

SOLAR NEWS

Summer 2004

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30 YEARS C
UK-ISES

Newsletter of the



SOLAR ENERGY SOCIETY

UK Section of the
International Solar Energy
Society

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The Scottish Solar Energy Group and UK-ISES win EuroSun 2006!

At EuroSun 2004, the SSEG / UK-ISES proposal to ISES-Europe to host EuroSun 2006 at Glasgow Caledonian University was approved! More information can be found in the EuroSun 2004 report in this newsletter.

UK-ISES Annual General Meeting

The 30th Annual General Meeting took place at Oxford Brookes University on 20 May, in the beautiful surroundings of Headington Hill Hall. It was attended by 25 members of the Society. Prof M G Hutchins, Chair of the Society, presented a lecture on different aspects of glazing. It was very well received as it provided the audience with an insight into the intricacies of glazing, and taught the many considerations necessary when retrofitting or in new build.



Professor Hutchins during his talk



Delegates during lunch in the Headington Hall gardens

During the AGM Dr Jean Rosenfeld was officially approved as the Society's Membership Secretary, and by-law 3.6 (a) of the Solar Energy Society statutes was amended - the original version was as follows: "**No member of the Society shall publicise his or her membership thereof for the purpose of advertising.**

It now reads:

No member of the Society shall publicise his or her membership thereof for any commercial purpose save under the express prior agreement for "Use of Trademark" as set out and approved by the Committee."



Delegates listening to Prof Hutchins' lecture

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

**Towards Zero
Carbon:
Sustainability
In Practice**

There is still time to register for the:

One day conference, jointly organised by the Energy Institute and the Solar Energy Society (UK-ISES)

Date: Tuesday 21st

September 2004

Venue: Infolog Conference Centre

Russell Square House

10-12 Russell Square

London WC1B 5EH

Following on from last year's successful conference, held jointly by the Energy Institute (EI) and the Solar Energy Society (UK-ISES), the discussion will continue with a second conference entitled *Towards Zero Carbon: Sustainability in Practice*.

Previously this conference has focused on emerging technologies, and looked at possible synergies that may enhance the take-up of renewables in the future. This year the emphasis will be on existing technologies, and the steps that need to be taken to get the up-take increased to levels required by government targets.

With speakers providing updates on photovoltaic applications, low energy building design, solar thermal (passive and active), biofuels, wind and combined heat and power, the morning will provide the technical input to the day, examining issues such as cost, availability, practical case studies and technical constraints. In addition the conference will examine the softer issues of implementation, most notably: public awareness and acceptance; the availability of

necessary skills and knowledge; the need for innovation; policy and planning issues. Without these issues being properly addressed the implementation of renewable will continue to be slow.

Drawing together individuals with vast experience of new energy systems, together with those at the forefront of technology developments and policy development, this is a conference that should not be missed for anyone involved in the supply, utilisation and management of energy in the UK in both private and public sectors, and how these low carbon technologies can be achieved in practice.

This conference provides a forum in which to examine cross-technology issues without partisanship, and aims to inspire delegates to tackle the major obstacles in order to develop this emerging industry.

Programme and registration details can be found on our website

www.thesolarline.com

Alternatively contact the Secretariat on 01865 484367

Web addresses for job seekers

in the renewable energy/environmental sector:

<http://www.greenenergyjobs.com/>

<http://www.earthvision.net/Jobs.cfm>

<http://ewindows.eu.org/Other/Jobs>

EuroSun 2004

5th ISES EUROPE SOLAR CONFERENCE
20 to 23 June 2004



Like the inaugural EuroSun, in 1996, EuroSun 2004 took place at the Konzerthaus in Freiburg, Germany, which is home to ISES Headquarters.

The congress was opened by the Lord Mayor of Freiburg, Dr Dieter Salomon, with a welcome address by Dr Jean Rosenfeld, ISES-Europe, and Prof Sigrud Janssen, German Solar Energy Society. The venue proved most suitable for the 500 delegates who attended the event and the organization was excellent. There was good representation from the UK, including 7 members of UK-ISES. The quality of the papers and posters was of the highest standard and covered the areas of Solar Thermal Energy, Materials for Solar Energy Conversion, PV Systems and PV Cells, Solar Cooling, Energy Meteorology, Architecture and Design, Day Lighting, Energy Efficient Buildings, Market and Dissemination Strategies and Education Concepts. EuroSun 2004 attracted many delegates not only from Europe, but from around the globe.



