

Energy Library Update

March 2007

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Contents

[New Books](#)

[Special Journal Issues](#)

[New Management and Marketing Articles](#)

[New Energy Articles](#)

[Featured Topic](#)

[Oldies and Goodies from the Energy library Collection](#)

[Energy on the Web](#)

[Food for Thought](#)

New Books

Solar revolution: the economic transformation of the global energy industry.

(2006) Travis Bradford. Cambridge, USA: MIT

This comprehensive book sets out to show that solar energy is the answer to most of the world's energy problems. The author explores the limitations of alternative energy options and details the promising future for solar energy.

(To borrow this book email library@energylibrary.org.nz Ref: **03Bradford**)

Special Journal Issues

Confronting climate risk: Business, investment and the Carbon Disclosure Project. (*Environmental Finance* Supplement 2, Oct 2006)

13 articles on carbon disclosure.

(To borrow this whole supplement email kmcara@energylibrary.org.nz Ref: **03Climate**)

Mine Safety – the March 2007 issue of *National Safety* focuses on mine safety.

National Safety is the magazine of the National Safety Council of Australia.

(To borrow this whole special issue email kmcara@energylibrary.org.nz Ref: **03Safety**)

CO2 Capture and Storage (*EPRI Journal*, Spring 2007)

Articles include:

- Closing the Fuel Carbon Cycle
- The Challenge of Carbon Capture

(EPRI journal is available [online](#)).

New Management and Marketing Articles

The aging workforce: electricity industry challenges and solutions. Lester B. Lave and others. *Electricity Journal* Vol 20 (2) 2007 p71-80
Recruiting and training new workers have become essential skills for companies. As senior workers retire, companies must find ways to keep the essential knowledge for running the company from walking out the door.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Lave**)

How to put "general" into management? Bland, Vikki. *New Zealand Management*; Feb 2007, Vol. 54 Issue 1, p55-62
Discusses the value of the master of business administration (MBA) degree in New Zealand. Several business educators give input.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Bland**)

Implementing a knowledge retention strategy. Young, Tom. *KM Review*; Nov/Dec 2006, Vol. 9 Issue 5, p28-33
Knowledge is a valuable company asset. This article includes a model for identifying high-risk knowledge and methods for optimising exit interviews and capture sessions.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Young**)

What it means to work here. Erickson, Tamara J and Gratton, Lynda. *Harvard Business Review*; Mar 2007, Vol. 85 Issue 3, p104-112
What distinguishes a company that has deeply engaged and committed employees from another one that doesn't?
(For a copy of this article email library@energylibrary.org.nz Ref: **03Erickson**)

Competitive advantage on a warming planet. Lash, Jonathan and Wellington, Fred. *Harvard Business Review*, Mar 2007, Vol. 85 Issue 3, p94-102.
Climate change affects your company's competitive landscape in ways you might not realize. Here's how to map your risks—and opportunities.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Lash**)

Leading virtual teams. Malhotra, Arvind and others. *Academy of Management Perspectives*; Feb 2007, Vol. 21 Issue 1, p60-70
Presents six leadership practices for successful management of geographically dispersed teams.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Arvind**)

Measuring the value of insight -- it can and must be done. Wills, Steve and Webb, Sally. *International Journal of Market Research*; 2007, Vol. 49 (2), p155-165
This article focuses on measuring the value of insight from customer insight teams.
(For a copy of this article email library@energylibrary.org.nz Ref: **03Webb**)

Complementarities in organizational dispute resolution Systems: how system characteristics affect individuals' conflict experiences.

Bendersky, Corinne.

Industrial & Labor Relations Review; Jan2007, Vol. 60 Issue 2, p204-224

Analyses the results of a Canadian national government agency pilot-test of different employment dispute resolution systems.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Bendersky**)

Collaborative research: developing mutually beneficial relationships between researchers and organizations.

