

ENERTECH 2007

2nd International Conference on
Renewable Energy Sources and Energy Efficiency

CONFERENCE PROGRAMME

Organizer:



Under the Auspices of:



GREEK MINISTRY FOR THE
ENVIRONMENT, PHYSICAL
PLANNING & PUBLIC WORKS



Scientific Organization:



ΚΑΠΕ
CRES

Co Organization:



Deutsch-Griechische
Industrie- und Handelskammer
Εθνικογερμανικό Εμπορικό
και Βιομηχανικό Επιμελητήριο

18-21 October 2007
Conference Center, HELEXPO PALACE
Athens, Greece

INTRODUCTORY NOTE

The recent developments in the energy sector and mainly in the oil market, the security of energy supply, the continuously increasing needs of modern societies for energy and at the same time the environmental repercussions of the greenhouse effect have raised many questions and created a lot of concerns.

Renewable Energy Sources (RES) constitute the most promising solution for the confrontation of these problems, offering clean and inexhaustible energy and contributing to energy independence. Additionally, new Energy Efficiency (EE) technologies decrease energy demand offering both economic profits and environmental benefits.

The 2nd International Conference on Renewable Energy Sources and Energy Efficiency has brought together researchers, policy makers, energy sector decision makers, academics, members of funding institutions, government officials, interested in current developments & perspectives in the energy sector and in particular to Renewable Energy Sources, Energy Efficiency and Energy Management.


The conference agenda tackled among others the following issues:


- **Renewable Energy Sources/Energy Efficiency**
 - Government Planning and Prospects
 - Greek Energy Market Development
- **Energy Markets and Regulatory Policies**
- **Energy Production from RES - Technologies and Applications**
- **Energy Saving & Efficiency**
 - Industry, Buildings & Transport
- **Energy Storage & Transportation**
- **Distributed Generation**
- **Energy & Environment**
- **Natural Gas**


In total there were presented 56 oral and 24 poster contributions in the above mentioned fields with key-presentations from National & International Experts, aimed to address policies and technologies on RES & EE and to promote their contribution in the energy mix.


- 14:00-14:45 Registration
- 14:45-15:00 **PRESENTATION OF THE CONFERENCE PROGRAMME**
Karapanagiotis N., Centre for Renewable Energy Sources (CRES), Greece
- 15:00-16:45 **TECHNICAL SESSION 1: ENERGY SAVING AND EFFICIENCY IN BUILDINGS**


Chair: **Ayerides G.**, *Director of the Division of Energy Efficiency, CRES*

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Energy Efficiency of Hellenic and European Buildings
Balaras C., Gaglia A., Droutsas K., Kontoyiannidis S., Group Energy Conservation, Institute for Environmental Research and Sustainable Development, National Observatory of Athens (NOA), Greece
- 

The role of local authorities in energy saving: The example of the municipality of Nea Penteli
Skoula I., Chatzimpiros A., EPTA Ltd – Environmental Consultants Engineers, **Psomopoulos C.**, Department of Electrical Engineering, Technological Educational Institute (TEI) of Piraeus, Greece
- 

Environmental planning & Ecological construction for sustainable cities: Improving existing buildings energy efficiency - the case of “Evonymos” Ecological Library in Athens historical center
Chondrou-Karavasili M., “Evonymos” Ecological Library, Greece
- 

Low cost / No cost measures for energy efficiency in public buildings
Konradl J., Caspari D., Zentrum für rationelle Energieanwendung und Umwelt GmbH (ZREU), Germany
- 

The Method of Life Cycle Cost Analysis in the Building Sector
Kikira M., Buildings Department, Division of Energy Efficiency, Centre for Renewable Energy Sources (CRES), Greece, **Krigsvoll G.**, Oslo University College, Norway

16:45-17:15 *Coffee Break - Poster Session Open*

17:15-18:30

TECHNICAL SESSION 2: BUILDING ENERGY PERFORMANCE

Chair: *Karapanagiotis N., Director of the Division of Administrative and Financial Services, CRES*

Methodology of calculation thermal and cooling building requirements according to 2002/91 EC Directive

Rogdakis E., Koronaki I., Papathanasiou. L., Thermal Section, School of Mechanical Engineering, National Technical University of Athens (NTUA), Greece, **Lytras K.,** Division for Energy Policy and Planning, CRES, Greece

The contribution of external thermal insulation composite systems to energy conservation in buildings

