

Energy Library Update

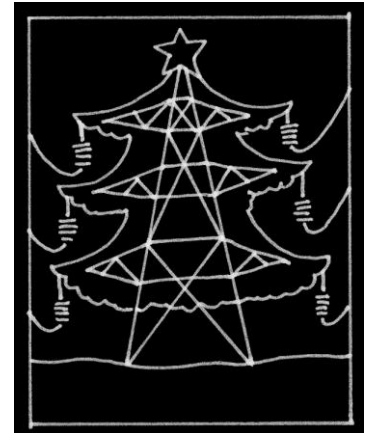
Nov/Dec 2007

Welcome to our final energy update for 2007. We are open for requests until 4:30pm on Wed 19th Dec and we will reopen on Thurs 3rd Jan. Why not make a New Year's resolution to pop in and see us early next year?

We can supply the resources listed in the Update to our members, for which there may be costs depending on the type of membership. If you would like any of the items just email us the title of the item or its reference code. Items in the Update are sometimes issued for 2 weeks instead of 4 due to high demand.

Non-members can access these articles through their institutional or public library via the interlibrary network.

The Energy library staff wishes you a safe and happy holiday season.



design by Kat McAra

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New Books, DVDs and Standards

Carbon neutral by 2020: How New Zealanders can tackle climate change (2007) Niki Harre and Quentin D. Atkinson (eds.) Nelson: Craig Potton
This book is aimed at helping all New Zealanders to get this country moving towards carbon neutrality. Individuals who are concerned about the future of this country can make a difference by taking small steps. Topics covered include: schools in a carbon neutral world, home renovation, responsible investing, transport systems, and other aspects of everyday life. (To borrow this book email library@energylibrary.org.nz Ref: **1107-Carbon**)

Mind the gap: quantifying principal-agent problems in energy efficiency. (2007)
Paris, France: IEA/OECD
Energy efficiency offers a unique opportunity to address the challenges of energy security, climate change and economic development. This book attempts to quantify market barriers to energy efficiency, highlighting insights valuable to the energy analysts and economist. (To borrow this book email library@energylibrary.org.nz Ref: **1107-Gap**)

Challenging the future: connecting the words in risk communication. (2007)

Tully, Jim Ed. Christchurch: New Zealand Centre for Advanced Engineering

In any risk situation, communication is the key to management of the resulting perception of the situation. Management must take great care in the way a situation is explained and managed, both internally and externally. Here, professionals discuss their experience of risk communication. Case studies are used to illustrate its implementation in a variety of situations. (To borrow this book email library@energylibrary.org.nz Ref: **1107-Risk**)

Housing into the future-stepping towards carbon neutrality. A seminar to close the Household Energy End-use Project (HEEP). (2007) Wellington: BRANZ

This seminar included addresses by a number of experts in this field. Speakers included: Professor Robert Socolow, Co-director of the Carbon Mitigation Initiative, Princeton University; Dr Michael Camilleri and Nigel Isaacs, both involved with the HEEP project; and Dr Bob Lloyd, Director of the Energy Management Programme, University of Otago.

(To borrow this DVD email library@energylibrary.org.nz Ref: **1107-HEEP**)

Renewable energy: Market and policy trends in IEA countries (2004) Paris:

International Energy Agency (IEA)

Reviews the experience of IEA countries after the oil crisis in the 1970s initiated a surge of investments in renewables research and development. Examines policies and measures that have been introduced in IEA countries to increase the cost effective deployment of renewables, reviews the objectives behind these policies, and evaluates the results. The aim is to identify best practices in order to assist governments in making future policy decisions.

(To borrow this book email library@energylibrary.org.nz Ref: **1107-IEA**)

AS/NZS 2712: 2007. Solar and heat pump water heaters - Design and construction

This standard provides designers, manufacturers and installers with the design and construction requirements for solar hot water supply systems.

(To borrow this standard email library@energylibrary.org.nz Ref: **1107-2712**)

NZS 4218: 2004. Energy efficiency – Small building envelope has now been cited in the New Zealand Building Code as a means of compliance with Clause H1 (Energy Efficiency). We hold this standard. To borrow it email library@energylibrary.org.nz Ref: **1107-4218**)

Special Journal Issues

Future energy: Microgeneration in the UK (June 2007 Supplement to *Energy World*)

This 13 page supplement contains 8 papers including:

- Micropower: technology, barriers and potential
- Microgeneration: an installer's view
- What's the future for micro-CHP?
- Microgeneration: the role of major energy suppliers

(To borrow this whole issue email library@energylibrary.org.nz Ref: **1107-Micro**)

Energy efficiency: Towards more consumption or sufficiency? (*Energy & Environment* Volume 15 Number 6, 2004).

