



TRAINING OF PHOTOVOLTAIC INSTALLERS

**Activation of National Key Actors
NCC Constitution**

***National Consultation Committees Members' List
(WP2 -D2.4)***



Issued by ReSEL-TUC, Dec-10, updated Oct-11

Contract N°: IEE/09/928/SI2.558379



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1 Introduction

PVTRIN consortium partners acknowledge the value of the key stakeholder groups' consensus and support for the establishment and wider adoption of the certification into the national markets. So, in order to incorporate the genuine market needs and to assure the broadest possible support, the key stakeholder groups are involved in the project's activities.

For this scope, a consulting and supporting instrument, the **National Consultation Committee (NCC)**, by an interdisciplinary multi-stakeholder approach, is established in the 6 countries (Greece, Bulgaria, Croatia, Cyprus, Romania and Spain).

The NCC's composition includes representatives of the interested key stakeholder groups (i.e. PV/RES industry associations, professional unions and installers associations, vocational training organizations, accreditation bodies, chambers of commerce, consumers/investors associations, national authorities). This instrument is coordinated by the national project partners and its role is threefold:

- to transfer the market's knowledge/experience and to assist to the identification of the characteristics, specific need and constrains in each country
- to provide consultation and support for the development, implementation and dissemination of the training and to facilitate the recognition of the certification scheme
- to act as a link between the project consortium and the local decision makers and key target groups and to reinforce dissemination and networking activities

The NCCs play a significant role in the national level providing guidance, counseling, information and support during the whole duration of the project.

The national partners take actions to inform, motivate, involve and challenge the active contribution each NCC member according their expertise, power and areas of impact; they are invited to support the project activities according their availability and authority (e.g. contribute/initiate workshops or event, networking with public authorities, involving the media, informing their members). Regular communication activities through the general assembly of the NCC members, bilateral meetings, planned teleconferences and emails will assure that all NCC members are properly informed and their experience, knowledge and advice has been taken into account.

As a result of the project partners' efforts, more than 40 organisations -representing the key stakeholder groups- have declared their support and interest on the project's objectives. Their representatives are involved in the project's activities as members of the NCCs and confirmed their intention to contribute actively according to their experience, expertise and area of influence.

2 List of the NCC members

The following organizations constitute the NCC members in the PVTRIN participating countries: Bulgaria, Croatia, Cyprus, Greece, Romania and Spain.

2.1 Bulgaria

1. Energy Efficiency Agency
2. Manager of Association of Producers of Ecological Energy
3. Bulgarian Photovoltaic Association
4. Free University of Varna
5. Central Laboratory of Solar Energy and New Energy Sources (CLSENES) of Bulgarian Academy of Sciences

2.2 Croatia

1. Croatian professional association for solar energy
2. Technical school Sisak
3. Regional energy agency Kvarner
4. Croatian chamber of trades and crafts
5. Agency for adult education
6. Croatian accreditation agency

2.3 Cyprus

1. Cyprus organisation for standardisation
2. Cyprus Association for the promotion of Renewable Energy Sources
3. University of Cyprus
4. Electricity Authority of Cyprus
5. Cyprus Energy Agency
6. Department of Electrical Engineering Frederick University
7. Electrical Contractors Federation of Cyprus
8. Cyprus Productivity Center

2.4 Greece

1. Hellenic Association of Photovoltaic Companies
2. Association of Energy Producers from PV
3. Panhellenic association of PV investors
4. Panhellenic federation of electrical contractors associations
5. Union of Hellenic Chambers of Commerce and Industry
6. Technical Chamber of Greece – Standardisation Dpt.
7. National Accreditation Centre for Continuing Vocational Training
8. Hellenic Association of Accredited Certification and Inspection Bodies
9. Greek Regulatory Authority for energy
10. Steering Committee of Technical Instructions for the integration of RES on buildings by the Technical Chamber of Greece

2.5 Romania

1. Ministry of Economy, Trade and Business Environment
2. National Regulator Authority for Energy
3. Regional Development and Tourism Ministry
4. Industry Association – New Energy Sources
5. "Ion Mincu" Architecture and Urbanism University, Bucharest
6. Romanian Standards Association
7. "Valahia" University, Targoviste

2.6 Spain

1. Spanish PV Industry Association - ASIF
2. Spanish Association for Standardisation and Certification - AENOR
3. Spanish Federation of Electrical & Telecommunication Contractors - FENIE
4. Spanish Institute for Energy Diversification and Saving of Energy - IDAE
5. Centre for Innovation in Basque Vocational Training - TKNIKA
6. Basque Architect Association - Sustainability Commission (Bizkaia)- CS-CAVN

3 NCC Meetings

The 1st NCC meetings were held to:

- Bulgaria – Sofia, July 2, 2010
- Croatia-Zagreb, November 16, 2010
- Cyprus-Lefkosia, November 15, 2010
- Greece-Athens, November 18, 2010
- Romania-Brasov, October 29, 2010
- Spain-Madrid, February 2, 2011

More details for each NCC meeting implementation and outcomes are presented to the ANNEX I (i.e. participants, discussion guides, key findings, decisions, activities planned etc.).

The 2nd NCC meeting is planned as follows:

- Croatia-Zagreb, end of February 2012
EIHP is currently working on task of implementing Directive 28/2009 EC in Croatian law, so it was decided to have the 2nd NCC meeting when the first draft of the law as regards installer certification will be available.
- Cyprus-Lefkosia, end of November, 2011
- Greece-Athens, mid of December, 2011
- Romania-Brasov, 3rd week of January, 2012
- Spain-Madrid, December 14, 2011

During the 2nd NCC meeting, the PVTRIN consortium partners, scope to present the developed training methodology, and training materials and to discuss important aspects of the certification scheme's requirements. For this scope BRE and TUC have developed a discussion guide (Annex III).

4 NCC Members' Interaction and Contribution

The active support and consultation during the development of the PVTRIN training and certification scheme is one of the major benefits of the NCCs' establishment in the PVTRIN countries. Key stakeholders need to be consulted throughout the project on a continuous basis in order to ensure full involvement and commitment from all of them. This tactic allows to continuously improve the quality of the project outcomes, ensuring in parallel that they fit the constantly changing needs of the market.

After the 1st NCC meeting, communication with NCC members has been taking place in all participating countries to assure that they are properly informed about the project progress and that their consultation reaches the consortium. The national partners challenged the involvement and contribution of each NCC member inviting them to provide consultation in specific areas according to their expertise, authority and areas of impact.

The direct involvement of the key stakeholders ensures that feed-back from the market, PV industry and interested authorities is fed into the project discussions. Their experienced advice transfers the market's knowledge/experience and assists to the identification of the characteristics, specific need and constrains in each country. Through this process the PVTRIN consortium is arraising the stakeholder's endorsement and satisfaction with the results of the project and is reinforcing the value and reliability of the project outcomes in order to facilitate their acceptance by the market.

During the interim, the NCC members were regularly communicated through emails, conference calls or bilateral meetings, but also exploiting decision makers and PV industry's roundtable and workshops and partners have initiated numerous discussions with the national policy makers and market players. The NCCs' members have advised the consortium partners in different aspects and supported them to a number of tasks, mainly to the:

- identification of market needs, legislative framework, perspectives and constrains (Task 2.3)
- identification of current workforce's skills and the definition of the installers' professional framework (Task 2.4)
- development of the curriculum (Task 2.5)
- educational assessment of the under development training material (Task 3.2)
- identification of the certification scheme requirements (Task 5.1)
- understanding the certification procedures in national level (Task 5.2, 5.3)
- disseminate the project in national level (Task 6.3).

More details about this process may be found in Annex II "interaction with the NCCs members during the project development".

5 Annex I

NATIONAL REPORTS FOR THE ACTIVATION OF KEY ACTORS, THE NCC CONSTITUTION AND THE NCCs 1st MEETING

5. 1 Bulgaria

5.1.1 Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Webpage
1	SEEA	Energy Efficiency Agency	State energy agency	Borjana Uzunova	Head of department	BUzunova@seea.government.bg Phone: +359 2 9154038 37 Ekzarh Josif St., 1000 Sofia	www.seea.government.bg
2	APEE	Association of Producers of Ecological Energy	Association of companies dealing with renewable energy sources	Velizar Kiryakov	Manager	info@apeebg.org phone: +359 52 750550 310 Vladislav Varnenchik Blvd., 9000 Varna	www.apeebg.org
3	BPVA	Bulgarian Photovoltaic Association	Association of companies dealing with PV production, installation	Nikola Gazdov	President	office@bpva.org phone. +359 2 954 10 83 N. Haytov Str. No.2, Entrance G, Office 36a, 1113 Sofia	www.bpva.org
4	FUV	Free University of Varna	University	Dr.Arch. Rossen Savov	Associate Professor	rossen@savov.net Phone: +359 887333217 23a Ljulyakova Gradina, 1130 Sofia	
5	UAA	Union of Architects in Bulgaria	Professional association	Dr.Arch. Rossen Savov	President of section energy efficiency	rossen@savov.net Phone: +359 887333217 23a Ljulyakova Gradina, 1130 Sofia	
6	CLSENES	Central Laboratory of Solar Energy and New Energy Sources of Bulgarian Academy of Sciences	Academy	Assoc. Prof. Petko Vitanov	Director	vitanov@phys.bas.bg Phone: +359 2 875 4016 72 Tzarigradsko Chausse Blvd., 1784 Sofia	

5.1.2 Organisations profiles

Energy Efficiency Agency (SEEA)

SEEA is the state energy efficiency of Bulgaria. SEEA is under the umbrella of the Ministry of Industry, Energy and Tourism. Its function is to support the implementation of the state energy policy regarding energy efficiency and renewable energy sources. SEEA is responsible for the development of the legislative framework necessary for the implementation of new Bulgarian energy policy and EC directives. SEEA is also dealing with energy certification of buildings – certification of experts. SEEA has developed training courses for experts in energy audits and energy certification of buildings and industry.

SEEA experience in the field of implementation of approved training will be very useful for the implementation of PVTRIN project.

Association of Producers of Ecological Energy (APEE)

APEE is founded by companies dealing with renewable energy sources. The aim of the association is to support a wider implementation of RES installations in the country and to develop the market of RES installations through market assessments, awareness raising campaigns, training courses, consultations with authorities. The members of APEE are interested in the development of the PV market in Bulgaria and in the improvement of the professional skills of their members in the field of PV installations.

APEE involvement is necessary for assessment of needs of training for installers and for contacting the relevant companies.

Bulgarian Photovoltaic Association (BPVA)

BPVA is founded by companies involved in the PV market in Bulgaria and such interested in a future development in the field of PV systems. Members of the association are manufacturers of PV elements, installers of PV systems, consulting companies for RES implementation, etc. The aim of the association is to support the development of the PV market in the country through market assessments and awareness campaigns for its members.

The involvement of BPVA will support the PVTRIN project with information for the current PV market situation in the country, the need of additional training for installers and contact with relevant companies for PV installations.