Professor Hutchins, Chair of UK-ISES, examining a poster at the exhibition.



The 3 chairmen in discussion - from left: Prof Mick Hutchins, UK-ISES, Dr Jean Rosenfeld, ISES-Europe, and Dr Yogi Gaswami, ISES

The congress included a number of workshops and also the Annual General Meetings of ISES-Europe and ISES. At the ISES-Europe meeting the benefits and disadvantages of the current format of EuroSun were discussed and options



ISES-Europe AGM: representatives from ISES Italy, Romania, Denmark and Poland

explored. This was of particular interest to Prof Hutchins, Chair of UK-ISES, Kerr MacGregor, UK-ISES member and past Chair of the Scottish Solar Energy Group (SSEG), and Christiane Buckle, UK-ISES Secretariat. **At EuroSun 2004, SSEG and UK-ISES were officially confirmed as the hosts of Eurosun 2006!** The venue will be Glasgow Caledonian University and Dr Stas Burek, UK-ISES committee member and member of SSEG, will be the local organizer.

Professor Hutchins and Kerr MacGregor gave a joint presentation of the plans for EuroSun 2006. This had been prepared by Dr Burek.



Kerr MacGregor and Professor Hutchins



Members of ISES-Europe and Prof Hutchins (below) during the EuroSun 2006 presentation



At the ISES AGM, one of the main issues was that of membership size. It was discussed at length and stated how vital it was that the Society worked on public awareness and the drive for the public to join the Society and play their part in the global conversion from fossil fuels to renewables.

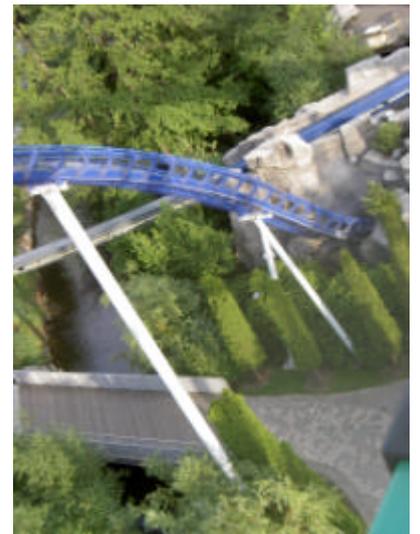
The highlight of the social programme was the congress dinner which had been booked at the 'Europa Park Rust', not far from Freiburg. This is Germany's biggest theme park.

Europa Park covers 65 hectares of parkland and includes the largest hotel in Europe, the Hotel Colosseo, which has 1000 rooms.



From left: Michael Köhl, Fraunhofer Freiburg, Christiane Buckle and Rolf Behringer, ISES, at the Europa Park

A special treat was the ride on the 'Poseidon', a unique combination of roller coaster and water ride.



The ride was followed by an excellent dinner and show.



The President of ISES-Europe, Dr Jean Rosenfeld, during his after dinner speech.



Christine Hornstein, Deputy Chief Executive, ISES, and Christiane Buckle, UK-ISES

SSEG and UK-ISES will begin work on the preparations for EuroSun 2006 shortly, with the call for abstracts to be published in time for Northsun 2005 in May of next year.

5th Intersolar 2004

Intersolar 2004, Europe's largest trade fair for solar technology, which took place in Freiburg immediately after EuroSun 2004. The exhibition was most impressive, with 286 exhibitions, but regrettably there were very few UK companies.



View of the exhibition of hall

Both ISES (1) and the German Solar Energy Society (2) were represented:



(1)



(2)



The sun was out in force on the first day of Intersolar. Above shows a stall where sausages were fried for free with a solar cooker.



Solar toys



Coil coated selective absorber coating for solar thermal applications

Work starts on £4m village wind farm

3 June 2004

Wind Co-operative Launch after 10 year process!

