Energy Library Update May 2009

The Good….the Bad….

This month we have some good news and some bad news. The good news is that we are close to receiving our **250,000th** request. In recognition of this milestone we will be sending a King Size bar of Energy chocolate to the lucky person who lodges the 250,000th request.

And now the bad news: Occasionally we receive anonymous email requests from members. This happens when a member initiates a request from within our online catalogue without logging in with their **personal borrower code** first. The resulting email that we receive contains the details of the item requested but not *who* has requested it.

If you have sent us a request and we have not responded then this is likely to be the reason.

Using the catalogue without entering your borrower code means that you need to type in your contact details before you hit "send" on the request form. Another reason to use your borrower code is that it allows records confidential to your organisation to show in your search results.

Please email us if you need a reminder of your borrower code (and/or your company login to the members' section of the website).

…and the Usual…

We can supply the resources listed in the Update to our members, for which there is no charge for members who have Open Access membership. To request an item just email us the title or reference code.

Non-members can access items from their institutional or public library via inter-library loan.

Kat McAra, Current Awareness Advisor

Contents

New Items for Loan

The professional risk managers' guide to the energy market. Fusaro, Peter C. (ed). New York: Professional Risk Managers' International Association (PRMIA), 2008
This is a comprehensive reference book for all financial professionals affected by energy prices. Over twenty experts from around the world discuss every aspect of energy trading and the risks associated with specific investment vehicles and energy sectors.
(To borrow this book email library@energylibrary.org.nz Ref: **0509-Loan1**)

Driving down cost: How to manage and cut costs intelligently. Wilenman, Andrew. London: Nicholas Brealey Publishing, 2008
This is a timely, well structured book of great relevance to both private-sector businesses and public sector organizations. It provides practical techniques for implementing cost reduction programs and useful international case studies.
(To borrow this book email library@energylibrary.org.nz Ref: **0509-Loan2**)

Strategy and the fat smoker. Maister, David. Boston: Spangle Press, 2008
We all know what we should do -- and so does the management of companies! But the doing of it is more difficult than it seems. The author aims to enable firms to actually put in practice what they know is good for them. Chapter headings cover such areas as: Client relationships, Management, Putting it together, and Strategy.
(To borrow this book email library@energylibrary.org.nz Ref: **0509-Loan3**)

Natural gas market review 2008: Optimising investments and ensuring security in a high-priced environment. Paris, France: OECD/IEA, 2008
This review looks at the global rise in natural gas prices and assesses the investments in natural gas projects. It predicts LNG will play a stronger role in all OECD regional markets.
(To borrow this book email library@energylibrary.org.nz Ref: **0509-Loan4**)

AS/NZS ISO 14644.4: 2002. Cleanrooms and associated controlled environments. Part 4. Design, construction and start-up.
(To borrow this standard email library@energylibrary.org.nz Ref: **0509-Loan5**)

Special Journal Issues

Credit risk. This section in the Feb 2009 issue of *Energy Risk* magazine has three articles:

- Managing credit risk: Escaping credit risk.
- Risk Management: Give us credit.
- Long-term financing: A barren landscape.

(To borrow this whole issue email library@energylibrary.org.nz Ref: **0509-Loan6**)

Special Report: A guide to wind power investment in Canada. Oct 2008 Supplement to *Wind Power Monthly* magazine. This issue contains six articles on the topic.
(To borrow this whole issue email library@energylibrary.org.nz Ref: **0509-Loan7**)

New Management, Marketing and HR Articles

Identifying key factors in the evaluation of tenders for projects and services. D. J. Watt et al. *International Journal of Project Management*; Vol. 27 (3), Apr 2009, p.250-260
(To request: email library@energylibrary.org.nz Ref: **0509-Watt**)

Managing joint ventures. Beamish, Paul W.; Lupton, Nathaniel C. *Academy of Management Perspectives*; May 2009, Vol. 23 (2), p.75-94
(To request: email library@energylibrary.org.nz Ref: **0509-Lupton**)