Free University of Varna (FUV)

Free University of Varna provides to its students lectures on energy efficiency, renewable energy sources and environmental problems.

The involvement of FUV in the PVTRIN project will help for a better organization of the training process.

Union of Architects in Bulgaria (UAA)

UAA is a professional association of architects. The main activities of UAA include awareness raising campaigns, exchange and dissemination of information, organization of conferences, seminars and training courses.

The experience of UAA will be useful for the organization of the training and dissemination activities.

Central Laboratory of Solar Energy and New Energy Sources of Bulgarian Academy of Sciences (CLSENES)

CLSENES is a research institute working on improvement of systems for energy production from renewable energy sources and testing existing and new systems. CLSENES organize also training courses and awareness raising events for professionals.

The involvement of CLSENES is very important for the development of the training materials, the choice of lecturers and the organization of the training process.

5.1.3 NCC Meetings

1st Meeting of the Bulgarian National Consulting Committee - Minutes

Date and time of the meeting: **02/07/2010 from 16.30 – 18.30**

Place of the meeting: **SEC premises, Sofia**

Participants:

- Violetta Groseva, SEC
- Evelina Stoykova, SEC
- Borjana Uzunova, SEEA
- Rossen Savov, FUV/UAA
- Petko Vitanov, CLSENE

Violetta Groseva opened the session with a short presentation of the current status of implementation of PV systems in Bulgaria and the Directive 2009/28/EC.

Evelina Stoykova presented the idea of the PVTRIN project, its scope and objectives. The presentation was followed by a discussion on the project objectives, the situation in Bulgaria and the possible barriers towards the implementation of certified training courses.

Mrs. Borjana Uzunova stated that the project is important for the implementation of the Directive 2009/28/EC in Bulgaria and is in line with the priorities of the Bulgarian policy for a wider implementation of RES. SEEA will support SEC in the implementation of the PVTRIN project with its experience gained at the implementation of building certification.

Mr. Rossen Savov appreciated the idea of the PVTRIN project. He underlined the need of training in the field of RES, especially energy from PV, for engineers, architects and technicians. He will support the PVTRIN project with available training materials, organization of the training process and contacts with universities and architects.

Mr. Petko Vitanov also support the idea for a training for technicians. He will help SEC with its experience in organization and performance of training courses.

Mr. Velizar Kiriakov (APEE) and Mr. Nicola Gazdov (BPVA) could not attend the meeting, but they were contacted by phone. They support the idea of the PVTRIN project and it was decided that the questionnaires for PV installers will be send to their members.

In conclusion, the PVTRIN project is interesting for the members of the Bulgarian NCC and they will support SEC in the implementation of the different phases of the project.

5.2 Croatia

5.2.1 Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Webpage
1	HSUSE	Croatian professional association for solar energy (<i>Hrvatska stručna udruga za Sunčevu energiju</i>)	Professional association	Ljubomir Majdandžić, Ph.D.	Chairman	ljubomir.majdandzic@zg.t-com.hr or hsuse@hsuse.hr Phone: 00385 1 38 88 917 J. Kavanjina 14, 10090 Zagreb	www.hsuse.hr
2	TŠS	Technical school Sisak (<i>Tehnička škola Sisak</i>)	Education institution – secondary school	Stevče Arsoški	Professor	stevce.arsoski@sk.htnet.hr phone: 00 385 44 537 219 Marijana Cvetkovića 2, 44010 Sisak,	http://ss-tehnicka-sk.skole.hr/
3	REA Kvarner	Regional energy agency Kvarner (<i>Regionalna energetska agencija Kvarner</i>)	Energy agency	Andrej Čotar	Associate for energy sector	andrej.cotar@reakvarner.hr phone. 00385 51/ 631 845 Milutina Barača 19, 51 000 Rijeka	http://www.reakvarner.hr/
4	HOK	Croatian chamber of trades and crafts (<i>Hrvatska obrtnička komora</i>)	Chamber of crafts	Anđelko Vojvoda, M.Sc.	Associate for international cooperation	andjelko.vojvoda@hok.hr Phone: 00 385 1 480 66 66 Ilica 49/II, 10000 Zagreb	http://www.hok.hr/
5	A00	Agency for adult education (<i>Agencija za obrazovanje odraslih</i>)	National agency	Anne-Marie Popović	Head of department of education programmes	anne-marie.popovic@aoo.hr Phone: 00 385 1 500 5637 Savska cesta 41/I, HR-10000 Zagreb	http://www.aoo.hr/
6	HAA	Croatian accreditation agency (<i>Hrvatska akreditacijska agencija</i>)	National agency	Vladimir Mucko	Head of department	vladimir.mucko@akreditacija.hr Phone: 00 385 1 610 6322 Ulica grada Vukovara 78, Zagreb	www.akreditacija.hr

5.2.2 Organisations profiles

Organizations for participating in Croatian NCC are selected in order to cover different areas of activity, as well as to include organizations that could help for better performance of the project and transfer project aims to the target groups.

HSUSE – Croatian professional association for solar energy (Hrvatska stručna udruga za Sunčevu energiju)

HSUSE is an umbrella association of the solar energy experts in Croatia. The objectives of HSUSE are to promote the use of solar energy at the local, regional and global levels and active participation on the projects for higher solar energy usage. In order to achieve mentioned objectives the Association is using different activities, such as: education and advising of solar energy usage through seminars, workshops, courses and conferences, cooperation with industry and institutions and establishing links between business, research institutions, local communities, government bodies and other entities on projects that use solar energy. HSUSE is publishing its official magazine “Solarna tehnologija” every six months which is available free of charge for anyone interested in it.

Head office of the organization is situated in Zagreb, in object known as “Solar roof Špansko” (Špansko is neighbor in Zagreb), which include 9.59 kW PV plant and 8 m² of the solar thermal collectors.

Representative of the HSUSE in PVTRIN’s NCC is Ljubomir Majdandžić, Ph.D., Chairman of the Association.

TŠŠ – Technical school Sisak (Tehnička škola Sisak)

Technical school Sisak is one of the rare secondary technical schools in Croatia that directed its development towards use of renewable energy sources. School was active participant in several CARDS programmes, and is equipped by laboratory and small solar PV plant (2.8 kW). Several projects relating to the education in the field of PV are developed in this school.

Representative of the TŠŠ in PVTRIN’s NCC is Mr. Stevče Arsoški. Mr. Arsoški works as a professor of electrical engineering in school, and is author of several education programmes related to the PV which are approved by national institutions.

REA Kvarner - Regional energy agency Kvarner (Regionalna energetska agencija Kvarner)

REA Kvarner is one regional energy agencies in Croatia. It is established by Primorsko-goranska County, City of Rijeka and Regional Development Agency PORIN. Work of the agency is directed towards counselling and education on the field of energy, launching pilot projects and investments in energy sector, development and creation of energy plans in the region and financial support to the projects.

Rijeka region, where REA Kvarner is situated, is one of the first Croatian regions who opted for a wider use of solar energy, thus this Agency is selected among other energy agencies.

Representative from the REA Kvarner is Mr. Andrej Čotar.

HOK - Croatian chamber of trades and crafts (Hrvatska obrtnička komora)

Croatian chamber of trades and crafts is important business association in Croatia which encounters more than 102.000 members which together with the number of their employees (230.000) makes almost a

quarter of the whole number of persons in employment in the Republic of Croatia. They are divided into 20 county chambers and 116 tradesmen associations.

Representative from the HOK is Mr. Anđelko Vojvoda M.Sc., Associate for international cooperation.

AOO - Agency for adult education (Agencija za obrazovanje odraslih)

The Agency for Adult Education is a public institution established by the Decree of the Government of the Republic of Croatia (Official Gazette 59/06) in May 2006. Its activities include development, monitoring, evaluation and advancement of adult education. Task of the Agency include analytical and developmental tasks in the field of adult education, harmonisation of the proposals of professional bodies, professional supervision of the work of adult education institutions, professional advice and counseling services, professional and continuous training of employees in the field of adult education, providing innovative solutions, monitoring and evaluation of the implementation of adult education programmes, stimulating cooperation and participation in the implementation of adult education programmes and projects and defining criteria for the establishment, implementation and monitoring of systematic financing of adult education with regard to programme, investment and material management.

In July 2010, it is announced that this Agency will be merged together with Agency for Vocational Education and Training into one Agency.

Representative from the AOO is Mrs. Anne-Marie Popović, Head of department of education programmes.

HAA – Croatian accreditation Agency (Hrvatska akreditacijska agencija)

HAA is an independent and non for profit public institution that acts as the national accreditation service in the Republic of Croatia. HAA was established in order to implement technical regulations reconciled with the *acquis communautaire* of the European Union. Technical regulations control the safety of products and free movement of goods on the internal market, citizens' health protection, consumers' protection, environment protection and other relevant public interest areas.

Representative from the HAA is Mr. Vladimir Mucko, head of department.

5.2.3 NCC meetings

1st Meeting of the Croatian National Consulting Committee - Minutes

Date and time of the meeting: **16.11.2010. 14:00 – 17:30**

Place of the meeting: **Energy Institute Hrvoje Požar, Savska cesta, 163, Zagreb, conference room 208**

Agenda:

- | | |
|---------------|--|
| 14:00 - 14:05 | Welcome speech
<i>László Horváth, deputy head of department for renewable energy and energy efficiency</i> |
| 14:05 - 14:20 | Presentation of the members of the National Consulting Committee
<i>Representatives of the institutions members of the National Consulting Committee</i> |
| 14:20 - 14:30 | Presentation of the Energy Institute Hrvoje Požar
<i>Filip Prebeg, project associate</i> |

14:30 - 15:00	Presentation of the project PVTRIN
15:00 - 16:00	Discussion of the project

The meeting was held in the building of Energy Institute Hrvoje Požar, in conference room 208.

Date and time of the meeting have arranged with respect of the normal working obligations of the NCC members, in communication with all members. However, due to the irremissibly obligation of mr. Ljubomir Majdandžić from HSUSE, it was announced he will be replaced by young colleague mr. Ivan Pandurević, also member of the HSUSE. Mr. Andrej Čotar from REA Kvarner due to the late finishing of their business obligations has apologies himself for not coming to the meeting.

This means the first NCC meeting is participated will following members:

- Mrs. Anne-Marie Popović from Agency for Adult Education (AOO),
- Mr. Vladimir Mucko from Croatian Accreditation Agency (HAA),
- Mr. Anđelko Vojvoda from Croatian Chamber of trades and crafts (HOK),
- Mr. Ivan Pandurević from Croatian professional association for solar energy (HSUSE),
- Mr. Stevče Arsoški from Technical school Sisak (TŠS),
- Mr. László Horváth from Energy Institute Hrvoje Požar (EIHP),
- Mr. Filip Prebeg from Energy Institute Hrvoje Požar,
- Mr. Nikola Matijašević from Energy Institute Hrvoje Požar,
- and Mr. Andro Bačan from Energy Institute Hrvoje Požar.

