

SOLAR NEWS

Autumn 2004

www.thesolarline.com

30
YEARS OF
UK-ISES

Newsletter of the



SOLAR ENERGY SOCIETY

*UK Section of the
International Solar Energy Society*

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David Hall Memorial Lecture 2004

Special Anniversary

Celebration

Sponsored by



Throughout 2004 the Solar Energy Society has celebrated the 30 years since its inception and to round the year off we are holding a Special **David Hall Memorial Lecture**. We are very grateful to our faithful sponsors of the past 3 years, **Elsevier Science**, who make it possible for us to continue with the great format of this event. This year the lecture and the supporting evening's events take place at London South Bank University, in the brand new Keyworth Centre which offers panoramic views across London from the South Bank. We are delighted that our President, **Dr Mary Archer**, will introduce the speaker and that **Dr Bill Gillett**, Head of New and Renewable Energy Sources, European Commission, Brussels will present the lecture entitled: **The growing importance of renewable energy**. Bill joined the Solar Energy Society when he worked at the Solar Energy Unit of University College, Cardiff in the 1970's and went on to work for Halcrow and ETSU before moving to Brussels. Bill's work has influenced national and international renewables policy

and the lecture will focus on issues necessary for renewables to achieve significant impacts in the next 20 years.

Examples of some of the major achievements of recent EC funded programmes will be identified.

The Society will present two **Special Services Awards** as part of the Anniversary Celebration and there will be a **reception** after the lecture in the mezzanine area of the Keyworth Centre with wine and canapes.

Entrance prices remain the same as last year, but please note, security measures make it necessary to provide the events office at South Bank with a full delegates' list ahead of the meeting. We therefore urge you to book your place early. (See our website or contact our office.)

Towards Zero Carbon (TZC)

Sustainability in Practice

Joint conference of the The Solar Energy Society and the Energy Institute, 21 September 2004

The third conference in the TZC series took place at the Infolog Conference Centre in Russell Square, London, on 21 September. About 60 delegates attended the event which was generously sponsored by the Carbon Trust. The programme consisted of 9 excellent presentations from Prof Susan Roaf of Oxford Brookes University, David Olivier of Energy Advisory Associates, Ms Sam Heath, London Renewables, William Orchard of William Orchard & Partners, Dr Nick Banks of SEA/RENU, Dr Keith Richards of TV Energy,

Corporate Members of the Society: IT Power Ltd, Chineham, Hants - Mackintosh School of Architecture, Glasgow - Napier University, Edinburgh - NEF Renewables, Milton Keynes - School of the Built Environment, University of Ulster - SEPCO sustainable energy products, London - The Energy Group, University of Reading - Westlea Housing Association, Chippenham, Wilts

Ms Louise Kingham, Chief Executive of the Energy Institute, Dr Patrick Devine-Wright, De Montfort University, and Gordon Taylor, Independent Consultant.

The central theme was current and future local initiatives to achieve the different stages of carbon dioxide reductions, ie 10% by 2010 etc. Technologies and applications including solar, bio-diesel engines, biomass, urban wind technology, the Passivhaus model and district CHP options were discussed. In addition the issues of skills requirements and shortages and the public acceptability of sustainable energy technologies were addressed. Criticism was voiced over limited period grant schemes. It was claimed that this prevented the creation of good markets and consistency in industry. A frequent argument was that there was no reason Britain could not do as well as many other European countries.



From left to right: Dr Tony Day, Dr Patrick Devine-Wright, Ms Louise Kingham, Mr Gordon Taylor

The feedback was positive: "Well done to the organisers - it seemed to go well. Hope it has some influence on the people whom it needs to influence."



Delegates during the presentations

Copies of the Conference Proceedings C81 (71 pages) can be purchased now, at £25 for members and £30 to non-members. Simply contact the Secretariat.

ISES Membership Incentives 2005

During the recent EuroSun2004 conference in Freiburg the Membership Council met to discuss ways of encouraging more people to join or renew their membership. ISES has since ensured that the cost of its international membership will remain unchanged if membership is taken out via the national section, ie via UK-ISES.

A message from your Membership Secretary

Dear members,

The Society needs more of you!

The Society remains the foremost body for authoritative information on solar and renewable energy, but our voices and influence in the community do not reflect our full potential.