How to appraise investment projects. Chong, Gin. *Journal of Corporate Accounting & Finance*; Jan/Feb 2008, Vol. 19 (2), p.59-64
(To request: email library@energylibrary.org.nz Ref: **0509-Gin**)

Alliancing contracts: Panacea to all that ails? Walton, John. *E.NZ magazine*; Sep/Oct 2008 Vol. 9 (5), p.40-42,44
Public-private partnerships are all the rage, but another less well-known contract arrangement also offers advantages. Commercial barrister, John Walton, looks at what alliancing means for construction and infrastructure development in New Zealand.
(To request: email library@energylibrary.org.nz Ref: **0509-Walton**)

Transforming safety culture. Simon, S.; Cistaro, P. *Professional Safety*; Apr 2009 Vol. 54 (4), p.28-35
Grassroots-led/management-supported change at a major utility.
(To request: email library@energylibrary.org.nz Ref: **0509-Cistaro**)

Learning to speak. Lyndsey Swan. *Employment Today*; July 2008, p.34-35
Nine criteria for effective presentations.
(To request: email library@energylibrary.org.nz Ref: **0509-Swan**)

How to market in a downturn. Quelch, John A.; Jocz, Katherine E. *Harvard Business Review*; Apr 2009, Vol 87 (4), p.52-62
(To request: email library@energylibrary.org.nz Ref: **0509-Quelch**)

The manager and the flexworker: An interpretive interactionist perspective. Richardson, Julia. *Management Revue*; 2009, Vol. 20 (1), p.34-52
(To request: email library@energylibrary.org.nz Ref: **0509-Julia**)

Enterprise system flexibility and implementation strategies: Aligning theory with evidence from a case study. Gebauer, Judith and Lee, Fei. *Information Systems Management*; Winter 2008, Vol. 25 (1), p.71-82.
(To request: email library@energylibrary.org.nz Ref: **0509-Fei**)

Facilitated process for improving organizational resilience. McManus, Sonia et al. *Natural Hazards Review*; May 2008, Vol. 9 (2), p.81-90
Resilient organizations contribute significantly to resilient communities. However, the task of building more resilient organizations is complicated by an inability to translate the concept of resilience into tangible working constructs for organizations. In addition, resilience is often considered to be a crisis or emergency management issue. The link between creating resilient day-to-day operations and having a resilient crisis response and recovery is typically not well understood by organizations. Resilience for organizations is found to have three principal attributes: situation awareness, management of keystone vulnerabilities, and adaptive capacity. A facilitated process is introduced that assists organizations to enhance their performance in relation to these attributes. This process is called resilience management and was developed and tested with 10 case study organizations selected specifically to represent a wide range of industry sectors, business types, and sizes in New Zealand. Some of the preliminary resilience issues to arise from this study are also briefly discussed.
(To request: email library@energylibrary.org.nz Ref: **0509-Sonia**)

Social marketing: Is it working? Tracey Bridges. *NZ Marketing Magazine*; Mar 2009.
This article is online.

Learning opportunities embedded in social networking. Mark Sylvester. *Chief Learning Officer*; Dec 2008. This article is online.

New Energy and Environment Articles

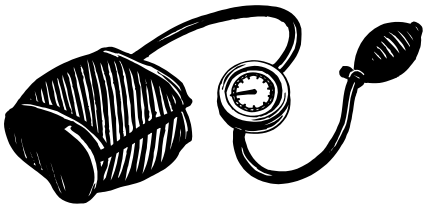
Turning buildings green: Instruments for improving the energy performance of existing buildings. Garry, Thomas. *New Zealand Journal of Environmental Law*; 2008, Vol 12, p.233-276
(To request: email library@energylibrary.org.nz Ref: **0509-Garry**)

Property rights in environmental management: The nature of resource consents in the Resource Management Act 1991. Fraser, Laura. *New Zealand Journal of Environmental Law*; 2008, Vol 12, p.145-193
(To request: email library@energylibrary.org.nz Ref: **0509-Fraser**)

An energy consumption benchmarking system for residential buildings in Hong Kong. Wong, L. T. et al. *Building Services Engineering Research & Technology*; May 2009, Vol 30 (2), p.135-142
(To request: email library@energylibrary.org.nz Ref: **0509-Wong**)

