



The 49<sup>th</sup> Annual AuSES

# Solar 2011 Conference

Australian Technology Park, Sydney, Australia

Wednesday 30 November to Friday 2 December 2011

CONFERENCE PROGRAM



[www.uses.org.au](http://www.uses.org.au)

A MEMBER OF



**ISES**

International  
Solar Energy  
Society

INTERNATIONAL PARTNER



SUPPORTING PARTNER

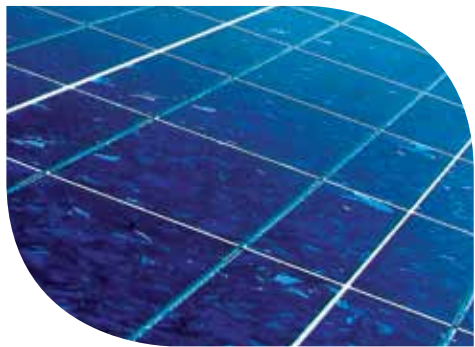


CONFERENCE MANAGER

**CommStrat**  
Excellence in Media

PARTNERS





# Solar 2011 Conference

**30 November – 2 December 2011**  
Australian Technology Park, Sydney, Australia

## Welcome

The Australian Solar Energy Society (AuSES) takes great pleasure in welcoming you to the Society's 49th Conference, held at Australian Technology Park, Sydney in 2011 from Wednesday 30 November to the afternoon of Friday 2 December.

The 2011 AuSES conference will continue to act as a showcase for the renewable energy industry. In addition, Solar 2011 will see AuSES playing a leading role in the development and implementation of the PV Best Practice Program – 'The Best under the Sun'.

Throughout Solar 2011 professionals from all energy related sectors – from Australia and overseas – will meet and exchange new ideas, and to discuss the latest developments in the area of renewable energy technologies. This will include opportunities to explore best practice in the following arenas; networks, government funding, training, accreditation, installation delivery, inspection and review.

Coincident with the Solar 2011 Conference, we are also hosting the 4th Roadmap Workshop of the International Energy Agency, Solar Heating and Cooling group; a Solar PV Best Practice workshop for installers, and an Australian Market Entry Day for Chinese – and other overseas – renewable energy entrepreneurs.

It is an exciting time to be involved in the renewable energy sector, and although many hurdles lay before us, it is a pivotal time for our industry. With ongoing collaboration between academia, industry and government, it is an ideal time to be cementing best practice frameworks in order to ensure that the renewable energy sector maintains excellence at all levels.

We welcome Sponsors, Exhibitors and Delegates to Solar 2011.

Mike Dymond

President, AuSES



## Speak To A Local


SMA manufacture in Germany, but we provide local Australian support in your timezone. The SMA Service line is open from Monday to Friday, 8am to 6pm (AEST). Our qualified Service Engineers are based in Sydney and will help you with troubleshooting on the spot. SMA are happy to speak with installers to find the best problem-solving solution. On the rare occasion that a problem exists with the device, we will dispatch a replacement device within 24 hours under normal circumstances. We can also provide extended warranty options for peace of mind.

[SMA-Australia.com.au](http://SMA-Australia.com.au)  
1800 SMA AUS



### Overview

The 49th annual Australian Solar Energy Society's (AuSES) conference will involve a range of leading government officials, scientists, developers, and solar industry experts. The program will feature many practical, in-depth forums and discussion panels sharing current thinking and best practice.



“Bringing business and research together for a better tomorrow”

### Topics/speakers for 2011 include:

- **International experts on solar research and building sustainability**
  - **Allan Jones** MBE who led the reduction of the Woking Borough council's carbon footprint by 78%
  - US-based solar expert **Jeff Lyng** who was instrumental in developing a number of Colorado's energy policies including the 30% Renewable Portfolio Standard.
  - **Dr Christian Holter** and **Dr Milou Beerepoot**, eminent specialists in solar heating and cooling
  - **Dr David Renné**, US National Renewable Energy Laboratory & ISES President, speaking on solar resource assessment for large solar projects
- **Solar commercialisation case studies including:**
  - **The Hon Simon Corbell** MLA – ACT Minister for the Environment & Sustainable Development on the ACT's large scale solar initiatives
  - **Sydney Lord Mayor Clover Moore** MP on how Sydney is closing in on the most ambitious greenhouse gas reduction target of any Australian government – 70% by 2030 (on 2006 levels).
- How “big solar” can benefit from the \$10b Clean Energy Finance Corporation and an update on the state of Solar Flagships Program
- Over 75 peer reviewed academic papers covering topics such as PV devices & systems, Solar Thermal, Solar Policy & Economics as well as Solar Radiation research and ‘Built in’ PV and sustainable technologies
- Sustainable Solar policy and economics update
- Solar PV Installers Professional Development Day featuring: **Lyndon Frearson; Belinda McLean; Warwick Johnston; Glen Morris; Ric Brazzale** and **Simon Troman**
- Australian market entry expert sessions, including a review of the market and market trends translated into Mandarin
- The Solar PV Best Practice Program and its roll-out over the coming year
- World experts from the International Energy Agency ‘Solar Heating & Cooling’ Roadmap workshop
- Experts from the Australian PV Association with the presentation of expert papers and its AGM
- Visiting industrialists looking to enter the Australian solar market
- Australian Solar Pioneer **Dr David Mills** will speak about 100% renewables in the US, and
- Views from each of the major political parties about their approach to renewables and solar

**The 50th Gold Jubilee AuSES Solar Conference will be held in Melbourne Thursday 5 July and Friday 6 July 2012.**



**Unlimited power for your future**

Suntech's Global Headquarters is powered by one of the world's largest solar façades.

Technology, it's what drives an unlimited future. With the industry leading investment in research and development, Suntech believes the future for solar is unlimited. And today, anyone can harness the sun's unlimited power. As the world's largest producer of solar panels, Suntech has delivered more than 15,000,000 solar panels, more than 3,300MW, to thousands of partners in more than 80 countries.

A green future starts today!