A chronic problem for the Society is that its membership has remained more or less static at too low a level for several years. This has a serious effect on our income and is constraining the committee from developing new initiatives to fulfil the Society's ambitions in such areas as lobbying, education and service to members. The core of our membership consists of technical experts and people professionally or commercially involved in solar and renewable energy. The Society has a long tradition of holding technical meetings whose proceedings have gained international stature and recognition. That aspect of the Society as a learned body is one of our great strengths and we certainly intend to continue with and to further develop those activities.

We have been considering a number of ways in which we could attract new members and thereby expand our activities and influence. In the remainder of this letter, I outline some of these. I would very much appreciate your feedback and suggestions for other ways in which we could attract more members.

The number of people professionally involved in renewable energy is limited and the Society needs to find ways of reaching out and attracting members from a wider community. Many people have a general interest in renewable energy and would like to learn more about the field without necessarily becoming involved in attending technical meetings. They might be encouraged to **join the Society as one way of expressing their support**. One way you could help to promote the Society is to volunteer to give lectures or slide shows in your community. You may be a member of some local society that would welcome that. To help in this, one action we could take centrally is to develop a series of slide shows that you could use.

Another idea we have to encourage you to recruit more members is to offer you a reward for doing so. For example **those recruiting three new members could be rewarded with a year's free membership** or with a suitable prize. What do you think?

A further area where the Society could become more active is in schools. You will have read in previous newsletters that we are involved in an EU sponsored programme related to schools. This could provide the basis for a sustained activity, allied to **junior membership** or **school membership** of the Society. The services that we could provide for them could include special web pages in our members' area, newsletters, information packs and teaching materials. If you have a connection with a local primary or secondary school, please discuss these possibilities with the teachers, to find out what would make such membership attractive to them. We need your feedback to develop these ideas effectively.

A third area concerns the solar clubs involved in DIY installation of solar systems, which have sprung up in recent years all around the country. The Society has not hitherto had much contact with them, yet I believe that working together with them would offer many mutual benefits. For example, we have developed some **practical workshops** that would be of interest

to them, and using our collective expertise we could no doubt provide them with other services. From our point of view such clubs would be a source of new members, or we could set up a **membership category for solar clubs**. Do you know of such a club in your neighbourhood? If so we would appreciate the information. Or perhaps you might consider forming one in your area? If so, what help and services could we provide?

These are just some of the ideas that we are mulling over. We need your help and response to develop them effectively. I look forward very much to your responses and further suggestions. You can contact me directly or send your replies to Christiane at the Secretariat.

jean.rosenfeld@ukgateway.net

EuroSun2006

Kick-off Planning Meeting

The Solar Energy Society and the Scottish Solar Energy Group (SSEG) met with ISES Europe in Glasgow on 6th October to initiate the planning necessary for a successful UK-hosted EuroSun 2006. The week-long congress will be held at Glasgow Caledonian University, in the week beginning 26 June 2006. The local SSEG team is headed by Stas Burek. The Glasgow Caledonian Events manager, Mr Calum McCallum, and Ms Lorna Clarkson of the Greater Glasgow & Clyde Valley Tourist Board also attended a very positive meeting. A tour of the University facilities reassured the delegation from South of the border that everything necessary would be more than adequately provided for. **Sponsorship is now being invited for various aspects of the conference, e.g. bags, badges, banquet, proceedings etc.**



Members of the EuroSun 2006 Steering Committee

The EuroSun 2006 web-site is now being set up and the first Call for Papers will be issued early in 2005. Follow developments at the Society's web-site.

The Oxford Solar Debate

**The Oxford Union,
22 September 2004**

This event was organised by the Oxford Solar Initiative (OSI). OSI was founded about 2 years ago and has since been actively seeking to establish the general public's attitude towards installing solar power in their own homes. The response has been overwhelmingly in favour, ie 80 – 90%! Yet the barriers to realisation seem to be rather too great and this prompted the OSI to challenge a debate on the theme of: **'Solar technologies will never work in Oxford'**. Arguments against the increased use of solar energy were presented by a developer, a member of Oxford City Council and a journalist and 'potential user'. Arguments for solar use were put forward by a member of the Energy Saving Trust, the Principal Environment Officer of Merton Borough Council and an Oxford City Councillor (Green Party). The debate was chaired by Sam Clarke, Friends of the Earth. The unanimous consensus was that despite the odds solar can and must work in Oxford.

