

QualiCert Publishable report

Quality certification & accreditation for installers
of small-scale renewable energy systems

Intelligent
Energy Europe
(ALTENER)

www.qualicert-project.eu



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End date of the action: 31 December 2011

TABLE OF CONTENT

1. Project Summary | page 4

1.1 Lessons learnt | page 6

2. Main action and achievements of QualiCert | page 8

2.1 Assessment of existing accreditation and training schemes and matrix of key success criteria | page 9

2.2 Validation of success criteria and QualiCert manual development | page 11

2.3 Adoption and recognition of common approach | page 13

2.3.1 High Level Steering Group | page 13

2.3.2 National roundtables | page 14

2.4 Implementation workshops | page 22

3. QualiCert impacts | page 24

3.1 Level of advancement of 14.3 of RES Directive and countries | page 25

3.2 Examples of impacts for sectoral associations involved in QualiCert | page 27

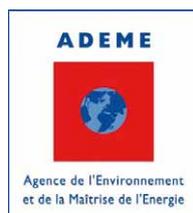
4. Dissemination activities | page 28

5. Links with other EU initiatives, in particular BUILD UP SKILLS Initiative | page 31

6. Conclusion and success stories | page 32

7. Final recommendations and contact list | page 35

QUALICERT PROJECT DESCRIPTION



Coordinator
French Environment and Energy
Management Agency (ADEME)



Co-coordinator
European Renewable Energy Council
(EREC)

Project Partners



Association française pour la qualité
d'installation des systèmes à énergie
renouvelable (Qualit'EnR)



Austrian Institute of Technology (AIT)



Centre for Renewable Energy Sources
and Saving (CRES)



Ente per le Nuove tecnologie, l'Energia
e l'Ambiente (Italian National Agency
for New Technologies, Energy and the
Environment - ENEA)



European Biomass Association
(AEBIOM)



European Builders Confederation
(EBC)



European Geothermal Energy Council
(EGEC)



European Heat Pump Association
(EHPA)



European Photovoltaic Industry
Association (EPIA)



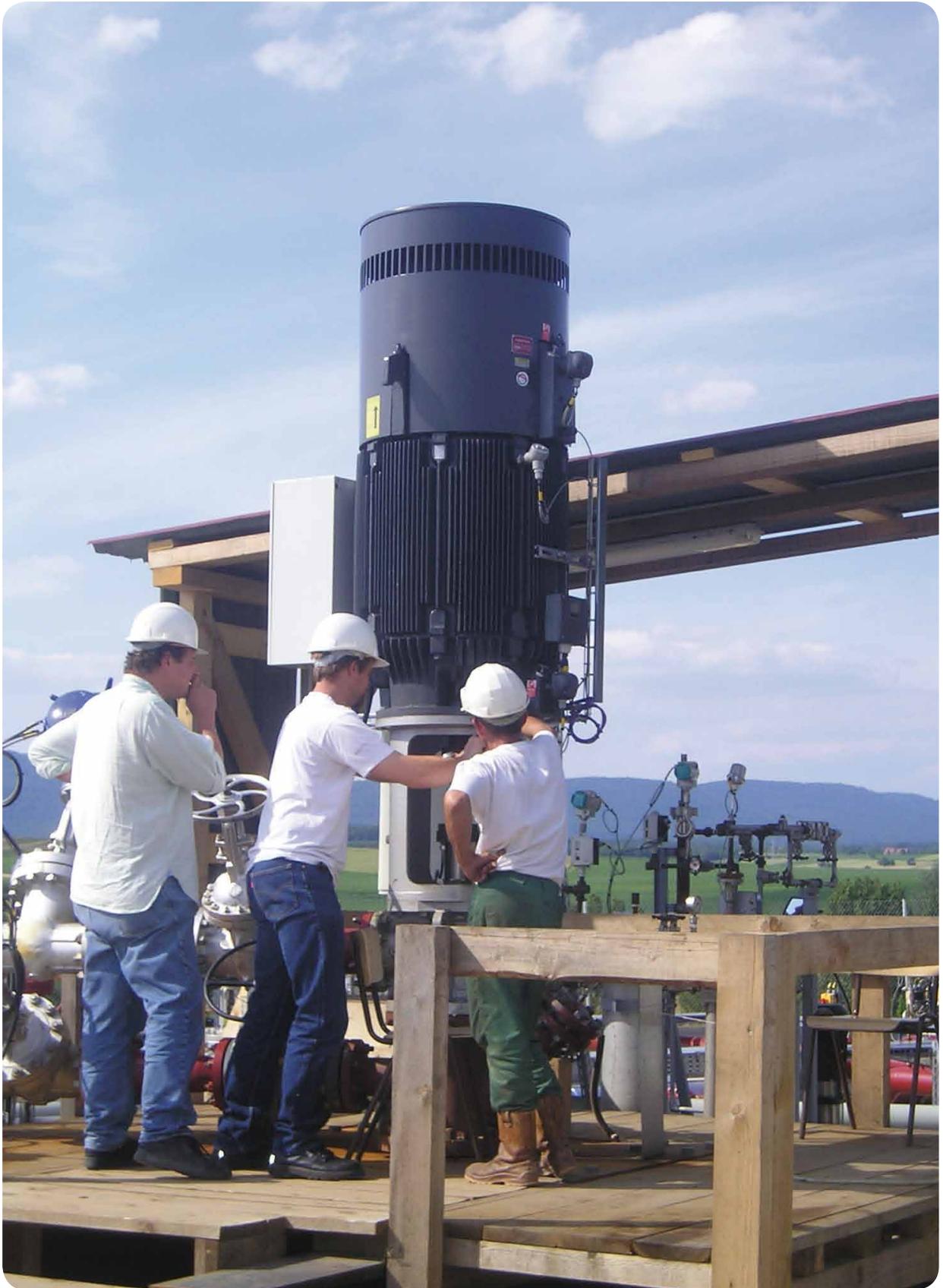
European Solar Thermal Industry
Federation (ESTIF)



European Technical Contractors
Committee for the Construction
Industry (CEETB)



Krajowa Agencja Poszanowania
Energii S.A. (Polish National Energy
Conservation Agency - KAPE)



PROJECT SUMMARY

The project was designed in anticipation of article 14.3 of the Directive on the promotion of the use of energy from renewable sources (COM (2008)19), requiring from each Member States to develop certification schemes for small-scale RES systems by 31 December 2012. This article also states that the certification or equivalent qualification schemes developed have to be mutually recognisable across Europe, or in other words to guarantee the recognition of similar skills and competences of installers.

It is further stated in this article that “Member States shall ensure that certification schemes or equivalent qualification schemes become or are available by 31 December 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal systems, shallow geothermal systems and heat pumps. Those schemes or equivalent qualification systems may take into account existing schemes and structures as appropriate, and shall be based on the criteria laid down in Annex IV. Each Member State shall recognise certification awarded by Member States in accordance with these criteria.”

QualiCert addressed the requirement of the RES Directive on training by defining a common European approach to certification and equivalent qualification, designed to help Member States either making their current schemes compatible, or setting up schemes that would be recognised more easily and more quickly at EU level. The common approach is the selection of crucial features to certification and equivalent qualification schemes and requirements which should be applied in all EU schemes.

Relying on an interdisciplinary team of partners and a multi-stakeholders approach, in order to guarantee the most appropriate and broadest support to future accreditation, QualiCert consortium was constituted of EU associations of builders and installers (European Builders Confederation, and European Technical Constructors Committee for the Construction Industry), EU association of the renewable energy industries (European Photovoltaic Industry Association, European Solar Thermal Industry Federation, European Geothermal Energy Council, European Heat Pump Association and European Biomass Association), an umbrella organisation for the RES industry (European Renewable Energy Council), one

accreditation body for several RES technologies (Qualit'EnR in France), as well as 5 national energy agencies (France, Italy, Poland, Greece and Austria). Austria, Poland, Greece, Italy and France were the 5 Member States directly involved in QualiCert.

This EU wide concerted approach allowed going beyond national discussions which could be blocked politically, and also have a pragmatic and result-oriented outcome, based on the best methodology (identified by the QualiCert consortium): in line with the initial objectives of the project, the consortium first collected information to assess the existing scheme in the EU. Based on this analysis, a set of success criteria for technical, legal, institutional, financial and communication aspects were pulled out. This identified success criteria were submitted to reality checks in a series of 6 stakeholders' validation workshop: one workshop in each of the country where QualiCert was directly in action, involving national builders association, RES industry, accreditation bodies, and one validation workshop in Brussels. The resulting validated success criteria were summarized and explained in a manual. Then political backing of the set of success criteria (forming the common EU approach to certification and qualification for RES installers) was searched through national roundtables and the help of a high level steering group (an expert group which followed the project and could report in different Member States, such as Spain, Germany and Sweden). The objectives of the conference were also, very importantly, to motivate as much as possible additional Member States to take the common approach developed by QualiCert into account.