[www.suntech-power.com](http://www.suntech-power.com)

 **SUNTECH**  
*Solar powering a green future™*

# Keynote Speakers

---



**Clover Moore MP,  
Lord Mayor of Sydney**

Clover Moore was elected Lord Mayor of Sydney in March 2004 and was re-elected in 2008 with an increased mandate. She is the first popularly elected woman to lead the City of Sydney. Clover chairs the Central Sydney Planning Committee and the Sydney Festival. She represents Sydney at the C40 major cities conference established to address global warming, and in 2009 was chair of the Australian Capital City Lord Mayors Forum. Under Clover's leadership, Sustainable Sydney 2030 is providing the framework for action on environmental, economic, social and cultural sustainability of Sydney with particular focus on reducing emissions, alternative energy and diversifying transport. Her City is also delivering award winning facilities promoting design excellence and sustainability, and initiating progressive solutions to complex city social problems.



**Greg Hunt MP, Shadow Minister  
for Climate Action, Environment  
and Heritage**

A Fulbright Scholar, Greg has an LLB with First Class Honours from the University of Melbourne and a Master of International Relations from Yale University. Greg was Senior Advisor to the Foreign Minister, the Hon. Alexander Downer MP, and counts assisting in the development of an international initiative for the removal of landmines as amongst his most important contributions. In 2003 Greg was selected as one of 100 Global Leaders for Tomorrow by the World Economic Forum. In December 2009 Greg was appointed as the Shadow Minister for Climate Action, Environment and Heritage.



**Simon Corbell, MLA Minister  
for the Environment and Sustainable  
Development, ACT**

Simon was appointed to the new portfolios of Minister for Environment and Sustainable Development and Minister for Territory and Municipal Services in 2011. Simon has a strong interest in sustainable development policy and integrated transport and land use planning. As the responsible Minister Simon is driving the development of policy and planning frameworks to position Canberra as a sustainable city. Simon is also responsible for the establishment of policies to drive the development of Canberra as Australia's Solar Capital.



**Dr Muriel Watt, Head, Energy Policy  
& PV IT Power Australia**

Dr Muriel Watt is an internationally regarded expert in solar and energy policy. She is a consultant for IT Power and part-time Senior Lecturer, School of Photovoltaics and Renewable Energy Engineering, UNSW. Muriel is Chair of the Australian PV Association (APVA) and representative on the Executive Committee of the IEA Photovoltaics Power Systems Programme (PVPS).



**Jeff Lyng, Director of Market  
Development, Opower**

Prior to joining Opower (a consumer energy management firm), Jeff was the Renewable Energy Policy Manager in the Colorado Governor's Energy Office. He was instrumental in developing a number of Colorado's energy policies including the 30% Renewable Portfolio Standard. Jeff serves on the board of the American Solar Energy Society (ASES) and is a past board member of the Colorado Renewable Energy Society. He is the recipient of the John and Barbara Yellot Award given by ASES and the Mark McCray award given by the Colorado Solar Energy Industries Association.



**Allan Jones MBE, Chief Development Officer, Energy and Climate Change of the City of Sydney**

Allan's role at the City of Sydney is to deliver its Green Infrastructure Plan and major energy and climate change projects, including trigeneration, renewable energy, alternative waste treatment, automated waste collection and decentralised water. Allan is also a Board member of the National Climate Change Adaptation Research Facility. Prior to his appointment Allan was Chief Executive Officer of the London Climate Change Agency and prior to that Woking Borough Council's Director of Thamesway Ltd. During his time in London Allan developed the energy and climate change elements of the London Plan, Mayor's Climate Change Action Plan and the Mayoral Climate Change Statutory Duty as well as developing and implementing decentralised energy and renewable energy projects in London. During his time at Woking, Allan reduced CO<sub>2</sub> emissions by 77.5% from 1990 levels to 2004 and undertook groundbreaking work on energy efficiency, trigeneration, renewable gases from waste, alternative fuels for transport, renewable energy and fuel cells. Allan was appointed a Member of the British Empire in 1999 and was instrumental in Woking Borough Council gaining the Queen's Award for Enterprise: Sustainable Development 2001, the only local authority ever to receive a Queen's Award for Enterprise.



**David Renné, Principal Project Leader Electricity, Resources, and Building Systems Integration Centre, NREL**

Dr Renné is the President of the International Solar Energy Society (ISES), which was founded in 1955 and whose membership represents a major global network of renewable energy scientists and practitioners. At the NREL, Dr Renné, develops and manages programs on renewable energy resource assessment and analysis, and the integration of solar technologies into the utility grid. He is the Operating Agent of an IEA Solar Heating and Cooling Programme Task titled "Solar Resource Assessment and Forecasting", and he also currently manages the US Department of Energy's Solar Resource Assessment activities. Dr Renné travels frequently for the Society describing ISES' mission and its roadmap for achieving a vision of a Rapid Transition to a Renewable Energy World. He also serves as an Associate Editor in Resource Assessment for the Solar Energy Journal, the premier scientific magazine of ISES.



**Ned Harvey COO, VP Finance and Solar Program Director, Rocky Mountain Institute**

Ned drives institute-wide improvement in internal and external processes and aligns those processes to enhance RMI's mission effectiveness. Ned is the Program Director for RMI's Solar Market Transformation Program, which is focused on identifying innovations in the Solar market that can help the industry achieve gigawatt scale and become a major contributor to the US energy generation infrastructure. Ned has over twenty years of experience in diverse business leadership and has tremendous cross-functional skills. He has extensive experience in project finance, business development, marketing and business planning. Prior to coming to RMI, Ned was the CEO and founder of Cistern Solutions, a strategy consultancy that specialized in assisting large corporations identify new business opportunities and structure development projects in the emerging renewable and clean energy industries.