Androutsopoulos A., Buildings Department, Division of Energy Efficiency, CRES, Greece, **Koronaki I.,** Thermal Section, School of Mechanical Engineering, NTUA, Greece

Hybrid wall as a system with controlled thermal flux flow

Belok J., Silesian University of Technology, Poland

Radiant Barriers performance in Greek Residential and non-Residential Buildings
Koronaki I., Thermal Section, School of Mechanical Engineering, NTUA, Greece, **Moustris K., Kaldellis I.,** School of Engineering, Mechanical Engineering Department, TEI of Piraeus, Greece, **Paliatsos A.,** General Department of Mathematics, TEI of Piraeus, Greece, **Kavadias K.,** School of Engineering, Mechanical Engineering Department, TEI of Piraeus, Greece, **Lazari E.,** Buildings Department, Division of Energy Efficiency, CRES, Greece

18:30- 18:45 *Coffee Break - Poster Session Open*

18:45-19:45

TECHNICAL SESSION 2: BUILDING ENERGY PERFORMANCE

Chair: *Ayerides G., Director of the Division of Energy Efficiency, CRES*

Study of airflow pattern and thermal environment in naturally ventilated buildings
Stavrakakis G., Markatos N., Computational Fluid Dynamics Unit, School of Chemical Engineering, NTUA, Greece, **Koukou M., Vrachopoulos M.,** Environmental Research Laboratory, Department of Mechanical Engineering, TEI of Halkida, Greece

Use of Infrared Thermography for PV arrays performance assessment
Moropoulou A., Palyvos J., Karoglou M., Panagopoulos V., School of Chemical Engineering, NTUA, Greece

The contribution of natural shading with climbing plants to the energy balance of buildings

Tzachanis A., TEI of Larissa, Greece

20:00-20:30

CONFERENCE OFFICIAL OPENING AND WELCOME ADDRESSES

- * **Mousouroulis K.**, General Secretary for Development, Ministry of Development
- * **Baltas E.**, General Secretary, Ministry for the Environment, Physical Planning and Public Works
- * **Schultheiss W.**, Ambassador of Federal Republic of Germany
- * **Prombonas I.**, Vice Perfect of Athens
- * **Zafeiropoulos G.**, Central Union of Municipalities and Communities (KEDKE), Mayor of Halandri
- * **Caramanis M.**, Chairman of the Board of Commissioners, Regulatory Authority for Energy (RAE)
- * **Lekatsas E.**, Chairman of the Board of Commissioners, Hellenic Transmission System Operator S.A. (HTSO)
- * **Caramichas M.**, Vice President of the Board of Directors, Public Gas Corporation S.A. (DEPA)
- * **Costoulas K.**, President of the Board of Directors, Athens Water Supply and Sewerage Company (EYDAP SA)
- * **Arapatsakos C.**, Managing Director, ETHEL
- * **Thanassoulas C.**, Chief Executive Officer, LARCO GMMSA
- * **Michalos K.**, President of the Athens Chamber of Commerce and Industry (ACCI)
- * Representative of **National Bank of Greece**

21:00


End of Day 1

09:00-09:30 *Registration*


KEYNOTE PRESENTATIONS

09:30-11:30 **RES CURRENT SITUATION AND TRENDS**

Chair: ***Vlachos K.**, Member of the Board of Commissioners, Regulatory Authority for Energy (RAE)*

 The role of RES in reducing the anthropogenic impact on climate change
Zerefos C., Secretary of International Ozone Commission, Greece

 Review of the legal framework for licensing RES projects and progress data
Santorinaios M., Regulatory Authority for Energy (RAE), Greece


 Large scale wind penetration: Prospects and impacts on Electric Power Systems
Kabouris J., Hellenic Transmission System Operator S.A., (HTSO), Greece


 Special Spatial Plan for RES Investments in Greece
Mavronas A., Gourgiotis A., Department of Spatial Planning, Gen. Directorate of the Environment, Ministry of Environment, Spatial Planning & Public Works, Greece

11:30-12:00 *Coffee Break - Poster Session Open*


12:00-13:45 **RES MARKET INSIGHTS**


Chair: ***Tigas K.**, Director of the Division of Energy Policy and Planning, CRES*

 International and Greek PV Market: Potential Trends
Psomas S, Anemodouras G., Hellenic Association of Photovoltaic Companies (HELAPCO), Greece

 Prospects and developments on the Renewable Energy Sources sector
Kastanakis M., Greek Solar Industry Association (EBHE), Greece