Timothy Hinkin and others. *Organizational Dynamics*

Volume 36, Issue 1, (2007) Pages 105-118

(For a copy of this article email library@energylibrary.org.nz Ref: **03Hinkin**)

New Energy Articles

Tilting at windmills. *Economist*; 11/18/2006, Vol. 381 Issue 8504, p71-73.

Reports on the growth of investment in clean-energy business, which is driven by high oil prices, energy security and climate change concerns.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Windmills**)

Cleaning up coal's second act: Sustainable coal-based power plant technology and clean coal technologies.

Zancan, F.L. *IEEE Power and Energy Magazine* Volume 4, Issue 4, July 2006, p57-62

(For a copy of this article email library@energylibrary.org.nz Ref: **03Zancan**)

Achieving 100% gas turbine start-up reliability. (cover story).

Vugdelija, Jorge and others. *Modern Power Systems*; Feb2007, Vol. 27 Issue 2, p14-16, 3p

(For a copy of this article email library@energylibrary.org.nz Ref: **03Jorge**)

Forest fever. Calazans, Marcelo and Valentim, Renata. *New Internationalist*; Jul 2006 Issue 391, p8-11

Brazil faces increasing social and environmental problems as a result of the growth in carbon trading.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Marcelo**)

Assessment of U.S. electric end-use energy efficiency potential.

Clark W. Gellings and others. *The Electricity Journal* Volume 19 (9) (November 2006). p55-69

Demand-side management holds significant potential to reduce growth in U.S. energy consumption and peak demand, and in a cost-effective manner. But significant policy interventions will be required to achieve these benefits.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Gellings**)

Carbon storage and geological storage beneath the UK – status and prospects.

Stuart Haszeldine. *Energy World* No. 346 Feb 2007 p20-22

(For a copy of this article email library@energylibrary.org.nz Ref: **03Haszeldine**)

Generation adequacy: Helping the market do its job. Laurens J. De Vries
Utilities Policy Volume 15, Issue 1 , March 2007, Pages 20-35

A number of adjustments to the market structure have been proposed for stabilizing investment in generating capacity. This paper reviews the advantages and disadvantages of these capacity mechanisms and presents a policy framework.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Devries**)

Distributed or centralised energy-from-waste policy? Implications of technology and scale at municipal level. David Longden and others.

Energy Policy, Volume 35 (4), Ap 2007, Pages 2622-2634

This paper reports the results from a study that has developed and appraised EfW policy options using Geographical Information Systems and Multi Criteria Analysis modelling.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Longden**)

Estimating mean flow of New Zealand rivers. Woods, R. and others. *Journal of Hydrology New Zealand* Volume 45, Issue 2, 2006, Pages 95-110

(For a copy of this article email library@energylibrary.org.nz Ref: **03Woods**)

Electricity rationing and public response. Leonardo Rocha Souza and Lacir Jorge Soares. *Energy Economics* Volume 29, Issue 2, (March 2007) Pages 296-311

This paper studies the electricity load demand behavior during the 2001 rationing period, which was implemented because of the Brazilian energy crisis.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Souza**)

Streamlined meter-to-cash revenue cycle: Long term agility with immediate cost benefits. Aaron Baker. *Metering International* Issue 4 2006 p78-80 (3p)

(For a copy of this article email library@energylibrary.org.nz Ref: **03Baker**)

Locational electricity capacity markets: alternatives to restore the missing signals. Amparo D. Nieto and Hamish Fraser. *Electricity Journal* Vol 20 (2) 2007 p10-26. In the absence of a properly functioning electricity demand side, well-designed capacity payment mechanisms hold more promise for signaling the value of capacity than non-CPM alternatives....

(For a copy of this article email library@energylibrary.org.nz Ref: **03Nieto**)

Oil industry researching diverse energy sources. Paula Dittrick. *Oil & Gas Journal*. Feb 5, 2007. Vol.105 (5) pg. 18, 6 pgs

Major oil companies are involved in a wide range of research projects and pioneering investments covering other energy sources, including geothermal, batteries, and combined heat and power projects.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Dittrick**)

Optimal distribution power flow for systems with distributed energy resources.

