

IPENZ ENGINEERING UPDATE February 2009



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- Recent developments in robustness and relation with risk.
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- Planning for knowledge retention now saves valuable organizational resources later.
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- Solar power in building design.
- Strategic and competitive analysis: Methods and techniques for analysing business competition.

► Special Focus on Infrastructure-development/investment.

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Management/Leadership/Strategic Planning/Recruitment/Training and Development/Project Management/Corporate Responsibility

√IPENZ 21/01 Before you say yes, negotiate for what you need to succeed.

Kolb, D. Harvard Management Update, Volume 13, Issue 10 (October 2008) Pages 1-5.

√IPENZ 21/02 Recent developments in robustness and relation with risk.

Agarwal, J and England, J. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 161 Issue SB4 (August 2008) Pages 183-188.

Structural engineering is a mature discipline, but in practice the nature of demands or actions on a structure remains uncertain. It is difficult to foresee where damage, for example resulting from an accident or material degradation, might occur. A structure that is robust will be able to cope with such unexpected demands without disproportionate consequences. There is, however, no satisfactory measure of robustness: not even a widely agreed definition. In this paper an overview of the current guidelines and methodologies to achieve a robust structure is provided. Most of the analytical studies assume a model of loading, but to achieve robustness there is a need to identify potential weaknesses in the form of a structure. In this respect, structural vulnerability theory can be an effective tool to reduce the risk of propagation of failure owing to unforeseen damage or actions. Similar models are already used in the insurance industry to determine the risk to natural and man-made hazards

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http://www.ice.org.uk/services/services_journals.asp

√IPENZ 21/03 Risk management for the next generation.

Tarantino, A. Industrial Management, Volume 51 Issue 1 (January 2009) Pages 14-17.

√IPENZ 21/04 Managing collaboration: Improving team effectiveness through a network perspective.

Cross, R. et al. California Management Review, Volume 50, Issue 4 (Summer 2008) Pages 74-98.
Team based collaboration is a popular practice but there are hidden costs and impacts.

√IPENZ 21/05 Breaking up is never easy: Planning for exit in a strategic alliance.

Gulati, R., Sytch, M and Mehrotra, P. California Management Review, Volume 50, Issue 4 (Summer 2008) Pages 147-163.

The difficulties experienced in exiting strategic and corporate alliances are outlined, along with some examples.

√IPENZ 21/06 What a university can teach you about choosing capital projects.

Luke, D., Robertson, G and Hughes, S. Strategic Finance, Volume 90 Issue 7 (January 2009) Pages 39-45.

The article discusses a method developed by the University of Vermont (UVM) for evaluating capital-spending projects.

√IPENZ 21/07 **Men of steel: ascendance of the owner-manager in the steel industry**
Kakabadse, A., Kakabadse, N and Uldatsov, V. Strategic Change, Volume 17 Issue 1/2
(January 2009) Pages 11-20.



√IPENZ 21/08 **Sleep deprivation and decision-making teams: Burning the midnight oil or playing with fire.**
Barnes, C and John, R. Academy of Management Review, Volume 34, Issue 1 (January 2009)
Pages 56-66.

√IPENZ 21/09 **Cost reductions, downsizing-related layoffs, and HR practices.**
Gandolfi, F SAM Advanced Management Journal, Volume 73, Issue 3 (Summer 2008) Pages 52-58.

√IPENZ 21/10 **Picking the right transition strategy.**
Watkins, M. Harvard Business Review, Volume 87 Issue 1 (January 2008) Pages 46-53.
Leaders in transition reflexively rely on the skills and strategies that worked for them in the past. That's a mistake, say Watkins, whose research shows that executives moving into new roles must gain a deep understanding of the situation at hand to adapt to it. To help them accurately assess their organizations and tailor their strategies and styles accordingly, he developed the STARS framework. "STARS" is an acronym for five common situations leaders move into: start-up, turnaround, accelerated growth, realignment, and sustaining success

√IPENZ 21/11 **Finding your leadership strengths.**
Rath, T and Conchie, B. Gallup Management Journal Online (12/11/2008) Pages 1-5.

√IPENZ 21/12 **Hiring for emotional intelligence.**
Bielaszka-DuVernay, C. Harvard Management Update, Volume 13, Issue 11 (November 2008) Pages 3-5.