On Saturday, June 12th the first foundations for the five-turbine wind farm will be dug at the launch of the wind farm co-operative on the Old Airfield, Westmill Farm, Watchfield just off the A420 by Shrivenham.

Oxford, Swindon and local neighbourhoods celebrated the launch of the first community wind farm in the South of England with music, kites and of course digging the first foundations.

Beforehand residents from across the region were invited to attend a public exhibition at The Old Town Hall, Faringdon, Oxon, to learn more about the scheme before going along to the launch of the co-operative.

The 4.25 MW community-owned wind farm will not only supply green electricity to several thousand homes and promote energy efficiency measures but also provide valuable educational visits for local schools and colleges.

Preference for joining the co-operative is given to those who live in the district to ensure maximum benefits from the scheme remain in the local community. The minimum cost of becoming a member is £250 and a savings scheme will be put in place before the share offer is launched. Each member has an equal say in how the co-op is run, regardless of whether their stake is £250 or £20,000, with the seven directors drawn from the local community.



Harvey Tordoff, Director of Energy4All said 'As oil prices rise, and impacts of climate change are better understood more and more people want 'to do their bit' to secure our future. We are very pleased that the first wind farm in the South East will be 100% community owned. Supporting green energy is an effective way for people to get involved and is second on the climate change challenge list produced by Friends of the Earth this month.'

For further information contact: Energy4All
Angela Duignan on 07967 591328 or
Annette Heslop on 01229 821028

Publication News

1. Performance and Durability Assessment

Optical Materials for Solar Thermal Systems, edited by A W Czanderna, USA, Elsevier, July 2004

This is the final report of IEA Solar Heating & Cooling Programme Task 10 and gives a concise overview of recent developments and research findings in the field of optical materials for solar thermal development. It provides a model for how durability assessments should be carried out for other types of solar thermal systems.

2. World Energy Council Survey of Energy Resources 2004

To be published by Elsevier September 2004, this publication presents a comprehensive global picture of resource availability, energy production and consumption levels, technological developments and outlook. Edited by Energy Data Associates, UK.
eurobinfo@elsevier.com

3. Solar thermal technologies for buildings – the state of the art

edited by Matt Santamouris, published by James & James (Science Publishers) Ltd. Contributions include a chapter by Prof M Hutchins, Chair of UK-ISES, entitled 'Spectrally selective materials for efficient visible, solar and thermal radiation control.' The book is the first in a new series, *Buildings, Energy and Solar Technology (BEST)*.

4. Planning and Installation Guides

James & James have also just published three brand-new guidebooks for installers, architects and engineers, edited by the Germany Solar Energy Society (DGS) - on Photovoltaic, Solar Thermal, and Bioenergy Systems respectively.

For further details send your email to jxj@jxj.com.



Edward Milford of James & James seen here at their display stand at EuroSun 2004

Whitfield Solar Wins Cascade Funding

U.K. Solar concentrator manufacturer Whitfield Solar Ltd has received its first tranche of venture capital from the Cascade Fund. CEO Dr Clive Weatherby said "This represents a key milestone in the establishment of Whitfield Solar. It will enable us to develop and manufacture the concentrating photovoltaic systems that have been the focus of research by Dr George Whitfield and his team at The University of Reading for the last decade. The funding could not have come at a better time as the availability of highly efficient but cost-effective cells combined with low-cost optical elements gives us

a real opportunity to halve the current cost of clean solar electricity generation."

The Cascade Fund was created to stimulate entrepreneurial activity and provide financial and business assistance to commercialise, together with the University Technology Transfer Offices, the inventions and ideas arising from the research undertaken in the five partner universities: Brunel, Reading, Royal Holloway University of London, Surrey and Sussex.
www.whitfieldsolar.com
www.cascadefund.co.uk

For more information contact:

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clive.weatherby@whitfieldsolar.com

Tel: +44(0)118 935 7260

Fax +44(0)118 935 7261

Prince Andrew visits Venturefest 2004, Oxford

On Monday 28th June Prince Andrew visited the annual high-tech fair as the UK's Special Representative for International Trade and Investment. After touring the exhibition he met school children competing to build a solar-powered car using K'nex construction kits and spoke to a team from the Cherwell School, Oxford, as they tested another device generating windpower. The competition was organized by the science charity the Oxford Trust.

