

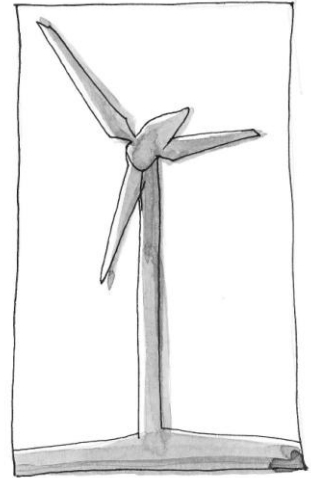
Energy Library Update

September 2007

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Design by Kat McAra

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New Books

Wind power integration: Connection and systems operational aspects. (2007) Brendon Fox et al. London: Institution of Engineering and Technology

The book looks at current research and operational experiences of wind power in providing solutions to the main problems of wind integration on a large scale. Contents include: power system fundamentals; wind power technology; network integration of wind power; operation of wind power; wind power forecasting; wind power and electricity markets.

(To borrow this book email library@energylibrary.org.nz Ref: **09Fox**)

Energy use in the new millennium: Trends in IEA countries in support of the G8 plan of action. (2007) Paris: International Energy Agency.

Records results of current energy use and CO2 emission patterns in IEA countries for future energy policy and planning. The indicators describe 5 key sectors in IEA countries: manufacturing, services, households and passenger and freight transport. Although the results indicate improvements in the manufacturing sector through strong efficiency improvements the other areas indicate large rises in energy use and CO2 emissions.

(To borrow this book email library@energylibrary.org.nz Ref: **09Energy**)

Featured Journals

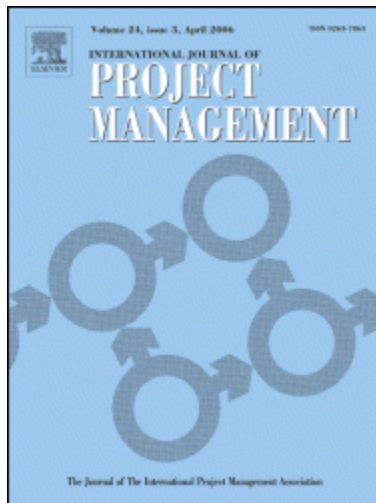


Energy Economics

This journal contains research papers concerned with the economic and econometric modelling and analysis of energy systems and issues. For any of the following options:

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International Journal of Project Management offers wide ranging and comprehensive coverage of all facets of project management. This publication is the official journal of the International Project Management Association (IPMA). For any of the following options:

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Energy Risk

Covers the oil, gas and electricity markets. Focuses on financial, political and legal risk. Published monthly. More details can be found at the Energy Risk [website](#). For any of the following options:

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please email kmcara@energylibrary.org.nz and quote Ref: **09EnergyRisk**

Special Journal Issue

Flaw assessment methods (International Journal of Pressure Vessels and Piping Vol. 77 Nos. 14-15 2000)

This issue contains 11 papers including: Basic principles of analytical flaw assessment methods; An overview of the European flaw assessment procedure SINTAP and its validation; API 579: a comprehensive fitness-for-service guide.

(To borrow this whole issue email library@energylibrary.org.nz Ref: **09Flaw**)

New Management, Marketing and HR Articles

The institutional yes. (cover story) Kirby, Julia; Stewart, Thomas A. *Harvard Business Review*; Oct 2007, Vol. 85 Issue 10, p74-82

Since its founding, in 1995, Amazon.com's bold moves have often left observers scratching their heads, if not predicting the company's demise. Why open up an effective proprietary retail platform to competition from third-party sellers? Why make tools that Amazon developed for its own use available to other website developers? (Why, for that matter, post negative reviews of your products?) Two HBR editors interviewed Bezos, the founder and CEO, to learn what's different about strategy formulation at Amazon. They came away with the sense that the company's strategy and culture are rooted in a sturdy entrepreneurial optimism and rest on the single question of what's better for the customer.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Kirby**)

Going green. Hallet, Adelia. *New Zealand Management*; Jul 2007, Vol. 54 Issue 6, p51-57

Discusses the efforts of businesses in New Zealand to position themselves as environmentally friendly and show their commitment to sustainable development. Read [online](#).