QualiCert has produced a manual compiling the state of the art, the matrix with ranked success criteria reliable and comprehensive document which has been endorsed by main industry representatives at EU level and national endorsement in 5 Member States

Furthermore, the project acted as a specific support on the certification of installers in each of the 5 countries of implementation. The common approach defended by the QualiCert consortium was brought to the attention of the relevant authorities in each of the 5 Member States of implementation of QualiCert.

LESSONS LEARNT DURING THE QUALICERT PROJECT

From the final debates QualiCert has triggered, the following lessons learnt can be drawn:

1 • Training of installers in relation to manufacturers or product providers

Training provided should be “brand” neutral, i.e., installers shall be capable to install products from different brands. Nevertheless, it is important to have also manufacturers or distributors providing training, as they have well developed competences in this field. In fact, in several countries they are the best equipped and prepared in terms of quality and up-to-datedness of the training.

2 • Complementarities between training and certification

Training and certification should be regarded as complementary. On one hand, the training and the certification should be consistent in terms of the competences that are required. On the other hand, it is important to have them interacting for improved quality assurance on both ends. Examples in countries such as France have shown that a certification scheme can help to enhance the quality of the training provided. By using the audits performed to the work done by installers searching certification, it is possible to assess where the main gaps in terms of competences, skills or knowledge exist. Feeding this information into the training providers may help to improve the training programs consequently.

3 • Equivalent qualification as an alternative to Certification

It must be stressed that the RES Directive always refers to certification or equivalent qualification of RES installers. Qualification should not be disregarded in this context. In fact, the possibility to identify and recognise competences already acquired by installers is essential for this process, while not forgetting that updates on their training may be required and important to qualify installers for the needs of a fast-developing market.

4 • Recognition of individual competences regardless of the system in place (certification of persons or certification of companies)

This point was identified by the QualiCert project partners as a critical one, both for the set-up of effective certification or equivalent qualification schemes at national level and for the mutual recognition of these. It should be taken into account that it is not proposed to opt for one or other option, as both co-exist in Europe, with good results. Some countries offer personal certificates, others company certificates and there are some countries that offer both. In this context, the reality and experience of each country are important and this diversity should also be considered and respected.

5 • Improvements of certification schemes once they have been implemented

Even if certification schemes are sought after by the relevant industries (building and RES), improvements are gradual and one cannot expect quick changes. Therefore it is better to start a certification scheme as soon as possible and to upgrade it step by step rather than expecting to implement a scheme that would satisfy all stakeholders at once.

There are still issues that need to be looked at, and which exceed the frame of QualiCert; this is the reason why the consortium has produced a common paper, to make sure that its final remarks are addressed, and to capitalise on the fruitful debates the consortium members had. The final recommendations are to be found in chapter 7 of this report.



MAIN ACTION AND ACHIEVEMENTS OF QUALICERT

Two phases can be distinguished during the action:

- A first phase during which the consortium has searched and analysed existing qualification and certification schemes, and elaborated the best message possible to convince national stakeholders in the field of small-scale RES installations in buildings of the necessity of a common EU features to establish certification schemes.
- A second phase which was the dissemination of the message (on the basis of the QualiCert manual) towards relevant national entities, to ensure the maximum uptake of the QualiCert recommendations and at point, to facilitate the common recognition of the different qualification and certification schemes at the European level, after December 2013. A crucial step in the project took place from May to June 2011, when the energy agencies and AIT started to engage national authorities (roundtables) to build a political support to the common EU approach, based on QualiCert findings. However it has to be noted that the stakeholders at EU and national levels (existing certification bodies, national authorities in charge of the RES Directive implementation – article 14.3- RES and building industry representatives) were involved throughout the entire project.

ASSESSMENT OF EXISTING ACCREDITATION AND TRAINING SCHEMES AND MATRIX OF KEY SUCCESS CRITERIA

A thorough assessment of accreditation and training schemes that already existed when QualiCert started was performed in framework of QualiCert project. This initial work gave a solid basis for both the consortium and the High Level Steering Group, the group of experts who followed the project during its entire duration (see point...), to start assessing and thinking about the way forwards to suggest common criteria for EU accreditations and training schemes which would fulfil article 14.3 of the RES Directive.

The tasks involved:

- **Collection of data on existing schemes for accreditation and training in Europe**

In order to collect as much as possible the experience and knowledge that are available throughout Europe, a survey was conducted by the QualiCert consortium towards the different stakeholders involved in the renewable energy field. The answers received by the networks and members were then analysed by the consortium. In addition to the questionnaire, a desktop research was carried out: internet, email inquiries, telephone interviews.

It resulted in:

A European state of the art: the survey's results are based on the answers received from the following countries: Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Spain, Slovakia, Sweden, the United Kingdom, Cyprus, Hungary, Romania, Poland and Slovenia.

A World-wide state of the art: the attention was put on the following countries: the United States of America, Canada, South Africa, Japan, China, Australia, New Zealand, Russia and other important countries from Africa, Asia and South America.

- **Organisation of data according to 5 critical aspects**

Further to this data collection and analysis stage, the findings were organised according to 5 aspects that are crucial for the success of a quality scheme: technical, legal, institutional, financial and communicational. A matrix ("matrix of key-success criteria") containing a list of features of existing accreditation and certification schemes organised according to the 5 categories above-mentioned was suggested.

The matrix was extensively discussed within the consortium and consolidated with the contributions of all partners. When completing this task, the consortium realised that a glossary of key terms related to a quality scheme was necessary to complete the matrix, to organise the data in a perfectly clear manner, and produce a coherent content. This was also decided considering how difficult it was to reach a consensus and common understanding on several important issues between partners.

- **Assessment of success criteria and ranking of success criteria for 5 critical aspects**

The different features were assessed and ranked in order to determine which success criteria were essential for a certification and accreditation scheme. Ranking of success criteria was realized by a widespread consultation of stakeholders from all Europe through the partners' network and also through the WP3 validation workshops. In the end, ranking suggestions were received from 65 experts from 15 European countries; this has allowed the identification of the most widely approved criteria and was a key element in the QualiCert manual elaboration.

A major challenge for those tasks (glossary and matrix) was the collection of data from national stakeholders. The questionnaire designed by the consortium was sent to numerous stakeholders in each partner's networks, and followed by telephone calls, but the information proved very difficult to gather.

Furthermore, the consortium realised that evaluating the performance of each scheme was not relevant for the following reasons:

- The “success” or “failure” of a scheme turned out to be a subjective issue, and there were debates as to which indicators were to be looked at for this evaluation (maybe the number of certified installers; maybe the financial sustainability etc) and as to where to draw a line between “success” and “failure”.
- A large share of certification / qualification schemes being relatively new, it was often too early to evaluate their level of success.
- Classifying some schemes as “failures” was highly politically sensitive and numerous complaints were to be expected if such a document was read by national actors.

The assessment of key features identified was therefore done mainly within the course of the validation workshops and by consulting the high level steering group.

Compilation the qualitative and quantitative results was then performed by the consortium. These results were presented to the members of the HLSG in order to be validated, reviewed or made more comprehensive. They served as a basis for elaboration of the Practical Manual.

VALIDATION OF SUCCESS CRITERIA AND MANUAL DEVELOPMENT

6 validation workshops took place, in order to verify the relevance of the matrix:

- Italy (14th of May 2010)
- Poland (25th of May 2010)
- Greece (3rd of June 2010)
- Austria (26th of June 2010)
- France (1st of July 2010)
- Brussels (30th of September 2010)

In those workshops, the main stakeholders in the field of renewable at both national and European levels were gathered. The discussions which took place during the validation workshops and the feedback gathered served as a basis for the drafting of the QualiCert manual.

The information for the manual was updated and further developed thanks to the input gathered through this wide consultation process, for which the validation workshops constituted the lion's share. All criteria have also been lengthily discussed among project partners, so that the QualiCert manual really conveys a common message from all stakeholders represented in the Consortium. They have finally converged into a series of recommendations on how to create a European approach for certification/equivalent qualification schemes that is also mutually recognizable.

The QualiCert manual was published on 22 March 2011 in English. Translation work took place between months 21 and 25, so that the manual became available in Italian, French, Greek, Polish, German and Spanish, in time for national roundtables (where relevant). The version in English is the one that has been published in paper, and all of them are available for download on the website.



ADOPTION AND RECOGNITION OF COMMON APPROACH

2.3.1 HIGH LEVEL STEERING GROUP (HLSG)

Identification of potential HLSG members

The identification and recruitment of the HLSG members took place during the first phase of the project. Potential HLSG members were looked for among public authorities of all Member States – each partner making the most of their specific networks and working contacts.