Peter Hain's vision for solar energy

2 July 2004

Welsh Secretary **Peter Hain** said today he would like to see tens of thousands of roofs with solar panels supplying 'clean energy' to Welsh homes. He was speaking in Wrexham before attending the official opening of the Sharp factory's new production line to manufacture photovoltaic (PV) products. "The Government wants to see public buildings, such as schools and hospitals, benefit from this clean energy," said Mr Hain. "If a green revolution is to take place then

solar energy must move from hi-tech business parks into everyday lives. Wales welcomes Sharp's decision to establish its PV module production in Wrexham as do I. I know that this was in the face of stiff competition from other sites in Europe and is a very important investment to Wales creating 65 much needed jobs. As a former Energy Minister, I am aware of the enormous potential in PV as an alternative source of energy production. I want to see tens of thousands of roofs covered by solar panels over the next ten years - and the development of building regulations and planning guidance will help pave the way for this. The decision by Sharp to set up its PV production in Wales is a wonderful show of confidence in the high levels of commitment and skills of the Welsh workforce. It is also another chapter in the long history of investment and commitment Sharp has shown in Wales over the years. This is a flagship ground-breaking facility at Wrexham and provides a fantastic opportunity to develop a centre of excellence for PV technology in Wales."

Source: Wales Office

**Bracknell to
become a
European
beacon for
green energy**

TV Energy



Bracknell Forest Borough Council's bid for major European funding to support its ambition for the regenerated Bracknell town centre to be powered by green energy has been accepted by the European Commission. The project, christened *Renaissance*, will enable high standards of energy efficiency and green

(renewable) energy technologies to be built into plans for the redevelopment of the outdated new town.

The total *Renaissance* project is worth £12.5M in total for Bracknell and funding from Europe is essential. The grant from the European Commission has been awarded under CONCERTO, a major new European Union initiative to support local communities in demonstrating the social, environmental and economic benefits of integrating renewable energy, energy efficiency and energy-management systems on a community scale. The Council with partner TV Energy will start negotiations with the Commission later this month to determine the final level of grant on offer.

The *Renaissance* project involves a consortium of three urban areas in Europe, each taking similar actions to increase the take up of sustainable energy and learning from one another in the process. Lyon in southern France and Zaragoza in northern Spain will partner Bracknell, which will co-ordinate the project. The project is scheduled to commence in 2005 and concludes in 2009.

The Bracknell *Renaissance* team includes the Borough Council, the Bracknell Regeneration Partnership, TV Energy, Waitrose, SEEDA, Slough Heat and Power and the University of Reading. Many other organisations will also be involved from across the South East region.

A great deal of work has already been completed as a part of an Energy Saving Trust funded feasibility study carried out by TV Energy to assess the town centre's energy needs and to develop a solution to meet those needs from clean, green energy sources. It is estimated that significant carbon dioxide savings can be achieved by adopting renewable energy into the town centre and that the new systems may be provided at no extra cost to the Borough Council, developers or consumers. The European Commission funding will enable the Borough Council to work with a range of partners to

design and install a state-of-the-art district heating, cooling and power system to serve the town centre which may run on sustainably produced wood fuel. Waste wood thinnings from local forests and woodland will help power the energy plant in the short term with new short rotation coppice planted to provide fuel in the medium to long term. The innovative plans could also include wind and solar energy installations. The project will also involve a significant amount of research and development to ensure that the highest possible standards of energy efficiency are adopted into the design of the new buildings and for those that will be refurbished. The project will act as a leading example of how to develop urban sustainable energy schemes and the results will be shared with 13 other associated communities committed to support the project. This network of communities which stretches from the South East of England to the City of Venice, with its well known problems related to climate change and rising sea levels, to communities in Greece, Bulgaria, Spain, Croatia and Poland. The Borough Council's Chief Executive, Timothy Wheadon is excited by the award: "The *Renaissance* project adds to the catalogue of innovations that Bracknell Forest Borough Council champions. It will further add to Bracknell's profile as a high performing local authority and will make us stand out as a high quality town centre. In this age of uncertainty surrounding security of energy supply and global climate change, the town will be taking a positive step forward to solve these problems locally."