The third element of great managing. Wagner, Rodd and Harter, James K. *Gallup Management Journal Online*; 6/14/2007, p1, 5p

Matching a person's natural abilities with a job is crucial.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Wagner**)

Building contractors' behavioural pattern in pricing weather risks. Edwin H.W. Chan and Maria C.Y. Au. *International Journal of Project Management*; Volume 25, Issue 6, (August 2007) p.615-626

Inclement weather is a major risk in construction project delay. Previous studies have provided very little guidance for employers to assess the costs involved in such risk transfer. Therefore, knowledge of contractors' pricing behaviour for weather risk becomes essential in the optimization of contract cost.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Edwin**)

Retaining employees for service competency: The role of corporate brand identity.

Wheeler, Anthony R. and others. *Journal of Brand Management*; Sep 2006, Vol. 14 Issue 1/2, p96-113

(For a copy of this article email library@energylibrary.org.nz Ref: **09Wheeler**)

New Energy and Environment Articles

Time for a new climate for change. Gilkison, Bruce. *Chartered Accountants Journal*; Mar 2007, Vol. 86 Issue 2, p45-48

Discusses the economic effects of climate change both overseas and here in New Zealand.
(For a copy of this article email library@energylibrary.org.nz Ref: **09Bruce**)

Our need for new electricity generation – The role of demand. Isaacs, Nigel and others. *E.NZ magazine*; May/Jun 2007 Volume 8/3 p.15-17

Much of our energy debate is focused on electricity generation and transmission, but the authors argue that the real issue is how we can best use our many different, abundant fuels.
(For a copy of this article email library@energylibrary.org.nz Ref: **09Isaacs**)

What happens when the oil stops coming? Denis Welch & Matt Nippert. *New Zealand Listener*; September 8-14 2007 Vol. 210 No 3513, p.10-16. Available on the [Listener website](#).

Information-age wastage. Bill Whitley. *Consumer*; Number 474, July 2007 p. 17-19

This article shows how New Zealanders can help reduce the growing problem of e-waste.
(For a copy of this article email library@energylibrary.org.nz Ref: **09Whitley**)

The Commons revisited: The tragedy continues. Bob Lloyd. *Energy Policy*; Volume 35, Issue 11, November 2007, p.5806-5818

Garrett Hardin's classic paper "Tragedy of the Commons" published in *Science* in 1968 struck a chord with scientists and non-scientists alike and has continued to provide a key reference point to how a number of "Commons"-related problems can be viewed. Hardin's paper will be in looked at in view of both anthropogenic global warming and peak oil and some of the solutions he posed for the "population problem" applied to the post-peak era. Possible solutions are compared with the Kyoto Protocol for global warming and the Rimini Protocol for peak oil. A carbon-indexed, universal tax on non-renewable energy resources 'Unitax' is mooted as a longer-term possibility to overcoming both global warming and the financing of post-peak oil problems. Alas, the process of dealing with global warming and peak oil seems to be falling into the "no technical solution" category that Hardin identified for population.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Lloyd**)

Made in China. Mark Venables. *IEE Power Engineer*; December/January 2005/06 p. 1217

In 20 years, the output from China's coal plant could dwarf any carbon cuts the rest of the world will make. What does the future hold for the nation's power industry?

(For a copy of this article email library@energylibrary.org.nz Ref: **09Venables**)

Participation of civil society in management of natural resources. Sawhney, Puja and others. *International Review for Environmental Strategies*; 2007, Vol. 7 (1), p117-131

(For a copy of this article email library@energylibrary.org.nz Ref: **09Puja**)

Trading our way into trouble? Christopher Cundy. *Environmental Finance*; Volume 8, Number 7 (May 2007), S24-S26

Not everyone has bought into the 'cap-and-trade' approach to tackling emissions. This article reports on growing opposition to carbon trading.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Cundy**)

Foreign direct investment and hydropower in Lao PDR: The Theun-Hinboun hydropower project. Virtanen, Maarit. *Corporate Social Responsibility & Environmental Management*; Sep 2006, Vol. 13 Issue 4, p183-193

(For a copy of this article email library@energylibrary.org.nz Ref: **09Maarit**)

Helping to drive deployment. Adam Mendelson and Michael Ashford. *Environmental Finance*; Volume 8, Number 7 (May 2007), S40-S42

