

Editorial Board:

Editor:

Mr. Hugh Lockhart-Ball

WORLD RENEWABLE ENERGY CONGRESS VIII & EXPO

28 August – 3 September 2004. Denver Marriott City Center Hotel, Denver, Colorado, USA

Preparations are underway for the largest and most outstanding Congress in Renewable Energy in the World. Nearly 200 experts and specialists are working continuously in USA and Europe to put together an excellent programme covering all aspects of renewable energy. Several governmental ministers and top policy makers have already agreed to participate. Please see this recent Press Release:

World Renewable Energy Congress provides international forum

*Delegates to gather in Denver to share knowledge, ideas, on
energy issues*

Energy ministers, deputy ministers and other representatives from as many as 100 countries are expected to participate in the world's largest gathering of renewable energy experts in Denver, Aug. 28-Sept. 3, 2004.

The eighth World Renewable Energy Congress (WREC VIII) will provide a forum for energy suppliers and consumers, as well as governments, industry, academia and financial institutions to discuss the development of energy sources that are secure, sustainable, accessible and economically viable.

Among the topics delegates can expect to discuss are solar energy, wind energy, biomass conversion, geothermal energy, hydrogen and fuel cell technologies, gender and energy, and distributed energy and electricity reliability.

WREC VIII allows policy makers, researchers,

manufacturers, financiers, government officials and others to present their views in plenary and technical sessions and to participate in discussions, both formal and informal, enabling a transfer of knowledge among nations.

WREC VIII will be hosted by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL). Other major sponsors include the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy, the World Renewable Energy Network, the American Council on Renewable Energy, and the Islamic Educational, Scientific and Cultural Organization.

More information on WREC VIII and the companion Energy Technology Expo and Conference, including key contacts, a call for abstracts, and logistics and registration details, is available at www.nrel.gov/wrec.

For Details please contact:

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or Prof Ali Sayigh,

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or wrec@nrel.gov

ISES Solar World Congress 2003

“Solar Energy for a Sustainable Future”, Goteborg, Sweden

12-16 June, 2003

The Congress was divided into four modes of presentations, Oral, Poster, Seminar and Plenary sessions. Nearly 750 participants from 73 countries were present and the technical programme was very well organized and run.

On Sunday 11 June, Prof Lars Broman organized at Goteborg University a one day seminar on Renewable Energy Education. The seminar was attended by 70 participants and several speakers presented good papers on RE education in their countries.

During the Congress WREN organized a seminar entitled “Will the developing

countries lead the way in renewable energy? Reality and Problems”. Thirty participants were present and 12 presentations were given by :

Prof M Chendo – Nigeria

Prof S Islam – Bangladesh

Prof S S Nandwani – Costa Rica

Prof T C Kandpal – India

Dr E Asl-Soleimany and Dr V Fathollahi – Iran

Mr. P Magoha and Dr J Mwabora – Kenya

Dr A Houry – Lebanon

Prof M Horn – Peru

Prof I Demir – Turkey

Ms J Muller – South Africa



Lars Broman Educational seminar at Chalmers University.

Please send all correspondence to WREN News, c/o Prof. A. Sayigh, P. O. Box 362, BRIGHTON, BN2 1YH, U.K.

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When submitting articles please send in ASCII text or RTF format with hard copy. All illustrations / photographs welcome.



Some Members of WREN at the Conference

Dr I Haraksingh – Trinidad and Tobago
 Prof Y Zhiqiang – China

The Seminar was very informative and interesting and there were excellent exchange of ideas and knowledge between various countries. Of special concern was the question of how to increase the use of renewable energy within their countries.

The ISES Congress was an effective means of renewing contacts with some of our friends and associates. However, the Congress location, hotels, food and other services were expensive. Also the exhibition was a disappointment. There were only four exhibitors from industries and four book exhibitors present. This was an extremely poor show for such a large Congress.

