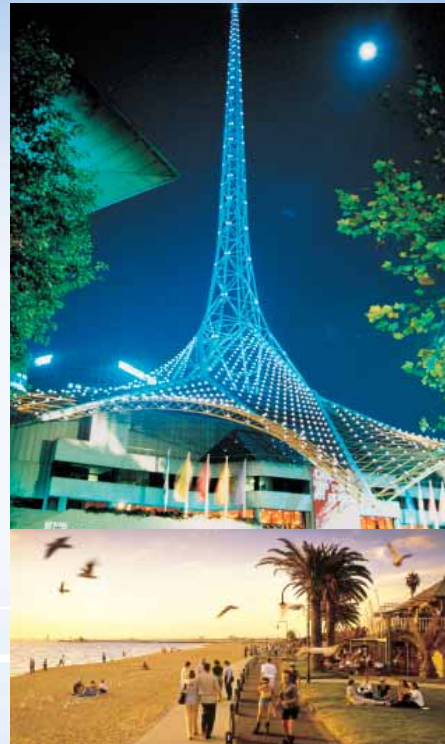


4th World Wind Energy Conference & Renewable Energy Exhibition 2005

2-5 November 2005 Melbourne Australia
Melbourne Exhibition & Convention Centre
www.wwec2005.com



Invitation to attend

At a time of continuing record growth for the wind industry, I invite you to the World Wind Energy Conference 2005 to be informed on the latest policies and industry development issues in Australia, the Asia-Pacific region and the world.

Rapid growth in the wind sector exists with 50 GW of wind power installations to be tapped in 2005, but what are the environmental, technological and scientific frontiers to be challenged? Water and renewable energy technologies are integrally linked and essential to delivering the World Summit on Sustainable Development implementation plan and Millennium Development Goals – what are the developments in wind and desalination, what are the opportunities in Australia and other island economies? What will the wind industry contribute to increase development opportunities and thus foster economic wealth in the developing countries by making energy available? As we will face emerging global credit markets for greenhouse gas emission offsets – how does this influence our industry? What will the wind industry contribute to Kyoto targets and markets? It is an essential time for our industry.

Water and energy supply will require in many parts of the world increasing renewable energy portfolios – we await the convergence of state, national and international policies to achieve standardisation and full market penetration of our renewable energy technologies.

Australia, like many countries, has seen significant growth in renewable energy in recent years and is richly endowed with mostly untapped renewable energy resources. The World Wind Energy Conference 2005 will provide information on the latest industry developments, all in Australia's premier location and venue – the Melbourne Exhibition & Convention Centre.

The conference will incorporate an international exhibition on wind energy facilities and application technologies of the global wind development leaders.

Please accept my invitation on behalf of the World Wind Energy Association and Renewable Energy Generators of Australia to attend what will be a comprehensive and enjoyable event. We look forward to meeting you there.

Kind regards

Dr. Preben Maegaard
President, World Wind Energy Association

The Hon. Peter Rae AO
Vice President WWEA
Chairman, Renewable Energy Generators Australia

Dr. Anil Kane
Vice President WWEA
Chairman, Indian Wind Energy Association

Who Will Attend?

We anticipate more than 400 delegates from Australia and overseas will be the major participants of the Conference.

Delegates from previous World Wind Energy Conferences continue to return to access the critical policy analyses, combined with the sharing of ideas and development of significant business opportunities. With multiple disciplines canvassed at WWECs all groups with an interest in sustainable development are catered for – the scientific and political, engineering and economic, community and industry, developed and developing. In the WWEC tradition, financiers and developers converge to continue a lead role for wind technologies in delivering on the sustainable development agenda.

What will I see?

Industry suppliers and organisations available at the onsite trade exhibition to offer advice and showcase the latest industry advancements.



