

# 2010 Industrial Energy Efficiency Forum

Capitalising on the energy efficiency opportunities in your plants to improve overall business financial performance

Melbourne Marriott Hotel,  
Australia

19th & 20th April 2010

**“Energy efficiency is a key element in tackling the challenges of climate change and energy security. Businesses, governments and individuals must fundamentally change the way they understand and manage energy.”**

Hon Martin Ferguson AM MP

Developing a comprehensive energy management plan is your best bet in ensuring consistent energy efficiency, cost savings and regulatory compliant. It is your insurance in guarding against the adverse effects of market and infrastructure variables.

  
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## Also featuring two mini workshops:

**Mini workshop I: Energy and carbon management bootcamp**  
**Mini workshop II: Energy project financing**

Your workshop leaders of Mini Workshop I:

**Mark Searle** Principal Consultant  
**Key Energy & Resources**

*Mark Searle has nearly 25 years of experience in both the private and government utility sector. His work has included the management of large DSM projects, the development of energy policy, the design of national energy management programs, the planning of transmission and distribution projects as well as work to address power quality problems. More recently, Mark has focused on the newly deregulated energy industry. The procedures developed by Mark have been used to negotiate over \$2B worth of energy supply contracts across Australia and adopted by some of Australia's leading corporate energy users. Mark was Principal Consultant / Group Manager for "Energy Purchasing Group" of Energetics from 1991 to 2001. In this role, he developed many of the processes used by Energetics to negotiate energy supply contracts and monitor energy costs. Mark trained staff, developed Energetics' position in the market place and undertook energy supply negotiations for a number of Australia's "Fortune 500" companies.*

**Scott McKenry** Team Leader - Business & Community Sustainability,  
National Centre for Sustainability

**Swinburne University of Technology**

*Scott's background includes cleaner production programs, environmental consulting, education and the provision of technical advice to chemical, wastewater and manufacturing industries. He is currently working in close collaboration with a number of medium to large sized organisations across a diverse range of sectors to undertake program delivery, research, strategic development, project management, training and education. In his role, Scott has worked extensively in the areas of strategic carbon management, sustainability assessments, sustainability strategies, training and sustainability reporting. In addition to this, Scott is currently the facilitator of Australia's first accredited course in Carbon Accounting at Swinburne University.*

## Testimonials from IEE 2009:

*"Very informative conference with a wide variety of experienced and informed presenters."*

**CSL Bioplasma**

*"It was good and provided a touch base with what I have studied. Brushing up the basics."*

**Mid Coast Water**

*"marcus evans has the ability to organise a good event for people with same problems and challenges."*

**Tarong Energy**

*"The value in the conference is in the networking opportunities."*

**Lycopodium**

## Attend this premier conference and learn how-to:

- **Improve** identification and uptake of cost-effective energy efficiency opportunities
- **Implement** energy efficiency initiatives that require low or no capital to achieve optimum cost savings
- **Effectively conduct** rigorous and comprehensive assessments to manage cost of abatement
- **Improve** productivity and reduce greenhouse gas emissions
- **Excel** in change management and **overcome** barriers of energy efficiency implementation in your organisations
- **Obtain** management buy-ins to ensure the sustainability of your energy projects
- **Change** the way you manage energy to obtain significant long-term savings
- **Maximise** gains in energy conservation strategy through the emerging technologies

## Delivering practical case studies, expert presentations and insights by the following industry leaders:

**Peter Dobney** Group Manager, Resources and Energy  
**AMCOR**

**Cameron Schuster** Sustainability Manager  
**Wesfarmers Limited**

**Chris Fox** Regional Environmental Engineer  
**Diageo**

**Michelle Woolnough** Principal Energy Efficiency Engineer  
**OneSteel**

**Robert D'Arcy** Project Manager Energy and Water Efficiency  
**Sugar Australia**

**Martin Brennan** Deputy CEO  
**ICLEI Oceania (International Council for Local Environmental Initiatives-Local Governments for Sustainability)**

**Mark Lister** CEO  
**Australian Alliance to Save Energy**

**Dr Sharif Jahanshahi** Theme Leader- Sustainable Processing  
**Terry Norgate** Principal Research Engineer  
**CSIRO Minerals**

