Project no.:

FP6-2004-INCO-MPC-3-031569

Project acronym:

DISTRES

Project title:

Promotion and consolidation of all RTD activities for renewable distributed generation technologies in the Mediterranean region

Instrument: **Coordination Action (CA)**

Thematic Priority: **B 1-5 Renewable energies for Mediterranean specific needs**

Title of report:

Publishable Final Activity Report

Period covered: from **1st January 2007** to **31st December 2009**

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Start date of project: **1st January 2007** Duration: **36 months**

Project coordinator name: **Dr. Andreas Poullikkas**

Project coordinator organization name: **EAC** Revision: Final

Contents

1. Project Execution

1.1 Overview

Recent concerns on environmental protection and sustainable development resulted in the critical need for a cleaner energy technology. Some potential solutions have evolved including energy conservation through improved energy efficiency, a reduction in the use of fossil fuels and an increase in the utilization of environmentally friendly energy forms. This is leading to the use of renewable energy sources (RES) and an alternative to large scale source of energy production known as distributed generation (DG) technologies.

1.2 Objectives

The overall goal of the DISTRES co-ordination action project was to exchange and disseminate good practice developed in the field of RES-DG technologies by isolated research activities and perform studies and/or analyses for the Mediterranean needs. DISTRES was a three year co-ordination action (January 2007 – December 2009).

Several promising RES-DG technologies have been identified as having the potential to significantly contribute to the reduction of primary (e.g., SO_2, NO_X, dust) emissions and of CO_2 emissions. However, solar potential is an abundant commodity in the Mediterranean region and, therefore, the area of interest of DISTRES was primarily on the electricity produced from solar energy (photovoltaic and/or solar thermal concentrating systems) from DG systems. DISTRES specific scientific and technological objectives can be summarised as follows:

- To co-ordinate RTD projects in RES-DG technologies,
- To promote the electricity generation from solar energy, photovoltaic systems and solar thermal systems, paving the way for pilot systems and products,
- To produce capacity building methodologies,
- To disseminate the results as widely as possible in Mediterranean countries and in the EU.

1.3 Project public website

http://www.distres.eu/

1.4 Contractors involved

Participant name	*Short name*	*Country*
Electricity Authority of Cyprus	EAC	Cyprus
Universitaet St. Gallen	HSG	Switzerland
Instituto Superior de Engenharia de Lisboa	ISEL	Portugal
Institute of Communication and Computer Systems, National Technical University of Athens	ICCS/ NTUA	Greece
Frederick Institute of Technology	FIT	Cyprus
Copenhagen Business School	CBS	Denmark
Technofi	Technofi	France
Energy Consulting Network	ECNet	Denmark
Hystore Technologies Ltd.	Hystore	Cyprus
Renewable Energy Development Centre	CDER (Algeria)	Algeria
National Agency for the Promotion and Rational Utilisation of Energy	APRUE	Algeria
Palestinian Energy & Environment Research Center	PEC	Palestine
Center of Renewable Energy Development	CDER (Morocco)	Morocco
Cyprus Energy Regulatory Authority	CERA	Cyprus
Centre of Renewable Energy Sources	CRES	Greece
Lebanese Association for the Management of Energy & Environment	ALMEE	Lebanon
Cyprus International Institute for the Environment and Public Health in association with Harvard School of Public Health	CII-Harvard	Cyprus
New & Renewable Energy Authority	NREA	Egypt

1.5 Coordinator contact details

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1.6 Project logo

1.7 Challenges

DISTRES objectives were related to the effort of the EU for the creation of a Euro-Mediterranean Research and Innovation Area as a component of the opening of European Research Area towards this region and target long-range sustainable development around the Mediterranean in the context of transboundary economic, environmental and socio-political problems. This included promoting production and exchange of knowledge, technological know-how, innovation, and investment in people and institutions in order to foster socio-economic progress throughout the Euro-Mediterranean area.

DISTRES objectives aimed to boost the R&D capability of Mediterranean countries as well as to encourage the establishment of links between research centres, businesses and other stakeholders in society. In particular, the results from DISTRES paved the way for pilot systems and products, meeting different needs and climate conditions under the specific socio-economic conditions of the Mediterranean countries and contributed to the development of appropriate RES-DG policies. To that end, DISTRES also reinforced the creation of new jobs in advanced engineering fields.

1.8 Technical approach

DISTRES was organised into five work packages (WPs) with a total duration of 36 months. WP1 involved various studies concerning RES-DG policies including green hydrogen status and socio-environmental benefits for the EU and the Mediterranean countries. WP2 was targeted to the identification of various successful RES-DG business models. WP3 involved various studies concerning the EU and Mediterranean countries regulatory regimes. WP4 purpose was to provide capacity building methodologies for the promotion of RES-DG technologies in the Mediterranean region. Finally, WP5 concerned the project management and the coordination of DISTRES.

Regarding the dissemination strategy of the project, it was intended that the results of DISTRES be made widely available, even after the completion of the co-ordination action. The work program included three workshops, a Conference, the development of capacity building methodologies, the creation of a website, newsletters and a press release.

1.9 Expected impact to state-of-the-art

To date, RES-DG (solar thermal systems and photovoltaic systems) is not deemed commercially viable, neither profitable, unless strong subsidies are available within the Mediterranean countries. An immediate conclusion from concerted European research, however, is that solar thermal systems and photovoltaic systems are reliable and technically feasible for installation and operation in the Mediterranean region. It still remains, though, to develop strong financial incentives that RES-DG becomes viable on technical and economic terms. Persistent obstacles are the technology cost, the stability issue for isolated power systems and the Mediterranean countries energy policies.

DISTRES contributed to the promotion of RES-DG technologies and policies while safeguarding the environment and thus, has application at a pan-European level. In particular DISTRES responded to EU policies at a number of different levels, such as,

- promoting the use of solar thermal and photovoltaic systems,
- promoting RES-DG technologies including green hydrogen based systems (hydrogen as an energy carrier is one of the key technology sectors identified by the EU for the Union's long-term competitiveness and strength of the European economy with a clear goal of providing Europe with a realistic and economically viable route to a green hydrogen economy),
- helping to encourage the development of a European hydrogen economy, thus maintaining the ability of Europe's energy supply infrastructure to smooth the increasingly fluctuating supply/demand balance inherent in an increasing dependence on renewable energy sources and
- contributing to the efforts of the EU to reduce its greenhouse gas emissions and thereby acting constructively in terms of the global climate change issue.

1.10 Overview of general project objectives

The *overall goal* of the DISTRES CA was to exchange and disseminate good practice developed in the field of RES-DG technologies by isolated research activities and perform studies and/or analyses for the Mediterranean needs. DISTRES was a three year CA project. Several promising RES-DG technologies have been already identified as having the potential to significantly contribute to the reduction of primary (e.g., SO_2, NO_X, dust) emissions and of CO_2 emissions.

Solar potential is an abundant commodity in the Mediterranean region and, therefore, the *area of interest* of DISTRES was primarily on the electricity produced from solar energy (photovoltaic and/or solar thermal concentrating systems) from DG systems.