Y. Zhu and K. Tomsovic. *International Journal of Electrical Power & Energy Systems* Vol 29 (3), (March 2007) p260-267

Recently, there has been great interest in the integration of large numbers of small generation and storage resources at the distribution level. This will require new control strategies for efficient system performance...

(For a copy of this article email library@energylibrary.org.nz Ref: **03Zhu**)

HVAC power density: An alternate path to efficiency. Stephen Kavanaugh and others.

ASHRAE Journal. Dec 2006. Vol. 48 (12) p40-41,44-45,47-48

Outlines how HVAC power density could improve building energy efficiency.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Kavanaugh**)

Integrating methods of statistical analysis to identify energy-saving opportunities. Eger III, Carl W. (Bill) *Environmental Quality Management*; Spring 2006, Vol. 15 Issue 3, p87-108

Statistical analysis and modelling can be used for identifying possible ways for manufacturing facilities to save energy.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Eger**)

IT confronts the power crisis. Goodin, Dan. *InfoWorld* 10/9/2006 Vol. 28 (41) p16-24

Explores methods of reducing power and cooling costs in datacenters.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Goodin**)

Household energy consumption versus income and relative standard of living: A panel approach. Roselyne Joyeux and Ronald D. Ripple. *Energy Policy* Volume 35, Issue 1 (January 2007) Pages 50-60

The authors employ state-of-the-art panel cointegration techniques to evaluate the nature of the relationship between income measures and energy consumption measures for seven East Indian Ocean countries.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Ripple**)

EU Emissions Trading Scheme: Lessons learnt so far? Alyssa Gilbert. *Energy World*

No. 345 Jan 2007 p10-12

(For a copy of this article email library@energylibrary.org.nz Ref: **03Gilbert**)

Combined natural gas and electricity network pricing. M.S. Morais and J.W. Marangon Lima. *Electric Power Systems Research*, Volume 77, (5-6), Apr 2007, p712-719

Shows the application of the main wheeling charge methods, such as MW/gas-mile, invested related asset cost (IRAC) and Aumman-Shapley allocation, to both transmission and gas network. Explains that the synergies between gas and electricity industry should be fully considered, otherwise wrong economic signals are sent to the market players.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Morais**)

Greenhouse gas emissions from marine tours: a case study of Australian tour boat operators. Byrnes, T. A. and Warnken, J. *Journal of Sustainable Tourism*; 2006, Vol. 14 Issue 3, p255-270.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Byrnes**)

Spatial peak-load pricing. M. Soledad Arellano and Pablo Serra. *Energy Economics*. Volume 29, Issue 2, (March 2007) p228-239

This article extends the traditional electricity peak-load pricing model to include transmission costs. The authors propose distributing the revenue deficit among users in proportion to the surplus they derive from the service priced at marginal cost.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Serra**)

The real-time price elasticity of electricity. Mark G. Lijesen. *Energy Economics*. Volume 29, Issue 2, (March 2007) p249-258

The real-time price elasticity of electricity contains important information on the demand response of consumers to the volatility of peak prices but are not easily accessible. This paper provides a quantification of the real-time relationship between total peak demand and spot market prices.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Lijesen**)

Biofuels focus: Technology can boost biofuels' production; while at the same time political and important social issues can rein it in. *Refocus Jan/Feb 2007* Pages 48-53

(For a copy of this article email library@energylibrary.org.nz Ref: **03Refocus**)

Wizard of watts. Perry, Tekla S. *IEEE Spectrum* Vol 43 (6) June 2006, p 32-37
Introduces 2006 IEEE Medal of Honor winner James D. Meindl who is known for his groundbreaking research in the design of low-power semiconductors.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Tekla**)

Methane and nitrous oxide mitigation in agriculture. DeAngelo, Benjamin J. and others. *Energy Journal; Multi-Greenhouse Gas Mitigation*, Vol. 27, p89-108

(For a copy of this article email library@energylibrary.org.nz Ref: **03Deangelo**)

Carbon sequestration in global forests under different carbon price regimes.