WOMEN IN ENERGY AND ARCHITECTURE

13-14 SEPTEMBER 2003
 KUALA LUMPUR, MALAYSIA

The Islamic Educational, Scientific and Cultural Organization (ISESCO) organized this 2-day national seminar on “*Women in Energy and Architecture 2003*”. This seminar is part of the ISESCO Centre for Promotion of Scientific Research under the “Equal Facilities for Women Resource Development” programme.

The seminar was organized with the cooperation of the Malaysian Institute of Energy (InTem), Universiti Teknologi MARA, Malaysia and the World Renewable Energy Network (WREN). The theme of the seminar was “*Towards Sustainable Development in the Tropics*” and was attended by more than 25 Malaysian women architects, students, researchers and academics.

The opening was officiated by the Chief Executive Officer of the Malaysia Energy Centre, the national organization is responsible for initiating, evaluating, recommending, monitoring, and implementing national energy projects and policies as well as maintaining a database of energy experts and consultants. The

Director of Science, ISESCO, Dr Faiq Billal, The Director-General of WREN, Prof. Ali Sayigh and the Vice President of InTem, Prof. Azni Zain Ahmed also addressed the participants at the seminar.



Participants of Women in Energy and Architecture

Seven papers were delivered and discussed during the seminar which covered a range of topics from bioclimatic architecture, solar buildings and solar technologies in buildings. The participants were very excited and enlightened by the new approach to architecture, especially for the tropics, which will contribute towards sustainable development. Prof. Ali Sayigh delivered 2 papers entitled “Architecture for

Climate and Locality” and “Solar Buildings” while the paper on “Innovations for the New Millenium House” was delivered by Prof. Soontorn Boonyatikarn of Chulalongkorn University, Thailand. A Malaysian woman architect, Almaz Rahim, presented her work in “Tropical Architecture”. 2 more women architects presented papers at the seminar. “Energy and Traditional Architecture” was delivered by Nila Inangda from University of Malaya and “Sustainable Buildings: Perceptions of Malaysian Architects” by Norhati Ibrahim from Universiti Teknologi MARA. Mr. Abdur Rahman Ebrahim from Leapfrog Technologies in cooperation of Solartube Australia presented a paper on Renewable Energy Applications in Buildings”.

Overall, the seminar was a success and the organizers hope that a series of seminars for women in this important area will be continued to be held and possibly in the future for other women in other parts of the world as ISESCO believes that women play a very important role in sustainable development and have vast potential to create an impact on international issues.

WREN International Seminars in Britain No. 0060 - RENEWABLE ENERGY: Options, Security, Innovation, Industry and Sustainability

18 - 25 October 2003, Old Ship Hotel, Brighton, UK

We are very grateful to the sponsors of the Seminar for their participation and financial support: **The Commonwealth Secretariat; Department of Trade and Industry; The British Council; Future Energy Solutions; Elsevier Science Ltd.; World Renewable Energy Network; Islamic Educational, Scientific and Cultural Organization; Cinergy Renewable Trading; Association of Electricity Producers and National Renewable Energy Laboratory.**

The participants represented: policy makers, government officials, industrialists, researchers, academics, specialists and non-government agents. There were 26 participants representing 18 countries:

Participants

- 1- Dr Donald Swift-Hook - UK
- 2- Dr Abdul Hameed NADA- Morocco
- 3- Mr. Bernard W ZINGANO- Malawi
- 4- Mr. Andre GILLET- Belgium
- 5- Prof Mohd Yusof OTHMAN- Malaysia
- 6- Prof Dr Kamaruzzaman SOPIAN- Malaysia
- 7- Mrs Ati Rosemary Mohd. ARIFFIN- Malaysia
- 8- Dr A - Hamid M MARAFIA- Qatar
- 9- Dr. Gouri DATTA- India
- 10- Dr Mark GILLOTT- UK