DISTRES specific scientific and technological objectives can be summarised as follows:

- To co-ordinate RTD projects in RES-DG technologies,
- To promote the electricity generation from solar energy, photovoltaic (PV) systems and solar thermal systems, paving the way for pilot systems and products,
- To produce capacity building methodologies,
- To disseminate the results as widely as possible in Mediterranean countries and in the EU.

DISTRES work program was organised into five integrated work-packages (WP). The detailed scientific and technological objectives of DISTRES are presented below. They have been numbered according to the relevant WPs included in the DISTRES work programme:

- *WP1: Review of current RES policies within EU and Mediterranean countries*
  - To review the current EU and Mediterranean countries policies regarding the deployment of renewable energy sources and in particular solar energy (solar thermal and PVs),
  - To review green power marketing within EU and Mediterranean countries including green hydrogen based systems and related socio-environmental benefits,
  - To identify the past and current EU research projects in the field of DG solar thermal and PV systems policies,

- To organise a workshop bringing together stakeholders (end-users, regulators, manufacturers, investors, researchers and utilities) from EU and the Mediterranean countries.

- *WP2: Market survey and economic analysis*
  - To analyse and compare the various EU and Mediterranean countries solar thermal and PV financing schemes,
  - To identify the various successful business models and market entry strategies for RES-DG
  - To identify the past and current EU research projects in the field of DG solar thermal and PV design,
  - To organise a workshop bringing together stakeholders (end-users, regulators, manufacturers, investors, researchers and utilities) from EU and the Mediterranean countries.

- *WP3: Electricity market under distributed generation*
  - To identify the various regulatory regimes of solar thermal and PV systems within the EU and for the Mediterranean area,
  - To identify the past and current EU research projects in the field of DG solar thermal and PV regulation,
  - To organise a workshop bringing together stakeholders (end-users, regulators, manufacturers, investors, researchers and utilities) from EU and the Mediterranean countries.

- *WP4: Capacity building and dissemination*
  - To develop capacity building methodologies in line with renewable distributed generation technologies,
  - To develop the generic content of such methodologies,
  - To develop the generic content for programmes aimed at venture capital/private equity investors interested in evaluating renewable market opportunities,
  - To develop the generic content for programmes aimed at entrepreneurs leading renewable energy start-ups providing insights into how to successfully grow such ventures,
  - To carry out a trial run for all courses with stakeholders (end-users, regulators, manufacturers, investors, researchers and utilities),
  - To organise a Conference at the end of the co-ordination action,

- To set up a website for the broad dissemination of the results.

- *WP5: DISTRES Project Management and co-ordination*: The objectives of WP5 are to complement the technical excellence of WPs 1-4 with first-class project management delivering DISTRES technical goals within budget and on schedule:
  - Operative responsibility for starting, steering and stopping planned work-packages and tasks coordinated with the WP leaders,
  - To provide a secure management structure for the decisions to be taken,
  - Controlling financial, administration and time performance of WPs,
  - To perform the scientific and technical co-ordination for a day-to-day management,
  - Reporting the project performance and preparing decisions for the Steering Committee,
  - To conduct the overall legal, administrative and financial management,
  - To achieve the knowledge management (including its protection), including when disseminating the knowledge beyond the consortium.

Three of these DISTRES WPs contained review work and workshops organisation, whilst the fourth WP covered capacity building and dissemination, including a conference organisation. The last WP concerned the project management and the coordination of DISTRES CA. Each WP had clear objectives with appropriate tasks and deliverables. The WPs were:

Co-ordination activities:

- WP1: Review of current policies within EU and Mediterranean countries.
- WP2: Market survey and economic analysis.
- WP3: Electricity market under distributed generation.
- WP4: Capacity building and dissemination.

Management activities:

- WP5: Project management and coordination.

2. Work performed

2.1 WP1 (Review of current RES policies within EU and Mediterranean countries)

WP1 was organized into 6 tasks. The major objective of this WP was to identify the various EU and Mediterranean countries policies regarding the use of RES technologies and in particular

solar thermal and PV technologies. The work carried out involved a survey of 14 EU and Mediterranean countries and, in this context, 14 country specific reports have been prepared by the DISTRES contractors. Emphasis was placed on specific country policies regarding the use of RES technologies (and in particular solar thermal and PV), the current and future use of RES and DG technologies in each country and the potential for the use of DG solar thermal and PV systems. The final report, "Study of the current EU and Mediterranean countries policies regarding the deployment of renewable energy sources", was produced consolidating all 14 country reports.

In the final report, for each country the following sectors are described in detail:

- RES and DG technologies current penetration (a brief summary for rest of RES+DG technologies, more details on PV and Solar thermal Power, such as by area installation or a list of the major installations).
- DG Policy: documents, strategies, targets
    - Competent authorities, institutional issues, other stakeholders (who is responsible for the energy planning in the country, who is responsible for granting authorizations, which institutes / agencies are active in the field of DG and/or RES, who has to apply for authorizations?)
    - Legislative environment (are there any laws that support RES and/or DG, which is the kind of support they provide, what are the obligations for grid connections, to whom should the stakeholder apply to sell energy to the grid, which is the current investment framework?)
    - Financial environment (subsidies for installation of plants, tariff scheme – "green certificates", possible tax reductions)
    - Environmental issues (existing constraints in plants emissions, land restrictions, distances from specific areas like towns, forests, NATURA areas; who issues the environmental permissions for connecting to the network?)
    - Good Practices (examples of installations with relatively high penetration)
    - Potential for DG (according to existing data - wind maps, solar radiation atlases, maps for biomass potential or geothermal fields, etc.-, with emphasis on the solar "fuelled" technologies.

- Economic feasibility of technological options for DG (are the current financial schemes sufficient to timely pay-back the technological options for various cases of solar radiation?)
- Barriers to the development of DG in Country (technical -if any-, others like legislative, etc.)

Finally, in the last section of the report, a SWOT matrix was included, with analysis criteria and score marks for the effectiveness of the current policies. This form of table will prove to be very helpful for the review of current policies and for defining the analysis criteria in order to proceed with recommendations for improvements (to be used by other WPs of the project).

Two other parallel reports were produced in the framework of this WP. The first report reviewed in detail the "green hydrogen" current status (production, storage and use) within the EU and Mediterranean countries. The second report identified the related socio-environmental benefits from the use of solar thermal and PV systems in the Mediterranean countries. This report concluded that the use of solar energy technologies provides obvious environmental and socio-economic benefits compared to the use of conventional technologies.