Scanned signed list of participants of the meet can be found at the end of this report. Meeting started at 14:00 and discussion on the project was held until 17:30.

Welcome speech

On the beginning of the meeting, Mr. László Horváth, deputy head of department for renewable energy and energy efficiency on behalf on Mrs. Jelavić, head of department gave welcome speech addressed to all NCC members regarding needs for the higher use of renewable energy with accent on the needs of the further education of installers.

Presentation of the NCC members

After the welcome speech, representatives from NCC institution members held presentations about their institutions and general activities of their institutions. First presentation about Agency for Adult Education (AOO) and their tasks in Croatian education systems was held by Mrs. Popović. AOO is national agency responsible for planning, developing, organizing, monitoring and improvement of vocational and adult education. In this presentation, list of relevant laws was presented. Further, AOO is merging with Agency for Vocational Education and Training in order to form a unique governmental institution for these areas.

Mr. Mucko gave short brief about Croatian Accreditation Agency, topics of accreditation and on certification schemes and certification of institutions and people regarding standards ISO 17 000 and HRN EN 45 000. List of different areas of accreditation has been presented, with relevant standards, as well as

history of accreditation in Croatia. Presentation also gave overview of structure of accredited bodies in Croatia, and in detail, accredited bodies for certification of people.

Mr. Vojvoda presented history, organization and activities of Croatian Chamber of trades and crafts (HOK). HOK is composed out of 21 regional branches and 114 associations of craftsmen's. Main activities of HOK are promotion of crafts, representing the interests of craftsmen in front of state authorities, organization of participation of craftsmen in the domestic and international fairs, vocational education and assistance in establishing and operating a craft. Mr. Vojvoda works in Advisory service, so he presents structure of the questions of craftsmans regarding type of the question and magazine published by HOK – Obrtničke Novine, *Craft news*. Mr. Pandurević representing Croatian professional association for Solar energy gave overview of fundamental principles of HSUSE, their work and activities and their headquarters, Solar roof Špansko. Mr. Arsoški from Technical School Sisak presented structure of education programmes in school and their activities in the field of education on use of photovoltaics – educational programme “Solar systems specialist”, school PV system 2.8 kW and Summer school of solar energy.

Mr. Prebeg presents organization, working activities, projects of Energy Institute Hrvoje Požar.

Presentation of the project PVTRIN

Mr. Bačan held a presentation about the project PVTRIN, in detail. This presentation has 33 slides and was presented in 50 minutes. A content of the presentation was:

- Background of the project
 - o Development of the PV market in world and Croatia
 - o Directive EC/28/2009
- Intelligent Energy Europe programme
- Project PVTRIN
 - o Main objectives
 - o Expected results
 - o Working Packages
- Present activities on project
- National consultation committee

As some of the NCC members are not people closely connected to the PV, short overview of photovoltaic systems and their mayor use is presented. Growth of global and EU capacities of PV plants has been presented, regarding development of PV market in the world. Croatian PV market is described with fundamental energy indicators – Croatia has stable growth of consumption of electricity about 2 % p.a. and around 25 % of electricity is imported. Main share in consumption structure is related to the households and service sector, which are identified as most promising market segments for small PV systems. Croatian RES legislative and feed-in tariffs were described. Current total installed capacity of PV plants in Croatia encounters 16 projects with around 400 kW of capacity, but most of these capacities are covered by only one project – Rijeka Bypass Noise Barrier with 265 kW. Main barrier for higher penetration of the PV in the market is complicated administrative procedure which is hardly manageable

by typical small PV plant owner. Also, further development of Croatian PV market is presented; with calculation of how much small PV systems should be installed in order to achieve this target – 2 per day, if we start now.

Main objectives of Directive 2009/28/EC were presented – EU target of 20-20-20 by 2020, and development of the certification systems for small RES installers, with citing text of directive.

Regarding project PVTRIN, basic concepts, consortium composition, specific and strategic objectives and expected results has been presented. Target groups for the PVTRIN projects are commented. EIHP participation and role in the project as well as present activities on projects in Croatia and as whole are presented: kick off meeting, research on similar educational programmes, survey for PV owner and industry, activation of key players on market and project promotion. Required composition of NCC was presented, in order to NCC members figure why they are called in it. Also, their tasks and expected outcomes are presented.

Project's working packages were presented on structure scheme, with detailed presentation of WP2, WP3, WP4, W5 and WP7 on one or two slide each.

Discussion on the project

Time for the discussion on the project was planned at the end of the meeting, but in accordance with good practice discussion sever Mr. Mucko (HAA) stated that from view of accreditation agency, this certification scheme will be certification of the persons, thus must comply with standards ISO 17000.

Mr. Pandurević (HSUSE) stated that beside mentioned administrative procedure another barrier he identified is lack of financing for PV systems from the banks and financial institutions. Many of current “green” loans on market can not be used for PV, as their parameters do not fit the output of usage of PV systems. Thus, new loans for PV should be tailored from the banks in order to avoid financing barrier.

Question from Mr. Mucko was about status of implementation of Directive 28/2009/EC in Croatia. Our project must find it basis in national legislative. As responsible Ministry of Economy did not yet implement mentioned directive, and only beginners steps are taken in order to implement it, Ministry of economy should be notified of the project PVTRIN, so the outcomes of the project could help in implementing the Directive. Ministry of Economy is introduced in the project as they sign Letter of support for this project as well as through IEE project CARES on which EIHP is engaged as support tot the Ministry. However, additional mail was sent in the Ministry, and promo materials about the project will be sent there. Mr. Mucko also state that accreditation scheme developed under PVTRIN must me accepted by the Ministry in process of implementing directive, and that we must avoid developing our accreditation scheme that would be different from one defined by Ministry in other documents.

Mrs. Popović (AOO) stated that according the Croatian law there are three types of education for adults:

- simple course (*tečaj*) – simple education, unformal courses which can not be approved by Agency, but can be used as proof for some skills, thus the attendees can receive certification or similar,
- educational programme of qualification, where attendees obtain theoretical and practical knowledge needed for simple tasks with low complexity,
- Specialization programme, where attendee expands its skills and knowledge based on secondary school education.

Programmes approved by Agency can be entered into document called “Employment booklet” where all educations and working experience of the worker is recorded. This is relevant according to the Croatian legislative. As Mrs. Popović says, training under the PVTRIN should be classified as specialization programme, as people with secondary school (installers, technicians) will attend this training. However, this type of training requires, according to the law, at least 150 hours. Thus, it must be decided whatever will be necessary for PVTRIN to be entered in the “Employment booklet” or it can exist on the educational market as education not covered by Agency, but only with certificate. This question opens another question, what does this education/certification represents to the installers/technicians – is it “only” some sort of authorization for installers from Ministry for installing the PV systems, and should it be linked in that way with educational programmes?

In addition to this comment, discussion was continued in way if installers can be certified if they finish educational programme in the secondary schools (technicians, installers) that will be in accordance with requirements defined in Directive. Croatian secondary schools systems can educate people in any field that is classified in National classification of professions. Here is emphasised that education for the PV installers should be harmonized with (new) secondary educational programmes, or vice versa.

Regarding the criteria for the first training course, discussion was about which criteria should be set. Mr. Vojvoda (HOK) said that craftsman’s master exam which is needed if craftsman wants to open it own craft should be considered as criteria, as with it attendees for the workshop will be selected among most experienced ones, and can transfer knowledge on their co-workers. Mrs. Popović is of opinion that this criterion is further tightening requirements for registration in the program and thus should not be used for additional training and certification. In this way, participant could complete the training for PV installers, independently complete master examined open the craft work. Minutes of first meeting of Croatian National Consulting Committee.

At the end of meeting, it was emphasised that project and legislative should develop simultaneously, and the support to the legislative development is crucial.

First NCC meeting was closed at 17:30, with various talks about use of photovoltaics and business opportunities for Croatia, craftsmen, educational institutions, but also about barriers and hurdles we are faced everyday.

Material provided

All participants received folder with following printed materials:

- Agenda of the meeting
- PVTRIN Factsheet
- Handouts of the presentation of the Energy Institute Hrvoje Požar
- Handouts of the presentation of the project PVTRIN
- Directive 28/2009/EC with marked articles about certification of installers
- EIHP brochure
- Magazine “Solar Technology” with article about project PVTRIN
- CD with presentations and electronic versions of printed documents



Participants' signatures

Prvi sastanak Nacionalnog odbora za konzultacije					
Energetski institut Hrvoje Požar, Savska cesta 163, Zagreb, 16.11.2010.					
Potpisna lista					
Ustanova	Predstavnik	Funkcija	Kontakt telefon	e-mail	Potpis
ASCO	ANNE-MARIE POTOVIC	VOĐITELJICA ODSJEKA ZA OBRAZLOŽNE PROGRAME	5005 640	anne-marie.papovic@asc.hr	Papovic
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EIHP	LJILJANA HORVAT	ZAMJENIK VODITELJICE ODJELA ZA OIB/IEE	01/6326 113	lhovath@eihp.hr	

5.3 Cyprus

5.3.1 Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Webpage
1	CYS	CYPRUS ORGANISATION FOR STANDARDISATION	Standardisation Organisation	Mr Diamantis ZAFIRIADES	Standardization Officer	Tel: +357 22411423 +357 99585709 Fax: +357 22411511 e-mail: d.zafeiriades@cys.org.cy	www.cys.org.cy
2	SEAPEK	Cyprus Association for the promotion of Renewable Energy Sources	Association of PV industry	Mr Christodoulos PHARCONIDES	Vice President	Tel: +357 22505404 +357 99403924 Fax: +357 22256716 e-mail: pharconides@ergohomegroup.com	www.seapek.com
3	UC	University of Cyprus	University	Dr George Elias GEORGHIOU	Head of PV technology	Tel: +357 22892272 +357 99329049 Fax: +357 22892260 e-mail: geg@ucy.ac.cy	www.pvtechnology.ucy.ac.cy/pvtechnology/
4	EAC	Electricity Authority of Cyprus	DSO	Dr Andreas POULLIKKAS	Assistant Manager Research and Development	Tel: +357 22201810 Fax: +357 22201809 e-mail: apoullik@eac.com.cy	www.eac.com.cy
5	CEA	Cyprus Energy Agency	Energy Agency	Mr Savvas VLACHOS	Energy Specialist	Tel: +357 22667716/26 Fax: +357022667736 e-mail: Savvas.Vlachos@cea.org.cy	www.cea.org.cy
6	FU	Department of Electrical Engineering Frederick University	University	Dr. Nicholas CHRISTOFIDES	Professor	Tel: +357 22431355 - ext 154 Fax: +357 22438234 e-mail: n.christofides@fredererick.ac.cy	www.frederick.ac.cy
7	ECFC	Electrical Contractors Federation of Cyprus	Federation of Associations	Mr Soteris Aristodemou	President	Tel: +35799626857 Fax: +357 22480198 e-mail: info@arimec.com.cy	
8	CPC	Cyprus Productivity Center	Governmental	Mr Iacovos Andreou		Tel: +35722806150 Fax: +35722375450 e-mail: iandreou@kepa.mlsi.gov.cy	www.mlsi.gov.cy/kepa

5.3.2 Organisations profiles

Cyprus Organisation for Standardisation (CYS)

The CYS is the national organisation for standardisation of Cyprus. The CYS functions as Company of Private Right with only shareholder the state, managed from 7 members Board of directors. Constituted from representatives of Ministries of Finance and Ministry of commerce, Industry and Tourism as well as institutions of private sector as the Contact of Consumers, the OEB, the KEBE, the ETEK. The CYS is complete member of international organisations for standardisation ISO (International Organisation for Standardisation) and IEC (International Electrotechnical Commission). Also the CYS functions as the national centre of standardisation and represents Cyprus in the European organisation for standardisation CEN, CENELEC and ETSI. The CYS participates actively in the international and European standardisation promoting the national interests, while at the same time promotes the application the European and international standards in the Cyprus enterprises.