It is suggested that emotional intelligence accounts for somewhere between 24% and 69% of performance success, so it is important to consider this when preparing interview questions.

√IPENZ 21/13 **Successful corporate telecommuting with technology considerations for late adopters.**
Pearce, J. Organizational Dynamics, Volume 38, Issue 1, (January-March 2009) Pages 16-

√IPENZ 21/14 **New approaches to solving the skills shortages in the New Zealand construction industry.**
Lobo, Y and Wilkinson, S. Engineering, Construction and Architectural Management, Volume 15, Issue 1 (2008) Pages 42-53.

√IPENZ 21/15 **Planning for knowledge retention now saves valuable organizational resources later.**
Blankenship, L and Brueck, T. American Water Works Association Journal, Volume 100, Issue 8
(August 2008) Pages 57-61.

Suggests that critical knowledge capture cannot be addressed by simply asking departing employees to "write it down."

√IPENZ 21/16 **Emotions in organizations.**

Kangasharju, H and Nikko, T. Journal of Business Communication, Volume 46, Issue 1 (January 2009) Pages 100-119.

Using conversational analysis the authors explore some ways in which humour and laughter can be useful in an organisational setting.

√IPENZ 21/17 **Redefining BPM: Why results and performance must be separated.**

Greene, H. Business Performance Management, Volume 6, Issue 2 (June 2008) Pages 4-11.

√IPENZ 21/18 **How GE teaches teams to lead change.**

Prokesch, S. Harvard Business Review, Volume 87 Issue 1 (January 2009) Pages 99-106)

In 2006, General Electric launched its Leadership, Innovation, and Growth (LIG) program to support CEO Jeffrey Immelt's priority of achieving corporate growth primarily by expanding businesses and creating new ones. LIG represented a radical approach for GE's famed management development center in Crotonville, New York, because it was the first effort to train all the senior members of a GE business's management team as a group. Prokesch went through LIG with 19 senior managers of GE Power Generation, one of the company's oldest businesses, in October 2007. About a year later he revisited the "turbine heads," as Immelt affectionately calls them, to see how much impact the program had made. The answer was a lot. Team training accelerated the pace of change by giving managers an opportunity to reach consensus on the barriers they faced and how to overcome them. LIG participants were encouraged to consider both hard (organizational) and soft (behavioral) barriers. The training explicitly addressed how to balance the short term and the long term. The program created a common vocabulary of change – actual words that are used daily inside and across GE's businesses. And LIG was not an academic exercise: It was structured so that a team would emerge with the first draft of an action plan for instituting change. The author's firsthand experience in the four-day program, together with his follow-up interviews with GE executives, illuminates the effectiveness of this training approach.

√IPENZ 21/19 **Diversity is key to a world-class organization.**

Forbes, L. Leadership & Management in Engineering; Jan2008, Vol. 8 Issue 1, p11-15

√IPENZ 21/20 **Importance of diversity in a successful firm.**

James, D. Leadership & Management in Engineering; Jan2008, Vol. 8 Issue 1, p16-18



√IPENZ 21/21 Practicing universal management.

Silverthorne, C. Industrial Management, Volume 51 Issue 1 (January 2009) Pages 8-13.

Cross cultural organisational psychology has begun to address the issues facing managers and organisations in this new business environment. However, theory and research have not reached a level that allows for most of the cultural similarities and differences to be identified, analyzed and applied effectively. Numerous trends suggest the future is bright for conducting research in other countries and that this research will assist in proving and applying new theoretical frameworks for understanding organizational behaviour.

√IPENZ 21/22 Benefits of fast tracking are a myth.

Tighe, J. International Journal of Project Management, Volume 9, Issue 1 (February 1991) Pages 49-51.

The desirability of fast tracking projects is questioned. The negative impacts that fast tracking has on both the design and the construction of a project are examined. The benefits claimed for fast tracking are challenged. Fast tracking is seen as a remedial step rather than a desirable alternative. With proper planning, fast tracking would be unnecessary. With proper analysis fast tracking would be seen to be undesirable except in unusual circumstances.

√IPENZ 21/23 Fast-track project direction.

