






Programme



28 September - 1 October 2010
Sparkassenplatz 1
Graz, Austria

Tuesday, 28 September – Technical Tour 1 Meeting Point: Congress Graz

08:00 h	Registration at Congress Graz	
08:45 h	Departure of the bus (Andreas Hofer Platz)	
09:15 h-10:00 h	Large-scale solar renovation Dieselweg, Graz Retrofit of several multi-family houses to passive house level by using multifunctional prefabricated facade elements Figure: AEE INTEC	
10:45 h-11:30 h	Solar assisted biomass district heating, Gleinstätten 1300 m ² collector area and wood chip boiler for the supply of the village Gleinstätten Figure: S.O.L.I.D.	
12:30 h-14:00 h	Lunch	
14:15 h-15:00 h	Solar air conditioning – office building Feistritzwerke Steweag, Gleisdorf 64 m ² new developed high temperature flat plate collectors within integrated teflon foil, 19 kW ammonia-water chiller with a new wet cooling tower prototype Figure: Feistritzwerke Steweag	
15:15 h-16:00 h	Micro solar and biomass district heating with decentralized feeding, Gleisdorf Three decentralised solar thermal systems (265 m ² , 230 m ² and 100 m ² collector area) and three pellet boilers feed into a micro-district heating net in order to supply hot water and space heating for multi-family houses, offices as well as heat for a public swimming pool Figure: AEE INTEC	
16:30 h-17:15 h	Large-scale solar heating system on retrofitted multi-family buildings – Berlinerring, Graz 2340 m ² collector area in combination with a 60 m ³ hot water store for the heat supply of 752 flats Figure: S.O.L.I.D.	
17:30 h	Arrival in Graz (Andreas Hofer Platz)	
18:30 h	Welcome Reception	Venue: Old University Graz, Hofgasse 14



Tuesday, 28 September – Technical Tour 2 Meeting Point: Congress Graz

08:00 h	Registration at Congress Graz	
08:45 h	Departure of the bus (Andreas Hofer Platz)	
09:15 h-10:00 h	Large-scale solar system – high school "Augustinum" Graz 270 m ² in roof solar collector generate thermal energy for heating and hot-water in school, sports hall, commercial kitchen and boarding house. The solar storage tank works as a hydraulic switch and reduces the district heating load in addition. The hot-water preparation is made with 3 fresh water modules including thermal disinfection Figure: Sonnenkraft	
10:30 h-11:15 h	Large-scale solar district heating Wasserwerk, Graz A ground mounted 3855 m ² solar collector field feeds heat into the district heating network of the city of Graz. The system is also equipped with a heat pump in order to boost the solar thermal system during wintertime Figure: S.O.L.I.D.	
11:35 h-12:20 h	Solar air conditioning – office building PAAR, Graz 350 m ² solar collector field for heating and cooling (245 kW _{th}) Figure: Fa. Paar	
12:30 h-14:00 h	Lunch	
14:15 h-15:00 h	Solar air-conditioning Service Centre and Town hall, Gleisdorf 304 m ² new developed high temperature collectors and 4600 Litre Heat store, the absorption chiller (35 kW _{th} cooling power) and the DEC-Air flow rate is 6250 m ³ /h (about 35 kW _{th}) Figure: S.O.L.I.D.	
16:15 h-17:00 h	Large-scale facade integration of solar collectors – Students hostel Elisabethstrasse, Graz 187 m ² front integrated collectors and 160 m ² collector area on the roof (243 kW _{th}) for hot water and space heating and also for district heating Figure: AEE INTEC	
17:30 h	Arrival in Graz (Andreas Hofer Platz)	
18:30 h	Welcome Reception	Venue: Old University Graz, Hofgasse 14