Watt a turn off.... Anslow, Mark. *Ecologist*; Feb 2009, Vol 39 (1), p.34-35
An article about lowering energy consumption in offices.
(To request: email library@energylibrary.org.nz Ref: **0509-Anslow**)

Sense of sensing: From data to informed decisions for the built environment. Glaser, Steven D. and Tolman, Anne. *Journal of Infrastructure Systems*; Mar 2008, Vol 14 (1), p.4-14
There is currently an explosion of research on microsensor and wireless network technology, and methods of discerning structural state from such data. Besides the inherent interest in such fascinating technology, the question remains as to why an owner, operator, or user of the built environment should care. The construction industry is now adopting new types of contracting practice. Previously the contractor simply implemented a given design, but the current trend is for clients to commission certain performance requirements to be met with performance-based design. The emphasis of the industry is becoming the delivery of certain structural behavior states rather than simply building to a client's set plans. The contracting process becomes the determination of the performance criteria, and delivery becomes a long-term fulfillment of these criteria. This can only take place if the performance states can be measured, and the measurement utilized in a decision-making process. The tools needed for both the evaluation of the delivery after construction and during operation are changing accordingly. The process is increasingly dependent on densely spaced sensor data, valid models to turn the data into physical behavior, and decision-making tools to determine whether the performance requirements are being met. This process must take place in order to satisfy all stakeholders. This paper describes the approaches in monitoring the performance, the obtaining of data and refining into information for decision making.
Example cases concern the continuous performance and condition monitoring within buildings and civil structures, and indicators of the economical impacts of informed decisions including structural safety, hygrothermal, and energy aspects. A case study of structural health monitoring of the Golden Gate Bridge is also presented. The enabling sensor technology is described, and the exploitation of the data for life cycle needs is discussed.



(To request: email library@energylibrary.org.nz Ref: **0509-Glaser**)

Energy efficiency, rediscovered. Jeffries, Elisabeth. *World Watch*. Jan/Feb 2009, Vol 22 (1), p.22-27
In South Africa electricity supply problems are what drive energy efficiency, rather than government-mandated targets.
(To request: email library@energylibrary.org.nz Ref: **0509-Jeff**)

The search for sustainable street lighting. Fong, Denise. *Lighting Design + Application*; Apr 2009, Vol 39 (4), p.66-70
(To request: email library@energylibrary.org.nz Ref: **0509-Fong**)

Development challenges under the Clean Development Mechanism (CDM)—can renewable energy initiatives be put in place before peak oil? Lloyd, Bob and Subbarao, Srikanth. *Energy Policy*; Jan 2009, Vol 37 (1), p.237-245
(To request: email library@energylibrary.org.nz Ref: **0509-Bob**)

Planning: A roadblock to renewable energy in the UK. Crowhurst, Georgina and Davidson, Simone. *Environmental Law Review*; 2008, Vol 10 (3), p.181-199
(To request: email library@energylibrary.org.nz Ref: **0509-Crow**)

Utilisation of geothermal resources. Lund, J. W. *Institution of Civil Engineers. Proceedings - Energy*; Feb 2009, Vol 162 (EN1), p.3-12
For centuries, geothermal energy has been used for bathing, cooking and space heating. More recently, district heating, industrial processing and geothermal heat pumps have become part of the direct-use mix. Geothermal electric power generation began in Italy in 1904, with the first commercial plant operational in 1913. Presently, the total installed global capacity for direct use is 29 000 MWt, producing 76 000 GW h/year in 72 countries; the installed capacity for electric power is 9700 MWe, generating 60 000 GW h/year in 24 countries. Recent trends are to maximise the use of geothermal resources in a combined heat and power project. Geothermal resources of around 100°C have been used in binary (organic Rankine) cycle plants and then cascaded for district heating. Geothermal energy is considered to be both renewable and sustainable as a 'green energy' resource, but certain environmental aspects must be considered and mitigated. *Abstract reprinted with the permission of Thomas Telford Limited: http://www.ice.org.uk/services/services_journals.asp*
(To request: email library@energylibrary.org.nz Ref: **0509-Lund**)