Sohngen, Brent and Sedjo, Roger. *Energy Journal*; Vol. 27, p109-126

(For a copy of this article email library@energylibrary.org.nz Ref: **03Sedjo**)

The contribution of small hydro power stations to the electricity generation in Greece: Technical and economic considerations. J.K. Kaldellis. *Energy Policy*, Volume 35, Issue 4, April 2007, Pages 2187-2196

Reviews the existing situation of small hydropower plants in Greece and investigates their future prospects.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Kaldellis**)

A comprehensive method for break points finding based on expert system for protection coordination in power systems. Hossein Askarian Abyaneh and others. *Electric Power Systems Research* Vol 77 (5-6) Apr 2007 p660-672

Interconnected power systems are multi-loop structured. In such networks, the determination of settings for all overcurrent relays can be carried out in different forms and may be quite complicated.....

(For a copy of this article email library@energylibrary.org.nz Ref: **03Hossein**)

A new spectral domain approach to the distance protection, fault location and arcing faults recognition on transmission lines. Zoran M. Radojević. *International Journal of Electrical Power & Energy Systems*. Vol 29 (2) Feb 2007 p183-190.

A novel two-stage numerical algorithm devoted to fault distance calculation and arcing faults recognition is presented.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Zoran**)

Component criticality importance measures for the power industry. *Electric Power Systems Research* Jose F. Espiritu and others. Vol 77 (5-6) Apr 2007 p407-420.

New reliability importance measures have been developed for the power industry to be applied for Electricity Transmission Systems (ETS). Reliability criticality measures are useful metrics to rank components regarding their impact on system performance.....

(For a copy of this article email library@energylibrary.org.nz Ref: **03Jose**)

Featured Topic

Green Building: samplings from the Energy Library collection and the Web.

Competing explanations for adopting energy innovations for new office buildings. Walter J.V. Vermeulen and Jeroen Hovens. *Energy Policy*, Vol 34 (17), Nov 2006, p2719-2735

An integrative model to explain potential adopters' decisions to adopt energy innovations was adapted and applied in the field of new office building construction.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Hovens**)

CEPHEUS results: measurements and occupants' satisfaction provide evidence for Passive Houses being an option for sustainable building. Jürgen Schnieders and Andreas Hermelink. *Energy Policy*, Vol 34 (2), January 2006, p151-171

Passive houses offer extended living comfort with only 15–20% of the space heating demand of conventional new buildings....

(For a copy of this article email library@energylibrary.org.nz Ref: **03Hermelink**)

Growing green buildings. *Business & the Environment with ISO 14000 Updates*; Dec 2006, Vol. 17 Issue 12, p1-4

Green building is a major capital investment in the United States construction industry.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Growing**)

Factor 9 and Factor 10. (cover story). *Energy Design Update* Vol. 27 Issue 1, Jan 2007. p1-6

Highlights the adoption of the Factor 9 or Factor 10 concept in building energy-efficient housing thereby reducing fossil fuel consumption in North America and Europe.

(For a copy of this article email library@energylibrary.org.nz Ref: **03EDU**)

Green building checkups. (cover story) Bronwen Parsons. *Canadian Consulting Engineer*; Dec 2006, Vol. 47 Issue 7, p32-35

Reports on a method for assessing post-occupancy evaluations on green buildings.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Parsons**)

Managing sustainability within construction projects. Khalfan, Malik M. A. *Journal of Environmental Assessment Policy & Management*; Mar 2006, Vol. 8 (1), p41-60
An academic article on sustainable construction.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Malik**)

Cool and green roofing counterpoint. Marvin, Chuck. *RSI: Roofing, Siding, Insulation*; Feb 2007 Supplement, p16-22.