OPENING SESSION		Stefaniensaal	
Session Chair: Prof Dorota Chwieduk, ISES Europe, Poland			
09:00 h	Opening and Welcome Prof Dorota Chwieduk, ISES Europe President Dr David Renné, ISES President Doug McClenahan, IEA Solar Heating and Cooling Programme Prof Wolfgang Streicher, Scientific Committee Chair Werner Weiss, Organising Committee Chair Dr Hubert Mattersdorfer, General Solar Systems, Platinum Sponsor		
09:35 h	Results of Austria's Energy Research Doris Bures, Austrian Minister for Innovation and Technology (inquired)		
09:50 h	Renewables Global Status Report 2010 Diana Kraft, World Watch Institute, USA		
10:05 h	Eliminate change and the rate of buildings and solar thermal use to minimize its impacts Prof Diana Úrge-Vorsatz, Intergovernmental Panel on Climate Change (IPCC), Hungary		
10:30 h	Coffee Break		
P A R A L L E L S E S I O N S	11:00 h	Advanced Solar Domestic Hot Water Heating Chair: Dr Elmar Frank, SPF Rapperswil, Switzerland	Stefaniensaal
	11:00 h	Energy savings from compact and large multi-family solar water heaters Dr Mihai Radulescu, EDF R&D, France	
	11:20 h	Numerical and experimental comparison of the performance of standard and PV-numerical and SDHW System Yu BAI, LOCIE, France	
	11:40 h	Energetic interest of the use of phase change materials in a domestic hot water system Stéphane Gibout, LaTEP – UPPA, France	
	12:00 h	Cost effective domestic solar thermal energy systems for northern maritime climates Dr David Redpath, University of Ulster, United Kingdom	
	12:10 h	New high efficiency thermal-electrical solar still to produce distilled and hot water for rural hospitals in Botswana Philip Monowe, University of Botswana, Botswana	
	11:00 h	Solar Energy in Architecture I Chair: Prof Maria Wall, Lund University, Sweden	Kammermusiksaal
	11:00 h	Technical advances in the EU-Cool Roof project Michele Zinzi, ENEA, Italy	
	11:20 h	Demonstration plant of a solar thermal energy facade for commercial and industrial buildings Roland Heinzen, FSAVE, Germany	
	11:40 h	A study of the influence of housing unit form and density on solar potential Caroline Hachem, Concordia University, Canada	
	12:00 h	Performance of a Solar Thermal Collector Prototype Designed for Architectural Integration Rodríguez-Sánchez David, Renewable Energy Research Institute, Spain	
	12:10 h	Analysis of the energy performance of sunspaces: A new method Dr Albatici Rossano, University of Trento, Italy	
	11:00 h	Solar Space Heating with High Solar Fraction Chair: Dr Tomas Matuska, Czech Technical University Prague, Czech Republic	Casineum
	11:00 h	Simulation results of high solar fraction combi-systems in different European locations using Transol 3 Dr Aris Aidonis, Politecnico di Milano, Italy	
11:20 h	Seasonal storage coupled to a solar combisystem: Dynamic simulations for process dimensioning Gwennyn Tanguy, INES RDI, France		
11:40 h	In-situ investigation of a domestic solar/heat pump heating systems in a single-family house Christoph Trinkl, Ingolstadt University, Germany		
12:00 h	Systematic classification of combined solar thermal and heat pump systems Michel Haller, SPF, Switzerland		
12:10 h	Concentrated heat storage for solar heating Adil Lari, ACE Group ZT-GmbH, Austria		
12:20 h	Lunch Break		