Dr. Keith Richards the Project Manager for *Renaissance* and CEO of TV Energy, believes the plans for Bracknell will set the standard for other town centre redevelopments in the UK. "This is a major project which will put Bracknell on the map as a pan-European beacon for renewable energy. By 2009 a majority of the

town centre's energy needs could be met from locally produced, non polluting green energy generation."

Email: keith.richards@tvenergy.org
For further information see the TV Energy website: www.tvenergy.org

World Bank rebuked for fossil fuel strategy

The World Bank's drive to promote fossil fuel-generated power for 1.6 billion people lacking electricity in developing countries was criticised in a recent report by a development thinktank, the New Economics Foundation. It claimed that the subsidies paid by the World Bank and export credit agencies to fossil fuel industries to expand in the developing world, particularly Africa, are driving countries deeper into debt rather than helping the poor, as is the declared intention. Fossil fuels will never provide enough power for these countries because of the cost of connecting remote communities to a national grid. On current trends, in 2030 there will be more people relying on wood and dung for cooking and heating than there are now, according to the International Energy Agency.

But with small-scale hydro-electric schemes, wind and solar power, developing world villages could become self-sufficient in power and the death rate among women and children from respiratory diseases brought on by fumes from unsuitable stoves would fall dramatically. One scheme, in Rajasthan, India, has given 130 remote villages, home to 15,000 people, solar power in place of kerosene and candles, allowing 200 women to work with electrically-powered spinning wheels. On Mindanao, in the Philippines, a micro-hydro generator is providing power to 110 households. On the island of Sagar, Bengal, five PV plants produce electricity for various

outlets, including 1,600 families. Renewables not only improve quality of life and reduce carbon dioxide emissions, they also provide educational opportunities and political independence. There are about 500 million people in Africa without electricity, but one year's spending on fossil fuels by the World Bank, redirected to renewables, would provide power for 10 million.

Source: The Guardian

European Master in Renewable Energy

The following introduction for the European Master in Renewable Energy has been taken from the web site of the EUREC Agency:

International agreements on CO₂ abatement and European directives on the expansion of renewable energy generation ensure that the recent rapid growth in renewable energy installations will continue.

Skills shortages in this sector are already being identified and the expected growth will only exacerbate the situation. Within the rapidly expanding European renewable energy industry, an **urgent demand exists for more post-graduate trained staff, specialised in renewable energy technology.**

Supported by the European Commission through the ALTENER programme, EUREC Agency together with leading European Universities involved in renewable energy education and training have responded to this demand through the development of the European Master in Renewable Energy.

For further information please visit: www.eurec.be/REmaster

Ambient Energy

The issue of the International Journal of Ambient Energy, Volume 25, Number 2, April 2004, contains papers first presented by postgraduate students specializing in photovoltaics at the Solar Energy Society Conference C79: 'Photovoltaic Science, Applications and Technology' which was held at Loughborough University in April 2003. For copies of 'Ambient Energy' please contact Prof John Twidell amset@onetel.com. For copies of the proceedings of the conference please contact the Secretariat.

Storm of protest over planned windfarm

Up to 400 people protested yesterday against plans for one of the biggest windfarms and some of the tallest turbines ever planned for England, staging walks to show how the scheme will blight views from two national parks. If a planning inspector agrees at an inquiry due next year, 27 wind turbines, each 115 metres (377ft) high, will rise on a ridge close to the M6 near Tebay, between the Lake District and Yorkshire Dales national parks.

Opponents of the planned Whinash windfarm claim the turbines will be clearly visible from both High Street, the breezy ridge south of Ullswater, and the Calf, the summit of the Howgill Fells.

Kyle Blue, a chartered surveyor involved in the protests, said 400 people had attended a meeting opposed to the plans while 350 trudged across Cumbria's hills to protest.

"The point is to show what a precious gem this is and that we should be looking after it, and not building on it," Mr Blue said. Speaking from on top of a hill, he added: "This is one of the most exquisite views. To imagine a 350ft turbine could be swishing around is unthinkable."