 Wind Power in Greece: Development Prospects
Papastamatiou P., Hellenic Wind Energy Association (HWEA), Greece

 The CHP status in Europe and Greece
Theofylaktos K., Hellenic Association for the Cogeneration of Heat and Power (HACHP), Greece

 Future Renewable Energy Resources
Nikoletopoulos V., Athens Chamber of Commerce and Industry (ACCI), Greece

13:45- 15:00 *Lunch Break*


15:00-18:45


RES TECHNOLOGIES, MECHANISMS AND OPPORTUNITIES

15:00-16:45


Chair: **Hatziargyriou N.**, Vice Chairman & Deputy CEO of Public Power Corporation S.A. (PPC)

 The Future of Solar Thermal Systems in Europe
Hartmann U., German Society for Solar Energy, Germany

 SmartGrids: European Vision for the Electricity Networks of the future
Hatziargyriou N., Public Power Corporation S.A. (PPC S.A.), Greece

 Sustainable Technology Transfer through the Clean Development Mechanism: A collective approach grounded in participatory in-country processes
Karakosta C., Doukas H., Flamos A., Psarras J., Management & Decision Support Systems Laboratory, School of Electrical and Computer Engineering, NTUA, Greece

 Opportunities and Developments of the RES sector in Greece
Garis A., PPC Renewables S.A., Greece


 Clean Energy for the 21st Century
Fells I., Fells Associates, United Kingdom


16:45-17:00


Coffee Break


17:00-18:45


Chair: **Vougiouklakis Y.**, Head of CRES Liaison Office, CRES

 Climate Solutions and the Role of Business
Karavellias D., Plitharas A., WWF Greece, Greece

 Energy (R)evolution: The solution to climate change
Charalambides N., Greek Branch of GREENPEACE, Greece

 **Diamantidides S.**, Hellenic Association of Mechanical and Electrical Engineers (HAMEE), Greece

 Development of Renewable Sources of Energy in Greece: Capabilities - Challenges - Difficulties
Siamidis M., Industrial Department, ACCI, Greece

 Renewable Energy Sources, Investment Opportunities and Environment Protection- A new Challenge for Enterprises
Dimitriou D., ACCI, Greece

18:45-19:00

Coffee Break

19:00-19:20

NATURAL GAS

Chair: *Vougiouklakis Y., Head of CRES Liaison Office, CRES*



The Natural Gas Market in Greece

Karakitsou K., Public Gas Corporation of Greece (DEPA) S.A., Greece

19:20-19:40

MAKE SOLAR MAINSTREAM

Chair: *Vougiouklakis Y., Head of CRES Liaison Office, CRES*



A company's perspective for the solar sector

Northland M., Sun Power Systems S.A., Switzerland

20:00

End of Day 2

09:00-10:00

Registration

10:00-13:45

TECHNICAL SESSION 3: OPTIMIZATION OF RES PRODUCTION & PV PERFORMANCE

10:00-12:00

Chair:

Tsipouridis I., President of the Hellenic Wind Energy Association (HWEA)

Different energy consumption strategies for the Greek electric sector

Dagoumas A., Panapakidis I., Papagiannis G., Dokopoulos P., Power Systems Laboratory, Faculty of Electrical and Computer Engineering, Aristotle University of Thessaloniki (AUTH), Greece

Maximisation of R.E.S. penetration in Greek insular isolated power systems with the introduction of pumped storage systems

Katsaprakakis D., Christakis D., Wind Energy and Power Plants Synthesis Laboratory, TEI of Crete, Greece

Analysis and modeling of a Stand-Alone Power System for the production of electrical energy with hydrogen long-term storage

Ipsakis D., Chemical Process Engineering Research Institute (CPERI), Centre for Research & Technology Hellas (CERTH), Department of Chemical Engineering, AUTH, Greece, **Voutetakis S.,** CPERI, CERTH, Greece, **Seferlis P.,** CPERI, CERTH, Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece, **Stergiopoulos F.,** CPERI, CERTH, Greece, **Papadopoulou S.,** Automation Department, Alexander TEI of Thessaloniki, Greece **Elmasides C.,** Sunlight Systems SA, Greece, **Keivanidis C.,** Sunlight Systems SA, Greece

Cogeneration of Wind power and Space Cooling in Crete and Cyprus

Herman M., Ezawa B., Kutzner A., Renewable Energies Wind Energy, Lahmeyer International GmbH, Germany