Testing and Certification		Stefaniensaal
Chair: Jan-Erik Nielsen, PlanEnergi, Denmark		
14:00 h	IEA-SHC Task 43: Research on solar collector and system testing and certification Kevin DeGroat, Antares Group, Inc., United States	
14:20 h	Dynamic System Testing: Development of a parameter identification tool and long term performance prediction validation Maria Joao Carvalho, LNEG, Portugal	
14:40 h	Qualification of collectors and components by exposure to extreme climatic conditions Michael Köhl, Fraunhofer ISE, Germany	
15:00 h	Joint European efforts on solar thermal collector standardization and certification Peter Kovacs, SP Technical Research Institute of Sweden, Sweden	
15:20 h	Development of a test procedure for external domestic hot water moduls Florian Ruesch, SPF, Switzerland	
15:30 h	Test Procedures for Sorption Chillers Based on the Working Mode Patrizia Norina Melograno, EURAC Research, Italy	
14:00 h	Net Zero Energy Buildings Chair: Andreas Eckmanns, Federal Office of Energy, Switzerland	Kammermusiksaal
14:00 h	Concepts for net zero energy buildings in refurbishment projects Florian Kagerer, Fraunhofer ISE, Germany	
14:20 h	Criteria for definition of net zero energy buildings Dr Igor Sartori, SINTEF, Norway	
14:40 h	Load matching and grid interaction of Net Zero Energy Buildings Prof Karsten Voss, University Wuppertal, Germany	
15:00 h	The German contribution to the Solar Decathlon Europe 2010 – A comparison of four net zero energy building prototypes monitored under equal conditions Jan Cremers, HFT Stuttgart, Germany	
15:20 h	The road towards "zero energy" in buildings: Lessons learning from solar XXI buildings in Portugal Dr Laura Aelenei, LNEG, Portugal	
15:30 h	Design optimization methodology for a near zero energy demonstration home Scott Bucking, Concordia University, Canada	
14:00 h	Solar Radiation and Solar Energy Availability Chair: Dr David Renne, NREL, USA	Casineum
14:00 h	Forecasting solar irradiance using NWP models: An evaluation study in Andalusia Dr David Pozo-Vazquez, University of Jaén, Spain	
14:20 h	A physical method for a satellite-based surface radiation database Dr Manajit Sengupta, National Renewable Energy Laboratory, United States	
14:40 h	Solar irradiance forecasting, benchmarking of different techniques and applications of energy meteorology Wolfgang Traunmueller, BlueSky Wetteranalysen, Austria	
15:00 h	A guide for non-experts to determine the most appropriate use of solar energy resource information Dr Carsten Hoyer-Klick, German Aerospace Center (DLR), Germany	
15:20 h	City of Graz solar roof cadastre, GIS-based local analysis for solar power units – a planning tool Anneliese Kapfenberger-Pock, Surveyor's Department of the City of Graz, Austria	
15:30 h	Trends in global radiation between 1950 and 2100 Jan Remund, Meteotest, Switzerland	
14:00 – 15:30 h	Poster Session	Saal Steiermark
	Topic 1 – Solar Energy in Architecture Topic 5 – Advanced Solar Domestic Hot Water Heating Topic 6 – Solar Space Heating with High Solar Fraction Topic 10 – Thermal Energy Storage	
15:40 h	Coffee Break	