Group on the seafront, Brighton

- 11- Dr Rabah BOUKHANOUP- UK
- 12- Mr Mousa KHALILI- Iran
- 13- Ms Edita MILUTIENE - Lithuania
- 14- Mr Paul MAGOHA- Kenya
- 15- Ms. Helianti HILMAN- Indonesia
- 16- Ms. Olivia TANUJAYA – Indonesia
- 17- Mr Ramon D CABAZOR- Philippines
- 18- Mr Reynaldo V LIGANOR- Philippines
- 19- Mr Ahmad Zairin ISMAIL- Malaysia
- 20- Dr Panich PONGPIRODOM- Thailand
- 21- Mr Somkiat SUTIRATANA- Thailand
- 22- Mr Dephon RILEY - Gambia
- 23- Mr Mario FSADNI- Malta
- 24- Dr Dorota CHWIEDUK- Poland
- 25- Dr. Abdullah ALBASSAM- Saudi Arabia

26- Ms Aliya SANUSI - Malaysia

On Saturday following the registration a lecture was given by Dr Martin Liddament on ventilation and air movement in buildings. This was followed by a Reception and Dinner.

On Sunday and Monday there was an intensive programme of fourteen lectures delivered by Prof Marco Sala; Dr Robert Critoph; Prof Phil Eames; Dr Rafal Lewicki; Mr Sharoukh Saba; Mr John

Dr Larry Kazmerski and Mr Andre Gillet during the welcome reception.



Buckley; Dr Larry Kazmerski; Mr Michael Jefferson; Ms Nicola Steen; Prof David Elliott; Dr Tony Day; Dr Dorota Chwieduk and Prof Kamaruzzaman Sopian.

On Tuesday 21 October, a trip was made to Greenwich to visit the Sainsbury Environmental

store which has 40% reduction in energy consumption compared with a conventional supermarket. It uses two wind turbines generating 2.5 kW and photovoltaic panels producing 6.75



Some of the participants during the British Museum visit

kW. The store uses natural daylighting, combined heat and power from the airconditioning units, and 4000 indigenous plants have been planted for recreation park, and free electric car charging as well as selling LPG (liquefied petroleum gas). We then visited the Eco Café in London where 2 kW PV panels are used to power the lighting and IT computers for public use. Both PV systems were designed by Solarcentury.

In the afternoon, we visited the Sustainable Energy Expo 2003 at Olympia. Participants attended a talk by Solarcentury and there was an opportunity to meet and discuss with many of the exhibitors. Later we visited Greater London Authority Building (GLA) near Tower Bridge which is an example of low energy architecture using double skin and utilizes daylighting. The design resembles a Mesopotamian ziggurat. The day finished with a lively dinner with participants joined by DTI group and dined near there.

On the Wednesday another trip was made to London to visit the British Museum and team with DTI during the afternoon to take part in their seminar at Olympia.

On Thursday and Friday, the Seminar continued in Brighton with 13 presentations from: Mr David Porter; Mr Tony Book, Dr Larry Kazmerski; Dr Arthur Williams; Ms Nicole Towler; Mr Martin Alder; Dr Jim Coombs; Prof Michael Hutchins; Dr Keith Richards; Mr David Milborow and Mr Chris Shear.

The speakers for this seminar were from UK, USA, Italy, Belgium, Poland and Malaysia.

Several participants gave presentations during the week: Prof M Y Othman, Dr G Datta, Mrs A R M Arrifin, Mr A Gillet, Ms. H Hilman, Ms. O Tanujaya, Dr P Pongpirodom, Dr M Gillott, Dr

R Boukhanouf and Mr A Z Ismail.

All participants received lecture notes, certificate of attendance and group



Participants in the lecture theatre at the Old Ship Hotel

photographs.

The World Renewable Energy Network is very grateful to all the speakers who very generously gave to the participants their up to date knowledge concerning all aspects of renewable energy, policy, incentives and advice.

Next year the seminar will be held in Brighton 16-23 October, 2004.

Conference on New Materials: Designing for a Sustainable Environment

King's College, University of Cambridge, UK
15-16 September 2003

Eighty participants attended this symposium organised by the Centre of International Studies, University of Cambridge, The Coach House Group (UK) Ltd, and W R E N, at King's College, Cambridge. The conference was opened by Professor Anne Lonsdale, Pro-Vice-Chancellor, University of Cambridge and there were introductory speeches by the organisers: Dr Philip Towle - Centre of International Studies; Mr Martin Alder - Trustee, W R E N; and Group Captain Michael Cunningham OBE - Chairman, Coach House Group, UK.

