

Energy Library Update

March 2008

Welcome to the March issue of the Energy Library Update.

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 an item just email us the title or its reference code. Loan items listed in the Update are sometimes issued for two weeks instead of four due to high demand.

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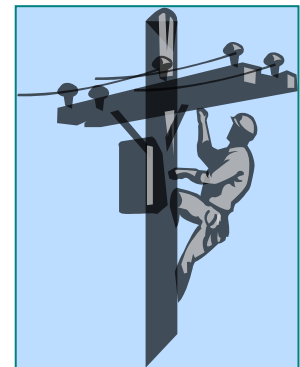
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New Items for Loan

Plug-in hybrids: The cars that will recharge America. (2006) Boshert, Sherry. Gabriola Island, BC: New Society Publishers

This thought-provoking book traces the history and development of the plug-in hybrid car in America. The author argues that plug-in hybrids are a cost-effective response to the challenges presented by climate change and problems in future oil supply.

(To borrow this item email library@energylibrary.org.nz Ref: **0308-Hybrids**)

Building sustainable energy systems: Swedish experiences. (2001) Silveira, Semida (Ed). Stockholm: Swedish National Energy Administration

This book provides views on Sweden's energy policies, programmes and incentives and how the Swedish energy system has evolved. Contributors examine the complex challenges of sustainable development, restructuring the energy markets and moving away from fossil fuels.

(To borrow this item email library@energylibrary.org.nz Ref: **0308-Swedish**)

Brazilian energy balance 2007. Brazil: Ministry of Mines and Energy

This book looks at the supply and demand of Brazilian energy sources and their primary and secondary forms. Chapters include energy analysis; energy supply and consumption by source and by sector; energy imports and exports; balance of transformation centers; energy resources and reserves; energy and socio-economics.

(To borrow this item email library@energylibrary.org.nz Ref: **0308-Brazil**)

Special Journal Issues

Voluntary carbon 2008 (*Environmental Finance*; Feb 2008 Vol. 9 No. 4). This 24 page supplemental section contains a worldwide listing of organisations selling carbon offsets and 5 articles including:

- A question of quality (standards)
- Taking the measure of the market (supply and demand)
- Buyer beware (legal issues)

(To borrow this whole issue email library@energylibrary.org.nz Ref: **0308-Carbon**)

Technology in climate policy and climate models (Special section in *Energy Policy*; Volume 35, Issue 11, November 2007). Contains 10 articles including:

- Impact assessment of emissions stabilization scenarios with and without induced technological change
- Forestry and the carbon market response to stabilize climate

(To borrow this whole issue email library@energylibrary.org.nz Ref: **0308-Policy**)

New Management, Marketing and HR Articles

People skills for engineers. Ramez Naguib. *ASHRAE Journal*; Vol. 49 (10) Oct 2007, p.78 (3p.)

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Ramez**)

The silver lining in shift work: can your organization take advantage of it? Rosalind Chait Barnett and Douglas Hall. *Organizational Dynamics*; Vol. 36 (4) 2007, p.404-417

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Barnett**)

Sound check. Gates, Elizabeth. *Occupational Safety and Health (RoSPA)*; Jan 2007 Vol 37 (1), p.26-30

This article discusses noise-induced hearing loss in employees in the United Kingdom. Relevant legislation is covered and general guidelines are listed.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Gates**)

The new, improved world wide web. Bland, Vikki. *NZ Business*; Feb 2008, Vol 22 (1), p.60-64

The article examines the impact of the emergence of Web 2.0 alongside widespread broadband deployment on the Internet industry.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Bland**)

Innovation spaces: towards a framework for understanding the role of the physical environment in innovation. Moultrie, James and others. *Creativity & Innovation Management*; Vol 16 (1) Mar 2007, p.53-65

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-James**)

Recruiting leaders: an analysis of leadership advertisements. Den Hartog and others. *Human Resource Management Journal*; Vol 17 (1) 2007, p.58-75
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Hartog**)

The 'moment of truth' in customer service. Beaujean, Marc and others. *McKinsey Quarterly*; 2006 Issue 1, p.62-73, 12p.
The authors discuss the importance of having emotionally intelligent frontline workers.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Marc**)

Better branding beyond advertising. Rapacz, Deb and others. *Marketing Management*; Jan/Feb 2008, Vol 17 (1), p.25-29
What customers really want is brand validation.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Deb**)