Wearne, S. International Journal of Project Management, Volume 2, Issue 4 (November 1984) Pages 240-241.

Fast tracking allows a project to be executed in a shorter period of time than average. Achieving this obviously demands changes from usual practice in managing the execution of a project. Less obviously, it demands difficult decisions and sustained discipline from the project client.

Technical Aspects of Engineering

√IPENZ 21/24 Sustainable concrete waste recycling.

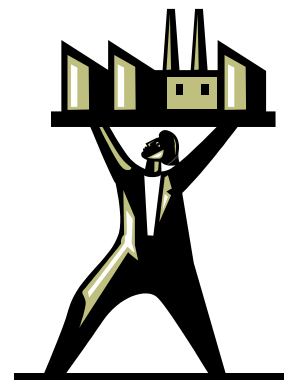
Dosho, Y. Proceedings of the Institution of Civil Engineers: Construction Materials, Volume 161 Issue CM2 (May 2008) Pages 47-62

√IPENZ 21/25 Treatment of risk and reliability in the Eurocodes.

Vrouwenvelder, T. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 161 Issue SB4 (August 2008) Pages 209-214.

√IPENZ 21/26 A new lateral force distribution formula for base-isolated structures.

Khoshnoudian, F and Esrafil, S. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 161 Issue SB5 (October 2008) Pages 277-297.



√IPENZ 21/27 **Punching tests of slabs with low reinforcement ratios.**

Guandalini, S., Burdet, O and Muttoni, A. ACI Structural Journal, Volume 106, Issue 1 (January/February 2009) Pages 87-95.

IPENZ 21/28 **Free vibration of soils during large earthquakes.**

Ruiz, S. and Saragoni, G. Soil dynamics and earthquake engineering, Volume 29, Issue 1, (January 2009) Pages 1-16.

√IPENZ 21/29 **The role of assessments in highway bridge management.**

Cole, G. Proceedings of the Institution of Civil Engineers: Bridge Engineering, Volume 161 Issue BE3 (September 2008) Pages 133-139.

IPENZ 21/30 **Shear capacity of steel plate girders with large web openings, Part I: Modelling and simulations.**

Hagen, N., Larsen, P and Aalberg, A. Journal of Constructional Steel Research, Volume 65, Issue 1, (January 2009) Pages 142-150.

IPENZ 21/31 **Shear capacity of steel plate girders with large web openings, Part II: Design guidelines.**

Hagen, N and Larsen, P. Journal of Constructional Steel Research, Volume 65, Issue 1, (January 2009) Pages 151-158.

IPENZ 21/32 **Interactions between rail and road safety in Great Britain.**

Evans, A and Addison, J. Accident Analysis & Prevention, Volume 41, Issue 1, (January 2009) Pages 48-56.

√IPENZ 21/33 **Hydrogen induced cracking and pitting of brass heat exchanger tube.**

El-Amoush, A. Materials Science and Technology. Volume 24, Issue 6 (June 2008) Pages 711-717.

√IPENZ 21/34 **Failure investigation of stainless steel piping in a sulphur recovery unit of a gas-processing plant.**

Cherian, V., Srivastava, S and Katarki, M. Anti - Corrosion Methods and Materials, Volume 55, Issue 1 (2008) Pages 10-14.

√IPENZ 21/35 **A proposal for hydraulic pump and motor models.**

Johnson, J. Hydraulics & Pneumatics, Volume 61, Issue 12 (December 2008) Pages 16-18.

√IPENZ 21/36 **Modelling variable-speed pump operations for target hydraulic characteristics.**

Yi Wu, Z. et al. American Water Works Association Journal, Volume 101, Issue 1 (January 2009) Pages 54-64.

√IPENZ 21/37 **Thermodynamics performance analysis of water source heat pump in variant operating conditions.**

Zheng, G and Jing, Y. Energy Engineering, Volume 106, Issue 1 (2009) Pages 40-51.

√IPENZ 21/38 **Tests prove out self-powered, wireless, pump torquemeter.**

Filho, A. et al. Oil & Gas Journal, Volume 106, Issue 46 (December 8 2008) Pages 43-49.

√IPENZ 21/39 **An integrated approach for water minimisation in a PVC manufacturing process.**

Chan, J. et al. Clean Technologies and Environmental Policy, Volume 10, Issue 1 (February 2008) Pages 67-79.

