



SOLAR 2004

30 NOVEMBER -
3 DECEMBER 2004

MURDOCH UNIVERSITY
WESTERN AUSTRALIA



LIFE, THE
UNIVERSE &
RENEWABLES

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Published November 2004
by the
Australian & New Zealand Solar Energy Society (ANZSES)

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ISBN 0 9750650 2 5

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Australian & New Zealand Solar Energy Society (ANZSES)

WEDNESDAY 1 DECEMBER 2004

9.00am OPENING SESSION

PLENARY ADDRESS

Transitioning to a Renewable Energy Future

Yogi Goswami

ISES President

11.00am PARALLEL SESSIONS

SOLAR THERMAL

Y.C. Soo Too

*Vertical Mantle Heat Exchangers
for Solar Water Heaters*

Michael Krause

*Potential for Cost Reduction due to
System Optimization*

Steve Lucks

*The Solar Salt Heat Gradient
Pond with Biomass for Ethanol
Production for a Means to
Remediate Salt-Affected
Agriculture Land*

Shahab Alizadeh

*A Study into the Potential of
Using Liquid Desiccant Solar Air-
Conditioner with Gas Backup in
Brisbane - Queensland*

Ken Guthrie

*IEA Solar Heating & Cooling
Program Update*

DEVELOPING COUNTRIES

Richard Corkish

*Small Photovoltaic Systems in
Rural Nicaragua*

Chem Nayar

*Marketing Solar PV based
Technologies to Developing
Countries*

Alistair Sproul

*Student Installation of a PV
Lighting System in a Rural Health
Clinic*

Worawit Tayati

*Planning of Sustainable Renewable
Energy System for Remote Village
Electrification*

Laurence Dickie

*Finance for Photovoltaics: Lessons
from India*

RESOURCES

John Boland

*Quality Control of Climate
Data Sets*

Eric Hu

*Solar Powered Colour Removal
of Dyes Using Ferrioxalate/
H₂O₂*

Trevor Lee

The Australian Solar Resource

Greg Burgess

*Feasibility Study of Large Scale
Photosynthetic Biohydrogen
Production*

John Cornish

*Electricity Production from
Biomass*

*Papers which appear in **bold** have been reviewed by peers within the renewable energy community
prior to the commencement of the conference*

WEDNESDAY 1 DECEMBER CONT...

2.00pm

PARALLEL SESSIONS

DEVELOPING COUNTRIES

Wahidul Biswas

Bangladesh's Energy Sector: The Past, Present and Future of Renewable Energy Technologies

Jeff Fang

Sustainable Energy Services Delivery in East Timor

Worawit Tayati

Overcoming Barriers to Power Purchasing from Very Small Renewable Energy Producers

Lu Aye / Bob Fuller

Thermal Evaluation of a Low Cost Wood Burner

WIND

Daniel Maunsell

Wind Resource Assessment of a Site in Western Australia

Paul Cooper

Development and Analysis of a Novel Vertical Axis Wind Turbine

Chem Nayar

An IGBT Inverter for Interfacing Small Scale Wind Generators to Single Phase Distributed Power Generation System

4.00pm

PLENARY SESSION

Dr Art's Guide to Planet Earth

Dr Art Sussman

WestEd

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THURSDAY 2 DECEMBER

9.00am **PLENARY SESSION - TECHNOLOGIES & APPLICATIONS**

Which battery is best?

Heinz Wenzl

EU Battery Benchmarking Project

Competitive Solar Electricity

David Mills

Solar Heat and Power Pty Ltd

11.00am **PARALLEL SESSIONS**

POLICY

Philip Jennings

A Retrospective View of ACRE

Vikki McLeod

*Barriers and opportunities for
renewable energy development in
Victoria*

Richard Corkish

*Renewable fossil fuels?
Corruption of our language*

Muriel Watt

*Analyses of Photovoltaic System
Output, Temperature, Electricity
Loads and National Electricity
Market Prices – Summer 2003-
04*

Janet Henriksen

*Is Residential Development
Sustainable if it doesn't have a
Solar Hot Water Heater?*

PHOTOVOLTAICS

Andrew Blakers

Sliver Solar Cells and Modules

Jonathon Mitchell

*Surface Passivation of n- and p-
type Crystalline Silicon Wafers by
Amorphous Silicon Films*

Jason Tan

*Emitter Passivation and Bulk
Hydrogenation Properties of
Industrially Deposited Remote
PECVD SiN on Si Solar Cells*

BUILDINGS

Martin Anda

*Measuring the Performance of
Solar Architecture for Peri-Urban
Villages*

Trevor Lee

*Active Solar Space Heating for a
Cool Temperate Climate: A Case
Study*

Anna Werner

*External Water Condensation
on Energy Efficient Windows – a
Literature Study*

Chris Barker

*Energy Efficiency Planning Model
for Remote Area Ecotourism
Facilities on the Coral Coast of
Western Australia*

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THURSDAY 2 DECEMBER CONT...