Collaboration challenges: bridging the IT support gap. Nosek, John T. and McManus, Margaret. *Information Systems Management*; Winter 2008, Vol 25 (1), p.3-7
Information technology needs to be planned and utilised thoughtfully if it is to truly overcome the communication and collaboration challenges presented by the geographical dispersion of an organisation's employees.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Nosek**)

Stepping up. Krell, Eric. *Electric Perspectives*; Nov/Dec 2007, Vol 32 (6), p.66-76
An executive coach can be invaluable for a utility manager.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Krell**)

The fourth element of great managing. Wagner, Rodd and Harter, James K. *Gallup Management Journal Online*; 8/9/2007, p.1, 6p.
Positive feedback has a powerful and positive effect on employee performance and loyalty.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Wagner**)

Beyond the point of no return: On the management of deviations. Markus Hällgren. *International Journal of Project Management*; Vol 25 (8) Nov 2007, p.773-780
This article explores how deviations are managed in practice in a diesel power plant project. The article builds upon an analysis of a case study of a power plant project and a true story of mountaineering. Metaphorically the paper uses mountaineering to shed light onto the management of deviations and the decisions that follow. At first sight the comparison is farfetched, but once the picture is painted there are similarities that make it worthwhile. The analysis demonstrates the impact of the point of no return on formal procedures when the actions associated with deviations are forced and how these actions are by necessity sanctioned after the solutions are found.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Markus**)

New Energy and Environment Articles

Transfield: Infrastructural strength. Vicki Jayne. *New Zealand Management*; Mar 2008, Vol 55 (2), p.44-48

What's behind the successful growth of the New Zealand branch of Transfield Services and how do they bind the disparate parts of the company into a unified organisation?

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Jayne**)

Smart - in part. Whitley, Bill. *Consumer*; Mar 2008 Number 478. p.20-21.

The author believes the introduction of smart electricity meters to New Zealand homes will benefit electricity companies more than the consumer.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Whitley**)

The foreign policy implications of energy security. *New Zealand International Review*; Mar 2008, Vol. 33 Issue 2, p26-27.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-NZIR**)

Sharing experiences with applying coating to turbines. Meredith, Ian. *HRW: Hydro Review Worldwide*; Vol 15 (3) Jul 2007, p.34,36-38,40-41

Describes how Genesis Energy solved the problem of metal erosion from volcanic ash in water at their Rangipo hydro plant by applying coatings to the Francis turbines.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Meredith**)

Integrated land and transport planning: Towards a more sustainable transportation system in New Zealand. Revol, Vincent. *Solar Action Bulletin*; Issue 80 July 2007, p.14-15

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Revol**)

Biofuels - growing energy solutions for the transport sector. Henderson, Kate. *Energy World*; Apr 2007 (348), p.10-11

The author investigates how the Renewable Transport Fuel Obligation (RFTO) policy mechanism will affect the UK biofuels market.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Kate**)

Who benefits from the restructuring of the Australian electricity sector? Chester, Lynne. *Journal of Economic Issues*; Dec 2007, Vol. 41 Issue 4, p.981-1001

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Chester**)

Global trends in energy. Bozon, Ivo J. H. and others. *McKinsey Quarterly*; 2007 (1), p.46-55

The authors postulate how the international business landscape will change dramatically for energy providers and energy-intensive commodity suppliers in the next decade or so.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Bozon**)

Full disclosure: Using transparency to fight climate change. Elena Fagotto and Mary Graham. *Issues in Science and Technology*; Summer 2007. Vol. 23 (4), p.73-79

The authors think product labeling and factory reporting of greenhouse gas emissions should be made mandatory and that this would actually make the markets work better.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Elena**)

Computer waste: A forgotten and hidden side to the global information society.