Deutsche Messe AG
Hannover



Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit



ISES



WCRE
World Council for Renewable Energy



United Nations Educational, Scientific and Cultural Organization



Australian Government

Working Program

WEDNESDAY 2 NOVEMBER 2005

0900 – 1730 PLENARY SESSIONS ALL DAY
SPEAKERS AND TOPICS TO BE ADVISED

THURSDAY 3 NOVEMBER 2005

0900 – 1030 PLENARY SESSION
SPEAKERS AND TOPICS TO BE ADVISED

1030 – 1100 MORNING TEA – TRADE EXHIBITION HALL

1100 – 1220	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5
	Legal issues and economics	Grid integration	Continental perspectives and achievements	Technology: state of art	Technology overviews
1100	Louis Chiam	Eduardo Luiz Piheiro Universidade Federal De Minas Gerais, Brasil	Ali Mostafaeipour Yazd University, Iran	Xing Zuoxia Shenyang University Of Technology, China	Yoonsu Nam Kangwon National University, Korea
	The basics of REC contracting and the benefits of international standardisation	A frequency domain of flicker on variable speed wind turbines	Development of wind turbine in Iran	Maximum power tracking control based on Ann parameters identification in PM generator wind turbine control system	Strain gauge circuit calibration for a 750kW geared type hyosung wind turbine
1120	TBA	Grigroy Dmitriev Kola Science Center Russian Academy of Sciences, Russia	Khalid Benhamou Sahara Wind Inc., Morocco	Frans Brughuis Advanced Tower Systems Bv, The Netherlands	Andreas Anders Germanischer Lloyd Windenergie, Germany
	Carbon contracts – a practical guide to structuring transactions	Possible approaches in defining of windparcs impact on the regime of power system	The effects of scale: setting the framework for the Sahara wind energy development project	Large wind turbines: how high can you go?	Type and project certification for wind turbines
1140	Edward Kerr	Genevieve Coath University of Melbourne, Australia	Benjamin Jargstorf Factor 4 Energy Projects GmbH, Germany	Uwe Ritschel Windrad Engineering GmbH, Germany	Xinjia Yao Shenyang University of Technology, China
	The role of derivatives in emissions trading	Reactive power and voltage control of large-scale wind power generation interconnected to the power grid	Key elements of a wind energy development strategy for Africa and other developing economies	Systematic modelling of wind turbine dynamics and earthquake loads on wind turbine tower and foundation	Simulation of direct torque control system of doubly-fed wound-rotor wind turbine generator
1200	Chris Tung	Declan Pritchard Wind Hydrogen Ltd, United Kingdom	Ali Hamzeh Damascus University, Syria	Xing Zuoxia Shenyang University Of Technology, China	Speakers and Topics to be advised
	Latest developments in carbon finance and the implications for the structuring and bankability of wind farm projects in developing countries	Wind energy and the role of hydrogen balancing	The Syrian National Program for integrating wind generation into the grid with emphasis on system studies using the siemens simulation program NETOMAC	The offshore wind turbine design considerations against the bad environment	
1220	Aldo Iacomelli Pisa University And Ises Italia, Italy	Hassan El-Lamaly Faculty Of Engineering, Egypt	Heinrich Bartelt Generalwind GmbH Germany	Speakers and Topics to be advised	
	Sustainable economy for sustainable energy: how the Kyoto Protocol and the CERs trading could help wind sector (SExSE)	Study the operation of wind/photovoltaic electrical system interconnected with electrical utility grid	Factors of successful developing and operating wind energy farms		
1240	MMA Representative	Erico Spinadel Aae – Argentine Wind Energy Association, Argentina	Speakers and Topics to be advised		
	TBA	Developing a clean electrical matrix			
1300 – 1400	LUNCH – TRADE EXHIBITION HALL				
1400 – 1520	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5
	Legal issues and economics	National/International programs	Advanced research and developments	Community: education and training	Technology: emerging concepts and trends
1400	TBA	Choong Won, Cho Doosan Heavy Industries and Construction, Korea	Yusup Kamalov Uzbekistan Academy Of Sciences, Uzbekistan	Kenshi Baba Central Research Institute Of Electric Power Industry, Japan	Amir Mikhail Clipper Windpower Technology, Inc., USA
	Introduction to EPC contracting in wind farms	Status of wind power development and government policy in Korea	A new approach to reduce the cost of horizontal axis wind turbines	Understanding public concerns and expectations regarding wind farms: implications from a public opinion survey in host communities of Japan	The clipper liberty series