This special issue contains 9 papers including:

- Equating efficiency with reduction: a self-deception in energy policy
- Our innate ability to think of new ways to use energy
- Efficiency and consumption: technology and practice
- Energy efficiency and renewables

(To borrow this whole issue email library@energylibrary.org.nz Ref: **1107-Efficiency**)

New Management, Marketing and HR Articles

Manage your energy, not your time. Schwartz, Tony. *Harvard Business Review*; Oct 2007, Vol. 85 Issue 10, p63-73, 9p

As the demands of the workplace keep rising, many people respond by putting in ever longer hours, which inevitably leads to burnout that costs both the organization and the employee. People take for granted what fuels their capacity to work - their energy. Increasing that capacity is the best way to get more done. Time is a finite resource, but energy is different. In this article the author describes how to establish rituals that will build energy.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Tony**)

Joining the pieces. Mann, Clare. *Employment Today*; May 2007 Number 119. p.15-17

Helping employees to achieve optimal work-life integration will improve business, according to the author who is an Australian organisational psychologist.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Mann**)

Risk perception and construction safety. MacDonald, G. *Proceedings of the Institution of Civil Engineers: Civil Engineering* 159 (2 SPEC. ISS.); 2006, p.51-56

Risk assessment is the cornerstone of modern health and safety legislation and of accepted approaches to safety management. This paper provides evidence that risk perception, as opposed to a formal risk assessment, plays a significant role in safety decision making. It also highlights marked and disturbing differences between on-site risk identification, assessment and decision-making processes and those envisaged in safety management teaching as well as current legislation. *Abstract supplied with permission from [Thomas Telford](#)*

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-MacDonald**)

An information security governance framework. Da Veiga, A.; Eloff, J. H. P. *Information Systems Management*; Fall 2007, Vol. 24 Issue 4, p.361-372

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Eloff**)

Sustainability through servicizing. Sandra Rothenberg. *MIT Sloan Management Review*; Winter 2007, Vol. 48, No. 2, p.83-89

Globally there is growing concern about the sustainability of current and projected levels of product consumption. Forward-thinking companies are shifting focus from quantity to quality.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Sandra**)

How valuable is word of mouth? Kumar, V. and others. *Harvard Business Review*; Oct 2007, Vol. 85 Issue 10, p139-146, 7p

The customers who buy the most from you are probably not your best marketers. What's more, your best marketers may be worth far more to your company than your most enthusiastic consumers. Those are the conclusions of the authors, who analyzed thousands of customers in research focused on a telecommunications company and a financial services firm. (For a copy of this article email library@energylibrary.org.nz Ref: **1107-Kumar**)

It's the people, stupid! Dodd, Jonathan. *NZ Marketing Magazine*; Nov 2007, Vol. 26 Issue 10, p.32-35

The article focuses on market research companies in New Zealand and their perception of standard market research. Market research companies differentiate themselves and promise added value that will put them ahead of their competitors in an increasingly competitive industry. Proprietary research techniques are used by market research companies to add significant values.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Dodd**)

New Energy and Environment Articles

Paying the price. Neilson, Tony. *Inwood*; Sep/Oct 2007 Issue 76, p30-33, 4p

The article presents the reaction of industry leaders and commentators to the issue regarding the viability of the New Zealand government's carbon neutrality policies and how the greenhouse gas (GHG) load should be shared. They were asked if GHG emission responsibility should be shared across the board. Another question addressed farmers' immunity from GHG emission responsibility. The view of John Keating of Chandler Fraser Keating on carbon neutrality policies and GHG responsibility scheme is presented.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Neilson**)

Power thieves never sleep. Wilson, Hamish. *Consumer*; Mar 2007 Number 467 p.20-22

Discusses results of the survey by Household Energy End-use Project (HEEP) and Energy Efficiency and Conservation Authority (EECA) concerning wasted energy in New Zealand.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Wilson**)

The practice of environmental compensation under the Resource Management Act 1991. Memon, Ali and Skelton, Peter. *New Zealand Journal of Environmental Law*; Volume 8, 2004. p.177-208

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Ali**)

Measuring national carbon dioxide emissions from tourism as a key step towards achieving sustainable tourism. Becken, Susanne and Patterson, Murray. *Journal of Sustainable Tourism*; 2006, Vol. 14 (4), p.323-338

The author uses the case study of New Zealand to demonstrate two different approaches for analysing carbon dioxide emissions from tourism.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Becken**)

Thermal insulations for hot water cylinders: a review and a conceptual evaluation.