Building small hydro in Norway. Jensen, Torodd. *HRW: Hydro Review Worldwide;* Sep 2008, Vol 16 (4), p.20,22-27
(To request: email library@energylibrary.org.nz Ref: **0509-Jensen**)

Tidal current energy assessment for Johnstone Strait, Vancouver Island. G. Sutherland et al. *Proceedings of the Institution of Mechanical Engineers - Part A: Journal of power and energy*; Mar 2007, Vol 221 (A2), p.147-157
(To request: email library@energylibrary.org.nz Ref **0509-Sutherland**)

Multi criteria analysis for bioenergy systems assessments. Thomas Buchholz et al. *Energy Policy*; Vol 37 (2), Feb 2009, p.484-495
(To request: email library@energylibrary.org.nz Ref: **0509-Buch**)

Electricity generation by thermophilic microorganisms from marine sediment. Mathis, B. J. et al. *Applied Microbiology & Biotechnology*; Feb 2008, Vol 78 (1), p.147-155
(To request: email library@energylibrary.org.nz Ref: **0509-Mathis**)

Getting out of gear and into magnets. Jamieson, Peter. *Windpower Monthly*; Nov 2008, Vol 24 (11), p.59-62,64,66-67
Wind turbine design appears to be moving away from gearboxes and into simpler drive trains with fewer components.
(To request: email library@energylibrary.org.nz Ref: **0509-Jamie**)

Optimism despite questions. Ossenbrink, Ralf. *Sun & Wind Energy*; 1/2009, p.102-105.
Reports on the first European Photovoltaic Industry Association (EPIA) Thin Film Conference in Munich on 13th November 2008.
(To request: email library@energylibrary.org.nz Ref: **0509-Ralf**)

Waste segregation presents thermal treatment opportunities. Ryu, C. et al. *Institution of Civil Engineers. Proceedings - Waste and Resource Management*; Feb 2009, Vol 162 (1), p.45-59
Developments in national and international waste recycling and reuse programmes have led to the adoption of processes that segregate waste material into several streams. It is not viable to recycle some of these streams but some contain materials such as wood (biomass), contaminated paper (biomass), plastics and textiles that have a greater fuel energy content than the original waste. Furthermore, adding value through pelletisation can provide a convenient form for handling and transportation of this type of fuel. An objective of this investigation is to achieve electrical power generation efficiency greater than that of incinerator boiler/turbines through the generation of an intermediate gaseous fuel for use in a combined cycle. *Abstract excerpt reprinted with the permission of Thomas Telford Limited: http://www.ice.org.uk/services/services_journals.asp*
(To request: email library@energylibrary.org.nz Ref: **0509-Ryu**)

Integrating private transport into renewable energy policy: The strategy of creating intelligent recharging grids for electric vehicles. Poul H. Andersen et al. *Energy Policy*; Vol 37 (7), Jul 2009, p.2481-2486
(To request: email library@energylibrary.org.nz Ref: **0509-Andersen**)

Overview of the California climate change scenarios project. Daniel R. Cayan et al. *Climatic Change*; Mar 2008, Supplement Vol 87, p.1-6
(To request: email library@energylibrary.org.nz Ref: **0509-Cayan**)

Emissions trading and the polluter-pays principle: Do polluters pay under grandfathering? Woerdman, Edwin et al. *Review of Law & Economics*; 2008, Vol 4 (2), p.565-590
(To request: email library@energylibrary.org.nz Ref: **0509-Edwin**)

Uncertainties in accounting for CO2 from fossil fuels. Marland, Gregg. *Journal of Industrial Ecology*; Apr 2008, Vol 12 (2), p.136-139
(To request: email library@energylibrary.org.nz Ref: **0509-Gregg**)