THURSDAY 3 NOVEMBER 2005

1400 – 1520	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5
	Legal issues and economics	National/International programs	Advanced research and developments	Community: education and training	Technology: emerging concepts and trends
1420	Mark Safty Holland and Hart LLP, USA	Chowdhury Mohammad Farouque Institute For Environment And Development Studies, Bangladesh	Kleber Silva Usp – Universidade De Sao Paulo, Brazil	Conrado Moreno Ceter-Cujae, Cuba	Jennifer Rollo The University Of Sydney, Australia
	Negotiation, drafting, interpretation and enforcement of turbine and balance of plant warranty agreements	Wind energy: national program in Bangladesh	The application of digital controllers in wind farms with doubly fed induction generator with voltage sags reduction	The strategy for the future development of the technical university for renewable energy, UTER	Experimental and numerical analysis of the revolutionary New Axtra® wind turbine
1440	Jonathan Harrison Minter Ellison Lawyers, Australia	Cornelia Viertel Ministry For Environment, Nature Conservation And Nuclear Safety Of Germany, Germany	Shan Guangkun Shenyang University Of Technology, China	Bertil Brännbacka University Of Vaasa, Finland	Bas Lansdorp Delft University Of Technology, The Netherlands
	Negotiation and documentation of wind projects: finalising the deal faster	German policies on offshore wind energy	Rapid development of wind energy technology	The first experiences of windside-type wind turbine at the university of vaasa	Design of a 100 mw laddermill for wind energy generation from 5km altitude
1500	Stephen Davis	Speakers and Topics to be advised	Grigory Dmitriev Kola Science Center Of Russian Academy Of Sciences, Russia	Hermann Oelsner African Wind Energy Association South Africa	Jeroen Breukels Asset, Tu Delft, The Netherlands
	Backlash: legal and non-legal techniques for preventing and mitigating community concern about wind farm developments		Wind power development under polar climate conditions	Darling sees renewable energy centre	Tethered wing design for the laddermill project
1520 – 1600	AFTERNOON TEA – TRADE EXHIBITION HALL				
1600 – 1730	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5
	National/International programs	Grid integration	World-wide policy frameworks	Continental perspectives and achievements	Technology: emerging concepts and trends
1600	Youssef Arfaoui African Development Bank, Tunisia	Nikantha Katekar Suzlon Energy Ltd, India	Monique Willis Baker and McKenzie, Australia	Gregor Czisch Institute For Electrical Engineering – Efficient Energy Conversion, Germany	Xinjia Yao Shenyang University of Technology, China
	Developing wind energy in Africa: constraints on opportunities	Grid integration: constraints, challenges and strategies	Global trends in renewable energy regulation	Energy towers as an interesting technology for a future electricity supply from renewable energies	One mega-watt variable speed and constant frequency wind turbine
1620	Burnet Mkandawire University Of Malawi, Malawi	Angelina Galiteva WCRE, USA	Ole Langniss Centre For Solar Energy And Hydrogen Research Baden-Württemberg (Zsw), Germany	Seiichi Ariga The University Of Tokyo, Japan	Izumi Ushiyama Ashikaga Institute Of Technology, Japan
	Windmill technology overview in sub-Saharan Africa	Integration of intermittent Renewable Energy (RE) Sources into the electricity grid: focus on Germany	Research and development on wind power: an international comparison	Development of CFD wind simulation and visual evaluation system for off-shore wind turbines in tokyo bay	Development of the fujin-style novel ducted type wind turbine
1640	Andrew Scanlon Hydro Tasmania, Australia	Kenneth Westrick 3tier Group Inc, USA	Pengfei Shi Hydropower Planning General Institute, China	Vincenzo Bellini Ocean Power Delivery, South Africa	Ying Deng Shenyang University Of Technology, China
	The World Wind Energy Association sustainability and due diligence guidelines	Improving wind integration through wind energy forecasting	A new wind power feed-in tariff mechanism proposed for implementing renewable energy law in China	Pelamis: wave energy converter	One mega-watt variable speed and constant frequency wind turbine
1700	Speakers and Topics to be advised	Karolien Verhaegen Kuleuven, Belgium	Speakers and Topics to be advised	Speakers and Topics to be advised	Andre Kaufung Senior Berghöfer GmbH Germany
		Balancing across control zones			Quality improvements in wind energy plants by metal hose solutions
1900 – 2400	CONFERENCE DINNER – CROWN PALLADIUM				

