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### **Smart Metering, Load Control and Customer Behaviour**

Date published: 11 Jun 2009

Author: David Crossley

This presentation covers the following topics: changing customer behaviour; advanced metering and behaviour change; load control technology and behaviour change; metering and load control technology products; case studies: using technology to change behaviour; options for low cost technology programs; conclusions; information resources. Presentation to the *Billing & Smart Metering Conference*, Sydney, Australia, 11 June. [Download](#).

### **Overview of APEC Energy Working Group Projects - Stage 3: Project Outcomes**

Date published: 26 May 2009

Author: David Crossley

This report forms the third stage of a review of projects that were funded and implemented under the auspices of the APEC Energy Working Group (EWG). A previous report (the initial overview report) concentrated on identifying and categorising EWG projects and therefore did not focus on project outcomes. The purpose of the third stage of the review is to summarise the outcomes of each of the projects and thereby demonstrate to a wider global audience how the EWG's project activities contribute towards addressing energy security, climate change and clean development. This report summarises the outcomes of EWG projects covering the following areas: new and renewable energy, including alternate transportation fuels; and clean fossil energy. The initial overview report concluded that the EWG projects had developed an extensive and comprehensive collection of policy-targeted information that has been, and will continue to be, invaluable in achieving APEC's goal of maximising the energy sector's contribution to the region's economic and social well being while mitigating the environmental effects of energy supply and use. The more detailed review of project outcomes in this report has confirmed the initial conclusion while identifying a range of strengths and weaknesses in the coverage and results of the projects. Report prepared for the APEC Secretariat, Singapore. 110 pp. [Download](#).

### **Peer Review on Energy Efficiency in Chile: Final Report**

Date published: 14 Apr 2009

Authors: Faust Bovelander, Philip E. Coleman, David Crossley, Yie-Zu Robert Hu, Nigel Jollands, Kenji Kobayashi, Tran Thanh Lien and Wong Yew Wah

This report presents the results of a peer review on energy efficiency in Chile carried out under the APEC Peer Review of Energy Efficiency (PREE) process. The purpose of the peer review process is to assist all APEC economies to understand the challenges and benefits in advancing energy efficiency. Chile volunteered to undergo a peer review and this was the second review of an APEC economy undertaken under the PREE. The review team was impressed with the broadly-based support for energy efficiency that existed in Chile. The review team felt that it was important that the ongoing development of energy efficiency policy and regulations by the Ministry of Energy in Chile be informed and shaped by 'real world' experiences and contacts with stakeholders. That way program implementation experience would keep broader energy policy (and related national policies) closely linked to developments in the marketplace. Report prepared for APEC Energy Working Group through the Department of Resources, Energy and Tourism, Commonwealth (federal) Government, Australia. 48 pp. [Download](#)



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### **Peer Review on Energy Efficiency in New Zealand: Final Report**

Date published: 14 Apr 2009

*Authors: David Crossley, Ignacio Fernandez, Yi-Hsieh Huang, Kenji Kobayashi and Chandran Sundaraj*

This report presents the results of a peer review on energy efficiency in New Zealand carried out under the APEC Peer Review of Energy Efficiency (PREE) process. The purpose of the peer review process is to assist all APEC economies to understand the challenges and benefits in advancing energy efficiency. New Zealand volunteered to undergo a peer review and this was the first review of an APEC economy undertaken under the PREE. The review team was impressed with the level of attention and resources allocated to energy efficiency policy and programmes by the New Zealand Government. The recommendations made by the review team were intended to apply slight corrections to a regime of energy efficiency policy and programmes which essentially was in good shape. Report prepared for APEC Energy Working Group through the Department of Resources, Energy and Tourism, Commonwealth (federal) Government, Australia.. 33 pp. [Download](#)

### **Peer Review of the Cost Effectiveness Methodology for the Climate Change Review**

Date published: 25 Mar 2009

*Author: David Crossley*

This report summarises the results of a peer review of the draft methodology to be applied by the Independent Pricing and Regulatory Tribunal (IPART) in assessing the cost effectiveness of those climate change mitigation programs implemented in the State of New South Wales that could be quantified. The peer review considered three questions in relation to the draft methodology: whether the IPART Secretariat's selection of a cost-effectiveness methodology to assist with the assessment of nominated NSW climate change mitigation programs was appropriate; if so, whether the IPART Secretariat's proposal to achieve the methodology objective by comparing the estimated program costs of measures under NSW programs with benchmarks calculated for the same measures under the proposed national emissions trading scheme was appropriate and robust; and if so, whether the detailed methods proposed by the IPART Secretariat for estimating program costs under NSW programs and for calculating benchmarks under the proposed emissions trading scheme were robust and comparable. Report prepared for Independent Pricing and Regulatory Tribunal, Government of New South Wales, Australia. 8 pp. Not Publicly Available.

### **Independent Assessment of the ECOTECH Implementation of APEC Working Groups and SOM Taskforces: Energy Working Group**

Date published: 26 Jan 2009

*Author: David Crossley*

This independent assessment was primarily a process evaluation, ie it focused on the effectiveness of the methods of operation of the APEC Energy Working Group (EWG). The assessment reviewed the effectiveness and impact of EWG activities; analysed collaboration and interaction between the EWG and other bodies; and identified strategic priorities and future direction for the EWG. The report shows that EWG activities were closely linked to strategic priorities and direction set by a robust process using the standard APEC formula in which economy representatives propose new initiatives and priorities, these are discussed and agreed between economies and are then formulated into Ministers' and Economy Leaders' Declarations and directions. While no robust performance measures were in place to assess the effectiveness of the EWG's activities,



the generally high levels of scores in a questionnaire measuring APEC economies' levels of satisfaction with the EWG's work, suggested that EWG activities had generally been quite effective. Report prepared for APEC Secretariat, Singapore. 52 pp. [Download](#)

### **White Certificates in Australia: States Take the Lead**

Date published: 15 Jan 2009

Author: *David Crossley*

In Australia, there are currently two white certificate schemes in operation or planned: the Greenhouse Gas Reduction Scheme (GGAS) in operation in the State of New South Wales and the Australian Capital Territory; and the Victorian Energy Efficiency Target scheme (VEET) being planned in the State of Victoria to commence on 1 January 2009. Other related schemes are also in the initial stages. In the State of South Australia, an energy efficiency target scheme without certificates, the Residential Energy Efficiency Scheme (REES), is being planned to also commence on 1 January 2009. At the national level, the Commonwealth (federal) government is planning to introduce a nationwide emissions trading scheme (ETS) in 2010. Published in *DSM Spotlight*, Newsletter of the International Energy Agency Demand Side Management Programme, no 32, pp 3-9.

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### **White Certificates in Australia**

Date published: 22 Oct 2008

Author: *David Crossley*

This presentation covers the following topics: overview of white certificates in Australia; Greenhouse Gas Reduction Scheme (GGAS); Victorian Energy Efficiency Trading scheme (VEET); Residential Energy Efficiency Scheme (REES); conclusion; information resources. Presentation to the *Workshop on White Certificates*, CESI Ricerca, Milan, Italy, 22 October. [Download](#)

### **Evaluation and Acquisition of Network-driven DSM Resources**

Date published: 14 Oct 2008

Author: *David Crossley*

This report has two objectives: to summarise and review how DSM resources are evaluated, acquired and implemented in participating countries; and to develop 'best practice' principles, procedures and methodologies for the evaluation and acquisition of network-driven DSM resources. The survey of practices in the seven participating countries, Australia, France, India, New Zealand, South Africa, Spain and the United States identified a range of processes for evaluating, acquiring and implementing DSM resources to provide support for electricity networks. Good DSM resource acquisition processes include the following stages: assessing the need for DSM resources; identifying and evaluating available DSM resources; contacting potential providers of DSM resources; negotiating the provision of DSM resources; and acquiring and implementing the DSM resources. Best practices within each of these stages are tailored to the nature of each DSM resource and to the specific purpose for which the resource is required. Published as International Energy Agency Demand Side Management Programme, Task XV Research Report No 4. Second Edition. 40 pp. [Download](#)



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### **The Role of Advanced Metering and Load Control in Supporting Electricity Networks**

Date published: 13 Oct 2008

Author: *David Crossley*

The purpose of this report is to summarise ways in which advanced metering and load control technology can be effectively utilised to support electricity networks. Currently, recording the quantities of energy consumed by end-users is mostly carried out by using accumulation meters which simply record energy consumption progressively over time. However, more advanced meters are increasingly being used. Interval meters record the quantities of energy consumed over set, frequent time intervals. Smart meters include, in addition to the interval metering capability, one-way or two-way communications between the energy supplier and the meter. The report identifies three ways in which advanced metering and load control technology can be used to support electricity networks. First, advanced meters enable the implementation of time-varying pricing which sends price signals to customers that reflect the underlying costs of generating, transporting and supplying electricity. Price-based demand response programs can reduce or shape customer demand and particularly can reduce peak loads on the electricity network and therefore reduce the amount of investment required in network infrastructure. Second, analysing data from advanced meters provides end-users with detailed information about the ways in which they use electricity and can enable businesses to identify and implement energy, cost and carbon savings. Energy savings reduce the overall load on the electricity network, therefore contributing to supporting the network. Third, load control technologies can be used to directly reduce peak loads on the electricity network by remotely switching appliances and equipment at customers' premises. This is arguably the most effective mechanism for reducing peak loads since remote switching requires only one "set and forget" decision by end-use customers. Published as International Energy Agency Demand Side Management Programme, Task XV Research Report No 5. 94 pp.