- Environmental
  - Reduction of the emissions of the greenhouse gases (mainly CO_2 and NO_x) and prevention of toxic gas emissions (SO_2, particulates) and waste products
  - Reclamation of degraded land
  - Reduction of the required transmission lines of the electricity grids, and
  - Improvement of the quality of water resources
- Socio-economic
  - Increase of the regional/national energy independency
  - Provision of significant work opportunities
  - Diversification and security of energy supply
  - Support of the deregulation of energy markets and
  - Acceleration of the rural electrification in developing countries

The Workshop "Current RES policies within EU and Mediterranean countries" (see Figure 1) was successfully organized in the framework of this WP on the 5th of June 2008 in Marrakech, Morocco. The aim of the Workshop was twofold. First, it aimed to highlight the importance of research and development for the future penetration of DG solar thermal and PV systems in the

power electricity generation industry in Mediterranean countries. The second aim of the Workshop was to disseminate the current results of DISTRES to all interested stakeholders such as, end-users, regulators, manufacturers, investors, researchers and utilities from EU and the Mediterranean countries. The Workshop was attended by the EC Scientific Officer and many participants from various EU and Mediterranean countries such as Morocco, Greece, Egypt, Algeria, Palestine, Portugal, France, Switzerland, Cyprus etc. Participants represented a wide range of potential DISTRES stakeholders including universities, research centers, manufacturers and investors. The main topics presented during the Workshop were the following:

- The results of DISTRES WP1 on the analysis of the EU and Mediterranean countries energy policies and the recommendations for effective policies on the promotion of RES-DG technologies,
- The state-of-the-art technologies on the production, storage and use of hydrogen in future DG systems,
- The effectiveness of solar thermal and PV financing schemes with specific focus on the most popular form of financial support, the feed-in tariff schemes.

Figure 1: DISTRES Workshop 1 in Marrakech (5th June 2008)

In addition to the Workshop, a Newsletter providing information on the results of WP1 and other relevant information was compiled and published on the project website and posted to Mediterranean countries governmental authorities and academic establishments.

2.2 WP2 (Market survey and economic analysis)

WP2 was organized into 5 tasks. The major objective of this WP was to perform market survey and economic analysis of the solar thermal and photovoltaic markets in EU and Mediterranean countries. In this context, two major reports were produced and one Workshop was organized in Algeria to disseminate the results of this WP.

The first report entitled "Solar thermal and PV financing schemes" involved a survey of 14 EU and Mediterranean countries regarding Mediterranean countries financing schemes and future prospects, EU Member States financing schemes and future prospects, and financing schemes comparison across the various countries.

The report then investigated the effectiveness of each of the solar energy financing schemes and compared the examples of Spain (see Figure 2), Germany and Greece in order to assess the criteria for effective deployment of solar energy financing schemes. Two types of evaluation criteria were used: Return based, such as level of feed-in –tariff, duration of support and intensity/strength of solar irradiation, and risk based such as policy/funding stability, promotion cap, and administrative hurdles.

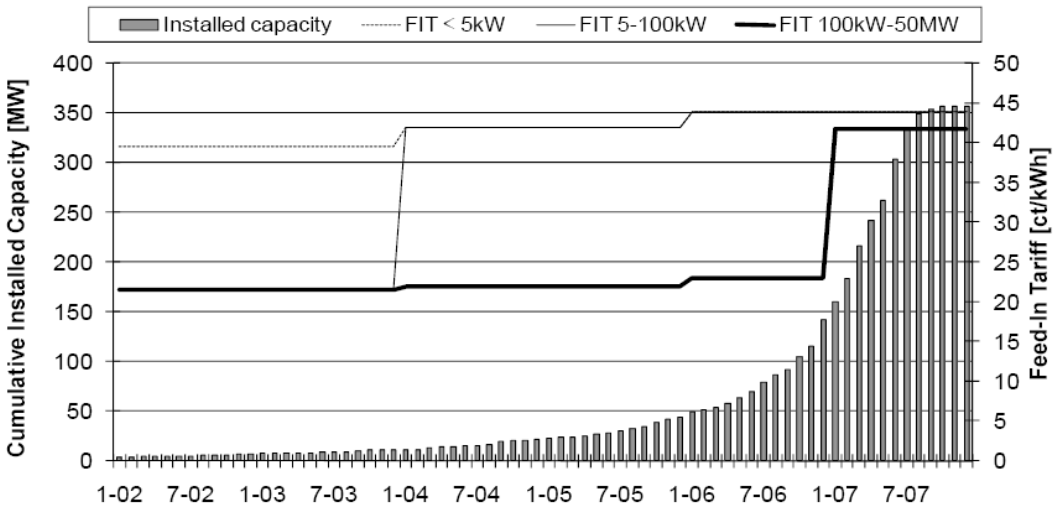

Figure 2: History of PV financial incentive scheme in Spain\

The conclusion of the report was that return factors alone do not provide a good prediction of effective outcomes, but that risk factors also have an important influence (Figure 3). Also, above a certain level of return, risk-related factors (such as policy/funding stability) play a more important role in influencing investment decisions that return-related factors (such as level of incentive payments).

	Germany	Spain	Greece
Return	+	++ →?	++
- Level of tariff	+	+ →?	++
- Duration of support	+	++	+
- Solar radiation	O	++	++
Risk	++	+ → –	– –
- Funding stability	++	+ → – –	O
- Promotion cap	++	– –	++
- Administrative process	++	+	– –
Level of diffusion	High	Medium	Low

++=very good; +=good; O=medium; – =poor; – – =very poor ; → last development

University of St.Gallen

Slide 13

Figure 3: Evaluation of level of diffusion of PV in Germany, Spain and Greece based on return and risk criteria

The second report entitled "Business models and market entry strategies for RES-DG" aimed to identify the successful business models and market entry strategies for DG technologies and services, with a focus on solar thermal and PV systems. To facilitate this objective, a survey was conducted among manufacturers as well as other firms along the RES-DG value chain (e.g. project developers, retailers) covering the following issues:

- Typology of business models applied for RES-DG,
- Identification of success factors for different types of business models,
- Identification of current renewable energy sources investing market and a set of case studies of successful and failed entrepreneurial start-ups in the area of renewable energies,
- Identification of most likely actors to adopt business models that will lead to enhanced diffusion of RES-DG in Mediterranean countries (e.g. utilities vs. solar thermal manufacturer vs. real estate companies),
- Development of policy and marketing recommendations.