McKenna, Alan. *Environmental Law Review*; 2007, Vol. 9 Issue 2, p.116-131

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Alan**)

Making markets work: The special case of electricity. Kwoka, John and Madjarov, Kamen. *Electricity Journal*; Nov 2007 Vol. 20 (9), p.24-36

In many ways electricity markets resemble markets generally, but they also have some distinctive features that make pure reliance on market processes problematic. Thus, prescriptions for deregulation and restructuring that might succeed in other markets cannot be relied upon to have the same effect in electricity. At worst, the result of unthinking reform can be a "perfect storm" of forces leading to serious problems in market operation.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Kamen**)

Electricity consumption and economic growth: Bounds and causality analyses of OPEC members. Jay Squalli. *Energy Economics*; Vol 29 (6), Nov 2007, p.1192-1205

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Jay**)

Quality regulation of electricity distribution in Italy: an evaluation study. Virendra Ajodhia and others. *Energy Policy*; Vol 34, (13), Sept 2006, p.1478-1486

The potential dangers of quality degradation under price-cap regulation are well recognised by regulators. In parallel with the price-cap system, the Italian regulator introduced an incentive scheme for electricity continuity of supply to apply during the period 2000–2003. The objective of this paper is to evaluate the effectiveness of this system by studying the effects of regulation on the electricity distribution industry and to identify scope for improvement of the regulation in subsequent regulatory periods. The evaluation shows that designing a regulatory system that was inherently compatible with the internal objectives of the network companies strengthened the acceptance and effectiveness of the system. Spill-over effects of quality from the monopoly to competitive markets have contributed to the effectiveness of the regulation. Quality regulation remains an innovative part of regulation and requires periodic evaluation and verification of its outcomes.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Virendra**)

Pricing energy and reserves using stochastic optimization in an alternative electricity market. Wong, S.; Fuller, J.D. *IEEE Transactions on Power Systems*; Vol 22 (2) May 2007 p.631-638

This paper presents a stochastic linear programming model that can be used for pricing in electrical energy and reserve markets. It addresses capacity, energy, and reserve dispatch problems that may arise from n-1 contingency scenarios. Possible market solutions focusing on generator compensation using real-time, day-ahead, and hybrid schemes are enumerated, along with opportunities for consumer pricing and transmission costing. This model is

illustrated on a 6-bus test system as well as a larger 66-bus system representing the Ontario network. A key difference among schemes is the degree of risk to the generators, measured by variance in profit. © 2007 IEEE. Abstract reprinted with permission of the IEEE
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Wong**)

The carbon quandary. Jeffries, Elisabeth. *Environmental Finance*; Nov 2007 Vol 9 (2) p.20-21

Pressure is building on companies to report greenhouse gas emissions data. But, with little regulatory guidance, disclosure can obscure rather than illuminate.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Jeffries**)

Energy management in Lucknow city. Zia, Hina; Devadas, V. *Energy Policy*; Volume 35 (10) Oct 2007. p.4847-4868

In this paper, an attempt is made to prepare an energy management model for Lucknow city along with policy recommendations for optimal energy utilization and management. At the outset, the authors have reviewed the related literature on energy management in the urban system. The entire collected literature is divided into the following sections, such as, energy resource assessment, energy consumption, energy and economy, energy and environment, energy and transportation, forecasting the energy demand and supply, alternate energy sources and technologies, energy conservation and demand-side management and energy management measures in India, and are reviewed thoroughly and presented. Subsequently, an attempt is made to establish the importance of energy in urban development by using Systems concept. Lucknow city has been chosen for investigation in this study. A detailed methodology is developed for organizing the survey at the grassroots level to evolve feasible strategies for optimal energy management in the study area. An attempt is further made to assess the available energy resource in the city, and the energy consumption by source wise in the city and estimating the energy gap in the year 2011. The paper concludes with preparation of a detailed energy management model for Lucknow city to reduce the expected energy gap for the year 2011. The recommendations are made for supply augmentation, demand-side management and policy measures to be taken by the government authorities.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Zia**)

Modelling tourism destination energy consumption and greenhouse gas emissions: Whistler, British Columbia, Canada. Kelly, Joe and Williams, Peter W. *Journal of Sustainable Tourism*; Vol 15 (1) 2007, p.67-90

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Kelly**)

Reclaiming an environmental advantage. *CoalTrans International*; Sep/Oct 2007 Vol 22 (5), p.60-62

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-CoalTrans**)

Trading in pollution: creating markets for carbon and waste. Street, Paul. *Environmental Law Review*; Dec 2007, Vol. 9 (4), p.260-278

The author questions the ability of the European Union Emissions Trading Scheme and the Landfill Allowance Trading Scheme to bring about environmentally sustainable practices.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Street**)

Interdisciplinary perspectives on environmental appraisal and valuation techniques.