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### **Incorporation of DSM Measures into Network Planning**

Date published: 10 Oct 2008

Author: *David Crossley*

This report has three objectives: to describe in detail how network-driven DSM measures interact with the electricity market structures and regulatory regimes existing in each participating country; to identify and characterise the network planning processes implemented in each participating country; and to develop options for modifying network planning processes to incorporate DSM measures as alternatives to network augmentation. Among the seven countries studied in this report, there is sufficient commonality to identify a number of key areas in which changes could be made to enable increased use of demand-side resources as alternatives to network augmentation and to support electricity networks. There are four key areas in which such changes can and should be made: forecasting future electricity demand; communicating information about network constraints; developing options for relieving network constraints; and establishing policy and regulatory regimes for network planning. Published as International Energy Agency Demand Side Management Programme, Task XV Research Report No 3. Second Edition. 94 pp. [Download](#)



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### **Assessment and Development of Network-driven Demand-side Management Measures**

Date published: 10 Oct 2008

*Author: David Crossley*

This report has three objectives: to identify the value proposition for network-driven DSM measures, including the specific network problems which these measures can successfully address; to determine the factors which result in a network-driven DSM measure being successful in cost-effectively achieving network-related objectives; and to further develop network-driven DSM measures to improve their effectiveness in achieving network-related objectives. The report concludes that the value of a network-driven DSM project varies among categories of stakeholders and may even vary among individual stakeholders. The distribution of the benefits from network-driven DSM projects among many different stakeholders means that the project proponent is unlikely to capture all the benefits from such a project. To provide significant value to the project proponent, the total benefits from a network-driven DSM project must be quite large and the proponent must be able to capture a significant proportion of these benefits. The report identifies a number of external and internal factors that may contribute to the success of network-driven DSM projects. The challenge in designing a network-driven DSM project that will ultimately be successful in achieving its objectives is to clearly identify the success factors for each of the DSM measures included in the project and then concentrate on optimising each of these factors. The final section of the report identifies the network problems that each category of network DSM measures can address; characterises the success factors which apply to each category; and examines how the DSM measures in each category should be implemented for them to be most effective in achieving network-related objectives. Published as International Energy Agency Demand Side Management Programme, Task XV Research Report No 2. Second Edition. 64 pp. [Download](#)

### **Worldwide Survey of Network-driven Demand-side Management Projects**

Date published: 10 Oct 2008

*Author: David Crossley*

The two prime objectives for network-driven DSM are: to relieve constraints on distribution and/or transmission networks at lower costs than building 'poles and wires' solutions; and/or to provide services for electricity network system operators, achieving peak load reductions with various response times for network operational support. This report focuses on the role of network-driven DSM in achieving these two objectives. The majority of the report reviews and summarises the results of a sample survey of 64 network-driven DSM projects undertaken worldwide over about the last 15 years. The survey showed that network-driven DSM options can effectively: achieve load reductions on electricity networks that can be targeted to relieve specific network constraints; and provide a range of network operational services. The survey also showed that all types of demand DSM measures can be used to relieve network constraints and/or provide network operational services. However, whether a particular DSM measure is appropriate and/or cost effective in a particular situation will depend on the specific nature of the network problem being addressed and the availability and relative costs of demand-side resources in that situation. Published as International Energy Agency Demand Side Management Programme, Task XV Research Report No 1. Second Edition. 415 pp. [Download](#)



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### **Greenhouse Impact Assessment of the Shoalhaven Transfers Project**

Date published: 18 Aug 2008

Author: *David Crossley*

Currently, the Shoalhaven Scheme is operated by the Sydney Catchment Authority (SCA) as a source of water for Sydney during periods of extended drought. Under the Metropolitan Water Plan, a government strategy to ensure a future secure supply of water, the Shoalhaven Water Supply Transfers Project managed by the SCA is investigating various options for optimising the transfer of water to Sydney from the Shoalhaven Scheme. The purpose of this study was to evaluate the greenhouse impact (as measured by carbon outputs) created by the various options under consideration for the Shoalhaven Transfers Project. Report prepared for Department of Commerce and Sydney Catchment Authority Government of New South Wales, Australia. 21 pp. Not Publicly Available.

### **Tradeable Energy Efficiency Certificates in Australia**

Date published: 31 Jul 2008

Author: *David Crossley*

Tradeable energy efficiency certificates are created in Australia as part of a larger baseline-and-credit emissions trading scheme, the Greenhouse Gas Reduction Scheme (GGAS) that operates in the State of New South Wales and the Australian Capital Territory. GGAS aims to reduce greenhouse gas emissions associated with the generation and use of electricity through project-based activities to offset the production of emissions. GGAS applies in two jurisdictions that are part of a wholesale electricity market operating across a total of six jurisdictions and this imposes some constraints on scheme design. Nevertheless, GGAS has developed a set of comprehensive operational systems and procedures to validate energy efficiency projects and verify the abatement they produce. To the end of calendar year 2006, nearly ten million energy efficiency certificates have been created under GGAS, representing nearly ten million tonnes of CO<sub>2</sub>-e abatement. Some significant issues have arisen regarding the creation of certificates from the mass distribution of small energy-efficient household appliances. However, the experience with GGAS still demonstrates that tradeable energy efficiency certificates can be an effective mechanism for incentivising greenhouse gas emissions abatement in the context of a baseline-and-credit emissions trading scheme. Published in the international journal *Energy Efficiency* vol 1, pp 267-281. [Download](#)

### **International Perspectives on Demand (Side) Management**

Date published: 29 Jul 2008

Author: *David Crossley*

This presentation covers the following topics: 27 years of demand side management; environmentally-driven DSM; network-driven DSM; market-driven DSM; conclusions; information resources. Presentation to the Australian Institute of Energy Symposium *Energy in NSW 2008-Supply and Demand-side Prospects*. Sydney, Australia, 29 July.

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### **Demand Side Management in the Energy Sector**

Date published: 15 Jun 2008

Authors: *David Crossley and Hugh Saddler*

This report describes main changes in the Australian energy market over the past 20 years, with particular focus on how these changes have affected incentives for utility initiated demand side management (DSM) activities. It also reviews the history of utility DSM activities in Australia and reviews experience with similar programs in a number of other countries. The study focuses on the effectiveness of DSM in delivering abatement of



greenhouse gas (GHG) emissions. The report also reviews demand side activities undertaken by energy businesses to meet obligations mandated by various types of government programs, usually with the aim of reducing GHG emissions, rather than providing economic benefit to the energy supply system. These programs account for the great majority of DSM activity in Australia today. On the basis of this experience, the report draws conclusions and makes recommendations about possible future roles for energy industry DSM in Australia. Report prepared for Department of Environment, Water, Heritage and the Arts, Commonwealth (federal) Government, Australia. 74 pp. Not Publicly Available.

### **Overview of APEC Energy Working Group Projects - Stage 2: Project Outcomes**

Date published: 16 May 2008

Author: *David Crossley*

This report forms part of the second stage of a review of projects that were funded and implemented under the auspices of the APEC Energy Working Group (EWG). A previous report (the initial overview report) concentrated on identifying and categorising EWG projects and therefore did not focus on project outcomes. The purpose of the second stage of the review is to summarise the outcomes of each of the projects and thereby demonstrate to a wider global audience how the EWG's project activities contribute towards addressing energy security, climate change and clean development. This report summarises the outcomes of EWG projects covering the following areas: energy efficiency and conservation; energy data and analysis; and energy trade and investment. The initial overview report concluded that the EWG projects had developed an extensive and comprehensive collection of policy-targeted information that has been, and will continue to be, invaluable in achieving APEC's goal of maximising the energy sector's contribution to the region's economic and social well being while mitigating the environmental effects of energy supply and use. The more detailed review of project outcomes in this report has confirmed the initial conclusion while identifying a range of strengths and weaknesses in the coverage and results of the projects. Report prepared for APEC Energy Working Group through the Department of Resources, Energy and Tourism, Commonwealth (federal) Government, Australia. 156 pp. [Download](#)

### **Time-Varying Calculation of GHG Emissions from Supplied Electricity**

Date published: 13 Feb 2008

Author: *David Crossley*

This submission on the *Technical Guidelines for the Estimation of Greenhouse Emissions and Energy at Facility Level* proposes that the National Greenhouse and Energy Reporting System in Australia should recognise that the greenhouse gas (GHG) emissions intensity of electricity supplied to end-users varies with the time of day, with the days of the week, and with seasons. The variation over time in the emissions intensity of supplied electricity was considered during the development of the framework for the Australian National Greenhouse Accounts. At that time, it was reportedly decided not to implement time-varying calculation of GHG emissions from supplied electricity because the differences resulting from the introduction of such a calculation methodology were seen as immaterial. This submission argues that this issue should be re-examined. In particular, the submission recommends that emissions attributed to facilities that use large quantities of electricity predominantly at particular times of day, and/or on specific days of the week, and/or during certain times of the year should be calculated using time-variable emission indices. Submission prepared for Department of Climate Change, Commonwealth (federal) Government, Australia. 5 pp. [Download](#).



### **Improving International Energy Initiatives**

Date published: 30 Nov 2007

Author: *David Crossley*

APERC defines International Energy Initiatives (IEIs) as a distinct class of energy-related actions on the international scene. This presentation covers the following topics: APERC's analysis of International Energy Initiatives (IEIs); examples of IEIs; operational issues with IEIs; conclusions; information resources. Presentation to *Asia Pacific Energy Research Centre Mid-Year Workshop*. Tokyo, 29-30 November. [Download](#).

### **Energy Efficiency in the Electricity Sector in Australia**

Date published: 29 Nov 2007

Author: *David Crossley*

This presentation covers the following topics: thirty years of energy efficiency; potential of energy efficiency to mitigate GHG emissions; energy efficiency policies and measures in Australia; role of electricity businesses in energy efficiency; conclusions; information resources. Presentation to *Asia Pacific Energy Research Centre Mid-Year Workshop*. Tokyo, 29-30 November. [Download](#).