Sustainable Energy in Buildings

**Solar Energy Society
Conference C82**

This conference takes place on 19th January 2005, at the University of Birmingham. Birmingham's Castle Vale area will soon host some of the most sustainable properties in the Midlands and as such is the ideal place to hold this meeting. Lovell Homes are to build 30 new houses on a regeneration site, installing solar air/water heating and ventilation systems. Each property will have two solar panels on its roof.

The conference will cover the following topics:

- EU legislation including the Buildings Directive
- UK implementation (including Building Regulations, Part L)
- The Housing Corporation Perspective - Innovation & Good Practice
- Housing Association Perspective on Sustainable Energy and Housing
- Local Authority Perspective on Sustainable Energy and Housing
- Energy Efficiency Measures in Housing
- Indoor Air Quality and Health
- Renewable Energy Technologies
- Funding Opportunities

Invited speakers include Ted King of ODPM and David Vincent of the Carbon Trust. Confirmed speakers are: Austin Baggett, The National Energy Centre, Alastair Brown, Berwickshire Housing Association, Sarah Davidson, IT Power, Martin Liddament, Veetech, John Thorp, ecsc, Patrick Vickerman, Crawley Borough Council, Terry Wyatt, Hoare Lea.

For further information please contact the Secretariat.

Retrofit Innovation to Application in Public Buildings

(BRITA)

IT Power is currently working on an EC funded research and development project looking at innovative ways of improving energy efficiency and incorporating renewables into public buildings. The project is funded under the EC's 6th Framework Eco buildings programme and includes 23 partners from nine countries in the consortium.

The project will see the energy efficient refurbishment of nine buildings across Europe in the Czech Republic, Denmark, Germany, Greece, Italy, Lithuania, Norway, and the UK. A wide range of technologies will be demonstrated including PV, solar thermal collectors,

solar chimneys, geothermal heat applications, passive solar for pre heating air, innovative insulation, hybrid ventilation, absorption chilling and use of building mass to reduce heating and cooling loads. The refurbishment of Plymouth College of Further Education in the UK will demonstrate a PV facade, building mounted wind turbines, passive cross ventilation, improved windows, increased insulation levels, rainwater harvesting and low water use fittings and improved heating and lighting control. IT Power will provide consultancy for the design and co ordination of this demonstration scheme.

The project will also include work with the other European partners to share expertise and develop planning and financing strategies and tools to facilitate widespread and high quality replication across Europe. This research element will produce guidance for the building sector to encourage increased use of energy efficiency technologies in mainstream building. The project will look at barriers to use of the technologies and aim to lift these barriers. A Quality Control Toolbox will be produced with tools for all stages of the building development cycle, including risk management and life cycle costing. The project also includes a dissemination phase which will produce a training and e-learning programme and raise awareness of the issues with key decision makers.



Proposed appearance of the refurbished tower block at Plymouth College of Further Education with PV facade

Bringing Leicester Solar Training

(EU Sol Ex)

Earlier this year, Leicester Energy Agency asked IT Power Ltd to assist with its EU Sol Exhibition project which aims to take practical steps to promote the use of solar technologies. As part of the project, IT Power is supporting a local training centre near Loughborough in the promotion and running of its training course for electricians in how to install grid connected PV (photovoltaic) systems. Empower Training Services near Loughborough worked with IT Power to become **the first centre in the country to offer the City & Guilds PV course**. Support is being provided to Leicester College to **develop solar water heating expertise for NVQ curricula**.

IT Power is also developing a seminar for Leicester based architectural practices on the practicalities and opportunities of building integrated PV. This seminar will be held in combination with the launch of an online tool for more energy conscious building design which has been developed by Leicester Energy Agency.



An explanation of roofing techniques during a PV training course

Innovative Solar Hybrid Product

launched by UK Energy Minister Stephen Timms

*SolarSynergy*TM, combining solar electricity (PV) and solar water heating in one integrated roof module, was launched by Stephen

Timms, the UK Energy Minister, on June 7th, at Resource04 – the Low Carbon Technology Show run by the BRE (Building Research Establishment) and the Energy Saving Trust (EST).



Synergy System

“I was very pleased to launch the SolarSynergy product. It is the result of collaboration between the solar electric and solar thermal industries. More cross-technology partnerships like this are vital if we are to fulfil the formidable challenge of meeting our targets for carbon emission reduction and renewable energy.” Stephen Timms, UK Energy Minister.