S.A. Omer and others. *Building Services Engineering Research & Technology*; Aug 2007. Vol. 28, Iss. 3, p.275-293

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Omer**)

The geopolitics of oil and natural gas. Larson, Alan. *New England Journal of Public Policy*; Summer 2007, Vol. 21 Issue 2, p215-219, 5p

U.S. energy policy must take into account new clean energy technologies and the political tensions that surround increased energy demand if global energy supplies are to remain reliable.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Larson**)

None dare call it hubris: The limits of knowledge. Michael M. Crow. *Issues in Science and Technology*; Winter 2007. Vol. 23, Iss. 2; pg. 29, 4 p.

Are we really capable of meeting the challenges posed by the complex problems of climate change, exhaustion of natural resources, mass-extinctions etc? Or have we reached the limits of knowledge? This article examines the argument from both the pessimistic and the optimistic perspectives. (Mentioned in the article is a 1972 book called *The limits to growth: A report for the club of Rome's project on the predicament of mankind*. We hold this important book in our collection – please ask us if you would like to borrow it – Ref: 1107-Meadows).

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Crow**)

The green question. Oliver Holtaway. *Energy Risk*; Vol. 4 (8) June 2007 p.14-17

In this interview the co-founder of EcoSecurities reveals his vision for global carbon trading.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Oliver**)

Investment attractiveness of afforestation in Canada inclusive of carbon sequestration benefits. Yemshanov, Denys and others. *Canadian Journal of Agricultural Economics*; Dec 2005, Vol. 53 Issue 4, p307-323, 17p

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Denys**)

The U.S. acid rain program: Key insights from the design, operation, and assessment of a cap-and-trade program. Sam Napolitano and others. *The Electricity Journal*; Vol. 20, Iss. 7, (August-September 2007) p.47-58

The authors' 15 years of experience with the Acid Rain Program suggests that for regional or larger-scale air pollution problems, such as acid rain and pollution transport, a well-designed cap-and-trade program can be cost-effective, flexible, and easy to implement with clear benefits that can be sustained into the future.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Sam**)

Milking the cash cow: Earnings pressure and output competition in the U.S. electricity industry. Yu Zhang and Javier Gimeno. *Academy of Management Proceedings*; 2007, p1-6, 6p

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Zhang**)

Rocket to the moon? McCabe, Jess. *Environmental Finance*; Jul-Aug 2007 Volume 8, Number 9 p.36-38

Carbon capture and storage is touted as the saviour of the climate – and the fossil fuel business. But how will it be paid for?

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Jess**)

Where are the industrial technologies in energy–economy models? An innovative CGE approach for steel production in Germany. Katja Schumacher and Ronald D. Sands. *Energy Economics*; Vol. 29, Iss. 4, (July 2007) p.799-825

Top-down computable general equilibrium (CGE) models are used extensively for analysis of energy and climate policies. This study explores methods for improving the realism of energy-intensive industries in top-down economic models. We replace a constant-elasticity-of-substitution (CES) production function with a set of specific technologies and provide a comparison between the traditional production function approach in CGE models and an approach with separate technologies for making iron and steel...

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Ronald**)

Japan takes a lead on stationary fuel cell research. Blair, Gavin. *Energy World*; Jun 2007 350 p.22-23

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Gavin**)

Thermodynamic analysis of an in-situ cogeneration plant. T. Misa and others. *Proceedings of the Institution of Mechanical Engineers*; Aug 2007. Vol 221 (A5) p.591 (12 p.)