### **IEA DSM Programme Task XV: Network-Driven DSM**

Date published: 23 Nov 2007

Author: *David Crossley*

This presentation covers the following topics: using DSM to support electricity networks; motivation, objectives and work plan for Task XV; Task XV results so far; selected case studies; conclusions; information resources. Presentation to *Workshop on Network Driven DSM*. Auckland, New Zealand, 23 November. [Download](#).

### **Promoting Energy Efficiency through International Energy Initiatives**

Date published: 13 Nov 2007

Author: *David Crossley*

This presentation covers the following topics: what are International Energy Initiatives (IEIs)?; actors involved in IEIs; purposes of IEIs; IEI modes of operation; promoting energy efficiency through IEIs; REEEP – Renewable Energy & Energy Efficiency Partnership; IEA-DSM – IEA Demand Side Management Programme; APEC-ESIS – APEC Energy Standards Information System; conclusions; information sources. Presentation to *Energy Efficiency Global Forum and Exposition*. Washington DC, USA, 11-14 November. [Download](#).

### **Smart Metering, Load Control and Energy-using Behaviour**

Date published: 10 Oct 2007

Author: *David Crossley*

This presentation covers the following topics: changing energy-using behaviour; advanced metering and behaviour change; load control technology and behaviour change; metering and load control technology products; case studies: using technology to change behaviour; options for low cost technology programs; conclusions information resources. Presentation to *Workshop on Smart Metering to Use Less Energy*. Brugge, Belgium, 10 October. [Download](#).



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### **International Experience in Demand Side Management**

Date published: 20 Sep 2007

Author: *David Crossley*

This presentation covers the following topics: 25 years of demand side management; environmentally-driven DSM; network-driven DSM; market-driven DSM; conclusions; information resources. Presentation to *India Electricity Conference*. New Delhi, India, 20-22 September. [Download](#).

### **Advanced Metering for Energy Supply in Australia**

Date published: 17 Jul 2007

Author: *David Crossley*

Apart from the State of Victoria, no other Australian jurisdiction currently has any regulation that applies specifically to advanced metering. However, some state regulators have introduced regulatory provisions that provide incentives for demand management. These provisions could encourage electricity businesses to use the functionalities available in advanced meters to implement demand management programs. Advanced meters enable the implementation of time-varying pricing under which the price per unit of energy varies according to the time of the day. Time-varying tariffs send price signals to customers that reflect the underlying costs of generating, transporting and supplying electricity, enabling resources to be allocated more efficiently. Furthermore, price-based demand response programs can reduce or shape customer demand, particularly to reduce loads at peak times on the electricity system. Trials of advanced metering technology and customer response to time-varying pricing are currently being carried out in most Australian States. The report also identifies and reviews a number of low cost technology products that enable various load control functions. This review draws the following conclusions: interval metering is not necessary to carry out load control functions – available technology can remotely switch loads without requiring connection to a meter; one-way communication is essential to carry out remote switching of loads; two-way communication is not essential to carry out remote switching of loads; and metering in some form is required for settlement of the financial transactions associated with load control programs. Installing advanced meters will, by itself, do nothing to reduce greenhouse gas emissions. Emission reductions will only be achieved if installing the meters results in changing people's behaviour so that they use less energy in total. Report prepared for Total Environment Centre, Sydney, Australia. 98 pp. [Download](#)

### **Review of the Victorian Renewable Energy Support Fund**

Date published: 4 Jul 2007

Author: *David Crossley*

The objectives, priorities and scope of the Renewable Energy Support Fund (RESF) work together to establish a funding program which is both broad in its application and quite narrow in its targeting. The original rationale for designing such a funding program was that it would address specific barriers to the uptake of renewable energy in Victoria. This rationale is still valid under current conditions in Victoria. The allocation of funding by RESF to 11 renewable energy generation projects has contributed to achieving the Victorian Government's objectives. However, because most of these projects are currently not fully operational, it is not possible to accurately quantify the value delivered, nor identify all the intangible benefits generated, as a result of government expenditure on RESF to date. RESF is best regarded as a "work in progress" that occupies a specific niche in the range of mechanisms currently being implemented to increase the uptake of renewable energy in Victoria. RESF's contribution to achieving this overall policy objective



has so far been relatively small. However, with the implementation of the recommendations in this report regarding RESF's targeting and operation, the program has the potential to make a much larger contribution. Report prepared for Sustainability Victoria, Government of Victoria, Australia. 41 pp. Not Publicly Available.

### **Using Technology to Influence Energy-using Behaviour**

Date published: 19 Jun 2007

Author: *David Crossley*

This presentation covers the following topics: changing energy-using behaviour; using technology for load control; load control technology products; changing behaviour through load control; options for low cost load control programs; information resources. Presentation to *Demand Response and DSM Conference*. Adelaide, 19-20 June.

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### **Overview of APEC Energy Working Group Projects - Stage 1**

Date published: 15 Apr 2007

Author: *David Crossley*

Projects are a vital part of the APEC process. APEC projects respond to Ministers' and Leaders' calls for action in specific policy areas and help translate these calls into physical action. APEC projects cover a wide range of activities, such as seminars, publications and research, and are aimed at enhancing economic growth and prosperity for the region, including trade and investment liberalisation and economic and technical cooperation. Since 1992, 250 projects have been funded and implemented under the auspices of the APEC Energy Working Group (EWG). These projects are closely linked to APEC policy initiatives. In some case the projects contribute to the development of policy and in other cases they play a significant role in policy implementation. EWG projects represent excellent value for money. The outcomes and results of the projects constitute an extensive and comprehensive collection of policy-targeted information. This information has been, and will continue to be, invaluable in achieving APEC's goal of maximising the energy sector's contribution to the region's economic and social well being while mitigating the environmental effects of energy supply and use. Report prepared for APEC Energy Working Group through the Department of Industry, Tourism and Resources, Commonwealth (federal) Government, Australia. 97 pp. [Download](#)

### **Market for Climate Change Response Services**

Date published: 18 Dec 2006

Author: *David Crossley*

The increasing momentum with which governments, businesses and individual people are starting to take effective action on climate change provides a range of opportunities for the client to provide services to assist businesses prepare for an increasingly carbon constrained future. The major opportunities in Australia arise from climate change-related policies and programs implemented by the Commonwealth and State Governments which impose various mandatory obligations on businesses and individuals. Report prepared for a confidential client. 6 pp. Not Publicly Available.

### **Low Cost Load Control Technology**

Date published: 22 Nov 2006

Author: *David Crossley*

This presentation covers the following topics: components of load control technology; survey of load control technology products; technology review; options for low cost load control programs; creating a forward path for load control technology; information



resources. Presentation to *Metering & Billing/CRM Conference*. Brisbane, Australia, 20-22 November. [Download](#)

### **Organizational Decision Making on Energy Efficiency**

Date published: 20 Nov 2006

*Authors: David Crossley and Greg Watt*

Two significant types of barriers to energy efficiency have been identified that give rise to market failures where firms are unable to act to maximize their economic benefits: the principal/agent barrier which leads to participants in the market having split incentives with respect to purchase and use of energy-efficient equipment and appliances; and the transaction costs barrier which relates to the significant costs involved in acquiring adequate information about energy-efficient options – this may give rise to market failure barriers such as imperfect information. However market failures (in this case manifesting as a lack of investment in profitable energy efficiency) seem to be caused by much more than the identified barriers. This report investigates aspects of so-called ‘institutional barriers’, including organisational impediments, cultural issues, and personal preferences. Together these constitute what could be described as ‘organizational decision making’. Active strategies to promote increased energy efficiency within a firm (such as targeted employee communications campaigns, focus groups and so on) are unlikely to be a low cost option. Modelling firm behaviour as the basis for these strategies has some appeal but only if it can be clearly demonstrated that the model results are realistic. A number of approaches show some promise – the bottom line being that there should be a very clear understanding of the scope of the problem to be addressed before selecting an approach. Report prepared for Department of Industry, Tourism and Resources, Commonwealth (federal) Government, Australia, as part of the International Energy Agency Market Failures in Energy Efficiency Study. 22 pp. [Download](#)

### **Strategy for [the Client’s] Load Management Business**

Date published: 20 Nov 2006

*Author: David Crossley*

The advent of competitive wholesale electricity markets in Australia and New Zealand, together with the rapid development of new types of load control technologies has provided significant opportunities and challenges for the client’s load management business. Both government policy and regulatory incentives in Australia are moving towards supporting the wide scale introduction of interval metering and the development of DSM programs that are designed to increase the economic efficiency of the National Electricity Market and to support electricity networks. This is driving rapid change in the market for load management systems in Australia. In the future, the development of an expanding range of network DSM programs, particularly sophisticated demand response programs with time-varying pricing, will open up a large market for load control technology products. The major market for load management systems will then comprise low cost load management technology that provides the flexibility, speed and two-way communications functionality required by demand response programs. There are significant opportunities for the client’s business in these developments. Report prepared for a confidential client. 79 pp. Not Publicly Available.



