboratory in the frame of the activity detailed under items from 3 to 7, should under no circumstance be made available to the public or any other third parties.

The laboratory agrees that the ATLETE II project will publish the test reports of the laboratory.

This obligation continues after the contract ends.