

RENEWABLE ENERGY EDUCATIONAL Videos

Produced by Aspen Hill Films

Descriptions Listed by Conference Venues (2009 - 2005, 2002)

List of contents is followed by more detailed descriptions of each presentation. Videos currently available on DVDs. (August 2009)

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There are 4 DVDs covering presentations for the Opening Plenary, Industry Plenary, the Closing Plenary, and the Forum on Case Studies in Community Solar.

EuroSun 2008

1st International conference on solar Heating, Cooling and Buildings

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ASES Solar 2008 - Catch the Clean Energy Wave

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Voices in the Light - 5 minute expose on the promise of renewable energy - Based on presentations through 2007 - Aspen Hill Films

ISES Solar World Congress 2007

There are 8 DVDs, covering 2 plenary sessions and 6 keynote sessions.

ASES Solar 2007 - Renewable Energy Puts America to Work

There are 5 DVDs - 3 plenary sessions plus emerging transportation and emerging architecture.

Colorado Renewable Energy Conference 2007

There is 1 DVD - keynote address.

SOLAR 2006 Renewable Energy: Key to Climate Recovery

There are 5 DVDs - 4 plenary sessions plus a special summary of findings.

ISES EuroSun 2006

There are 4 DVDs - 3 plenary session and 1 with selected technical presentations.

Solar World Congress 2005 Bringing Water to the World

There are 7 DVDs including opening plenary, closing summaries and ceremonies, plenary sessions, and selected forums.

ASES Reno Nevada 2002 -- William McDonough's Keynote (in VHS)

PRESENTATION DESCRIPTIONS

ASES Solar 2009 - You've Got the Power

There are 4 DVDs covering presentations for the Opening Plenary, Industry Plenary, the Closing Plenary, and the Forum on Case Studies in Community Solar.

Opening Plenary

Presentation of the 2009 Hottel Award for significant contribution to solar energy technology to **Ajeet Rohatg** - Founder & CTO, Suniva Inc., USA & Regen Professor, Georgia Tech - who discussed the road to cost effective silicon PV.

Richard Perez, Atmospheric Sciences Research Center of the State University of New York at Albany and plenary moderator, introduced the plenary theme "Horizon 2015 - A Strategic View From Some PV Industry Leaders."

Danielle Merfeld - Director, Solar Technology Platform, General Electric - discussed GE's portfolio and plans for advancing solar energy around the world.

Jonathan Pickering - VP Global Marketing and Business Development, Applied Solar of Applied Materials - discussed solar for utility scale applications, highlighting contributions from Applied.

Jigar Shah, Jigar Shah Consulting, provided a stimulating overview of the current solar market with emphasis on the US market and outlined talking points for promoting renewable energy.

Industry Leaders Spotlight

Jane Weisman - Interstate Renewable Energy Council, plenary moderator - provided an overview of the important challenges facing the rapidly evolving green economy.

Jeff Peterson - New York State Energy Research and Development Authority - discussed clean energy business growth and the importance of nurturing innovation.

Kim McLawhorn - CEO Conergy Americas - presented Conergy's efforts and highlighted key drivers and financing issues shaping the market in general.

Jeff Spies - Director of Training and Trade Shows, AEE Solar - discussed making the case for quality solar training and provided multiple resources for additional information.

Kevin S. Law - CEO Long Island Power Authority (LIPA) - reflected on the importance of partnerships in helping meet challenges facing utilities and outlined advantages of being a public utility.

Questions and Answers. Plenary ended with a round of Q&A with the audience.

Closing Plenary

Overviews and Recognitions

- **Brad Collins** (ASES Executive Director) introduced the Solar 2009 Public Day and provided an overview of Solar 2009.
- **Harvey Bryant** (University of Arizona), Chair of Solar 2010, gave a preview of Solar 2010 to be held next May in Phoenix Arizona.
- **Vicki Colello** (NYSERDA) was recognized for her work as Solar 2009 Chair and then introduced the plenary speakers.

Governor David Paterson provided an overview of energy innovation in New York and the exciting future of renewable energy in the state and the country.

Futurist David Zach gave a provocative presentation on thinking forward in divergent directions and the implications of our choices.

Case Studies in Community Solar Forum

Dana Hall - Pace Law School - Forum moderator, introduced the community solar concept, and gave Holly English's presentation on the Ellensburg community model.

Rachel Huang - Sacramento Municipal Utility District - discussed the Solar Shares program and other community solar related activities at SMUD.

Seth Kaplan - Conservation Law Foundation - provided an overview of green communities and neighborhood net metering activities in Massachusetts.

Mark Warner - Sun Farm Network - discussed innovations in business and financing of solar energy, underscoring the importance of the community solar models.

Chris Neidl - New York City Solar One - presented information on the city's empowerment zones and opportunities for developing solar energy for people who do not own their living spaces.

Panel Discussion and Q&A - Presentations were followed by a lively discussion on the many opportunities for creating and implementing solar community programs as a supplement to individual roof-top programs and utility-scale grid-tied PV systems.