Over the two days eminent speakers gave presentations on the importance of new materials and their application within the context of a sustainable environment. Prof Paul Ekins - Sustainable development and the role of new materials; Anthony Hoble - The new carbon



markets: carbon incentives for using new materials to design for a sustainable environment; Paul Parker - Providing sustainable solution, collaboration and cooperation; Gerhard Spengler - Practical applications of natural fibre in the automotive industry; Steve Drummond - Valuing reduced greenhouse gas emissions: trade patterns, pricing and example transactions; Stuart Anstee - Biodiversity management as a

tool in progressing sustainable development - a Rio Tinto perspective; David Cook - Sustainable materials - complexity and leadership; Julie Hill MBE - Producer responsibility and beyond; David Saltman - Green building and environmental design: towards a sustainable future; Joachim Lukas - Alternative fuels from natural solutions; Paul Branagan - The role of biodegradable plastics in a sustainable environment; Janine Benyus - Biomimicry: emulating nature's materials and manufacturing strategies; Leo J Heinl - Finance and sustainable projects - a new approach. The issues of legislation and safety were also addressed and featured in the discussions.

Following the success of this conference another conference is planned for September 2004. Contact: Ms Grazia Cioci, The Coach House Group UK Ltd, St Andrew's house, 59 St Andrew's Street, Cambridge CB2 3BZ. Email: gcioci@chcam.co.uk

INTERNATIONAL SYMPOSIUM ON RENEWABLE ENERGY: Environment Protection & Energy Solutions for Sustainable Development

14 - 17 September 2003
Kuala Lumpur, Malaysia

The International Symposium on Renewable Energy was jointly organized by the Malaysian Institute of Energy, Islamic Educational, Scientific and Cultural Organization (ISESCO), World Renewable Energy Network (WREN), Ministry of Education Malaysia, Ministry of Energy, Communication and Multimedia Malaysia and Malaysia Energy Center. Below are the objectives of the symposium:

- Highlighting the role of renewables in meeting the energy demand particularly of developing countries
- Encouraging the effective transfer and efficient

application of economic renewable energy technologies



- Assisting in the promotion of the environmental benefits of renewable energy
- Promoting business opportunities for renewable energy projects and their successful implementation
- Enhancing improved information, knowledge and education on renewable energy
- Providing a technical exhibition where manufacturers, suppliers and others can display their products and services
- Providing a focal point for international networking

103 papers were received which were published in the Proceedings. The most were from Solar thermal applications with a total

of 23 papers, covering a wide range of topics from solar drying, solar air conditioning, solar cooking and solar pumps. The other topics were Photovoltaic Technology (15 papers), Biomass Conversion (15 papers), Hydrogen and Fuel Cells (13 papers) and Related Topics (Energy Management, Economics, Policy and Financing, Sustainable Energy Business Practices, Carbon Tax and Trading, Gender and Poverty Reduction)(16 papers), Low Energy Architecture (9 papers), Wind Energy(6 papers), Solar Materials (2 papers), Climate and the Environment (2 papers) and Hydro Energy (2 papers). They were from participants from 23 countries: Malaysia, Egypt, Bahrain, Saudi Arabia, United States of America, Bangladesh, Thailand, Iraq, Iran, Denmark, India, Lebanon, Singapore, Republic of Armenia, Turkey, Greece, Brunei, Azerbaijan, Russia, Italy, Indonesia, New Zealand and Pakistan. The Keynote papers were presented by national and international distinguished speakers and experts in the field covering topics on the Global Energy Scenario,



His Excellency Dr Sanusi – President of Islamic University in Malaysia, visiting Prof Sayigh during the Symposium.

Renewable Energy in Developing Countries, Climate Change Solutions and the latest Malaysian data and information.