Through the concerted efforts of the consortium, 46 relevant experts from 22 Member States were identified and approached to participate in the HLSG.

Out of the 46 experts, 34 experts, from 19 Member States answered favourably to the request and became HLSG members.

With the HLSG, the following energy agencies were represented: DENA (Germany), SWEDAC (Sweden) and IDAE (Spain).

Organisation of HLSG meetings

A total of 3 High Level Steering Group meetings took place throughout the project. The meetings were organised back to back with the project meetings, in order to optimise travels for QualiCert partners (the attendance of QualiCert partners was the same as for the project meetings; all partners attended except ENEA and AIT who missed one meeting each).

Dates where HLSG meetings took place:

- 27th of April 2010
- 30th of September 2010
- 29th of March 2011

The first two meetings were crucial in checking the results of the matrix and discuss the recommendations. To sum up, the first two meetings served to prepare the manual whereas the last meeting was dedicated to presentation of the manual (challenges that were tackled by the consortium in the manual production), the next steps of the project (roundtables and validation workshops).

During the last HLSG meeting, the importance of public private partnership for setting up a national scheme was specially emphasized by all participants. The situation of RES installers in the countries represented by the HLSG (Spain, the Netherlands, Austria and France) is discussed, especially the role of governments in the training and certification process, in each country. The meeting also featured a presentation of BUILD UP SKILLS Initiative by the EACI project Officer.

The attendance of several HLSG members during the QualiCert final conference (8th of December 2011 in Brussels) ensured they received a feedback on the last QualiCert activities, that is to say the implementation workshops, and therefore on the level of achievement of certification in the 5 implementation countries.

It has to be emphasized that the HLSG has allowed engaging key actors on the common EU approach in Belgium, the Netherlands, Germany, Sweden and Spain. Among the HLSG members, the consortium has noted the significant involvement of the representatives from the Flemish Energy Agency (Belgium) and SenterNovem, the Dutch Energy Agency. With these two members, the uptake of QualiCert in Belgium and in the Netherlands is ensured (the representative of the Flemish Energy Agency is also the coordinator for BUILD UP SKILLS).

2.3.2 NATIONAL ROUNDTABLES

Aimed at national public authorities responsible for accreditation/certification, to prepare and gain official support for the common approach, based on the manual, the roundtables gathered the relevant ministries, representatives of the RES industry and installers' federations, as well as existing accreditation bodies. Energy agencies and AIT had leadership in the organisation of the national roundtables. ADEME, as task leader, has regularly taken contact with them prior to the roundtables to make sure the organisation was on track. ADEME also circulate the comments made by EACI Project Officer on the 5th of April 2011 on the attendance of key national stakeholders to the energy agencies and AIT but also to the entire consortium. The EU associations were asked to invite their members to the roundtable and to encourage them to attend.

After comprehensive discussion during the 4th project meeting in March 2011, a letter of support was drafted to serve as a basis for official support in the 5 countries of implementation, and to be signed by participants during the roundtables. It was later translated and adapted by each energy agency and by AIT. It was also decided during the project meeting that the roundtables would follow a common pattern, with a general presentation of the objectives and method of QualiCert, a presentation of the manual, and where possible, a presentation of the BUILD UP SKILLS Initiative, since the call for proposals for pillar 1 was open at the time.

The national roundtables took place between month March and June 2011.

Schedule of the roundtables:

Rome – 31st of March 2011

Warsaw – 28th of April 2011

Athens – 5th of May 2011

Paris – 12th of May 2011

Vienna – 26th of May 2011

FRANCE

The roundtable took place in Paris the 12th of May 2011 and was organised and chaired by ADEME. ADEME presented the QualiCert objectives and method and the manual. A presentation of the BUILD UP SKILLS Initiative was given by the French IEE National Contact Point.

Qualit'EnR, who supported ADEME in the organisation of the event, also gave a presentation on its different quality labels, stressing the convergence with the QualiCert recommendations, and pointing where its labels could be improved.

Key participants were:

- Ministry of Environment (French equivalent): DGEC, department directly in charge of the implementation at article 14.3 of the RES Directive
- Accreditation and certification organism's representatives: COFRAC and CERTITA
- FFB (French Building Foundation), plumbers and roof-covering branch
- Qualit'EnR (as foreseen in Annex I of the grant agreement)
- Presidents of accreditation and certification organisms: Qualibat and Qualifelec (as foreseen in Annex I of the grant agreement)
- BRGM (organism in charge of Qualiforage), working with EGEC
- EnR French Federation for Renewable Energy Sources (Syndicat des Energies Renouvelables)
- Representative body for thermal industries (UNICLIMA)
- COBATY (French and European professional association for the building sector)
- Agence Qualité Construction

The Qualit'EnR quality labels and certification scheme and its common or different features to QualiCert has been thoroughly explained and debated during the meeting, and served as a basis for discussion with the participants. The DGEC had fully identified the strategic role of QualiCert and how it can help in France the implementation process of article 14.3 of the RES Directive, by bringing to their attention good practices, defining common features for the building sector in general (residential and beyond).

DGEC considers that the costs are central issues in deciding how to set up a national scheme. DGEC is concerned how the mutual recognition will be set up. This aspect of article 14.3 is seen as the main issue in the implementation process in France.

The roundtable addressed the several major issues still under discussion in France (certification of enterprise or certification of person, cost of qualification), and verified for each of them if QualiCert had brought elements that can help national stakeholders. Participants also asked DGEC if the QualiCert recommendations were going to be taken into account during the national concentration that was being launched by the ministry of Environment at the time of the event. DGEC confirmed the usefulness of QualiCert in this process.

The roundtable was the opportunity to reveal important concerns on the certification of installers, which can be summed up as follows:

- **Costs:** the costs of qualification and certification for installers might keep them away from the certification; this should be avoided.
- **Certification of person and certification of enterprise:** DGEC has not clearly decided if the certification of enterprise was better than the certification of person in France.
- **Insurance:** the link between the certification of installers and their juridical responsibilities still requires a lot of clarification

During the meeting, the support of attendants through the letter of endorsement, presented to participants, were asked for by ADEME. The letter was generally well received by the participants however all participants deemed that the commitment required through the letter was too demanding. After receiving comments from the roundtable participants, ADEME offered to redraft the letter and to send it again to participants shortly after the meeting. ADEME thus delivered another version of the letter and received 4 official endorsements in total.

A letter of endorsement was received from the following organisations:

- **Plan Bâtiment Grenelle**, the governmental working group which has the mandate to achieve the energy and greenhouse gas emissions reduction targets in the building sector in France (energy reduction of 38% and GES by 50% by 2020).
- **CERTITA**, an organisation managing quality labels and certification for heating and cooling RES systems, air conditioning, solar thermal energy
- **Néopolis**, a training centre in the field of sustainable construction (including Solar PV training for installer), on behalf of the Chamber of Commerce
- **UNICLIMA**, the union for the thermal industry

The Ministry of Environment (MEDDTL - now MEDDE - in France), Direction Générale Energie Climat, which is in charge of article 14.3 implementation, was not a position to sign a letter of endorsement as it was against its procedure.

AUSTRIA

The roundtable in Austria took place on the 26th of May 2011 in Vienna and was organised and chaired by AIT. EREC attended the event, to present the QualiCert objectives and method, and the manual (ADEME could not attend this roundtable).

AIT could receive letters of endorsement from 2 major stakeholders (Austria Energy Agency and 17&4 Consulting), however there is no official statement on the implementation of article 14.3 in Austria. The organisations currently working on BUILD UP SKILLS AT (including Austria Energy Agency) are discussing the competences needed for workers in the field of renewables. Also, the link between AIT and the Austria Energy Agency who is in charge of the RES - Concerted Actions coordination is a solid guarantee that QualiCert outcomes are taken into account the RES-CA activities: the Austria Energy Agency is trying to push the QualiCert outcomes to the attention of the RES-CA members. As a result, QualiCert manual serves as a basis for discussion in countries which do not have a certification system in place yet. The fact that the QualiCert manual has been sent to the next CA-RES meeting which took place on the 22nd of May in Tallinn will establish the usefulness of QualiCert further.

ITALY

The roundtable took place in Rome on the 31st of March 2011 and was organised and chaired by ENEA. The event was attended by 80 persons. The EACI Project Officer attended the roundtable and presented BUILD UP SKILLS Initiative.