This paper presents thermodynamic analysis and modelling of a cogeneration plant at a local hospital consisting of two 1.9MW natural gas fired turbocharged spark ignition internal combustion engines. Heat is recovered from the exhaust, jacket water, and inlet charge coolers. Extensive experimental data on the performance of the plant was collected during July 2005. The paper provides details of the modelling, measurements, performance, and simplified economic analysis of the cogeneration plant.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Misa**)

MCT goes down to the sea again. *Modern Power Systems*; Volume 27 Issue 8 Aug 2007 p.24-26, 3p.

This article describes the progress that has been made in tidal stream power generation by U.K. company Marine Current Turbines Ltd.

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-MCT**)

Solar thermal energy systems in Australia. Lovegrove, Keith and Dennis, Mike. *International Journal of Environmental Studies*; Dec 2006, Vol. 63 (6), p.791-802

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Solar**)

Hydro, tidal and wave energy in Australia. Harries, David and others. *International Journal of Environmental Studies*; Dec 2006, Vol. 63 (6), p.803-814

(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Hydro**)

Geothermal energy in Australia. Harries, David and others. *International Journal of Environmental Studies*; Dec 2006, Vol. 63 (6), p815-821
(For a copy of this article email library@energylibrary.org.nz Ref: **1107- Geothermal**)

Global bio-fuel processing and production trends. Balat, Mustafa. *Energy Exploration and Exploitation*; Volume 25 Number 3 2007 p.195-218
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Balat**)

Increased US ethanol production requires dedicated pipelines. Robert E. Hogfoss. *Oil & Gas Journal*; Sep 17, 2007. Vol. 105, Iss. 35, p. 84, 86-87 (3 pp.)
Increased ethanol production capacity to the US requires a new transportation paradigm. Boutique production facilities serving regional hubs via truck or short line rail are not a sufficient or realistic solution. This article provides an overview of the current technical and regulatory state of dedicated ethanol pipelines...
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Robert**)

Study on pyrolysis and gasification of wood in MSW. Ni Ming-jiang and others. *Journal of Environmental Sciences*; Mar 2006, Vol. 18 Issue 2, p407-415
Presents a study on pyrolysis and gasification of wood in municipal solid waste.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Ni**)

Crossing the divide. Westerweller, T.H. and Price, J.J. *IET Power Engineer*; Oct/Nov 2006 Volume 20 Issue 5 p.42-45
The Basslink HVDC Interconnector is the world's longest submarine HVDC cable project, linking Tasmania with the Australian mainline and providing efficient two-way power transfers.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Price**)

Economic regulation of quality in electricity distribution networks. Virendra Ajodhia and Rudi Hakvoort. *Utilities Policy*, Vol. 13 (3), Sept. 2005, p.211-221
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Rudi**)

Large penetration of wind and dispersed generation into Danish power grid. Vladislav Akhmatov and Hans Knudsen. *Electric Power Systems Research*; Volume 77, Issue 9, July 2007, p.1228-1238
The Danish power grid is undergoing a change from a classical power network with few centralised large power plants into a power network with a significant amount of wind power and dispersed generation. Such a change constitutes a challenge with respect to maintaining security of the power system operation in different operational situations, and creates a need for new solutions with voltage and frequency control and compliance with planned power balance between the Danish power system and the neighbouring areas. This article focuses mainly on issues with regard to short-term voltage stability of the power grid.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Hans**)

A quantitative analysis of the relationship between congestion and reliability in electric power networks. Blumsack, Seth and others. *Energy Journal*; 2007, Vol. 28 Issue 4, p73-100
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Seth**)

Buncefield revisited. Cook, Nigel. *Occupational Safety and Health (RoSPA)*; June 2007 Vol. 37 (6) p.30-35
Describes the massive explosion and resulting fire at Buncefield Oil depot near London in December 2005. Discusses the subsequent investigation and what will be done differently in the future to avoid a similar incident.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Cook**)

Aznalcóllar dam failure. Part 2: Stability conditions and failure mechanism. *Géotechnique*; Volume 56 (3), April 2006 p.185-201. (This article is available [online](#))

Selective maintenance schedule of distribution networks based on risk management approach. Janjic, A.D. Popovic, D.S. *IEEE Transactions on Power Systems*; May 2007 Vol. 22 (2) p.597-604
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Popovic**)

Failure is not an option. Shelley, S. *Turbomachinery International*; Vol. 48 (4) 2007 p.18-21
Advances in instrumentation and control systems are improving turbomachinery operation.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Shelley**)

Gross greenhouse gas fluxes from hydro-power reservoir compared to thermo-power plants. Marco Aurelio dos Santos and others. *Energy Policy*; Volume 34, Issue 4, March 2006, p.481-488
Presents the findings of gross carbon dioxide and methane emissions measurements in several Brazilian hydro-reservoirs, compared to thermo power generation.
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Marco**)

If you were interested in the above article you might also like to read this article:
Burning methane could improve hydro-electric power (available [online](#)).

