

## Energy Library Update

Nov / Dec 2006

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Christmas holidays: We are open for requests until 12 noon on Wed 20<sup>th</sup> Dec. We will reopen in the New Year on Wed 3<sup>rd</sup> Jan with skeleton staff. Full staff will be back from the 8<sup>th</sup> January. We wish you a merry and safe Christmas.

## Contents

### Featured Energy Library journals

#### New books and standards

#### Reports

#### Journal articles

#### Featured topic

#### Oldies and goodies from the Energy library collection

#### Web and news resources

#### New Energy Library Updates launched

#### Food for thought

Energy Library has copies of the following report to give away. These have been kindly donated to us by Meridian Energy:

#### **Options choices decisions: understanding the options for making decisions about New Zealand's electricity future.**

(To receive a free copy of this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) (Ref: 11OCD)

## Featured Energy Library journals

(To request a sample copy for evaluation or to go on the circulation list email [Kat McAra](mailto:Kat.McAra) with the journal title or reference code)

#### **[IEEE Transactions on Power Delivery](#) (Ref: 11IEEPPD)**

#### **[IEEE Transactions on Power Systems](#) (Ref: 11IEEPPS)**

Each issue contains many technical papers from the Institute of Electrical and Electronics Engineers. For more information on the journals click on their titles above.

#### **Fuel Magazine** (potential new Energy Library subscription).

Take a look on the publisher's [website](#) and then email [Kat McAra](mailto:Kat.McAra) (Ref: 11FuelMag) if you are interested in seeing this magazine on circulation. If enough members are keen we will purchase a subscription and circulate each issue.

For a full list of titles available on circulation or table of contents email [Kat McAra](mailto:Kat.McAra)

## New books and standards

### **The Long Emergency: Surviving the End of Oil, Climate Change, and Other Converging Catastrophes of the Twenty-First Century**

Kunstler, James Howard (2006). New York: Grove Press

Kunstler discusses the impending world oil shortage, the environmental crisis, and the economic and social fallout from the huge changes taking place in modern society.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Kunstler**)

### **The Tao of Coaching: Boost Your Effectiveness at Work by Inspiring and Developing Those Around You. Max Landsberg (2003). London: Profile Business**

This is a chatty little book about how to coach- it's easily read, and uses examples to describe different methods and styles of coaching.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: 11Landsberg)

### **The Harvard Business Review Paperback Classics Set.**

Each book contains reprints of popular articles from the Harvard Business Review magazine on a particular topic.

- Harvard Business Review on Brand Management (**Ref: 01HBRBM**)
- Harvard Business Review on Change (**Ref: 01HBRC**)
- Harvard Business Review on Leading through Change (**Ref: 01HBRLTC**)
- Harvard Business Review on Leadership (**Ref: 01HBRL**)
- Harvard Business Review on Corporate Responsibility (**Ref: 01HBRCR**)
- Harvard Business Review on Effective Communication (**Ref: 01HBREC**)
- Harvard Business Review on Knowledge Management (**Ref: 01HBRKM**)
- Harvard Business Review on Negotiation & Conflict Resolution (**Ref: 01HBRNC**)

(To borrow any of the books in this series email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) with the appropriate reference code).

### **NZS 4214: 2006 Methods of Determining the Total Thermal Resistance of Parts of Buildings**

Provides methods of determining the thermal resistance of building components and elements consisting of thermally homogeneous layers, in steady-state environmental conditions.

(To borrow this standard email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11-4214**)

### **AS/NZS 60335.2.66: 2004. Household and similar electrical appliances - Safety. Part 2.66: Particular requirements for water-bed heaters**

Deals with the safety of electric water-bed heaters and associated control units, their rated voltage being not more than 250 V, for household and similar purposes. Appliances intended to be used in hotels, are also within the scope of this standard.

(To borrow this standard email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11-60335**)

## **New Zealand Energy Data File (September 2006)**

Wellington: Ministry of Economic Development.

