

4<sup>th</sup> European Solar Thermal Energy Conference

**estec** (2009

Munich, Germany • 25-26 May

## Pocket Programme

Getting ready for the  
global solar thermal boom



European  
Solar  
Thermal  
Industry  
Federation

[www.estec2009.org](http://www.estec2009.org)

# estec2009 is a Conference of



Organised in co-operation with:



ESTIF thanks the following organisations for their support to estec2009:



# Welcome to the 4<sup>th</sup> European Solar Thermal Energy Conference



The financial and economic crisis has affected a wide range of industries. In the current volatile environment solar thermal is holding its own. After the 2007 downturn, the European solar thermal market returned to dynamic growth in 2008. For the first time the newly installed surpassed 3GWth in the European Union and Switzerland, four times the 2003 figures when the first European Solar Thermal Energy Conference took place.

Not only is solar thermal staying on course, it is even moving forward. Increased economic concerns about the price of fossil fuels and electricity as well as heightened awareness of climate change have contributed to the growth of renewable energies. Solar thermal has strong economic and environmental advantages and we expect a global solar thermal boom in the next decade. The sector will realise its full potential thanks to three main factors:

- A major thrust for the development of renewable energies, including solar thermal, will come from the implementation of the European Directive on Renewable Energy, which sets mandatory national targets for renewable energies in 2020. The Member States must draw up plans and implement measures to reach their targets, which collectively represent 20% renewable energy in the EU's final energy consumption by 2020.
- Solar obligations will be key instruments in accelerating the solar thermal sector development. Following the way paved by pioneers such as the city of Barcelona, more and more European countries are adopting – at local or national level – legislation making compulsory the use of solar technologies in new buildings and major refurbishment. The implementation of a renewables obligation for new constructions by Germany, which is the largest solar thermal European market, will further strengthen the growth of solar thermal in Europe.

- The European Renewable Heating and Cooling Technology Platform (RHC-ETP) launched in 2005 will also play an important part in making heating and cooling a truly sustainable sector. By focusing on long-term strategy, the platform helps identifying the necessary technological developments to achieve the full potential of our technology.

The 4th European Solar Thermal Energy Conference (estec2009) will highlight these ambitious and positive initiatives for the future of solar thermal, in Europe and worldwide. It is now time for the solar thermal sector to play its hand. Key experts on markets, policies and technology will provide estec2009's participants with the latest information in their field of expertise to help you all "get ready for the global solar thermal boom".

I wish you an interesting conference, a lot of good networking and a pleasant stay in Munich.



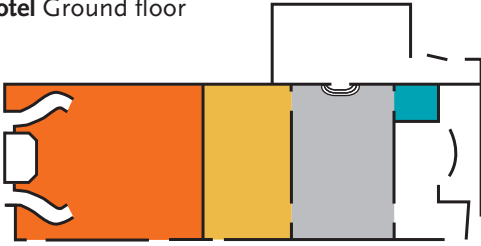
**Olivier Drücke**  
*ESTIF President*

## Programme committee

Riccardo Battisti, *Ambiente Italia, Italy*  
 Ricardo Casasola, *Isofotón, Spain*  
 Jan-Olof Dalenbäck, *Chalmers University of Technology, Sweden*  
 Patrick Davis, *Kingspan-Thermomax, United Kingdom*  
 Harald Drück, *ITW University Stuttgart, Germany*  
 Olivier Drücke, *ESTIF President, Germany*  
 Horst Dufner, *Solar Promotion, Germany*  
 Ralf Köbbemann-Rengers, *Bosch Thermotechnik, Germany*  
 Petri Konttinen, *Luvata, Finland*  
 Richard Loyen, *ENERPLAN, France*  
 Didier Mayer, *EUREC Agency, Belgium*  
 Doug McClenahan, *IEA-SHC, Canada*  
 Helle Meinertz, *SolarCAP, Denmark*  
 Raffaele Piria, *eclareon, Germany*  
 Gerhard Stryi-Hipp, *European Renewable Heating & Cooling  
Technology Platform, Germany*  
 Miloš Šturm, *Hidria, Slovenia*  
 Uwe Trenkner, *ESTIF, Belgium*  
 Grzegorz Wisniewski, *EC-BREC/IEO, Poland*