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### **Demand Management for Electricity Networks**

Date published: 9 Nov 2006

Author: *David Crossley*

This presentation covers the following topics: 25 years of demand management; network demand management; network DM in Queensland; using DM to defer network augmentation; using DM to manage peak loads; current Australian experience in network DM; conclusions; information resources. Presentation to *Powerlink Forum on Climate Change and Transmission*. Brisbane, Australia, 9 November. [Download](#)

### **Review of Load Management and Demand Response in Australia**

Date published: 26 Oct 2006

Author: *David Crossley*

This report includes information and analysis in relation to the following topics: new opportunities for load management, including conclusions from a worldwide review of load management programs; Australian government policy on demand-side participation in the National Electricity Market; regulatory incentives for network demand-side management (DSM); currently available low cost load control technology products, including pricing, availability and current deployment. Both government policy and regulatory incentives in Australia are moving towards supporting the wide scale introduction of interval metering and the development of DSM programs that are designed to increase the economic efficiency of the National Electricity Market and to support electricity networks. This is driving rapid change in the market for load management systems in Australia. In the future, the development of an expanding range of network DSM programs, particularly sophisticated demand response programs with time-varying pricing, will open up a large market for load control technology products. The major market for load management systems will then comprise low cost load management technology that provides the flexibility, speed and two-way communications functionality required by demand response programs. Published by Energy Futures Australia Pty Ltd, Sydney, Australia. 77 pp. [Download](#)

### **Energy Efficiency, Demand Management and Energy Security**

Date published: 23 Oct 2006

Author: *David Crossley*

This presentation covers the following topics: energy security issues; 30 years of energy efficiency; using energy efficiency to mitigate greenhouse gas emissions; 25 years of demand management; using demand management to relieve electricity network congestion; conclusions; information resources. Presentation to *Energy Security Conference*. Sydney, Australia, 23-24 October. [Download](#)

### **Sustainability Policy Objectives for the Introduction of Advanced Metering Infrastructure in Victoria**

Date published: 12 Sep 2006

Author: *David Crossley*

The specification for the trials of AMI technology in Victoria makes it clear that the purpose of the trials is to test only the hardware included within AMI systems. Peripheral technologies, such as in-home displays and other load control devices, will not be tested. Neither will there be any trials of load management programs such as time-variable pricing and/or direct load control. The scope of the specification is understandably restricted by the overriding requirement to test the various hardware components of AMI systems. However, the trials also present an unparalleled opportunity to test both peripheral technologies and load management programs and thereby gain valuable information about



their likely effectiveness. Therefore, it is recommended that consideration be given to expanding the scope of the AMI technology trials to include tests of peripheral technologies and load management programs. Report prepared for Sustainability Victoria, Government of Victoria, Australia. 12 pp. Not Publicly Available.

### **International and Australian Experience in Network Demand Management**

Date published: 11 Sep 2006

*Author: David Crossley*

The current high level of growth in demand on the Queensland electricity network has led to requirements to accelerate capital expenditure on network infrastructure projects. Network demand management (NDM) may be able to mitigate some of this capital expenditure. The purpose of this report is to review selected NDM programs that have been undertaken in other parts of Australia and overseas and to summarise insights from these programs that are relevant to the current situation of the Queensland electricity network. Two major Queensland network issues can be addressed through NDM programs: managing network peak loads; and deferring network augmentation. The report reviews a total of 38 NDM programs that have been implemented in Australia and overseas. For each program objective, the report assesses the applicability of each NDM measure to the current situation of the Queensland electricity network. This analysis shows that the Queensland NDM initiative can be supported and improved by incorporating insights and lessons learned from the extensive existing experience in implementing NDM programs in other parts of Australia and in other countries. Report prepared for Queensland Joint Working Initiative on Network Demand Management established by the electricity network businesses Ergon Energy, Energex and Powerlink. 53 pp. Not Publicly Available.

### **Options for Demand Side Response in the National Electricity Market: Initial Overview Report**

Date published: 13 Jun 2006

*Author: David Crossley, Hugh Outhred and Alex Baitch*

This report builds upon work already carried out on demand side response opportunities and technical impediments and barriers to the greater uptake of demand side response (DSR) in the Australian National Electricity Market (NEM). In particular, the report considers both previously- and newly-identified barriers to: increased levels of DSR in the NEM; increased awareness and understanding of DSR; and increased use of load control technology. Where necessary, the report develops options to overcome these barriers. Report prepared for the Demand Side Response Working Group of the Ministerial Council on Energy, Australia. 99 pp. Not Publicly Available.

### **Independent Peer Review of the Brighter Future Solar Cities Detailed Business Case**

Date published: 26 Apr 2006

*Author: David Crossley*

The Brighter Future Solar Cities trial project includes a broad range of program interventions directed to addressing the Solar Cities selection criteria. These interventions will enable testing of various approaches to dealing with the energy challenges currently facing Australia, including: the growth in electricity demand, particularly at peak times on electricity networks; the lack of demand-side user participation in the Australian National Electricity Market; the relatively low uptake of solar and energy efficiency technologies; and the perceived need to reduce both overall energy use and greenhouse gas emissions in Australia. Report prepared for the Sydney Olympic Park Authority, Government of New South Wales, Australia. 12 pp. Not Publicly Available.



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### **Energy Challenges for Solar Cities**

Date published: 12 Apr 2006

Author: *David Crossley*

The Solar Cities programme is intended to be an integrated response to four major energy challenges: the growth in electricity demand, particularly at peak times on electricity networks; the lack of demand-side user participation in the Australian National Electricity Market; the relatively low uptake of solar and energy efficiency technologies; and the perceived need to reduce both overall energy use and greenhouse gas emissions in Australia. The selection of the technologies and methodologies that are required to be used in Solar Cities trials to address these challenges was driven by the implementation of electricity industry reform in Australia, particularly the establishment of the National Electricity Market. This provides the policy context within which designing a Solar Cities trial project should be carried out. Relevant Solar Cities programme selection criteria can be grouped according to which of the four major energy challenges they apply. The relevant policy context can then be applied to develop design principles for a Solar Cities trial project. Report prepared for the Sydney Olympic Park Authority, Government of New South Wales, Australia. 14 pp. Not Publicly Available.

### **Demand Response - A Win-Win Solution for the Electricity Industry**

Date published: 27 Mar 2006

Author: *David Crossley*

This presentation covers the following topics: what is demand response?; why demand response?; how does demand response work? – an example of a DR program; use of demand response for reserve capacity; enabling technologies for demand response; opportunities for demand response in Australia; benefits of demand response; information resources. Presentation to *Demand Response and DSM Conference*. Sydney, Australia, 27 March. [Download](#)

### **Demand Management - A User Driven Initiative**

Date published: 28 Feb 2006

Author: *David Crossley*

This presentation covers the following topics: origins of electricity DSM; definition and characteristics of demand management; why network-driven demand management?; how does network-driven demand management work?; enabling technologies for demand response; opportunities for demand response in Australia; information resources. Presentation to *Queensland Power & Gas 2006 Conference*. Brisbane, Australia, 28 February. [Download](#)

### **International and Australian Developments in Demand Response**

Date published: 2 Feb 2006

Author: *David Crossley*

This presentation covers the following topics: what is demand response?; why demand response?; how does demand response work? –examples of DR programs; enabling technologies for demand response; benefits of demand response; barriers to demand response; opportunities for demand response in Australia; information resources. Presentation to *Energy Supply Association of Australia 2006 Residential School*. Sydney, Australia, 2 February. [Download](#)



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### **ESD Compliance Assessment of the Shoalhaven Transfer Project: Progress Report**

Date published: 27 Jan 2006

Author: *David Crossley*

Governing legislation requires the Sydney Catchment Authority to conduct its activities in compliance with four principles of ecologically sustainable development: the precautionary principle; the inter-generational equity principle; the conservation of biological diversity and ecological integrity principle; and the improved valuation, pricing and incentive mechanisms principle. As the development of the Shoalhaven Transfer Project proceeds, these ESD principles will be progressively considered during decision making and the project as a whole will progress towards compliance with the principles. The purpose of this report is to assess the progress towards compliance achieved at the current stage of development of the project. Report prepared for Department of Commerce and Sydney Catchment Authority, Government of New South Wales, Australia. 8 pp. Not Publicly Available.

### **Accreditation of [the Technology] Under the GGAS Scheme: Initial Analysis of Benefits and Costs**

Date published: 27 Dec 2005

Author: *David Crossley*

This report comprises an initial analysis of the financial benefits and costs of accrediting the technology under the New South Wales Greenhouse Gas Reduction Scheme. The purpose of this initial analysis was to provide the client with a rough order of magnitude estimate of benefits and costs to enable a decision to be made on whether to proceed further with accreditation. Report prepared for a confidential client. 6 pp. Not Publicly Available.