The CYS, has the background to support the NCC explaining the Standardisation procedures and the European/National standards.

Cyprus Association for the promotion of Renewable Energy Sources (SEAPEK)

The Association (SEAPEK) was founded in 2004 by RES enterprises representatives who wanted to promote further the Renewable Energy Sources (RES) in Cyprus. SEAPEK has been developed into a professional association. Trying to achieve the scientific and professional level of its members, SEAPEK, puts a lot of attention also on training and informing the general public by organizing seminars, workshops and events on issues related to RES.

The needed information about the photovoltaics companies, industries and practices should be given from SEAPEK which is an association with 6 years experiences in Local market. The members of SEAPEK employ PV installers.

University of Cyprus – PV Technology Park

The PV technology Group, is part of the recently established Department of Electrical and Computer Engineering at the University of Cyprus. One of the main priorities of the Department is to develop a research portfolio into the area of renewable energy sources with emphasis on solar and PV systems.

The University of Cyprus has the expertise and the experience to assist the project with technical information and research results about photovoltaics. The PV Technology Group could assist many parts of the project implementation.

Electricity Authority of Cyprus - DSO

The EAC is currently the only electricity producer in the island and also is the DSO and owns the distribution and transmission networks. EAC aims the provision of reliable transmission and distribution of the demand for electricity at any time at reasonable prices and with safety, satisfying the qualitative and environmental requirements of the citizens.

The Contribution of DSO to the NCC is very important because is the authority who operates the connection of photovoltaics to the electricity distribution system.

Cyprus Energy Agency

The Cyprus Energy Agency is a non profit organization that was established in 2009 with co-funding by the European Commission under the Intelligent Energy for Europe Programme and the Cyprus Union of Communities. The scope of the Agency is to promote renewables, energy efficiency and sustainable transport. Besides the other activities of the Agency e.g. provision of technical services and to support the implementation of European policies at national level its main activities focus on the training of scientists, engineers, professionals, individuals and other groups.

The Cyprus Energy Agency will support the NCC with technical and legislative information regarding the photovoltaics. The Agency has also the ability to support the project by disseminate the results and the information extracted from the project.

Department of Electrical Engineering Frederick University

The Department aims to enable students to make immediate contribution to industry and take responsibility of the development, design, construction, application and operation of devices and systems. It, also, furnishes students with the necessary tools to proceed to advanced degrees. The main objectives are:

- to provide an understanding of scientific concepts and engineering laws and develop abilities to interpret and evaluate engineering problems.
- to provide a broad based education in electrical and electronic engineering together with the relevant mathematics and support subjects.
- to reinforce understanding of theory through laboratory application of logic and electrical circuits, transmission and modulation theory, electrical machines and transformers, three phase distribution techniques, robotic systems, electronics and microprocessors.
- to provide the necessary knowledge to students enabling them to carry out consultation services. to furnish students with knowledge on specialized subjects based on the area of interest of individual students concerned.

The Electrical Engineering Department of Frederick University should provide the NCC with information about training and education of engineers.

Electrical Contractors Federation of Cyprus

This organisation was established as an umbrella organisation and that's why it is a federation to cover all the professional electrical contractors in Cyprus. This organisation is under the OEB (Industrialist and Employers Federation) and it is very active.

Members of ECFC are the main target group of the project as the majority of PV systems in Cyprus are installed from electricians. ECFC will encourage a greater number of technicians to advance their professional skills and will help the project to spread out the knowledge about good practices and the main "key-parameters" for effective PV/BIPV installation/integration on building.

The Cyprus Productivity Centre (CPC)

The Cyprus Productivity Centre (CPC) was established in 1963 by the Cyprus Government, with assistance from the United Nations Development Program and the International Labour Office. Administratively, the CPC is a Department of the Ministry of Labour and Social Insurance. The Cyprus Productivity Centre (CPC) has its long-term objective "to assist private and public organizations to utilize their human and capital resources in the best possible manner, with a view to increasing their productivity". This original objective still remains valid, but what predominates today is the economic and social development of Cyprus in the 21st century within the European Union where the utilization of human and other resources goes hand in hand with the effort of improving the quality of life in general and more specifically the quality of life at work.

The CPC will advise the NCC about how to develop appropriate qualifications for installers and training courses. It is the organisation responsible in Cyprus for the development of professional qualifications and skills and vocational training.

5.3.3 NCC meetings

1st Meeting of the Cypriot National Consulting Committee - Minutes

Date and time of the meeting: **15/11/2010 16.1**

Place of the meeting: **ETEK premises, Nicosia**

The first NCC meeting was held on the in the. The participants to the meeting were the following:

- Christos Maxoulis ETEK
- Anthi Charalambous ETEK, In-house consultant
- Savvas Vlachos Cyprus Energy Agency
- Christos Pharconides SEAPEK
- Diamantis Zafeiriades CYS
- Nicholas Christofides Frederick University
- Iacovos Andreou Cyprus Productivity Centre

A short description of the project scope, aims and so far implementation was presented by ETEK. After that, an open round table discussion followed. The members of NCC discussed about their input and so far experiences on the topic and constructive dialogue followed the initial comments.

In particular, Mr Pharconides representative of SEAPEK described the current situation of photovoltaic market/installers in Cyprus. He mentioned that, the certification of PV installers should not in any case increase the total cost of PV installations. Furthermore, it was mentioned that the current licensing mechanism of PV in Cyprus is time –consuming, and the PV Installers certification is expected to simplify the current procedure. The CYS representative Mr Zafeiriades mentioned that currently none of the existing training courses has been certified in Cyprus.

In conclusion, all the members of the NCC agreed with the scope of the project and declared that the project deliverables should support the Government for the harmonization with Directive 2009/28/EC.

5.4 Greece

5.4.1 NCC Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Webpage
1	HELAPCO	Hellenic Association of Photovoltaic Companies	PV Industry Association	Vokas George Zachariou Alexandros	Board of Directors Member - <i>Secretary</i> <i>Vice Secretary</i>	e-mail: info@helapco.gr , G.Vokas@conergy.gr , azachariou@heliosphera.com Vouliagmenis Ave. 224,GR-173 43 Athens, tel: +30210-9577470	www.helapco.gr
2	SPEF	Association of Energy Producers from PV	Association of PV investors	Kilimis Panos Daniilidis Konstantinos	Member of the Board of Directors- <i>Treasures</i> President	e-mail: info@spef.gr , p.kilimis@spef.gr k.daniilidis@spef.gr tel: +30 210 6828580, 6654424 Artemidos 2, 115 25 Marousi, Athens	www.spef.gr
3	PASYF	Panhellenic association of PV investors	Association of PV investors	Kalogerakis Nikos	President of the Board of Directors	e-mail: info@pasyf.gr tel: +30 6932417847, +30 6934811723	www.pasyf.gr
4	POSEH	Panhellenic federation of electrical contractors associations'	Union of electricians	Daras Eystathios Konstantopoulos Charalampos	President of the Management Board General Secretary	i.e-mail: info@poseh.gr , ptsokanis@poseh.gr tel: +30 2103248455	www.poseh.gr
5	UHCCI	Union of Hellenic Chambers of Commerce and Industry	Chamber of Commerce	Asonitis George	Scientific Advisor	e-mail: keehcci@otenet.gr , asonitis@uhc.gr , tel: +30 2103387104 6 Akadimias str., 10671 Athens	www.uhc.gr
6	TEE	Technical Chamber of Greece	Professional Association of Greek Engineers	Metinidou Magdalini Mathioudakis Georghios	Head of Standardization Dpt Chairman of the Committee for Quality Standardization and Certification	e-mail, standard@central.tee.gr , lmetin@central.tee.gr Tel: +30 210 3225094, 3291704 Lekka 23 - 25, 105 62, Athens	www.tee.gr
7	HELLASCERT	Hellenic Association of Accredited Certification and Inspection Bodies	Accreditation bodies Association	Konstantinos Kesentes	Member of the Board of Directors – Chairman of the Technical Committee for Personnel Certification	e-mail: hellascert@otenet.gr , constantinos.kesentes@peoplecert.gr tel: +30 2107290344 8 Alkamanous & Sinisis Str 11528 Athens	www.hellascert.gr
8	RAE	Greek Regulatory Authority for energy	National authority	Rachiotis Dimitrios	Member of the Board of Commissioners	e-mail: info@rae.gr , tel:+30 2103255460, Pireus Ave., 11854, Athens	www.rae.gr
9	TOTEE/ TEE	Technical Chamber's of Greece Steering Committee of Technical Guidelines for the integration of RES on buildings (TOTEE)	Professional Union/ Technical actors	Ageridis George	Chairman of the Steering Committee of TOTEE/TEE - Director of Energy Efficiency Division/CRES	e-mail: tee_lib@tee.gr , Gayer@cres.gr tel:+30 210 3291701, 210 3291717 Lekka 23-25, Athens, 10562	http://portal.tee.gr/portal/page/portal/SCIENTIFIC_WORK/TOTEE_P

5.4.2 Profile of the Organisations

Hellenic Association of Photovoltaic Companies - HELAPCO

HELAPCO is a non-profit organization established by representatives of Greek photovoltaic companies in 2002. Its aim is the promotion of RES, with an emphasis on PVs. HELAPCO has currently 60 members. The association comments and proposes amendments to Greek laws related to PV energy production and provides information for PV to all interested parties, also provides guidelines for the proper installation of ground mounted PV systems and BIPV.

HELAPCO's main role, as a NCC member, will be to transfer the market's knowledge/experience and to assist to the identification of the market needs and constrains in Greece. Also, HELAPCO will provide technical advice on good installation practices and will promote the certification within its members.