The roundtable featured representatives from the following organisation:

CNPI, Electrotechnical Council
CNI, Engineering Council
ASSISTAL, Italian Installation Plants Association
RENAEL, Network of Local Energy Agencies
CAN, Craft Enterprise Association
ISPRA, Environmental Science School
CONFARTIGIANATO, Craft Enterprise Association
CONFAPI, Small Enterprises Agency
ISFOL, Italian Agency on professional skills
ENEA, Head of the Energy Efficiency Unit of ENEA

All the speakers, each for his/her own experience, agreed to:

- Contribute to the development of the Community as an advanced knowledge society, with more and better jobs, sustainable economic development, social cohesion and ensuring good protection of the environment. Promote within the interchange, cooperation and mobility between education and training so that they become a benchmark of quality worldwide;
- encourage cooperation between education, training and employment potential to enhance the employability of people and their entrepreneurship;
- support the initial and continuing training of teachers, trainers and managers of educational institutions and training as to improve the quality of VET;
- encourage the best use of results, innovative products and processes and exchanging good practice in the areas covered out of lifelong learning in order to improve the quality of education and training;
- Promote the acquisition of key competencies within the system of education and training and encourage all sectors of VET to develop projects that focus on core competencies.

However, in outlining the certification and equivalent qualification process special attention needs to be paid for the costs that should not become a burden for the workers neither for the small enterprises, as the representative of Confartigianato, the Italian general confederation of crafts, stressed by expressing his worries.

All the participants agreed to the proposal to undersign an endorsement letter to the QualiCert manual which would be distributed to all through e-mail. The same letter would be addressed also to the Conferenza Stato Region or to the single Regions to ensure the mutual recognition of the certification of RES installers in Italy.

ENEA received **18 letters of endorsement** in total. The endorsement letters to the Qualicert manual we have received so far from regions are only from Piemonte and Campania but we know that the process is very slow and other regions are considering the adhesion. Among these there are: Liguria, Veneto, Sicilia, Puglia, Toscana, Emilia e Romagna Lazio. Besides there are many companies, which usually train their own staff, and many training centers, which have undersigned the letters because are ready to follow the qualification procedure which ENEA has proposed and would like to start with the training of trainers in order to qualify their installers together with ENEA. Also this number is increasing. during the presentation for

the build up skills initiative and set up of the Italian proposal, ENEA has presented the project as the “natural evolution” of the Qualicert project and almost 40 endorsement letters for the new proposal have been obtained. Among these are very important the endorsement letters from four Ministries: Labor, Economical development, Instruction and Environment, from 7 regions: Veneto, Piemonte, Liguria, Emilia e Romagna, Toscana, Puglia, Sicilia, by the associations of all the Italian town halls (more than 9.000) and the association of all the Italian Provinces (more than 100). The expectation is that through the Italian Build Up Skills project it will be possible to implement the Qualicert manual at national as well as regional level. Besides ENEA is subscribing agreement with the provinces of Roma, Padova and Sassari, to start with the training of trainers for the instalalers based on the Qualicert manual. The output of the Qualicert project has also been promoted through the Leonardo da Vinci Project Compener where detailed schemas for RES installers have been identified and are downloadable in the web site www.compener.enea.it.

It has to be noted that it has been very difficult to identify the “pen holder” at Regional level. The best solution has been to identify key organization of the territory and reach the Region/ Province through these organizations.

POLAND

The roundtable took place in Warsaw at the Ministry of Economy premises on the 28th April 2011 and was organised and chaired by KAPE. The EACI Project Officer attended the roundtable and presented BUILD UP SKILLS Initiative. ADEME and EREC attended the roundtable as well, with a presentation of QualiCert objectives and method by ADEME, and presentation of manual by EREC. CEETB also attended the roundtable.

Key participants were:

- The Ministry of Economy – roundtable was organized with the cooperation with the MoE. The MoE is responsible for implementation of article 14.3 of the RES Directive
- The Polish Centre of Accreditation
- The Cracov University (Install RES project)
- The Polish Corporation of the Sanitary, Heating, Gas and Air-conditioning (SIRET project)
- The Energy Regulatory Office;
- Ministry of Education

All organisations expressed their willingness for cooperation and confirmed the necessity of fast introduction of a qualification system for RES installers. From technical reasons it was not possible to proceed with the signatures of Letter

of Endorsement on the methodology developed in QualiCert and the common criteria (i.e. representatives present on the conference were not authorised to sign the letters) during the event but letters were gathered after the conference from the following institutions:

- Ministry of Economy
- Polish Economic Chamber of Renewable Energy (PIGEO)
- Cracow University of Technology
- Install RES project
- Ministry of Education
- National Fund for Environmental Protection and Water Management
- Polish Solar Energy Society - ISES.

GREECE

The roundtable took place in Athens the 4th of May 2011 and was organised and chaired by CRES. The event also featured a presentation of PV TRIN, as Mrs Tournaki, from the Technical University of Crete, Project Manager of the PVTRIN project, attended the roundtable. Another example of existing certification scheme was given through a presentation on EU-CERT (delivered by CRES on behalf of EHPA).

Key participants were:

- Representative of National Accreditation Centre for Continuing Vocational Training (EKEPIS) - as foreseen in Annex I of the grant agreement
- President of the Federation of Electricians of Greece (OHE)
- Representative of Technical Chamber of Greece (TEE)
- President of the Federation of Tradesmen Plumbers of Greece (OBYE) -as foreseen in Annexe I of the grant agreement
- Representative from Technical University of Crete
- Member of the Board of HellasCert and Head of the Technical Committee for Personnel Certification (as foreseen in Annex I of the grant agreement).

The roundtable was well attended by representatives of technicians associations, in particular the Federation of Tradesmen Plumbers of Greece (OBYE), by its president, who clearly stated that his federation and the professionals that it represents is/are always in favour of training in order to be constantly updated in the state of the art technologies and techniques applicable in their field of activity (among others, the solar water heating systems and parts of boilers and heat pumps installations). However, he mentioned that a certification scheme in the field of small scale RES systems installers should be very carefully designed in order not to require too much additional

effort (either for reading / passing the exams or from the economic point of view) from the target group's side.

The President of the Federation of Electricians of Greece (OHE), who was not aware before the roundtable of the activities that are carried out in the field of RES in Greece, stated that the new legislative framework that is under development in the sector will be of great value as regards the attempt to make things clearer (more transparent) and life easier for all actors in the field.

Three major problems were identified and debated during the roundtable:

- 1 • The existing installers (plumbers, electricians, etc.) have to be persuaded that their certification in a new field of activity will be of added value for themselves as well as their clients / final products.

CRES endeavoured (and still does after the closure of the project) to communicate all relevant information to the installers' associations (guilds), which are in principle strongly opposed to any "new" way of proving the skills of their members! In general, they agree that the existing system of issuing the work permits for technicians must change, and are positive in the training of their members in new technologies applied to their profession... So, a field of discussion with them actually exists.

- 2 • The RES systems manufacturers and other companies in the field are afraid that the "surveillance" (i.e. audits) & "re-certification" procedures will mean some additional "costs" that will be transferred to the «final product» (and the clients).

Following discussions made with the associations of these companies (like EBHE and HELAPCO), they now understand that properly installed systems will have as a result an increased reputation for them, so a larger market for their products, which on the other hand means a reduction in systems' unit cost in the long to medium term.

- 3 • There is a conflict of jurisdictions, as the authority responsible for the transposition of the RED into the Greek legislation is the MEECC. But, the authority responsible for qualifications / vocational training / LLL / certification is the Ministry of Education, Lifelong Learning and Religious Affairs.

These two authorities have to form a Committee for implementing Article 14 of the RED, which is a rather “difficult” and time consuming procedure! However, CRES is in contact with both Ministries for this purpose.

Another relevant issue is that the executives of the Ministry of Environment, Energy and Climate Change (MEECC), which supervises CRES, said that it has no meaning to give CRES such a letter, declaring (unofficially) that we don’t need such a letter by them as CRES participates in IEE projects acting on behalf of MEECC (MEECC also provides the co-financing to CRES for such types of projects), and this way they are full aware about CRES’ activities and agree with them. Also, they said that we don’t need a letter from them, as we act as their “representative” in many relevant projects (for example, in the CA-RES, the official participant on behalf of Greece is the MEECC, but 2 out of 3 Greek representatives in the working groups come from CRES each time, due to the inability of the Ministry to support such actions.

On the other hand, the authority responsible for the life long learning / vocational training / certification of skills and competencies in Greece is the Ministry of Education, Lifelong Learning and Religious Affairs (MELLRA). So, most of the organisations contacted for giving us a Letter of Endorsement acting on behalf of this Ministry were very reserved to do so, as they considered that such issues (i.e. certification or equivalent qualification) are under their own auspices and they considered CRES as a “foreign body” in this field (although we explained to them many times that it is not our scope to develop such a scheme – this is their job; we just wanted to show to them which is the situation in Europe as regards the specific field of RES installers’ certification, in order to be able to develop our own scheme(s) in the best possible way). This is the typical “conflict of interest” appearing in many fields of the Greek State (which is even more exaggerated here, as MEECC is the Ministry responsible for the integration of the RES Directive into the Greek legislation). Actually these two authorities (MEECC and MELLRA) have to sit together and find the best way for implementing Article 14 of the RED.