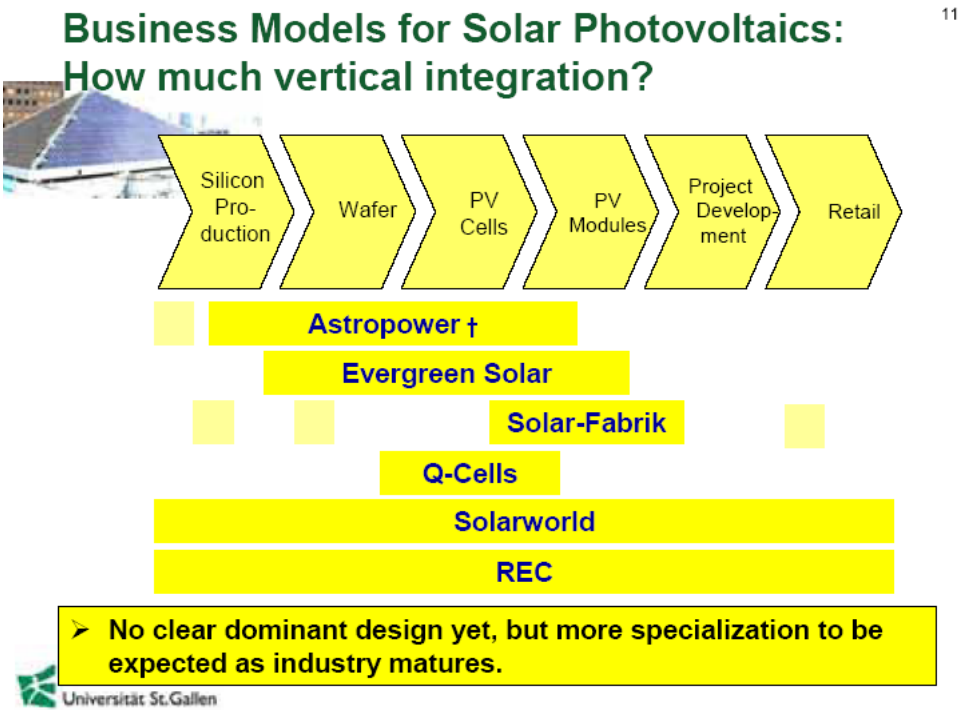

Figure 4: Business models in the current PV market

The conclusion of the survey interviews was that even though business models are very context-specific and no single specific business model can be successfully applied to any given company, it is possible to note some common, successful tendencies among solar companies. One is vertical integration of the supply chain (see Figure 4) that is the ability to integrate the value chain both upstream and downstream. The reason is that this approach allows companies to reduce transaction and production costs, increase efficiency, learning and bargaining power with industry partners and secure access to crucial raw materials. Another interesting tendency is horizontal integration of the supply chain which is seen among companies that successfully integrate for example their PV and semiconductor industries, thereby gaining cross-sectoral synergy effects.

The study also concluded that other important factors of a successful business model include the ability to create networks, for example in terms of finding and choosing appropriate partners when entering new markets and transferring knowledge within the industry and across markets. A competitive advantage can also be noted in the cutting-edge technology solar businesses which have been able to attract the most qualified technology experts in the workforce. All together, the most successful companies have been able to individually adapt their business

model to the specific context that they are in, and link that business model to a sustainable growth strategy. It has also been found that the individual characteristics of a solar business cannot be seen in isolation from its external surroundings. The importance of the macro-level, the institutional and market conditions that the solar business forms part of, cannot be ignored. This holds true especially in the start-up face of a company where the support of institutional actors matter the most, and it is also true the closer the business is to the end user. Furthermore, solar clusters in the form of regional knowledge pools have been seen to contribute to driving the success of solar businesses in particular regions. In line with similar findings of the DISTRES project, many businesses find that national and international governments and local authorities play a key role in setting the legislative frameworks as well as network and knowledge-enabling mechanisms that help private solar businesses prosper.

The Workshop "Solar thermal and photovoltaic market financing schemes in EU and Mediterranean countries" (Figure 5) was successfully organized on the 17th of December 2008 at the Hotel El Marsa in Algiers, Algeria. The aim of the Workshop was twofold. First, it aimed to highlight the importance of research and development for the future penetration of DG solar thermal and PV systems in the power electricity generation industry in Mediterranean countries. The second aim of the Workshop was to disseminate the current results of DISTRES to all interested stakeholders. The Workshop was attended by the EC Scientific Officer and many participants from various EU and Mediterranean countries such as Morocco, Greece, Egypt, Algeria, Palestine, Portugal, France, Switzerland, Cyprus etc. Participants represented a wide range of potential DISTRES stakeholders including universities, research centers, manufacturers and investors. The main topics presented during the Workshop were the following:

- The results of DISTRES WP2 on the analysis of the current solar thermal and PV financing schemes in the EU and Mediterranean countries
- The results of DISTRES WP2 on the typologies of the successful business models in the field of solar energy systems and on successful market entry strategies
- The analysis of the current European and Mediterranean countries energy policies and the recommendations for effective policies on the promotion of RES-DG technologies

Figure 5: DISTRES Workshop 2 in Algiers (17th December 2008)

In addition to the Workshop, a Newsletter providing information on the results of WP2 and other relevant information was produced and published on the project website and posted to Mediterranean countries governmental authorities and academic establishments.

2.3 WP3 (Electricity market under distributed generation)

WP3 was organized into 4 tasks. The major objective of this WP was to investigate the electricity market under distributed generation in EU and Mediterranean countries. In this context, one report was produced and one Workshop was organized in Lebanon to disseminate the results of this WP.

The report entitled "A study investigating the electricity market under distributed generation" aimed to identify the various DG solar thermal and PV regulatory regimes for 14 EU and Mediterranean countries by a survey taking into account the following issues:

- EU and Mediterranean counties electricity industry structure
- Mediterranean countries regulatory status on renewable energy sources, DG and hydrogen,

- EU Member States regulatory status on renewable energy sources, DG and hydrogen,
- Prospects for improvements.

The report included information on the 14 different EU and Mediterranean countries regarding each country's electricity industry structure (including organization and legal framework of the electricity market, tariffs and prospects for improvements) and each country's regulatory status on renewable energy sources, DG, and hydrogen. The latter section was subdivided into the following sections:

1. Legal framework
2. Renewable Energies in actual context of Electricity Industry
3. Prospects for improvements
4. Financial mechanisms or incentives for promotion of RES/DG
5. Tariffs and prices: feed-in-tariff, guaranteed prices

In addition to the above sections, the report included a techno-economic and environmental evaluation regarding the operation of autonomous existing PV systems in isolated power systems in Greece by using as case study the existing electricity generation system of the island of Kythnos. This island is using a combination of wind, PV and conventional (internal combustion diesel engines) energy sources to provide electricity in an autonomous mode.

Conclusions from the report showed that the EU counties in order to reach their obligation targets regarding the penetration of RES, according to the White Paper of European Commission, have proceeded in the liberalization and regulation of their electricity market. In each of these countries a regulatory authority, responsible for the regulation of electricity market was established and a transmission network system operator, responsible for the transmission network was appointed. Each of the EU countries has prepared an action plan and incentives are introduced for the penetration of RES. In all the EU countries except Finland, RES have priority access to the network.

Conversely, in most Mediterranean countries the electricity market is still monopolistic and has not been regulated, while there is no wide penetration of RES, despite the high energy potential. However, some Mediterranean countries have changed their energy policy to keep pace with EU countries and the Kyoto agreement. Algeria and Egypt have followed the example of EU

countries according to the liberalization and regulation of electricity market and the action plan and incentives for the promotion of RES. In Lebanon, the electricity market is envisaged but a regulatory authority was established to regulate the electricity market. Finally in Morocco and Palestine, which has the particularity of full dependence from Israel for its electricity needs, the electricity market has not be liberalized or regulated and there is no penetration of RES. To overcome this, Palestine has set up a five year action plan for the penetration of RES.

Finally, the conclusion from the techno-economic and environmental evaluation was that low penetration of RES in isolated electricity systems cannot alter the operating schedule of the thermal units of the upstream network. Therefore, simple tools using probabilistic analysis techniques are sufficient to study the impact in the economic operation of the studied network. In addition, the average yearly PV values in €/MWh, are slightly reduced as the installed capacity of wind power production increases. The study also concluded that change of remuneration from feed-in tariffs to open market prices requires significant reduction in the installation cost of the PVs.