√IPENZ 21/40 **Biofiltration of wastewater lift station emissions: evaluation of VOC removal in the presence of H₂S.**

Martinez, A. et al. Clean Technologies and Environmental Policy, Volume 10, Issue 1 (February 2008) Pages 81-87.

√IPENZ 21/41 **Constructed wetland as tertiary treatment for municipal wastewater.**

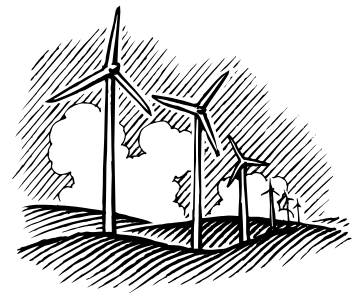
Ahmed, S., Popov, V and Trevedi, R. Proceedings of the Institution of Civil Engineers: Waste and Resource Management, Volume 161 Issue WR2 (May 2008) Pages 77-84

√IPENZ 21/42 **Benchmarking 2D hydraulic models for urban flooring.**

Hunter, N et al. Proceedings of the Institution of Civil Engineers: Water Management, Volume 161 Issue WM1 (February 2008) Pages 13-30.

IPENZ 21/43 **The cost of water from an autonomous wave-powered desalination plant.**

Folley, M and Whittaker, T. Renewable Energy, Volume 34, Issue 1, (January 2009) Pages 75-81.



IPENZ 21/44 **Bioreactor treatment of municipal solid waste landfill leachates: Characterization of organic fractions.**

Pelaez, I., Sanchez, J and Almendros, G. Waste Management, Volume 29, Issue 1, (January 2009) Pages 70-77.

√IPENZ 21/45 **Aerobic in-vessel composting versus bioreactor landfilling using life cycle inventory models.**

Cabaraban, M., Khire, M and Alocilja, E. Clean Technologies and Environmental Policy, Volume 10, Issue 1 (February 2008) Pages 39-52.

√IPENZ 21/46 **Direct assessment monitoring of pipes within cased crossings-part 1.**
Pikas, J. Materials Performance, Volume 48, Issue 2 (February 2009) Pages 30-32.

√IPENZ 21/47 **Understanding fuel savings in the boiler room.**
Eoff, D. ASHRAE Journal, Volume 50, Issue 12 (December 2008) Pages 38-39, 41, 43.

√IPENZ 21/48 **Chloride behavior in washing experiments of two kinds of municipal solid waste incinerator fly ash with different alkaline reagents.**
Zhu, F. et al. Journal of the Air & Waste Management Association, Volume 59, Issue 2 (February 2009) Pages 139-147.

√IPENZ 21/49 **Load levelling and VFD control: two energy strategies for building owners.**
Gill, M. Energy Engineering, Volume 106, Issue 2 (2009) Pages 19-23.

√IPENZ 21/50 **The impact of government incentives for hybrid-electric vehicles: Evidence from US states.**
Diamond, D. Energy Policy Volume 37, Issue 3, (March 2009) Pages 972-983.

√IPENZ 21/51 **Beyond batteries: An examination of the benefits and barriers to plug-in hybrid electric vehicles (PHEVs) and a vehicle-to-grid (V2G) transition.**
Sovacool, B and Hirsh, R. Energy Policy Volume 37, Issue 3, (March 2009) Pages 1095-1103.

√IPENZ 21/52 **Battery energy storage technology for power systems—An overview.**
Divya, K and Østergaard, J. Electric Power Systems Research Volume 79, Issue 4, (April 2009) Pages 511-520.

√IPENZ 21/53 **Wind power price trends in the United States: Struggling to remain competitive in the face of strong growth.**
Bolinger, M and Wiser, R. Energy Policy Volume 37, Issue 3, (March 2009) Pages 1061-1071.

√IPENZ 21/54 **Investment and uncertainty in the international oil and gas industry.**
Mohn, K and Misund, B. Energy Economics Volume 31, Issue 2, (March 2009) Pages 240-248.