**Dr David Mills Co-Founder and former CSO and Chairman of Ausra (retired)**

David Mills has worked in non-imaging optics, solar thermal energy, and solar concentrating systems since 1976. Born in Canada, he attended the University of New South Wales in Australia during his doctoral programme, and later ran the research project at the University of Sydney that in 1991, with colleague Dr. Q-C. Zhang, developed the double cermet sputtered selective absorber coating now used widely on evacuated tubes throughout China for the production of solar hot water. Mills developed the CLFR solar thermal electricity concept in the early 1990s at the University of Sydney, co-founded SHP in Australia with Graham Morrison and Peter Le Lièvre in 2002, and Ausra Inc. in Palo Alto, California in 2006, which received \$130 million in international VC finance. Mills is a former president of ISES (1997-99) and served as inaugural Chair of the International Solar Cities Initiative (ISCI). In 2009, he became the first VESKI Entrepreneur in Residence for the State of Victoria in Australia, and gave the Deakin Lecture in September of that year. He retired from his position as Areva Solar CSO in June 2010.

# Wednesday 30 November

All plenary sessions will take place in Theatre, Bay 4

- 8:00 am** Registration
- 8:45 am** Welcome and overview of Solar 2011 Conference program  
AuSES President Mr Mike Dymond
- 8:50 am** John Grimes, AuSES CEO  
**The Solar Sector: Opportunities and Challenges**
- 9:00 am** Opening plenary session **"Bringing business and research together for a better tomorrow"**  
Chair: Professor Deo Prasad,  
Program Director, Sustainable Development,  
University of New South Wales (UNSW)
- 9:05 am** Keynote speaker: Clover Moore MP, Lord Mayor of Sydney  
**A vision of a sustainable Sydney 2030**
- 9:25 am** Keynote speaker: Allan Jones MBE, Chief Development Officer, Energy and Climate Change of the City of Sydney  
**Moving Sydney to a Sustainable Low Carbon Future**
- 9:45 am** Keynote speaker: Jeff Lyng, Director, Markets, Opower  
**Colorado's Renewable Energy Standard: Policy Design & New Markets**
- 10:05 am** Keynote speaker: The Hon Simon Corbell MLA – ACT Minister for the Environment & Sustainable Development  
**The ACT's large scale solar energy initiatives**
- 10:25 am** Keera Single, Engineer, Q-Cells  
**Real life performance data in the Australian climate**
- 10:45 am** Morning tea in the exhibition area
- 11:10 am** Wu Dacheng, Secretary-General, Solar Photovoltaic Committee of China Renewable Energy Society (CRES)
- 11:20 am** Andrew Dyer, Director Brightsource Energy (AuSES Director)
- 11:40 am** Dr David Mills Founder, Co-Founder and former CSO and Chairman of Ausra (retired) **GRID: Powering the USA from Wind/Solar Power paper #81**
- 12:00 pm** Patrick Guo, Director of Sales and Marketing ET Solar Group
- 12:10 pm** Renate Egan, MD, Suntech R&D Australia  
**Suntech Technology Development and Advances in PV Manufacturing**
- 12:30 pm** Lunch in the exhibition area

## 1:40 pm – 4:50 pm

Concurrent Streams with afternoon tea break from 3.00pm – 3.30pm in the exhibition area.  
*Each stream will feature eight academic papers\* of 20 minutes each as per the stream title*

### STREAM 1: Photovoltaic Systems

How do PV systems function over time? Real life experiences in institutions and experimental settings. Large scale opportunities, hybrid mixes of PV, wind and diesel.

**Meeting Room 6B**

### STREAM 2: Thermal

The technologies for using the sun's heat vary widely. Research presented on domestic hot water systems to giant dishes and troughs; solar cooling; tracking systems, heat storage; even cooking.

**Meeting Room 9BC**

### STREAM 3: Photovoltaic Devices

The cutting edge of research in PV, nanotechnology, dyes, plasmonics, the dawning of the 3rd generation of PV.

**Meeting Room 7ABC**

## 4:50 pm – 5:30 pm

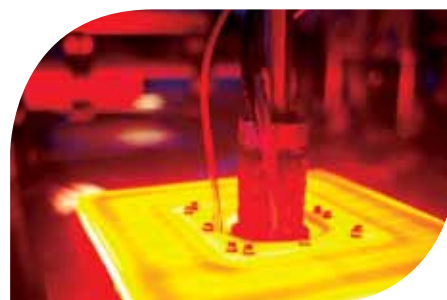
Wine Tasting in Exhibition Area, sponsored by Davies Collison Cave, Patent and Trademark Attorneys

## 5:00 pm – 6:00 pm

AuSES Annual General Meeting

## 5:30 pm – 7:30 pm

Solar 2011 Cocktail reception in the Exhibition Area



\* A full listing of the academic papers will be provided at Solar 2011 Conference.

## Solar PV Professional Development Workshop



Sponsored by SMA

### Wednesday 30 November from 11:00 am – 5:00 pm

(run in parallel with the main program) Meeting Room 5B

Chair – Simon Franklin, General Manager

IT Power Australia/AuSES Director

- 11:00 am** Welcome and overview of Solar PV 2011 Professional Development Workshop Glen Morris, Principal, SolarQuip/AuSES Director
- 11:05 am** Geoff Stapleton, GSES  
**Compliance Requirement and Achievement**
- 11:30 am** Peter Bache, Office of the Renewable Energy Regulator (Compliance Branch)
- 11:55 am** Lyndon Frearson, Senior Project Manager, Centre for Appropriate Technology (Alice Springs)/AuSES Director  
**Best Value vs Lowest Cost: the implications of performance requirements in large projects**
- 12:15 pm** Wilhelm vanButselaar, Sales Manager, SMA  
**Increased grid quality through intelligent energy storage**
- 12:30 pm** Lunch in the exhibition area
- 1:40 pm** Warwick Johnston, Founder/Manager, SunWiz  
**Tracking Big Solar Projects**
- 2:05 pm** Glen Morris, Principal, SolarQuip/AuSES Director  
**New/revised Australian standards and new AuSES Member design software**
- 2:35 pm** Ric Brazzale, Managing Director, Green Energy Trading  
**Has the Solar Bubble Burst?**
- 3:00 pm** Afternoon tea break
- 3:30 pm** Belinda McLean, ActiveSolar Training and Consultancy  
**Voltage vs. Temperature; Realities inGrid-Connected PV System Design**
- 3:55 pm** Simon Troman, IT Power Australia,  
**Inspection program and considerations**
- 4:20 pm** Panel Discussion – participants drawn from industry, utilities, suppliers, including MEA, NECA and AuSES, Origin (invited)
- 5:00 pm** Questions and wrap-up
- 5:25 pm** Close

## Social Events

### Tuesday 29 November

6:00 pm – 9:00 pm

Official Solar 2011 Conference welcome reception as part of the AUPVSEE exhibition at the Sydney Exhibition and Convention Centre, Hall 4

### Wednesday 30 November

4:50 pm – 5:30 pm

Wine Tasting in Exhibition Area, sponsored by Davies Collison Cave, Patent and Trademark Attorneys

5:00 pm – 6:00 pm

AuSES Annual General Meeting

5:30 pm – 7:30 pm

AuSES Cocktail reception in the Exhibition area

### Thursday 1 December

6:30 pm – 10:30 pm

AuSES Annual Conference and Awards dinner, sponsored by LIGHTWAY Australia.