Association of Energy Producers from PV - SPEF

SPEF was established in 2008 by PV energy producers, aiming to safeguard their interests and to solve institutional problems related to the PV energy production by private capital. SPEF has 85 members, already producing energy. The SPEF's Board of Directors has regular meetings with the Hellenic Transmission System Operator Regulatory Authority for Energy and the Ministry of Environment in order to defend the financial interests of its members and to fight bureaucracy.

SPEF is expected to contribute by transferring its members experience in PV installations in Greece regarding the quality and efficiency of the system and will support dissemination efforts by informing its members for the benefits of involving certified installers and promoting the PVTRIN certification scheme.

Panhellenic association of PV investors - PASYF

PASYF represents the Greek investors in PV, consisting mainly by small scale investments. PASYF aims to promote the PV installations, to eliminate bureaucracy and to protect the investors' interests. The association was established in 2008 and is based in Heraklion, Crete.

PASYF will support TUC to measure the PV installation owners' level of satisfaction as regards the installation and maintenance procedures and to record their opinion/perceptions concerning the value/advantages of the certification of installers. Also will support dissemination efforts

The two investors' associations (SPEF and PASYF) will also provide valuable help in order to identify and record common failures and wrong practices in the installation of PV systems in Greece.

Panhellenic federation of electrical contractors associations - POSEH

POSEH's members are the 72 Greek electrical contractors associations covering the entire country. The federation aims to defend the interests of its members, to inform and train them in new technologies. The association organises training seminars in cooperation with the Vocational Training Center/Hellenic Confederation of Professionals Craftsmen and Merchants. Recently POSEH has launched a new cycle of one day seminars on issues related to PV installation.

The POSEH members are among the main target group of the PVTRIN as PV systems in Greece are mainly installed by electricians. POSEH will provide support and feedback during the scheme's development and will promote the PVTRIN training and certification through its members encouraging a greater number of technicians to advance their professional skills. Also they will be involved to activities for promoting good practices for effective PV/BIPV installation/integration on building.

Union of Hellenic Chambers of Commerce and Industry - UHCCI

UHCCI represents all Greek Commerce and Industry's Chambers. UHCCI, and the 59 member-Chambers, are the link between enterprises and public administration. UHCC fosters close cooperation both with Ministries, and involved agencies, for the development and streamlining of the small/medium enterprises, also assists them to improve their business environment and to gain access to financing mechanisms.

UHCCI will reinforce dissemination and networking activities about the certification mark, through their members. Also, UHCC through its political influence will support the certification adoption involving appropriate national bodies and key market actors.

Technical Chamber of Greece – Standardization Department

TEE is the official body representing all engineers in Greece, and constitutes the official Technical Advisor of the State on any issue within its scope. TEE support its members by conducting examinations and awarding professional licenses, caring for the employment/continuing education/social security of its members, and enforcing their professional rights and perspectives. In specific, the Standardisation department operates since 1933 supporting standardisation efforts in any field within the technical field in Greece. Its main activities includes the collection of the Eurocodes, Technical Guidelines and all Greek (ELOT), European (EN), International (ISO), German (DIN) and American (ASTM) standards, as well as the information/advice of its members and any interested actor about the recent standardization legislation. This department runs technical committees in order to draft standards and participates in the European Committee for Standardization.

The TEE Standardisation department will provide advice during the development of the certification scheme in Greece and will support its adoption, as the Technical Advisor of the State. TEE will also play a significant role in promoting the quality criteria on PV installations through its members, all the Greek engineers.

Hellenic Association of Accredited Certification and Inspection Bodies - HellasCert

HellasCert is the Hellenic Association of Accredited Certification and Inspection Bodies based in Greece interested in conformity assessments, operating according to the European standards ISO/IEC 17020, ISO/IEC17021, and ISO/IEC17024, EN 45011. HellasCert aims to improve the quality and the safety of products and services, through the procedures of "Inspection" and "Certification".

Their main role in the PVTRIN project will be to provide advice on critical points regarding the accreditation procedures and the certification requirements.

Greek Regulatory Authority for Energy

RAE is an independent administrative authority. Its establishment is based on the provisions of L. 2773/1999, for the harmonization of the Hellenic Law to the Directive 96/92/EC for the liberalization of the electricity market. The RAE's main duties are to monitor the operation of all sectors of the energy market, to participate in the pre-parliamentary legislative process through recommendation to the Minister of Development of the appropriate measures related to the energy market and in the process for the granting and revocation of licenses for the discharge of electricity activities, to advice in the procedure for the approval of electricity retail tariffs with the exception of access tariffs.

RAE will support to the identification/understanding of the regulatory framework and administrative constrains in Greece. They will also act as a link between the consortium, public authorities and decision making bodies.

Steering Committee of Technical Guidelines for the integration of RES on buildings, Technical Chamber of Greece (TOTEE)

The Steering Committees of TOTEE develops accurate technical specifications and instructions for projects to be developed by the Greek manufacturing and productive sector and includes specific issues for the harmonisation to national or EU legislation. These guidelines are adopted by the Greek State. In specific, the Steering Committee of Technical Instructions for the integration of PVs on buildings will provide recommendations and will establish specifications for the development of projects related with the integration of RES on building including all the development stages (planning, design, construction, supervision, maintenance, operation). The instructions include references to the standards of the National Standardisation Organisation (ELOT) and in cases there are no national standards there is reference to international standards (ISO, European) or recognized national standards (DIN, BS, AFNOR, etc.) on the design, selection of materials and components, construction, installation, maintenance and operation of technical projects.

TOTTE /CRES will provide advice as regards technical specifications for installing PV on building; thus assisting the development of appropriate training material and tools and the definition of the certification scheme requirements

5.4.3 NCC meetings

1st Meeting of the Greek National Consulting Committee - Minutes

DATE	November 18th, 2010, 11.30-15.00
VENUE	Conference Room, Union of Hellenic Chambers of Commerce and Industry, 6 Akadimias Str., Athens

Participants:

- Mr George Asonitis, *Scientific Advisor, UHCCI*
- Mrs Rania Theodosopoulou, *President's office UHCCI*
- Mr George Vokas, *Secretary MB, Helapco*
- Mr Alexandros Zachariou, *Vice Secretary, MB, HELAPCO*
- Mr Panos Kilimis, *Member MB, SPEF*
- Mr Nikos Kalogerakis, *President MB, PASYF*
- Mr Charambos Konstantopoulos, *General Secretary MB POSEH*
- Mr Konstantinos Kesentes, *Member MB, Chairman of the Technical Committee for Personnel Certification, HELLASCERT*
- Mr George Mathioudakis, *Officer of the Committee for Quality Standardization and Certification, TEE*
- Mr Antonis Pittaridakis, *President TEETDK*
- Dr Theocharis Tsoutsos, *Associate Professor – Director of the Renewable and Sustainable Energy Systems lab. Environmental Engineering Dpt, TUC*
- Ms Stavroula Tournaki, *Chemical Engineer MSc, European Projects Expert - PVTRIN project manager, TUC*
- Mr Ilias Papalaios, *Department of Production Engineering and Management, Project partner, TUC*

Not present:

- Ms. Magdalini Metinidou, *Head of the Standardization Dpt, TEE (substituted by George Mathioudakis)*
- Mr. George Ageridis, *Chairman of the Steering Committee of TOTEE/TEE - Director of Energy Efficiency Division/TEE*

Meeting's Minutes

Dr. Theocharis Tsoutsos, the PVTRIN project coordinator, has opened the NCC meeting's works welcoming all the members and expressing the consortium's appreciation for their prompt response. He briefly explained the role of the committee and the contribution expected from the NCC members during the PVTRIN project implementation.

A short presentation of the members (organizations and representatives) followed by each participant. All members confirmed their intention to actively contribute according to their experience, expertise and area of influence. They agreed that there is a genuine market need for training and certification scheme for PV installers that will be consistent to internationally acknowledged quality standards.

More specific, the representatives of HELAPCO, HellasCert and the Committee for Quality Standardization and Certification (Technical Chamber of Greece) referred to their relevant experience and expressed their willingness to transfer their knowledge regarding issues related to the training and certification of technical professions. They highlighted that a credible, feasible, and urgently available scheme is required, as well as structured activities in order to motivate and inform both the State, and the involved technical actors (engineers, installers), about the value of the certification.

The POSEH's representative informed that, according their federation's thesis, the certification is not necessary and reported their concerns regarding the educational paths to obtain the certification and the recertification process. However, they declared that they will support PVTRIN transferring their technical expertise from the field

Following, Ms. Stavroula Tournaki, the PVTRIN project manager, presented the main objectives and project activities of the PVTRIN and referred to the relevant European policy and the necessity of the development of, mutually acknowledged between EU MS, certification schemes. Dr. Theocharis Tsoutsos presented the national regulatory framework, the objectives of the National Energy Action Plan and the forecasting growth for both the EU PV market and the PV related jobs demand. He also informed the Committee members about the EU level field research within the PVTRIN framework and presented the first results on the opinion and perceptions of key market actors involved for the market needs regarding training and certification of installers, and also on the satisfaction level of PV owners on issues related to the installation, maintenance and performance of PV systems.

The issues discussed were:

- The opinion of the PV industry actors, PV investors and other stakeholders regarding the adoption of mutually acknowledged quality standards for PV installers
- The existing framework of installers' training and personnel certification
- Critical points for the development and implementation of a certification scheme for PV installers

The following summarize the point of views and considerations of the NCC members:

- Investors are, often, attracted to proposals by not experienced technicians, due to the less investment costs. This fact result to technical failures during the system installation and, most of the times, they turn to the specialised and acknowledged companies for solutions. The establishment of certification schemes may improve the market function and contribute to more efficient installations.
- The market needs a credible, feasible, flexible (not “heavy”) certification scheme consistent to international standards. The market is now mature, as all stakeholder groups agreed.
- Today, many technicians do not have the appropriate competences to install PV; they are not aware of basic safety and sizing principles. So, the industry has to deal with the high risk of accidents and technical failures. In particular, when the installation of BIPV is concerned as this is a more complex process and requires numerous skills.
- The training of the installers is not a simple academic training. Hands-on-practice is needed. Especially the “health and safety” issues are not adequately covered in the existing training programmes.
- The training should focus both on the proper operation of the PVs, but also on issues related to proper siting and the installers’ and public safety. Universities, Technical Educational Institutes, IEKEM TEE are appropriate training providers. Professional installers should be certified as instructors for the technical part
- The certification process could lead to higher installation costs, up to 15% - mainly due to the increase in the number of manhours. This may cause the opposition of the investors, however the market should not be ignored that a work accident may prove much more harmful.
- The NCC composition allows this instrument to act as the Certification Council according to the international standards for certification schemes development. The 1st step concerns the certification of the training programme and the training providers , the 2nd the development of the certification scheme for the PV installers
- The under development scheme will targets to the installers, not designers/engineers. It should be credible, feasible, flexible (not “heavy”) certification and achievable. During the decisions regarding the certification requirements and criteria provision should by taken in order not to add more bureaucratic barriers to the market development.
- The role of the State is significant during the development. The development of different certification schemes is possible, but the market will support the most reliable which in parallel complies with the international standards.