The Clean Development Mechanism is helping to put renewable energy projects on the path to profitability.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Ashford**)

Climate stability: An inconvenient proof. Bellamy, D., Barrett, J. *Proceedings of the Institution of Civil Engineers: Civil Engineering*; 160 (2), 2007, p. 66-72

The amount of global warming that would result from a doubling of atmospheric CO2 levels from pre-industrial levels would be less than 1°C, according to the authors. They also doubt the accuracy of the models used to make predictions in the area of climate change. However, they agree that the earth's fossil fuel resources are limited and need to be managed carefully and with environmental sensitivity.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Bellamy**)

Impacts of multi-gas strategies for greenhouse gas emission abatement: Insights from a partial equilibrium model. Criqui, Patrick and others. *Energy Journal*; Multi-Greenhouse Gas Mitigation, Vol. 27, p251-273

(For a copy of this article email library@energylibrary.org.nz Ref: **09Patrick**)

GHG emission reductions and costs to achieve Kyoto target. Chen Wen-ying. *Journal of Environmental Sciences*; Jul 2003, Vol. 15 Issue 4, p541-547

(For a copy of this article email library@energylibrary.org.nz Ref: **09Chen**)

Flexible energy: Research on organic solar cells has entered an exciting phase. Iris Krampitz. *Renewable Energy World*; Vol 10 Issue 2 (March/April) 2007. Available [online](#).

New procedure for estimating seasonal energy efficiency ratio of chillers. Yoshiyuki Shimoda and others. *ASHRAE Transactions*; 2007. Vol. 113, Part 1 p. 578-585

(For a copy of this article email library@energylibrary.org.nz Ref: **09Shimoda**)

Optimal expansion of a developing power system under the conditions of market economy and environmental constraints. Misak Avetisyan and others. *Energy Economics*; Volume 28, Issue 4, July 2006, p.455-466

Presents a mathematical model for the optimal expansion of a developing power system. The considered model includes provisions for energy security, which is significant especially for countries that do not possess adequate energy resources. Furthermore, environmental constraints are placed on the model to formulate optimal expansion strategy for the developing power system.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Misak**)

Metering gas as a regulated task. Roel Derks and Guido Van de Velde. *Metering International*; Issue 1 2006 p.78-79

(For a copy of this article email library@energylibrary.org.nz Ref: **09Derks**)

Regulatory risk in the utilities industry: An empirical study of the English-speaking countries. Alberto A. Gaggero. *Utilities Policy*; Vol. 15, Issue 3, September 2007, p.191-205
The economic theory on regulation suggests that firms subject to incentive regulation, such as price cap, bear more risk than firms subject to cost plus regulation, such as rate of return regulation. This hypothesis is tested empirically using a sample of 93 regulated companies operating in six English-speaking countries: Australia, Canada, Ireland, New Zealand, UK and USA, during the period 1995-2004.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Alberto**)

Reflective Roof Coatings Calculations, Results, and Exponential Growth. Norman K Muraya. *Energy Engineering*; 2007. Vol. 104, Iss. 2; p. 6 (9 pages)

(For a copy of this article email library@energylibrary.org.nz Ref: **09Norman**)

Free fuel - growth opportunities for using waste gases in microturbines in Asia and Germany. Phil Vessa and Peter Dorner. *Cogeneration & On-Site Power Production*; March/April 2007 p.83-87. Available [online](#).

State-level benefits of energy efficiency. Bruce Tonna and Jean H. Peretz. *Energy Policy*; Volume 35, Issue 7, July 2007, p.3665-3674

This paper describes benefits attributable to state-level energy efficiency programs.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Tonna**)

Promoting geothermal energy: Air emissions comparison and externality analysis. Alyssa Kagel and Karl Gawell. *The Electricity Journal*; Volume 18, Issue 7, August-September 2005, p.90-99

When compared to fossil fuel energy sources such as coal and natural gas, geothermal emerges as one of the least polluting forms of energy, producing virtually zero air emissions. Geothermal offers a baseload source of reliable power that compares favorably with fossil fuel power sources. But unless legislative changes are enacted, geothermal energy will continue to be produced at only a fraction of its potential.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Kagel**)

Modeling and forecasting petroleum futures volatility. Perry Sadorsky. *Energy Economics*; Volume 28, Issue 4, July 2006, p.467-488