This gala event is not to be missed. This year, we are very pleased to have Jon Dee as our guest speaker. Jon is the Founder and Managing Director of the Australian advocacy organisation 'Do Something!'. He was the NSW Australian of the Year for 2010, and is also the author of 'Sustainable Growth' - a book with a 90,000 print run that's been published by Sensis. Jon is best known as the founder of Planet Ark, Rock Aid Armenia, 'World Environment News', and his 2007 'World Environment Review'. He also organised the international media rollout for the 2009 ban on bottled water in the NSW town of Bundanoon which created a virtual firestorm of publicity around the world. Together with Olivia Newton-John, Jon founded Australia's 'National Tree Day', and has initiated many other environmental initiatives.

AuSES will present its annual awards, including the Wal Read Memorial Award (for outstanding peer-reviewed post-grad and undergrad student submissions to the Conference), and the inaugural 'Lifetime Achievement to Solar in Australia' Award.

Held at Australian Technology Park,  
Bay 4, meeting room 6A.

# Thursday 1 December

All plenary sessions will take place in Theatre, Bay 4

**8:00 am** Registration

Chair: Associate Professor Mark Diesendorf,  
Institute of Environmental Studies, UNSW

**8:30 am** Scott Frier, Chief Operating Officer, Abengoa Solar  
**Large Solar Thermal/PV utility projects – Europe/US**

**9:10 am** Gerry Hueston – Climate Commissioner

**9:30 am** Dr Christian Holter, General Manager, S.O.L.I.D. GmbH

**9:50 am** Dr Milou Beerepoot, Senior Analyst,  
International Energy Agency

**10:10 am** Nigel Morris, SolarBusinessServices  
**Australian PV Futures: The science behind the forecast**

**10:30 am** Rob Campbell, MD, Vulcan Energy  
**Incremental Storage of Electricity – A Viable Solution to  
Network Stress and Costs**

**10:45 am** Gary Love, Project Manager, Australian Technology Park  
**NICTA Rooftop PV System**

**10:50 am** Morning tea in the exhibition area

**11:20 am – 12:50 pm**

Concurrent streams  
*Each stream will feature four academic papers\*  
of 20 minutes each as per the stream title*

### **STREAM 1: Photovoltaic Systems**

How do PV systems function over time? Real life experiences  
in institutions and experimental settings. Large scale  
opportunities, hybrid mixes of PV, wind and diesel.  
**Meeting Room 6B**

### **STREAM 2: Thermal**

The technologies for using the sun's heat vary widely.  
Research presented on domestic hot water systems to giant  
dishes and troughs; solar cooling; tracking systems, heat  
storage; even cooking.  
**Meeting Room 9BC**

### **STREAM 3: Photovoltaic Devices**

The cutting edge of research in PV, nanotechnology, dyes,  
plasmonics, the dawning of the 3rd generation of PV.  
**Meeting Room 7ABC**

**12:50 pm** Lunch in the exhibition area

**1:00 pm – 1:30 pm**

Poster Paper presentations

**1:30 pm – 3:10 pm**

Concurrent Academic Paper Streams  
*Each stream will feature five academic papers\*  
of 20 minutes each as per the stream title*

### **STREAM 1: Policy/Economics**

The business opportunities in solar, the barriers, the funding,  
overseas experience, opportunities, grid parity for PV.  
**Meeting Room 6B**

### **STREAM 2: Radiation**

Measurement of solar radiation and its importance to system  
design and performance.  
**Meeting Room 9BC**

### **STREAM 3: Grid**

How electricity grids must change to accommodate PV, what  
prospect 100% renewable energy?  
**Meeting Room 7ABC**

**3:10 pm** Afternoon tea in the exhibition area

**3:30 pm – 5:30 pm**

Concurrent Streams  
*Each stream will feature six academic papers\*  
of 20 minutes each as per the stream title*

### **STREAM 1: Policy/Economics**

The business opportunities in solar, the barriers, the funding,  
overseas experience, opportunities, grid parity for PV.  
**Meeting Room 6B**

### **STREAM 2: Building/Wind**

Scheduling Power Performance Testing at the National Small  
Wind Turbine Centre  
**Meeting Room 9BC**

### **STREAM 3: Australian Photovoltaic Association**

**3:30 pm** APVA & PVPS Research Program – Dr. Muriel Watt  
**3:50 pm** PVPS Task 14 – High PV Penetration in the grid –  
Assoc. Prof. Iain MacGill  
**4:10 pm** Grid Parity Modelling – Graham Mills  
**4:30 pm** The Value of PV Electricity – Dr Rob Passey  
**4:50 pm** Building Integrated PV – Dr Mark Snow  
**5:10 pm** APVA Annual General Meeting  
**Meeting Room 7ABC**

**6:30 pm – 10:30 pm**

**AuSES Annual Conference and Awards dinner**  
Sponsored by LIGHTWAY Australia  
**Meeting Room 6A, Bay 4, Australian Technology Park**