The unique *SolarSynergy*TM system has been developed by project partners, Imagination Solar Ltd of Bristol, experts in solar water heating systems development, and PV Systems Ltd of Cardiff, a PV systems design and installation company.

*“SolarSynergy*TM *is a major step forward in renewable energy engineering. It brings affordable, effective and adaptable hybrid PV & thermal solutions to domestic & commercial roofs, and offers major cost and environmental benefits.”* Bruce Cross, MD of PV Systems.

*SolarSynergy*TM generates clean and renewable electricity and hot water all year round, and provides a significant contribution to reducing energy bills and environmentally damaging carbon emissions. *SolarSynergy*TM can save 50-70% on annual domestic water heating bills and 30-50% savings on electricity costs.

*“SolarSynergy*TM *provides a double opportunity to reduce energy bills and environmentally damaging carbon*

emissions. What's more the product is eligible for two lots of Government funding under the PV Demonstration Programme and Clear Skies. It's just a fantastic solar proposal." Jon Walker, MD of Imagination Solar.



Stephen Timms with Jon Walker, Imagination Solar & Amolak Hunian

Further information on Imagination Solar can be obtained from Clare Hawtin at: clare@imagnationsolar.com

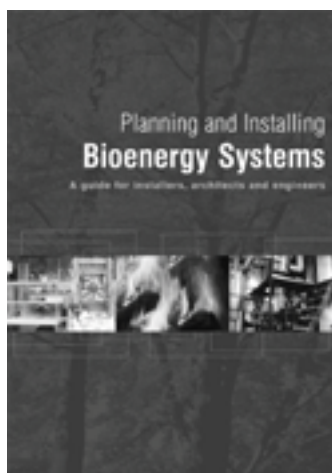
Further information on PV Systems Ltd can be found at: www.pvsystems.com or contact via email at: bcross@pvsystems.com.

Publication News

A New Series Of Guides for Installers, Architects and Engineers From James & James Earthscan Written by the German Solar Energy Society (DGS) in collaboration with Ecofys, *Planning and Installing Photovoltaic Systems*, *Planning and Installing Solar Thermal Systems* and *Planning and Installing Bioenergy Systems* will offer practical guidance for professionals keen to develop their skills and understanding in these technologies.

Growth in photovoltaic manufacturing worldwide continues to increase, solar thermal systems available today offer efficiency and reliability and bioenergy is relied upon worldwide as a modern solution for local energy supply and waste management. Written by experts and in full colour throughout, the three books offer guidance for successful project implementation

and include data on selected regional, national and international renewable energy support programmes. Developed within a European project, other editions of the guides are being published in German, Italian, Spanish and Portuguese. The English edition has been adapted for UK conditions, whilst being written for a global English-language market. Available November 2004 from James & James Earthscan www.jxj.com



Obituary

Solar News regrets to report the death on August 25th of Dr. George Whitfield. Dr. Whitfield took a PhD in radio-astronomy at Cambridge, and worked on radar at RRE, Malvern, before moving in 1966 to lecture on Cybernetics at the University of Reading. He carried out many research projects over the years, including electronic instruments, the flight of gliders, and the flight of Pteranodon. His main research was solar energy. This included solar thermal systems, and solar water pumping, the latter partly in collaboration with IT Power. His major solar work addressed lowering the cost of PV via concentrating systems; building his first such system in the late 1970s using cells from RAE Farnborough.

More recently he participated in a sequence of EU, EPSRC and DTI projects, collaborating with BP Solar, Optical Products, IES Madrid, ZSW Stuttgart, and Fraunhofer ISE among others. George formally retired in 1996, but continued to work in the University, recently co-ordinating an EU project on PV concentrator manufacture. In April this year, Whitfield Solar Ltd., a university 'spin-out' company, was set up to capitalise on this research.

George combined a keen physicist's mind with intellectual breadth and solid practical knowledge. He was a good experimentalist, and always maintained that science is fun. He was a firm personal friend to many.

Dr. Whitfield was pre-deceased by his wife Jocelin, and is survived by three children and two grandchildren. He will be sadly missed.