To conclude, obtaining letters of support at ministry level for the 5 countries of implementation was very challenging for the energy agencies and AIT. Stakeholders and national authorities were keen to take recommendations on board, nevertheless the consortium faced significant difficulties in having a formal endorsement within the frame of an IEE project and in collected letters of support stating official recognition.

There were different reasons why that ministries and national authorities were often reluctant to sign letters of endorsement of the QualiCert:

- There would not be a single person authorised to sign such a letter within a ministry (case in France), or the representative who attended the event could not sign the letter on behalf of the organisation (case in Poland)
- Different national entities could be in charge of the certification scheme preparation (case of Greece)
- With national certification schemes under preparation, it could be difficult for national authorities to commit to specific features before all national negotiations were concluded (case of France)





IDEEN KONZEPTE LÖSUNGEN



Letter of endorsement to the outcomes of the QualiCert project between (klima:ativ) and (AIT)

www.qualicert-project.eu

QualiCert was launched in anticipation of the implementation of Article 14¹ of the *Directive on the promotion of the use of energy from renewable sources* (2009/28/EC), obliging Member States to develop and mutually recognise certification or equivalent qualification schemes for installers of small-scale renewable energy systems by December 2012. The project has identified a number of key-success criteria that should be taken into account when designing a certification or equivalent qualification system. These key-success criteria are outlined in the QualiCert manual.

Renewable technologies in the building sector concerned:

- Biomass
- Geothermal energy
- Heat Pumps
- Photovoltaic
- Solar Thermal

To guarantee the broadest possible support for future certification or equivalent qualification schemes, QualiCert has relied on an interdisciplinary, multi-stakeholder approach involving all of the following: builders and installers via their EU associations, existing training providers and accrediting bodies, the RES industry through its European associations, and several national energy agencies (Greece, Italy, Poland and France)².

¹ "Article 14.3 Member States shall ensure that certification schemes or equivalent qualification schemes become or are available by 31 December 2012 for installers of small-scale biomass boilers and stoves, solar photovoltaic and solar thermal system, shallow geothermal systems and heat pumps. Those schemes may take into account existing schemes and structure as appropriate, and shall be based on the criteria laid down in Annex IV. Each Member State shall recognise certification awarded by other Member States in accordance with those criteria."

² QualiCert consortium: French Environment and Energy Management Agency (ADEME), European Renewable Energy Council (EREC), European Photovoltaic Industry Association (EPIA), European Solar Thermal Industry Federation (ESTIF), Européenne Biomass Association (AEBIOM), European Geothermal Energy Council (EGEC), European Heat Pump Association (EHPA), Association française pour la qualité d'installation des systèmes à énergie renouvelable (Quali'EnR), Austrian Institute of Technology (AIT), European Technical Contractors Committee for the Construction Industry (CEETB), European Builders Confederation (EBC), Centre for Renewable Energy Sources (CRES), Krajowa Agencja Poszanowania Energii S.A. (KAPE), Ente per le Nuove tecnologie, l'Energia e l'Ambiente (ENEA)

In a first phase, QualiCert has collected information about certification schemes for installers of small-scale RES installations in buildings that already exist in the different EU Member States, and carried out an analysis of the critical aspects ensuring the success of a certification scheme. Based on this analysis, a set of success criteria for technical, legal, institutional, financial and communication aspects were distilled by the QualiCert consortium, through a consultation process (involving building and RES experts).

In particular, the consortium has formulated the following main recommendations for setting up certification schemes:

- Set up **public / private partnership**: it is an advantage when setting-up schemes (especially during start-up phase and first years of running)
- **One centrally managed scheme for all RES technologies**: when it is coherent with any other existing national schemes, it allow the reduction of the administrative burden and cost related to the certification scheme.
- **Importance of audits** (in particular on-sites audits), for their role in increasing the scheme's credibility and guaranteeing quality installations. Financial barriers can be overcome by adjusting their numbers (e.g. random audits).
- **Communication tools**: to give customers and installers (hence the market) reliable information (especially during the first year of the scheme).
- **Ensuring the mutual recognition of the scheme**: a large number of central features obtained general consensus in the consultation process. This should serve as a basis for a common approach and ambition. A "European Transparency Platform" should be set up to encourage exchange of information and thus facilitate the implementation of mutual recognition features.

As the consortium wishes to bring forward the outcomes of QualiCert, AIT has endeavoured to gather relevant national authorities in the certification and training sectors during a roundtable.

As discussed during the event held Vienna at AIT, you are invited to acknowledge the recommendations made through the QualiCert project.

A similar Memorandum of Understand will be signed in 5 Member States (*Italy, France, Poland, and Greece*), to ensure the best mutual recognition of certification schemes as required by the Directive.

Name: DI Johannes Fechner, Managing Partner

Organisation: 17&4 Organisationsberatung GmbH, 17&4 consulting ltd

Signature:



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IMPLEMENTATION WORKSHOPS

Extensive communication about the project has been carried out since the start of QualiCert. The consortium has worked to make the QualiCert project widely known among stakeholders at the European level.

Schedule of the workshops:

Gussing – 5th of May 2011

Rome – 11th of November 2011

Poznań – 22nd of November 2011

Paris – 1st of December 2011

Athens – 2nd of December 2011

AUSTRIA (GUSSING)

The implementation workshop in Gussing took place at the occasion of the Matchmaking Renewable Energy event.

ITALY (ROME)

The main lessons learned in Italy are the following:

- Regions manage all the training courses but usually they do not satisfy the request from the enterprise who perform the training with their own systems
- The training of big enterprise is of very high quality but it is not recognised by the regions
- The role of ENEA as promoter of training of trainers both in public as well as in private structure is, at the moment, the only way to provide homogeneity of training in all the 20 Regions and two autonomous Provinces.

The presence of EU organization of installers has played a major role while disseminating the results in Italy (roundtable and workshop). The idea that the Qualicert manual was agreed with all the main EU stakeholders has been of very high value.

POLAND (POZNAN)

The Polish National Energy Conservation (KAPE) invited Wielkopolska Agency of Energy Management (WAZE) to co-organize the event, which gathered 70 participants representing stakeholders in the field. The participants put forward questions and expressed opinions referring to legal, institutional, technical, financial and communications aspects and recommendations on accreditations and certifications issues raised by QualiCert project. The future system in Poland should carefully take into account the points concerning setting up the general framework, obtaining and renewing of certification, trainings and audits. All participants pointed out that the system must take into account many elements in a coherent way, combining RES directive requirements, national circumstances, existing national experiences and taking the opportunities to utilise other countries experiences described in QualiCert manual. The QualiCert manual recommendations, concerning wide spectrum of issues are extremely useful in providing solutions and checklist for the system designing in Poland.

FRANCE (PARIS)

The workshop, which took in CAPEB headquarters, has allowed to debate the consequences of Charter "Reconnu Grenelle Environnement" for the RES installers and the building professionals. With this Charter, France is on track to meet the requirements of article 14.3 of the RES Directive at the end of 2012. Through the Charter, QualiCert recommendations have been fully taken on board by public authorities. Qualit'EnR in the QualiCert consortium, and the involvement of Qualibat, Qualifelec and Agence Qualité Construction in the High Level Steering Group was also very important for the project results acceptance.

On ground, some issues remain as to how the skills of installers will be upgrade, as training costs a lot to building companies, but a link between the Charter and public incentive (eco-conditionality) is expected to speed up the process. Taking into account the criteria of the Charter is also expected to insurance companies.

GREECE (ATHENS)

The national workshop in Athens was organized as a parallel event in the frame of the BUILDING GREEN Expo 2011 (EXPO Athens, Anthoussa - Attiki), and more precisely as the 1st part of the Eco Building 2011 Conference (1st day, 2nd December 2011). About 45 people were present, among them the presidents of the Greek Solar Industry Association (EBHE), of the Hellenic Association of Photovoltaic Companies (HELAPCO), and of the Greek Federation of Installers and Maintainers of Cooling Systems. Also a lot of participants came from companies that provide certification of peoples and/or services in Greece (members of HellasCert).

CRES has concluded from the workshop that it was very hard to persuade the existing installers / technicians that their certification in a “new” field will be of added value for both themselves and the society.

Up to now their associations are strongly opposed to any new way of proving their skills, although they agree that the existing system of issuing work permits should be changed and are very positive in training of their members in new technologies / techniques in their field of activity.