Grass roots initiative inspires villages across the world. Charnock, Garry. *Energy World (Energy Institute)*; Feb 2009, 368, p.10-17.
A pioneering energy microgrid study underway in the small Cheshire community of Ashton Hayes marks the latest milestone in the village's remarkabke journey towards a low carbon lifestyle. Three years ago residents voted to join forces and try and become England's first carbon neutral village. Long-time village resident Garry Charnock reports.
(To request: email library@energylibrary.org.nz Ref: **0509-Charnock**)

Sustainability entrepreneurship and equitable transitions to a low-carbon economy. Parrish, Bradley D. and Foxon, Timothy J. *Greener Management International*; Winter 2009 (55), p.47-62
(To request: email library@energylibrary.org.nz Ref: **0509-Parrish**)

What is the risk of CO2 leaking from a sequestration project? Forbes, Sarah M. and Crossan, A. Brook. *Natural Gas & Electricity*; May 2008, Vol 24 (10), p.20-24
(To request: email library@energylibrary.org.nz Ref: **0509-Forbes**)

Embodied energy and carbon in construction materials. Hammond G. P.; Jones C. I. *Institution of Civil Engineers. Proceedings - Energy*; May 2008 Vol 161 (2), p.87-98
The development of an open-access, reliable database for embodied energy and carbon (dioxide) emissions associated with the construction industry is described. The University of Bath's inventory of carbon and energy database lists almost 200 different materials. The data were extracted from peer-reviewed literature on the basis of a defined methodology and a set of five criteria. The database was made publicly available via an online website and has attracted significant interest from industry, academia, government departments and agencies, among others. Feedback from such professional users has played an important part in the choice of 'best values' for 'cradle-to-site' embodied energy and carbon from the range found in the literature. The variation in published data stems from differences in boundary definitions (including geographic origin), age of the data sources and rigour of the original life-cycle assessments. Although principally directed towards UK construction, the material set included in the database is of quite wide application across the industrial sector. The use of the inventory is illustrated with the aid of 14 case studies of real-world new-build dwellings. It was observed that there was little difference between embodied energy and carbon for houses and apartments until external works were taken into account (energy inputs for roads, connecting pathways, etc.). *Abstract reprinted with the permission of Thomas Telford Limited: http://www.ice.org.uk/services/services_journals.asp*
(To request: email library@energylibrary.org.nz Ref: **0509-Hammond**)

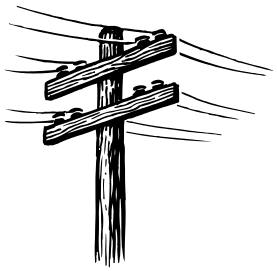
Emerging technologies and the global crisis of maturity. W. E. Halal. *Futurist*; Mar/Apr 2009, Vol 43 (2), p.39-46
This article examines the possible path for civilization over the next couple of decades.
(To request: email library@energylibrary.org.nz Ref: **0509-Halal**)

Market structure and the stability and volatility of electricity prices. Bask, Mikael and Widerberg, Anna. *Energy Economics*; Vol 31 (2), Mar 2009, p.278-288
By using a novel approach in this paper we have found that electricity prices most of the time have increased in stability and decreased in volatility when the Nordic power market has expanded and the degree of competition has increased. That electricity prices at Nord Pool have been generated by a stochastic dynamic system that most often has become more stable during the step-wise integration of the Nordic power market means that this market is less sensitive to shocks after the integration process than it was before this process. This is good news.
(To request: email library@energylibrary.org.nz Ref: **0509-Bask**)

Economics, competition, and costs in the resructuring of U.S. electricity markets. Hilke, John. *Review of Industrial Organization*; Vol. 32 (3/4) May 2008, p.289-296
(To request: email library@energylibrary.org.nz Ref: **0509-Hilke**)

Econometric models of power prices: An approach to market monitoring in the Western US. Barmack, Matthew et al. *Utilities Policy*; Vol 16 (4), Dec 2008, p.307-320
Given the limitations of data and resources available for market monitoring in electricity markets where regional transmission organizations (RTO) do not exist, we argue that econometric models of power prices could provide a useful screening tool for market monitoring. To explore its feasibility, we developed several econometric models of power prices at two major trading hubs in the West: Palo Verde and Mid-Columbia. We show that our models explain a large portion of the variation in power prices in Palo Verde and can establish a benchmark that can be used to identify outlier prices that are potentially the result of anti-competitive behavior.
(To request: email library@energylibrary.org.nz Ref: **0509-Barmack**)