### **The Role of Demand Response in Electricity Market Reform**

Date published: 22 Nov 2005

Author: *David Crossley*

This presentation covers the following topics: what is demand response?; why demand response?; how does demand response work? – examples of DR programs; enabling technologies for demand response; benefits of demand response; barriers to demand response; opportunities for demand response in Australia; information resources. Presentation to *Business of Energy Efficiency Conference*. Melbourne, Australia, 22-23 November. [Download](#)

### **Energy Efficiency and Greenhouse Gas Emissions Abatement**

Date published: 21 Nov 2005

Author: *David Crossley*

This presentation covers the following topics: what is energy efficiency?; 30 years of energy efficiency; energy use and GHG emissions; energy efficiency and emissions abatement; why do people use energy inefficiently?; increasing the take-up of energy efficiency; conclusions; information resources. Presentation to *Emissions Reduction Conference*. Sydney, Australia, 21-22 November. [Download](#)

### **IEADSM Task XV: Network-driven DSM**

Date published: 11 Nov 2005

Author: *David Crossley*

This presentation covers the following topics: what is IEADSM Task XV?: Task XV participants; interaction between different types of demand side management (DSM); why network-driven DSM? focus of Task XV; network-driven DSM measures; Task XV



objectives; Task XV work plan and timetable; survey of network-driven DSM projects; case studies of network-driven DSM projects; conclusions from network-driven DSM survey; information resources. Presentation to *Workshop on the Future of Demand Response*. Melbourne, 11 November. [Download](#)

### **Thailand's Energy Efficiency Revolving Fund - A Case Study**

Date published: 30 Jul 2005

*Authors: David Crossley, Peter du Pont and Monthon Kumpengsath*

Thailand's Energy Efficiency Revolving Fund ("the Fund") commenced operation in January 2003. The Fund was established to stimulate financial sector involvement in energy efficiency projects and to simplify project evaluation and financing procedures. The Fund provides capital at no cost to Thai banks to fund energy efficiency projects, and the banks provide low cost loans to project proponents. Government intervention in the financing process is minimised. From the perspective of a government, the financing model used in the Fund is very attractive: The major risk arises from the possibility of project proponents defaulting on loans. The adverse consequences from defaults fall mainly on the project proponent themselves and partly on the lending bank, while the government carries no risk; The financing model is simple and straightforward and does not rely on any factors unique to the situation in Thailand. Therefore, it could easily be applied in other APEC economies. However, if it is intended to apply the financing model to another APEC economy, it would be advisable to first resolve some of the negative aspects of the model. Report prepared for APEC Energy Working Group through the Department of Industry, Tourism and Resources, Commonwealth (federal) Government, Australia. 26 pp. [Download](#)

### **Opportunities for Demand Response in the National Electricity Market**

Date published: 27 Jul 2005

*Author: David Crossley*

This presentation covers the following topics: what is demand response?; why demand response?; how does demand response work?; enabling technologies for demand response; benefits of demand response; barriers to demand response; opportunities for demand response; information resources. Presentation to Electric Energy Society of Australia Seminar on *Embedded Generation and Demand Responses*. Sydney, Australia, 27 July. [Download](#)

### **Options for Demand Response in Solar Cities Projects**

Date published: 20 Jun 2005

*Author: David Crossley*

This presentation covers the following topics: what is demand response?; why demand response?; how does demand response work?; enabling technologies for demand response; benefits of demand response; barriers to demand response. Presentation to *Information Seminar for Solar Cities Consortia*. Sydney, Australia, 20 June. [Download](#)

### **Waste to Energy: A Guide for Local Authorities**

Date published: 1 May 2005

*Authors: Steve Schuck, David Crossley and Greg Watt*

The Guide is intended to increase the awareness and understanding of opportunities for waste to energy applications amongst key decision makers. The primary target audience for the Guide is local authorities throughout Australia, including local councils and water, sewerage and waste authorities. Report prepared for Australian Business Council for



Sustainable Energy, funded by the Australian Greenhouse Office, Commonwealth (federal) Government, Australia. 60 pp. [Download](#)

### **The White Certificate Scheme in New South Wales, Australia**

Date published: 14 Apr 2005

Author: *David Crossley*

This presentation covers the following topics: New South Wales Greenhouse Gas Abatement Scheme; environmental credits (NGACs) in the NSW GHG Abatement Scheme; what is demand side abatement?; demand side abatement projects; how are demand side abatement NGACs created?; methods for calculating the number of NGACs; generated by demand side abatement projects; performance of the NSW GHG Abatement Scheme; trading of NGACs; issues with white certificate in the NSW Scheme. Presentation to International Energy Agency Demand Side Management Programme Task 14 *Workshop on White Certificates*. Paris, France, 14 April. [Download](#)

### **Demand Response Policy and Programs**

Date published: 16 Mar 2005

Author: *David Crossley*

This presentation covers the following topics: what is demand response?; enabling technologies for demand response; use of demand response to provide reserve capacity; demand response in the United States; demand response in the rest of the world; benefits of demand response; barriers to demand response; policy conclusions. Presentation to *Metering, Billing and CRM/CIS Australia and New Zealand Conference 2005*. Melbourne, Australia, 15-17 March. [Download](#)

### **International Experience in Demand Management and Energy Efficiency**

Date published: 8 Feb 2005

Author: *David Crossley*

The term “demand-side management” (DSM) was introduced to the electricity industry in 1981 by Clark Gellings, a senior executive at the Electric Power Research Institute (EPRI) in the United States. Gellings coined the term to describe measures taken by electricity utilities to influence the way end use customers purchase and use electricity. DSM measures were designed to influence behaviour on the customer’s side of the electricity meter (the “demand side”) rather than to change actions on the utility side of the meter (the “supply side”). Since Gellings introduced the concept, DSM has spread throughout the world into both developed and developing countries. DSM has also changed markedly, adapting and adjusting as the electricity industry in many countries moved from the centrally planned provision of a public service to the supply of a tradeable commodity in competitive markets. In particular, DSM programs have become more narrowly-targeted with very specific objectives. However, the main driver of DSM has not changed – the role of the end use customer in determining how, when and where electricity is used. Consequently, the main goal of DSM programs is still to influence the electricity-using behaviour of end-use customers to ensure that the objectives of the programs are achieved. Paper prepared for *Energy Supply Association of Australia 2005 Residential School*. Sydney, Australia, 8 February. 20 pp. [Download](#)



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### **Increasing the Level of DSM in Vietnam through DSM Regulation**

Date published: 16 November 2004

Author: *David Crossley*

DSM programs have the potential to reduce the level of expenditure required to meet the forecast major increase in demand for electricity in Vietnam. Where the overall cost of DSM programs is cheaper than building new generation, transmission and distribution capacity, it makes sense for the Government of Vietnam to implement regulatory measures which require and/or support Electricity of Vietnam and the eight power companies which distribute and supply electricity throughout Vietnam to invest in DSM programs. The purpose of this Discussion Paper is: to review how DSM regulation has been implemented internationally and to present examples which may be relevant to Vietnam; to review the current situation in Vietnam with regard to DSM regulation and utility pricing/incentives for DSM; and to discuss possible options for implementing DSM regulation and establishing appropriate utility incentives to increase the level of DSM in Vietnam. Report prepared for Electricity of Vietnam funded by the World Bank. 26 pp. Not Publicly Available.

### **Increasing the Sustainability of Electricity Networks through Demand Side Management**

Date published: 5 Sep 2004

Author: *David Crossley*

This paper is concerned with demand side management (DSM) activities to achieve a specific purpose – deferring or avoiding expansion of the electricity supply network. This is ‘network-driven’ DSM, which is concerned with reducing demand on the electricity network in specific ways which maintain system reliability in the immediate term and over the longer term defer the need for network augmentation. The paper reports a survey which reviews and summarises a sample of relevant DSM activities undertaken in Australia and internationally over about the last 20 years. The survey focused on activities which may provide ideas for DSM programs which could be undertaken to relieve constraints in the inner Sydney region electricity network, and more generally in localities throughout New South Wales where there are local network constraints. The survey showed that DSM options can effectively achieve load reductions on electricity networks. These load reductions can be targeted to occur: across the whole of the electrical load curve, or only at the time of the network system peak; and generally across the network in a particular geographical area, or restricted to one or more specific network elements such as certain lines or substations. All types of DSM activities can be used to relieve network constraints. However, whether a particular DSM activity is appropriate and/or cost effective in a particular situation will depend on the specific nature of the network problem being addressed and the availability and relative costs of demand-side resources in that situation. Paper prepared for *19th World Energy Congress*, Sydney, Australia, 5-9 September. 12 pp. [Download](#)

### **Review of SEDA’s Investment Function and Outcomes: Supplementary Report**

Date published: 3 Sep 2004

Author: *David Crossley*

This report provides advice on the appropriate sustainable energy technologies for which the Department of Energy, Utilities and Sustainability could provide financial assistance. Stakeholders surveyed for this report unanimously agreed that New South Wales Government funding to facilitate the development and use of sustainable energy technology is still required. The stakeholders also concluded that this funding should



cover: the development and demonstration stages of technology development, as well as commercialisation; and enabling technologies, such as software as well as hardware, and processes, practices and designs as well as products. The report recommends specific sustainable energy technologies for targeted funding, based on recommendations made by the stakeholders. Report prepared for the Department of Energy, Utilities and Sustainability, Government of New South Wales, Australia. 18 pp. Not Publicly Available.

**Review of SEDA's Investment Function and Outcomes: Second Edition**

Date published: 3 Sep 2004

*Author: David Crossley*

The first edition of this report was prepared when the New South Wales Sustainable Energy Development Authority (SEDA) was still in existence. This second edition of the report updates the information following the abolition of SEDA and the transfer of its functions to the Department of Energy, Utilities and Sustainability (DEUS). One of the two objectives specified for SEDA in its Act of Parliament was to facilitate the development, commercialisation, promotion and use of sustainable energy technology. To assist in achieving this objective, the Act gave SEDA the power to provide energy development assistance, including loans, grants, subsidies and financial guarantees. Compared with many other technology development programs, SEDA's investment projects were remarkably successful in achieving their objectives. While market transformation, the permanent and self-sustaining success of sustainable energy technologies in the marketplace, has not yet been completed, the projects made significant progress in commercialising many sustainable energy technologies. SEDA's investment projects were also very successful in leveraging additional investments. The report canvasses the way forward for a continuing role in investing in sustainable energy technology development be undertaken by DEUS on the basis that the New South Wales Government, remains committed to facilitating the development of sustainable energy technologies. Report prepared for the Department of Energy, Utilities and Sustainability, Government of New South Wales, Australia. 115 pp. Not Publicly Available.