Wednesday, 29 September

Congress Graz

P A R A L L E L S E S S I O N S	16:10 h	Large-scale Solar Thermal Applications Chair: Prof Jan-Olof Dalenback, Chalmers University of Technology, Sweden	Stefaniensaal
	16:10 h	Current developments and prospects of solar district heating in Europe Thomas Pauschinger, Solites – Steinbeis, Germany	
	16:30 h	Large-scale solar district heating plants in Graz – operational experiences and further developments Moritz Schubert, S.O.L.I.D., Austria	
	16:50 h	Stagnation of large-scale solar thermal systems Robert Hausner, AEE INTEC, Austria	
	17:10 h	Solar district heating taking the full summer load in cities Dr Christian Holter, S.O.L.I.D., Austria	
	17:20 h	stadt:werke:lehen solar heating in a concerto district Dr Boris Mahler, STZ-EGS, Germany	
	17:30 h	Solar energy systems in Chile - application potential Prof Roberto Roman, University of Chile, Chile	
	17:40 h	Reliable technology for large-scale solar thermal energy ESCO projects Sabine Putz, S.O.L.I.D., Austria	
	16:10 h	Energy Efficiency in Buildings through Solar Application Chair: Björn Karlsson, Lund University, Sweden	Kammermusiksaal
	16:10 h	Cost effective energetic refurbishment of office buildings in Norway Prof Matthias Haase, NTNU, Trondheim, Norway	
	16:30 h	Monitoring and evaluation of renewable heating and cooling in a multi-purpose building Prof Wilfried Zörner, Ingolstadt University of Applied Sciences, Germany	
	16:50 h	Combined solar and pellet heating systems for houses: Improvement of energy efficiency and reduction of boiler on/off cycling Michel Haller, Graz University of Technology, Austria	
	17:00 h	Solar/electric heating systems using smart solar tanks and variable electricity costs Dr Bengt Perers, DTU Byg, Denmark	
	17:10 h	Energy demand reduction by PCM based plasterboard application for passive houses on polish climate condition Dr Ryszard Wnuk, The Polish National Energy Conservation Agency, Poland	
	17:20 h	Performance and design of a heat recovery system for natural ventilation of low energy buildings Henrik Davidsson, Lund University, Sweden	
	17:30 h	Solar gains regulation via historically defined control system of the internal environment Dr Mitja Kosir, University of Ljubljana, Slovenia	
	17:40 h	Tool for evaluation of energy efficiency of buildings in early design stages Markus Gratzl-Michlmair, Graz University of Technology, Austria	
	16:10 h	Other Solar Energy Related Topics Chair: Dr Esther Rojas Bravo, CIEMAT, Spain	Casineum
	16:10 h	Solar thermal potential in the building stock – achievable levels of solar thermal energy supply Marcel Gutschner, NET Nowak Energy & Technology Ltd, Switzerland	
	16:30 h	Conservation first! A new ESCO model to combine energy efficiency and renewable supply in large buildings and industry Jan W. Bleyl-Androschin, Grazer Energieagentur, Austria	
16:50 h	Modeling the impact of solar thermal support policies Dr Lukas Kranzl, Vienna University of Technology, Austria		
17:10 h	Solarcampus – A complementing path for turning universities to renewables and energy efficiency Prof Klaus Vajen, Kassel University, Germany		
17:20 h	Student center “Energy” in Bulgaria Yordanka Eneva, Vocational Secondary School of Economics “Dr Ivan Bogorov”, Bulgaria		
17:30 h	Extensive on-field studies of a novel family solar cooker Prof Prabha Dashora, University of Rajasthan, India		
17:40 h	Promoting the use of solar thermal applications in Southern Africa through a social network Dr Anton Schwarzlmüller, Domestic Solar Heating P/L, Zimbabwe		
16:10–17:30h	Poster Session	Saal Steiermark	
	Topic 02 – Net Zero Energy Buildings Topic 12 – Testing and Certification Topic 13 – Solar Radiation and Solar Energy Availability		
18:00 – 19:30 h	Happy Hour solar beer, solar cooled wine, Jazz band		
19:30 h	Sightseeing Tour Graz	Meeting Point: Registration Desk, Congress Graz	