Renewables Obligation Order 2005

Statutory Consultation

The DTI Renewable Energy Policy & Deployment are seeking views on their recently published consultation document which proposes changes

to the Renewables Obligation Order. The intention of the proposed changes is to:

- Extend the profile of the Renewables Obligation from 2010/11 to 2015/16
- Permit recognition of Northern Ireland Renewables Obligation Certificates (NIROCs) in Great Britain on the same basis as GB ROCs
- Introduce measures that will further secure the buy-out fund in the event of a shortfall occurring
- Consider the introduction of a single recycling mechanism for the three different buy-out funds
- Introduce more flexibility for small generators (of up to 50kW)

Closing date for comments is December 2004. Details of how to respond are contained within the consultation document.

Copies of the document can be obtained from:

DTI Publications Orderline
ADMAIL Publications
London SW1W 8YT
Tel 0870 1502 500
Fax 0870 1502 333
www.dti.gov.uk/publications

An electronic version can be found at www.dti.gov.uk/energy/renewables/policy/roo2005.shtml

CIE Expert Symposium

Light and Health

**Non-visual effects
Vienna, Austria**

30 September - 2 October 2004

Although the visual effects of lighting have been studied for more than 500 years, it was only 40 years ago that the impact of light on the health of building occupants began to be investigated. By the 1980s the link between depressive illness and light deprivation was scientifically proven, and it has since become clear that there are other non-visual, systemic effects of light in humans. This CIE

symposium provided an opportunity for leading experts in both the biomedical and lighting communities to present and discuss the latest research, and to consider their implications for lighting in buildings.

In his keynote presentation, Professor George Brainard, of Thomas Jefferson University, argued that we are about to see major changes in the way light is made, used and measured because a new photoreceptive system has recently been discovered in the human eye. This novel photoreceptor provides the "missing link" in understanding the ways in which light and darkness regulate physiological and psychological processes in the human body. On the basis of this and other findings, it is becoming clear that building occupants do not get enough bright light to have a positive impact on their health: the light levels required for this are much higher than those needed simply to perform visual tasks. **UK-ISES member Dr Richard Hobday** gave a presentation on solar architecture, and the ways in which designing for sunlight has a positive impact on clinical depression, hospital infections and vitamin D deficiency.

The symposium also included presentations on new medical applications of light, on human circadian rhythms, light and the aging eye, dosimetry, and the benefits and hazards of ultraviolet radiation.

For further information see:
www.cie.co.at/symp/symposia.html

Extra funding announced for PV projects

The recent announcement by the Energy Minister, Mike O'Brien, of an extra £6million funding comes as a welcome boost to the industry. It brings the total funding from Department of Trade and Industry (DTI) scheme to £31 million. The Major Demonstration Programme is managed by the Energy Saving Trust (EST) and is set to continue into 2005/06 with three further funding rounds.

From schools, houses and commercial buildings, 350 organisations have already benefited from a solar electric installation. In addition, over 40 installers have been accredited under the scheme.



Spitalfields Bishops Square.

Projects that have benefited from previous grants include the UK's largest office development of its kind at Spitalfields Bishops Square, which received £180,000, and a project of 14 low energy houses in Cambridgeshire with a grant of £68,000. Other successful bidders include Middlesbrough Football Club and the Eden Project in Cornwall.
www.est.org.uk/solar
Tel 0800 298 3978.

A new face at UK-ISES

Matt Strobel, PhD Student at Reading University, has joined the committee of the Solar Energy Society as Student Secretary. His post will become official at the next AGM in 2005.



From sand to silicon to solar cells

Solar cells are expensive to make, and until recently it seemed they would never be cost-competitive with 'dirty' power sources such as coal and oil. But the economics are gradually changing – as shown by the commercial success of Oxfordshire company Crystalox, set up 10 years ago in a tiny portable building in Wantage in Oxfordshire with four employees.

After merging with a German company it now has 90 employees in the UK and 90 in Germany. Their equipment grows multicrystalline silicon, ideal for solar cells. Silicon is produced from sand which is abundant, so the sun can produce limitless energy. Crystalox now produce 20% of the world's solar cells. Most solar cells are made in Germany and Japan so almost all of Crystalox's products are sold abroad. It has won a series of Queen's Awards for exports.

With the UK Government pledging to increase the use of solar power and to make renewable energy supply 10 per cent of our electricity by 2010, Crystalox is gearing up for expansion.