The Workshop "Solar thermal and photovoltaic electricity market in EU and Mediterranean countries" (Figure 6) was successfully organized on the 19th of June 2009 at the Notre Dame University in Beirut, Lebanon. The aim of the Workshop was twofold. First, it aimed to highlight the importance of research and development for the future penetration of DG solar thermal and PV systems in the power electricity generation industry in Mediterranean countries. The second aim of the Workshop was to disseminate the current results of DISTRES to all interested stakeholders. The Workshop was attended by the EC Scientific Officer, the General Director of the Lebanese Ministry of Energy and Water and many participants from various EU and Mediterranean countries such as Morocco, Greece, Egypt, Algeria, Palestine, Portugal, France, Switzerland, Cyprus etc. Participants represented a wide range of potential DISTRES stakeholders including universities, research centers, manufacturers and investors. The main topics presented during the Workshop were the following:

- The results of DISTRES WP3 on the analysis of each EU and Mediterranean country's electricity industry structure regarding the organization of the electricity market, the legal framework of the electricity market, the RES incentive schemes and tariffs and finally the prospects for improvements in each country's electricity market for the enhancement of the penetration of RES,

- The results of DISTRES WP3 regarding the techno-economic evaluation of grid connected RES in isolated electric networks and systems,
- The testing and the validation of the capacity building methodologies developed in the framework of DISTRES WP4.

Figure 6: DISTRES Workshop 3 in Beirut (19th June 2009)

In addition to the Workshop, a Newsletter providing information on the results of WP3 and other relevant information was produced and published on the project website and posted to Mediterranean countries governmental authorities and academic establishments.

2.4 WP4 (Capacity building and dissemination)

WP4 was organized into 6 tasks. The major objective of this WP was to develop and implement capacity building methodologies regarding renewable distributed generation technologies, to be taught to Mediterranean audiences and relevant stakeholder target groups. In this context, two major reports were produced, one containing the generic content of these capacity building methodologies and the second one containing the training material of the trial run/tutorial that was held in order to test and validate the capacity building methodologies in front of a

Mediterranean audience. In addition, a two-day European Conference was organized at the end of the project (December 2009) in Cyprus to disseminate the overall results of DISTRES.

The first report entitled "Generic content of capacity building methodologies" contained the generic content of the material to be taught in the form of a one-day training course, capable of disseminating DISTRES results and information harnessed during the project to targeted Mediterranean stakeholder groups involved in the energy market. The generic content was based on a modular organization, structured around 4 types of resources/databases which were called Tech & Tool, DISTRES results, Local best practices/case studies and Routes for Networking, and around 4 types of target audiences, namely, T1: Public authorities, T2: energy professionals, T3: energy end-users and T4: outside investors.

The Tech & Tool database material contained information regarding distributed generation and the various available renewable energy sources with focus on the solar thermal and photovoltaic technologies. This database contained technical and economic information and data regarding the application of these technologies, as well as examples of easy-to-use software tools that can provide an indication of the economic feasibility of these technologies for a given country. The second database, the DISTRES results database, contained all the DISTRES results from each of WPs 1-3, with the aim to raise awareness regarding the policies and regulations regarding renewable energy sources in EU and Mediterranean countries, the structure and role of the electricity market of each country, and the expected impact of low and high penetration of renewable energy sources in the electricity market of a given country. This database also contained information regarding the segment markets where investing in renewable energy sources can be economically worthwhile, and the effectiveness of the various financing schemes that exist today in various EU and Mediterranean countries. The third database, Local best practices/case studies, contained examples of Mediterranean countries that have successfully materialized programmes of renewable energy sources implementation (with specific focus on solar technologies) and the experience gathered in the context of these programmes. Finally, the last database, Routes for Networking, contained information and links to relevant EC programmes and initiatives for the promotion of renewable energy sources with a focus on Mediterranean countries. The final capacity building methodologies and training material to be taught to each of the four target audiences will effectively be made up from a selection of material from the four databases, based on the weighted importance that each database has to each of the four target audiences.

The report "Generic content of capacity building methodologies" was made up of an introduction document, the complete set of generic content/PowerPoint presentations for each of the four resources/databases as well as an auxiliary document which acts as a guide/filter for the proper adjustment of the content, to suit the needs of each of the four predefined target audiences.

The second report entitled "Presentations and other material of programmes trial run" included the training material that was presented during the trial run/tutorial for the validation of the generic content of the capacity building methodologies as mentioned above. The validation took place during the final month of the project (December 2009) in the framework of the final progress meeting that was held on the 10th of December 2009. The trial run/tutorial was attended by 20 participants made up from the DISTRES partner countries and the training material that was presented was tuned for target audience T2 (Energy professionals). The training material content and a full set of slides were prepared in a common presentation structure, simulating a case of a real local audience in any given Mediterranean country. This report was made up of an introduction document with the agenda, feedback information and evaluation by the attendees as well as the complete set of training material/presentation handouts.

The two-day DISTRES Conference "Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region" (Figure 7) was held successfully in Nicosia, Cyprus on the 11th and 12th of December 2009 at the Hilton Hotel, organized locally by the project coordinator EAC. It was attended by the Minister of Commerce, Industry and Tourism of Cyprus, the Minister of Communications and Works of Cyprus and the EC Scientific Officer for DISTRES. The Conference greatly surpassed the participation objectives by attracting over 150 participants from 19 different countries such as Morocco, Algeria, Egypt, Palestine, Portugal, France, Switzerland, Cyprus, Greece, USA, Spain, etc. Participants represented a wide range of energy stakeholders including regulators, manufacturers, investors, researchers and utilities. The Conference's main focus was the dissemination of the DISTRES project results to interested parties, such as, end-users, regulators, manufacturers, investors, researchers and utilities from EU and Mediterranean countries. At the same time, the Conference aimed to highlight the importance of research and development for the future penetration of DG solar thermal and PV systems in the power electricity generation industry in Mediterranean countries.

Figure 7: DISTRES Conference in Nicosia (11-12th December 2009)

Over 80 scientific papers were submitted to the Conference secretariat, and after a two stage review, 58 papers were accepted for presentation and for inclusion into the Conference proceedings together with a number of keynote presentations delivered by distinguished scientists in the field of renewable energy sources and specifically solar thermal power. Overall, the Conference main topics were the following:

- Renewable energy sources
- Distributed generation
- Solar thermal systems in Mediterranean countries
- PV (photovoltaic) systems in Mediterranean countries
- Green hydrogen production, storage and use
- Socio-environmental aspects of electricity generation from Renewable energy sources
- Renewable energy sources: capacities, targets and policies in Mediterranean countries
- Deregulation and renewable energy sources integration in current Mediterranean electricity systems

- Implications of RES penetration in electricity networks
- PV and solar thermal technology markets; business models and market entry strategies
- Current PV and solar thermal financing schemes in EU and Mediterranean countries
- CDM and JI projects in Mediterranean countries

The conclusions of the Conference were the following:

- Solar thermal and photovoltaic technologies are technically and geographically fully compatible with the greater Mediterranean region due to the high solar irradiation levels and the existence of adequate ground morphology (especially in the region of Sahara desert). However, the investment in these technologies is neither commercially viable nor profitable in most Mediterranean countries unless strong subsidies and financial incentives are in place,
- The most important and mature solar thermal power generation technologies are the parabolic trough and solar tower solar thermal technologies. Today, the parabolic trough technology has been successfully implemented in power plants in Spain and the USA, while some plants are under construction in Algeria and Egypt,
- There is substantial research and development effort for the evolvement of innovative solar power generation technologies. The most important innovative technologies are the Fresnel, solar dish and concentrated photovoltaic systems technologies. Also, the thermal storage technology is under continuous development and is expected to be able to enhance the economic viability of solar thermal power generation plants in the near future,
- The use of fuel cells and hydrogen for electric power generation is expected to contribute significantly to the reduction of greenhouse gases emissions in the atmosphere in the medium term insofar as the production costs are reduced from their current levels.