**Timothy Edwards** Managing Director & Principal Engineer  
**Metro Power Company**

**Tim Burrows** Managing Director  
**Northmore Gordon**

**Roger Horwood** Principal Consultant, Industrial Sector  
**Energetics**

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### About the Endorsers



The **International Society of Financial Professionals (ISOFP)** is a non-profit organization dedicated improving professional standards, career opportunities and networking opportunities for financial professionals worldwide. ISOFP offers its members special invitations to financial conferences, substantial discounts to events and professional certification through e-learning and classroom training programs. Certification programs are available for wealth management, retail banking, corporate banking, asset management, investment banking and insurance/risk management. ISOFP is a US registered non-profit association with representative offices worldwide. For more information on ISOFP, please contact [info@isofp.org](mailto:info@isofp.org)



The **Australian Alliance to Save Energy** is an independent, not-for-profit coalition that seeks to inform, influence and advance energy efficiency in Australia. A<sup>2</sup>SE's work addresses research, awareness and policy across all sectors, with a mission to make energy efficiency central to public policy debate and to inspire real, measurable action.



**ICLEI Oceania** is the regional secretariat for ICLEI – Local Governments for Sustainability, which was founded in 1990 as the International Council for Local Environmental Initiatives. ICLEI's mission is to build and serve a worldwide movement of local governments to achieve tangible improvements in global sustainability through cumulative local actions.

# Monday 19th April 2010

**0830 Registration and Coffee**

**0900 Opening address from the Chair**

**0915 Session One – Industry Insight**

**The road forward – towards an energy efficient society**

- Insights into the global practices
- Where are we?
- Where do we want to go from here?
- Closing the green gap

**Mark Lister** CEO  
**Australian Alliance to Save Energy**

**Energy Management Strategy and Framework**

**1000 Session Two – Case Study**

**Tapping into energy efficiency potentials through process improvement**

- Reconfiguring equipment or changing processes to optimise productivity and energy use
- Investigating industrial systems to increase operating efficiency
- Improving existing process to reduce energy consumption
- Discovering alternative energy resources and technologies to ensure process improvement success

**Chris Fox** Regional Environmental Engineer  
**Diageo**

**1045 Morning Refreshment Break**

**1115 Session Three – EE journey in Wesfarmers**

**Generating value from your energy efficiency initiatives over business cycles**

- Examining how Wesfarmers accesses and supplies energy to and from its existing businesses
- Wesfarmers' approach and commitment to energy efficiency – statutory and business based
- Building energy efficiency into the plant and facility design processes
- Maintaining effective knowledge bases for sustainable business strategies

**Cameron Schuster** Sustainability Manager  
**Wesfarmers Limited**

**1200 Session Four – Case Study**

**Effectively conducting thorough energy efficiency assessment to identify new areas for improvement**

- Conducting energy audits to identify energy losses in processes and equipment
- Defining and developing reliable energy indicators and tracking systems to identify energy savings opportunities
- Collation and tracking of opportunities within a centralised system

**Michelle Woolnough** Principal Energy Efficiency Engineer  
**OneSteel**

**1245 Networking Luncheon**

**1345 Session Five – Case Study**

**Exploring waste heat recovery opportunities using pinch analysis to achieve significant energy savings**

Join this case study session to explore how a waste heat recovery network at a food and beverages facility was optimised using pinch analysis. In many cases, application of this technique has resulted in savings of around 30%.

- Collecting mass flow and temperature data for major process and utility streams
- Determining the minimum theoretical energy requirement
- Developing heat exchanger network diagram to reduce actual utility load to minimum theoretical utility load

**Tim Burrows** Managing Director  
**Northmore Gordon**

**1430 Session Six – Case Study**

**Benchmarking energy performance to ensure sustainable energy savings**

At Amcor, energy cost represents up to 15% of operating costs. Its energy efficiency programme has resulted in energy savings of over \$1.6 million per annum, and elimination of 42,000 tonnes of greenhouse gas emissions. This session will provide you insights into how Amcor did it.