Special focus topic Infrastructure – Development/investment



√IPENZ 21/55 **Public-private partnerships in urban infrastructures: Reconciling private sector participation and sustainability.**

Koppenjan, Joop F. M Enserink, Bert. Public Administration Review, Volume 69 Issue 2 (March/April 2009) Pages 284-296.

Public urban infrastructures are currently a challenge for governments everywhere, especially with regard to funding and public service provision inefficiencies. At the same time participation by the private sector also raises challenges, such as short-term returns versus long-term perspectives. This article seeks to identify governance practices that benefit or hinder reconciling private sector participation in urban infrastructure projects with the long-term objective of increasing sustainability of the urban environment.

IPENZ 21/56 **Structural dynamics in the policy planning of large infrastructure investment under the competitive environment: context of port throughput and capacity.**

Ho, Kim Hin David, Mun Wai Ho and Hui, Chi Man Eddie. Journal of Urban Planning & Development, Volume 134 Issue 1 (March 2008) Pages 9-20.

This paper utilizes a dynamic port performance model (DPPM) to consider the context of the Port of Hong Kong, which faces growing competition from rapidly expanding newer competitors within mainland China's Pearl River Delta region. A theoretical construct of the model is introduced and attempts are made to model and validate its use

√IPENZ 21/57 **The formation of public-private partnerships: lessons from nine transport infrastructure projects in the Netherlands.**

Koppenjan, J. F. M. Public Administration, Volume 83 Issue 1 (2005) Pages 135-157.

√IPENZ 21/58 **Public-private partnership in railways: a new approach.**

Gupta, An and Roy, S. IIMB Management Review, Volume 20 Issue 1 (March 2008) Pages 1-21.

√IPENZ 21/59 **Managing public-private megaprojects: Paradoxes, complexity, and project design.**

Alfons van Marrewijk, et al. International Journal of Project Management, Volume 26 Issue 6 (August 2008) Pages 591-600.

Recent studies show that despite their growing popularity, megaprojects - large-scale, complex projects delivered through various partnerships between public and private organisations - often fail to meet costs estimations, time schedules and project outcomes and are motivated by vested interests which operate against the public interest. This paper presents a more benign and theoretically-grounded view on what goes wrong by comparing the project designs, daily practices, project cultures and management approaches of two recent megaprojects in The Netherlands and Australia, showing how these projects made sense of uncertainty, ambiguity and risk. We conclude that project design and project cultures play a role in determining how managers and partners cooperate to achieve project objectives to a greater or lesser extent

√IPENZ 21/60 **The risky business of public-private partnerships.**

Hodge, G. Australian Journal of Public Administration, Volume 63 Issue 4 (December 2004) Pages 37-49.

√IPENZ 21/61 **Innovation wave : an update on the burgeoning private sector role in U.S. highway and transit infrastructure.**

U.S. Dept of Transportation. Washington, D.C., 2008.

The number of public/private partnerships in the U.S. transportation sector has soared to record levels according to this report. These partnerships can help to reduce costs to the public sector.

√IPENZ 21/62 **Payment and audit mechanisms for non private-funded PPP-based infrastructure maintenance projects.**

Ng, S and Wong, W. Construction Management & Economics, Volume 25 Issue 9 (September 2007) Pages 915-924.

√IPENZ 21/63 **A financial appraisal of the London underground public-private partnership.**

Shaoul, J. Public Money & Management, Volume 22 Issue 2 (June 2002) Pages 53-61.

This article looks at the London Underground project with regard to financial criteria and Public Private Partnerships (PPP). The author analyses the cost structure and methodology for evaluating the PPP. It appears that the project is not affordable

√IPENZ 21/64 **Preliminary signals and early warnings in industrial investment projects.**

Nikander, I and Eloranta, E. International Journal of Project Management, Volume 15 Issue 6 (December 1997) Pages 371-376.

Fast tracking makes growing demands on project management. The classic management methods are often too late; problems already exist. The theory of weak signals presented by Igor Ansoff raises the question of whether corresponding signals exist in the project management sector. The signals and messages are always more or less inaccurate, as indicated in the fuzzy theory. The research shows that stimuli (signals) which comply with the information theory can be found in the project environment. These signals change into information when they are received and interpreted. There are also messages which can be interpreted to be preliminary warning signals. The research analyses the character of the signals, their appearance, what project problems they are related to, and what their basic reasons are. The continuation article analyses how the signals can be exploited in project control.