Discusses the Leadership in Energy & Environmental Design (LEED) Green Building Rating System in the United States.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Marvin**)

Working with nature. Candi Cross. *Industrial Engineer* Nov 2006 Vol. 38 (11) p24-29
Describes the Children's Museum of Pittsburgh, which is the largest Silver Leadership in Energy and Environmental Design (LEED)-certified museum in the US.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Cross**)

The green home market is ready to surge - [article](#)

Buildings That Breathe - [article](#)

New Zealand Green Building Council - [website](#)

The New Zealand Building Biology & Ecology Institute - [website](#)

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Oldies and Goodies from the Energy Library Collection

How to deal with difficult people: Strategies for getting results with the hard to handle people in your life. (1987) Rick Brinkman and Rick Kirschner. Boulder: Careertrack Publications.

If you've ever had to deal with a person who complains all the time, or the sort who's a real know-it all you'll find these strategies interesting and helpful. On 4 audio tapes (remember those?)

(To borrow this set of 4 tapes email library@energylibrary.org.nz Ref: **03Brinkman**)

Empowering innovative people: How smart managers challenge and channel their creative and talented employees. (1994) Karl Gretz and Steven Drozdeck. Chicago: Probus

Hire creative employees and manage them in the best manner for everyone's benefit.

(To borrow this book email library@energylibrary.org.nz Ref: **03Gretz**)

Handbook of synfuels technology. (1984) Robert A. Meyers. New York: McGraw-Hill
A comprehensive tome about synfuels technology. Contributions cover synfuel developments at many plants around the world, and aspects such as coal liquefaction and shale oil are discussed.

(To borrow this book email library@energylibrary.org.nz Ref: **03Meyers**)

Overloaded circuits: Why smart people underperform. Hallowell, Edward M. *Harvard Business Review*, Jan 2005, Vol. 83 Issue 1, p54-62

Today's hyperkinetic work environment can lead to newly recognized neurological phenomenon called attention deficit trait or ADT. People with ADT have difficulty staying organized, setting priorities, and they feel a constant low level of panic and guilt.

(For a copy of this article email library@energylibrary.org.nz Ref: **03Hallowell**)

Life management techniques for power transformers; Working Group A2.18.

(2003) International Conference on Large High Voltage Electric Systems. Paris: CIGRE
Looks at common goals and benefits of life management and theoretical issues such as the basic failure model. Presents a range of diagnostic and monitoring techniques as well as general considerations for operations on transformers. 125 pages.

(To borrow this book email library@energylibrary.org.nz Ref: **03CIGRE**)

Energy on the Web

New Zealand

Electricity for the 21st century: Creating a smart, efficient, electric power system
– a recent [presentation](#) by Kurt Yeager in Wellington.

Building trust in emissions reporting - PricewaterhouseCoopers [report](#)

Waste or rationality? Economic perspectives on waste management and policies in New Zealand – [report](#) to Business New Zealand.

Manufacturing energy use survey – Statistics New Zealand [survey](#)

Energy efficiency in dairy sheds: A preliminary report – [summary report](#)

Otago Energy Research Centre unveiled - University of Otago [press release](#)

International

Does extending daylight saving time save energy? Evidence from an Australian experiment – [article](#)

A versatile solution? Growing Miscanthus for bioenergy - [article](#)

Electricity generation from renewable energy sources – [report](#) prepared for Greenhouse Policy Coalition

Carbon footprints in the supply chain: The next step for business – [report](#) from the Carbon Trust UK.

Four dust collection system design improvements that can yield significant annual energy cost savings - [white paper](#)

Food for Thought

Bizarre building materials

Researchers at Michigan State University have proposed that [cow manure](#) be used to replace sawdust in the manufacture of fibreboard.

A German architect has filed a patent application for a new type of cement made of [dog droppings](#). The best breed for this has got to be the setter.

In Australia one man is building an [energy-saving house](#) from used wine bottles.

To be in the draw to win a **king-size bar of energy chocolate** [email Kat McAra](#) any unusual building material you've heard about by 4pm Friday 6th April.

Last month's competition answer: The letters of "canned insect" can be rearranged to spell "incandescent".

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