- Amcor's energy, water and waste reduction targets
- Exploring methodology deployed in devising Amcor's benchmarking system
- Comparing operating performance with targets
- Accurately measuring and reporting energy performance
- Insights into the tools and techniques used in the measurement process

**Peter Dobney** Group Manager, Resources and Energy  
**AMCOR**

**1515 Afternoon Refreshment Break**

**1545 Session Seven – Case Study and Expert Advice**

**Energy project management and leadership**

- Engaging stakeholders and project team to render full support and commitment to achieve desired outcomes
- Preventing delays and budget overspending while improving project delivery timeline and end results
- Identifying and implementing continuous improvement to ensure efficiency optimisation

**Timothy Edwards** Managing Director

**metro Power Company**

*Finalist - WA Inventor of the Year 2008 'E2M Energy & Emission Reduction'*

**1630 Session Eight – Expert Advice**

**Leveraging data to identify areas for energy efficiency improvement using Energy Management Information System (EMIS)**

An energy analysis process should be carried out in the identification of energy efficiency opportunities. This session will discuss the various ways of using data to identify the opportunities, where to look, how to look, and what to look.

- Discovering the methodology adopted in data analysis
- Leveraging integrated data collection and reporting
- Exploring relationships between energy use and variables that may influence it using data collected at appropriate time intervals

**1715 Closing remarks from Chair and end of Day One**

## Why you must attend

While the world has lesser energy to spare, demand for energy has never been higher, hence the need for greater energy efficiency performance has become increasingly important. Ability to control energy cost is one of the key competitive advantage company continuously strive for.

**2nd Annual Industrial Energy Efficiency Forum** aims to discuss the on-going pressing issues of energy projects initiation, implementation and change management. This event will also showcase the success stories and lesson learned shared by industry leaders, from projects identification, financing, cost-risk-benefit analysis to effective staff and management engagement.

From this event, the delegates will learn to set a clear, optimum path to both energy cost control and energy supply security in achieving minimal amount of energy used per product, improve their bottom line hence competitiveness while leading the nation toward a more secure energy future.

## Who must attend

General Managers, Senior Managers and Heads of:

- Energy
- Sustainability
- Operations & Production
- Health, Safety & Environmental
- Engineering & Maintenance
- Process

Particularly for large energy users from these industries:

- Mining & Minerals Processing
- Petrochemical and chemicals
- Industrial Manufacturing
- Glass
- Pulp & Paper
- Energy & Utilities
- Refineries
- Cement
- Metal (Steel, Aluminum, Alloys)
- Distilleries

And other Process Industries.

# Tuesday 20th April 2010

## Register Now

Contact Sarb Powar at **marcus evans**

**T** +61 (2) 9238 7200

**F** +61 (2) 9238 7286

www.marcusevans.com

**0830 Sign in and Coffee**

**0900 Opening address from the Chair**

**0915 Session One – Government Insight  
Distributive energy systems**

As the primary planning authority in Australia, local government is in a position to significantly influence the rate of distributed generation, energy efficiency and energy storage technologies are adopted in cities. Getting insights into the role of local government plays in assisting industry, to achieve the sustainability target set by the Australian federal government.

**Martin Brennan** Deputy CEO

**ICLEI Oceania (International Council for Local Environmental Initiatives-Local Governments for Sustainability)**

### Continuous Improvement Opportunities and Innovation

**1000 Session Two – Case Study**

**Discovering alternative energy efficiency opportunities that require low or no capital investment**

Often huge capital investments are required for energy efficiency undertakings, which put the management in a tough position to save vs not to save. This session looks at various ways of tapping into energy efficiency improvements which will not cost a bomb. It is win-win situation energy efficiency professionals should not overlook.

- Why energy efficiency interest Sugar Australia
- Examining the process including management review
- Identifying potential opportunities using lean manufacturing tools such as 5 whys, 7 wastes
- Effective implementation utilising lean tools such as A3 reports, continuous improvement team etc.
- Reviewing project to close the gap between planning and actual

**Robert D'Arcy** Project Manager Energy and Water Efficiency  
**Sugar Australia**

**1045 Morning Refreshment Break**

**1115 Session Three – Industry Insight and Case Study**

**Examining the international transformation policy and current Australian Regulation framework to drive and facilitate successful energy efficiency initiatives**

- Comparing relative efficiency of Australian businesses to Organisation for Economic Co-operation and Development (OECD) standards
- Establishing scale of savings opportunities, benchmarking typical savings potential using MACC
- Reviewing the recommended industry transformation policy settings for Australia to achieve potential savings
- Assessing the international best practice policies that drive successful EE initiatives