Forecasts of oil price volatility are important inputs into macroeconomic models, financial market risk assessment calculations like value at risk, and option pricing formulas for futures contracts. This paper uses several different univariate and multivariate statistical models to estimate forecasts of daily volatility in petroleum futures price returns.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Perry**)

Residential energy contracts and the 28 day rule. Stephen Littlechild. *Utilities Policy*; Volume 14, Issue 1, March 2006, p.44-62

What measures are needed to protect customers when a utility market is first opened to competition? In the UK, residential (domestic) customers must be able to terminate energy contracts at 28 days' notice. This rule was introduced as a transitional protection for customers and for competition. However, the regulatory justification for the rule seems to have evolved over time. Removing the rule could have a number of advantages, including the development of fixed-price fixed-term contracts...

(For a copy of this article email library@energylibrary.org.nz Ref: **09Littlechild**)

Characterisation of ELF magnetic fields / CIGRE Technical Brochure Summary 320 - TF C4.205. *Electra*; 231 (April 2007) p.63,65,67,69

In the context of human exposure, extremely low frequencies (ELF) magnetic field levels cannot be adequately characterized by a single figure. The guide presents a list and a description of the most important parameters that are needed for characterizing the magnetic field together with representative statistical ratios between some of the parameters.

(For a copy of this article email library@energylibrary.org.nz Ref: **09ELF**)

Fire avoidance in transformer substations / CIGRE Report – SC A2. Dennis Allan. *Electra*; 231 (April 2007) p.12-15

Oil insulated transformers are always subject to the risk of fire (from internal faults or an external fire). The damage caused by a power arc within the transformer has been found to depend upon the rate of rise of pressure of the gases formed by the arc. Where the risk of explosion or fire is unacceptable, the solution is to use a cast resin transformer, gas filled transformer or alternative liquids. Working Group A2.33 has recently started work on the topic.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Allan**)

Increasing life through repair. Lloyd Cooke. *Turbomachinery International*; Volume 48, No. 2 March/April 2007 p. 38-39

New component repair technologies can extend the life of gas turbine power plant machinery.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Cooke**)

A unified management of congestions due to voltage instability and thermal overload. Florin Capitanescu and Thierry Van Cutsem. *Electric Power Systems Research*; Volume 77, Issue 10, (August 2007) p.1274-1283

Proposes two approaches for a unified management of congestions due to voltage instability and thermal overload in a deregulated environment. Both aim to remove voltage and thermal

congestions stemming from base case or post-contingency states, by a simultaneous handling of operating and security constraints with respect to several contingencies...

(For a copy of this article email library@energylibrary.org.nz Ref: **09Florin**)

Quantifying the total net benefits of grid integrated wind. Denny, E. and O'Malley, M.

IEEE Transactions on Power Systems; Volume: 22 (2) May 2007, p.605-615

(For a copy of this article email library@energylibrary.org.nz Ref: **09Denny**)

Study on the 729 blackout in the Taiwan power system. Ji-Jen Wong and others.
International Journal of Electrical Power & Energy Systems; Volume 29, Issue 8, (October 2007) p.589-599

This study investigate the power failure that affected the Taiwan electrical network on July 29, 1999 (729 blackout). The failure left approximately 82.5% of consumers without power. The event is described and lessons learned from the power blackout are discussed.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Wong**)

Permeability and consolidation characteristics of compacted fly ash.

Kaniraj, Shenbaga R. and Gayathri, V. *American Society of Civil Engineers: Journal of Energy Engineering*; April 2004 Volume 130 (1) p.18-43

Detailed testing regarding geotechnical utilization was carried out on fly ash from the Dadri thermal power station in India.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Shenbaga**)

Featured Topic

Energy and Transport: Samplings from our collection and the Web.

This featured topic has samplings covering the following areas:

1. Fuel efficiency
2. Co2 emissions
3. Alternative fuels—biofuels
4. Electric vehicles/Hybrid cars
5. Policy instruments and strategies for emission reductions.

Items listed here are held in Energy Library or are currently freely available online. A more comprehensive bibliography can be compiled on request (this would also include items not held in our collection).