Thursday, 30 September

Congress Graz

	Plenary Session	Stefaniensaal
	Session Chair: Prof Wolfgang Streicher, Innsbruck University, Austria	
09:00 h	Key-note – Solar buildings Karin Kappel, Solar City Copenhagen, Denmark	
09:25 h	Key-note - The challenge to exploit the solar thermal potential Werner Weiss, AEE - Institute for Sustainable Technologies, Austria	
09:50 h	Key-note - Solar air-conditioning and refrigeration - achievements and challenges Dr Hans-Martin Henning, Fraunhofer ISE, Germany	
10:15 h	Coffee Break	
10:40 h	Solar Energy for Industrial and Commercial Applications Chair: Prof Klaus Vajen, Kassel University, Germany	Stefaniensaal
10:40 h	The potential of medium scale solar thermal power and solar polygeneration Dr Werner Platzer, Fraunhofer ISE, Germany	
11:00 h	Sustainable beer production by combining solar process heat and energy efficiency – Holistic system concept and preliminary operational experiences Bastian Schmitt, Kassel University, Germany	
11:20 h	Potential for solar process heat in Germany – Suitable industrial sectors and processes Christoph Lauterbach, Kassel University, Germany	
11:30 h	Einstein – Expert system for an intelligent supply of thermal energy in the industry – Audit methodology and software tool Christoph Brunner, AEE INTEC, Austria	
11:40 h	Development Status of Concentrating Collector with Stationary Reflector (CCStaR) Ramon Pujol, University of Balearic Islands, Spain	
11:50 h	Energy efficiency, high temperature heat pump and solar heat for industrial processes – Case study of an Austrian company Franz Mauthner, AEE INTEC, Austria	
12:00 h	Methodological analysis of industrial processes regarding the implementation of a solar-thermal process heating system Holger Müller, Ingolstadt University of Applied Sciences, Germany	
12:10 h	Solar heat for industrial processes: RefleC-collector development and system design Stefan Heß, Fraunhofer ISE, Germany	
10:40 h	Solar Energy in Architecture II Chair: Maria Cristina Munari Probst, EPFL, Switzerland	Kammermusiksaal
10:40 h	Retrofitted buildings go solar-active! Sonja Geier, AEE – Institute for Sustainable Technologies, Austria	
11:00 h	Barriers and needs for building integration of solar thermal and photovoltaics Klaudia Farkas, NTNU, Norway	
11:20 h	A new angle selective see through bipv façade for solar control Dr Francesco Frontini, Fraunhofer Istitut for Solar Energy Systems, Germany	
11:40 h	On an integrated DSM package associated to a solar thermal obligation. The ProSTO EU project and the Portuguese Experience Manuel Prates, LNEG, Portugal	
12:00 h	Architecturally appealing solar thermal systems – a great marketing tool in order to attract new customers and market segments Ingvild Skjelland, Aventa as, Norway	
12:10 h	BiPV Tool Isa Zanetti, ISAAC/SUPSI, Switzerland	
10:40 h	Thermal Energy Storage I Chair: Dr Wim van Helden, WvH-Renewable Heat, The Netherlands	Casineum
10:40 h	Development of a compact heat storage system based on salt hydrates Dr Martijn van Essen, Energy Research Centre of the Netherlands (ECN), Netherlands	
11:00 h	Experimental und numerical investigations on thermo chemical heat storage Dr Henner Kerskes, University of Stuttgart, Germany	
11:20 h	Long-term heat storage with NaOH Robert Weber, Empa, Switzerland	
11:40 h	Novel binderless granulated molecular sieves for thermochemical heat storage Jochen Jänchen, Technical University of Applied Sciences Wildau, Germany	
12:00 h	Long term results from a latent heat storage developed for a solar heating and cooling system Michael Himpel, Bavarian Center for Applied Energy Research, Germany	
12:10 h	Theoretical investigation of a long-term solar energy storage based on LiBR/H2O absorption cycle K. Edem N´Tsoukpoe, Université de Savoie, France	