In addition to the Conference, a Newsletter providing information on the results of WP4 and other relevant information was compiled and published at the project website and posted to Mediterranean countries governmental authorities and academic establishments. Finally, a DISTRES Press Release regarding the overall work and results achieved during the DISTRES coordination action project was produced and the project participants performed a translation of the press release to their languages Overall, the DISTRES press release was translated into seven languages: English, Greek, German, French, Portuguese, Danish and Arabic. The

participants have undertook the responsibility for the circulation and publication of the press release to local newspapers and journals so that DISTRES achieves the highest possible public promotion.

3. Dissemination and use

3.1 Introduction

It was intended that the results of DISTRES will be made widely available, both during and after completion of the co-ordination action. The work program of DISTRES included three workshops, a Conference, the development of capacity building methodologies, the creation of a website, newsletters and a press release.

In addition, DISTRES partners accepted and authorized the Commission to disseminate relevant project information, including summaries and public project results, names and contact details of consortium partners through the visual, oral and electronic media.

3.1.1 Workshops

The workshops took place at three different Mediterranean countries at the end of WPs 1-3 respectively. Workshops have been successfully organized in Morocco, Algeria and Lebanon respectively. DISTRES workshops aimed at the dissemination of the results of DISTRES to interested parties, such as, end-users, regulators, manufacturers, investors, researchers and utilities, from both the EU and the Mediterranean countries. Each Mediterranean country participated with at least 2 delegates, while the Mediterranean country that hosted each workshop participated with at least 15 stakeholders and 15 students. Relevant work was also published in scientific journals.

3.1.2 Conference

The final results of DISTRES were disseminated through a Conference, which was organized at the end of the co-ordination action. The aim was to disseminate DISTRES results to interested parties, such as, end- users, regulators, manufacturers, investors, researchers and utilities, from both the EU and the Mediterranean countries. At the same time, the Conference aimed to highlight the importance of research and development for the future penetration of DG solar thermal and PV systems in the power electricity generation industry in Mediterranean countries. The Conference was open to other academic and/or electricity related researchers to present their work in the field of DG solar thermal and PV systems. Relevant work was also published to scientific journals. The Conference greatly surpassed the participation objectives by attracting over 150 participants from 19 different countries such as Morocco, Algeria, Egypt, Palestine,

Portugal, France, Switzerland, Cyprus, Greece, USA, Spain, etc. Participants represented a wide range of energy stakeholders including regulators, manufacturers, investors, researchers and utilities. Over 80 scientific papers were submitted to the Conference secretariat, and after a two stage review, 58 papers were accepted for presentation and for inclusion into the Conference proceedings together with a number of keynote presentations delivered by distinguished scientists in the field of renewable energy sources and specifically solar thermal power.

3.1.3 Capacity building methodologies

Within DISTRES, capacity building methodologies targeted to different stakeholders of the energy business in the Mediterranean region were set-up with tools that strengthened the stakeholders' capability to detect opportunities and market solutions for the implementation of RES-DG technologies. These tools were generic enough to cover any issue of an investment decision making in renewable DG investment, despite the diversity of the multiple stakeholders and their complex interactions. The external validation of the capacity building methodologies was carried out in the form of a trial run for all programmes with stakeholders (end-users, regulators, manufacturers, investors, researchers and utilities). This event took place during the final progress meeting and Conference, by means of a dedicated trial run/tutorial session. The capacity building methodologies were developed in the English language. After taking into account the feedback loop of the trial run, further industrialization and dissemination beyond the project can be envisaged in native languages of the partner countries.

3.1.4 DISTRES website

A website dedicated to DISTRES was developed with public and partners area implementing the following issues: (a) project overview area, (b) events area with information on workshops, lectures etc., (c) publications area with brochures, newsletters, public reports and executive summaries, workshop proceedings and papers, (d) technology information area with documentation on RES and in particular solar systems, (e) links area with links to other RES and DG projects and other useful information and (f) private area (for project partners only – for internal meetings, documents that are of restricted use, etc.). The website was continuously updated until the end of the project, with new information throughout the project and was a valuable instrument for dissemination of the project results to the general public. Also, the DISTRES website included a section with links to various pages containing information on RES policies of various countries. The main page of DISTRES website is shown in Figure 8.

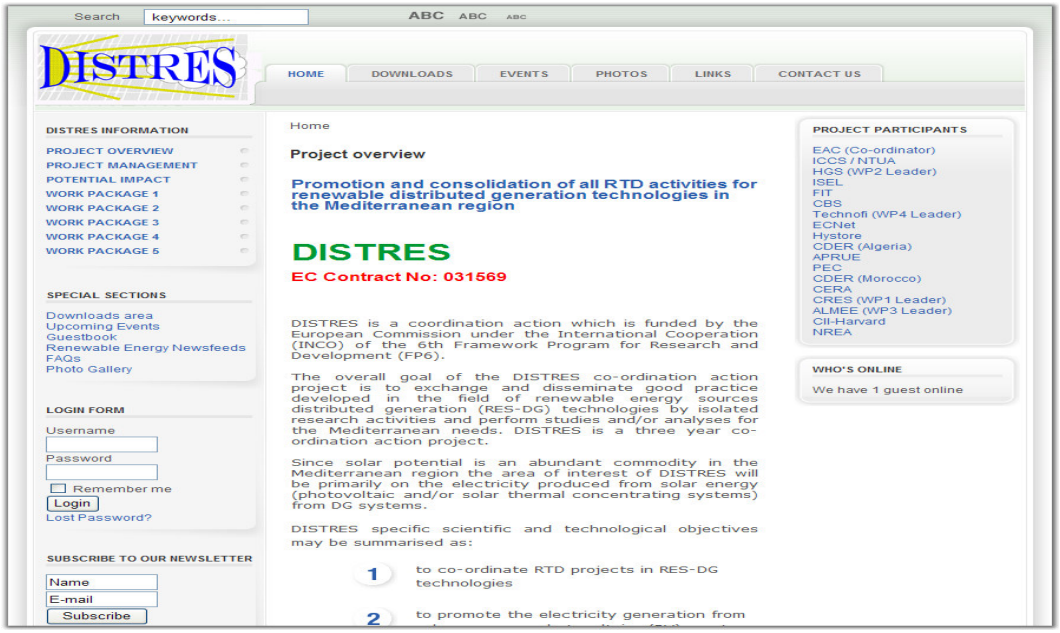

Figure 8: DISTRES website main page

3.1.5 Newsletters

Three Newsletters providing information on the results of WPs 1-3 respectively and other relevant information were compiled and published at the project website and posted to Mediterranean Countries governmental authorities and academic establishments. A list with Mediterranean countries electric utilities and local authorities was compiled at the beginning of the project and the newsletters were sent to the listed organizations in electronic form.