Optimal control of fuel economy in parallel hybrid electric vehicles. J. Pu, C. Yin. *Proceedings of the Institution of Mechanical Engineers.: Part D Journal of automobile engineering*; Sep 2007. Vol. 221, Iss. D9, p. 1097-1106
A mathematical model of optimal control of fuel economy for parallel hybrid electric vehicles (HEVs) and its dynamic programming (DP) recursive equation and numerical DP algorithm are presented. The effect of frequent gear shifting and engine stop-starting on drivability and fuel economy are both taken into account in the cost function.....
(For a copy of this article email library@energylibrary.org.nz Ref: **1107-Yin**)

Report

National hazardscape report. (2007) Officials Committee for Domestic and External Security Coordination, Department of the Prime Minister and Cabinet. Wellington: ODESC
Discusses New Zealand's most significant hazards along with the influence of climate change, demographic trends, human modification of the environment, reliance on technology etc.
The report is available [online](#) or you can [borrow](#) our copy (Ref: **10Hazard**)

Seminar

ISCR seminar: "Developments in Electricity Network Price Regulation"
Wednesday 20th February 2008, 9:00am to 12:30pm in Rutherford House Lecture Hall Theatre 1, Victoria University of Wellington Pipitea Campus. More information is available [online](#).

Energy on the Web

New Zealand

Huge drop in carbon emissions needed (last of this year's IPCC reports) - [news](#)

Assessment and reform of economic regulation of electricity distribution services in New Zealand – June 2007 Case Associates [report](#)

Sustainability practices of New Zealand businesses in 2006 – May 2007 [report](#)

Electricity governance (connection of distributed generation) [regulations](#)

Vector's trial of the Swift micro wind turbines - [FAQ](#)

Health researcher wins major award – EECA [Media release](#) 2/11/2007

The Energy Management Association of New Zealand (EMANZ) - [website](#)

CapEx: Promoting best practice Capital Expenditure - Utility Consultants [website](#)

International

The Climate Change Bill was introduced into the House of Lords on 14 November 2007. To accompany the Bill, DEFRA has published a finalised [Impact Assessment](#). You can follow the Bill's progress [here](#).

The state of geothermal technology - Part I: Subsurface technology - [report](#)

Lighting the way: Toward a sustainable energy future – Oct 2007 [report](#)

Reducing U.S. greenhouse gas emissions: How much at what cost? – Dec 2007 [report](#)

The oil sands: Toward sustainable development – House of Commons (Canada) [report](#)

Effects of climate change on energy production and use in the U.S. – Oct 2007 [report](#)

Green collar jobs could top 40M by 2030 - Nov 2007 GreenBiz [report](#)

Vehicle fuel economy: Reforming fuel economy standards could help reduce oil consumption by cars and light trucks, and other options could complement these standards - GAO [report](#)

Biofuels: Is the cure worse than the disease? - Sept 2007 [report](#)

Swell Fuel's lever operated pivoting float - This wave energy device had an enthusiastic reception in El Salvador. See it working on the [website](#) videos.

Cutting green customer confusion – Ofgem [consultation document](#)

Pandemic influenza planning for the energy industry - planning support [document](#)

Nanoscale materials may soon revolutionize energy storage - [article](#)

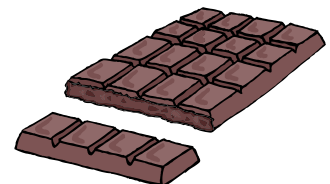
Fuel for Thought (Energy chocolate competition)

Take a look at some [unusual power line photos](#) (we especially like the Mickey one).

To be in to **win a king-size bar of energy chocolate** [email Kat McAra](#) the answer to the following question:

Which organisation can you join if you are a big fan of electricity transmission towers? (clue: their website is [here](#))

Draw closes 4pm Friday 14th December 2007.



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