Thursday, 30 September		Congress Graz	
10:40 – 12:00 h	Poster Session	Saal Steiermark	
	Topic 04 - Large-Scale Solar Thermal Applications Topic 08 – Solar Cooling and Air Conditioning Topic 14 – Other Solar Energy Related Topics		
12:20 h	Lunch Break		
P A R A L L E L S E S I O N S	14:00 h	Solar Cooling and Air Conditioning I Chair: Dr Hans-Martin Henning, Fraunhofer ISE, Germany	Stefaniensaal
	14:00 h	Performance and perspectives of solar cooling Dr Edo Wiemken, Fraunhofer ISE, Germany	
	14:20 h	Monitoring programme of small-scale solar heating and cooling systems within IEA SHC TASK 38 – Procedure and first results Dr Alexander Thuer, AEE - Institute for Sustainable Technologies, Austria	
	14:40 h	Field test of a solar-assisted cooling system Prof BJ Huang, National Taiwan University, Taiwan	
	15:00 h	French high quality solar heating and cooling demo projects incentive scheme Romain Sire, TECSOL, France	
	15:10 h	Tailoring and testing a new sorbent for adsorption chillers driven by a moderate solar insulation Dr Mikhail Tokarev, Boreskov Institute of Catalysis, Russian Federation	
	15:20 h	In-situ analysis and operational optimisation of a solar-driven Dec-System Tobias Bader, Ingolstadt University, Germany	
	15:30 h	Experimental study on a cross flow plate-type dehumidifier for a liquid desiccant cooling system Mustafa Jaradat, Kassel University, Germany	
	14:00 h	Solar Collector Technology I Chair: Prof Brian Norton, Dublin Institute of Technology, Ireland	Kammermusiksaal
	14:00 h	Qualification of new polymeric materials for solar thermal applications Karl-Anders Weiß, Fraunhofer ISE, Germany	
	14:20 h	Condensation and subsequent icing on structured plates in low speed flows – An experimental study Dr Christoph Reichl, AIT- Austrian Institute of Technology, Austria	
	14:40 h	An improved dynamic solar collector model including condensation and asymmetric incidence angle modifiers Dr Bengt Perers, DTU Byg, Denmark	
	15:00 h	Polymeric thermotropic glazings for overheating protection of solar collectors Dr Katharina Resch, University of Leoben, Austria	
	15:10 h	Solar collector absorbers in high-performance polymeric materials Prof John Rekstad, University of Oslo, Norway	
	15:20 h	Three dimensional ray tracing and reliability analysis of a novel ICPC collector after twelve years of operation Prof William Duff, Colorado State University, United States	
	15:30 h	Theoretical analysis of solar unglazed hybrid photovoltaic-thermal liquid collector Dr Tomas Matuska, Czech Technical University in Prague, Czech Republic	
	14:00 h	Thermal Energy Storage II Chair: Dr Andreas Hauer, ZAE Bayern, Germany	Casineum
	14:00 h	Thermochemical storage using composite materials: From the material to the system Stéphanie Hongois, EDF R&D, France	
	14:20 h	Thermal energy storage with phase change materials in solar combisystems – a promising solution? Dr Andreas Heinz, Graz University of Technology, Austria	
	14:40 h	Towards seasonal heat storage based on stable super cooling of sodium acetate trihydrate Prof Simon Furbo, Technical University of Denmark, Denmark	
15:00 h	Energy efficient buildings: II - How to determine the most suitable PCM and environment to maximize energy saving Prof Mohammed Farid, University of Auckland, New Zealand		
15:20 h	Novel adsorption material for thermal energy storage Dr Alenka Ristic, National Institute of Chemistry Slovenia, Slovenia		
15:30 h	Vapor chamber energy storage system with Al₂O₃ and water mixture as medium Dr Chung-Kuan Kung, National Taiwan University, Taiwan		