Conclusions of the Workshop: CRES representative summarized saying that this workshop could conclude with CEETB final proposal: to start the engine. The time until the deadline for the implementation of Article 14 of the RES Directive is limited and there are plenty of things to be done, both from the side of the State and for the market's development/ growth. Some things are already on the track but not everything. We should be careful not to expand our time limit, as was done with the previous directive on the energy efficiency of buildings that took 9 years to start being implemented. A common solution to the basic issues should be found like who is going to undertake the cost, how many hours the training will be etc. But the only way to get these questions answered is to get the engine start.

QUALICERT IMPACTS

«QualiCert had impacts at different levels. It is relevant to distinguish:

- Its main expected impacts on the national debates on certification and qualification,
- The sectorial impacts of the projects, through the European federation.»



LEVEL OF ADVANCEMENT OF 14.3 OF RES DIRECTIVE AND COUNTRIES

GREECE

The most relevant letter of endorsement collected by CRES is from the National Accreditation Centre for Continuing Vocational Training (EKEPIS), which is/was a statutory body supervised by the Minister of Employment and Social Protection with the main mission to develop and implement the National Accreditation System for Continuing Vocational Training (Accreditation of Vocational Training Centres, of trainers of CVT, of Job Profiles, of CVT Programmes, etc.)! However, this organization stopped to exist since the beginning of December 2011, as it was merged with two other organizations into a single entity, the National Organisation for Accreditation of Qualifications & Vocational Guidance (EOPPEP), under the supervision of the Minister of Education, Lifelong Learning and Religious Affairs. So, actually this body no longer exists, while from the new entity it was impossible to get such a letter of commitment or endorsement or whatever, as they were still under organization. However, CRES submitted a proposal for Greece in the frame of the 2nd Call of the BUILD UP Skills Initiative Pillar I (as no proposal for Greece was selected in the 1st relevant Call), and EOPPEP is one of the key partners. So, it can be said that direct communication and good relationships have already been established with this body, which will be of added value for the further examination of Article 14.3 implementation in Greece.

POLAND

QualiCert has provided valuable criteria and recommendations on accreditations and certification scheme for installers of small scale renewable energy systems. The project created in Poland strong merit platform for experiences and opinion sharing, engaging wide spectrum of stakeholders (governmental institutions, scientific and education sector, enterprises, energy agencies, professional societies, installers), which is important and helpful for decision makers. The Ministry of Economy has been actively engaged in the project achieving benefits and support.

The Article 14.3 of the RES Directive will be implemented in Poland through a new Act on Renewable Energy. The Ministry of Economy is responsible for the final implementation of accreditation and certification scheme, to be prepared on the base: a common approach to accreditation and certification on the success criteria enshrined in the QualiCert manual, opinions and discussions expressed during QualiCert events. The act draft was finally presented on the 22nd December 2011 for public consultation. The elements of the presented certification scheme are mostly solutions indicated in the QualiCert manual as had been sturdily recommended. Though, the scheme proposed by Ministry of Economy scheme does not include the elements of the audit of installations. The Polish certification system imposed by Renewable Energy Law will be managed by Office of Technical Inspection, which is financially independent, state institution supervised by Ministry of Economy.

ITALY

Very important results were achieved, and which would go behind the expectation but they have taken longer than expected.

The main official achievement is that ENEA has been appointed, in the Italian implementation of the EU directive 28/2009 as the organization which would help regions to establish a certification schema for the RES installers.

The main endorsement actions have been started after the end of the project. At this stage ENEA has already joined agreement with main stakeholders in both private and public sector. For instance, private organizations such as Daikin, Viessman, Ariston, Robur, etc and public organization such as the Provinces of Roma, Padova, Siena, Genova, Sassari and others which are joining now.

FRANCE

QualiCert allowed to compare and to develop qualifications framework specific to our association. It also contributed, at a national level, to define a blueprint precising how a qualification in the renewable energies sector could be recognized by public authorities. Moreover it has significantly contributed to establish common criteria for qualification and certification, applying to all schemes in France (Charter "Reconnu Grenelle Environnement").

AUSTRIA

AIT received letters of support to QualiCert, however there is no official statement on the implementation of status 14.3 in Austria. People working on build up skills and discussing at the moment the competences a person must have who works in the field of renewables. Activities taking place during the Concerted Actions (Training working group) are based on the outcomes of QualiCert. The Austrian Energy Agency tries to push them forward and now they are the basis for further discussions for the countries which have no system in place.

EXAMPLES OF IMPACTS FOR SECTORAL ASSOCIATIONS INVOLVED IN QUALICERT

EBC will make the best use of the QualiCert experience and knowledge acquired during the project and will continue to follow the implementation of article 14 of the directive on renewable energies in close cooperation with its members at national level.

EBC will post the QualiCert Manual on the Build Up Community.

EGEC

The GEOTRAINET project, managed by EGEC, ended in January 2011. However the training which was set up continues. After having launched new training courses, the next topic to be discussed by the European Board concerns the certification, for which conclusions from Qualicert project will be directly providing inputs.

AEBIOM disseminated the QualiCert Manual through its members. Among them, there are 30 bioenergy national associations that will have a key role in the implementation of Article 14.3 participating in the design of a certification or equivalent qualification system for biomass technologies in their specific countries. Because of this, QualiCert manual is considered as a reference document for all them.

Specifically, the training courses organized by the Austrian Biomass Association have been shown as a best practice example. The Austrian Biomass Association was pleased to have the possibility to participate in the QualiCert project and to share its experience with those of other counties. The Austrian Biomass Association has been organising advanced vocational training for plumbers for 12 years. These courses are designed exclusively for professional plumbers that have successfully passed a 4-year apprenticeship including both training on the job and vocational school. Therefore the courses have a high level. Permanent education is necessary for educated experts, as Austrian plumbers are, and therefore the courses are supported by the plumber guild (a substantial reason for the courses' popularity). Plumbers that passed the course get the certificate "Biomwärme-Installateur".

QualiCert shows clearly that the Austrian dual education system for plumbers combined with advanced vocational training on the newest biomass technology is the highest level of education for plumbers in the biomass sector in Europe. Additionally QualiCert, especially the experiences of other European countries and different case studies, enabled the Austrian Biomass Association to further improve the courses. Starting 2012 the courses get enlarged in time and improved in the technological training.

The Austrian Biomass Association mentioned the QualiCert process in ongoing courses, which was highly motivating for participating plumbers. The attendance in the QualiCert project added the courses' credit within politics.

ESTIF has been working in quality assurance for some years, promoting certification and labeling for products. With the work on the QualiCert project, the quality assurance is regarded also taking into account the quality of installations, and therefore the certification or equivalent qualification of installers. This does not reflect in one specific activity but on the cross-cutting approach to quality assurance topics at European level. There is still further work to do to bring this concern further to the national level and QualiCert outcomes have been a useful tool for that purpose.

Many European countries do not have the infra-structure and resources (training facilities, bodies, qualified trainers) required to set up successfully certification (or equivalent qualification) schemes. In many of these countries industry plays an even more important role in this process, as they have the experience and the referred resources already in place. In this case the challenge is to ensure that the training provided by these companies can be adequate to a "product neutral" installer certification. There is some work that needs to be done in this sense that will require a good articulation between ESTIF and the solar thermal sector in emerging markets, namely in new member states.

COMMUNICATION AND DISSEMINATION ACTIVITIES

Project website

QualiCert website (www.qualicert-project.eu) is running since November 2009.

Ever since, it has been constantly updated with relevant information and news, therefore serving as main tool to disseminate the information of the project, and communicate about the project events. During the first period, the website received more than 2,600 visits. In total, at the end of the project, 5699 visits were counted, with 19,324 page views. The website has allowed the subscription of 132 persons to the newsletter.

An Italian version of the website is also available (<http://192.107.92.31/qualicert/>).

Electronic newsletter and dissemination via European networks

As an important communication and dissemination tool, QualiCert newsletters were published during the project. In total, 9 newsletters related to the progress of the project were issued and widely disseminated to a large European contact list and through the website of the project. The issues were translated into Greek by CRES for wider reach and the first one, it was also translated into Italian by ENEA.

The last five newsletters were published close in time in the last phase of the project due to the fact that they were partially prepared in advance but then, with the medical leave of EREC's project officer they were delayed. In this later stage, EGEC has contributed to the newsletter N° 5 for Italy and N°6 – Poland, by providing articles. EGEC in, collaboration with ESTIF, has supported EREC to finalise the newsletters N°7 (France) and 8 (Greece); being EREC still on charge of the lay out and dissemination.