Geothermal Heat Pumps : Technology and Applications

Mendrinou D., Benou A., Karytsas K., Geothermal Department, CRES, Greece

12:00-12:30

Coffee Break - Poster Session Open

12:30-13:45

Chair(s): **Psomas S, Anemodouras G.**, *Hellenic Association of Photovoltaic Companies (HELAPCO), Greece*

Development of an efficient real-time optimization strategy for a hybrid power generation system consisting of photovoltaic arrays and fuel cells (PV-FC)
Zervas P., Sarimveis H., Palyvos J., Markatos N., School of Chemical Engineering, NTUA, Greece

Fuzzy cognitive networks & Fuzzy controllers as a self adapted control system for tracking maximum power point of a PV-Array
Karlis A., Boutalis Y., Kottas T., Department of Electrical and Computer Engineer, Democritus University of Thrace (DUTH), Greece

Enhance the Efficiency of Photovoltaic module by using Two-Axis Automatic Solar Tracking System based on microcontroller and a new photo-sensor
Viet-Hung. Pham, Vuong-Hung. Dinh, Department of Technology, Hue Nong Lam University, Vietnam, **Keh-Moh. Lin,** Department of Mechanical Engineering, Southern Taiwan University, Taiwan

Lighting Protection Systems and their impact on the production of energy from renewable energy sources
Bertelsen Kim, Electricon A/S, Denmark, **Politis Z.**, Raycap Corporation, Greece

13:45-15:00 *Lunch Break*

15:00-17:45 **TECHNICAL SESSION 4 : BIOMASS & FUEL CELLS TECHNOLOGIES AND APPLICATIONS**

15:00-16:15

Chair: **Christou M.**, *Head of Biomass Department, CRES*

Recovery of Energy from Waste with the Plasma Gasification Technology
Mountouris A., Pappa G., Voutsas E., Magoulas K., Tassios D., Thermodynamics and Transport Phenomena Laboratory, School of Chemical Engineering, NTUA, Greece

Bench Scale Biomass Gasifier –Analysis of Process Condition’s impact on producer gas quality
Koufodimos G., Samaras Z., Mechanical Engineering Department, AUTH, Greece, **Skoulou V., Zabaniotou A.**, Chemical Engineering Dept, AUTH, Greece

Possibility of producing pellets from olive Kernel wood
Vourdoumpas J., Department of Natural resources and environment, TEI of Crete, Greece

Biomass is an Alternative Source Fuel for Energy Generation
Sanke Narsimhulu, Department of Mechanical Engineering, University College of Engineering, Osmania University, India

16:15- 16:45 *Coffee break*

16:45-17:45

Chair: *Zoulias E., RES and Hydrogen Technologies Integration Department, CRES*

■ Potential of implementing the Solid Oxide Fuel Cell technology for exploitation of landfill gas in Attiki, Greece

Tsormpatzis – Tsormpatzoglou N., Giannopoulos D., Founti M., School of Mechanical Engineering, NTUA, Greece

■ Energy & Techno Economical Analysis of Hydrogen Production Via Catalytic steam reforming of Conventional and Environmentally friendly fuels

Katerelos G. Stavrakas A., Heterogeneous Catalysis lab., Chemical Engineering Dept., University of Patras, Greece, **Ligouras D.**, Helbio S.A, Energy & Hydrogen Production Systems, Greece

17:45-18:00 *Coffee Break*

18:00-20:00 **TECHNICAL SESSION 5 : BIOFUELS AND TRANSPORT**

Chair: *Zarkadoula M., Head of Environment and Transport Department, CRES*

■ Biofuels Technological Platform

Bezergianni S., Kazantzi V., CERTH, Greece

■ Electric Vehicles: A realistic solution of energy and environment problems

Safacas A., Energy Conversion Laboratory, University of Patras, Hellenic Institute of Electric Vehicles (HELIEV), Greece

■ Hybrid Technology: A Radical solution for reducing CO₂ emissions from transportation

Tsoskounoglou M., Toyota Hellas, Greece

■ Economical, Ecological and Safe Driving (Eco-Driving)

Zarkadoula M., Zoidis G., Tritopoulou E. Department of Environment and Transport, CRES, Greece

■ Wireless Tire Pressure Monitoring Sensor System

Sidirokastritis Z., Electrical and Computer Engineer, Greece, **Petsios M.**, NTUA, Greece