The number of delegates attending the symposium was around 85. Seven keynote papers were presented and 3 parallel sessions were held for the Technical Paper presentations. There were 4 hours for the Keynote papers and 24.75 hours



During the Banquet Prof Sayigh, on his right is the representative of the Minister of Selangor, Dr Billal, Prof Bin Yatim, Prof Abdullah, Mr. Chatuverdi and Prof Sims.

for the Technical papers. There was a reception for the international participants on the eve of the 14th of September and a conference dinner, sponsored by the Selangor State Government was held on the night of the 15th of September. A visit to the Planetarium was also organized for the participants on the 16th of September.

Second Islamic Conference of Ministers of Higher Education & Scientific Research “Renaissance of Science and Technology in the Islamic World”

6-9 September 2003, Tripoli, Libya

This four-day Conference was attended by 52 ministers of higher education and their delegations.



Opening Ceremony of the Conference

After the official opening by the Prime Minister of Libya, the Chairman of First Islamic Conference of Ministers of Higher Education and Scientific research, His Excellency Dr Khalid Al-Ankary – Saudi Minister of Higher Education gave an opening address.

His Excellency Dr Abdulaziz Othman Altwajri – Director General of ISESCO

gave his speech outlining the programme and achievement of ISESCO during the previous two years. He welcomed the participants and thanks the host country Libya and its leader.



His Excellencies: Eng Matouq M Matouq-Libyan Minister; Dr Khalid M Al-Ankary – Saudi Arabian Minister; Dr Abdulaziz O Altwajri- Director General of ISESCO; Dr Ahmed Said Old Bah-Chairman of the Secreriat of the General Conference and Executive Council and Professor Ali M Sayigh-Director General of WREN and Chairman of WREC.

ALESCO Director General then outlined his programme and expressed his appreciation to participate in this important Conference.

Introduced by His Excellency Eng. Matouq Mohammad Matouq, Libyan Minister of Higher Education and Scientific Research, Professor Ali Sayigh, Chairman of WREC and Director General of WREN gave the keynote speech, “Renewable Energy: A Global Scenario”.

The rest of the Conference was devoted to working sessions in which heads of each country delegations and NGOs gave their reports. Among them were the education ministers of Afghanistan, Algeria, Bahrain, Benin, Bosnia, Brunei, Burkina Faso, Egypt, Gabon, Gambia, Jordan, Libya, Mali, Morocco, Niger, Nigeria, Oman, Qatar, Saudi Arabia, Senegal, Somalia, Sudan, Syria, Togo, Uganda, United Arab Emirates and Yemen.

At this Conference it was agreed that ISESCO establish a high level research centre for science and technology in Rabat and also to establish an Ethical Committee to guide member states concerning research and development to avoid conflict with the teaching of Islam.

During the Conference, a trip was made by the Conference delegates to the Libyan Centre for Science and Technology and they attended the opening of the Libyan Science Week.

PVSEC 13

May 12-16, 2003, Osaka, Japan

PVSEC 13 was combined with the American IEEE and EU PV conferences and called 3rd WCPEC Conference. This was a large conference, attended by nearly one thousand and two hundred participants, and ran several parallel oral sessions and posters. The Conference chairman was Professor Kosuke Kurokawa, with Professor Hamakawa as chairman of the International Steering Committee. The meeting ran parallel with a large PV exhibition of nearly 100 exhibitors, mostly from Japan. NREL (USA) put an excellent exhibit on the occasion of the 50th anniversary of Bell Laboratory’s invention of the silicon solar cells.



NREL Exhibit on the Occasion of fiftieth Anniversary of Bell Lab. PV Cell Discovery.

Ten members of WREN attended the Conference and found it a very rewarding event.



Dr W Palz receiving his Bequerel Certificate with Prof Luque and Arup representative.

Professor Ali Sayigh presented an invited paper on World Renewable Energy Progress.

The Bequerel Prize was presented to Dr W



Prof Hamakawa, Dr Ikeda and Canon Director of PV research at a meeting in Osaka.