**PV Connection Agreements in New South Wales**

Date published: 18 Aug 2004

*Authors: David Crossley, Geoff Stapleton and Greg Watt*

The purpose of this report is to develop proposals to improve the arrangements for connecting small photovoltaic (PV) systems to the New South Wales (NSW) electricity distribution network. Initially, the results from this project were to be used to create a standard uniform agreement across NSW for connection of small PV systems to the electricity distribution network. However, research undertaken during this project suggests that the lack of a standard connection may not be a major barrier to increased numbers of customers purchasing and installing such systems. Interviews with PV system installers demonstrated that difficulties in finding the correct person to talk to in electricity businesses and delays in obtaining approval to connect PV systems to the network were the major problems faced by installers. These problems will not necessarily be improved by instituting a standard connection agreement across NSW for small PV systems. The report lists the major issues which have been identified as causing problems with the connection of small PV systems. Most of the problems occur because there are only a small number of connections of PV systems to the electricity distribution network each year. Consequently, dealing with a PV system connection is a rare event for many installers and all electricity industry personnel. The improved arrangements proposed in this report may assist in overcoming many of the identified problems. Report prepared for



the Department of Energy, Utilities and Sustainability, Government of New South Wales, Australia. 21 pp. Not Publicly Available.

### **International Developments in Electricity Demand Management – Lessons for Australia**

Date published: 12 Aug 2004

*Author: David Crossley*

This presentation covers the following topics: origins of electricity DSM; electricity DSM in the US; electricity demand management in Australia; types of energy demand management; environmentally-driven demand management; network-driven demand management; market-driven demand management; conclusion. Presentation to *80th Annual Electric Energy Society of Australia Conference: The Next 80 Years*. Sydney, Australia, 12 August. [Download](#)

### **The Australian Photovoltaic Industry Roadmap**

Date published: 3 Aug 2004

*Authors: Paul Cowley, David Crossley, Geoff Stapleton and Greg Watt (Consultants)*

This market and technology Roadmap provides a guide to the development of the Australian solar PV industry in relation to both domestic and export markets, ensuring appropriate Australian ownership of the technology and promoting a sound commercial strategy. The Roadmap is the culmination of an extensive 10 month consultation process involving input from all areas of the industry and taking into account international developments impacting upon the PV industry. It sets out the industry development strategy to deliver a cost competitive, vibrant Australian PV industry by 2020. During the consultation, Australian industry outlined 'Sunrise' targets for PV market expansion for 2010 and 2020 that it has the capability to deliver in cooperation with government. Prepared for Australian Business Council for Sustainable Energy, funded by AusIndustry, Commonwealth (federal) Government, Australia. 120 pp. [Download](#)

### **Demand Management Activities Applicable to Electricity Networks**

Date published: 20 Feb 2004

*Author: David Crossley*

This report is concerned with demand management activities to achieve a specific purpose – deferring or avoiding expansion of the electricity supply network in the inner Sydney region. The majority of the report comprises a survey which reviews and summarises a sample of relevant demand management activities undertaken in Australia and internationally over about the last 20 years. The survey focuses on activities which may provide ideas for demand management programs which could be undertaken to relieve constraints in the inner Sydney region electricity network, and more generally in localities throughout New South Wales where there are local network constraints. The survey showed that demand management options can effectively achieve load reductions on electricity networks. These load reductions can be targeted to occur: across the whole of the electrical load curve, or only at the time of the network system peak; and generally across the network in a particular geographical area, or restricted to one or more specific network elements such as certain lines or substations. If the load reductions achieved through demand management are sufficiently large and appropriately targeted they may relieve network constraints and consequently may be able to defer requirements to build network augmentations. All types of demand management activities can be used to relieve network constraints. However, whether a particular demand management activity is appropriate and/or cost effective in a particular situation will depend on the specific nature of the network problem being addressed and the availability and relative costs of



demand-side resources in that situation. Report prepared for EnergyAustralia, TransGrid and New South Wales Department of Infrastructure, Planning and Natural Resources, Australia. 90 pp. [Download](#)

### **Public Policy Analysis of Energy Efficiency and Load Management in Changing Electricity Businesses**

Date published: 1 Oct 2003

*Authors: Edward Vine, Jan Hamrin, Nick Eyre, David Crossley, Michelle Maloney, and Greg Watt*

The focus of this paper is: (1) the potential effectiveness of the reform of the electricity industry on promoting energy efficiency and load management; and (2) the potential effectiveness of new mechanisms for promoting energy efficiency and load management. Many countries are initiating reforms of their power sectors to stimulate private investment, increase operation and management efficiencies, and lower the cost of power. These countries are unbundling vertically integrated utilities into distinct generation, transmission, distribution and retail supply companies; introducing commercial management principles to government-owned monopolies; and in many cases transferring operation or ownership to private companies. Electric industry restructuring may force regulators and policy makers to re-examine existing mechanisms for promoting load management and energy efficiency. In some cases, electric industry restructuring replaces the long-standing relationship between a single monopoly provider and protected customer franchise with a new set of relationships among retail electricity suppliers and customers who may now be free to choose suppliers. In these types of situations, markets, not government regulators and utility monopolies, are seen as determining future energy production and consumption decisions. However, it is uncertain whether this type of restructuring will overcome important market barriers to energy efficiency that limit markets for energy-efficient products and services from functioning effectively. As a result of these barriers, a large, untapped potential for cost-effective energy-efficiency investments exists. Supporters of public policies argue that energy-efficiency programs are an appropriate government strategy to capture economic efficiencies that the market cannot secure unassisted. Published in the international journal *Energy Policy* vol 31, pp 405-430. [Download](#)

### **Review of SEDA's Investment Function and Outcomes: First Edition**

Date published: 1 Sep 2003

*Author: David Crossley*

One of the two objectives specified for SEDA in its Act of Parliament was to facilitate the development, commercialisation, promotion and use of sustainable energy technology. To assist in achieving this objective, the Act gave SEDA the power to provide energy development assistance, including loans, grants, subsidies and financial guarantees. Compared with many other technology development programs, SEDA's investment projects were remarkably successful in achieving their objectives. While market transformation, the permanent and self-sustaining success of sustainable energy technologies in the marketplace, has not yet been completed, the projects made significant progress in commercialising many sustainable energy technologies. SEDA's investment projects were also very successful in leveraging additional investments. The report canvasses the way forward for SEDA's investment function on the basis that the New South Wales Government, remains committed to facilitating the development of sustainable energy technologies. Report prepared for the Sustainable Energy Development Authority, Government of New South Wales, Australia. 110 pp. Not Publicly Available.



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### **The Use of Market Forces and Market Instruments in Demand Management**

Date published: 5 Aug 2003

*Author: David Crossley*

This presentation covers the following topics: demand management mechanisms; role of the market; market mechanisms; advantages of market mechanisms; new demand management research project. Presentation to Australian Institute of Energy *Symposium on Record Electricity Demand Growth: Is Air Conditioning the Only Sinner?* Sydney, Australia, 5 August. [Download](#)

### **Snowy Corporatisation Handover Report**

Date published: 3 May 2003

*Author: David Crossley and Geoff Chambers*

The Snowy corporatisation project was carried out over eight years and was highly complex, comprising numerous sub-projects covering a broad range of disparate issues, including: resources management, electricity industry reform, water industry reform, land use planning, environmental remediation, industrial relations, financial analysis, company structure and governance, and inter-governmental relations. The purpose of this handover report is to record the corporate knowledge of the Snowy corporatisation project. This is essential given that the project was managed by contractors (the authors of this report) who were engaged by New South Wales Treasury only for the duration of the project. The report is intended to describe the situations in relation to the major issues involved in Snowy corporatisation as they were when the Snowy project was handed over to staff of New South Wales Treasury by the contract project managers. This handover occurred soon after the corporatisation date, 28 June 2002. However, since the corporatisation date, new information, events, interpretations and circumstances have and will change the context and currency of the material presented in this report. Report prepared for The Treasury, Government of New South Wales, Australia. 400 pp. Not Publicly Available.

### **Program Business Plan: Commercial Energy Efficiency Pilot Program**

Date published: 15 Oct 2002

*Authors: Stephen Wilson, Felix Gooneratne, Vu Kim Thoa and David Crossley*

The major objective of the Commercial Energy Efficiency Pilot Program is to test the market readiness and appropriateness of various commercial business models and mechanisms to support expanded energy efficiency activities and investments in Vietnam. The pilot program will catalyse the development of a small group of commercial service providers or 'Project Agents' to develop replicable energy efficiency project investment in commercial, municipal and industrial sectors. The pilot program will be implemented over four years — 2003 to 2006 — with the first year for training and preparation and the following three years for project implementation. Report prepared for Ministry of Industry, Government of Vietnam, funded by the World Bank. 20 pp. Not Publicly Available.

### **Detailed Documentation: Commercial Energy Efficiency Pilot Program**

Date published: 15 Oct 2002

*Authors: Stephen Wilson, Felix Gooneratne, Vu Kim Thoa and David Crossley*

This report provides supporting documentation for the Business Plan of the Commercial Energy Efficiency Pilot Program and is based on work from a number of tasks completed on-site in Vietnam during April 2002, including: identification of secondary data sources; primary data gathering in the form of 20 walk-through audits and interviews of site engineers and financial controllers to identify energy efficiency opportunities; 20 survey interviews of potential projects agents; two interactive workshops held in Hanoi and Ho Chi Minh City; and on further work completed off-site by the project team. Report



prepared for Ministry of Industry, Government of Vietnam, funded by the World Bank. 130 pp. Not Publicly Available.

### **Possible New Business Opportunities for [the Client]**

Date published: 11 Oct 2002

Author: *David Crossley*

This report identifies possible new business opportunities for the client in relation to the development and utilisation of a renewable energy resource. Report prepared for a confidential client. 12 pp. Not Publicly Available.