Closing, the committee members consent that the role of the NCC will not be limited to meetings’ participation; is more vital and involves the active contribution to the development of an appropriate scheme, the evaluation of deliverables, and the promotion of the certification. Specific actions in order to inform the representatives of the Ministry of Environment and Climate Change were agreed. Also actions to sensitize both the State, and all the engineers will be initiated by TEE.


The HellasCert representative promised to circulate to the PVTRIN partners the methodology which is followed by the International Personnel Certification Association (IPC).

HELAPCO is expected to contribute to the training material development, transferring their members' experiences and providing knowledge and technical expertise from the fieldwork (i.e best practice reports, troubleshooting, most common technical failures etc)


The next NCC meeting was scheduled for autumn 2011. In the meantime, there will be regular communication and cooperation with all the members through teleconference and emails.



Meeting Agenda



ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ
ΤΜΗΜΑ ΜΗΧΑΝΙΚΩΝ ΠΕΡΙΒΑΛΛΟΝΤΟΣ
ΕΡΓΑΣΤΗΡΙΟ ΑΝΑΝΕΩΣΙΜΩΝ ΚΑΙ
ΒΙΩΣΙΜΩΝ ΕΝΕΡΓΕΙΑΚΩΝ ΣΥΣΤΗΜΑΤΩΝ



**ΚΑΤΑΡΤΙΣΗ ΚΑΙ ΠΙΣΤΟΠΟΙΗΣΗ
ΕΓΚΑΤΑΣΤΑΤΩΝ Φ/Β ΣΥΣΤΗΜΑΤΩΝ**

1^η Συνεδρίαση Εθνικής Συμβουλευτικής Επιτροπής


Αθήνα, 18 Νοεμβρίου 2010

Αίθουσα Συνεδριάσεων Κεντρικής Ένωσης Επιμελητηρίων Ελλάδος, Ακαδημίας 6

ΣΥΜΜΕΤΕΧΟΝΤΕΣ ΦΟΡΕΙΣ

- Ελληνική Ένωση Διαπιστευμένων Φορέων Επιθεώρησης και Πιστοποίησης (HELLASCERT)
- Εθνικό Κέντρο Πιστοποίησης Συνεχιζόμενης Επαγγελματικής Κατάρτισης (ΕΚΕΠΙΣ), *αναμένεται επιβεβαίωση*
- Κεντρική Ένωση Επιμελητηρίων Ελλάδος (ΚΕΕ)
- Πανελλήνια Ομοσπονδία Σωματίων Εργοληπτών Ηλεκτρολόγων (ΠΟΣΗ)
- Πανελλήνιος Σύνδεσμος Επενδυτών Φωτοβολταϊκών (ΠΑΣΥΦ)
- Σύνδεσμος Εταιριών Φωτοβολταϊκών (ΣΕΦ)
- Σύνδεσμος Παραγωγών Ενέργειας με Φωτοβολταϊκά (ΣΠΕΦ)
- Τεχνικό Επιμελητήριο Ελλάδας (ΤΕΕ):
 - Τμήμα Τιποποίησης
 - Συντονιστική ομάδα ΤΟΤΕΕ για την εφαρμογή των ΑΠΕ στα κτίρια

1^η Συνεδρίαση Εθνικής Συμβουλευτικής Επιτροπής PVTRIN





ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ
ΤΜΗΜΑ ΜΗΧΑΝΙΚΩΝ ΠΕΡΙΒΑΛΛΟΝΤΟΣ
ΕΡΓΑΣΤΗΡΙΟ ΑΝΑΝΕΩΣΙΜΩΝ ΚΑΙ
ΒΙΩΣΙΜΩΝ ΕΝΕΡΓΕΙΑΚΩΝ ΣΥΣΤΗΜΑΤΩΝ



ΠΡΟΓΡΑΜΜΑ

11.30 Έναρξη συνεδρίασης
Δρ. Θεοφάνης Τσοτύρος, Αναπληρωτής Καθηγητής Διευθυντής Εργαστηρίου Ανανεώσιμων και Βιώσιμων Ενέργειακών Συστημάτων, Τμήμα Μηχανικών Περιβάλλοντος, Πολυτεχνείο Κρήτης

11.40 Γνωριμία μελών Εθνικής Συμβουλευτικής Επιτροπής
Σύντομη παρουσίαση (2-3 min) των φορέων που συμμετέχουν στη Συμβουλευτική Επιτροπή, από τους εκπροσώπους τους:

- κ. Γιώργος Ασιανίτης, Ειδικός Σύμβουλος Διοίκησης ΚΕΕ
- κ. Γιώργος Βόκας, Γραμματέας Δ.Σ. ΣΕΦ
- κ. Πάνος Κλίμης, Μέλος Δ.Σ. ΣΠΕΦ
- κ. Νίκος Καλογεράκης, Πρόεδρος Δ.Σ. ΠΑΣΥΦ
- κ. Ευστάθιος Δάρας, Πρόεδρος Δ.Σ. ΠΟΣΗ
- κ. Κωνσταντίνος Κεοκοντές, Μέλος Δ.Σ. HELLASCERT, Πρόεδρος Τεχνικής Επιτροπής Πιστοποίησης Προσώπων
- κ. Αίλινα Μικτινίδου, Προϊσταμένη Τμήματος Τιποποίησης ΤΕΕ
- κ. Γιώργος Αγερίδης, Πρόεδρος Συντονιστικής ομάδας ΤΟΤΕΕ για την εφαρμογή των ΑΠΕ στα κτίρια -ΤΕΕ, Δ/ντης Τομέα Ενέργειακής Αποδοτικότητας ΚΑΠΕ

12.15 Κατάρτιση και Πιστοποίηση Φωτοβολταϊκών Συστημάτων στην Ευρώπη
Το Ευρωπαϊκό Έργο PVTRIN - Στόχοι και πλάνο δράσης
Σταυρούλα Τουρνάκη, Χημικός Μηχανικός ΜSc, Ειδικός Ευρωπαϊκών Προγραμμάτων - PVTRIN project manager, Πολυτεχνείο Κρήτης

12.30 Η αγορά εργασίας και οι απόψεις Φ/Β κλάδου και επενδυτών
Δρ. Θεοφάνης Τσοτύρος, Αναπληρωτής Καθηγητής - Διευθυντής Εργαστηρίου Ανανεώσιμων και Βιώσιμων Ενέργειακών Συστημάτων, Τμήμα Μηχανικών Περιβάλλοντος, Πολυτεχνείο Κρήτης

12.45 Διάλογος, ανταλλαγή απόψεων:
Τα θέματα που θα συζητηθούν αφορούν:

- Υφιστάμενο πλαίσιο κατάρτισης και αναγκαίες προσαρμογές για την πράσινη οικονομία
- Τεχνικά Επαγγέλματα και Πιστοποίηση-Θεσμικό πλαίσιο
- Κρίσιμα σημεία για την ανάπτυξη και εφαρμογή συστήματος πιστοποίησης εγκαταστάτων Φ/Β
- Η θέση του κλάδου Φ/Β (βιομηχανία, υπηρεσία), των επενδυτών και των εμπλεκόμενων φορέων σε σχέση με τη θεσμοθέτηση προτύπων ποιότητας
- Προοπτικές από την εφαρμογή του συστήματος (σε Ευρωπαϊκό ή ελληνικό επίπεδο)

14.15 Ερωτήσεις, Συμπεράσματα

14.30 Ελευθό Γεύμα

1^η Συνεδρίαση Εθνικής Συμβουλευτικής Επιτροπής PVTRIN



5.5 Romania

5.5.1 Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Webpage
1	MECMA	Ministry of Economy, Trade and Business Environment	National authority	Alexandru Sandulescu	General Director, Technical Department	sandulescu@minind.ro Phone: +40 21 202 53 85 Fax: +40 21 202 53 92	www.minind.ro
2	ANRE	National Regulator Authority for Energy	National authority	Eng. Corneliu Radulescu	Director, Project and Authorizations Department	anre@anre.ro Phone: +40 21 311 22 44, +40 21 327 81 00, Fax: +40 21 312 43 65	www.anre.ro
3	MDRT	Regional Development and Tourism Ministry	National authority	Cristian Stamatiade	Director, Constructions Technical Department	cristian.stamatiade@mdrt.ro Phone: +40 37 211 45 65, +40 372 114 574, Fax: +40 37 211 45 92 Mobile: +40 752 196 077	www.mdrtr.ro
4	SunE	Industry Association – New Energy Sources	Professional union of technical actors	Dr. Dan Ilie Teodoreanu	SunE Vice-president; Director – New Energy Sources Center at ICPE (Electrical Research Institute); Member of the “Photovoltaics” European Technological Platform	dan.teodoreanu@gmail.com secretariat@sune.ro danteo@icpe.ro Phone / fax: +40 21 589 34 72 Mobile: +40 745 122 863	www.sune.ro
5	UAUIM	“Ion Mincu” Architecture and Urbanism University, Bucharest	Architects Buildings	Prof. Dr. Arch. Cristina Victoria Ochinciuc	Prof. Dr. Arch.	cristinaochinciuc@yahoo.com Phone: +40 21 315 54 82, +40 21 3077159, +40213077123 Fax: +40 21 312 39 54 Mobile: +40 745 036 446	www.uauim.ro
6	ASRO	Romanian Standards Association	Accreditation body	Iuliana Chilea	Director, Standardization Department	iuliana.chilea@asro.ro Phone: +40 21 310 43 08, +40 21 310 17 30 Fax: +40 21 316 08 70	www.asro.ro
7	VALAHIA	“Valahia” University, Targoviste	PV specialist	Prof. Dr. Eng. Nicolae Olariu	Director, Energy Environment Research Department SunE President	olariu@valahia.ro olariudcem@yahoo.fr Mobile: +40 740 179 667	www.valahia.ro

5.5.2 Organisations profiles

1. MECMA – The Ministry of Economy, Trade and Business Environment is a national authority that coordinates the Energy, Petrol and Gas Direction.
2. ANRE – The National Regulator Authority for Energy is a public independent body whose mission is to create and implement the appropriate regulatory system to ensure the proper functioning of the electricity, heat and gas markets, in terms of efficiency, competition, transparency and consumer protection.
3. MDRT – The Ministry of Regional Development and Tourism is mainly involved in planning, national and regional territorial development, cross-border cooperation, transnational and interregional cooperation, as well as urban planning, housing construction and tourism.
4. SunE – The New Energy Sources Association is a PV Industry Association whose activity concentrates on renewable energy and other related actions.
5. UAUIM – "Ion Mincu" University of Architecture and Urbanism in Bucharest is the oldest and most important academic institution in this field in Romania. It continues a long tradition of local architectural higher education.
6. ASRO – The Romanian Standard Association is a private legal entity of public interest, non governmental and apolitical, set up as a national standards body. ASRO is a member of CEN - European Committee for Standardization, a member of CENELEC - European Committee for Electro Technical Standardization, a member of ISO - International Organization for Standardization and IEC - International Electro Technical Commission. Also, ASRO is an observer member of ETSI - European Telecommunications Standards Institute.
7. VALAHIA – “Valahia” University of Targoviste is a high education and academic institution, specialized in PV research.