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Opening Plenary Keynote

Ralph Sims, International Energy Agency, Paris and Professor of Sustainable Energy, Massey University, New Zealand

"The Contribution of Solar Energy to World Energy Supply - a Vision" is an excellent opening for EuroSun2008. Dr. Sims provides an update on the latest IPCC report, comments on the IEA's view of renewable energy and particularly solar, and future potential of renewable energy globally and the potential role of renewables for reducing greenhouse gas emissions.

European Solar Thermal Technology Platform - Wed Plenary

This plenary session offers a diverse set of presentations covering a detailed discussion of the ESTTP; understanding the intimate connections between climate change, solar resource variations, and renewable energy production; striking trends in sustainable buildings and resulting concerns; and the importance and prospects for solar driven cooling.

Monica Oliphant, President International Solar Energy Society - Moderator

Manual Collares Pereira, Chairman Eurosun Congress 2008

Scientific Committees

"The European Solar Thermal Technology Platform - ESTTP" presentation reviews reasons to change our energy supply system; discusses the role of solar thermal technologies in replacing fossil and nuclear energy; and outlines how the transition can be accomplished, with special emphasis on the role that ESTTP is playing in implementing solar thermal strategies.

Dave Renné, National Renewable Energy Laboratory USA

"Climate and Solar Energy Availability" presentation provides an excellent overview of the important connections between solar radiation, climate variability, and renewable energy; describes the IEA task on solar resource knowledge management; and summarizes the importance of this knowledge in achieving more effective use of solar technologies.

Mat Santamouris, Group Building Environmental Studies, University of Athens, Greece

"Sustainable Buildings - Recent Trends" reviews the importance of the construction industry and energy use in buildings, the many trends leading to more energy consumption, cure for buildings, and concern over poorer populations whose survival may depend on being able to adapt to heat but do not have ability to take advantage of costly technological solutions.

Hans Martin Henning, Fraunhofer Institute for Solar Energy Studies, Germany

"Solar Driven Cooling" begins with motivation for these processes, an excellent overview of solar driven cooling system technologies, discussion of energy performance, and concluding remarks about the future of these systems.

Photovoltaic and Photovoltaic Thermal Systems - Thurs Plenary

This plenary provided informative reviews of PV technology; solar heating systems in buildings; solar energy in industry; and solar thermal energy storage.

Manual Collares Pereira - Moderator

Antonio Luque, Instituto de energia Solar, Universidad Politécica Madrid

"The Potential of PV Technology" reviews facts about energy and the role of the PV sector, manufacturing solar cells, potential breakthroughs in solar, and the promise of solar energy.

Harold Drueck, Institute for Thermodynamics and Thermal Energy, University of Stuttgart, Germany

"Solar Heating Systems in Buildings" discusses how solar space heating is a very old concept as illustrated by ancient structures. The presentation also provides information on markets, applications, and opportunities for the future.

Werner Weiss, AEE-Institutes for Sustainable Technologies, Austria

"Solar Energy in Industry" provides a thorough overview of solar markets and potential, the state of solar heating applications, process heat collectors, heat integration, built examples and outlook for solar thermal energy in industry.

Jean-Cristophe Hadorn, BASE Consultants, Switzerland

"Solar Thermal Energy Storage" is an excellent overview of the needs for storage, especially for large seasonal shifts in the resource, and discusses the many and diverse technologies for storing heat as a way of better managing energy production from solar technologies.

Solar Thermal Power - Friday Plenary

This plenary provides a review of recent developments in solar thermal power plants; enlightening discussion of the ecological nature of architecture; and an overview of daylighting concepts.

Eduardo Oliveira Fernandes - Moderator

Eduardo Zarza, CIEMAT - Plataforma Solar de Almeria, Spain

"Solar Thermal Power Plants: State-of-the-Art and Recent Developments." This presentation provided an extensive overview of the technologies, current commercial situation, and new developments and innovations in concentrating solar power technologies.

Alexandros Tombazis, Alexandros N. Tombazis and Associates Architects, Ltd

"Is Solar Architecture Different?". In his usual thought-provoking style, Mr. Tombazis discusses the eco-logical nature of solar architecture, the importance of reducing our ecological footprint and the importance of buildings in achieving this, how we learn from buildings that work with their environments, and the growing awareness of sustainability worldwide.

Dr. Magali Bodart, UCL-Universite Catholique de Louvain, Belgium

"Daylighting in Buildings: New Developments" provides a broad overview of recent advances in assessing daylighting opportunities in buildings, and underscores the many human health and welfare, as well as the energy savings benefits of daylighting.

ASES Solar 2008 - Catch the Clean Energy Wave

There are 4 DVDs: one for each of the 3 plenary sessions dealing with policy and marketing, technology, and community solutions to climate change challenges; and one on emerging transportation. A separate keynote address on major challenges and solutions is also available.

Policy and Marketing Solutions Monday Plenary May 5, 2008

Renewable energy is taking off. With this success comes the need for smart policies, market sustainability, and innovative strategies. The dynamic speakers address this challenge with inspiration and hope.