(To borrow this serial email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11EneDat**)

## **Reports**

**Clean Coal - Building a Future through Technology.** London: World Coal Institute  
This publication sets the role of coal in the world energy scene, and discusses the importance of environmental sustainability. There is an annex on clean coal technologies.  
(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Clean**)

**Solar water heating guidebook : a technical guide for building industry professionals.** (2006) Wellington: Energy Efficiency and Conservation Authority  
Provides a general guide for solar water heating systems in New Zealand for residential, commercial or industrial use. Includes information on: costs, benefits, general considerations, compliance, standards, legal requirements and installation and design requirements.  
(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Solar**)

## **New Zealand Energy Greenhouse Gas Emissions 1990 - 2005**

(2006) Wellington: Ministry of Economic Development

(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Emissions**)

**Final Report: Home Energy Rating Scheme Consultancy.** EnergyConsult (2005)  
Wellington: Energy Efficiency and Conservation Authority  
This report presents the findings and conclusions of a review prepared for the Energy Efficiency and Conservation Authority. It provides a background to the history of HERS (Home Energy Rating Schemes) and recommends policy options to implement a national home rating scheme in New Zealand  
(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11EECA**)

**Healthy, wealthy and wise: a health impact assessment of future currents: electricity scenarios for New Zealand 2005 -2050.** Robert Quigley and others (2006)  
Wellington: Parliamentary Commissioner for the Environment  
(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Quigley**)

**Wind power, people, and place.** 2006. Wellington: Parliamentary Commissioner for the Environment  
Looks at the development and likely future growth of commercial scale wind farms in New Zealand. Presents case studies of wind farm development in Auckland, Wellington and the Manawatu regions. International trends are also covered. Discusses the impact on landscapes and communities as well as the legal and policy framework for wind farms.  
(To borrow this report email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11PCE**)

## Journal articles

**The path to the perfect power system.** Gellings, Clark W and others Electra Oct 2006 No 228 p8-16

Describes preliminary results from the Galvin Electricity Project – intended to define the path to a perfect electric energy service system. The project started with the notion that increasingly consumers demand perfection, and increasingly independence, efficiency, environmentally friendly systems and cost control.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Gellings**)

**Remote on-line management for protection and automation** (Technical brochure No 307 - WG B5.09) Electra Oct 2006 No 228 p.73-79

Discusses the application of Information Technology for the remote, on-line management of substation protection and automation systems.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Electra**)

**The detection of abrupt changes using recursive identification for power system fault analysis.** Abhisek Ukil and Rastko Živanović. Electric Power Systems Research Volume 77, Issues 3-4 (March 2007) Pages 259-265

Describes the application of the recursive parameter estimation technique used to detect the abrupt changes in the signals recorded during disturbances in the power network of South Africa.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Abhisek**)

**Long-term load forecasting via a hierarchical neural model with time integrators.** Otávio A.S. Carpinteiro and others. Electric Power Systems Research Volume 77, Issues 3-4 (March 2007). Pages 371-378

A novel hierarchical hybrid neural model to the problem of long-term load forecasting is proposed. The results of the research are presented and evaluated.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Otavio**)

**Simulation of the impact of wind power on the transient fault behavior of the Nordic power system.** Jauch, C. and others. (2007) Electric Power Systems Research, 77 (2), pp. 135-144.

The Nordic power system is the interconnected power system of the countries Norway, Sweden, Finland and Denmark. The wind turbines installed and connected in eastern Denmark are taken as study case. The current and future wind power situation in eastern Denmark is modeled and short circuit faults in the system simulated. The findings are presented and discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Jauch**)

**Climate change negotiations and first-mover advantages: the case of the wind turbine industry.** Urs Steiner Brandt and Gert Tinggaard Svendsen

Energy Policy, Volume 34, Issue 10, July 2006, Pages 1175-1184

Individual EU member countries may have a rational economic interest in creating comparative advantages for renewable energy sources. We demonstrate that different

means of implementing the Kyoto Agreement affect the potential to market new renewable technologies to other countries subsequent to their ratification of the Kyoto target levels.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Brandt**)

**Bigger and better.** Busel, John P.; LaFrance, Carl. Power Engineering, Mar 2006, Vol. 110 Issue 3, p22-29

Discusses technological advancements that will increase the efficiency of wind turbine blades, allowing for more growth in the industry.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Busel**)

**The greening of GE.** Fairley, P. IEEE Spectrum Volume 42, Issue 7, July 2005, p22-27  
Recently U.S. power generator General Electric has embraced clean energy (renewable energy and technologies such as coal gasification). Will the company continue in this direction and will it be able to profit from it?