FTR-option formulation and pricing. Vijay Parmeshwaran; Kumar Muthuraman. *Electric Power Systems Research*, Vol 79 (7), Jul 2009, p.1164-1170
Recent changes in electricity markets have advocated the use of Local Marginal Prices (LMP) for congestion management and pricing. From the perspective of market participants, the LMPs pose a risk since they are not known before a transaction on the grid is made. Financial transmission rights (FTR) are instruments that help market participants hedge this risk and are issuable in two flavors—obligations and options. While pricing obligations are much easier, pricing FTR options pose a significant challenge. In this paper we develop a computational method for pricing FTR options. We also discuss the problem of designing financial instrument sets that assure revenue adequacy for the issuer. We point out the difficulty in assuring revenue adequacy when FTR options are present and propose a scheme for overcoming the difficulty. The proposed pricing method can be used to compute prices of options and obligations in the primary market or as a reliable pricing tool to compute option prices in the secondary market. Finally using a test network we present and discuss numerical results.
(To request: email library@energylibrary.org.nz Ref: **0509-Vijay**)



Green grid would pull the plug on fossil fuel. Strahan, David. *New Scientist*; 3/14/2009, Vol 201 (2699), p.42-45
(To request: email library@energylibrary.org.nz Ref: **0509-Strahan**)

Transforming low-voltage networks into small-scale energy zones. Trichakis, P. et al. *Institution of Civil Engineers. Proceedings - Energy*; Feb 2009, Vol 162 (EN1), p.37-46
Integration of different types of small-scale embedded generators (SSEGs) in the UK electricity supply system has become a key issue for distribution network operators, policy makers, energy producers and the research and development community. When regarded as separate entities, SSEGs offer minimal technical, economical or environmental benefits. However, intelligent coordination of large numbers of SSEGs coupled with energy storage and demand-side management techniques have the potential to maximise these benefits. This paper introduces the small-scale energy zone (SSEZ) concept, which aims to facilitate the proliferation of SSEGs by maximising their potential commercial and environmental benefits, while also ensuring that the associated technical challenges are overcome.
Abstract excerpt reprinted with the permission of Thomas Telford Limited: http://www.ice.org.uk/services/services_journals.asp
(To request: email library@energylibrary.org.nz Ref: **0509-Trich**)

Integrated modeling of the electric grid, communications, and control. Nutaro, James et al. *International Journal of Energy Sector Management*; 2008, Vol 2 (3), p.420-438
(To request: email library@energylibrary.org.nz Ref: **0509-Nut**)

Technical and economic impacts of active management on distribution network. Zhang, Jietan et al. *International Journal of Electrical Power & Energy Systems*; Feb/Mar 2009, Vol 31 (2/3), p.130-138
With the deregulation of energy market and the appeal for environment protection, more and more distributed generation (DG) is embedded in the distribution network. However the approach of connecting DG in most cases is based on a so-called "fit and forget" policy and the capacity of DG is limited rigidly by distribution network operator (DNO) to avoid the negative effects of high level penetration. Therefore active management (AM) is put forward as an effective method to network reinforcement for the connection and operation of DG. In this paper, the concept and principle of AM are introduced, and several indices are proposed to evaluate both technical and economic impacts of AM on distribution network with DG. To simplify the simulation fuzzy C-means clustering (FCM) algorithm is introduced. The test results on a sample system represent that AM will lead to decrease of power generation of DG, but it can reduce energy losses and improve voltage profile effectively. Furthermore, AM will take great economic incentives to DG developer as well as DNO with reasonable policy.
(To request: email library@energylibrary.org.nz Ref: **0509-Jietan**)

Cascade waste heat recovery for gas turbine power and efficiency. de Biasi, Victor. *Gas Turbine World; September-October*; 2008, Vol 38 (5), p.22-25.
(To request: email library@energylibrary.org.nz Ref: **0509-Victor**)