- **Brad Collins, ASES Executive Director**
Opened the plenary with an overview of the state of renewable energy and energy efficiency, and ASES' role in leading the solar revolution.
- **Michael Aguirre, San Diego City Attorney**
Provided local perspective on creating sustainable cities
- **Michael Dworkin, Director of the Institute for Energy and the Environment and Professor of Law, Vermont School of Law**

Discussed the desperate need for a “tough love” pitch to reach energy independence, national security and economic well-being and outlined important next steps to attain these critical goals.

- Senator Gary Hart, Scholar in Residence at the University of Colorado and Distinguished Fellow at the New America Foundation
Outlined the Presidential Climate Action Project's guidelines to the new administration for moving forward during the first 100 days and beyond.
- Van Jones, Founding President, Green for All
Provided inspirational and insightful comments on building an inclusive green economy strong enough to lift people out of poverty.

Renewable Energy Technology Solutions Tuesday Plenary May 6

- Hottel Award. Margot McDonald presented the Hoyt Clarke Hottel Award to Dr. Geoffrey Lester Harding, who then briefly reviewed work on evacuated glass collectors that resulted in this award.
- Richard Perez, ASRC, State University of New York Albany, Moderator.
Introduced the plenary theme - the integration of large scale renewable energy into utility grids in the US
- Jigar Shah, Chief Strategy Officer, SunEdison
Focused on materiality of distributed solar -- preparing for a market-driven approach to electricity delivery and discussed the recent accelerated growth in solar energy
- Chuck Kutscher, Principal Engineer, Manager, Thermal Systems Group, National Renewable Energy Laboratory
Presented a lively overview of why concentrating solar power is becoming a viable large scale energy source that utilities can count on.
- Ed DeMeo, President, Renewable Energy Consulting Services, Inc.
Outlined how wind energy will be able to provide 20% of US electricity by 2030
- Craig Cornelius, Principal, Hudson Clean Energy Partners
Discussed integration of multiple renewable energy sources into the grid and how regulation can help facilitate integration

Renewable Energy Community Solutions Wednesday Plenary May 7

- Margot McDonald, Solar 2008 Chair and CalPoly San Luis Obispo
Plenary Moderator
Introduces the plenary theme - taking action at the community-level
- Julie Blunden, Vice President, Public Policy and Corporate Communications, SunPower, Corporation
Presents an overview of the status of PV, progress and possibilities, and why the rapid advance is occurring, highlighting SunPower's own recent experiences.
- Timothy Tutt, first advisor, California Energy Commission
Discusses the new solar homes partnership and significant progress in energy efficiency and use of PV, particularly in California
- Daniel Lerch, Post Carbon Cities Program Manager, Post Carbon Institute

- Presents an entertaining overview of post carbon cities and guidelines for local governments on problems associated with climate change and peak oil, and the community solutions to these pressing problems
- Edward Mazria, AIA, Founder Architecture 2030
Gives a compelling overview on the consequences of climate change, such as the impact on coastal cities due to sea level rise. He outlines the huge opportunities for improved energy efficiency at the building level as spelled out in the Architecture 2030 Blueprint; and stresses how federal, state and local governments can help facilitate these solutions, with the need for clear leadership from the federal government.

Emerging Transportation Plenary Tuesday Evening, May 6

- Steve Heckeroth, ASES Renewable Fuels and Sustainable Transportation Division Chair and Plenary Moderator
Introduced the plenary and provided a stimulating history and update on electric vehicles.
- Chris Paine, Producer and Director of "Who Killed the Electric Car"
Provided clips from his documentary along with inspiring commentary on the now and future of electric vehicles
- Chelsea Sexton, Plug In America
The star of "Who Killed the Electric Vehicle", she joined Chris Paine to discuss "Plug In America" after Chris showed a clip of her interview on electric vehicles.
- Mystery Guest!! (Robert Baertsch, NASA Green Team)
Entertained and inspired the audience with stories about how Masdar City, which is being built in Abu Dhabi, will be a net zero energy city, with transportation to be provided by solar powered PRTs.

Monday Night-Awards Banquet Presentation on Energy-related Challenges and Sustainable Solutions - Randy Udall

Voices in the Light - 5 minute expose on the promise of renewable energy - Based on presentations through 2007 - Aspen Hill Films

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There are 8 DVDs, covering 2 plenary sessions and 6 keynote sessions.

ISES SWC 2007 Plenary 1 and Plenary 2 (1st Speaker)

- Yogi Goswami - Immediate Past Chair ISES, USA
Dr. Goswami provided an excellent overview of the global energy future and the critical role that renewable energy is expected to play. The special contributions

of China to the needed transition to renewable energy future were highlighted. A lively question and answer session followed his inspiring presentation.

-Lawrence Kazmerski - National Renewable Energy Laboratory, USA

Dr. Kazmerski entertained and informed the audience with his Boer Prize Award Lecture on PV technology, stressing how PV is at the tipping point and promises to be a viable energy source in the near future.

ISES SWC 2007 Plenary Session 2

-Yin Zhiqiang - Tsinghua University, China

Professor Zhiqiang presented an indepth review of the status of solar thermal conversion in China, commenting on resources and policies which are helping development of solar thermal. His informative presentation was following by question and answer session.