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Fairley**)

**Efficient energy-saving targets for APEC economies.** Jin-Li Hu and Chih-Hung Kao. Energy Policy, Volume 35, Issue 1, January 2007, Pages 373-382

Energy-saving target ratios (ESTR) for 17 APEC economies during 1991–2000 are computed in a total-factor framework. Energy, labor, and capital are the three inputs, while GDP is the single output. Findings are presented and discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Hu**)

**Long-term energy savings and greenhouse gas emission reductions in the Swiss residential sector.** Thomas Siller and others. Energy Policy Volume 35 Issue 1 (January 2007) Pages 529-539

A model is constructed to describe the dynamics of the energy-relevant properties of the residential building stock. Appropriate scenarios are discussed in terms of decisions made during construction or renovation of residential buildings which affect heat demand and determine the energy carriers used for heating and hot water generation. The results are discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Siller**)

**The value of solar: Prices and output from distributed photovoltaic generation in South Australia.** Tony Maine and Paul Chapman. Energy Policy Volume 35, Issue 1 (January 2007) Pages 461-466

The Australian government's Solar Cities Program sees great value in so-called "cost-reflective pricing", code for valuing solar at pool prices. We test that proposition in South Australia. Ways in which the incentive to install distributed photovoltaic generation might be improved are discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Maine**)

**Quantifying siting difficulty: A case study of US transmission line siting.**

Shalini P. Vajjhala and Paul S. Fischbeck. Energy Policy Volume 35, Issue 1 (January 2007) Pages 650-671

The worldwide demand for new energy infrastructures has been paralleled in recent years by the increasing difficulty of siting major facilities. This paper presents a two-step policy-level framework that first develops an empirical measure of siting difficulty and then quantitatively assesses its major causes. The results of the analyses are discussed. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Vajjhala**)

**When should we use strategic oil stocks?** Sarah A. Emerson. Energy Policy Volume 34, Issue 18 (December 2006) Pages 3377-3386

The countries of the OECD have built significant strategic oil stocks over the past 30 years, and others like India and China have begun substantial programs as well. The operating environment for using those stocks in an emergency, however, has changed considerably during those years. This paper discusses the track record of using strategic reserves and recommends new guidelines for their use which will strengthen their utility to both the policymaker and the marketplace. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Emerson**)

**Ocean carbon sinks and international climate policy.** Katrin Rehdanz and others. Energy Policy, Volume 34, Issue 18, December 2006, Pages 3516-3526

It is probable that certain countries will advocate the inclusion of ocean carbon sinks to reduce their emission reduction obligations in post-2012 Kyoto Protocol negotiations. Countries such as Australia, Denmark, France, Iceland, New Zealand, Norway and Portugal would gain substantially. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Rehdanz**)

**Power and People.** Jay Apt and Baruch Fischhoff. The Electricity Journal. Volume 19, Issue 9 (November 2006). Pages 17-25

Without public acceptance, it may be impossible for electric sector innovations to gain regulatory approval, find sites, or secure funding on terms allowing economic viability. Too often, though, the public face of new technologies is an afterthought. A scientifically sound program of risk communication is needed. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Apt**)

**Cost efficiency in the Swiss gas distribution sector.** Mehdi Farsi and others. Energy Economics Volume 29, Issue 1 (January 2007) Pages 64-78

This paper studies the cost structure of gas distribution utilities in Switzerland. Three stochastic frontier models are applied to a panel of 26 companies operating from 1996 to 2000. The results are discussed. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Farsi**)

**Fuels gold.** Fred Pearce. The New Scientist, Volume 191, Issue 2570, 23 September 2006, Pages 36-41

Are biofuels really the answer to our energy woes? It's not that simple. (For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Pearce**)

**Why has the Nordic electricity market worked so well?** Eirik S. Amundsen and Lars Bergman. Utilities Policy. Volume 14, Issue 3, Sept 2006, Pages 148-157

Explores why the Nordic electricity market has worked quite well and considers to what extent the Nordic experiences are relevant for other countries.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Amundsen**)

**Capital efficiency, its measurements and its role in regulatory reviews of utility industries: Lessons from developed and developing countries**