3.1.6 Press Release

A press release on the DISTRES was compiled and released at the end of the co-ordination action. This was published at the project website and the project partners undertook the translation of the press release to their languages and its publication in newspapers and journals in their countries, so as to maximize the public promotion of DISTRES. Overall, the DISTRES press release was translated into seven languages, namely, English, French, Greek, German, Danish, Portuguese and Arabic. The press release was also sent in electronic form to the Mediterranean countries electric utilities and local authorities that were listed at the beginning of the project.

3.2 Exploitable knowledge and its use

Not applicable for DISTRES.

3.3 Dissemination of knowledge

A table listing all dissemination activities within DISTRES is presented in Table 1.

Table 1: Dissemination activities

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
11 Jan 2007	"EAC &D activities in the field of solar energy: The DISTRES project", *EAC Press Release* (in Greek)	General Public	Cyprus	Thousands	EAC
12 Jan 2007	"A turn towards solar energy", *Alithia newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
12 Jan 2007	"Research on PVs", *Politis newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
14 Jan 2007	"Understanding PV systems", *Simerini newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
15 Jan 2007	"RTD activities at EAC", *Tharros newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
16 Jan 2007	"RTD activities at EAC", *Epikerotites newspaper,* Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
19 Jan 2007	"PV systems, DISTRES research project", *Antilogos newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
21 Jan 2007	"EU Funding to EAC for DISTRES research project", *Haravgi newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
31 Jan 2007	"Overview of DISTRES", *EURELECTRIC 22nd WG Research & Development meeting*, Rome, Italy	Academia, research, industry	European-wide	20	EAC
Jan 2007	"Photovoltaic systems – The DISTRES project", *EAC News*, 90, 24-25 (in Greek)	EAC personnel	Cyprus	2000	EAC
3 Feb 2007	"RTD activities at EAC", *Chrimatistiriaki newspaper,* Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
8 Feb 2007	"From EAC: PV systems under the DISTRES project", *Evrokerdos newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
23 May 2007	"Progress of DISTRES", *EURELECTRIC 23nd WG Research & Development meeting*, Brussels, Belgium	Academia, research, industry	European-wide	20	EAC
29 Sep 2007	"Technological developments in renewable energy sources and the role of the Electricity Authority of Cyprus", Keynote Lecture, *Conference on Renewable Energy Sources and Energy Efficiency*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	EAC

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
29 Sep 2007	"Promotion of renewable distributed generation technologies in the Mediterranean region – The DISTRES project", *Conference on Renewable Energy Sources and Energy Efficiency*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	EAC
Nov 2007	"DISTRES 2007", ISEL Informacao, No. 7 – 2 Serie, Novembro de 2007 (in Portuguese)	Academia	Portugal	500	ISEL
17 Dec 2007	"The EU energy package – EAC R&D activities", *Cyprus Electricity Research and Development 2007 Workshop*, Nicosia, Cyprus	Academia, research, general public	Cyprus, Greece, Eastern Europe	100	EAC
17 Dec 2007	"EAC Research Projects on RES and DG technologies", *Cyprus Electricity Research and Development 2007 Workshop*, Nicosia, Cyprus	Academia, research, general public	Cyprus, Greece, Eastern Europe	100	EAC
Feb 2008	"DISTRES - Promotion and consolidation of all RTD activities for renewable distributed generation technologies in the Mediterranean region", HSG Annual Report, 2007	Academia	Switzerland	500	HSG
11 Mar 2008	"Empowering the solar energy prosumer – Effectiveness of photovoltaic policies in Germany, Spain and Greece", *SCORE! Conference Brussels, Belgium*	Academia, research, industry, general public	European-wide		HSG
May 2008	"DISTRES - Promotion and consolidation of all RTD activities for renewable distributed generation technologies in the Mediterranean region", *EAC Annual Report*, 2007	Industry	Cyprus	500	EAC
28-29 May 2008	"Investment behaviour of solar companies: Determinants of foreign direct investment in an emerging cleantech industry" *GRONEN Conference, Nicosia, Cyprus*	Academia, research, industry, general public	Mediter-ranean, European-wide		HSG

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
5 Jun 2008	DISTRES Workshop 1 "Current RES policies within EU and Mediterranean countries", Morocco	Academia, research, industry, general public	Mediter-ranean, European-wide	80	CDER (Morocco)
15 Jun 2008	"Promotion of solar systems for electricity generation in Mediterranean countries", *EAC Press Release* (in Greek)	General Public	Cyprus	Thousands	EAC
17 Jun 2008	"Promotion of solar systems for electricity generation in Mediterranean countries", *Mahi newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
June 2008	"Promotion of solar systems for electricity generation in Mediterranean countries", EAC Magazine (in Greek)	EAC personnel	Cyprus	2000	EAC
20 Jun 2008	"Promotion of solar systems for electricity generation in Mediterranean countries", *To Pontiki newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
15 Jul 2008	"DISTRES Research Program – Promotion of solar systems for electricity generation in Mediterranean countries", *Evrokerdos newspaper,* Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
Jun 2008	DISTRES Newsletter 1	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
Aug 2008	"Characteristics of an effective solar policy: Assessment of stated preferences in solar project location decisions", *oikos PhD Summer Academy*, Kaubad, Switzerland	Academia, research, industry	Switzerlan d		HSG

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
22-23 Sep 2008	"The promotion of solar energy in the Mediterranean countries", *International Workshop on Deregulated Electricity Market Issues in South-Eastern Europe*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	EAC
22-23 Sep 2008	"Effective deployment of photovoltaics in Mediterranean countries: Balancing policy risk and return", *International Workshop on Deregulated Electricity Market Issues in South-Eastern Europe (DEMSEE)*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	HSG
22-23 Sep 2008	"Renewable energy sources (RES) electricity storage in the form of green hydrogen", *International Workshop on Deregulated Electricity Market Issues in South-Eastern Europe (DEMSEE)*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	FIT
22-23 Sep 2008	"A sustainable green hydrogen production and usage cycle from solar thermal and PV technologies", *International Workshop on Deregulated Electricity Market Issues in South-Eastern Europe (DEMSEE)*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	Hystore
22-23 Sep 2008	"Energy policy development for the promotion of distributed generation technologies in the Mediterranean region", *International Workshop on Deregulated Electricity Market Issues in South-Eastern Europe (DEMSEE)*, Nicosia, Cyprus	Academia, research, industry, general public	Cyprus, Greece, European-wide	200	CRES
17 Dec 2008	DISTRES Workshop 2 "Solar thermal and photovoltaic market financing schemes in EU and Mediterranean countries", Algeria	Academia, research, industry, general public	Mediter-ranean, European-wide	80	CDER (Algeria)
Dec 2008	DISTRES Newsletter 2	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
23 Dec 2008	"Workshop for the promotion of solar thermal and photovoltaic systems for electricity generation in Mediterranean countries", *EAC Press Release* (in Greek)	General Public	Cyprus	Thousands	EAC
25 Dec 2008	"Campaign for promotion of solar thermal and photovoltaic systems for electricity generation in Mediterranean countries", *Antilogos newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
27 Dec 2008	"Workshop for the promotion of solar thermal and photovoltaic systems for electricity generation in Mediterranean countries", *Haravgi newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
28 Dec 2008	"Workshop for the promotion of solar thermal and photovoltaic systems for electricity generation in Mediterranean countries", *Haravgi-Economiki newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
9 Jan 2009	"Workshop on solar thermal and photovoltaic systems", *Lemesos newspaper*, Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
Jan 2009	"Promotion and consolidation of all RTD activities for renewable distributed generation technologies in the Mediterranean region", *Bulletin des Energies Renouvelables, No 14,* Algeria (in French)	Academia, research, industry, general public	Algeria	Thousands	CDER (Algeria)
14 May 2009	"Promotion of solar energy in the Mediterranean region – The DISTRES project", *Workshop on Renewable Energy Sources*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	200	EAC
May 2009	"DISTRES - Promotion and consolidation of all RTD activities for renewable distributed generation technologies in the Mediterranean region", *EAC Annual Report*, 2008	Industry	Cyprus	500	EAC