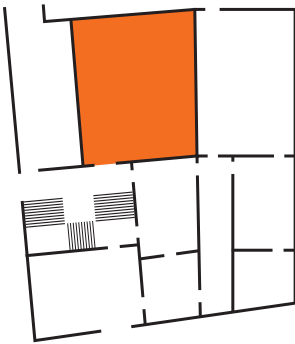
# Conference Map

## Hotel Ground floor



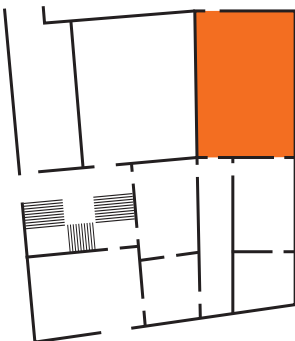
- Festsaal:** Main session room/Parallel session room
- Atrium:** Exhibition/Coffee breaks/Luncheons
- Cocktail Lounge:** Posters
- Kamin Lounge:** Internet zone

## Palais Montgelas Ground Floor



- Palaishalle:** Parallel session room

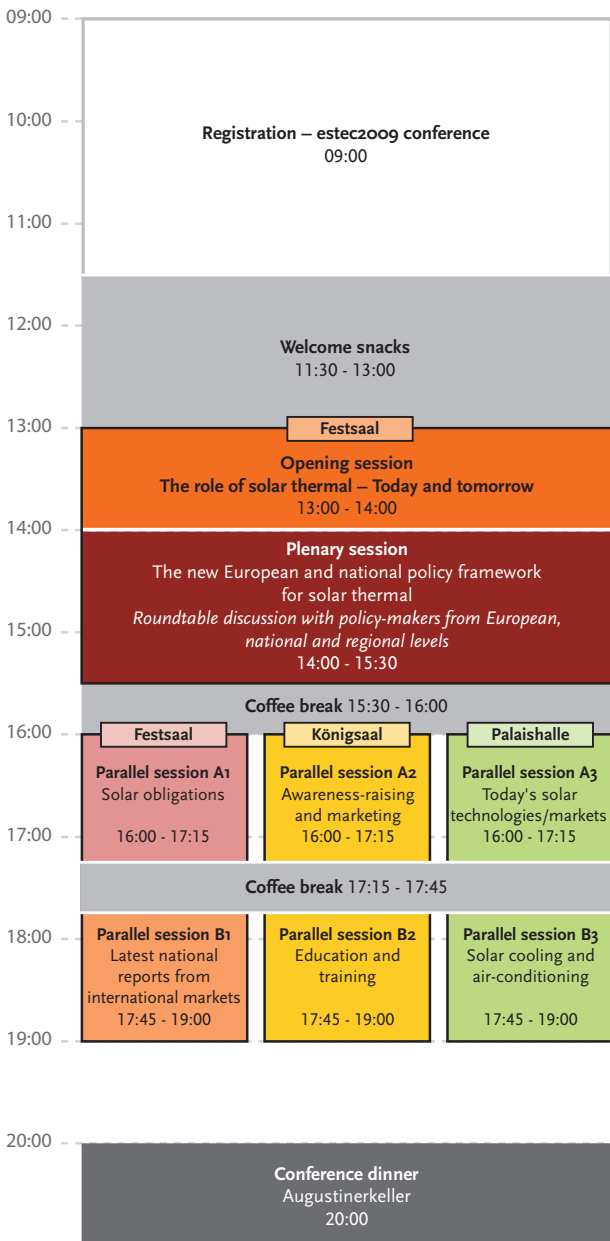
## Palais Montgelas 2<sup>nd</sup> floor