5.5.3 NCC meetings

The first NCC meeting took place on the 29th of October, in Brasov.

NCC Members – list of participants:

1. ANRE - Eng. Corneliu Radulescu - Director, Project and Authorizations Department
2. MDRT - Aurelia Siomion - Chief of Constructions Technical Department Service
3. SunE - Dr. Dan Ilie Teodoreanu - SunE Vice-president; Director - New Energy Sources Center at ICPE (Electrical Research Institute); Member of the “Photovoltaics” European Technological Platform
4. UAUIM - Cristina Victoria Ochinciuc - Prof. Dr. Arch.
5. ASRO - Iuliana Chilea - Director, Standardization Department
6. VALAHIA - Prof. Dr. Eng. Nicolae Olariu - Director, Energy Environment Research Department; SunE President

7. ABMEE - Eng. Camelia Rata - Executive Director, RO PVTRIN coordinator
8. ABMEE - Radu Gaspar - Project Manager
9. ABMEE - Leea Catincescu - PR Manager

The agenda of the first NCC meeting in Romania:

TIME	SUBJECT	RESPONSIBLE
9.00 - 9.30	Introduction of the NCC Members	Camelia Rata+ NCC Members
9.30 -10.00	Presentation of PVTRIN project and key role of NCC	Camelia Rata
10.00-11.00	Project's implementation phases Legislation aspects	Camelia Rata+ NCC Members
11.00-11.30	Coffee Break	
11.30-12.00	NCC Members – collaboration aspects in accordance with each member's field of expertise	Camelia Rata+ NCC Members
12.00-12.30	NCC Internal Communication	Leea Catincescu/ Radu Gaspar - ABMEE
12.30-13.00	Propositions, discussions, next meetings	Camelia Rata+ NCC Members
13.00	Lunch	

Topics covered and responses / reactions of NCC members

We can identify two major themes that were subject of discussions between NCC members, the legal framework in Romania and the liability problems regarding the procedures for certification / accreditation.

A) ABMEE / Ms. C. Rață presented the PVTRIN project and the NCC role (PPT. presentation PVTRIN 1).

VALAHIA / Mr. N. Olariu specified that the Classification of Occupations in Romania doesn't include the „PV installer – Level II qualification – experienced worker”. This is why the qualification should be continued.

ANRE / Mr. C. Rădulescu claimed that the institution may request authorization through a substantiation note. The proposed way would be MECMA (the Ministry of Economy, Trade and Business Environment) – MDRT (the Ministry of Regional Development and Tourism) - and afterwards the Ministry of Labour.

Both phases of the project relate to training and accreditation / certification, raising the question of clarifying the national authority that will make the accreditation.

UAUIM / Ms. C. Ochinciuc stated that the BIPV (Building Integrated Photo Voltaic) recorded a very important evolution throughout Europe and also in Romania.

ASRO / Ms. I. Chilea highlighted that regardless of the organization, this must be recognized by a public / governmental structure.

B) ABMEE / Ms. C. Rață presented the regulatory and legal issues on which will be based the development of tasks in PVTRIN project. These are excerpts from the Law 220/2008 and the Government Ordinance 29/2010.

MDRT / Ms. A. Simion clarifies that Directive 31 is due in 2012. Ms. A. Simon adds that the certification should be limited in time, this being necessary in order to make sure that the certification is adapted to the new technologies.

VALAHIA / Mr. N. Olariu points out that in Italy there is already such a certification scheme. Mr. N. Olariu requests clarifications regarding the monitoring process and performance indicators. Mr. N. Olariu emphasizes that the installer needs to know these factors, as he must have specific skills for the installation of monitoring systems.

ANRE / Mr. C. Rădulescu asks about what will be the case of commercial companies. NCC members conclude that it is another matter and it is not subject of PVTRIN project.

C) ABMEE / Ms. C. Rață presented the implementation phases of PVTRIN project (PPT. presentation PVTRIN 2).

VALAHIA / Mr. N. Olariu calls for clarification on the NCC mission, moreover if it finalises at the ending of PVTRIN project or if it continues. NCC Members conclude that the NCC mission should continue even after the PVTRIN project.

ANRE / Mr. C. Rădulescu adds the fact that NCC should have a permanent activity and it should include members from the private sector.

MDRT / Ms. A. Simion suggests that this common framework of professional training should also be at the disposal of Ministries that are not part of the NCC.

ASRO / Ms. I. Chilea stresses the need for all Ministries that might be involved to be consulted simultaneously, and not just in writing, but through hearings - **MECMA, MDRT, Ministry of Labour and Ministry of Environment.**

VALAHIA / Mr. N. Olariu added that in regards of the communication between ABMEE and MECMA, MDRT, Ministry of Labour and Ministry of Environment, he will provide a model procedure.

ABMEE / Ms. L. Catinescu presented an internal communication procedure proposed by ABMEE and discussed with the NCC members.

After the clarification by ABMEE, assisted by NCC members, of the legal framework and liability issues, a new meeting will be proposed.

5.6 Spain

5.6.1 Members List

Organisation/Entity/Body				Contact info			
	Acronym	Full name	Type	Representative	Position	Contact Details	Web page
1	ASIF	Spanish PV Industry Association	PV Industry Association	Javier Anta Fernandez	President	asif@asif.org Dr. Arce, 14 28002 Madrid (España) TLF: +34915900300- FAX: +34 915 612 987	www.asif.org/
2	AENOR	Spanish Association for Standardisation and Certification	Accreditation body	Teófilo de Frutos Herrero	Certification Technical Direction	tfrutos@aenor.es Cl Génova, 6-28004 Madrid TLF: 914326047- FAX: 913104683	www.aenor.es
3	FENIE	Spanish Federation of Electrical & Telecommunication Contractors	Professional Association (technicians) / Technical training organisation	Juan Antonio Peón Parada	Technical secretary	japeon@fenie.es C/ Príncipe de Vergara, 74, Plt. 3ª- 28006 Madrid TLF: 34914113217, FAX: 349156468 07	www.fenie.es
4	IDAE	Spanish Institute for Energy Diversification and Saving of Energy	Energy Agency	Carlos Montoya Rasero	Head of Solar Department	cmontoya@idae.es C/ Madera, 8 28004 MADRID TLF: 91 456 49 68, FAX: 91 523 04 14	www.idae.es
5	TKNIKA	Centre for Innovation in Basque Vocational Training	Academic body/Technical training organisation	Jon Labaca Intxauspe	Coordinator of Technolgy Innovation	jlabaka@tknika.net Zamalbide Auzoa z/g 20100 Errenteria- Gipuzkoa TLF: 943082905-FAX: 943 082911	www.tknika.net
6	CS-COAVN-Bizkaia	Basque Architect Association - Sustainability Commission (Bizkaia)	Professional Association (architects)	Carmen Abad Ibañez de Matauco	President	estudio@carmenabad.com C/ Alameda de Mazarredo, 69-1. 48009 BILBAO MOV: 649924668	www.coavn.org

5.6.2 Organisations profiles

ASIF, the Spanish PV Industry Association is a non-profit organization established by representatives of the Spanish photovoltaic Industry to promote Spanish PVS.

They will provide appropriate information, participate in workshops and committees, support and participate in the training workshops, contribute to the dissemination activities and will facilitate the adoption of the certification scheme.

AENOR, the Spanish Association for Standardisation and Certification is a Spanish entity, private, independent, nonprofit, recognized at national, EU and international levels, contributes through the development of standardization and certification (N + C) to improve the quality of companies, their products and services and to protect the environment and thus, the welfare of society. AENOR's commitments are:

- a. Develop Spanish technical standards with participation open to all interested parties and collaborate in promoting the Spanish contribution to the development of European and international standards.
- b. Certify products, services and companies (systems) by giving them a competitive value differential helps to promote trade and international cooperation.
- c. Guide the management of our customer satisfaction and active participation of our people, with total quality standards and results to ensure competitive development.
- d. Promote the dissemination of a culture that relates to quality and identifies us as a support for those who seek excellence.
- e. Ensure rigor, impartiality and technical competence of certification service as principal credential and expression of our values, manifest in the Declaration adopted by the Committee for Fairness.

Actually, AENOR is leading an ongoing initiative in Spain in collaboration with FENIE (Spanish Federation of Electrical & Telecommunication Installation's Businessmen) for the developing of CTC 076.03, a certification of "Services associated with the low-voltage electrical installations" focused in a certification for specialists in renewable energy services, in general; and Photovoltaic Solar Energy PV installers' certification in particular.

FENIE, the (Spanish Federation of Electrical & Telecommunication contractors was incorporated as such in October 1977 in accordance with applicable law associations.

FENIE currently comprises 50 provincial associations, carrying out installations, maintenance and telecommunications projects both as electrical high, medium and low voltage with the proper equipment, and supplies all kinds of power consuming devices and appliances that include electrical, electronic, and transmission systems or media. Groups freely to more than 14,000 companies of electrical and telecommunications employing some 95,000 highly skilled workers and reaching an annual turnover in excess of 8,500 million euros.

FENIE activity is to promote, coordinate and promote activities of technical, social, economic and training for all partners. In short, service and defend its interests.

IDAE, the Institute for Diversification and Saving of Energy, is a state-owned business entity that reports to the Ministry of Industry, Tourism and Trade through the State Secretary for Energy.

The two main poles guiding the institution's activity are achieving the targets set by the 2007-2012 Action Plan under the Spanish Energy Saving and Efficiency Strategy and those of the Renewable Energy Plan for 2005-2010.

Thus, as well as jointly coordinating and managing the measures and funds destined for these plans in conjunction with the autonomous regions, the IDAE also runs activities to increase public knowledge and awareness, it provides technical advice, and runs and finances example technology innovation projects with potential for replication. The Institute is also highly active internationally, in the framework of various European programmes and cooperation programmes with third countries.

The IDAE's strategic objectives also include running training programmes and awareness campaigns to help build a new energy model able to guarantee the quality and security of Spain's energy supply, and thereby bolster the competitiveness of the country's businesses, promote sustainability and respect for the environment.

TKNIKA, the Centre for Innovation in Basque Vocational Training is a centre promoted by the Basque Department of Education, Universities & Research, under the direct auspices of the Sub-Department of Vocational Training & Lifelong Learning. Innovation is at the core of Tknika in its ongoing efforts to place Basque Vocational Training at the European forefront.