# Friday 2 December

All plenary sessions will take place in Theatre, Bay 4

- 8:00 am** Registration  
Chair: Mr Mike Dymond, President AuSES
- 8:30 am** Mark Twidell, Executive Director, Australian Solar Institute
- 8:50 am** Dr David Renné, US National Renewable Energy Laboratory, ISES President  
**Solar Resource Assessment Research in the U.S. To Support Large-Scale Solar Technology Deployments**
- 9:10 am** Dr Muriel Watt, Head, Energy Policy & PV, IT Power Australia, & Chair, Australian Photovoltaic Association (APVA)
- 9:30 am** Ned Harvey COO, VP Finance and Solar Program Director, Rocky Mountain Institute  
(via video link from the US)
- 9:50 am** Kobad Bhavnagri, Lead Clean Energy Analyst, Australia Bloomberg New Energy Finance
- 10:10 am** Wayne Smith, Clean Economy Services  
**Australian Solar Policy**
- 10:30 am** The Hon Greg Combet MP, Minister for Climate Change and Energy Efficiency (via video link)
- 10:40 am** Morning tea in the exhibition area
- 11:00 am – 12:00 pm**  
Concurrent streams  
*Each stream will feature three papers\* of 20 minutes each as per the stream title*
- STREAM 1: Policy/Economics**  
The business opportunities in solar, the barriers, the funding, overseas experience, opportunities, grid parity for PV.  
**Meeting Room 6B**
- STREAM 2: Industry Stream Case Studies**  
SMA, 24 Hour Energy, Enviren.  
**Meeting Room 9BC**
- STREAM 3: Australian Market Entry Workshop**  
(Translated into Mandarin)  
**Meeting Room 7ABC**
- 12:00 pm** Greg Hunt MP, Shadow Minister for Climate Action, Environment and Heritage
- 12:30 pm** Lunch in the exhibition area
- 1:30 pm** Senator Christine Milne, The Greens

**2:00 pm – 3:30 pm**

Concurrent Paper Streams

*Each stream will feature a number of academic papers\* of 20 minutes each as per the stream title*

**STREAM 1: Policy/Economics**

The business opportunities in solar, the barriers, the funding, overseas experience, opportunities, grid parity for PV.

**Meeting Room 6B**

**STREAM 2: Industry Stream Case Studies**

Low Carbon Australia, RFI / TRINA, LAROS, 3M, Clean Technology Partners.

**Meeting Room 9BC**

**STREAM 3: Australian Solar Market Entry Workshop**

(Translated in to Mandarin)

**Meeting Room 7ABC**

**3:30 pm** Afternoon tea / Close of Conference

**8:30 am – 4:00 pm**

**International Energy Agency  
'Solar Heating & Cooling' Roadmap workshop**

The Solar Heating and Cooling Program was established in 1977, one of the first programs of the International Energy Agency. The Program's work is unique in that it is accomplished through the international collaborative effort of experts from Member countries and the European Union.

The benefits of this approach are it:

- accelerates the pace of technology development,
- promotes standardization,
- enhances national R&D programmes,
- permits national specialization, and
- saves time and money.

The Programme's work is enhanced through collaboration with other IEA Programs – Energy Conservation in Buildings and Community Systems Program, Photovoltaic Power Systems Program, and SolarPACES Program – and solar trade associations in Europe, North America, and Australia.

**Meeting Room 5B**

Please note this session is by invitation only. Invitations can be granted upon request by contacting Dr Milou Beerepoot at Milou.BEEREPOOT@iea.org

\* A full listing of the academic papers will be provided at Solar 2011 Conference.

# Major Sponsors

---



## AUPVSEE

AUPVSEE will hold the largest PV Solar Exhibition ever held in Australia. The exhibition will be held at the Sydney Convention and Exhibition Centre at Darling Harbour, Sydney on 30th November and 1st December. International pavilions from India, China, Korea, Japan, UK and Europe will highlight solar thermal products; balance of systems; components material and equipment; distributors/integrators/installers; PV cells and modules; solar thermal products; additional products and services innovation and new products.

[www.aupvsee.com.au](http://www.aupvsee.com.au)



## Sungrid Ltd

Sungrid is an Australian solar energy company that distributes high quality solar panels to Australia, New Zealand and the UK. Only the best quality components are used in the finished Sungrid branded product which means we are able to provide peace of mind with our industry-leading warranties. Through our extensive international experience, Sungrid is constantly working with manufacturers and suppliers to bring to market solar modules that deliver great value for our customers. Australian consumers need to be confident that what they are buying is safe, reliable and repeatedly manufactured to its product certification standards; after all, 25 years is a long time on your roof! Sungrid solar modules are built for Australian conditions and are backed by 100% Australian warranties. Who are you going to trust?...

**Contact: Dawn Payne, National Sales Manager, Sungrid Ltd**

**1/4 Bannister Street, Fremantle, WA 6160 | E: [dawn@sungridsolar.com](mailto:dawn@sungridsolar.com)**

**T: +61 (8) 9433 9400 | F: +61 (8) 9433 2858 | M: +61 419 831 673**



## Sun-Earth

Sun-Earth is a global leader in the production and supply of mono and poly-crystalline PV modules. Our modules provide reliable, environmentally friendly electric power for residential, commercial, and utility scale applications around the world. With over 40 years of experience, our vertically integrated business model ensures that we deliver the highest quality modules to our customers. We make our own silicon, ingots, wafers, cells and modules, assuring continuous, quality improvement in the production process. We believe that the sun is our most vital source of energy and essential for a cleaner, greener future, and solar power is the perfect solution in utilising nature's most abundant resource.

**T: 1300 600 020 | [www.sun-earth.com.au](http://www.sun-earth.com.au)**



## UNSW

The School of Photovoltaic and Renewable Energy Engineering is at the forefront of research into photovoltaics and education in photovoltaic and renewable energy engineering. It was the first organisation internationally to offer an undergraduate degree in the area of Photovoltaics and Solar Energy. The School has strong international collaborative research and education links in several fields and exciting commercialisation activities in photovoltaics technology. It aims to support the development of photovoltaics and other forms of renewable energy as a sustainable energy source for large scale use and strengthen Australia's already strong base in renewable energy education, research, development and applications.