2.00pm

PARALLEL SESSIONS

POLICY

Alison Sutherland
*Developments in the Australian
Photovoltaics Industry*

Bryce Richards
*Use of the Energy Yield Ratio as
a Means of Dispelling one Myth
of Photovoltaics*

Evan Gray
*Increased quality and acceptance
of Remote Area Power Supply
Systems in Western Australia*

Ken Guthrie
*International Solar Water Heater
Markets and Support mechanisms*

PHOTOVOLTAICS

Anita Ho
*Buried Contact Solar Cells with
Pinhole Size Rear Contacts*

Kaz Luczak
*Recovery of Light Induced
Degradation in Amorphous Silicon
Solar Modules*

Anna Royne
*Experimental Study of a Jet
Impingement Device for Cooling
of Photovoltaic Cells Under High
Concentration*

Federico Recart
*Extraction of the Base Doping of
Solar Cells from the Quasi-Steady-
State Measurement of the Junction
Capacitance*

SOLAR HOUSE DAY

*Solar House Day Planning
Meeting*

4.00pm

PLENARY SESSION - OUR HISTORY AND THE FUTURE

The History of ANZSES
Garry Baverstock
Solat-e.com

A Clean Energy Future for Australia
Mark Diesendorf
Institute of Environmental Studies
University of New South Wales

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FRIDAY 3 DECEMBER

9.00am **PLENARY SESSION - CELEBRATING THE YEAR OF THE BUILT ENVIRONMENT**

YBE - The Year of What Sort of Environment?

Mahalath Halperin

ANZSES Chair & Mahalath Halperin Architects

Sunlight is Life!

Steven Strong

Solar Design Associates

11.00am **PARALLEL SESSIONS**

BUILDINGS

Bob Fuller

The Influence of Housing Size, Style and Location on Energy and Greenhouse Gas Emissions

Trevor Lee

Audit of and Changes to Mandatory Disclosure of House Energy Rating in the Australian Capital Territory

Garry James

Thermal Performance of the Solar Passive Design Subiaco Sustainable House

P. Taylor / Bob Fuller

Validated Model and Study of a Rammed Earth Wall Building

Wasim Saman / Michael Krause

Solar Cooling Technologies: Current Status and Recent Developments

SYSTEMS

Kame Khouzam

Optimisation Aspects In Photovoltaic Electro-Chlorination Systems

Henrik Bindner

IPSYS - A tool for performance assessment and supervisory controller development of integrated power systems with distributed renewable energy

Rudi Kaiser

An introduction of the Fraunhofer Institute for Solar Energy Systems

Anna Carr

Battery Testing at ResLab

Bill Lawrence

Promoting Grid Connected PV Systems in Western Australia

SOLAR THERMAL

John Pye

Steam-circuit Model for the Compact Linear Fresnel Reflector Prototype

Sawat Paitoonsurikarn (Keith Lovegrove / Greg Burgess)

Estimation of Convection Loss from Paraboloidal Dish Cavity Receivers

P Siangsukone (Greg Burgess / Keith Lovegrove)

Full Moon Flux Mapping the 400m² "Big Dish" at the Australian National University

David Mills

First results from compact linear fresnel reflector installation

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FRIDAY 3 DECEMBER CONT...

2.00pm

PARALLEL SESSIONS

BUILDINGS

Anna Werner
*Window Aspects of Low Energy
Housing – The Lindås Case*

Silkie Krawietz
*The Climatic Influence on
Architecture - Vision for the
Future*

Pat Howden
*The Emerging Sustainable Home
Engineering*

Garry Baverstock
*Sustainable Architecture
- A collaborative MSc in
Environmental Architecture*

SYSTEMS

Phillip Knipe
*Electromagnetic Radiation
Emissions from RAPS Equipment*

Chem Nayar
*An AC Coupled Off-Grid PV Diesel
Mini Hybrid Power System*

Gareth Saunders / Mike Sage
Outback Power

Nada Dashlooty / Nigel Wilmot
*ResLab Preformance Testing of
Stand-Alone Inverters*

SOLAR THERMAL

Fouad Kamel Abdalla
*Modeling and Assessment of
an Experimental Combined
Evacuated-Tubes-Direct-Flat-
Plate Solar Heater*

Indra Budihardjo
*Performance of single-ended
evacuated tube solar water
heaters*

Greg Michael
*Optical Modelling of a
Segmented Flat-Plate Thermal
Collector with Seasonal Bias*

Stan Swan
*Drinking water purification by
solar energy in mid latitudes*

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