- Königsaal:** Parallel session room

# Programme at a glance

## Monday 25 May 2009



# Programme at a glance

## Tuesday 26 May 2009

09:00	<b>Festsaal</b> <b>Parallel session C1</b> Latest national reports from traditional EU markets 09:00 - 10:30	<b>Palaishalle</b> <b>Parallel session C2</b> Standards and certification 09:00 - 10:30	<b>Königsaal</b> <b>Parallel session C3</b> High solar fraction systems 09:00 - 10:30
Coffee break 10:30 - 11:00			
11:00	<b>Parallel session D1</b> Latest national reports from Mediterranean and other European markets 11:00 - 12:30	<b>Parallel session D2</b> Quality assurance 11:00 - 12:30	<b>Parallel session D3</b> Industrial processes and district heating 11:00 - 12:30
Lunch 12:30 - 13:30			
Cocktail lounge			
14:00	<b>Poster presentations E1</b> Solar thermal systems and applications 13:30 - 15:00	<b>Poster presentations E2</b> Collectors and materials 13:30 - 15:00	<b>Poster presentations E3</b> Non-technological issues 13:30 - 15:00
Coffee break 15:00 - 15:30			
<b>Festsaal</b> <b>Plenary session</b> The future of the solar thermal market – Getting ready for the global boom <i>Roundtable discussion with top managers in the solar thermal market</i> 15:30 - 17:00			
Coffee break 17:00 - 17:30			
<b>Closing session</b> The future of the heating and cooling market 17:30 - 19:00			
19:00			

# Programme overview

## Monday 25 May 2009

09:00 Registration estec2009

---

11:30-13:00 Welcome snacks

---

13:00-14:00 **Opening session: The role of solar thermal – Today and tomorrow**

**The European market for solar thermal - Current state and future development**

Olivier Drücke, *ESTIF*

**The technological challenges for solar thermal energy**

Gerhard Stryi-Hipp, *European Renewable Heating & Cooling Technology Platform*

**Energy [R]evolution scenarios**

Sven Teske, *Greenpeace International*

---

Festsaal

14:00-15:30

**Plenary session:**

**The new European and national policy framework for solar thermal**  
**Roundtable discussion with policy-makers from European, national and regional levels**

**Introductory presentation:**

**The new legislative framework for renewable energies in Europe**

Christine Lins, *European Renewable Energy Council*

**Roundtable discussion:**

William Gillet, *European Commission - Executive Agency for Competitiveness and Innovation*

Karin Freier, *Federal Environment Ministry, Germany*

Hergen Haye, *Department of Energy and Climate Change, UK*

Rudolf Anschober, *Minister of Environment, Upper Austria*

---

Festsaal

15:30-16:00 Coffee break

---

16:00-17:15 **Parallel session A1: Solar obligations**

**Introduction: Overview of solar obligations**

Raffaele Piria, *ESTIF*

**Effects of Spain's national solar thermal obligation on demand, products and value chain**

David Perez Navarro, *eclareon, Spain*

**Tools for supporting local authorities in the implementation of solar obligations**

Riccardo Battisti, *Ambiente Italia, Italy*

---

Festsaal

**Parallel session A2: Awareness-raising and marketing**

**"European Solar Days"- A successful awareness-raising initiative**

Roger Hackstock, *Austria Solar, Austria*

**Marketing solar thermal in different countries – Experiences and strategies of an international solar thermal company**

Robin Welling, *TiSUN, Austria*

**Solar thermal as a marketing tool in developing specific forms of tourism**

Evanthia Michalena, *Sorbonne University, France*

Königsaal

Palaishalle

**Parallel session A3: Today's solar technologies/markets**
**State of the art of small Combi-Systems**

 Philippe Papillon, *National Institute for Solar Energy (INES), France*
**State of the art of combined solar thermal and heat pump systems**

 Michael Kaare Jensen, *Danfoss, Denmark*

 Christian Stadler, *Sonnenkraft, Germany*
**Solar domestic hot water systems in high-rise buildings**

 Teun Bokhoven, *ZEN-International, The Netherlands*

17:15-17:45 Coffee break

**17:45-19:00 Parallel session B1: Latest national reports from international markets**
**Australia: Mainstreaming solar Down Under**

 Ken Guthrie, *Sustainability Victoria, Australia*
**USA: Awaiting the solar thermal boom**