Ian Alexander. Utilities Policy Volume 14, Issue 4, December 2006, Pages 245-250

Explores some of the issues related to incentive based regulation of capital expenditure and how flexible approaches can be developed to handle the uncertainty inherent in certain types of capital expenditure.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Alexander**)

**Accelerating commercialization of renewable hydrogen technologies.** Limback, Linda. BioCycle; Jul 2006, Vol. 47 Issue 7, p41-45

Describes the growth of Minnesota's renewable energy industry and the potential for it to realize its goal of becoming a hydrogen economy. Explains that solar, wind, and biomass are the areas with greatest potential. Hydrogen could be developed from renewable feedstock and used for the many industrial processors in the state. There have also been a number of pilot projects proposed such as conversion of solar to hydrogen by electrolysis, catalytic conversion of water-rich ethanol to hydrogen etc.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Limback**)

**Energy recovery from biosolids treatment.** Rickerson, Wilson. BioCycle; Apr 2006, Vol. 47 Issue 4, p60-64

Within the biosolids industry in the United States, anaerobic digesters have the biggest potential when it comes to electricity generation. In some states however, there are regulatory hurdles that must be overcome.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Rickerson**)

**Extreme Jobs: The Dangerous Allure of the 70-Hour Workweek.** Hewlett, Sylvia; Luce, Carolyn. Harvard Business Review Vol. 84 (12), Dec 2006 p49-59

Today's overachieving professionals labor longer, take on more responsibility, and earn more than the workaholics of yore. They hold what the authors call "extreme jobs," which entail workweeks of 60 or more hours and have at least five of ten characteristics (eg tight deadlines and lots of travel) culled from the authors' research. This research consists of two large surveys that map the shape and scope of such jobs, as well as focus groups and interviews that reveal extreme workers' attitudes. What emerges is a complex picture of the all-consuming career - rewarding in many ways, but not without danger to individuals and to society.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Hewlett**)

**Strategy & Society: The Link between Competitive Advantage and Corporate Social Responsibility.** Porter, Michael E.; Kramer, Mark R.

Harvard Business Review Vol. 84 (12), Dec 2006 p78-92

It has become more common for companies to be held account for the social consequences of their actions. Corporate social responsibility (CSR) has emerged as an inescapable priority for business leaders in every country. Frequently, though, CSR efforts are counterproductive. The authors propose a fundamentally new way to look at the relationship between business and society. Perceiving social responsibility as an opportunity rather than as damage control or a PR campaign requires a mind-set that will become increasingly important to competitive success.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Porter**)

### **Emerging Technologies for Coal-Fired Electric Power Generation Studied By EPA.**

Air Pollution Consultant; 2006, Vol. 16 Issue 6, p1.1-1.5

Reveals the outcome of a study undertaken by the U.S. Environmental Protection Agency: "Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies." Implications for electric power generation are explained. The environmental effects of integrated gasification combined cycle technologies are weighed against conventional PC technologies.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11EPA**)

### **The place of strategic environmental assessment in the privatised electricity industry.**

Jay, Stephen, Marshall, Ross. Impact Assessment & Project Appraisal; Dec 2005, Vol. 23 Issue 4, p315-324

Strategic environmental assessment (SEA) is important for privatised utilities and yet they have not placed enough emphasis on it. Using the UK electricity as an example, the authors focus on the role that SEA has in the electricity industry and explain that some aspects of the sector make the advancement of SEA challenging.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Jay**)

### **Putting energy efficiency in a sustainability context.**

Barkenbus, Jack N. Environment; Oct 2006, Vol. 48 Issue 8, p10-20

While new technology has led to improved energy efficiency for the residential refrigerator in the United States, there has also been an increase in demand for refrigerators. In addition, as people become wealthier they want more consumer features in appliances, leading to higher energy use. A change of culture is needed as well as a greater dependence on renewable energy sources.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Barkenbus**)

### **Peak of Preparedness.**

Harris, Warren. Power Engineering; Oct 2006, Vol. 110 Issue 10, p36-42

Outlines what can be done to maximize operability and reliability of power plants in peaking service. Lists equipment to be inspected, tested and maintained.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Harris**)