Hammond, G.P. and Winnett, A.B. *Institution of Civil Engineers. Proceedings - Waste and Resource Management*; Aug 2006 Volume 159 Issue WR3 p.117-130

A range of interrelated environmental project appraisal techniques is examined in order to determine their relative merits. Practical examples involving resource (energy and hydraulic oil) use, pollutant emissions, and waste disposal and recycling (of hydraulic oils) indicate that many of these methods can play an important evaluative role as part of an interdisciplinary toolkit within a general systems framework. Extract from abstract supplied with permission from [publisher](#)

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Hammond**)

Deregulation and environmental differentiation in the electric utility industry.

Magali Delmas and others. *Strategic Management Journal*; Feb 2007, Vol. 28 (2), p.189-209

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Delmas**)

Independent economic regulation: A reassessment of its role in sustainable development.

Ian Bartle and Peter Vass. *Utilities Policy*; Vol. 15 (4), Dec 2007, p.261-269
The established 'standard' model of economic regulation is characterised by independent economic regulators undertaking specialised tasks. There is a clear perception that the roles and responsibilities of regulators are and should be reduced to the execution of the core function, i.e. economic regulation. We argue that this needs to be reassessed in the context of sustainable development in which the integration of economic, social and environmental policy objectives are fundamental. The established model is particularly confronted by problems of regulatory policy indivisibility (social, economic and environmental matters are intertwined at technical levels) and information asymmetry (regulators often have more knowledge of environmental and social effects of economic regulation than government). We propose a 'revised standard' model in which economic regulators are more clearly integrated into the regulatory state's system of governance. Economic regulators retain their independent core specialism but at the same time are encouraged to use their knowledge and expertise to address the social and environmental implications of their core decisions. This is achieved not by extending their decision making powers but by encouraging and facilitating a direct engagement by regulators with the appropriate public authorities on social and environmental decision making. The onus is not only on regulators to engage but also on government which should welcome and encourage such engagement. Although there is some evidence in Britain that the model reflects actual practice, it needs to be more deeply and widely embedded and institutionalised. This can be achieved by high level governmental commitment including specification in sustainable development strategies and principles of good regulation.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Bartle**)

CCS and gas firing- a new balancing act for Norway.

Sanford, Leonard. *Modern Power Systems*; Vol. 27 (8) Aug 2007, p.18-20
The Norwegian government plans to impose a carbon capture stipulation on a combined heat and power (CHP) plant which a state owned oil company is planning to construct.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Sanford**)

Monitoring emissions from combustion plant. Marcus Pattison, *Energy World*; Jul/Aug 2007 (351), p.20-21

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Pattison**)

Greenhouse gas emissions from coal gasification power generation systems. John A. Ruether. *Journal of Infrastructure Systems*; 2004, Vol 10 (3), p.111-119

Life-cycle assessments (LCAs) are computed for coal gasification-based electricity generation technologies for emissions of greenhouse gases (GHGs), principally CO₂. Two approaches for computing LCAs are compared for construction and operation of integrated coal-gasification combined-cycle (IGCC) plants: a traditional process-based approach, and one based on economic input-output analysis, called economic input-output life-cycle assessment (EIO-LCA). It is shown that EIO-LCA provides a more complete accounting for emissions incurred during construction, resulting in larger estimates of emissions. For plant construction, process-based LCA computes emissions that approximate a subset of emissions computed via the EIO-LCA method. For plant operation, however, only emissions due to mining and consumption of coal at the plant are significant, and both methods of analysis give essentially equivalent results. For conventional coal-based power generators, and even for those that would capture 90% of carbon emissions, GHG emissions during a typical operating life of 30 to 50 years dominate the life cycle. Literature values for life-cycle emissions of GHGs for a number of renewable technologies are compared to emissions from IGCC systems with and without carbon capture and from natural gas combined cycle (NGCC) systems without capture. Lowest life-cycle emissions are achieved with dammed hydropower and wind farms. IGCC with 90% CO₂ capture exhibits lower life-cycle GHG emissions than NGCC and solar photovoltaic systems.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Ruether**)

Revved-up renewables. Wamsted, Dennis. *Electric Perspectives*; Nov/Dec 2007, Vol 32 (6), p.18-40

Renewable energy industries are growing fast in the States.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Dennis**)

Study theorizes use of geothermal sources for energy in refineries. Golombok, Mike; Beintema, Kike. *Oil & Gas Journal*; 11 Feb 2008 Vol 106.6. p.48-52.