**Roger Horwood** Principal Consultant, Industrial Sector  
**Energetics**

**1200 Session Four – Researcher Insights**

**Developing alternative processes to achieve significant energy savings**

- Conducting life cycle assessment to reduce gas emissions
- Identifying opportunities for waste heat recovery and utilisation in the iron and steel industry
- Sustainability case studies of mineral and metal production

**Dr Sharif Jahanshahi** Theme Leader – Sustainable Processing

**Terry Norgate** Principal Research Engineer  
**CSIRO Minerals**

**1245 Networking Luncheon**

### Workshop timetable:

1345	Workshop commences
1515	Afternoon refreshments & networking break
1545	Workshop resumes
1715	End of conference

**marcus evans** would like to thank everyone who has helped with the research and organisation of this event, particularly the speakers and their staff for their support and commitment.

### Mini workshop I: Energy and carbon management bootcamp

#### Module I – Energy Action Plans Realisation

This workshop outlines the key steps for developing an effective energy plan and change management in your organisations.

- Examining the cost of energy, carbon and green instruments of current and the next 5-10 years
- Useful methodologies for undertaking an economic evaluation and techniques with consideration of long term energy and carbon costs
  - Mastering the equations and its paybacks
  - Quantifying ROI with structured cost-risk-benefit
- Change management best practices and lesson learned – Building an 'energy wise' culture

**Group exercise:** Developing a rigorous evaluation of an energy project with various long term cost implications of changing initial project specification/ cost and meaningfully select the most cost effective long term option.

**Mark Searle** Principal Consultant

**Key Energy & Resources**

#### Module II – Carbon Management

This session will examine the key impacts of CPRS legislation for emission intensive industries:

- New regulation regarding carbon emissions and its impact to businesses
- The accepted methodologies for quantifying annual greenhouse gas emission
- How to develop the marginal cost abatement curve (MACC) at the organisational level
- The key liabilities and opportunities for businesses, whether through buying offsets or investing in carbon mitigation

**Group exercise:** The MACC is an evidence-based tool traditionally available to policy makers to assess the potential for greenhouse gas abatement; now, the marginal cost abatement curve is available for organisations. This interactive activity helps you to assess individual initiatives for the abatement potential and cost of operations, and arranging these initiatives in graphical format from least cost to highest cost order.

**Scott McKenry** Team Leader - Business & Community Sustainability, National Centre for Sustainability

**Swinburne University of Technology**

### Mini workshop II: Energy project financing

Tremendous energy efficiency opportunities and potential can be identified within your plants, however, very often the lack of fund has limited the extent of project implementation or even being rolled out.

Life-cycle cost analysis is a straight-forward approach to measure the total cost of owning a particular product or asset. This concept is particularly useful when acquiring an asset that has ongoing costs of operation, such as fuel, power, maintenance, insurance, interest (holding) costs, and other expenses above and beyond the initial investment.

Potential scope:

- Exploring options and sources of project funding
- Deploying Financial Evaluation with common financial methods (eg. Simple Payback, Net Present Value, Internal Rate of Return)
- Life-cycle costing (LCC) of your short/ long term energy investment

### Some of Mark's best work was done while working in the following organisations:

#### Dunlite (Philips)

Dunlite were Australia's largest manufacturer of standby diesel generating sets and Mark was responsible for arranging the modification of generating sets for special applications, installation and commissioning of sets and correctly selecting sets for non standard applications.

#### Australian Vinyls Corporation

We have been working with Mark Searle on various power quality, gas supply and electricity supply issues for almost 10 years. During that time Mark has readily provided sound advice that has led to long term cost savings. Not only do they provide a high level of friendly and prompt service but they are very professional at what they do and would not hesitate to recommend them to anyone.

#### Energetics

Mark was Principal Consultant / Group Manager for Energetics 'Energy Purchasing Group'. In this role he developed many of the processes used by Energetics to negotiate energy supply contracts and monitor energy costs. Mark trained staff, developed Energetics' position in the market place and undertook energy supply negotiations for a number of Australia's 'Fortune 500' companies. Mark also managed a number of energy policy assignments, DSM assignments and training assignments.

#### State Electricity Commission of Victoria (SECV)

Mark held a number of positions at the SECV including System Planning and Performance Engineer, Industrial Applications Engineer and Engineer - Protection. Thus Mark has a broad understanding of how power utilities operate, what can be achieved and the true costs involved. Mark also won the SECV's prestigious 'Excellence Award' for work done to deal with power quality problems.