GLA Press Release

Mayor announces key appointment to set up a Climate Change Agency for London Tuesday, 12 October 2004

In his role at Woking Borough Council, Allan Jones has undertaken groundbreaking work on energy and water efficiency, combined heat and power (CHP), alternative fuels for transport, fuel cells and renewable energy to help tackle climate change. Under Allan, Woking (population approximately 100,000) has installed nearly ten per cent of Britain's solar energy photovoltaics and is now home to the first fuel cell CHP system in the UK. He also contributed to Woking Borough Council gaining the Queen's Award for Enterprise for the development of local sustainable community

energy systems- the first time a local authority has received this award. Allan Jones will now be bringing this expertise to London to implement the Mayor's Energy Strategy. The Mayor's 2004 election manifesto promised to create a London Climate Change Agency. With the UK holding the presidency of the G8 and the EU next year, it is a timely opportunity to focus on addressing climate change both at home and at an international level. Using one of the Mayor's ten statutory personal appointments, Allan Jones has been appointed as Chief Development Officer for the London Climate Change Agency.

Mayor of London Ken Livingstone said: "*Climate change is one of the biggest challenges facing the planet this century. Not only do large cities like London have a duty to reduce their carbon emissions but, as Allan Jones has shown at Woking, becoming more energy efficient has the potential to save local authorities considerable sums of money. We will re-invest these savings in pioneering new renewable energy sources. What Allan Jones has achieved in Woking is nothing short of revolutionary and I am delighted that he has agreed to take up the challenge of replicating what he achieved in one borough on London's world-city sized stage.*"

Allan Jones said "*I am delighted to be having such a key role in the Climate Change Agency for London. I believe that my experience at Woking Borough Council will help me to work with the private sector to deliver an enhanced energy infrastructure and to improve energy efficiency in new and existing buildings.*" Nicky Gavron, Deputy Mayor of London said: "*This is a really important initiative and will provide the necessary impetus and leadership to help make London the green capital of Europe. It will put us on track to meet our target for a 20 per cent reduction in CO2 emissions by 2010. I am delighted that the Mayor, working closely with the London Development Agency, has chosen to implement my proposal for a Climate Change Agency which was part of his election manifesto earlier.*"

Green Energy costs up

Green energy providers are taking advantage of rising oil and gas prices to push up environmentally minded customers' bills.

Several companies selling hydro-electric, wind and other forms of renewable energy have increased charges by up to 10 per cent.

The firms argue they are simply acting like any other type of business, but critics accused them of profiteering and argue that climate change is too important to be left to the market.

Wholesale oil and gas prices have increased in recent months and energy companies have been quick to pass costs on to customers.

The Daily Telegraph, 18 October 2004

DIARY OF EVENTS

December 9 2004

David Hall Memorial Lecture,
Keyworth Centre, London South
Bank University
Contact: The Secretariat

January 19 2005

UK-ISES Conference C82:
Sustainable Energy in
Buildings, University of
Birmingham
Contact: The Secretariat

February 23 2005

UK-ISES Conference C83:
Windows Shading and
Daylighting Quality
London Metropolitan University
Contact: The Secretariat

April 14 – 15 2005

Photovoltaic Science,
Applications and Technology
(PVSAT 2), Loughborough
University
Contact: The Secretariat

November

November 3 – 4 2004 The South East of England Renewable Energy Conference 2004

Madejski Stadium, Reading
Contact: 01635 817420,
info@tvenergy.org, www.tvenergy.org

November 15 – 17 2004 1st International Solar Cities Congress and Green Energy EXPO 2004

Daegu, Korea
www.energyexpo.co.kr

January

January 30 – February 2 2005

Environment 2005 – Air Water,
Land, Energy
Exhibition & Conference
Abu Dhabi, United Arab Emirates
Contact: ee@gec.ae

March

March 2 – 3 2005 World Sustainable Energy Days 2005

European Pellets Conference
Wels, Austria
office@esv.or.at; www.esv.or.at

May

May 22 – 27 2005
WREC2005 innovation in Europe
Regional Meeting
University of Aberdeen
Contact:
WREC2005aberdeen@aecc.co.uk

May 25 – 27 2005
Northsun 2005
10th International Conference on
Solar Energy at High Latitudes
Vilnius, Lithuania
Contact: ateik@centras.lt

September

Sept 7 – 9 2005
UPEC 2005, 40th International
Universities Power Engineering
Conference, Cork Institute of
Technology
Call for Papers: www.upec2005.org

August 6 – 12 2005

ISES 2005
Solar World Congress, Orlando, Florida
<http://www.swc2005.org>

Prospective papers:
Please note that a virtual session is being planned so that
papers can be received also from those unable to travel to
Orlando.