Comparative evaluation of gas turbine power plant performance for different blade cooling means. Sanjay, O. Singh and Prasad, B. N. *Proceedings of the Institution of Mechanical Engineers: Part A: Journal of Power and Energy;* Feb 2009, Vol 223 (A1), p.71-83
The thermodynamic performance of a gas turbine power plant has been compared for different means of blade cooling in this work. Seven schemes involving air and steam as coolants under open- and closed-loop cooling means have been studied. The closed-loop cooling includes only the internal convection cooling (ICC) technique, while the open-loop cooling schemes include the internal convection, film, and transpiration cooling means. Comparative evaluation shows that among all the cooling schemes considered, the open-loop steam ICC offers highest specific work and thus highest values of plant efficiency of about 50 per cent, whereas open-loop film steam cooling, transpiration air cooling, film air cooling, and internal convection air cooling have been found to yield lower values of plant efficiency in decreasing order. The specific work is higher for all open-loop steam cooling means due to steam injection into the hot gas stream of the turbine.
(To request: email library@energylibrary.org.nz Ref: **0509-Sanjay**)

The cost of corrosion in the New Zealand electricity industry. Mike Boardman. In: A climate for change. 2008 Electricity Engineers' Association of New Zealand (EEA) annual conference & trade exhibition (2008: Christchurch). Wellington: EEA, 2008
(To request: email library@energylibrary.org.nz Ref: **0509-Boardman**)

Ant colony optimization for power plant maintenance scheduling optimization — a five-station hydropower system. Foong, Wai Kuan et al. *Annals of Operations Research*; Mar 2008, Vol 159 (1), p.433-450
(To request: email library@energylibrary.org.nz Ref: **0509-Kuan**)

Want to see more articles? New articles are added to our members' online catalogue every week.
Please contact us if you have forgotten your login details.

Special Topic: Demand Response

A summary of demand response in electricity markets. M. H. Albadi; E. F. El-Saadany. *Electric Power Systems Research*; Vol 78 (11), Nov 2008, p.1989-1996
The definition and the classification of demand response as well as potential benefits and associated cost components are presented. In addition, the most common indices used for DR measurement and evaluation are highlighted, and some utilities' experiences with different demand response programs are discussed. Finally, the effect of demand response in electricity prices is highlighted using a simulated case study.
(To request: email library@energylibrary.org.nz Ref: **0509-Topic1**)

An economic welfare analysis of demand response in the PJM electricity market. R. Walawalkar et al. *Energy Policy*; Vol 36 (10), Oct 2008, p.3692-3702
(To request: email library@energylibrary.org.nz Ref: **0509-Topic2**)

Aggregate industrial energy consumer response to wholesale prices in the restructured Texas electricity market. J. Zarnikau; I. Hallett, *Energy Economics*; Vol 30 (4), Jul 2008, p.1798-1808
The aggregate response of consumers to wholesale price signals is very limited in the restructured Electric Reliability Council of Texas (ERCOT) market. An overall average own-price elasticity of demand of - 0.000008 for industrial energy consumers served at transmission voltage is estimated using a Symmetric Generalized McFadden cost function model. To date, ERCOT has sought to promote demand response to price signals without reliance on 'stand alone' demand response programs, but with a market structure that is designed to facilitate economic demand response. This very limited responsiveness to wholesale price signals may prove problematic in light of policy decisions to pursue an 'energy only' resource adequacy mechanism for ERCOT.
(To request: email library@energylibrary.org.nz Ref: **0509-Topic3**)

Deployment of demand response as a real-time resource in organized markets. Audrey Zibelman; Edward N. Krapels. *The Electricity Journal*; Vol. 21 (5), June 2008, p.51-56
The use of DR as a dispatchable resource in the real-time energy markets should be encouraged, not discouraged. We are fortunate that the smart-grid technology now exists to fully exploit this valuable resource.
(To request: email library@energylibrary.org.nz Ref: **0509-Topic4**)