-Isao Yukawa - Kyocera Solar, Japan (ISES Vice-President)

Mr. Yukawa discussed PV as a sustainable practice, using the Kyocera management as a case study. He also reflected on important motivations for accelerating the use of PV worldwide. A Q&A session followed his presentation.

-Anil Kane - President World Wind Energy Association, India

Dr. Kane presented an excellent overview of wind energy, including reflections on history of renewable energy and descriptions of the paradigm shift in world wind energy scenario. His presentation was followed by a Q&A session.

-Jose Moreira - University Sao Paulo, Brazil

Professor Moreira provided an extensive overview of successes and barriers to bioenergy, highlighting the multiple uses of bioenergy to produce heat, electricity, and biofuels.

ISES SWC 2007 Parallel Keynote Session 1

Wind Energy, Wave Energy, Hydro Power

-He Dexin - Vice President of World Wind Energy Association, China

Mr. Dexin provided an overview of the status and prospects of wind energy in China. Q&A followed.

-Peter Hjuier Jensen - Riso Research Institute, Denmark

Mr. Jensen discussed global wind energy, discussing in detail the technology, capacity, costs, standards and certifications, research and future role of wind energy worldwide. Q&A followed.

-Peter Rae - Chair International Renewable Energy Alliance, Australia

Mr. Rae described IREA as a voice for all renewable energies, and provided overviews of hydropower, wave and tidal energy.

ISES SWC 2007 Parallel Keynote Session 2

Solar Thermal Technologies

-Hans-Martin Henning - Fraunhofer Institute of Solar Energy System, Freiburg, Germany

Mr. Henning provided an overview of solar cooling, including motivations, techniques and opportunities. Q&A followed.

-Lorin Vant-Hull - ISES Division - Solar Thermal Power USA

Professor Vant-Hull gave an overview of concentrating solar thermal power and elaborated on the underlying physics of the technology.

-Michael Geyer - Executive Secretary IEA SolarPACES, Germany

Dr. Geyer discussed international market introduction of concentrated solar power and elaborated on policies and benefits. Q&A followed.

ISES SWC 2007 Parallel Keynote Session 2

Photovoltaic Technologies

-Martin Green - University of New South Wales, Australia

Professor Green presented an comprehensive overview lecture on the future of thin film solar cells. Q&A followed.

-Zhao Yuwen - Beijing Solar Energy Research Institute, China

Professor Yuwen discussed in detail the status and trend of photovoltaic development in China. Q&A followed.

-Junichi Honda - Kyocera Sakura Solar Centre, Japan

Mr. Honda gave a detailed history of PV industry development in Japan, noting the role of national policies and markets.

ISES SWC 2007 Parallel Keynote Session 1

Bio Energy and Geothermal Energy

-Jin-Suk Lee - Korea Institute of Energy Research, South Korea

Dr. Lee presented an overview of biofuels and how their development is evolving. Q&A followed.

-Tomas Kaberger - Talloil AB, Sweden. Dr. Kaberger provide several perspectives on biomass energy developments and underscored the need for these alternatives. Q&A followed.

-John W. Lund - President, International Geothermal Association, USA. Dr. Lund gave a detailed overview of the development and utilization of geothermal resources. Q&A followed.

ISES SWC 2007 Parallel Keynote Session 1

Solar Architecture

-Anne Grete Hestnes - Norwegian University of Science and Technology, Norway.

Dr. Hestnes provided an overview of solar buildings, with reflection on the role of climate. Q&A followed.

-Alexandros Tombazis - Melitiki, Athens Greece

Dr. Tombazis presented his inspiring letter to a young architect, asking the question "is bioclimatic design a new style of design?"

-Monica Oliphant - ISES Chair-elect, Australia

Dr. Oliphant provided a detailed description Adelaide's transition to a solar city.

ISES SWC 2007 Parallel Keynote Session 2

Strategies and Policies

-David Renné - National Renewable Energy Laboratory, USA

Dr. Renné presented an overview of the long term activities in renewable energy deployment with China. Q&A followed.

-John Reynolds - University of Oregon, USA

Dr. Reynolds discussed the recent energy policy development in the United States. Q&A followed.

-Li Junfeng - Energy Research Institute, NDRC, China

Dr. Li Junfeng gave a detailed summary of the renewable energy strategies and policies in China. Q&A followed.

Colorado Renewable Energy Conference 2007

Keynote - Dr. Chuck Kutscher Climate Change and the Role of Renewable Energy and Energy Efficiency

ASES SOLAR 2007 Renewable Energy Puts America to Work

There are 5 DVDs - 3 plenary sessions plus emerging transportation and emerging architecture.

The Economic Development Potential of Renewable Energy

Monday Plenary July 9, 2007 SOLAR 2007

This plenary provided an excellent introduction to the job creation conference theme.

Moderator: Bill Spratley, SOLAR 2007 National Organizing Committee Chair

- Frank Jackson, Cleveland Mayor
- Carl Pope, Executive Director, Sierra Club
- Kim Kraft / Bernie Kotlier, IBEW Local 11

Frank Jackson welcomed participants to the Conference and noted developments in renewable energy and jobs around Cleveland. Carl Pope reviewed job successes and the multiple benefits for transitioning to renewable energy, especially with respect to climate change mitigation. Kim Kraft and Bernie Kotlier provided a unique and interesting perspective from the International Brotherhood of Electrical Workers, and Bernie gave a detailed analysis of installer training programs and job creation potential in the U.S. for solar installations based on the California incentives and experiences.