0900 – 1030						
PLENARY SESSION SPEAKERS AND TOPICS TO BE ADVISED						
1030 – 1100						
MORNING TEA – TRADE EXHIBITION HALL						
1100 – 1220	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5	CONCURRENT 6
	National/ International Programs	Environmental	Advanced research and developments	Technology: emerging concepts and trends	System analysis	AusAID-Inwent- Workshop
1100	Usha K Rao UNDP, India	Joseph Mulindwa Ugandaenvironmental Education Foundation, Uganda	Matthew Bechly Garrad Hassan Pacific Pty Ltd, Australia	Gennady Dubinin Private Scientific, Tecnical, Methodical And Healthing Centre, Ukraine	Li Wenyi Mongolia University Of Technology, China	Speakers and Topics to be advised
	Diffusion of wind energy technologies in India	Environmental action planning, a prerequisite for sustainable development	Forecasting wind energy: experience and lessons from Europe and the US	Mathematical modelling and improvement of technical and economic characteristics	Operating strategy evaluation of integrated wind/ diesel systems in terms of reliability and fuel saving	
1120	Anoop Kumar Ongc, India	Eiji Naruse Coastal Development Institute Of Technology, Japan	Gil Lizcano University College London, UK	Jami Hossain Indian Wind Energy Association, India	Sakhi Bhutta Alternative Energy Development Board, Pakistan	
	An info-toolkit for setting up wind power business in India	Evaluation on the influence that offshore wind; power generation facilities give to underwater creatures: an example in Setana Port	Wind power forecasting system for nordeste region of Brazil: high resolution dynamic downscaling analyses	Technology linked improvements in site rankings in India	R, D&D of renewable energy technologies in Pakistan	
1140	Nasim A. Khan Alternative Energy Development Board, Pakistan	Cindy Hull Hydro Tasmania Consulting, Australia	Kilian Hagemann University Of Cape Town, South Africa	Balakrishna Singam Curtin University Of Technology, Malaysia	Markus Pöller Digsilent Gmbh, Germany	
	National wind energy development program	Estimating the risk of a wind farm to an endangered species	Time-dependent synoptic scale wind resource assessment of South Africa	Assessing anti- islanding schemes	Assessment of potential security risks due to high levels of wind generation in South Australia	
1200	Muhammad Ashraf Comsats Institute Of Information Technology, Pakistan	Asa Elmqvist Swedish Defence Research Agency, Sweden	Ying Deng Shenyang University Of Technology, China	Friedrich Klinger University Of Applied Sciences Saarbruecken, Germany	Ali Nowrouzi Suna-Ministry Of Energy, Iran	
	Renewable energy technology in Pakistan: prospects and challenges	Vindval -the Swedish programme for research on the environmental impact from wind power	The hydraulic variable-pitch server system of the self- adaptive PID controller	A novel yawing system for offshore wind turbines	Risk assessment and reliability analysis of 600kw wind turbine	
1220	Kim li Bong Piintec	Choong Yul Son Inha Univ. Department Of Naval Architecture and Ocean Korea	Ahmed Qenawy Cairo University, Faculty Of Engineering, Egypt	Sheng-Nian Yeh National Taiwan University Of Science And Technology Republic of China	Dora Yen-Nakafuji California Energy Commission, USA	
	The survey and the domestic plan on the wind energy development and utilization in DPRK	An experimental study on the vibration of complex tower in contact with water	Evaluation and performance study of solar-powered triple-fluid einstein refrigeration cycle	Development of single-phase power converters for wind power systems with permanent- magnet synchronous generators	Strategic value analysis: a 'game plan' for wind resource planning in California	
1240	Richard Finlay-Jones Energreen Wind, Australia	Speakers and Topics to be advised	Jonathan Whale Reslab, Australia	Speakers and Topics to be advised	Shafiqur Rehman Research Institute, Saudia Arabia	
	Development risks unique to Australia		The ResLab small wind program			
1300 – 1400						
LUNCH – TRADE EXHIBITION HALL						