### **Impact of renewable energy unit availability on power system adequacy.**

R Karki; R Billinton. International Journal of Power & Energy Systems. 2006. Vol. 26, Iss. 2, p. 147-152

Reliability studies on power systems need dependable data on generating unit performance. Such data are not easily obtainable for comparatively new renewable

energy sources. The effects of photovoltaic and wind energy unit unavailabilities are discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Karki**)

**Carbon Sequestration Potential in Reclaimed Mine Sites in Seven East-Central States.** Mark Sperow. Journal of Environmental Quality. Jul/Aug 2006. Vol. 35, Iss. 4, p. 1428-1438

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Sperow**)

**Fundamental uncertainties in projects and the scope of project management.**

Roger Atkinson and others. International Journal of Project Management Volume 24, Issue 8 (November 2006) Pages 687-698

The management of uncertainty is seen as a necessary condition for effective project management. Sources of uncertainty have a fundamental effect on projects and project management. Common project management practice does not address many fundamental sources of uncertainty, particularly in 'soft' projects where flexibility and tolerance of vagueness are necessary. More sophisticated efforts to recognise and manage important sources of uncertainty are needed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Atkinson**)

**Contracting: A New Form of Professional Practice.** Barley, Stephen and Kunda, Gideon. Academy of Management Perspectives; Feb 2006, Vol. 20 (1), p45-66

Contracting and outsourcing have become increasingly common in the United States but they are not well understood. The authors carried out an ethnography of technical contractors. They were surprised by the profile of contractors that emerged. The results of the ethnography and the wider organisational, industry and market implications are discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Barley**)

**Collaborative Entrepreneurship: A Business Model for Continuous Innovation.**

Organizational Dynamics Volume 35 (1) (2006) Pages 1-11 Raymond E. Miles and others

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Miles**)

**Thinking smart.** Burr, Michael T. Public Utilities Fortnightly April 2006

Studies in the United States have shown the value of advanced metering infrastructure. This article outlines recent developments in automatic / smart metering. The need for industry standards is discussed.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Burr**)

**Back to the future: meet the fossil fuel power plants of tomorrow today.**

Crook, Jeff. IEE Power Engineer Jun/Jul 2006. p26-29

The features of FutureGen, the cleanest fossil fuel power station in the world employing integrated gasification combined cycle (IGCC) technology, are presented. The 275 MW prototype serves as a large scale engineering laboratory for testing new clean power, carbon capture and coal to hydrogen technology. Construction will begin in 2009.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11 Crook**)

**Making a case for wellness.** Jenny Bratty. Employment Today (NZ). Aug 2006 p15-18  
The author demonstrates that workplace health and wellness programmes have proven benefits for organisations and their employees.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Bratty**)

**Design for living [BedZED architectural project].** Carolyn Fry. Engineering and Technology Volume 1 (5), August 2006, Pages 26-30  
An architectural project in south London was launched to prove that it is possible to live in a more sustainable manner without making huge compromises to current UK standards of living. Called BedZED (Beddington Zero-Energy Development) it is the country's biggest eco-village, comprising 99 residential properties and 1450 m<sup>2</sup> of office space - all designed to be powered by non-fossil fuels. The development aims to reduce the amount of energy required by the housing and office units and to supply the power that was needed through on-site renewables.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Fry**)

**Sustainable Transport policies under scarcity of oil supply.** S.P. Shepherd and P. Pffafenbichler. ICE Proceedings: Engineering Sustainability Vol 159 (2) p63-70  
A strategic land-use-transport interaction model is used to investigate the impacts of policies in technology, infrastructure, pricing and regulation under different assumptions about energy supply. Policies include: business as usual; investment in infrastructure and technology; and a demand regulation based approach involving changes in taxation and tolls. The results are discussed.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Shepherd**)

**Simplified FE model for RC structures under earthquakes.** Cotsovos, D.M., Pavlović, M.N. (2006) Proceedings of the Institution of Civil Engineers: Structures and Buildings, 159 (2), p87-102.  
This paper presents work that is an extension of a nonlinear finite-element model with proved capacity for yielding realistic predictions of the response of reinforced-concrete (RC) structures under static monotonic and cyclic loading. The aim of the presented case studies is to illustrate the numerical stability of the nonlinear scheme and its ability to provide realistic predictions through a comparative study between numerical and experimental data.  
(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Cotsovos**)