 Les Nelson, *Solar Rating & Certification Corporation, United States of America*
**Japan: New policies to spark growth?**

 Tetsunari Iida, *Institute for Sustainable Energy Policies, Japan*
**China: High growth in the world's biggest solar thermal market**

 Hu Runqing, *Energy Research Institute – NDRC, China*

Festsaal

**Parallel session B2: Education and training**
**Improving the quality of installations: The role of Qualit'EnR in France**

 Wael Elamine, *Qualit'EnR, France*
**Trained for growth? The state of training and education in German-speaking countries**

 Klaus Vajen, *Kassel University, Germany*
**Teaching solar thermal system design using the Educational Package of Polysun**

 Andreas Witzig, *Vela Solaris, Switzerland*

Königsaal

**Parallel session B3: Solar cooling and air-conditioning**
**The state of the art of solar assisted cooling - An overview**

 Alexander Morgenstern, *Fraunhofer ISE, Germany*
**Energy performance assessment of solar-assisted desiccant cooling systems**

 Vincenzo Sabatelli, *ENEA Research Centre Trisaia, Italy*
**Solarcombi+: Identification of most promising solar heating and cooling systems for market entry**

 Daniel Mugnier, *TECSOL, France*

Palaishalle

20:00 Conference dinner

**Augustinerkeller**

 Augustinerstraße 52  
80335 Munich

# Programme overview

## Tuesday 26 May 2009

09:00-10:30 **Parallel session C1: Latest national reports from traditional EU markets**

**Germany: Developments in Europe's lead market**

Werner Koldehoff, *German Solar Industry Association (BSW-Solar), Germany*

**France: Towards the widespread use of solar thermal**

Richard Loyer, *ENERPLAN, France*

**Spain: Perspectives beyond the solar obligations**

Pascual Polo Amblar, *Solar Thermal Industry Association (ASIT), Spain*

**Italy: Opportunities and threats in a high-potential market**

Valeria Verga, *Solar Thermal Industry Association (Assolterm), Italy*

**Sweden: Experiences from a smaller market**

Jan-Olof Dalenbäck, *Chalmers University of Technology, Sweden*

Festsaal

---

**Parallel session C2: Standards and certification**

**European certification and labelling**

Jan Erik Nielsen, *PlanEnergi, Denmark*

**International standards for solar water heaters**

Ken Guthrie, *Sustainability Victoria, Australia*

**Glazed air collectors: Draft for an extension of EN 12975**

Matthias Rommel, *Fraunhofer Institute for Solar Energy Systems, Germany*

**Reduction of Solar Keymark testing efforts by means of an extrapolation procedure for factory made system**

Henner Kerskes, *ITW University Stuttgart, Germany*

Palaishalle

---

**Parallel session C3: High solar fraction systems**

**Optimisation of a high solar fraction system for buildings' heating and cooling in southern European countries**

Aristotelis Aidonis, *Centre for Renewable Energy Sources, Greece*

**Combination of solar thermal, heat pump and photovoltaic - The zero energy houses are realistic**

Frank Thole, *Schüco International, Germany*

**Cost of primary energy savings comparison between two high solar fraction systems, a solar thermal based and a geothermal PV based**

Oriol Gavalda, *Aiguasol Ingeniería, Spain*

**The next generations of seasonal thermal energy storage in Germany**

Dirk Mangold, *Solites, Germany*

**Materials for compact thermal energy storage:**

**a new IEA SHC/ECES Joint Task**

Wim van Helden, *Energy Research Centre of the Netherlands*

Königsaal

---

10:30-11:00 Coffee break

---

11:00-12:30 **Parallel session D1: Latest national reports from Mediterranean and other European markets**

**Tunisia: Successful market development in Northern Africa**

Tahar Achour, *National Chamber of Renewable Energies (Chambre Syndicale Nationale des Energies Renouvelables), Tunisia*