Thursday, 30 September		Congress Graz	
14:00 – 15:30 h	Poster Session	Saal Steiermark	
	Topic 01 – Solar Energy in Architecture Topic 02 – Net Zero Energy Buildings Topic 03 – Energy Efficiency in Buildings through Solar Application		
15:40 h	Coffee Break		
P A R A L L E S E S I O N S	16:10 h	Solar Cooling and Air Conditioning II Chair: Dr Alexander Thuer, AEE – Institute for Sustainable Technologies, Austria	Stefaniensaal
	16:10 h	Primary energy optimization of solar adsorption cooling plants through dynamic simulations Antoine Dalibard, ZAFH.NET - HFT Stuttgart, Germany	
	16:30 h	Dynamical studies with a semi virtual testing approach for characterization of small scale adsorption chiller François Boudéhenn, CEA LITEN INES, France	
	16:50 h	Testing of an evaporative cooling system that supplies air near the dew point temperature Dr Frank Bruno, University of South Australia, Australia	
	17:10 h	Solar ejector air-conditioning and refrigeration system Dr Dmytro Buyadgie, Wilson Ltd., Ukraine	
	17:30 h	Preliminary findings on the performance of a new residential solar desiccant air conditioner Daniel Rowe, CSIRO, Australia	
	17:40 h	Practical experience of two small scale solar cooling plants and cost comparison to PV driven chillers Daniel Neyer, Graz University of Technology, Austria	
	16:10 h	Industry Session – Panel Discussion Key Major Drivers and Barriers of the International Solar Thermal Market Moderation: Barbel Epp, Solrico, Germany	Kammermusiksaal
	16:10 h	Participants: Dr Hubert Mattersdorfer – General Solar Systems Dr Alexander Eichwalder- GREENoneTEC Nigel Cotton – European Copper Institute Dr Christian Holter - S.O.L.I.D. Solarinstallation und Design GmbH Olivier Drucke - Xolar Renewable Energy Group GmbH Okotech Produktionsgesellschaft f. Umwelttechnik.m.b.H Danfoss Ges.m.b.H Odörfer Haustechnik GmbH Dr Uli Jakob – Green Chiller Association	
	16:10 h	Other Components of Solar Thermal Systems Chair: Prof Istvan Farkas, Szent Istvan University, Hungary	Casineum
	16:10 h	Developing quality indicators for large solar heating systems and district heating Alexandre Andrade, IPUC / PUC Minas, Brazil	
	16:30 h	Heatboxquality – Decentralized hydraulic stations on testing rig Alexander Kaiser, AEE - Institute for Sustainable Technologies, Austria	
	16:50 h	Evaluation of solar combisystems – Overview and methodology Jens Ullman, University of Stuttgart, Germany	
	17:10 h	Analyses of functionality and quality of 120 solar thermal systems in residential buildings and commercial applications Christian Fink, AEE - Institute for Sustainable Technologies, Austria	
	17:20 h	Comprehensive evaluation and monitoring of solar thermal combisystems for detached houses Johann Breidler, AEE - Institute for Sustainable Technologies, Austria	
17:30 h	Unglazed photovoltaic-thermal collectors in heat pump systems Erik Bertram, Institute for Solar Energy Research, Germany		
17:40 h	Pressure and temperature development in a solar heating system during stagnation Janne Dragsted, Technical University of Denmark, Denmark		
16:10 – 17:30 h	Poster Session	Saal Steiermark	
	Topic 07 – Solar Energy for Industrial and Commercial Applications Topic 09 – Solar Collector Technology Topic 11 – Engineering and Simulation Tools		
19:30 h	Conference Dinner IEA SHC Award ceremony / Solar Decathlon	Venue: Convention Center Messe Graz Messeplatz 1 / Messeurm	