[www.pv.unsw.edu.au](http://www.pv.unsw.edu.au)



## SMA Australia Pty. Ltd.

SMA Australia Pty. Ltd. is one of 19 world-wide subsidiaries of global market leader SMA Solar Technology AG. SMA Australia supplies photovoltaic inverters to the commercial, utility, residential and off-grid sectors, partnering with a large distribution network covering Australia, New Zealand and the South Pacific. SMA is the world's largest producer of solar inverters and monitoring systems for PV applications and is the only vendor that has a product range with the matching inverter type for any module type and any power class. This applies for grid tied applications as well as island and backup operation. This range of products is complemented by a Sydney-based service team and complimentary Solar Academy training.

[www.sma-australia.com.au](http://www.sma-australia.com.au)



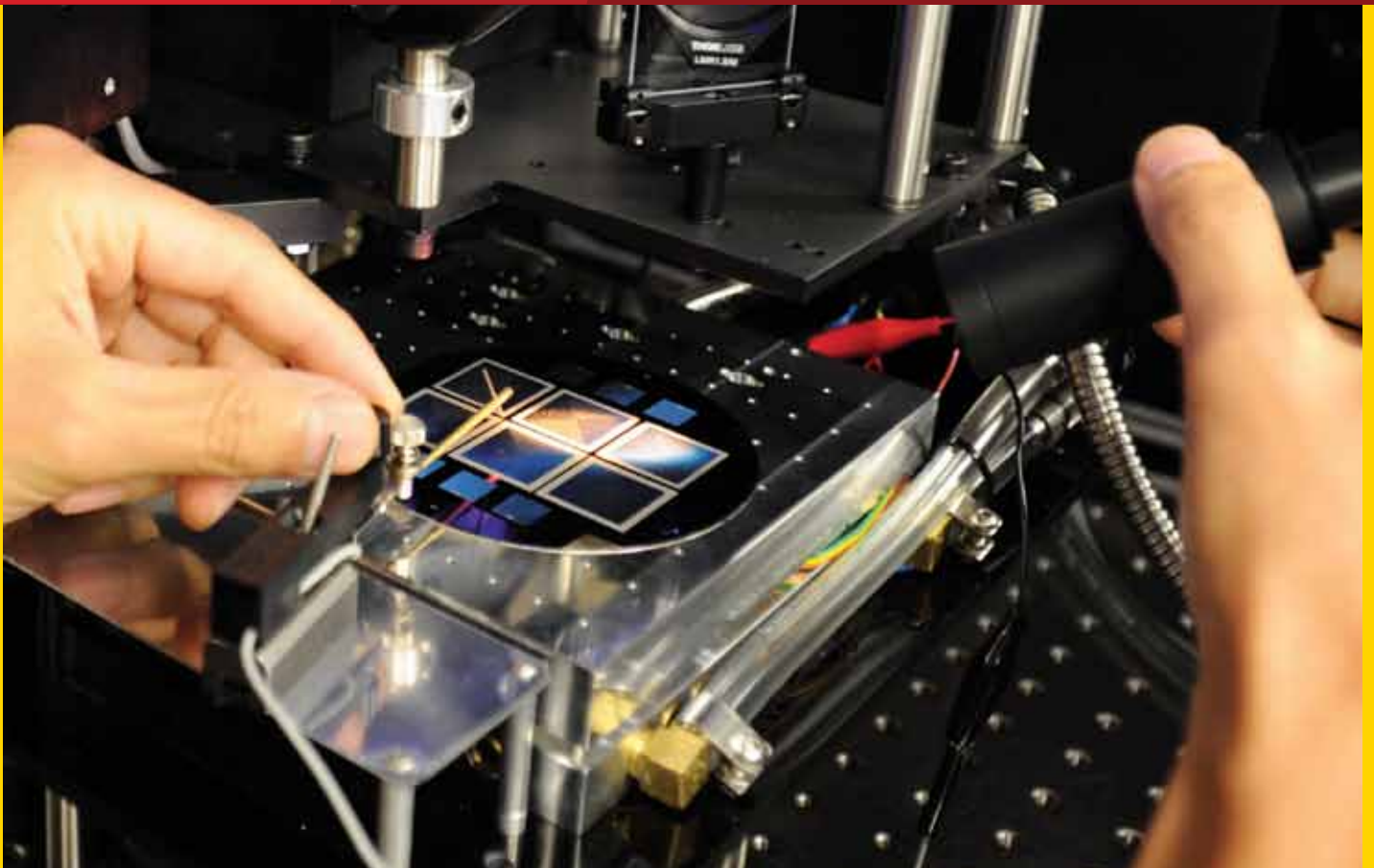
**UNSW**  
THE UNIVERSITY OF NEW SOUTH WALES

# Changing the world One Engineer at a time....

Never Stand Still

Engineering

School of Photovoltaic and Renewable Energy Engineering



Bachelor of Engineering in Photovoltaics and Solar Energy Engineering  
Bachelor of Engineering in Renewable Energy Engineering  
Post Graduate Degrees by Research and by Coursework

<http://www.pv.unsw.edu.au>

CRICOS Provider No: 00098G

# Major Sponsors



## LIGHTWAY

Founded in 2008, the LIGHTWAY Green New Energy Company is today a leading international manufacturer of multi-crystalline silicon wafers, silicon ingots, solar cells and solar modules. LIGHTWAY Australia was established in 2010 to meet the growing demands of the Australian solar market and to provide consistent and priority supply to the local solar industry. The company's involvement in customers' 'solar future' also extends to the installation of entire solar systems. LIGHTWAY's mission is to provide solar energy technologies, quickly, efficiently, cost effectively and of world class quality. LIGHTWAY recognises the importance of environmental responsibility and all employees are dedicated to the development of environmentally friendly energy which will power the world towards a bright, sustainable future.

[www.lightwayaustralia.com.au](http://www.lightwayaustralia.com.au)



## SOLACE (Vulcan Energy)

Grid demand storage from Sol-Ace enables Domestic PV to offer peak-time power to the local area, at up to 2 times the rating of the installed PV modules. A real saving to all electricity consumers. Grid Demand is a technology project of Vulcan Energy Pty Ltd

For more information see the presentation at [www.griddemand.com.au](http://www.griddemand.com.au)

Rob Campbell ph: 041 4925222 e: [rob@electricity.net.au](mailto:rob@electricity.net.au)

Visit us at the AuSES Solar Conference Exhibition for a detailed demonstration.