Targeted dissemination of the QualiCert manual and electronic newsletters was made by the association partners of the consortium, within their own network. For instance, ESTIF focused on the dissemination work within the solar thermal sector, addressing its members and experts/partners. This work was more active on the second stage of the project, when the first results, in particular the manual, were available. ESTIF also promoted the work of QualiCert to its members and externally, within the scope of quality assurance, in different presentations.

QUALICERT EVENTS

EBC specific event

EBC felt it was important to feature QualiCert also at the Brussels level towards European institutions and stakeholders and organised a specific QualiCert event in Brussels in April 2011 during the European Sustainable Energy Week. This seminar has been organised as a complementary event to the presentation of the project by ADEME at the 2010 EBC Annual Congress in Spain. This event brought together national and European representatives from builders and installers associations, the renewable industry, national energy agencies, accrediting bodies and EU institutions. It was judged successful and interesting by the 50 participants.

It has to be noted that during the two and half years of the project, EBC offered several power point presentations of the project, released several articles both in its quarterly newspaper and also in the Construction Voice, its new monthly publication. EBC also regularly updated its board of directors on QualiCert and encouraged them to participate to all QualiCert events and regularly updated the EBC website with a dedicated QualiCert page.

As chair of the UEAPME (European Association of crafts, small and medium-sized enterprises) construction forum – a platform for co-operation and co-ordination of UEAPME members in the field of construction – EBC invited EREC in April 2010 to present to the forum the QualiCert project and its expectations.



Final conference

The QualiCert final conference took place on the 8th of December 2011, at Hotel Silken Berlaymont in Brussels. Most High Level Steering Group members attended the conference to have a feedback on the remaining steps of the project.

Main events at EU level during which QualiCert has been presented

- ADEME also produced a factsheet on QualiCert, to be integrated in the report on the workshop “Workshop Photovoltaics and nanotechnology: from innovation to industry” produced by INES and the European Commission – DG Research, during the last trimester of 2010.
- EREC gave a presentation on the project during the IEE programme committee meeting which took place on the 13th of July 2009.
- ADEME gave a presentation on QualiCert findings during a RES Concerted Actions meeting (Working Group 5 on “Training and Information + Guarantees of Origin”), on the 11th of May 2011, in Lisbon.
- EREC presented the project on behalf of ADEME at the Intelligent Energy Europe Info Day 2010 (3rd of February 2010).
- EBC gave a presentation of QualiCert during the BUILD UP SKILLS Info Day in Brussels, on the 16th of March 2011.

LINK WITH OTHER INITIATIVES

On many occasions, the complementarities between QualiCert and with other IEE projects and EU programmes were put forward and explained, in order to maximise benefits.

Regular presentations of QualiCert and connexions with related IEE projects were made throughout the actions:

- GEOTRAINET (important cooperation with the GEOTRAINET project: there is a lack of training and certification schemes available for geothermal professionals, often forgotten. QualiCert project has supported the program GEOTRAINET to provide solutions on this issue), PV TRIN, and INSTALL+RES.
- At a later stage, TRAINREBUILD took QualiCert into account. A presentation of QualiCert was made during a seminar organised by the consortium in Brussels in October 2011 (programme in WP 6 Annex).
- BUILD UP SKILLS Initiative. The value of QualiCert recommendations and analyses for the BUILD UP SKILLS roadmap has been identified since 2011. For this reason, EBC presented and emphasised the results of QualiCert during the BUS info day in Brussels on the 16th of March 2011. The initiative was presented during the national roundtables and during the High Level Steering Group meeting on the 29th of March 2011. ENEA, BAPE and CRES are BUILD UP SKILLS coordinators for their respective countries. ADEME is also involved in the BUS proposal in France (2012 IEE call).
- Cooperation Leonardo Da Vinci project
As ENEA is coordinating COMPENER, a Leonardo Da Vinci project (www.compener.enea.it), the output of the QualiCert has been used to promote best practice in certification in Romania and Spain. ENEA is also coordinating a MED project www.elih-med.eu for energy efficiency of low income houses where the results of the QualiCert project would be disseminated further.
- Cooperation and support to the CA-RES
ADEME, as coordinator, gave a presentation on QualiCert and the manual during the 3rd meeting of Working Group 5 of the Concerted Actions. The adaptation of the terminology in the manual was deemed of particular interest to the Working Group members.

CONCLUSIONS AND SUCCESS STORIES

Conclusions

- 1 • QualiCert was launched and developed at exactly the right time for the article 14.3 implementation process in the 5 countries of implementation of the project: France, Italy, Poland, Greece, Austria.

In Italy, ENEA, thanks to Qualicert project, has started the installers' certification process in Italy. The first step being the qualification of trainers in order to bring homogeneity at national level in the 20 regions and two autonomous Provinces.

In France, QualiCert manual was directly used in the national concertation which gathered certifying bodies and public authorities in charge of qualification and certification of RES installers (ministry of environment and ADEME) in view of adopting common criteria for the certification process. Even though it was difficult to reach a consensus between professional sectors, and to unify all existing scheme under a single set of criteria, QualiCert baseline was used to elaborate the threshold for qualifications and competences. The involvement of several organisations in the high level steering group (Agence Qualité Construction, Qualibat and Qualifelec) as well as the involvement of one certification body within the consortium (Qualit'EnR) gave a high profile to QualiCert to serve as a baseline for common criteria at national level. At the time of the project closure, "Reconnu Grenelle Environnement" label is encouraging RES installations certifying organisations to become accredited.

Through the involvement of the stakeholders at EU level (industry and technologies representatives) and involvement of national authorities and main organisations in the training the certification of RES installers in France, Austria, Poland, Greece and Italy, QualiCert has endeavoured to ensure as much as feasible the future uptake of stakeholders in new accreditation and certifications schemes, mutually recognisable at EU level.

QualiCert has laid down the basis for acceptance when national certification schemes are implemented. The fulfilment of this objective is the most obvious at the closure of the project in Italy and in France.

In the case of France, there was a unification of all certification schemes for RES installers, for technologies addressed by QualiCert (except for drillers as this was still under negotiation) under common criteria, complying with the QualiCert recommendations (signature of the Chartre Reconnu Grenelle Environnement).

In the case of Italy, most provinces have agreed to start the procedure suggested by ENEA, that is to say to train trainers. Within this logic, the common certification, allowing a better mutual recognition at the European level, would be made easier.

In the case of Poland and Greece, QualiCert has laid down the basis for a national certification schemes.

In the case of Austria, QualiCert activities have led guilds to reconsider and improve the existing qualification schemes, in view of the mutual recognition at EU level. It has also launched the process to define competences and profile for RES installers (this work is helped with inputs from ENEA).

The pro active approach of QualiCert to anticipate the obligations of article 14.3 of the RES Directive was fully taken into account in the 5 countries of implementation where national authorities were convened to discuss the national certification scheme when none existed, or the ones already in place, in view of the European recognition.

In the case of Italy for instance, as explained above, Qualicert has allowed to start the installers' certification process in Italy. The first step was to set up a scheme to qualify trainers in order to bring homogeneity at national level in the 20 regions and two autonomous Provinces.

- 2 • Due to their involvement in the High Level Steering Group, representatives from Senternovem (Dutch Energy Agency), and Flemish Energy Agency in Belgium are well aware of the criteria and recommendations presented in the QualiCert manual, as well as the representatives from the following energy agencies: DENA (Germany, SWEDAC (Sweden) and IDAE (Spain). This has ensured as much as possible the uptake of the QualiCert approach outside the 5 countries of implementation of the project.

- 3 • The genuine multi-disciplinary approach which was applied in all QualiCert activities, through the consortium, has allowed the production of a manual that takes into account the different technologies requirements as well as the ones of the relevant professional sectors (installers, constructors). Through its method and the board involvement of federations and their members within the consortium, QualiCert results have a high legitimacy.

By analysing the existing training and certification schemes for RES installers, and proposing common grounds application at EU level, QualiCert has identified the remaining barriers and most problematic elements and could bring it to the attention of a targeted audience for the continuation of the work. For this purpose, the QualiCert consortium has produced a common paper, especially for the attention of the Working group 5 of the Concerted Actions for the RES Directive (Training and Information + Guarantees of Origin and the BUILD UP SKILLS consortia. A contact list of QualiCert partner is also provided.

Success stories

- 1 • Diversity in Europe poses additional challenges: the different realities in Europe, the different practices concerning certification, qualification and training, the different starting points, all these need to be taken into account when discussing a common approach or a common model. In many respects, there is not a one-size-fits-all solution; the options need to be tailored taking into account the diversity in Europe, while learning from best practices and different approaches to similar problems.

- 2 • It is more difficult to tackle mutual recognition at EU level than the setting up of a national certification scheme. Therefore the QualiCert consortium has a lot of expectation on the uptake of QualiCert recommendations by the CA-RES working group on training.