*Please let us know if there are topics that you would like to see articles about in future updates (preferably related to energy, engineering or business management). Feedback is always appreciated (and sometimes rewarded with Cadbury Energy Bars).*

## Featured topic

### Featuring Tidal Power: web links and samplings from our collection.

#### **Crest Energy Limited plans a 200-Megawatt Tidal Power Plant in New Zealand**

An application has been received by the Northland Regional Council from Crest Energy Limited to build a 200 megawatt tidal power plant in the Kaipara Harbour. The planned plant will be the largest installation in the world and the expected cost is \$400 million. Go to the [Crest Energy website](#) for more details.

#### **Seoul leads tidal power breakthrough.** Neil Ford. International Water Power and Dam Construction, Volume 58 Issue 10 (October 2006) Pages 10-12

Costs of tidal power for electricity generation are still high, but a 244MW tidal scheme is being developed in South Korea. Article describes the planned plant and also lists the pros and cons of tidal energy. (This article is available [here](#))

#### **Renewable energy: turning the tides.** J. Excell. Engineer, Volume 293 Issue 7702 (2006) Pages 20-23

Describes the proposed multi billion pound Severn Tidal Power Group project. It is suggested that the tidal energy generated could double the output of a nuclear power station.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Tidal1**)

#### **The marine energy resource, constraints and opportunities.** Bryden, I.G. Proceedings of the Institution of Civil Engineers: Maritime Engineering Volume 159 (2) 2006, Pages 55-65

The British Isles have highly energetic coastal waters, which offer opportunities for the exploitation of waves and tides for the generation of electricity. This paper looks at prospects for, and constraints upon, their long-term economic development.

(For a copy of this article email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) **Ref: 11Tidal2**)

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## Oldies and goodies from the Energy library collection

**Becoming World Class.** Clive Morton (1994). Houndmills, Basingstoke, UK: Macmillan. This book looks at Japanese management techniques, and what can be learnt from them. There have been many books written about this topic, but this author is in a unique position, as he writes from the experience of using such techniques over six years in the

UK. The last chapter is headed: Should we be concerned about manufacturing in the West? A thought for any time! There's an interesting summary of 4 analyses of culture, with their strengths and weaknesses.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Morton**)

**Out of the Crisis. Quality, Productivity and Competitive Position.** W. Edwards Deming (1982). Cambridge: Cambridge University Press.

Deming became the guru for implementing Japanese management techniques in the west. He advocates transforming management from the bottom up, with the emphasis only on quality, and he details how this should be carried out in practice. As evidence of its popularity, this book has been through many printings.

(To borrow this book email [library@energylibrary.org.nz](mailto:library@energylibrary.org.nz) Ref: **11Edwards**)

## Web and news resources

[How gas utilities in the U.S. have been educating their customers about energy issues.](#)

(Article)

[One man's attempt to reduce his personal carbon emissions.](#) (Article)

[Utilizing cogeneration and thermal storage systems for energy efficiency.](#) (Article)

[The importance of new entrants in the New Zealand electricity market](#) (Paper to the 8th Annual New Zealand Energy Summit)

[Clean Energy Trends.](#) (Report)

[Ending the Energy Stalemate.](#) (Report from the National Commission on Energy Policy)

[Increased Geothermal Development Will Depend on Overcoming Many Challenges.](#)

(Testimony before the Committee on Energy and Natural Resources, U.S. Senate)

## New Energy Library Updates launched

We now have two additional newsletters: the Engineering Update and the Bioenergy Knowledge Centre Update on Woody Biomass. These will be available on our [website newsletter page](#). If you would like to be notified when new updates are posted please email [kmcara@energylibrary.org.nz](mailto:kmcara@energylibrary.org.nz) and let her know which updates are of interest to you.

## Food for thought

To be in to win a **king-size bar of energy chocolate** [email Kat McAra](mailto:Kat@energylibrary.org.nz) with the name of the person who said: "When the Paris Exhibition closes, electric light will close with it and no more will be heard of it."

Draw closes 4pm Tues 19<sup>th</sup> December.

*If you're not currently receiving the monthly Energy Library update and would like to, let us know. If you don't wish to receive future updates just let us know by email or phone.*