1400 – 1530	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5	CONCURRENT 6
	Grid integration	Advanced research and developments	Finance	National/ International programs	Technology: emerging concepts and trends	Ausaid-inwent-workshop
1400	Jarle Eek Norwegian University Of Science And Technology, Norway	Cameron Potter University Of Tasmania, Australia	Alexander Boensch Enertrag Structured Finance, Germany	Benjamin Jargstorf Factor 4 Energy Projects Gmbh, Germany	Jörn Edzards Hanning and Kahl Gmbh and Co Kg, Germany	Speakers and Topics to be advised
	Models of wind turbine generators with ridethrough capability for power system stability analysis	Evaluating the use of power data inputs against wind data inputs for short-term wind power forecasting	Decision making under risk in the wind industry: a simple monte-carlo-dcf-approach for project evaluation	High wind resources and high penetration; an overview of 20 years of wind energy activities at the Azores Archipelago, Portugal	Mechanical brakes for wind turbines today and tomorrow	
1420	Cristine Finzi-Quintao UFMG, Brazil	Andrew Sturman University Of Canterbury, New Zealand	Wolfram Erhardt Kfw IpeX-Bank, Germany	Gunnar Grusell The Swedish Wind Energy Association, Sweden	Katrina Swalwell Hydro Tasmania, Australia	
	Spatiotemporal models in wind farm grids	Developments in the analysis and forecasting of the wind energy resource in New Zealand	Minimizing lending risks in international wind power projects: local currency financing in emerging markets	Wind energy and the change over to renewable energy system in Sweden	Effect of turbulence on stall of wind turbine aerofoil sections	
1440	Xing Zuoxia Shenyang University Of Technology, China	Izumi Ushiyama Ashikaga Institute Of Technology, Japan	Felix Hulsch Enertrag, Germany	Hartwig Dobesch Central Inst.F.Meteorology&Geodynamics, The Netherlands	Xing Zuoxia Shenyang University Of Technology, China	
	The operating electrical characters of doubly-fed variable speed wind turbine integrated with infinite grid	Demonstrative study of triple-hybrid renewable energy generation system	Risk diversification in wind farm portfolios	Design of a regional development plan to simplify planning and authority's permission to erect wind power plants in Austria	Sercos industrial bus in single wind turbine control and multi wind turbine control	
1500 – 1530	AFTERNOON TEA – TRADE EXHIBITION HALL					
1530 – 1620	CONCURRENT 1	CONCURRENT 2	CONCURRENT 3	CONCURRENT 4	CONCURRENT 5	CONCURRENT 6
	Continental perspectives and achievements	Grid integration	Advanced research and developments	Finance	Technology: emerging concepts and trends	Ausaid-inwent-workshop
1530	Gabriel Eweje Massey University, New Zealand	Giuseppe Di Marzio University, Ntnu Trondheim, Norway	Yasuda You Kansai University, Japan	Edwin Feo Milbank, Tweed, Hadley and Mccloy Llp, USA	Yoshinori Shimizu Kochi University Of Technology, Japan	Speakers and Topics to be advised
	Drivers responsible for the recent dynamics of wind energy development in New Zealand	A proposed model for stability assessment of electrical power system with large scale wind power integration	Novel lightning protection system for wind turbine using ring-shaped electrodes	The emergence of international standards for the financing of renewable energy projects	Disaster information system using self-powered street lights with renewable energy	
1550	Dennis Inyang-Mbekwe Network For Peace And Development Neped, Nigeria	Markus Pöller Digsilent Gmbh, Germany	Ryuji Iwashita Kyushu University, Japan	Irfan Mirza Alternative Energy Development Board, Pakistan	Shahzad Anwar Yousafzai Gik Institute, Pakistan	
	Finance, community education and training a tool for spreading Wind Energy Conversion WEC technology	Impact of wind generation on power system stability	The effect of lightning tower built for lightning attraction separately from wind turbine	Wind energy development: contractual issues	Photo-voltaic tracking system	
1600	Gregor Czisch Institute For Electrical Engineering: Efficient Energy Conversion, Germany	Cornelia Viertl Ministry For Environment, Nature Conservation And Nuclear Safety Of Germany, Germany	Boris Efimov Kola Science Center Russian Academy Of Sciences, Russia	Pail Van Lieshout Sinclair Knight Merz, UK	Silke Schwartz, Germanischer Lloyd Windenergie, Germany	
	Low cost renewable electricity supply within a spatially extensive system: a european/ transeuropean example	Grid-integration of offshore wind energy	The problems of windparks lightning protection for the regions with high specific resistance of soil	Improved annual energy production calculations	Determination of actual fatigue loading on wind turbines based on neural networks	
1630 – 1730	CLOSING PLENARY SESSION SPEAKERS AND TOPICS TO BE ADVISED					