### **Energy Efficiency and Load Management Under Changing Electricity Market Conditions**

Date published: 18 Aug 2002

Authors: *Edward Vine, Jan Hamrin, Nick Eyre, David Crossley, Michelle Maloney and Greg Watt*

Many countries are initiating reforms of their power sectors to stimulate private investment, increase operation and management efficiencies, and lower the cost of power. These countries are unbundling vertically-integrated utilities into distinct generation, transmission, distribution and retail supply companies; introducing commercial management principles to government-owned monopolies; and in many cases transferring operation or ownership to private companies. Electric industry restructuring may force regulators and policy makers to re-examine existing mechanisms for promoting load management and energy efficiency. It is uncertain whether restructuring will overcome important market barriers to energy efficiency that limit markets for energy-efficient products and services from functioning effectively. The focus of this paper is: (1) the potential effectiveness of the reform of the electricity industry on promoting energy efficiency and load management; and (2) the potential effectiveness of new mechanisms for promoting energy efficiency and load management. Published in *Proceedings of the ACEEE 2002 Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA, USA, American Council for an Energy Efficient Economy, pp 5.293-5.304. [Download](#).

### **Strategic Review of SEDA's Planning Methodologies**

Date published: 2 Aug 2002

Author: *David Crossley*

Currently, the New South Wales Sustainable Energy Development Authority (SEDA) is well placed in a growing market for the programs and activities it has developed to achieve the two principal objectives in its enabling legislation of achieving reductions in greenhouse gas emissions and facilitating the development, commercialisation, promotion and use of sustainable energy technology. The planning processes undertaken by SEDA are extensive and cover both macro- and micro-scale issues. Planning at the whole of SEDA level, particularly the development of the Operational Business Plan, is effective in improving SEDA's performance, in particular: to develop particular strategic directions for SEDA in relation to achieving its principal objectives; and to allocate priority and funds to particular SEDA programs. SEDA's program level planning, comprising the development of Program Plan and Reviews, constitutes an effective comprehensive planning process which includes performance monitoring and measurement through the use of performance indicators. SEDA should also extend the Policy Plan and Reviews to include programs which are not yet covered, except for policy-related research projects for which a separate planning process should be developed. Report prepared for the Sustainable Energy Development Authority, Government of New South Wales, Australia. 14 pp. Not Publicly Available.



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### **Strategic Review of SEDA's Performance Measurement Processes**

Date published: 2 Aug 2002

Author: *David Crossley*

The programs implemented by the New South Wales Sustainable Energy Development Authority (SEDA) are directed to achieving the two principal objectives identified in SEDA's enabling legislation: achieving reductions in greenhouse gas emissions; and facilitating the development, commercialisation, promotion and use of sustainable energy technology. Currently three non-financial Key Performance Indicators (KPIs) are used to measure the performance of SEDA programs in achieving the principal objectives. SEDA programs also contribute to achieving results in three Key Result Areas (KRAs). Many of SEDA's programs utilise the principle of market transformation to deliver results in the three KRAs. The coverage of the performance indicators SEDA has currently in place and under development is adequate to measure the performance of its programs. SEDA programs are extremely diverse, both in the objectives they have been established to achieve and in the processes and techniques they utilise to achieve these objectives. Therefore, it is difficult to apply accurate and consistent measurement methodologies across all SEDA programs. Improvements to SEDA's current performance indicators and the development of further indicators are required to improve the accuracy and consistency of SEDA's performance measurement. Report prepared for the Sustainable Energy Development Authority, Government of New South Wales, Australia. 23 pp. Not Publicly Available.

### **Review of the Sustainable Energy Research and Development Fund**

Date published: 15 Jul 2002

Author: *David Crossley*

The New South Wales Sustainable Energy Research and Development Fund (SERDF), and its predecessor the State Energy Research and Development Fund, has been relatively unique among Government RDD&C funding programs in Australia. SERDF has had a broad scope covering three of the four developmental stages: research, development and demonstration (but not commercialisation). SERDF is the only specialist energy funding program in New South Wales which funds fundamental research. Measuring the performance of R&D funding programs is notoriously difficult, presenting problems in both the meaning of performance, and the timeliness of the data. It is not possible to assess SERDF's performance against a continuing group of objectives which have applied since its commencement. Rather, SERDF's performance was assessed against a more general set of preliminary performance measures. Despite the limited nature of the review which it has been possible to carry out, it is clear that the SERDF energy funding program has been quite successful. Report prepared for the Ministry of Energy and Utilities, Government of New South Wales, Australia. 61pp. Not Publicly Available.

### **Renewable Energy, Bioenergy and Wind Energy Projects**

Date published: 30 Jun 2002

Author: *David Adams and David Crossley*

This report provides information about: processes for obtaining relevant approvals and licences to construct, connect and operate renewable energy projects; State incentives, programs or policies for renewable energy that may improve project feasibility; and impediments to renewable energy projects, and ways of addressing these. This information is to be used in developing guidelines for feasibility assessment and development of renewable energy projects outside Western Australia. Report prepared for Western Power Corporation, Australia. 79 pp. Not Publicly Available.



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### **Statutory Review of the Sustainable Energy Development Act**

Date published: 6 Mar 2002

Author: *David Crossley*

The purpose of this report is: to determine whether the objectives and functions of the New South Wales Sustainable Energy Development Authority (SEDA), as set out in its enabling Act of Parliament, are still valid and appropriate under current conditions; to identify any provisions of the Act which impede SEDA from carrying out activities which are directly relevant to its objectives and functions; to identify issues where SEDA's current budget and activities are not in conformity with, or efficiently contributing to, achieving SEDA's objectives and functions or specific provisions of the Act; and in the light of the above, to propose any changes which may be required to specific provisions of the Act or to SEDA's objectives, functions, current budget or current activities. SEDA's two principal objectives are described in its Act as being: to bring about a reduction in the levels of greenhouse gas emissions; and to facilitate the development, commercialisation, promotion and use of sustainable energy technology. The report concludes that, taking account of recent developments in climate change science, the objective of reducing greenhouse gas emissions is still valid and appropriate. Taking account of recent developments in the sustainable energy industry in NSW and Australia as a whole, SEDA's objective of facilitating sustainable energy technology is also still valid and appropriate. Statutory report to the Minister for Energy, Government of New South Wales, Australia. 35 pp. [Download](#)

### **Mechanisms for Promoting Societal Demand Management**

Date published: 13 Feb 2002

Author: *David Crossley*

Demand management options which are not financially viable to one or more stakeholders but which result in an overall benefit to society may be termed *societal demand management*. Typically, societal demand management reduces the adverse impacts associated with energy production, supply and use, either by reducing the quantity of energy required to provide a given level of energy service (ie energy efficiency) or by using energy sources and technologies which have comparatively low levels of adverse impacts (eg renewable energy technologies). The objectives of this report are: to identify the externalities associated with energy production, supply and use; to identify the barriers to increased implementation of societal demand management; and to identify, describe and evaluate options for encouraging increased implementation of societal demand management. The report brings together information about a number of mechanisms that promote societal demand management, drawing on experiences overseas and across Australia. It includes analysis of the advantages and disadvantages of the various types of mechanisms. It recognises that some programs have already been implemented in New South Wales and proposes broad recommendations for continued and enhanced use of demand management options. Areas for further investigation are also identified. Report prepared for the Independent Pricing and Regulatory Tribunal, Government of New South Wales, Australia. 52 pp. [Download](#)

### **Mechanisms for Promoting Demand Management**

Date published: 20 Sep 2001

Author: *David Crossley*

This presentation covers the following topics: the demand management process; what are mechanisms?, types of developed mechanisms; control mechanisms; funding mechanisms; support mechanisms; and market mechanisms. Presentation to the



Independent Pricing and Regulatory Tribunal *Public Hearing on Demand Management*, Sydney, Australia, 20 September. [Download](#)

### **Education and Training About Solar Photovoltaic Technologies in the Pacific Islands**

Date published: 18 Jun 2001

Author: *David Crossley*

This report summarises the results of a small project that investigated the educational materials and practices which are currently implemented in Pacific Island nations in relation to photovoltaic (PV) technologies. The client's initial assumption was that there is not a good comprehensive toolkit for education about PV technology nor good training courses/workshops in the Pacific. The project found that this initial assumption is not entirely correct. The reasons for this are as follows: there is a relatively long history of installation of PV systems in Pacific Island countries; there were significant education and training activities associated with the installation projects; and various training materials were produced for these education and training activities. Report prepared for Tokyo Electric Power Company, Japan. 15 pp. Not Publicly Available.

### **Developing Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses**

Date published: 28 Nov 2000

Author: *David Crossley*

The objective of Task VI of the International Energy Agency Demand-Side Management Programme was to develop mechanisms for promoting the implementation of demand-side management (DSM) and energy efficiency in changing electricity businesses, such as in restructured electricity industries and competitive electricity markets. During the Task, over 100 existing mechanisms in place in the countries participating in Task VI were identified and described. Twenty-five mechanisms were developed in detail and reviewed by practitioners who may be involved in using the mechanisms. The effectiveness of the developed mechanisms was assessed against a range of criteria. Published in: *Proceedings of the 38th Annual Conference of the Australian & New Zealand Solar Energy Society: Solar 2000*. Brisbane, Australia, ANZSES, pp 1-12. [Download](#)

### **Developing Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses**

Date published: 1 Aug 2000

Authors: *David Crossley, Michelle Maloney and Greg Watt*

This report is a result of work completed within Task VI of the International Energy Agency's Demand-Side Management Program. The title of Task VI is "Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses". Task VI has developed a range of practical mechanisms for promoting the implementation of demand-side management (DSM) in changing electricity businesses, such as in restructured electricity industries and competitive electricity markets. The primary purpose of this report is to present the final results of Task VI. This involves: describing how the mechanisms were developed; detailing the mechanism descriptions which were used to characterise the developed mechanisms; analysing the public policy implications of the developed mechanisms; and presenting the finalised mechanism descriptions. The report is divided into two parts. Part 1 contains the methodological and analytical material. Part 2 comprises the mechanisms descriptions for the 25 mechanisms which were developed in Task VI. This report is primarily targeted to key decision makers who can use it to make more informed decisions about how to promote DSM and energy efficiency in their



countries. These decision makers include government officials, utility executives, government energy agencies, electricity sector organisations, energy service industries, and consumer and environmental non-governmental organisations. Published as International Energy Agency Demand Side Management Programme, Task VI Research Report No 3. Hornsby Heights, NSW, Australia, Energy Futures Australia Pty Ltd. 255 pp.