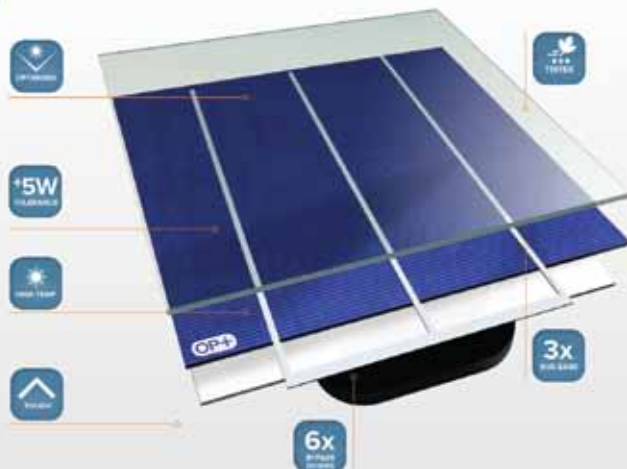
## One of Australia's hardest working solar panels - rain, hail, or shine.



LIGHTWAY'S vertically integrated manufacturing process utilises the world's leading technologies, to produce one of the highest quality, precision engineered solar panels on the market - the OP+.

Designed to work flawlessly when it matters - now that's a plus.

Proud Sponsor of the  
AuSES Conference Gala Dinner



## Suntech R&D Australia & Victoria-Suntech Advanced Solar Facility (VSASF)

Joint Sponsors of the Wal Read Award



### Suntech R&D Australia

Suntech has established Suntech R&D Australia Pty Ltd to conduct advanced research and development in the manufacture of silicon photovoltaics for the Suntech group. Through the acquisition of CSG Solar Pty Ltd, Suntech R&D Australia has formed a team of 20 engineers and scientists, will build on its relationship with UNSW and with a wider group of universities and institutes in Australia. Suntech R&D Australia will develop advanced silicon cell technologies, promote quality in manufacture through improved process controls and champion sustainability to deliver on Suntech's mission to provide everyone with reliable access to nature's cleanest and most abundant energy source.



### Victoria-Suntech Advanced Solar Facility (VSASF)

The VSASF is a \$12 million collaborative photovoltaic research and development venture between Suntech Power Holdings, the Victorian State Government and Swinburne University of Technology. NANOPLAS, a new nano technology that greatly improves solar cell efficiency, while reducing cost, has been developed by Swinburne and is now being integrated with a range of thin film and wafer silicon solar cells at our Melbourne facility. Using state of the art R&D equipment, including the latest electron- and ion-beam lithography systems, the VSASF is positioned to advance photovoltaic research.

T: +61 (3) 9214 5148

# SOL-ACE

## GRID DEMAND SYSTEM

- Power to the Grid at the optimum time.
- Reduces disturbance to AC waveforms.
- Preserves integrity of electricity infrastructure.
- Safe and reliable for domestic situations.
- Cost effective for peak power contribution.

Sol-Ace grid demand storage provides the benefits of large scale electricity storage by providing incremental storage throughout the distribution network. In concert with PV and off peak electricity storage, this system can provide a clean, controllable and reliable means of reducing infrastructure costs.

A research and development project of Vulcan Energy Pty Ltd [www.griddemand.com.au](http://www.griddemand.com.au)  
Tel. 07 55935553 Fax. 07 55267447 Email. [info@electricity.net.au](mailto:info@electricity.net.au)

# Major Sponsors



## Q-Cells

Q-Cells Australia, part of Q-Cells SE in Germany, delivers world record photovoltaic (PV) technologies to the residential and commercial markets. Drawing on our experience in manufacturing of powerful crystalline and thin film modules, we are building up our project business to deliver renewable energy solutions for commercial and industrial partners. We provide system design and in-house engineering for complete project management support. Q-Cells Australia also offers its superior quality solar modules to the residential market and is building on its international reputation as the supplier of choice for viable and sustainable solar PV solutions.



## GL Garrad Hassan

## GL Garrad Hassan

GL Garrad Hassan is an independent renewable energy consultancy serving the wind, marine and solar sectors worldwide. We offer a broad range of technical and engineering services, industry standard technology products and professional training courses that address the needs of stakeholders at all stages of the renewable energy project lifecycle. Our clients include investors, owners, developers, manufacturers, research institutions, trade associations, utility companies, educational institutions and NGO's. We never take an equity share in any development or technology so that our clients are guaranteed to receive an objective service of the highest quality.

**Australian Office contact: Graham White**

**Suite 25, Level 8, 401 Docklands Drive, Docklands, Victoria, 3008**

**Tel: 03 9600 1993 | Fax: 03 9602 1714 | Mobile: 0407 839 265**

Renewable energy consultants

GL Garrad Hassan



Technical by nature

QUALIFIED BY EXPERIENCE



[www.gl-garradhassan.com](http://www.gl-garradhassan.com)



### SME Association of Australia

The SME Association of Australia is a membership based not-for profit association to support and equip small and medium sized enterprises for success and economic growth. We exist to provide membership services to help small and medium sized enterprises, businesses and industries to connect grow and prosper through a business friendly platform.

**Contact: Dr Caroline Hong, Chief Executive Officer**

**Level 12, 99 Walker Street, North Sydney NSW 2060**

**T: +61 2 99294146 | E: [info@smeaustralia.asn.au](mailto:info@smeaustralia.asn.au) | [www.smeaustralia.asn.au](http://www.smeaustralia.asn.au)**



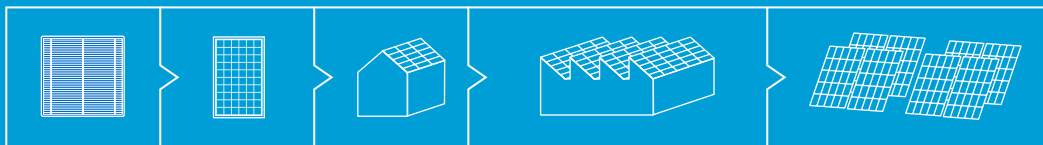
**DAVIES COLLISON CAVE**  
PATENT AND TRADE MARK ATTORNEYS

### Davies Collison Cave (DCC)

Davies Collison Cave (DCC) is Australia's leading patent and trade mark attorney firm. In addition to having highly qualified and experienced patent attorneys in various science and engineering disciplines, we have a dedicated clean technology group who concentrate on providing commercially focused advice and strong protection of innovations in this fast developing and highly competitive industry. With offices in Melbourne, Sydney, Brisbane, Canberra and Newcastle, DCC combines with Davies Collison Cave Law to offer comprehensive and strategic intellectual property services throughout Australia. The quality of our service and expertise is consistently recognised by clients, peers and industry bodies through the numerous awards we receive.