Tknika is modelled after some of the world's most advanced vocational training centres. Through networking and direct involvement by the Basque Vocational Training teaching staff, the Centre develops innovative projects in the areas of technology, education and management. As part of Tknika's efforts to make innovation the backbone of vocational training, the Centre focuses its activities on four areas: ICT & e-Learning, Technology, Management and Training. In each of the four areas courses and other services are developed to meet the specific needs of each training centre. Each area also works in partnership with private companies, research centres and technology centres to develop specific projects.

They will provide their experience in e-learning and they are a possible learning provider in Spain.

CS-COAVN-Bizkaia The Basque Architect Association - Sustainability Commission (Bizkaia) is a workshop into the COAVN which support local activities and dissemination actions. They will also inform their member about the projects' outcomes and relevant good practices.

5.6.3 NCC meetings

The first NCC meeting took place on the 2nd of February, in Madrid. Main reason for the slight delay in holding the first meeting was due to the situation of the Spanish PV market. During the last semester and beginning of 2011, the Spanish Government has been working on a new legislation for PV, especially dramatic for the interest of the PV industry (national and international, with investments in Spain). A deep reduction of the FiT schemes (-45% for ground PV plants) or retroactive measures dealing with the maximum number of hours that the PV installation should get the FiT have imply the full dedication of ASIF, the Spanish PV Association, as well as IDAE (depending of the Government). As these two partners

play an important role in the NCC, TECNALIA has decided to wait until the situation has been clarified, in 2011.

Taking into account this situation and in order to make progress in the PVTRIN project, TECNALIA met each of the NCC partners with the following agenda

- Presentation of TECNALIA
- Presentation of the PVTRIN project's objectives and plan
- Analysis of the contribution of each organisation as NCC partner.
- NCC partnership, which are the other members of the NCC?

Following you can find the dates of the meetings with the Spanish NCC partners

- ASIF, *September 9, 2010, in Valencia*
- FENIE, *July 22, 2010, in Madrid*
- EVE (Basque Energy Agency), *September 13, 2010 in Bilbao.*
 - EVE has accepted to collaborate in the PVTRIN project, but they consider they has a regional scope. So he propose us the IDAE (Institute for Diversification and Saving of Energy),because of his national scope and his contacts with the Ministry os Science and Innovation.
- IDAE, *September 23, 2010 (e-mail and telephone meeting)*
- CAVN Sustainability Commission, *September 27, 2010 , in Bilbao.*
- TKNIKA, *September 28, 2010. in Errenteria (Gipuzkoa).*
- AENOR *was contacted through FENIE.*

All of them showed their interest in the PVTRIN project objectives and expressed their wish to collaborate in the Spanish NCC and in any activity they are required for. Most of them they are indeed contributing.

- For example, for the implementation of the PV market survey, the questionnaires has been distributed by Spanish NCC members who has encourage all the associates to participate in these surveys.. The role of ASIF has be really important in this task, because the association has more than 500 small-medium-large companies (manufacturers, installers, electricity producers, all the value-chain). ASIF has wide experience, is well known and very famous within the Spanish and even European PV industry.
- AENOR and FENIE, who are currently working in a initiative in Spain for the developing of CTC 076.03, a certification of "Services associated with the low-voltage electrical installations" focused in a certification for specialists in renewable energy services, in general; and Photovoltaic Solar Energy PV installers' certification in particular, have provided to the project their knowledge about PV certification initiatives in Europe.
- IDAE, who also participates in QUALICERT project, has provided to the project their knowledge about PV certification initiatives in Europe.

1st Meeting of the Spanish National Consulting Committee - Minutes

DATE	February 2nd, 2011, 11.30-15.00
VENUE	Conference Room, IDAE, C/ Madera 8, 28004 MADRID, España

Participants:

- Lucía Dólera Moreno, ASIF's partner coordinator and Quality, representing to a Javier Anta Fernández, president of ASIF
- Teófilo de Frutos Herrero, Certification Technical Direction ,AENOR.
- Juan Antonio Peón Parada, Technical secretary, FENIE
- Carlos Montoya Rasero, Head of Solar Department, IDAE,
- Carmen Abad Ibáñez de Matauco, President, Sustainability Commission of COAVN.
- Iñaki Mújica Aizpurua, Long life learning Department, IEFPS Usurbil, representing Jon Labaka Intxauspe, Coordinator of Technological Innovation TKNIKA
- Eduardo Román Medina, Solar PV Coordinador, TECNALIA,
- Ana Huidobro Rubio, Spanish PVTRIN Project manager in Spain,TECNALIA



1ª reunión del Comité Nacional de Consulta Español PVTRIN: Formación y Certificación de instaladores FV

Madrid (España), 2 Febrero 2011
IDAE, C/ Madera 8, 28004 MADRID, España

LISTA DE ASISTENTES

ENTIDAD	NOMBRE ASISTENTE	FUNCION	FIRMA
ASIF	Lucía Dólera Moreno representando a Javier Anta Fernández presidente de ASIF	Coordinación Consorcios y Calidad	
AENOR	Teófilo de Frutos Herrero	Dirección Técnica de Certificación	
FENIE	Juan Antonio Peón Parada	Secretario Técnico	
IDAE	Carlos Montoya Rasero	Jefe del Departamento Solar	
TKNIKA (IEFPS Usurbil)	Iñaki Mújica Aizpurua representando a Jon Labaka Intxauspe, Coordinador de Innovación Tecnológica TKNIKA	Dpto. Formación Continua de IEFPS Usurbil	
CAVN	Carmen Abad Ibáñez de Matauco	Presidente Comisión Sostenibilidad	
TECNALIA	Eduardo Román Medina	Coordinador de Energía Fotovoltaica	
TECNALIA	Ara Huidobro Rubio	Director de proyecto PVTRIN en España	

Meeting's Minutes

Dr. Eduardo Roman, the Solar PV Coordinator in TECNALIA, has opened the NCC meeting's works welcoming all the members and expressing the consortium's appreciation for their prompt response. He briefly explained the role of the committee and the contribution expected from the NCC members during the PVTRIN project implementation. A short presentation of the members (organizations and representatives) followed by each participant. All members show their interest on the PVTRIN purposes and objectives related to the internationally acknowledged training and certification scheme. Indeed, most of them they have already contributed and all confirmed their intention to actively contribute according to their experience, expertise and area of influence.

Mr Labaka Intxauspe, Coordinator of Technology Innovation TKNIKA, has delegated his representation in the NCC to Iñaki Mújica Aizpurua, teacher from 1980 and actually coordinator of the Long life learning Department of Usurbil Vocational Training Centre specialized in RES learning. Beside he has been General manager of VET in the Bask Government(2000-2005) and later deputy of VET and life long learning in the Basque Government (2005-2009). Between other functions, he has participated actively in the INCUAL for the definition of the PV Vocational Training Qualifications of the Ministry of Education and Science.

Following, Ms. Ana Huidobro, the PVTRIN project manager in Spain, remember the main objectives and project activities of the PVTRIN and referred to the relevant European policy and the necessity of the development of, mutually acknowledged between EU MS, certification schemes. After that, the PV Spanish situation was presented with the collaboration of the NCC members. So:

- Ms Lucia Dolera of ASIF presented the Spanish market mapping and legislative framework;
- Mr Carlos Montoya of IDEA presented the objectives of the National Energy Action Plan (sp acronym PANER);
- Mr Iñaki Mújica, representing TKNIKA presented the Spanish Professional framework;
- Mr Teófilo de Frutos Herrero of AENOR, presented the voluntary certification initiative of AENOR CTC 076.03, a certification of "Services associated with the low-voltage electrical installations-Expert in RES services";
- Mr.Juan Antonio Peón of FENIE presented the works lead by the AIE (European Installers Association in the achieving a common European certificate with Installers Associations of the other EU Member States

The 1st NCC meeting has allowed all NCC member to have a general overview of the PVTRIN projects and the Spanish PV situation in different aspect. After the information and opinion exchange between the different entities the general opinion of the NCC members may summarize:

- The regulatory changes of the new PV legislation, may continue to restrict the Spanish market in a meaningful way. Spanish companies will have to go out in the absence of significant activity in the market. Projections to 2,020 giving the PANER for the PV sector are very limited.
- Despite of that, PV solar technology has a very positive experience curve and technical hurdles are not perceived for extrapolation, with a projected major decline in prices.
- The errors may have occurred in the past should not impede the implementation and perseverance of sustainable regulatory support, allowing Spain to reach in this decade the Grid Parity consumer applications close.
- PV systems should have an important role in the new PER 2011-2020.
- Despite of the Spanish PV market situation, they consider that a common qualification framework, an appropriate training methodology and a transparent and clearly defined accreditation route in Europe are really necessary and NCC members committed to give the necessary steps to achieve it.

Closing, the committee members consent that the role of the NCC will not be limited to meetings' participation; is more vital and involves the active contribution to the development of an appropriate scheme, the evaluation of

deliverables, and the promotion of the certification. The next NCC meeting was scheduled for autumn 2011 in San Sebastian, close to the biannual congress of FENIE with all their members. In the meantime, there will be regular communication and cooperation with all the NCC members through teleconference and emails.



AGENDA

- 10:00** Llegada de los asistentes
- 10:10** Breve presentación del proyecto PVTRIN
Ana Huidobro, Director de proyecto PVTRIN en España, TECNALIA
- 10:30** Presentación del Comité Nacional de Consulta (NCC) Español
Ana Huidobro, Director de proyecto PVTRIN en España, TECNALIA
Presentación por parte de cada uno de sus miembros:
- Lucía Dólera Moreno, Coordinación Consorcio y Calidad de ASIF
 - Teófilo de Frutos Herrero, Dirección Técnica de Certificación de AENOR.
 - Juan Antonio Peón Parada, Secretario Técnico de FENIE
 - Carlos Montoya Rasero, Jefe del Departamento Solar IDAE
 - Carmen Abad Ibáñez de Matauco, presidente de la Comisión de Sostenibilidad de CAVN.
 - Iñaki Mújica Aizpurua, Dpto. Formación Continua del IEPPS Usurbil,
 - Eduardo Román Medina, Coordinador de Energía Fotovoltaica TECNALIA,
- 10:45** Marco Regulatorio y Necesidades del Mercado FV Español
- Nuevo RD (ASIF)
 - Certificación actual y nuevas iniciativas. (AENOR-FENIE)
 - PANER transposición de Directiva 2009/28/EC (IDAE)
 - Nuevo Catálogo de Cualificaciones Profesionales FV (IEPPS Usurbil)
 - ...
- 11:30** *Café*
- 11:45** Mesa redonda:
- Cualificación de instaladores
 - Centros de formación acreditados y formadores
 - Necesidad e formación y certificación
 - ...
- 12:45** Conclusiones
- 13:00 CIERRE de la reunión.**



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Ana Huidobro, Director de proyecto PVTRIN en España, TECNALIA
Presentación por parte de cada uno de sus miembros (2-3 minutos):
- Lucía Dólera Moreno, Coordinación Consorcios y Calidad de ASIF
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