It is also preferable to start a national certification soon, and to upgrade it, as opposed to preparing a scheme with the expected that it will be fully satisfying on the ground at its launch. This is well shown by Qualit'EnR, which has expanded gradually to include more technologies, and which works towards its improvement (through its accreditation as an organisation, and the setting up of more audits on-site).

- 3 • Any technical parameter linked to the eligibility for a financial incentive scheme should be strictly oriented to European Standards and certification procedures, where applicable. Otherwise, a financial incentive scheme can contribute to creating “isolated markets” at national or even regional level, thereby increasing the costs for the users. In order to be recognized by the industry, a certification must be given by national and legitimate organisation.



Fontana, California, USA (2MW); Southern California Edison

FINAL RECOMMENDATIONS AND CONTACT LIST

Each organisation of the consortium, and in particular energy agencies will have a baseline to present common features for certification scheme, and be in a position to explain the process by which recommendations were elaborated (with strong legitimacy of the QualiCert consortium)

EU associations will be able to include QualiCert recommendations and the industry developments. Their increased knowledge on installers' qualification, certification and training issues will directly benefit the representatives of the technologies concerned (solar thermal system, heat pumps, geothermal systems, photovoltaic, biomass stoves and boilers).

Energy agencies are able provide ad hoc information to ministries.

Cooperation and support towards different BUILD UP SKILLS consortia and the EU exchange activities for the initiative (made easier as many project partners are based in Brussels). Energy agencies and AIT are able to assist their national BUILD UP SKILLS consortium on the topic of certification of RES installers.

To help this process (targeted support towards BUILD UP SKILLS Initiative and the RES-CA), the consortium has prepared in December 2011 and January 2012, a common document to clearly identify the remaining issues concerning the common recognition of the skills and competences and the certification of RES installers. The objective of the two-page document is to catch the attention of consortia in charge and direct them straightforwardly to the items that still need to be addressed at EU level. While doing so, the QualiCert consortium is hoping that all the efforts put in the project, not only to produce the manual, but also to identify remaining barriers, will be capitalised for the future developments. The document also contains a contact list of consortium members who can be contacted after the end of the project to support any stakeholder who may want to further discuss the project outcomes and

Qualicert input to Concerted Actions on the Renewable Energy Sources Directive RES CA, BUILD UP SKILLS consortia, as well as to industry quality programs

The Qualicert project was launched by 14 partners in July 2009 to contribute to the implementation of article 14.3 of RES Directive in the 27 EU Member States (on training and certification). It focussed on the obligation to develop and mutually recognize certification or equivalent qualification schemes for installers of small-scale renewable energy systems.

The project has produced a broad overview of the situation of certification programs available in Member States. A major outcome of the project is a manual compiling an analysis of the existing training and certification schemes inside the European Union as well as outside, and providing key recommendations to support, in each Member State, the implementation of sound and operational training and certification schemes that can be recognised EU wide.

The manual cannot comprise all the richness of the discussions that were held at European and national level, between partners and experts from the different sectors. Hence, the QualiCert partners would like to summarise in this document some of their main findings over the running of this project.

Some of the main challenges identified are:

- **Harmonisation of certification, training and competences at the EU level**

Most of the consortium members alert to the lack of work carried out by the Member States on the mutual recognition of installer certification schemes. Further work needs to be done urgently between Member States and of these with stakeholders at national and European level. Unfortunately the reflections of the Member States within the Concerted Actions are not yet available to the public. This would be a great insight for a broader discussion between public authorities and the different stakeholders at national level.

- **Defining a profile for RES installers**

The QualiCert has not addressed the definition of competences required for installers, as it was not the role and aim of this project. It is commonly understood that this is an extremely complex task. There are important initiatives that can contribute as inputs to the extremely important work that will be carried out at national level on the framework of the BUILD UP SKILLS Initiative. Taking into account the specificities of different technologies and of the different countries, while engaging representatives from the relevant sectors are key factors for the good accomplishment of this work. There is a need to further define and make visible the competences needed for RES installers and that should be taken into account by the qualification and certification schemes. In this respect, several projects carried out at European level, co-financed by the European Union can provide a good insight in terms of needs and proposals¹.

- **Training of installers in relation to manufacturers or product providers**

Training provided should be “brand” neutral, i.e., installers shall be capable to install products from different brands. Nevertheless, it is important to have also manufacturers or distributors providing training, as they have well developed competences in this field. In fact, in several countries they are the best equipped and prepared in terms of quality and up-to-datedness of the training.

- **Complementarities between training and certification**

Training and certification should be regarded as complementary. On one hand, the training and the certification should be consistent in terms of the competences that are required/ On the other hand, it is important to have them interacting for improved quality assurance on both ends. Examples in countries such as France have shown that a certification scheme can help to enhance the quality of the training provided. By using the audits performed to the work done by installers searching certification, it is possible to assess where the main gaps in terms of competences, skills or knowledge exist. Feeding this information into the training providers may help to improve the training programs consequently.

- **Equivalent qualification as an alternative to Certification**

It must be stressed that the RES Directive always refers to certification or equivalent qualification of RES installers. Qualification should not be disregarded in this context. In fact, the possibility to identify and recognise competences already acquired by installers is essential for this process, while not forgetting that updates on their training may be required and important to qualify installers for the needs of a fast-developing market.

- **Recognition of individual competences regardless of the system in place (certification of persons or certification of companies)**

This point was identified by the QualiCert project partners as a critical one, both for the set-up of effective certification or equivalent qualification schemes at national level and for the mutual recognition of these. It should be taken into account that it is not proposed to opt for one or other option, as both co-exist in Europe, with good results. Some countries offer personal certificates, others company certificates and there are some countries that offer both. In this context, the reality and experience of each country are important and this diversity should also be considered and respected.

It is important to address in further detail the last point. Deciding on one scheme rather than another was not the mandate of the QualiCert project. Rather, the consortium has laid down some inputs to assist the Member States in their decision.

The development in the market shows that there is merit in both personal and company certification. The countries that provide company certification require at least one technical expert in the company. This person must provide the proof of competence for the technology in question.

In countries where today no company certificate exists, its introduction is under discussion, as it is seen as an important tool for the marketing of quality (and a personal certificate can usually not be used in the company communication) as well as for liability and warranty issues.

Based on these findings, project partners share the belief, that a solution is necessary to enable the mutual recognition of Member States certificates, as required by article 14.3 of the RES Directive. The following approach is thus suggested for consideration and further action!

¹ E.g.: COMPENER (COMPetences for sustainable ENergy); GEOTRAINET (Geo-Education for a sustainable geothermal heating and cooling market); SUNTRAIN (European SWH Training Accreditation and Certification); SIRET (Specialists in Renewable Energy – Technology in Sanitary, Heating and Air-Conditioning Crafts); EARTH (Extend Accredited Renewables Training for Heating) – see QualiCert Manual for further details.

	MEMBER STATE WITH PERSONAL CERTIFICATION	MEMBER STATE WITH COMPANY CERTIFICATION
PERSONAL CERTIFICATION LEVEL	Align certification to allow mutual acceptance in Member States, that is to say via a common set of basic competences	Introduce a personal certificate for the installer person (in most cases, this requires simply a development of the currently required “proof of competence” that is asked from the “technical expert” into a certificate).
COMPANY CERTIFICATION LEVEL	Introduce a company certification system requiring at least one personally certified installer in the company	

Following this suggestion would make the systems compatible in the context of a European market with free movement of labour:

- Companies could work across borders and their certification would be accepted as sufficient to fulfil technical requirements as well as the requirements of subsidy programs
- Individuals could move freely among countries to work independent or in companies with their certified qualification being sufficient for self employment as well as for employment in a company. In the latter case, it should also be sufficient to enable the company to obtain a company certification.

There are several interesting examples in Europe. Some are included in the QualiCert Manual. More recent ones can be found on the QualiCert website.

Finally, the QualiCert consortium would also like to note that differences exist among Member States with regard to the understanding of terms used. This may represent an insurmountable obstacle in discussions between people from different countries and having different native languages. The Qualicert project tried to tackle this problem with the development of a **glossary**. Furthermore, it must be well perceived that Member States depart from very different stages into this process. Not all Member States have certification systems in place, that cater in particular to the set of competences necessary to successfully install efficient small RES systems, and only a few Member States have systems for all applicable technologies. The status-quo is documented in the **QualiCert manual**.

The fruitful concertation that took place within the consortium and with the main stakeholders in Italy, Austria, Greece, Poland and France (pilot Member States for QualiCert) throughout the project has revealed that certain issues still demand to be worked on and debated. The QualiCert project provided a unique opportunity for reflection and sharing of experiences. This added value will remain at the disposal of those interested after the ending of the QualiCert, via the website and particularly, by the different members of the consortium.



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