20:00 *End of Conference*

ENERGY SAVING AND RATIONAL USE OF ENERGY

Seeking a balanced strategy on development

Varouchas G., Business Plans, Marketing & Public Relations Section, ASPROFOS S.A., Greece

Variant double skin glass facade typologies projects constructed in Greece

Vatavalis P., Mechanical Engineer, Greece

Saving energy in education buildings

Koumbakis V., Mechanical Engineer, Greece

The influence analysis of local air-handling units in low energy residential buildings to central heat source

Adamovsky D., Kabele K., Urban M., Department of Microenvironmental and Building Services Engineering, Faculty of Civil Engineering, Czech Technical University in Prague, Czech Republic

Optimization of the supply water temperature in a district heating network

Shorek-Osikowska A., Silesian University of Technology, Poland, **Szlek A.**, Institute of Thermal Technologies, Silesian University of Technology, Poland

Analyses of the possibilities of reducing heat transport costs in heat networks

Shorek-Osikowska A., Silesian University of Technology, Poland, **Szlek A.**, Institute of Thermal Technologies, Silesian University of Technology, Poland

Saving energy and reducing emissions by fueling diesel generators with emulsified palm-biodiesel containing bio-solution

Yuan-Chung Lin, Su-jiu Huang, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan, **C.H. Jim Wu**, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA, **Guo-Ping Chang-Chien**, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan

Impacts on aerosol size distribution of particulate matters from the emission of diesel engine fuelled with palm-biodiesel blends

Yuan-Chung Lin, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan, **Cheng-Hsien Tsai**, Department of Chemical and Material Engineering, National Kaohsiung University of Applied Sciences, Taiwan, **C.H. Jim Wu**, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA, **Guo-Ping Chang-Chien**, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan

Aerosol size distribution of polycyclic aromatic hydrocarbon in the emissions of palm-biodiesel blends fuelled to diesel engine

Yuan-Chung Lin, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan, **Cheng-Hsien Tsai**, Department of Chemical and Material Engineering, National Kaohsiung University of Applied Sciences, Taiwan, **C.H. Jim Wu**, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA, **Guo-Ping Chang-Chien**, Super Micro Mass Research & Technology Center, Cheng Shiu University, Taiwan

Techno-economic and environmental evaluation of biofuels: The case of the automobile fuel market in Madagascar

Sarantakos G., Environmental Science and Engineering, EPFL, Switzerland

Efficient distribution transformers in Europe

Bouroussis C., Dipl. El. Eng, **Topalis F.**, Associate Professor, Electric Power Division, NTUA, Greece

RENEWABLE ENERGY SOURCES

Strategic Bids in Liberalized Markets-Part1

Domingues N., ISEL-DEEA, **Correia P.**, IST-DEEC, **Mendes V.**, ISEL-DEEA, Portugal

Strategic Bids in Liberalized Markets-Part2

Domingues N., ISEL-DEEA, **Correia P.**, IST-DEEC, **Mendes V.**, ISEL-DEEA, Portugal

Energy Policy and economy in Greece with the use of renewable forms of energy and the penetration of the Hydrogen Technology

Ioakimidis C., Faculty of Economics and Social Sciences, Greece, **Zapranis A.** Assistant Professor Faculty of Economics and Social Sciences, Greece

Estimation of Electrical energy production from anticipated PV Plants in Greece, according to the Geographical distribution of RAE

Christoforidis G., Dr. Electrical & Computer Engineer, Greece, **Mantzaras G.** Dipl. Electrical & Computer Engineer Dipl. Civil Engineer, Greece

Wind Diesel Systems on Greek Islands: Economic Outlook and in System Performance Simulation

Ezawa B., **Dahle C.**, Renewable Energies Wind Energy Dept., Lahmeyer International GmbH, Germany

The Geothermal Potential of Greece

Pentarakis E., Mineralogist & Metallurgist Engineer, Greece

Perspectives of Using the Recent European Directives in the Region of Crete

Vourdoumpas J., Department of Natural resources and environment, TEI of Crete, Greece

Beyond Midas Cold: The Vermion's Small Hydro Park

Stergiopoulou A., Agricultural Engineer, **Stergiopoulos G.** GIS Specialist, **Stergiopoulos V.** Dr. d'Etat, Dr.-Ing., Small-Hydro Specialist, Greece

Reed as solid renewable fuel for energy production

Paist A., **Kask Ü.**, Thermal Engineering Department, Tallinn University of Technology, Estonia