Palz and he donated his prize to Arup for use in their energy saving building in Tibet. Arup representative received the donation from Dr Paltz in the same Ceremony.

Professor Sayigh had several meetings with Professor Y Hamakawa and Dr M Ikeda Director of JOPRE to discuss the WREC-IX in Japan in 2006. He also held meetings with members of WREN and with Dr Charles Gay previous director of NREL concerning future cooperation with his newly formed company and The World Renewable Energy Congress – VIII in Denver next year.



Dr Chales Gay, previous director of NREL and presently Chairman of Advisory Board of SunPower with their PV Module 20% efficiency.

WIND ENERGY CAPACITY INSTALLED in EUROPE by June 2003 MW

(EWEA Sept. 2003)

Country	Total End 2002	Jan-Jun 2003	Total by Jun 2003	Country	Total End 2002	Jan-Jun 2003	Total by Jun 2003
EUROPEAN UNION				Other European Countries			
Germany	12001	835	12836	Norway	97	3	100
Spain	4830	230	5060	Poland	27	30	57
Denmark	2881	36	2916	Ukraine	46	5	51
Netherlands	678	125	803	Latvia	24	0	24
Italy	788	12	800	Turkey	19	0	19
UK	552	34	586	Czech Republic	7	3	10
Sweden	328	36	364	Russia	7	0	7
Greece	297	57	354	Switzerland	5	0	5
France	148	72	220	Hungary	2	0	2
Austria	139	80	219	Estonia	2	0	2
Portugal	196	21	217	Romania	1	0	1
Ireland	137	0	137	OE - TOTAL	237	41	278
Belgium	44	12	56	Europe's Wind Installed Capacity – June 2003 25,004 MW			
Finland	41	0	41				
Luxembourg	16	0	16				
EU - TOTAL	23076	1550	24626				

US MARKET GROWTH of PHOTOVOLTAIC - MW (1994 – 2002)

(PV – News Vol. 22/No.9, Sept. 2003)

APPLICATION	1994	1995	1996	1997	1998	1999	2000	2001	2002
Grid-connected	1.2	1.5	2.0	2.0	2.2	3.7	5.5	12.0	22.0
Off – grid	3.0	3.5	4.0	4.2	4.5	5.5	6.0	7.0	8.4
Government Projects	0.6	0.8	1.2	1.5	1.5	2.5	2.5	1.0	1.0
Off – grid Industrial/Comm.	3.3	4.0	4.0	4.8	5.2	6.5	7.5	9.0	13.0
Consumer <40 W	1.7	2.0	2.2	2.2	2.4	2.4	2.5	3.0	4.0
Central Station	-	-	-	-	-	-	-	-	-
Total US Installation	9.4	10.8	13.8	14.7	15.8	21.0	24.0	32.0	48.4
Imports						2.0	4.0	5.0	9.0
Exports	16.2	24.0	25.1	36.3	37.9	39.8	55.0	73.3	81.2
TOTAL	25.6	34.8	38.9	51.0	53.7	60.8	75.0	100.3	120.6

WREN PROFILE: Dr. Jim Coombs

In the world of biomass energy there are few who have not heard of, read something by or had contact with Jim Coombs. Since graduating in 1962 with a first class honours degree in Botany (Queen Mary College, London) and gaining his Ph D in the field of Plant Biochemistry (Imperial College, London) Jim has devoted a lifetime of work, research and unbounded enthusiasm to the research, development and communication of biomass energy technology.

In the 60s he followed an academic research path in London and California before joining, in 1968, the Tate and Lyle research group based in Reading where he held several posts concerning Agriculture and Biology and was manager of analytical services before leaving in 1981 to set out as consultant in agricultural and food technology.

During the 80s he was very active in several bio-services and biotechnology companies as well as being founding director, in 1987, of CPL Scientific Limited and its subsidiaries. Since 2001 when CPL ceased trading, he has been director of CPL Scientific Publishing Services



Dr Jim Coombs: B Sc, Ph D, Member of Biochemical Society, Member of WREN.