**Turkey: Re-boosting one of Europe's biggest markets**

Mehmet Eren, *Sergün Solar Energy Systems, Turkey*

**Romania: New public support to develop the solar thermal market**

Georgica Voinea, *Solarom, Romania*

**Poland: Growing on a strong national industry**

Grzegorz Wisniewski, *EC BREC/IEO, Poland*

Festsaal

Palaishalle

**Parallel session D2: Quality assurance**

**Comparative test of new thermal solar systems for domestic hot water preparation and space heating**

Harald Drück, *ITW University Stuttgart, Germany*

**TelesuiWEB : An innovative website for the performance monitoring of individual and collective solar domestic hot water systems**

Thomas Letz, *INES Education, France*

**Development of a reference framework for a Belgian quality scheme**

Bernard Huberlant, *3E, Belgium*

Königsaal

**Parallel Session D3: Industrial processes and district heating**

**Solar district heating in Europe**

Per-Alex Sorensen, *PlanEnergi, Denmark*

**Expert-system for an intelligent supply of thermal energy in industry**

Hans Schweiger, *energyXperts.BCN, Spain*

**Direct steam production in a linear concentrating Fresnel collector**

Christian Zahler, *Mirroxx, Germany*

**High performance PCM-graphite heat storage systems for solar process heat**

Rainer Schmitt, *SGL Carbon, Germany*

12:30-13:30 Lunch

13:30-15:00 **Poster presentations** - Cocktail lounge

15:00-15:30 Coffee break

15:30-17:00 **Plenary session: The future of the solar thermal market – Getting ready for the global boom**

**Roundtable discussion with top managers in the solar thermal market**

Robin Welling, *TiSUN, Austria*

Andreas Wagner, *Wagner & Co, Germany*

Mark Perger, *Rheem, Australia*

Gerard Whelan, *Kingspan Renewables, Ireland*

Frank Stocker, *Wolf, Germany*

Festsaal

17:00-17:30 Coffee break

17:30-19:00 **Closing session: The future of the heating and cooling market**

**The solar thermal potential in Europe**

Werner Weiss, *AEE - Institute for Sustainable Technologies, Austria*

**Perspectives from other heating industries:**

**Heating oil**

Christian Küchen, *Institute for Economic Oil Heating (IWO), Germany*

**Wood pellets**

Christian Rakos, *ProPellets, Austria*

**Conference conclusion**

Uwe Trenkner, *ESTIF*

Festsaal

# Poster Presentations

## Poster presentations E1:

### Solar thermal systems and applications

**Energetic and economical comparison analysis between “Leako” or “4-pipes-distribution” centralised solar thermal systems for domestic hot water and heating for ESCOs**  
Ignasi Gurruchaga, *Aiguasol Enginyeria, Spain*

**Domestic solar/heat pump heating systems: Market overview, systems and component technologies**  
Wilfried Zoerner, *Ingolstadt University of Applied Sciences, Germany*

**Building ventilation using solar thermal energy and heat pipes**  
Shih-Hsiung Chen, *National Cheng Kung University, Taiwan*

**Techno-economic evaluation of solar-assisted desalination systems in Europe**  
Giuseppe Fiorenza, *ENEA Research Centre Trisaia, Italy*

**Minimising overheating in BIPV components active cooling approach**  
Simon Boddaert, *Scientific and Technical Centre for Building (CSTB), France*

**Solar district heating for low income houses**  
Elizabeth Marques Duarte Pereira, *Pontificia Universidade Católica de Minas Gerais, Brazil*

## Poster presentations E2:

### Collectors and materials

**New tracking systems for small parabolic trough collectors**  
Daniela Ciobanu, *Transilvania University of Brasov, Romania*

**Implementation of the 2 node model for the collector performance characterisation**  
Danjana Theis, *IZES, Germany*

**A small parabolic linear trough solar collector for household energy savings**  
Diego Driussi, *IMAT, Italy*

**Solar concentrator with an improved cavity free of thermal and optical losses**  
Manuel Collares-Pereira, *DREEN- AO SOL, Portugal*

**Hybrid PV/T solar collectors: The key systems to adapt building energy demand for 2030 target**  
Yiannis Tripanagnostopoulos, *University of Patras, Greece*

**An approach to selective layer fabrication with chemical spray pyrolysis**  
Dietmar Leinen, *University of Malaga, Spain*