State and Private Programs and Jobs Created by Them

Tuesday Plenary July 10, 2007 SOLAR 2007

This plenary provided an excellent, well-received overview of the expanding job markets in renewable energy / energy efficiency.

Moderator: Dave Renné, National Renewable Energy Lab

- George Sterzinger, Executive Direction, Renewable Energy Policy Project
- Daniel Desmond, Deputy Secretary, PA Department of Environmental Protection
- Dennis Canavan, Senior Director, Global Energy, Johnson & Johnson

George Sterzinger gave a detailed overview of job potential in the renewable energy industry and assessment of important policy needs at the federal level. Daniel Desmond described recent developments in renewable energy policy at the state level, with particular emphasis on Pennsylvania and adjacent states. His talk emphasized the importance of accelerating manufacturing capabilities and technological advances to meet the growing demands for renewable energy, and the significant job creation potential offered by a growing renewable energy industry. Dennis Canavan reviewed why renewable energy is important to industrial advances, and provided an excellent overview of how Johnson and Johnson is among industry leaders in deploying and using renewable energy technologies to reduce their carbon footprint.

Workforce Development

SOLAR 2007 Plenary, Wednesday, July 11, 2007

This plenary discusses workforce development from a variety of perspectives.

Moderator: Jane Weissman

- Mark Conroy, Global Sales and Marketing Leader, GE
- Jeffrey Wolf, CEO, groSolar
- Carol Campbell, VP, Human Resources, First Solar

Mark Conroy provides a broad international perspective on expanding markets and jobs in solar energy businesses, underscoring the mega-trends in population and energy demand that are driving these markets. Jeffrey Wolf addresses the labor needs that are growing as a result of emerging solar energy markets, noting that the solar industry needs to strive to be a workplace where people want to work over the long term. Carol Campbell provides specific descriptions of jobs needs in the solar industry, highlighting skills required for both solar-specific jobs and other positions needed to operate successful businesses in the solar industry.

Emerging Transportation

Wednesday Evening Plenary July 11. 2007 SOLAR 2007

This plenary provided excellent overviews and updates on transportation from a variety of perspectives. Moderator: Steve Heckerth, ASES Renewable Fuels and Sustainable Transportation Division Chair

- Paul Scott, Plug-in America
- Sherry Boschert, Author, "Plug-in Hybrids"
- Dan Santini, Argonne National Laboratory
- Travis Bradford, Prometheus Institute
- Ron Swenson, Solar Quest

In his introductory comments, Steve Heckerth presents a thoughtful analysis of the financial and fuel-saving benefits of converting to an electric vehicle economy.

Paul Scott, President of "Plug-In America" and a star in the documentary "Who Killed the Electric Car," discusses the many benefits of electric vehicles and how these cars are coming back. Sherry Boschert continues the discussion by highlighting her book and reviewing the real potential and benefits for plug-in electric vehicles. Dan Santini outlines the technological challenges and progress of various forms of plug-in vehicle concepts. Travis Bradford provides a clear and entertaining overview of the profound economic benefits of linking plug-ins with renewable distributed energy systems. Ron Swenson provides an entertaining overview of the opportunities for ultimate renewable mass transportation using the Personal Rapid Transit concept.

Emerging Architecture

SOLAR 2007, Wednesday Evening Plenary, July 11, 2007

This plenary provides diverse descriptions of innovative urban architecture design and programs. Moderator: Adil Sharaq-Eldin

- Susan Roaf, Professor, Oxford Brookes University
- David Beach, Manager, EcoCity Cleveland
- Jason Bing, Manager, Recycle Ann Arbor's Environmental House

Moderator Adil Sharaq-Eldin provides a very thoughtful introduction to the plenary, describing the interconnections of people, issues and buildings and stressing the need to inspire creative solutions and goodness among people: communities as well as the buildings that are part of them that must be addressed. Professor Roaf discusses the key, and now well-recognized role, that solar energy is playing in architecture around the world. She provides an overview of climate change stresses being felt particularly in the UK, and discusses many innovations being developed to deal with these concerns. David Beach follows with an in depth presentation of creating a carbon-neutral city design for Cleveland, the "green city on a blue lake." Jason Bing discusses community design efforts for the city of Ann Arbor, Michigan, underscoring the need to work closely with the community members at every stage of development.

ISES EuroSun 2006

There are 4 DVDs - 3 plenary session and 1 with selected technical presentations.

EuroSun 2006 Opening Plenary 1

EuroSun 2006 opened with welcoming addresses from the organizing committee, ISES leaders, and officials from the host university--Glasgow Caledonian University, Scotland. Presentations set the context and tone for the conference, with brief reviews of importance of solar energy in addressing pressing problems of global warming, the history of ISES in promoting solar

energy solutions, and the importance of education. The opening comments were followed by two keynote presentations highlighting the successes and innovations of solar energy.