The protesters say each structure will be three-quarters of the height of Blackpool Tower with a blade diameter wider than the wingspan of a jumbo jet. They claim the farm could inflict heavy damage on Cumbria's tourism economy, now healthy after a spectacular recovery from the ravages of foot and mouth disease.

"It would be an absolute folly to destroy some of this country's most precious landscape to meet government targets for renewable energy," said John Dunning, a businessman who established the service area at Tebay on the M6.

But Stephen Molloy, project manager for Renewable Development Company Ltd, which is promoting the scheme, said something had to be done to create new sources of cleaner energy.

"To do nothing is to cause more damage than any windfarm will do," he said.

"The wind resource in the region is in the national parks and the Pennines area of outstanding natural beauty and we cannot build there. There is not much wind in the Eden Valley so we have to go to these foothills." Mr Molloy argues that Whinash will produce one and a half times the power of the 11 windfarms and 77 turbines that already turn in Cumbria. "You can have a big one that produces a lot of electricity or lots of little ones." Steve Connor, the managing director of Creative Concern, a Manchester-based communications agency specialising in renewable energy, said: "We need big schemes. It's either that or we go for nuclear power."

The row in Cumbria - home of Sellafeld - echoes the debate across the country as the government considers new energy policies.

The Lake District national park authority, Cumbria county council and Eden district council have all objected to the Whinash scheme.

Sir Bernard Ingham, who opposes all windfarms, is against it but has kept out of the fray. The Cumbrian peer *Lord Bragg*, the mountaineer *Chris Bonnington* and the environmentalist *David Bellamy* all support the campaigners. The television gardener *Alan Titchmarsh* said: "Now, more than ever before, we need to stand up for the beauty of our landscape which others would be all too ready to destroy in the name of [the] economy."

The Rt Rev John Oliver, the former bishop of Hereford and now the church's environment spokesman, denounced the "deplorable plan" as "utter folly".

"Visual impact is a subjective thing," Mr Molloy added.

"Personally, I like wind turbines. We have had 1,000 letters of support, many of them from people who find them quite attractive."

He accuses protesters of guerrilla tactics, "throwing out mischievous facts" and signing up 5,000 objectors through misinformation. One battle has raged over the photomontages each side produced to give an impression of the completed windfarm. Mr Molloy claimed his company's picture, required for the environmental impact assessment of the scheme and subject to an independent check, showed the development in its proper scale. By contrast, the one (since modified) produced by opponents showed "41 turbines, twice the real size and in the wrong place".

Mr Molloy said the company had taken its case to the Advertising Standards Authority and all its complaints had been upheld. The battle continues. "I have sympathy with the developers, because this is a windy area and it is also easy to tap into main powerlines," Mr Blue said. "But the quality of the countryside here makes it a totally inappropriate site. This is offshore technology brought onshore."

Monday July 5, 2004

The Guardian

DIARY OF EVENTS

Sept 21 2004

UK-ISES_Conference C81 - Towards Zero Carbon II: Sustainability in Practice, Joint meeting of the Solar Energy Society and the Energy Institute, London

Contact: The Secretariat

September 8 – 11 2004

Solar 2004 – 7th International symposium on solar energy, Gleisdorf, Austria

Contact: seminare-aeointec@aee.at

November 10 2004

UK-ISES_Conference C82: Sustainable Energy Generation in Buildings, Birmingham University

Contact: The Secretariat

November 15 – 17 2004

1st International Solar Cities Congress and Green Energy EXPO 2004

Daegu, Korea

www.energyexpo.co.kr

December 9 2004

David Hall Memorial Lecture, Keyworth Centre, London South Bank University

Contact: The Secretariat

January 30 – February 2 2005

Environment 2005 – Air Water, Land, Energy

Exhibition & Conference

Abu Dhabi, United Arab Emirates

Contact: ee@gec.ae

February 23 2005

UK-ISES Conference C83: Windows Shading and Daylighting Quality

London Metropolitan University

Contact: The Secretariat

May 22 – 27 2005

WREC2005 innovation in Europe Regional Meeting University of Aberdeen

Contact:

WREC2005aberdeen@aecc.co.uk

May 25 – 27 2004

Northsun 2005

10th International Conference on Solar Energy at High Latitudes Vilnius, Lithuania

Contact: ateik@centras.lt