Invited speakers

Dr Franz Alt

Journalist, Germany

Dr Osman Benchikh

Responsible Renewable Energy, UNESCO

Hon Steve Bracks

Premier of Victoria, Australia

Mr Aaron Brickman

Principal Industry Rep, US Department of Commerce, USA

Dr David Brockway

Chief, CSIRO Energy Technology, Australia

Hon Ian Campbell

Minister for the Environment and Heritage, Australia

Ms Larisa Dobriansky

Deputy Assistant Secretary, US Department of Energy, USA

Prof Peter Droege

World Council for Renewable Energy (Asia Pacific), Australia

Mr Michael T Eckhardt

President, American Council of Renewable Energy, USA

Hon Bryan Green

Minister for the Environment and Heritage, Australia

Mr Shahid Hamid

Chairman, Alternative Energy Development Board, Pakistan

Mr Rainer Hinrichs-Rahlwes

Director, German Ministry for the Environment

Prof Dieter Holm

Secretary, International Solar Energy Society

Dr Anil Kane

International Chairman, WWEC 2005

H.E. Mr Alpha Oumar Konaré

Chairperson of the Commission of the African Union

Dr Preben Maegaard

President, World Wind Energy Association

Prof Niels I. Meyer

Technical University of Denmark, Denmark

Hon Minister Shri Vilas Muttemwar

Indian Minister for Non-conventional Energy Sources, MNES, India

Dr Monica Oliphant

Vice President, ISES

Mr Frank Allan Olsen

Danish DONG, Denmark

Prof Shi Pengfei

Vice Chairman, Chinese Wind Energy Association

Dr Antonio Pfluger

Head of Energy Collaboration Division, International Energy Agency, France

Hon Peter Rae

Vice President, World Wind Energy Association Australia

Mr Silke Schwartz

Germanischer Lloyd Windenergie, Germany

Dr Hermann Scheer

General Chairman, WCRE, Germany

Mr Rick Sellers

Head Renewable Energy Unit, IEA

Prof Peteris Shipkovs

Head of Energy Resources Laboratory, Institute of Physical Energetics, Latvian Academy of Sciences, Latvia

Ms Karen Kraft Sloan

Canadian Ambassador for the Environment

Mr Jürgen Trittin

German Minister for Environment, Germany

Ms Cornelia Viertl

German Ministry for the Environment, Germany

Mr Michael Walsh

Editor, Ethical Investor, Australia



Social Program

What else can I do?

Join in the fun filled social program allowing you to network, greet old friends and enjoy the highlights of being in Melbourne during Spring. Kick your heels up at the:

► **WELCOME RECEPTION & CONFERENCE OPENING**

To be held at the conclusion of the first Conference day, the evening promises to be filled with plenty of enliven discussion over nibbles and drinks after an innovative day of programming. Be in the mix at the Welcome Reception at the Melbourne Exhibition and Convention Centre, Wednesday, 2 November, 1800–1930. (Inclusive event in cost of registration, additional tickets \$60.00 per person.)

► **GALA DINNER**

Don't miss this evening of sophistication in the ballroom of the Crown Palladium, a night of high spirits and fine epicure on Thursday 3 November, 1900–late. (Inclusive event in cost of registration, additional tickets \$120.00 per person)

How do I register?

Make sure you register now for the consummate experience of the 4th World Wind Energy Conference and Renewable Energy Exhibition, 2005. Register online or download a registration form from www.wwec2005.com

Conference Fees

(inclusive of GST and in Australian Dollars)

REGISTRATION TYPE	EARLY BIRD (paid by 3 October 2005)	REGULAR (paid after 3 October 2005)	ONSITE (paid after 2 November 2005)
Member	A\$1100	A\$1300	A\$1400
Non-Member	A\$1300	A\$1500	A\$1600
Student Registration	A\$400	A\$400	A\$500
Speaker Registration	A\$770	A\$770	NA
Day Registration Member	A\$660	A\$660	A\$760

Who is a Member?

Members of the WWEA, REGA, AIE, ISES, IHA and AUSWEA are eligible for the member rate.

Your membership number will have to be provided on the registration form.

Conference Office – The Meeting Planners

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