Welcome and Opening Addresses

- Plenary Moderator and Opening Speaker: Dr. Stas Burek, EuroSun 2006 Conference Chair, Glasgow Caledonian University, UK
- Despina Serghides, President ISES-Europe, Higher Technical Institute, Cyprus
- Professor Mike Smith, Provost Glasgow Caledonian University, Scotland
- John Thorp, Chair UK-ISES, ECSC, London, UK

--Macro and micro-integrating Solar into Social, Industrial, and Domestic Energy Demand Scenarios - Robin Harper MSP, Scottish Parliamentary Renewable Energy group (SPREG), Scotland

The presentation highlighted optimistic news about what is already happening in energy savings through renewable energy and energy efficiency and how these approaches will help the world win the war on climate change and poverty over the next few decades.

--How Renewable Energy Industry Clusters Ensure Effective Technology Implementation - Brian Norton, President Dublin Institute of Technology, Ireland

The important role of clustering of interconnected activities in achieving most effective implementation of solar energy technology is discussed and examples of how this can be done are presented.

EuroSun 2006 Plenary 2

Plenary 2 provided a stimulating set of views on the roles of education, architecture, and policy in advancing use of solar energy. This was followed by presentations of winners for the Solar Schools Forum competition.

- Plenary Chair - Colin Porteous, Glasgow School of Art, Scotland
- Solar Energy Training and Education - Torben Esbensen, Esbensen Consulting Engineers, Denmark

This keynote provided an excellent overview of new activities in training and education.

-Architectural Design and Sustainability from the viewpoint of an architect - Alexandros Tombazis, Aleandros N. Tombazie and Associates, Greece

This presentation gave a captivating look at the nature of architecture, followed by interesting design examples.

-International Energy Scenarios: a key driver for new policies to accelerate renewable markets - Roberto Vigotti, Chair International Energy Agency Renewable Energy Working Party, ISES Board Member, Italy

This address focused on scenarios, policies and measures to accelerate renewable energy use worldwide.

-Presentation of prizes for the Solar Schools Forum competition
The competition included countries from all over Europe.

EuroSun 2006 Plenary 3

Plenary 3 covered a variety of topics related to solar heating and heat demand, implementation of renewables at the local level, and developments in developing economy countries.

-Plenary Chair - Jean Rosenfeld, UK-ISES

-The Role of Solar Heating in the European Heat Demand - Lex Bosselaar, SenterNovem, The Netherlands

The important role of solar heating in the total heat amount and exciting technology advances in this area were discussed.

-Implementation of Renewables at the Local Level - John Thorp, Thameswey Energy LTD.

This paper (prepared by Ray Morgan, Thameswey, UK and presented by John Thorp) discussed how renewable energy is being successfully implemented at the local level.

-Solar Energy in Developing Economies - Bernard McNelis, IT Power, UK

The 25 years of successful IT Power projects and the ground-breaking work of UK-ISES over the past three decades were highlighted in this presentation.

EuroSun 2006 Selected Technical Presentations

These 6 selected technical presentation provide a sample of the diverse program topics for EuroSun 2006.

-Building Integration of Active Solar Thermal Systems - Anne Grete Hestnes, National Technical University, Norway

This invited keynote discussed trends in energy use in buildings and approaches to reducing energy use in buildings of the future, with a focus on solar thermal vision 2030.

-The new Central Solar Heating Plants with Seasonal Storage in Germany - Thomas Schmidt, Steinbeis Research Institute for Solar and Sustainable Thermal Energy Systems, Germany

This presentation discussed large scale solar heating and provided details on two new projects in Germany.

-Improvements in Broadband All-sky Solar Irradiance Modelling Based on Cloud Cover Information: A Case Study for the UK - S. Younes, Napier University, Scotland, UK

The improvements, discussed and illustrated in the presentation, were designed to make important design information more accessible to architects and others using irradiance information.

-Passive and Low Energy Houses in Europe - Signe Antvorskov, Esbensen Consulting Engineers, Denmark

This invited keynote discussed the many reasons for developing more energy efficient homes and provided examples of such homes from Denmark.

-Whole-Sky Luminance Distribution Maps from Calibrated Digital Photography - Paul Kenny, University College Dublin, Ireland

This presentation introduced techniques for developing real time day lighting estimates, which are more helpful for design applications.

-Development and Performance of Cool Colored Coatings - A. Synnefa, National and Kapodistrian University of Athens, Greece

Techniques for developing cool non-white coatings were discussed as a key way for aesthetically reducing heat island effects in cities. Please note that the first one to two minutes of his talk are missing from the video.

SOLAR 2006 Renewable Energy: Key to Climate Recovery

There are 5 DVDs - 4 plenary sessions plus a special summary of findings.

Conference Opening Plenary

Solar 2006 opened with a welcoming plenary, featuring presentations by political, science and foundation leaders.