**Aluminium rollbond absorber - Detail engineering and testing**  
Franz-Dominik Treikauskas, *Ingolstadt University of Applied Sciences, Germany*

**Qualification of designs and materials for polymeric solar thermal collectors**  
Karl-Anders Weiß, *Fraunhofer Institute for Solar Energy Systems, Germany*

**Durability assessment for copper and nickel oxides based solar absorbers**  
Mihaela Voinea, *Transilvania University Brasov, Romania*

**Polymeric solar thermal collectors: Definition of requirements, concept development and feasibility evaluation**  
Christoph Trinkl, *Ingolstadt University of Applied Sciences, Germany*

### Poster presentations E3: Non-technological issues

**Possibilities of macro features in TRNSYS 17**  
Angel Carrera Martín, *Aiguasol Enginyeria, Spain*

**Design methodology for combined solar and geothermal heating systems physic-based dynamic simulation with Polysun 4**  
Seyed Hossein Rezaei, *Vela Solaris, Switzerland*

**First case studies of the analysis of the potential of solar energy in agrofood sector for heating and cooling**  
Daniel Gonzalez i Castellvi, *Aiguasol Enginyeria, Spain*

**SOLAIR – Increasing the market implementation of solar air-conditioning systems for small and medium applications in residential and commercial buildings**  
Rosa Christodoulaki, *Centre for Renewable Energy Sources, Greece*

**A new generation of test stands for certification and testing of solar thermal collectors**  
Jan Steinmetz, *PSE, Germany*

**Solar Keymark - A review based on 6 years of testing and inspection**  
Stefan Fischer, *ITW University Stuttgart, Germany*

**Development of a quick performance check procedure for solar thermal collectors**  
Dominik Bestenlehner, *ITW University Stuttgart, Germany*

# inter solar 2009



**May 27–29, 2009**

New Trade Fair Centre Munich, Germany

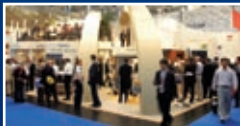
## INTERNATIONAL TRADE FAIR FOR SOLAR TECHNOLOGY

Photovoltaics  
Solar Thermal Technology  
Solar Architecture

1,400 Exhibitors  
100,000 sqm Exhibition Space

with International Conferences  
4<sup>th</sup> European Solar Thermal  
Energy Conference - estec2009  
5<sup>th</sup> PV Industry Forum

[www.intersolar.de](http://www.intersolar.de)



CONNECTING SOLAR BUSINESS

# Join ESTIF – The Voice of Solar Thermal in Europe

The European Solar Thermal Industry Federation (ESTIF) represents over 100 members consisting of manufacturers, service providers and national associations, which collectively hold 95% of today's solar thermal market.

It is our mission to achieve high priority and acceptance for solar thermal as a key element for sustainable heating and cooling in Europe and to work for the implementation of all steps necessary to realise the high potential of solar thermal.

## 10 excellent reasons to join ESTIF:

1. Take advantage of the key solar thermal network in Europe
2. Gain privileged access to ESTIF market information and data
3. Strengthen the voice of solar thermal vis-à-vis the EU institutions
4. Increase your visibility through a free web link on ESTIF's homepage
5. Receive discounts on ESTIF events and publications
6. Influence the European policies to increase the share of solar thermal
7. Benefit from first hand information on standards and certification
8. Get support from ESTIF staff when dealing with EU institutions
9. Stay informed with ESTIF's regular newsletter covering solar thermal in Europe
10. ESTIF is already working for you.

Join ESTIF and become a part of the voice that speaks for you in Europe. Choose the membership which suits your organisation best and take an active role in the future of solar thermal in Europe.

For more information, please go to: [www.estif.org/join](http://www.estif.org/join)  
or come and visit us at Intersolar2009, 27-29 May 2009,  
New Trade Fair Center, Munich ESTIF booth – Hall 1, Stand B1.612



# estec2009 Sponsors

## Gold Sponsor



## Silver Sponsors



## Bronze Sponsors



## Media Partners



## Supporting Organisations