Geothermal sources for direct heating can theoretically serve as an alternative source of high-temperature heat in processing plants. Cutting CO₂ emissions from a refinery requires reducing the amount of fuel burned. Heat obtained from geothermal energy is more efficiently used for directly powering petrochemical and refining processes rather than for electricity generation. If refinery waste water is injected, then the subsurface geothermal heat exchanger fracture network is more efficient. Recently, a study proposed using EOR flooding water to generate electrical power. The process is still relatively inefficient. It is more efficient to use this water directly to power chemical conversion processes because this can reduce fuel burned. The simplest way to mine geothermal energy is to produce hot formation water from deep water-bearing layers. There are therefore too many uncertainties to make a clear-cut basis for applying geothermal heat for refinery power. Oil prices would have to be stable at higher prices to justify wholesale refinery plant modifications.

(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Mike**)

Fuel for the future. Bruce, Roderick. *Energy Risk*; Dec 2007 Vol 5 (2). p.40-44.
This article is an interview with David Loring, CEO of World GTL. He explains the financial and environmental advantages of gas-to-liquids technology.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Bruce**)

A river runs through it. Tony Kryzanowski. *enerG – Alternative Sources Magazine*; Sept/Oct 2007. This article, about smaller run-of-river hydro developments, is available [online](#).

Surface flow outlets to protect juvenile salmonids passing through hydropower dams. Johnson, Gary E. and Dauble, Dennis D. *Reviews in Fisheries Science*; Sep 2006, Vol 14 (3), p.213-244
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Johnson**)

Comparison of aluminium and stainless steel built-in-storage solar water heater. M. Asif and others. *Building Services Engineering Research & Technology*; Nov 2007. Vol 28 (4) p.337, 10p.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Asif**)

Harder and smarter. Jones, Peter. *IET Power Engineer*; Feb/Mar 2007 Vol 21 (1), p.34-37
Can FACTS and WAMS technologies help the UK to meet the challenge of connecting renewable generation by getting more out of its current transmission network while the necessary grid enforcements are constructed?
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Jones**)

Scrutiny of the Iranian national grid. Sanaye-Pasand, M. *IEEE Power and Energy Magazine*; 5 (1), 2007 p. 31-39
This article describes the events and phenomena that could lead to grid blackouts. The Iranian national grid experienced major system blackouts in 2001 and 2002. It was decided to study and analyze these system collapses, and a brief report about these disturbances is provided. Some suggestions and solutions are also given that could decrease the chance of system collapse after occurrence of a major fault. Upgrading existing protective systems to meet network protection criteria, eliminating some insecure protective functions, revising power swing blocking schemes, wider use of pilot protective schemes, applying adaptive relays and schemes and revising system relay settings are among the solutions suggested to improve the system performance during abnormal events and conditions. © 2007 IEEE. Abstract reprinted with permission of the IEEE
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Pasand**)

Energy efficient water reticulation design 101. Kallu, Rodger. *IRHACE Journal: Refrigeration, Heating and Air Conditioning*; Sep/Oct 2007 Vol 19 (5), p.18-20,22-23
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Kallu**)

Thermodynamic evaluation of first and second law performance of evaporative cooling schemes for regenerative gas turbines. Bolatturk, Ali and others. *Energy Exploration and Exploitation*; Vol 25 (3) 2007, p.227-246
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Ali**)

Reliability assessment of bulk electric systems containing large wind farms. Wijarn Wangdee and Roy Billinton. *International Journal of Electrical Power & Energy Systems*; Vol 29 (10) December 2007, p.759-766
Wind power is an intermittent energy source that behaves quite differently than conventional energy sources. Bulk electric system reliability analysis associated with wind energy conversion systems (WECS) provides an opportunity to investigate the reliability benefits when large-scale wind power is injected at specified locations in a bulk electric system. Connecting the WECS to different locations in a bulk system can have different impacts on the overall system reliability depending on the system topology and conditions. Connecting a large-scale WECS to an area which has weak transmission could create system operating constraints and provide less system benefit than connecting it to an area with stronger transmission. This paper investigates bulk electric system transmission constraints associated with large-scale wind farms. The analyses presented in this paper can be used to determine the maximum WECS installed capacity that can be injected at specified locations in a bulk electric system, and assist system planners to create potential transmission reinforcement schemes to facilitate large-scale WECS additions to the bulk system. A sequential Monte Carlo simulation approach is used as this methodology can facilitate a time series modeling of wind speeds, and also provides accurate frequency and duration assessments. An auto-regressive moving average (ARMA) time series model is used to simulate hourly wind speeds.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Wangdee**)