- Moderator: Dr. Chuck Kutscher, SOLAR 2006 National Organizing Committee Chair, Principal Engineer/Group Manager in National Renewable Energy Laboratory's Center for Buildings and Thermal Systems, USA
- Denver Mayor John Hickenlooper
- Colorado Senator Ken Salazar
- Dr. Dan Arvizu, Director, National Renewable Energy Laboratory

- Dr. Steve Chalk, Department of Energy Acting Solar Technology Program Manager
- Dr. Ronal Larson, Chair, American Solar Energy Society Board of Directors
- The Honorable Timothy Wirth, President, United Nations Foundation and Better World Fund

Major Hickenlooper outlined renewable energy and energy efficiency initiatives for Colorado and Denver and talked about the advent of "green collar" jobs. Senator Salazar discussed the importance of renewable energy in achieving energy independence for the US and complimented the efforts of the assembly. Dr. Arvizu noted the urgent need to move forward with renewable energy and energy efficiency and discussed NREL's research and development activities, highlighting collaboration with private sector to get the important work done. Dr. Chalk outlined DOE programs aimed at achieving energy independence. Dr. Larson introduced all of the American Solar Energy Society activities and the many ASES volunteers and staff. The Honorable Tim Wirth reviewed the history of the Solar Energy Research Institute (now NREL), underscored the critical nature of the climate change, and stressed how the US needs to take a real leadership role in addressing this global crisis with renewable energy and energy efficiency initiatives at home and worldwide.

Latest Climate Change Knowledge Plenary

SOLAR 2006 -- Renewable Energy: Key to Climate Recovery -- began the technical program with in-depth scientific and compelling presentations about current understanding of climate change.

- Moderator: Dr. Chuck Kutscher, SOLAR 2006 National Organizing Committee Chair, Principal Engineer/Group Manager in National Renewable Energy Laboratory's Center for Buildings and Thermal Systems, USA
- Dr. Warren M. Washington, Senior Scientist and Head of the Climate Change Research Section in the Climate and Global Dynamics Division at the National Center for Atmospheric Research, USA
- Dr. James Hansen, Head, NASA Institute for Space Studies, a division of Goddard Space Flight Center's Earth Sciences Directorate, USA
- Audience Q&A

As carefully and clearly outlined in these presentations, global warming is occurring, and the consequences could alter life as we know it. The continuing rise in carbon dioxide resulting from fossil fuel emissions is the main reason. The impacts of global warming are planet-changing, and this is happening faster than we thought even ten years ago. The business-as-usual scenarios being presented lead to a changed and challenging climate around the world. Continued reliance on fossil fuels also adversely impacts air and water quality and is already causing serious human health and environmental consequences. And, as is becoming all too clear, our dependence on imported oil has serious implications for our national security.

Climate Change Action I Plenary

SOLAR 2006 -- Renewable Energy: Key to Climate Recovery. This plenary provided compelling and graphic insights into the climate change problem and renewable energy solution success stories in the US and Europe.

- Moderator: Dr. Chuck Kutscher, SOLAR 2006 National Organizing Committee Chair
- Don Aitken, Principle Don Aitken Associates
- Dennis Dimick, Associate Editor National Geographic Magazine
- Frank Kreith, World-Renowned Pioneer in Renewable Energy

Don Aitken discussed the successful transitioning to a renewable energy future for the Mediterranean region, emphasizing the importance of addressing the human, social and cultural aspects as well as the resource and technical issues in successful transitions. Dennis Dimick explored the climate-energy-economy nexus and illustrated the problems faced by not making the rapid transition away from fossil fuels. Frank Kreith discussed the impact of renewable energy policy at the state level and provided some excellent examples of successes for renewable energy development.

Climate Change Action II Plenary

SOLAR 2006 -- Renewable Energy: Key to Climate Recovery. This closing plenary provided detailed insights, inspirations and critical actions that need to be implemented to achieve climate recovery.

- Moderator: Dr. Chuck Kutscher, SOLAR 2006 National Organizing Committee Chair
- Edward Mazria, AIA, Principal, Mazria Inc. Odems Dzuree
- Robert H. Socolow, Professor, Mechanical and Aerospace Engineering, Princeton University
- Denis Hayes, President Bullitt Foundation

Ed Mazria discussed the vital role that architects play in climate recovery and introduced The 2030 Challenge aimed at dramatically reducing the amount of fossil fuel being used in new buildings and developments. Prof. Socolow focused on climate recovery steps, using his concept of stabilization wedges to demonstrate how these steps, while difficult, are achievable. Denis Hayes reflected on the critical connection between energy and the environment and encouraged accelerated steps to climate recovery.

Special Event - Closing Luncheon

SOLAR 2006 -- Renewable Energy: Key to Climate Recovery concluded with a special closing luncheon featuring a synthesis of renewable energy and energy efficiency contributions to climate recovery and a looking forward invitation presentation for Solar 2007.

- Solar 2006 Synthesis: Contributions of Renewable Energy and Energy Efficiency to Climate Recovery -- Dr. Chuck Kutscher, SOLAR 2006 National Organizing Committee Chair
- Welcome to Solar 2007 -- Bill Spratley, SOLAR 2007 National Organizing Committee Chair

The Solar 2006 Synthesis re-iterated how renewable energy and energy efficiency are the cornerstones of climate recovery. The presentation underscored the conclusion that the array of proven possibilities is large and varied enough to provide considerable alternative, carbon-free, secure energy paths. It is important to note that a special post-conference report, to be released soon, will document the results of nine expert presentations given at SOLAR 2006, which show that today's energy efficiency and renewable energy technologies can address the

global warming crisis without sacrificing our way of life. Watch the ASES web site <http://www.ases.org/> for more information on this report.