		Plenary Session	Stefaniensaal
		Session Chair: Torben Esbensen, Esbensen Consulting Engineers, Denmark	
09:00 h		Key-note - 100 % Renewables vision by 2050 Josche Muth, European Renewable Energy Council (EREC), Brussels, Belgium	
09:25 h		Key-note – Polymeric materials for solar energy applications Prof Reinhold W. Lang, Linz University, Austria	
09:50 h		Key-note – Compact thermal storages: Potential and limitations for different applications Dr Astrid Wille, PTJ, Germany	
10:15 h		Coffee Break	
P A R A L L E L S E S S I O N S	10:40 h	Solar Collector Technology II Chair: Prof Gerhard Faninger, Klagenfurt University, Austria	Stefaniensaal
	10:40 h	Insulating glass solar thermal collector technology Simon Scheffler, IP Bewertungs AG, Germany	
	11:00 h	Experimental evaluation of natural convective fluid flow phenomenon in compound parabolic concentrating (CPC) solar collector activities Dr Harjit Singh, Kingston University, United Kingdom	
	11:20 h	Heat losses of highly efficient flat plate collectors with a selectively coated double glazing Sebastian Foste, Institut für Solarenergieforschung Hameln, Germany	
	11:40 h	Performance and applications of an evacuated flat plate solar thermal collector Dr Cristoforo Benvenuti, SRB Energy Research – CERN, Switzerland	
	12:00 h	Partial stagnation in direct-flow vacuum tube collectors: Conditions for occurrence, risks and consequences Jens Glembin, Institut für Solarenergieforschung Hameln, Germany	
	10:40 h	Building of Tomorrow Chair: Theodor Zillner, Austrian Ministry for Transport, Innovation and Technology	Kammermusiksaal
	10:40 h	The Building of Tomorrow Program - Background and results Dr Herbert Greisberger, OGUT, Austria	
	11:00 h	Solar COMPLETE - The innovative heating solution Dr Wolfgang Guggenberger, Sonnenkraft, Austria	
	11:20 h	SolarCooling Monitor - Evaluation of energy efficiency and operation modes of solar cooling systems for air-conditioning in buildings Anita Preisler, Austrian Institute of Technology, Austria	
	11:40 h	Solrose FP – bionical designed solarthermal collector Gerhard Mütter, SOLution Solartechnik GmbH, Austria	
	12:00 h	ENERGYbase – Office building of the future Arch Ursula Schneider, pos-architekten, Austria	
	10:40 h	Engineering and Simulation Tools Chair: Prof Wolfgang Streicher, Innsbruck University, Austria	Casineum
	10:40 h	IP-Solar: Development of a web-based monitoring and diagnostics tool for solar thermal systems Philip Ohnewein, SOLID GmbH, Austria	
	11:00 h	SORCE: A design tool for solar organic rankine cycle systems in distributed generation applications Dr Matthew Orosz, MIT, United States	
11:20 h	High quality solar architecture: Do architects have tools supporting early design phase decisions? Prof Marie-Claude Dubois, Université Laval, Canada		
11:40 h	Using a multi-criteria analysis to select design alternatives aiming the energy efficiency and IEO Prof Sandra Monteiro da Silva, University of Minho, Portugal		
11:50 h	Evaluation, diagnosis and improvement of a solar cooling plant by means of experimental analysis and dynamic simulation Fernando Palacin, CENER, Spain		
12:00 h	New features for solar thermal simulation in Transol Dr Jaume Salom, IREC, Spain		
12:10 h	Polysun inside: A universal platform for commercial software and research applications Dr Andreas Witzig, Vela Solaris AG, Switzerland		
10:40 – 12:15 h	Poster Session		Saal Steiermark
		Topic 08 – Solar Cooling and Air Conditioning Topic 10 – Thermal Energy Storage Topic 15 – Other Components of Solar Thermal Systems	

12:40 h	Closing Session 100 years solar thermal collectors: From the first hot water system to the multi megawatt system Session Chair: Michael Kohl, Fraunhofer ISE, Germany	Stefaniensaal
12:40 h	100th Anniversary of flat-plate collectors for solar water heating John Perlin, Santa Barbara, California	
13:10 h	25 MWth - the biggest solar thermal system worldwide at the Princess Noura University in Riad, Saudi Arabia Hisham Mikhi, Millenium Energy Industries, Jordan and Rudolf Moschik, AEE- Institute for Sustainable Technologies, Austria	
13:30 h	Closing remarks Prof Dorota Chwieduk, ISES Europe President Doug McClenahan, Chair, IEA Solar Heating and Cooling Programme Prof Wolfgang Streicher, Scientific Committee Chair Werner Weiss, Organizing Committee Chair	
14:00 h	Farewell Lunch	

B2fair matchmaking event at the EuroSun2010 conference



Wednesday, 29 th Sept 2010	9:00 – 18:00 h
Thursday, 30 th Sept 2010	9:00 – 18:00 h
Friday, 1 st Oct 2010	9:00 – 13:00 h

Sponsored by:

Platinum Sponsor:



Social Event Sponsor:



Gold Sponsor:



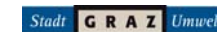
Silver Sponsor:



Bronze Sponsor:



Supported by:



Media Partner:

