

## Energy Library Update

Apr 2007

A special thanks this month to Ricky Smith from Meridian Energy who showed the Energy Library team around Te Apiti wind farm last week. It was fascinating to see the turbines close up and to have a look around the substation (a transforming experience!) Watch this space next month for photos.

If you would like any of the resources listed below just email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) quoting the title of the item or its reference code. Charging depends on the agreement your organisation has with us. Note that most Update items are issued for 2 weeks.

### Contents

[Featured Energy Library journal](#)  
[New Books, Standards and CD-ROMs](#)  
[Special Journal Issues](#)  
[Reports](#)  
[New Management and Marketing Articles](#)  
[New Energy Articles](#)  
[Featured Topic](#)  
[Energy on the Web](#)  
[Oldies and Goodies \(books and articles from the Energy Library collection\)](#)  
[Food for Thought](#)

## Featured Energy Library Journal

### YourEnvironment

This newsletter is published weekly and covers environmental and resource management planning and law in New Zealand. It contains summaries of relevant news and court cases as well as changes in regional and district plans.

(To go on the circulation list for our print version email [kmcara@energylibrary.org.nz](mailto:kmcara@energylibrary.org.nz) )

## New Books, Standards and CD-ROMs

### Bioenergy Australia 2006 Conference: 'A growth opportunity for energy and the environment.'

Fremantle, WA, 6-7 December 2006 (CD-ROM)

This CD-ROM includes a significant number of presentation abstracts and other conference related material from a broad range of experts in the field of bioenergy. Supporting information on each presentation is provided in point form.

(To borrow this CD-ROM email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Bioenergy**)

**New Zealand Wind Energy Association Conference 2007: Speaker presentations.**

Wellington, 12-14 March 2007 (CD-ROM).

Papers given at the conference covered a wide variety of topics, such as Policy issues, Accommodating large-scale wind energy, and Farming the wind in Tararua. Papers are available at the NZ Wind Energy Association [website](#) or:

(To borrow our CD-ROM: email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04NZWEA**)

**A high level assessment of the risks and vulnerabilities to energy supply in the Otago region.** (2006) Otago Regional Council. Dunedin: CAENZ

Examines the various supply chain components that make up the total regional energy system in Otago. Aims to expose the risk factors affecting service delivery and to look at mitigating such risks.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Otago**)

**IEEE 738: 2006. IEEE standard for calculating the current - Temperature relationship of bare overhead conductors.**

(To borrow this standard email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04IEEE**)

## Special Journal Issues

**Shedding Light on Blackouts** (*IEEE Power & Energy magazine* Sept/Oct 2006)

This issue contains 6 feature articles on power blackouts.

(To borrow this whole issue email [kmcara@energylibrary.org.nz](mailto:kmcara@energylibrary.org.nz) Ref: **04Blackouts**)

**Air quality and monitoring** (special section in Nov/Dec 2006 issue of *Energy, Resource, Environmental and Sustainable Management*)

(To borrow the whole journal issue email [kmcara@energylibrary.org.nz](mailto:kmcara@energylibrary.org.nz) Ref: **04ERESM**)

## Reports

**Comparative Analysis of Liberalisation Models of Electricity Markets.**

(2003) Masayuki Yajima. Tokyo: Central Research Institute of Electric Power Industry

(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04CRIEPI**)

**A Guide to Geothermal Energy and the Environment.** (Updated April 2007)

Alyssa Kagel and others. Washington, D.C.: Geothermal Energy Association

(This report is available [online](#))

**Environmental Performance Review of New Zealand** (2007) OECD Publishing

Read the [press release](#) that summarises the findings of this OECD report.

(This report can be [purchased online](#)).

## **Working Group II Contribution to the Intergovernmental Panel on Climate Change. Fourth Assessment Report. Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability (Summary for Policymakers)**

The report includes regional projections for New Zealand.

(This summary is available [online](#). You may also like to read [NIWA's summary](#))

## **New Management and Marketing Articles**

**Can your company handle change?** Fleming, John. *Gallup Management Journal Online*; 3/8/2007, p1, 6p

In this interview Gallup principal John Fleming answers questions about implementing effective organisational change.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Fleming**)

**Researching mere exposure effects to advertising.** Grimes, Anthony; Kitchen, Philip J. *International Journal of Market Research*; 2007, Vol. 49 Issue 2, p191-219.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Grimes**)

**The process audit.** Hammer, Michael. *Harvard Business Review*; Apr 2007, Vol. 85 Issue 4, p111-123

Few executives question the idea that by redesigning business processes they can achieve extraordinary improvements. Yet many of them flounder, unsure about what exactly needs to be changed, by how much, and when. The author has spent the past five years working with a group of leading companies to develop the Process and Enterprise Maturity Model (PEMM), a new framework that helps executives in their transformation efforts.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Hammer**)

**What your leader expects of you. (cover story)** Bossidy, Larry. *Harvard Business Review*; Apr 2007, Vol. 85 Issue 4. p58-65

Based on his experiences as a chairman and CEO, the author offers a set of behavior characteristics that executives should expect from successful subordinates. What an executive's direct reports should expect from their superior is also presented. The author presents a sample performance evaluation form.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Bossidy**)

**Kaleidoscope careers: Benchmarking ideas for fostering family-friendly workplaces.** Sherry E. Sullivan and Lisa A. Mainiero. *Organizational Dynamics* Volume 36, Issue 1, (2007). Pages 45-62

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Sullivan**)

**Contractor or employee?** Karen Spackman and Nick Belton. *Employment Today*; March/April 2007 p29-30 (2 pages)

Covers the pros and cons of using independent contractors as opposed to employees.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Spackman**)

**Priming the talent pump.** Hunt, Graeme. *New Zealand Management*; Mar 2007, Vol. 54 Issue 2, p36-42

The author summarises proposed changes to New Zealand's Immigration Act. He explains how attracting skilled migrants is increasingly important.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Hunt**)

**Holiday time.** Katie Elkin. *Employment Today*; March/April 2007 p21 (1 page)

Answers questions about the change from 3 to 4 weeks annual leave.

Note: this is a one page article.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Elkin**)

## New Energy Articles

**Developments in wave and tidal systems.** L.J. Duckers. In: *Renewable Energy 2006* (p71-75). London: Sovereign.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Duckers**)

**Is there a sustainable future for nuclear power?** I. MacGill and others. *IEEE Power and Energy Magazine*, 4 (4), 2006 p. 63-74

While the issues around nuclear power proliferation, safety, and waste management are not solved easily, some experts think that nuclear power could play a part in helping to reduce energy industry emissions.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04MacGill**)

**Designing a market.** Oliver Holtaway. *Energy Risk*; Vol 4 (5) March 2007 p46-49

Examines the possible forms a Canadian emissions-trading scheme could take.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Holtaway**)

**A directory of leading greenhouse gas offset providers.** *Environmental Finance* Feb 2007 Volume 8, Number 4, pS15-17

An international list.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Directory**)

**Heading south.** Abudi Zein. *Environmental Finance*; Vol 8 (5) March 2007 p30,33

With new sulphur dioxide and nitrogen oxide rules on the horizon, and carbon controls looming, the author sees continuing downward pressure on US emissions allowance prices.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Zein**)

**Upgrading the Harsprånget civil works to meet new dam safety criteria.** Leif Ask and Ingvar Ekström. *HRW*; Nov 2006 p20-27 (6p)

Describes Vattenfall AB Vattenkraft's upgrade of its 940-MW Harsprånget plant in Sweden.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Ask**)

**Power system equipment aging – assessment, maintenance and retirement.**

Wenyuan Li and others. *IEEE Power & Energy Magazine* Vol. 4, No.3, May/June 2006, p52-58

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Li**)

**Copper Sulphide in Transformer Insulation.** *Electra*; (230) February 2007 p12-17

The formation of copper sulphide in the solid insulation of transformers and reactors may constitute a very serious problem for users, manufacturers and material suppliers. Even if much work remains until the phenomenon is well understood, some significant observations and preliminary conclusions, as well as a proposal for a new test for corrosive sulphur in oil, can be presented.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Electra**)

**Methods help remove black powder from gas pipelines.** Nikolaos A. Tsochatzidis and Konstantinos E. Maroulis. *Oil & Gas Journal*; Mar 12, 2007. Vol 105 (10); p52 (6p)

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Maroulis**)

**Hydrogen's silver bullet? Two organisations in the US are addressing the 'green hydrogen' conundrum.** D.C. Smith. *Refocus*; Volume 8, Issue 1, January 2007, Pages 26,28-29

The U.S. Department of Energy's National Renewable Energy Laboratory and Xcel Energy have launched a ground-breaking two-year project aimed at using electricity generated from wind turbines to produce and store pure hydrogen, thus offering what may become a significant new template for future energy production.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Smith**)

**Why BPL?** Bill Moroney. *Metering International* Issue 1 2006 p.50-52 (2 pages)

A short article about broadband over power line.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Moroney**)

**Filling the gap – “we can hear you now”** Mike Tabbert. *Metering International* Issue 1 2006 p54-56

An article about automated meter reading technologies.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Tabbert**)

**Linking consumer energy efficiency with security of supply.** J.P. Rutherford and others. *Energy Policy*, Volume 35, Issue 5, May 2007, p3025-3035

Most modern energy policies seek to achieve systematic ongoing incremental increases in consumer energy efficiency. Yet realised levels of efficiency are typically well below the most cost-effective equilibrium due to variety of behavioural and organisational barriers, which are often linked to information constraints. Also, efficient users are normally unrewarded for collective benefits to system security and to the environment, thus reducing the incentives for energy consumers to invest in efficiency improvements. This paper examines the dichotomies and symmetries between supply- and demand-side

solutions to energy security concerns and reviews opportunities to overcome barriers to improved consumer efficiency. Electricity in New Zealand is the primary focus.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Rutherford**)

**Determinants of residential space heating expenditures in Germany.** Katrin Rehdanz. *Energy Economics* Volume 29, Issue 2, (March 2007) p167-182

We first examine the determinants of household expenditures on space heating and hot water supply in Germany. A number of socio-economic characteristics of households are included along with building characteristics. Our analysis covers information on more than 12,000 households in Germany for the years 1998 and 2003. The analysis continues by investigating whether different kinds of households are affected differently by increases in energy prices....

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Katrin**)

**The adoption of domestic solar-power systems: Do consumers assess product attributes in a stepwise process?** Adam Faiers and others.

*Energy Policy* Volume 35, Issue 6 (June 2007) p3418-3423

The adoption of an innovation is partly dependent on the consumers' perception of the product attributes, starting with the 'relative advantage' a product may have over another existing product, and also include issues of compatibility, complexity, observability and trialability. Using diffusion of innovations theory as a conceptual framework, this paper describes a case study that investigated the innovation adoption process that a group of identified potential adopters of domestic solar thermal systems stated they would follow. Conclusions are drawn on how the findings may impact marketing activities.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Faiers**)

**Does willingness to pay for green energy differ by source?** Allison M. Borchers and others. *Energy Policy* Volume 35, Issue 6 (June 2007) p3327-3334

We present the findings of a choice experiment designed to estimate consumer preferences and willingness-to-pay (WTP) for voluntary participation in green energy electricity programs. Our model estimates WTP for a generic "green energy" source and compares it to WTP for green energy from specific sources, including wind, solar, farm methane, and biomass.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Borchers**)

**Strategic niche management for biofuels: Analysing past experiments for developing new biofuel policies.** W.W.M. van der Laak and others. *Energy Policy* Volume 35, Issue 6 (June 2007) p3213-3225

The approach of strategic niche management (SNM) is used to explain success and failure of past biofuels projects. Based on the analysis as well as recent innovation literature a list of guidelines is presented that is important to consider when developing biofuel policies.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Laak**)

**Heat exchangers in carbon dioxide cascade systems.** Stenhede, C. *IRHACE journal*, Volume 19 Issue 2 (March/April 2007) p6-13.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Stenhede**)

**Short-term hydrothermal coordination considering an AC network modelling.** W. Sifuentes and A. Vargas. *International Journal of Electrical Power & Energy Systems* Vol 29 (6) July 2007 p488-496

In short-term hydrothermal coordination, the transmission network is typically modeled through a DC power flow. However, this modeling can lead to inoperable solutions when verifying with AC power flow. This work presents a methodology that includes an AC power flow model to overcome the above problem.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Vargas**)

**A unified transmission loss allocation method.** Qifeng Ding and Ali Abur *International Journal of Electrical Power & Energy Systems* Vol 29 (5) June 2007 p380-386

A new unified method which allocates transmission losses either to buses in a pool market or to individual transactions in a bilateral contract market is presented in this paper.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Ding**)

**The value of supply security: The costs of power interruptions: Economic input for damage reduction and investment in networks.** Michiel de Nooij and others. *Energy Economics* Volume 29, Issue 2, (March 2007) p277-295

Most research into the reliability of electricity supply focuses on the suppliers. Reductions in the number of power interruptions will often be possible, but are often very costly.

These costs will eventually be borne by electricity users. This paper studies the value of supply security in order to determine the socially optimal level of security. The costs of interruptions are estimated for the Netherlands in terms of lost production and lost leisure time...

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Nooij**)

**Electricity transmission pricing and performance-based regulation.**

Vogelsang, Ingo. *Energy Journal*, 2006, Vol. 27 Issue 4, p97-126

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Ingo**)

**GHG mitigation potential, costs and benefits in global forests: A dynamic partial equilibrium approach.** Jayant Sathaye and others. *Energy Journal; Multi-Greenhouse Gas Mitigation*, Vol. 27, p127-162

Investigates the potential for carbon sequestration in forest plantations, and the reduction of carbon emissions from deforestation.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Jayant**)

**On the importance of equity in international climate policy: An empirical analysis.** Andreas Lange and others. *Energy Economics* Volume 29, Issue 3 (May 2007) p545-562

Based on unique data from a world-wide survey of people involved in international climate policy, this paper empirically analyzes the importance of equity in this field.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Lange**)

**Hydro and the CDM. The role of hydroelectricity in meeting Kyoto obligations.**

Ruth Whittington. *Refocus*; Volume 8, Issue 1, January 2007, Pages 54-56

The Kyoto Protocol international treaty established the largest and first truly environmental market in the world: for the trading of 'carbon credits'. It also established binding emissions reduction targets for industrialised countries. The Protocol also established mechanisms for project-based carbon trading, and renewable energy - particularly hydroelectricity - has been one of the most successful project types in the carbon market to date.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Whittington**)

**Internalisation of external cost in the power generation sector: Analysis with Global Multi-regional MARKAL model.**

Peter Rafaj and Socrates Kypreos  
*Energy Policy*, Volume 35, Issue 2, February 2007, p828-843

The Global MARKAL-Model (GMM), a multi-regional "bottom-up" partial equilibrium model of the global energy system with endogenous technological learning, is used to address impacts of internalisation of external costs from power production. This modelling approach imposes additional charges on electricity generation, which reflect the costs of environmental and health damages from local pollutants (SO<sub>2</sub>, NO<sub>x</sub>) and climate change, wastes, occupational health, risk of accidents, noise and other burdens. Technologies allowing abatement of pollutants emitted from power plants are rapidly introduced into the energy system. The results are discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Rafaj**)

**Outsourcing energy and carbon management.** Mike Sewell. *Energy World*; No. 345  
Jan 2007, p16-17

Industrial energy users may benefit from outsourcing energy management.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Sewell**)

## Featured Topic

**Social Acceptance of Wind Farms: samplings from our collection and the web.**

**Wind Power in View: Energy Landscapes in a Crowded World.** (2002) Pasqualetti, M and others. San Diego: Elsevier

This book is a discourse on the aesthetic impact of wind turbines and what can be done to mitigate it.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Pasqualetti**)

**Permitting of Wind Energy Facilities: A Handbook.** (1998) National Wind Coordinating Committee. Washington, DC: NWCC

Includes sections on: Tradeoffs; Land Use; Noise; Birds; Visual Resources; Cultural Resources; Soil Erosion and more.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04NWCC**)

**Social Acceptance of Renewable Energy Innovation** (*Energy Policy* May 2007)

This issue contains 9 articles on social acceptance of renewable energy innovation, including 5 specifically about social acceptance of wind farms.

(To borrow this whole issue email [kmcara@energylibrary.org.nz](mailto:kmcara@energylibrary.org.nz) Ref: **04Enepol**)

**Stakeholders or subject matter experts, who should be consulted?** Alberts, D.J.

*Energy Policy*, 35 (4) 2007, p2336-2346.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Alberts**)

**The problem of windfarm location: A social multi-criteria evaluation framework.**

Gamboa, G., Munda, G. *Energy Policy*, 35 (3) 2007, p1564-1583.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Gamboa**)

**Crossing the great divide – Using multi-method analysis to understand opposition to windfarms.** Haggett, Claire and Toke, David. *Public Administration*;

2006, Vol. 84 (1) p103-120

(A pre-publication version is available [here](#)).

**Wind energy projects in New York: Facing the siting issue.** Colello, Vicki.

*Environmental Quality Management*; Autumn 2005, Vol. 15 Issue 1, p105-110

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Colello**)

**Wind energy policy, planning and management practice in the UK: Hot air or a gathering storm?** Strachan, Peter A. and others. *Regional Studies*; Jul 2004, Vol. 38

Issue 5, p549-569.

(This article is available [here](#).)

**Avoiding confrontation: securing planning permission for on-shore wind energy developments in England: comments from a wind energy developer.** Beddoe,

Marcus; Chamberlin, Andrew. *Planning Practice & Research*; Feb 2003, Vol 18 (1), p3, 15p

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Beddoe**)

**And if you want more on a special topic.....**

Ask about subscribing to our **Customized Topic Updates** which give regular samplings from the web, our collection and other sources on topics of your choice.

(To request details about subscribing to our Customized Topic Updates email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) and quote **Ref: Topic**)

## Energy on the Web

### New Zealand

**Carshare.co.nz** (organise your car sharing online) – [website](#).

**The New Zealand Energyscape project** (NIWA) – [website](#).

**Australia shows sustainability having significant impact on investment decisions and spending** – [news](#).

**Kicking the Carbon Habit** (Green Party) - [policy document](#).

**Green Star NZ Rating Tool** (Green Building Council) – [website](#).

**Solar power breakthrough at Massey** – [news](#).

### International

**Streetcar (self-service cars for rent in the UK)** – [website](#).

**Charter drive (Australian car charter service)** – [website](#).

**Real Climate (Climate Science from Climate Scientists)** – commentary [website](#)

**Renewable Energy Access podcasts** – [website](#).

## Oldies and Goodies (books and articles from the Energy Library collection)

**Handbook of energy audits.** 3<sup>rd</sup> ed. (1992) Albert Thumann. Lilburn: Fairmont  
Energy auditing was born out of a time of high oil prices, and continues to be relevant as energy costs and scarcity of supply mean energy usage will always be watched. Energy audits are outlined for various situations, such as Building systems, and there are 3 case studies, including an Energy audit of food service facilities.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Lilburn**)

**Price-cost margins and profit rates in New Zealand electricity distribution networks since 1994: The cost of light handed regulation.** Bertram, Geoff; Twaddle, Dan. *Journal of Regulatory Economics*, Volume 27 (3) May 2005, p281-308  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Bertram**)

**Quantifying hazardous species in particulate matter derived from fossil-fuel combustion.** Frank E. Huggins and others. *Environmental Science and Technology*; 2004; 38(6) p1836 - 1842  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Huggins**)

**Workload, stress and psychosocial factors as hazards for musculoskeletal disorders.** Macdonald, W. *Journal of Occupational Health and Safety Australia and New Zealand*; 2004, VOL 20; Part 1, p37-48  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Macdonald**)

**Hydro-electric power in New Zealand.** W. Wilson. *Journal of the Institution of Electrical Engineers (IEE)* 54 (255): 275-291 February 1916  
A very old article!  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **04Wilson**)

## Food for Thought

Combatting climate change is not a simple task. Recent research reveals that [some forests may speed global warming](#) and [ethanol fuel may cause as many deaths as petrol](#).

On a lighter note: Last month we asked you to let us know of unusual construction materials. Our favourite entry was: [Battleship components made from carrots](#).

## Cryptic Energy Competition

To be in to win a king-size bar of energy chocolate [email Kat McAra](#) with the solution to the following cryptic clue:

What measure of electricity would require us to walk to it in confusion?

(If you need a clue [email Kat McAra](#) with HINT in the subject line). Draw closes 4pm on Friday 11<sup>th</sup> May.

**If you are not currently receiving the monthly Energy Library Update email and would like to, let us know. If you wish to be unsubscribed 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.**