The invitation to Solar 2007 - Sustainable Energy Puts America to Work illustrated the exciting and very timely conference theme. The multiple benefits of coming to Cleveland, the city that "rocks", were illustrated with a lively video and many engaging descriptions. Visit <http://www.ases.org/solar2007/> for details on the conference and the venue.

Solar World Congress 2005 Bringing Water to the World

There are 7 DVDs including opening plenary, closing summaries and ceremonies, plenary sessions, and selected forums.

Opening Plenary

The Solar World Congress began with opening ceremonies, in depth reports on the state of renewables and an inspiring presentation of solar schools winners.

- Moderator: Ken Sheinkopf, 2005 Solar World Congress Chair, Florida Solar Energy Center, USA
- Solar Schools, Brighter Future Contest Winners: Mike Nicklas, FAIA, Principal, Innovative Design, Inc. and contest winners: students Bassam Alaa Eldine and Ali Taleb, Bawaba Al Ouzzai Institution, Beirut, Lebanon
- State of Renewables in the World: Yogi Goswami, President, ISES, and Research Foundation Professor and Director, Solar Energy and Energy Conversion Laboratory, University of Florida
- State of Renewables in the U.S.: Tom Starrs, Vice President, Sales and Marketing, Bonneville Environmental Foundation
- Audience Q&A

Farrington Daniels Lecture and Closing Luncheon

The Solar World Congress ended with the traditional Farrington Daniels special lecture and the closing luncheon filled with ceremonies, comprehensive synthesis of the Congress discussions, and introduction to ASES 2006.

- Lecture Moderator: Yogi Goswami, President, ISES, and Research Foundation Professor and Director, Solar Energy and Energy Conversion Laboratory, University of Florida
- 2005 Award Winner's Lecture: William A. (Bill) Beckman, University of Wisconsin, Madison, Wisconsin USA
The ISES Farrington Daniels Award has been given each year since 1975 to a person demonstrating outstanding intellectual leadership in the field of solar energy.
- Luncheon Moderator: Ken Sheinkopf, 2005 Solar World Congress Chair, Florida Solar Energy Center, USA

- Presentation and Ceremonies for ISES 2007 Beijing: Kong Li
- Introduction to ASES 2006 Denver: Chuck Kutscher, National Renewable Energy Lab, Golden Colorado
- Synthesis of Solar World Congress 2005 and the Future of Renewables: Don Aitken

Hubbert Peaks of Petroleum and Natural Gas Production Forum

This forum examined the origin and history of petroleum and natural gas and their reserves, evidence for the Hubbert Peak model and challenges to energy technologies, governments and humanity.

- Moderator: Frank deWinter, Francis deWinter & Associates, USA
- Speakers: Roger Bentley, Whitfield Solar, Ltd., UK
- Ron Swenson, EcoSystems, USA
- Roger Bezdek, Management Information Services, Inc., USA
- Denis Hayes, Bullitt Foundation, USA
- Q&A Audience

Bringing Water to the World Plenary

This plenary explored the critical connections between water, renewable energy developments, world security and other social and environmental issues.

- Moderator: Steve Sargent, Sargent Associates, USA
- Water Security: A Growing Crisis Allan Hoffman, Senior Analyst, Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy USA
- Lester Brown, Founder & President, Earth Policy Institute, USA

Featured Plenary

This plenary focused on how multilateral organizations and the research community are working to scale up renewable energy programs and practices around the world to meet future clean and sustainable energy requirements.

- Moderator: Ken Sheinkopf, 2005 Solar World Congress Chair, Florida Solar Energy Center, USA
- Tom Hamlin, United Nations Environmental Programme
- Richard Hosier, Global Environment Facility
- Art Nozik, Senior Research Fellow, National Renewable Energy Lab, USA

Facilitating International Renewable Energy Programs: The United Nations Environmental Programme's Solar and Wind Energy Resource Assessment Project

This forum reported on the results of this UNEP/GEF funded multi-country, multi-year project and plans for the future.

- Moderator: Dave Renné, National Renewable Energy Lab

- Countries Highlighted: China, Guatemala, El Salvador, Honduras, Nicaragua, Ghana, Brazil
- Summary: Tom Hamlin, United Nations Environmental Programme

Creating Markets for Solar Energy Services in Developing Countries

This forum featured energy project implementation activities in Africa, India, Brazil and China. The presenters shared innovative ways to significantly increase the market for solar energy technologies in their areas.

- Moderator: Duncan Marsh, Climate and Energy Program, United Nations Foundation
- Presenters: H.V. Kumar, Lawrence Agbemabiese, Suzanne Maia, Li Junfeng

ASES Reno Nevada 2002 -- William McDonough's Keynote (Available in VHS)

This presentation is classic McDonough with thoughtful overviews of design aimed at cradle-to-cradle developments from buildings to cities.