An availability approach to thermal energy recovery in vehicles. R. K. Stobart. *Proceedings of the Institution of Mechanical Engineers: Part D Journal of automobile engineering*; Sep 2007. Vol 221 (D9), p. 1107-1124
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Stobart**)

Design of a short-time compensation capacitor for turbine blade vibration suppression. Jong-Ian Tsai. *Electric Power Systems Research*; Vol 77 (12), Oct 2007, p.1619-1626
This paper presents a new single-pole switching scheme for depressing turbine-generator blade torsional torque. Since the single-phase fault occurs more frequently in power line accidents, there are many advantages on stability and reliability by using single-pole switching on the faulty phase. Nevertheless, the two healthy phases still maintain power transmission during the dead time between single-pole tripping and line reclosing, which induce significantly negative-sequence current flowing into the nearby turbine-generator. This would cause super-synchronous resonance (SPSR) effect on low-pressure (LP) turbine blades and even result in fatigue damage. The short-time compensation of a grounding capacitor set up at the neutral of the wye transformer is proposed to eliminate this negative-sequence current. Then the induced adverse effect on blades can be precluded.
(For a copy of this article email library@energylibrary.org.nz Ref: **0308-Tsai**)

Energy on the Web

New Zealand

Bill gives better incentives for infrastructure investment – [press release](#) 12th Mar 2008

New Zealand Energy Quarterly launched - download or subscribe at M.E.D. [website](#)

Bioenergy options for New Zealand - A situation analysis of biomass resources and conversion technologies – Nov 2007 [report](#)

Biofuel from algae – 28th Feb 2008 [audio](#) clip on Radio New Zealand National website

Biofuel bill may have to be delayed – [news](#) 29th March 2008

Save more, use more – Recent *Listener* [article](#) on the energy efficiency rebound effect

Feeling the heat – Recent *Listener* [article](#) on the importance of insulation

Christchurch community shows its power – [news](#) 31st March 2008

Are we ready to join the nuclear family? – [news](#) 29th March 2008

Waikato River feeling the heat – [news](#) 29th March 2008

International

Garnaut confirms need for strong, early action

Some are calling the study by veteran Australian economist Ross Garnaut the “Australian Stern Review”. Read the [news](#) about it here and see his interim report (Feb 2008) [online](#).

Renewable energy and energy efficiency: Economic drivers for the 21st century – 2007 American Solar Energy Society [report](#)

A new strategy to spur energy innovation – Jan 2008 [report](#)

REN21 Renewables 2007 global status report – available [here](#)

Energy efficiency in buildings: Business realities and opportunities - August 2007 World Business Council for Sustainable Development (WBCSD) [report](#)

Renewable energy futures: Targets, scenarios, and pathways. *Annual Review of Environment and Resources*; Vol. 32: 205-239 (Vol publication date Nov 2007) - [article](#)

Special report: Energy – *Time* magazine [set of articles](#) Feb 25th 2008

California Solar Initiative: Triumph or train wreck? – Sept 2007 [news](#) (links to report)

Jonathon Porritt’s sustainable development blog - UK government adviser and environmental guru has his own [blog](#)

Conferences

From Gust to Gale: Building a Sustainable Wind Industry in New Zealand.

2008 NZ Wind Energy Conference: 8-9 April 2008, Te Papa, Wellington.

More information can be found at the NZWEA [website](#)

NZBCSD Sustainability Workshop Series 2008

Commences with an introductory course for sustainability strategies in business 1 Apr 2008 (Auckland). For more information visit the NZBCSD [website](#).

Small Business Expo. This year's expo has a sustainability focus.

Auckland: 16-18 April; Christchurch: 20-22 May; Wellington: 25-27 June

More information can be found at the Expo [website](#)

Fuel for Thought (Energy chocolate competition)

Congratulations Nicholas, the winner of last month's Easter competition. We hope you enjoyed your Easter Egg!

To be in to win a big block of Cadbury Energy chocolate solve this cryptic energy clue:

- Small weight is painful, say, at 1000 cycles per second.

[Email](#) your answer to us by 4pm Friday 18th April 2008.



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