**For more, go to [www.davies.com.au](http://www.davies.com.au)**

# QOMPETENCY



Our competency is your success. Over 10 years of expertise and German engineering have transformed us into global industry leaders. We deliver higher output based on revolutionary solar cells and modules innovations, world records in efficiency and the strictest quality control throughout the production process from cells to modules. Claiming leadership means proving it.

**GERMAN ENGINEERING. LOCAL SUPPORT.**  
**Q-CELLS. Q. IS FOR QUALITY.**



Find out more about Q-Cells  
**WEB** [www.q-cells.com.au](http://www.q-cells.com.au)  
**EMAIL** [q-cells-australia@q-cells.com](mailto:q-cells-australia@q-cells.com)  
**TEL** 1800 QCells







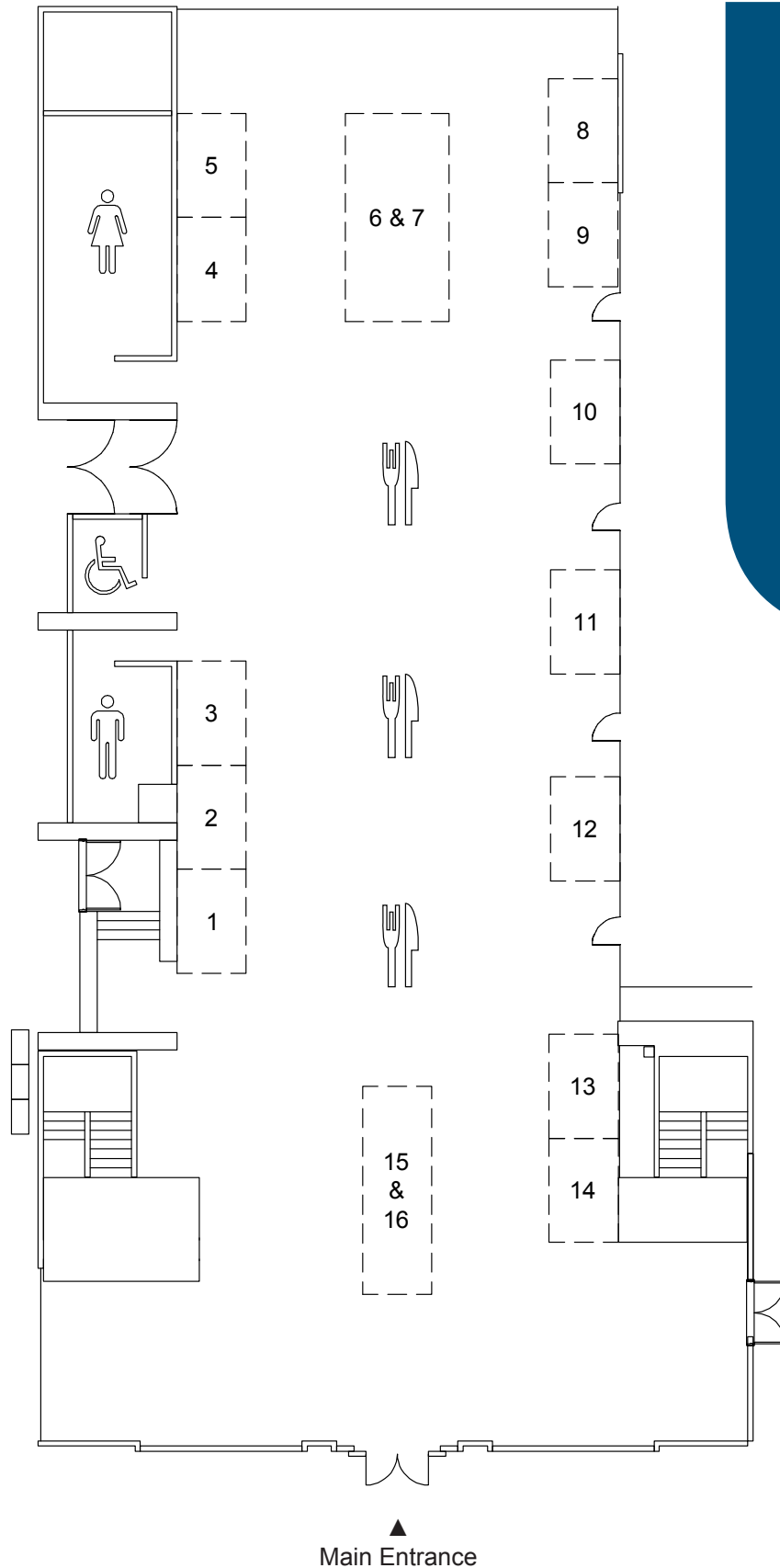






# Floorplan & Exhibitor Listing

Australian Technology Park, Sydney, Australia (Enter via Locomotive Street, Bay 4)



Toilets Catering Station

COMPANY	BOOTH NUMBER/S
Garrad Hassan Pacific P/L	1
Green Energy Trading	2
SolarHub Pty Ltd	3
Urban Group Energy	11
Vulcan Energy Pty Ltd (Sol-Ace)	13
Global Sustainable Energy Solutions	12
SAE Group	5
REC Modules Pte Ltd	4
Blue Sun Group	10
Sungrid Limited	9
Sun-Earth	6 & 7
Schletter Australia PTY LTD	15 & 16
All-Energy Australia (table only)	Next to 13
AUPVSEE	14
Emona	8