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
15 Jun 2009	"Promotion of solar energy in the Mediterranean region" *Renewable Energy Sources (RES) policies and applications in Cyprus*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	150	EAC
15 Jun 2009	"Integration of future energy systems in Cyprus" *Renewable Energy Sources (RES) policies and applications in Cyprus*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	150	EAC
19 Jun 2009	DISTRES workshop 3, "Solar thermal and photovoltaic electricity market in EU and Mediterranean countries", Lebanon	Academia, research, industry, general public	Mediter-ranean, European-wide	80	ALMEE
19 Jun 2009	"The DISTRES project", *DISTRES workshop 3, "Solar thermal and photovoltaic electricity market in EU and Mediterranean countries"*, Lebanon	Academia, research, industry, general public	Mediter-ranean, European-wide	80	EAC
19 Jun 2009	"EU Energy Policy", *DISTRES workshop 3, "Solar thermal and photovoltaic electricity market in EU and Mediterranean countries"*, Beirut, Lebanon	Academia, research, industry, general public	Mediter-ranean, European-wide	80	EAC
Jun 2009	A link of DISTRES website was added to the official web-site of the project STORIES (www.storiesproject.eu)	General Public	Global	Global	NTUA
Jun 2009	DISTRES Newsletter 3	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
21-24 Jun 2009	"The price of policy risk – Empirical insights from choice experiments with European photovoltaic project developers", *32nd IAEE International Conference 'Energy, Economy, Environment: The Global view'*, San	Academia, research, industry, general public	USA, European-wide	500	HSG

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
	Francisco, USA				
7-10 Sep 2009	"The price of policy risk – Empirical insights from choice experiments with European photovoltaic project developers", *10th IAEE European Conference 'Energy, Policies and Technologies for Sustainable Economies'*, Wien, Austria	Academia, research, industry, general public	Mediter-ranean, European-wide	500	HSG
Sep 2009	"The price of policy risk – Empirical study looks at the willingness of European photovoltaic project developers to invest", Solar-Report on The Solarserver Forum for Solar Energy, (in German), URL: http://www.solarserver.de/solarmagazin/solar-report0909 e.html	General Public	Global	Global	HSG
Sep 2009	"Die Kosten politischer Risiken: Empirische Studie untersucht Investitionsbereitschaft europaischer Photovoltaik-Projektentwickler", Solar-Report auf Der Solarserver, Das Internetportal zur Sonnenenergie, (in German), URL: http://www.solarserver.de/solarmagazin/solar-report0909 e.html	General Public	Global	Global	HSG
13-15 Oct 2009	"The DISTRES project", *2nd International conference on the Palestinian Environment,* Al-Najah National University	General Public	Mediter-ranean, European-wide	200	PEC
23-24 Oct	"Assessment of power generation using large scale photovoltaic technologies in Cyprus", *2nd International Conference on Renewable Energy Sources and Energy Efficiency,* Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	200	EAC
Autumn 2009	"Photovoltaik-Investoren im Spannungsfeld von politischem Risiko und Rendite", *UFS Bulletin, 2 Ausgabe,* (in German)	Academia, research, industry, general public	Germany, Switzerland	Thousands	HSG

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
10-12 Nov 2009	"The DISTRES project", *2nd International conference on Energy and Environmental protection,* Palestine Polytechnic University	Academia, research, industry, general public	Mediter-ranean, European-wide	200	PEC
Nov 2009	"The price of policy risk: Are European photovoltaic project developers willing to invest", *InterPV*	Academia, research, industry, general public	European-wide	Thousands	HSG
Nov 2009	"Im Spannungsfeld von Risiko und Rendite" *Handelszeitung* (in German)	Academia, research, industry, general public	Germany, Switzerland	Thousands	HSG
11-12 Dec 2009	DISTRES conference proceedings, "Conference on the promotion of Distributed Renewable Energy Sources In the Mediterranean region"	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
11-12 Dec 2009	"Economic evaluation of low Photovoltaics (PV) penetration in island power systems, application to Cyprus", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	NTUA
11-12 Dec 2009	"The price of policy risk – Empirical insights from choice experiments with European photovoltaic project developers", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	HSG
11-12 Dec 2009	"Hydrogen production, purification and storage from renewable energy sources (RES) with the use of a stand-alone PV/Wind system", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	FIT, Hystore

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
11-12 Dec 2009	"Renewable energy applications in Palestine", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	PEC
11-12 Dec 2009	"Renewable energy policy risk and investor behaviour in Europe: Design of a conjoint experiment", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	HSG
11-12 Dec 2009	"The Algerian program of energy control", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	APRUE
11-12 Dec 2009	"Hydrogen and photovoltaic energy in Egypt", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	NREA
11-12 Dec 2009	"Packaging R&D results for dissemination in the multi-actor, multi-technology field of Distributed Energy Resources", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	Technofi
11-12 Dec 2009	"Future sustainable energy systems", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
11-12 Dec 2009	"Assessment of power generation using parabolic trough solar thermal technology in Cyprus", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC

Planned/ Actual dates	Type	Type of audience	Countries addressed	Size of audience	Partner responsible / involved
11-12 Dec 2009	"Feasibility analysis for the installation of photovoltaic parks in Cyprus", *Conference on the promotion of Distributed Renewable Energy Sources in the Mediterranean region*, Nicosia, Cyprus	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
Dec 2009	"EAC - DISTRES European Conference", *Evrokerdos newspaper,* Cyprus local newspaper (in Greek)	General Public	Cyprus	Thousands	EAC
Dec 2009	DISTRES Newsletter 4	Academia, research, industry, general public	Mediter-ranean, European-wide	500	EAC
Dec 2009	DISTRES Press release, "Energizing the future utilizing the Mediterranean sun - The successful story of the DISTRES project", Translated into 7 languages, Greek, English, German, French, Danish, Portuguese and Arabic	Academia, research, industry, general public	Mediter-ranean, European-wide	Thousands	EAC, HSG, Technofi, ALMEE, CBS, ISEL
2009	"Economic analysis of power generation from parabolic trough solar thermal plants for the Mediterranean region – A case study for the island of Cyprus", *Renewable and Sustainable Energy Reviews*	Academia, research, industry	Global	Thousands	EAC
2009	"Parametric cost-benefit analysis for the installation of photovoltaic parks in the island of Cyprus", *Energy Policy*	Academia, research, industry	Global	Thousands	EAC

3.4 Publishable results

Not applicable for DISTRES.