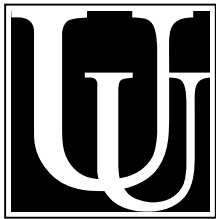
Ltd Group, an independent company.

Jim has always worked closely with the EC with an impressive list of contributions ranging from serving as an EC expert in bioconversion for ten years from 1982. He has contributed to and coordinated many assignments and projects within the EC as well as producing the EC

newsletter for a period, organizing workshops and conferences. He has undertaken economic assessments, edited programme catalogues and written brochures on Renewable Biomaterials.

At the same time his consultancy work has been wide ranging working for UK, Dutch, Norwegian, German, Swedish and Malaysian clients in many fields including fuel cell, landfill gas electricity generation, bioethanol production and fermentation. He has also completed assignments for various UN bodies, in the UK for the DTI, MAFF and local authorities and for international banks. Over the last 30 years he has been concerned with projects and built up considerable expertise in the areas of agriculture, biomass energy and by-products utilization in North and South America, Africa, Asia as well as Europe.

Despite this considerable output he has also found time to act as a consulting editor to the International Biotechnology Directory, founded the International Biomass Journal, served on the editorial board of Renewable Energy Journal, and been a member of WREN since its establishment



Renewable Energy MSc.

Faculty of Engineering
Postgraduate Diploma /
Master of Science
Full-time and part-time

UNIVERSITY OF ULSTER

Further Information and advice can be obtained from the Course Director or the Faculty of Engineering Office:

Dr S. Lo, Course Director MSc Renewable Energy
School of the Built Environment
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E-mail: engineering@ulst.ac.uk
<http://www.engj.ulst.ac.uk/SCOB/renew.html>

in 1992 and was made WREN Pioneer in 1994. Jim has published more than 350 scientific articles. WREN members will be familiar with his face at WREC Congresses, Seminars and Workshops and in particular he has served as chairman of the Biomass Committee for several years. We are pleased to confirm that he continues his association with us and is actively involved in the WREN network.

In short we can say that Jim Coombs has contributed a life long devotion to development and communication of biomass technology.

Calendar Of Events

26-30 January, 2004

PVSEC 14 Bangkok, Thailand. Contact: PVSEC 14 Secretariate, Dept. of Electrical Engineering, Faculty of Engineering, Chulalongkorn University, Phayathai Road, Bangkok 10330, Thailand. Fax: 66 2 251 8991, Email: dusit.k@chula.ac.th

15-20 February, 2004

IRAN/WREN International Symposium: South/South Networking in Renewable Energy (SSNIRE) and THIRD CONFERENCE - Energy and Fuel Conservation in Buildings, Tehran, Iran. Contact: Mr Khalili, No.14 Sayeh Avenue. Vallye Asr Street, P O Box 19395-1477, Tehran, Iran. Email: hamayesh@ieeo.org

Designing buildings for the new Millennium MSc Renewable Energy & Architecture The University of Nottingham

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- Renewable Design Project

Further information contact:

Dr. Mohamed Gadi, School of the Built Environment, University of Nottingham, University Park, Nottingham NG7 2RD, United Kingdom.
Tel: +44 (0)115 951 3118
e-mail: mohamed.gadi@nottingham.ac.uk
www.nottingham.ac.uk/sbe/postgraduate/renewable.htm

8-10 March, 2004

The 8th Arab International Solar Energy Conference and the World Renewable Energy Conference, Bahrain. Contact: Dr A A Al-Karaghoul, Energy Research Centre, Deanship of Scientific Research, University of Bahrain, P O Box 32038, Bahrain. Tel: 00-973-782302, Fax: 00-973-683278, Email: aalkaraghoul@sci.uob.bh

3-7 May, 2004

BRITISH COUNCIL/WREN International Seminar in Britain - 0344, Brighton, UK. NATIONAL ENERGY POLICY: Needs and Necessities, Climate Change, Renewable Energy, Energy Security and Environment. Contact: Mr. Mark Hopkins, Project Director, British Council Seminars, 1 Beaumont Place, Oxford OX1 2PJ, UK. T +44 (0) 1865 302710, F +44 (0) 1865 557368. Mark.hopkins@britishcouncil.org, www.britishcouncil.org/seminars