The use of phragmites australis to produce energy to heating systems in Estonia

Rodrigues M., Polytechnic Institute and Tallinn University of Technology, Estonia

A novel azimuthal tracker system

Mavromatakis F., **Fragkiadakis J.**, **Davelis E.**, **Franghiadakis Y.**, Department of Sciences, School of Applied Technology, TEI of Crete, Greece

An advanced low power photovoltaic system based on a microcontroller

Kouridakis S., Department of Electronics, TEI of Crete, Greece

Use of diethyl-selenide as a less-hazardous source for preparation of Cu(In,Ga)(S,Se)₂ thin films by selenization of InSe/Cu/GaSe alloys for photovoltaics applications

Dejene F., Department of Physics, University of the Free State, South Africa, **V. Alberts**, Department of Physics, University of Johannesburg, South Africa, **Swart H.**, Department of Physics University of the Free State, South Africa

Sunday, 21 October 2007

- 10:00 **BEGINNING-Opening speech Mr.Papadiotis/Dr.Kelemis**
PRESENTATION OF THE BUSINESS FORUM PROGRAMME
- 10:15-10:30 PAIRAN elektronik – That’s how to convert pesos into Euro
Frankenstein V., Director Sales and Marketing PAIRAN Group
- 10:30-10:45 Presentation of company Eco//Sun- Photovoltaic Installations
Portokalidis S., Project Manager of company Eco//Sun
- 10:45-11:00 Presentation of large and medium scale PV Installations-Experiences gained
Vokas G., General Manager of Conergy Ltd.
- 11:00-11:15 Presentation of SMA Hellas AE-Inverter Technology for Photovoltaic Systems
Christidis H., General Manager of SMA Hellas AE
- 11:15-11:30 Evaluating Credit Risks for Energy Projects
Kaperonis, National Bank of Greece
- 11:30-11:45 Incorporation of technologies for renewable energy sources for fireplaces and energy saving in domestic area **Koulouri I.**, Shareholder of ESTIA FIREPLACES & BBQ S.A.
- 11:45-12:00 The new law 3468/2006 for grid connected PV power stations and recent applications in Greece
Sigalas M., General Director of PHOTOVOLTAIC
- 12:00-12:15 Photovoltaics and cogeneration by plantoil
Ender J., Würz Energy GmbH
- 12:15-12:30 *Coffee Break*
- 12:30-12:45 Efficient Energy Thermal Insulation Façade Systems for Optimal Savings and Flexibility in Architectural Design
Rouni G., Technical consultant STO
- 12:45-13:05 Presentation of ITA group of companies
Gerassimou M., Dep. Managing Director, ITA group of companies
PV PANEL MANUFACTURING PLANT IN THE CITY OF DRAMA
Relakis G. Chief Engineer of PV Department, ITA group of companies
- 13:05-13:20 How is a 1.2 MW PV Solar installation constructed? –A Case Study
Dr. Kapellos S., Marketing & Communications Manager, BP Solar Greece
- 13:20-13:35 **DATA ENERGY SA**

- 13:35-13:50 Planning and Management the Construction of a 20 MWp Photovoltaic roject in Sinan, Korea
Sarris P., Head of Sales, Suntechnics Ltd.
- 13:50-14:05 Gehrlicher Hellas- Complete system solutions for Greece
Bitarachas P., CEO of gehrlicher Hellas AG i.G.
- 14:05-14:20 The realisation of a PV-Project in Greece
Tziolis F., Sales Manager HELIO-ENERGY O. E.
- 14:20-14:35 DEGERenergie – Tracking Systems
Stehle I., – Sales Division DEGERenergie
- 14:35-14:50 Application of a small scale of combined-heat and power (chp) called ecopower of 4,5[k]w electric load and 12,5 kw thermal load at the hotel [Esperia] in Thessaloniki
Moumtzis T., Owner head of the technical department, K. Moumtzis & Sons O.E.
- 14:50-15:05 The Development of Photovoltaic Industry in Greece
Dr. Protogeropoulos C., Technical Advisor of Solar Cells Hellas S.A.
- 15:05-15:30 An innovative web-based energy information system for real-time energy demand – side man agement using location based services (LBS) over ADSL/3G Networks
Nikolopoulos V., Intelen R&D Group Founder, **Polymenopoulos G.** CRES, **Loumos V.**, NTUA, Medialab, **Ayerides G.**, CRES
- 15:30-16:30 *Buffet*
- 16:30 *End of Day*

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