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### **Developing Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses**

Date published: 19 Jul 2000

*Author: David Crossley*

This presentation covers the following topics: overview of Task VI; Task VI participants; what are mechanisms?; existing mechanisms; development of mechanisms; control mechanisms; funding mechanisms; support mechanisms; market mechanisms; Task VI results. Presentation to *Load Forecasting and Demand-Side Management Conference*. Sydney, Australia, 19-20 July. [Download](#)

### **Public Policy Implications of Mechanisms for Promoting Energy Efficiency and Load Management in Changing Electricity Businesses**

Date published: 1 Jul 1999

*Authors: David Crossley, Jan Hamrin, Edward Vine and Nick Eyre*

This report is a result of work completed within Task VI of the International Energy Agency's Demand-Side Management Program. The title of Task VI is "Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses." Task VI is in the process of developing a range of practical mechanisms for promoting the implementation of demand-side management (DSM) in changing electricity businesses, such as in restructured electricity industries and competitive electricity markets. The primary purpose of this report is to analyse how the effectiveness of existing mechanisms in promoting the implementation of energy efficiency and load management is influenced by different structural models for the electricity industry. Effectiveness is judged by reviewing the barriers to energy efficiency, and analyzing the implications of different electricity sector structural models on mechanisms for promoting energy efficiency and load management. The findings from this report will be used to (1) identify existing mechanisms that need to be examined in more detail, and (2) identify new mechanisms that are needed to promote load management and energy efficiency in restructured electricity industries and competitive electricity markets. This report is primarily targeted to key decision makers who can use it to make more informed decisions about efficiency initiatives in their countries. These decision makers include government officials, utility executives, government energy agencies, electricity sector organisations, energy service industries, and consumer and environmental non-governmental organizations. Published as International Energy Agency Demand Side Management Programme, Task VI Research Report No 2. Hornsby Heights, NSW, Australia, Energy Futures Australia Pty Ltd. 79 pp. [Download](#)

### **Developing Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses**

Date published: 4 Apr 2000

*Author: David Crossley*

The objective of Task VI of the International Energy Agency Demand-Side Management Programme was to develop mechanisms for promoting the implementation of DSM in changing electricity businesses, such as in restructured electricity industries and



competitive electricity markets. During the Task, over 100 existing mechanisms in place in the countries participating in Task VI were identified and described. Twenty-five mechanisms were developed in detail and reviewed by practitioners who may be involved in using the mechanisms. The effectiveness of the developed mechanisms was assessed against a range of criteria. Paper presented to *International Conference on Energy Efficiency in Distribution and Usage of Electricity*. Ankara, Turkey, 3-4 April. 16 pp. [Download](#)

### **Mechanisms for Promoting DSM and Energy Efficiency in Changing Electricity Businesses**

Date published: 15 Feb 2000

Author: David Crossley

This presentation covers the following topics: IEA DSM Programme; overview of Task VI; Task VI participants; what are mechanisms?; Task VI work plan; Task VI results. major benefits from Task VI; development of mechanisms; control mechanisms; funding mechanisms; support mechanisms; market mechanisms. Presentation to *Electricity Supply Association of Australia Short Course on Energy Management*. Sydney, Australia, 15 February. [Download](#)

### **Code of Practice: Demand Management for Electricity Distributors**

Date published: 28 Oct 1999

Author: David Crossley

The licencing regime established under the *Electricity Supply Act (1995)* places environmental protection and other obligations on participants in the electricity supply industry in New South Wales. In particular, electricity distributors are required to conduct investigations on the cost effectiveness of implementing demand management strategies that may permit distribution network augmentation work being deferred or avoided. This Code of Practice builds on the policy context of the Act. It sets out practices that are appropriate for electricity distributors to carry out in fulfilling the demand management obligations imposed in their licences issued under the Act. Prepared for the Department of Energy, Government of New South Wales, Australia. 27 pp. [Download](#)

### **Powercor Greenhouse Strategy Annual Report**

Date published: 2 Sep 1999

Authors: David Crossley, Greg Watt and Martin Poole

An electricity retail licence governs Powercor's retail electricity sales operation in New South Wales. The licence places environmental protection and other obligations on participants in the electricity supply industry in New South Wales. In particular, Powercor is required to: develop a strategy for greenhouse gas reductions; develop plans for energy efficiency and demand management; and report annually on Powercor's purchases of low emission generation and energy efficiency marketing activities. This Annual Report is intended to meet the licence conditions. Report prepared for Powercor Ltd for submission to the New South Wales Department of Energy, Australia. 5 pp. Not Publicly Available.

### **Existing Mechanisms for Promoting DSM and Energy Efficiency in Selected Countries**

Date published: 1 Oct 1998

Authors: David Crossley, Kirsten Dyhr-Mikkelsen and Michelle Maloney

This report is a result of work completed within Task VI of the International Energy Agency's Demand-Side Management Program. The title of Task VI is "Mechanisms for



Promoting DSM and Energy Efficiency in Changing Electricity Businesses.” Task VI is in the process of developing a range of practical mechanisms for promoting the implementation of demand-side management (DSM) in changing electricity businesses, such as in restructured electricity industries and competitive electricity markets. The objectives of this report are: to prepare descriptions of the existing composition and structure of electricity industries in countries participating in Task VI; and to review and describe existing mechanisms to promote the implementation of demand side management and energy efficiency by electricity businesses in participating countries. The report includes detailed descriptions of 99 existing mechanisms in the participating countries: Australia, Belgium, Denmark, Finland, France, Greece, Japan, Korea, Netherlands, Norway, Spain, Sweden and the United Kingdom. Published as International Energy Agency Demand Side Management Programme, Task VI Research Report No 1. Hornsby Heights, NSW, Australia, Energy Futures Australia Pty Ltd. 338 pp. [Download](#)

### **DSM and Energy Efficiency in the Australian Competitive Electricity Market**

Date published: 25 May 1998

*Author: David Crossley*

This presentation covers the following topics: restructuring of the Australian electricity supply industry; the Australian competitive electricity market; mechanisms for promoting DSM and energy efficiency; major policy conclusions; major questions. Presentation to *University of New South Wales IPACE Short Course*, Sydney, Australia, 25 May. [Download](#)

### **Greenhouse Gas Emission Reduction Strategy**

Date published: 30 Sep 1997

*Authors: John Fazio and David Crossley*

Ergon Energy is the holder of a New South Wales electricity retail licence and wishes to fulfil the requirements of the environmental conditions pertaining to the licence. These requirements relate to the reduction of greenhouse gas emissions arising from the production of electricity sold to its customers. The environmental conditions of the retail license specifically require Ergon Energy to develop strategies for greenhouse gas reduction and to develop one, three and five year environmental plans outlining how these strategies will be implemented. Ergon Energy is also required to report annually on the implementation of its demand management strategies, the level of greenhouse gas emissions arising from the production of electricity supplied by it and the sources and proportion of electricity supplied from sustainable sources. This report outlines Ergon Energy's proposed greenhouse gas emissions reduction strategy for the 1997/98 financial year. This proposal is to be used as a basis for negotiations with the New South Wales Minister for Energy. The report also details Ergon Energy's emission benchmark calculations, outlines a proposed strategy for meeting these emission levels and details a proposed verification methodology. Report prepared for Ergon Energy for submission to the New South Wales Department of Energy. 20 pp. Not Publicly Available.

### **A New Role for DSM Today**

Date published: 1 Dec 1997

*Author: David Crossley*

This presentation covers the following topics: origins of demand side management (DSM); cost-effectiveness of DSM; ; US regulatory support for DSM; decline in DSM in the US; history of DSM in Australia; DSM in the Australian National Electricity Market; future of DSM in Australia; market for energy services; mechanisms for promoting DSM and



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energy efficiency. Presentation to *Demand Side Management & Electricity Pricing Conference*. Melbourne, Australia, 1-3 December. [Download](#)

**DSM and Energy Efficiency in the Australian Competitive Electricity Market**

Date published: 20 Nov 1996

Author: *David Crossley*

This presentation covers the following topics: This presentation covers the following topics: restructuring of the Australian electricity supply industry; the Australian competitive electricity market; mechanisms for promoting DSM and energy efficiency; major policy conclusions; major questions. Presentation to *2nd International DSM and Energy Efficiency Strategy Conference: Energy Efficiency in the 21st Century - A Role for the Utilities?* Copenhagen, Denmark, 20-21 November. [Download](#)

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**Contact:**

Dr David Crossley  
Managing Director  
Energy Futures Australia Pty Ltd

11 Binya Close  
Hornsby Heights NSW 2077  
Australia

Tel: + 61 2 9477 7885  
Fax: + 61 2 9477 7503  
Email: [crossley@efa.com.au](mailto:crossley@efa.com.au)  
Web site: [www.efa.com.au](http://www.efa.com.au)