16-23 October, 2004

WREN International Seminar in Britain No.65: Renewable Energy, Energy Policy, Security and Industrial development. Brighton, UK. Contact: Prof Ali Sayigh, WREN, P O Box 362, Brighton BN2 1YH, UK, Tel: +44(0)1273-625-643, Fax: +44(0)1273-625-768, E-mail: asayigh@netcomuk.co.uk, Website: <http://www.wrenuk.co.uk>

28 August-3 September, 2004

World Renewable Energy Congress VIII & Expo, Denver, Colorado, USA, Denver Marriott City Center Hotel. For Details please contact: Anna Talamantez, National Renewable Energy Laboratory (NREL)1617 Cole Boulevard, Golden, CO 80401- 3393, USA. Tel: 303-275-3668, Fax: 303-275-3097, Email: anna_talamantez@nrel.gov, or Prof Ali Sayigh, WREN, P O Box 362, Brighton BN2 1YH, UK, Tel: +44(0)1273- 625-643, Fax: +44(0)1273-625-768, E-mail: asayigh@netcomuk.co.uk, Website: <http://www.wrenuk.co.uk> or wrec@nrel.gov

22-27, May 2005

World Renewable Energy Congress - Innovation in Europe (Regional Meeting), Aberdeen, Scotland. Exhibition and Conference Centre, Aberdeen, Scotland, UK. Contact: Dr M S Imbabi, Chairman of the Organizing committee, School of Engineering & Physical Sciences, The University of Aberdeen, King's College Aberdeen AB24 3UE, Scotland, United Kingdom. Tel. +44(0)1224 272506, Fax. +44(0)1224 272497, E-mail: m.s.imbabi@abdn.ac.uk

BIOENERGY OPTIONS FOR A CLEANER ENVIRONMENT:

IN DEVELOPED AND DEVELOPING COUNTRIES

Edited by: **Ralph E.H. Sims**
Foreword by: **Ali Sayigh**

First conceived at a World Renewable Energy Congress in Kuala Lumpur, this broad-ranging book outlines the biomass resource and its delivery. Chapters written by a panel of international experts describe the range of conversion technologies both commercially available and under development and explore the technical, environmental and socio-economic barriers and benefits of using biomass in both developed and developing countries.

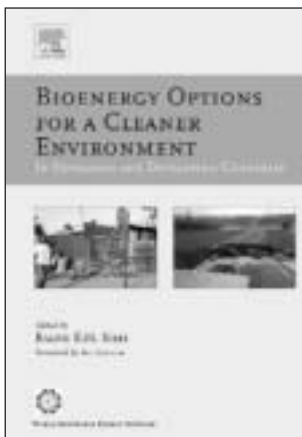
Bioenergy Options for a Cleaner Environment provides a useful range of perspectives to all those working with or interested in the bioenergy sector in both developed and developing countries, including academics and researchers, as well as planners, policy makers, developers, aid agencies and those involved in forestry and agriculture.

CONTENTS:

Biomass and Resources, Ralph E H Sims and Nasir El Bassam;
Delivering the Biomass to the Conversion Plant, Ralph E H Sims;
Heat, Power and Combined Heat and Power, Ralph P Overend;
Liquid and Gaseous Biomass Fuels, Koon Ong Lim and Ralph E H Sims;
Policy options and strategies for market development of biomass: an Asian-Pacific perspective, Kyi Lwin;
Biomass - The fuel of the rural poor in developing countries, Pradeep Chaturvedi

The book was conceived and the foreword written by **Ali Sayigh**, Director-General of the World Renewable Energy Network and Editor-in-Chief of the journal *Renewable Energy*.

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- ISBN: 0 08 0443516
- Pages: 196
- Price: \$99.00/EUR99.00
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- Year: Nov 2003

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OFFER EXPIRES 15TH DECEMBER 2003