√IPENZ 21/65 **Governance issues in financing of public-private partnership organisations in network infrastructure industries,**

Devapriya, K. International Journal of Project Management, Volume 24 Issue 7, Governance Issues in Public Private Partnerships (October 2006) Pages 557-565,

Public-private partnership (PPP) organisational approaches to generation, management and operation of network infrastructure and services have widely followed competitive market forms under different regulatory regimes. Managerial decisions on financing of PPP companies have been governed by regulatory markets with unstable institutions in developing and emerging economies. While debt ownership in the capital structure is often shared by additional financiers like

development and multilateral banks, unique agency issues seem emerging from debt and equity ownership arrangements of regulated PPP organisations. Within a theoretical framework of financing of PPP organisations explained by theory of the firm, this research looks into nature, form and unique governance issues in debt and equity arrangements in regulated PPP organisations. Analysis is supported by a survey on debt and equity arrangements in regulated PPP organisations across different infrastructure sectors and developing environments. Findings reveal that debt has not been an effective mechanism to control managers' behaviour since subordinate financing also functions to address debt agency in the capital structure of those regulated PPP organisations. Thus, results suggest that tying performance of managers with the financial structure of regulated PPP organisation is undermined in developing and emerging economies. These governance issues need to be considered for alternative benchmarks to assess efficiency of infrastructure companies under different regulatory regimes for better infrastructure investment performance in developing environments.

√**IPENZ 21/66 Risk allocation in the private provision of public infrastructure.**

A. Ng, Martin Loosemore International Journal of Project Management, Volume 25 Issue 1, (January 2007) Pages 66-76.

Communities benefit most from the private provision of public infrastructure when project risks are distributed appropriately between private and public sectors. This is not easy given the technical, legal, political and economic complexity of infrastructure projects and the range of constituencies involved. Too often, risks are under estimated and allocated to parties without the knowledge, resources and capabilities to manage them effectively. The result is increased costs, project delays and services which fail to deliver value-for-money to the community. This paper presents a case study of the controversial \$920 million New Southern Railway project in Sydney, Australia. It analyses the rationale behind decisions about risk distributions between public and private sectors and their consequences. It also demonstrates the complexity and obscurity of risks facing such projects and the difficulties in distributing them appropriately. The paper concludes with a series of recommendations to better manage risks in such projects.

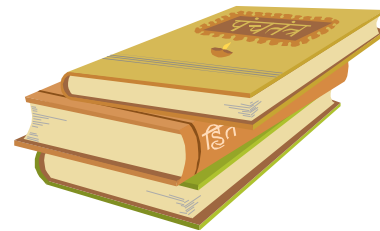
√**IPENZ 21/67 Evaluating the risks of public private partnerships for infrastructure projects.**

Grimsey, D and Lewis, M. International Journal of Project Management, Volume 20 Issue 2, (February 2002) Pages 107-118 .

In many countries, limitations upon the public funds available for infrastructure have led governments to invite private sector entities to enter into long-term contractual agreements for the financing, construction and/or operation of capital intensive projects. For the public procurer, there is an obvious need to ensure that value-for-money has been achieved. To the project sponsors, such ventures are characterised by low equity in the project vehicle and a reliance on direct revenues to cover operating and capital costs, and service debt finance provided by banks and other financiers. Risk evaluation is complex, requiring the analysis of risk from the different perspectives of the public and private sector entities. This paper analyses the principles involved, drawing on practical experience of evaluating such projects to present a framework for assessing the risks, and using as illustration a case study of a waste water treatment facility in Scotland which is typical of most PPP projects.

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√IPENZ 21/68 **Solar power in building design: the engineer's complete design resource.** Gevorkian, Peter. New York: McGraw Hill, 2008

This is a complete guide to designing, implementing, and auditing energy-efficient, cost-effective solar power systems for residential, commercial, and industrial buildings. The author provides plenty of case studies and illustrations and also covers new solar technologies; design implementation techniques; energy conservation; the economics of solar power systems and passive solar heating power.