Power grid balancing of energy systems with high renewable energy penetration by demand response. Ingo Stadler. *Utilities Policy*; Vol. 16 (2), Jun 2008, p.90-98
It is generally accepted that the integration of intermittent energy resources like wind energy and photovoltaics into an electricity system cannot exceed a limit of around 20% or 25%. However, the decoupling of electricity generation and consumption cannot be implemented only by use of electricity storage. In the end, electricity is converted into many different energy services - quite often into thermal energy - which is better suited for storage. This article presents the results of investigations which studied the potential of those demand response activities for Germany. The investigations are based on both modelling of thermal storage devices and laboratory tests.
(To request: email library@energylibrary.org.nz Ref: **0509-Topic5**)

The business of saying no. Wood, Elisa. *Energy Risk*; Vol 5 (4), Feb 2008. p.52-54,56
This article examines how demand response is affecting electricity markets in the U.S.
(To request: email library@energylibrary.org.nz Ref: **0509-Topic6**)

Truth about demand-response customer satisfaction. Thompson, Liza. *Natural Gas & Electricity*; Feb 2007, Vol. 23 (7), p.13-17
(To request: email library@energylibrary.org.nz Ref: **0509-Topic7**)

Wholesale markets meet demand response. Ott, Andrew. *Transmission & Distribution World*; Feb 2009, p.42-45. This article is available online.

How to cut energy use and get paid for it. Madsen, Jana J. *Buildings*; Feb 2009, p.36-38. This article is available online.

And if you want more on a specific topic…ask us about our **Customised Topic Updates**.

Reports

Service Stations Industry Profile: Global. Apr 2009, p1, 31p
Contents include: Market overview; Market value; Market segmentation; Competitive landscape; Leading companies in the industry; Market forecasts; Demographics
(To request: email library@energylibrary.org.nz Ref: **0509-Service**)

Service Stations Industry Profile: Asia-Pacific. Apr 2009, p1, 31p
(To request: email library@energylibrary.org.nz Ref: **0509-Asia**)

Industrial Gases Industry Profile: Global. Apr 2009, p1, 31p
Contents of this report include: Market overview; Market value; Market segmentation; Competitive landscape; Leading companies in the industry; Market forecasts; Demographics.
(To request: email library@energylibrary.org.nz Ref: **0509-Gas**)

Energy on the Web

An assessment of the performance of the New Zealand wholesale electricity market - May 2009 report by Frank A. Wolak for the Commerce Commission.

Biofuels "boost" welcome – Bioenergy Association of New Zealand (BANZ) press release.

Wind Energy Conference and Exhibition 2009 – presentations available online.

GLO-BUG prepay electricity – new Mercury Energy website.

Structural separation versus vertical integration: Lessons for telecommunications from electricity reforms – April 2009 ISCR article.

Renewables Global Status Report - 2009 Update - May 2009 REN21 report.

The winds of change - May 2009. KPMG's annual report into M & A in renewable energy.

Advice on development of a national framework for electricity distribution network planning and expansion – May 2009 Sinclair Knight Merz report for AEMC.

Fortifying the foundation: State of the voluntary carbon markets 2009 - May 2009 Ecosystem Marketplace report.

Ethanol and the petroleum supply chain of the future: Five strategic priorities of integration. *Transportation Journal*; Winter 2009 – online article.

Industrial energy efficiency and climate change mitigation. *Energy Efficiency*; 2009 (2) – online article.

Fuel for Thought (Energy chocolate competition)

Whales and dolphins influence new wind turbine design - This article illustrates the concept of biomimicry, which is "a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems" (Biomimicry Institute).

More examples of biomimicry can be found here. Pick your favourite from the list (or think of another example) and email it to us before 4pm Fri 19th June to be in to win a king size bar of Cadbury Energy chocolate.

Congratulations to Mark, who was the winner of last month's draw.

If you wish to be subscribed or unsubscribed to the Energy Update just let us know by email or phone.

Web addresses (URLs) in this newsletter were valid on the date of publication but may change or be discontinued. Energy Library is not responsible for content on external websites.