√IPENZ 21/69 **Promoting energy efficiency investments: case studies in the residential sector.** T'Serclaes, Philippine de and Devernois, Nils. International Energy Agency. Paris : OECD/IEA and AFD, 2008

√IPENZ 21/70 **Electrical power systems quality.** Dugan, Roger C. and others. 2nd edition. New York: McGraw-Hill, 2003

A comprehensive reference and textbook on electrical power systems. The authors of this new edition also look at microelectronic devices and the growing stress placed on the power grid.

√IPENZ 21/71 **Hot, flat and crowded: Why the world needs a disruptive green revolution and how we can renew our global future.** (2008). Thomas L. Friedman. London, U.K: Allen Lane
According to the author - who is a U.S. writer and an expert on the Middle East - we need to reduce our dependence on oil for the sake of the environment and global security.

√IPENZ 21/72 **Developing commercial strategies & policies for connecting & integrating renewable energy projects into electricity networks.** London: London Business Conferences.

This post event CD-ROM contains presentation slides and audio files from the Renewable Energy Grid Integration Summit held in London on 24th - 25th June 2008

√IPENZ 21/73 **Strategic and competitive analysis: Methods and techniques for analysing business competition.** (2003) Fleisher, C.S.; Bensoussan, B. E. Upper Saddle River, N.J: Prentice Hall

√IPENZ 21/74 **Leading with kindness: How good people consistently get superior results.** (2008). Baker, William F.; O'Malley, Michael O. New York: AMACOM

√IPENZ 21/75 **Electrical power system essentials.** (2008). Schavemaker, Pieter and Van der Sluis, Lou. Chichester: Wiley

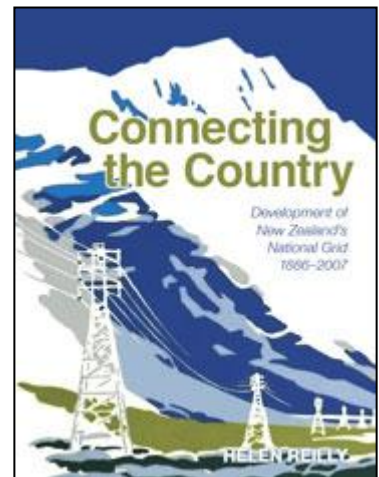
Provides an up-to-date overview and introduction to alternating current (AC) power systems. Looks at the basics for a steady-state analysis of three-phase power systems and also examines: the generation, transmission, distribution, and utilization of electric energy; power system control and operation; the organization of electricity markets, the changes currently taking place, and the developments that could lead to alternative power systems in the future.

√IPENZ 21/76 **Connecting the country.** Helen Reilly. Wellington: Steele Roberts, 2008

Connecting the country: New Zealand's national grid 1886 - 2007 was written by public historian Helen Reilly, and is the culmination of three years' work. It tells the stories of the early engineers, surveyors, linesmen and operators, and describes how their commitment to 'keeping the lights on' is still central to the ethos of those who run the National Grid today.

It will be a must read for new employees starting out in the electricity field and will also bring back memories for those who have spent many years in the industry.

To read more about the book, or order your own copy, go to the book's [website](#). Proceeds from the book sales will go towards restoration of three towers in the Horahora to Waihi transmission line, one of New Zealand's earliest transmission lines.



√IPENZ 21/77 **Rising powers, shrinking planet: The new geopolitics of energy.** Klare, Michael T. (2008). New York: Metropolitan Books

If you read the article "A world order according to who has energy" in the 5th Sept *National Business Review* you will already have been introduced to this book. Klare spells out the importance of cooperation over competition. The last chapter "Averting catastrophe" offers possible solutions for the increasingly volatile situation. See also this [article](#) by the same author in the 19th May issue of *Nation*.

√IPENZ 21/78 **Energy technology perspectives: Scenarios and strategies to 2050.** (2008). International Energy Agency. Paris, France: International Energy Agency

This comprehensive volume is divided into 3 parts. Part 1, Technology and the global energy economy to 2050, covers the various scenarios, and looks at such topics as CO2 emission trends, and energy demand by fuel. Part 2, the Transition from present to 2050, looks at such areas as Technology roadmaps, and Investment issues. Part 3, Energy technology: status and outlook, covers such topics as Nuclear, Wind, Biomass, Transport, and Industry. With 6 substantial annexures and an Executive summary.