The good oil. Hannah Sperber. *North & South*; Jun 2007 Issue 255, p54-62

This article discusses the pros and cons of biofuels in New Zealand.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Hannah**)

Importance of biodiesel as transportation fuel. Demirbas, A. *Energy Policy*; 35 (9) 2007, p.4661-4670.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Demirbas**)

Reducing emissions with advanced hybrid technology. *Logistics & Transport Focus*; July 2007: p34-37.

Looks at hybrid buses.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Hybrid**)

Fuel efficiency and motor vehicle travel: The declining rebound effect. Small, K.A., Van Dender, K. *Energy Journal*; 28 (1) 2007, p. 25-51

(For a copy of this article email library@energylibrary.org.nz Ref: **09Small**)

Grid-connected vehicles as the core of future land-based transport systems. Gilbert, R., Perl, A. *Energy Policy*; 2007, 35 (5), p.3053-3060.

Grid-connected vehicles (GCVs) - e.g., electric trains, metros, trams, and trolley buses - are propelled by electric motors directly connected to remote power sources. Their low at-vehicle energy consumption and ability to use a wide range of renewable energy sources make them strong contenders for urban and interurban transport systems in an era of energy constraints that favours use of renewable fuels, which may lie ahead. Needs for autonomous motorised mobility could be acceptably met in large measure by deployment of personal GCVs, also known as personal rapid transit...

(For a copy of this article email library@energylibrary.org.nz Ref: **09Gilbert**)

As if Kyoto mattered: The clean development mechanism and transportation.

Christopher Zegras, P. *Energy Policy*; 35 (10), 2007, p. 5136-5150.

Transportation is a major source of greenhouse gas (GHG) emissions and the most rapidly growing anthropogenic source. In the future, the developing world will account for the largest share of transport GHG increases. This paper reviews overall CDM activities and transportation CDM activities to date and presents three case studies of transportation CDM possibilities.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Zegras**)

Biodiesel: The comprehensive handbook. (2004) Martin Mittelbach, Claudia Remschmidt. Graz: Martin Mittelbach

(To borrow this book email library@energylibrary.org.nz Ref: **09Martin**)

Betting on biofuels. Lacoursiere, Catherine. *Commodity Risk*; Volume 1, Issue 2, p.28-31

An article on biofuels risk management.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Catherine**)

Biofuels for transport in Europe: Lessons from Germany and the UK. Bomb, C. and others. *Energy Policy*; 35 (4) 2007, p.2256-2267.

This paper describes, compares, and analyses the markets for biofuels in Germany and the UK. The introduction of biofuels for transport in these member states provides contrasting pictures, and the success or failure of biofuels here is pertinent to the development and diffusion of biofuels across Europe. The authors concentrate on the socio-political context for the biofuels industry in Germany and the UK and presents general conclusions for policy-makers that are predominantly relevant for the early stages of a biofuels industry.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Bomb**)

The car and fuel of the future. Joseph Romm. *Energy Policy*; Volume 34, Issue 17 (November 2006) p.2609-2614

Based on a review of the technical literature. The urgent need to reverse the business-as-usual growth path in global warming pollution in the next two decades to avoid serious if not catastrophic climate change necessitates action to make our vehicles far less polluting. (For a copy of this article email library@energylibrary.org.nz Ref: **09Romm**)

Optimization of control strategy for a single-shaft parallel hybrid electric vehicle.

Kyoungcheol Oh and others. *Proceedings of the Institution of Mechanical Engineers*; May 2007; 221, D5; p.555-565

(For a copy of this article email library@energylibrary.org.nz Ref: **09Oh**)

Further validation of artificial neural network-based emissions simulation models for conventional and hybrid electric vehicles. Csaba Tóth-Nagy and others. *Journal of the Air & Waste Management Association*; Vol. 56 (7) July 2006 p.898-910.

Researchers have developed artificial neural network (ANN) models for predicting emissions from heavy duty vehicles. This paper expands on previous research.

(For a copy of this article email library@energylibrary.org.nz Ref: **09Csaba**)

NZS 7500: 2005. Automotive biodiesel: Specification for manufacture and blending.

Standards New Zealand, 2005.

(To borrow this standard email library@energylibrary.org.nz Ref: **09-7500**)

Primary energy and net greenhouse gas emissions from biodiesel made from New Zealand tallow - 2007 [report](#) prepared for EECA by CRL Lower Hutt.

Measuring and reporting fuel economy of plug-in hybrid electric vehicles - [conference paper](#) presented at the 22nd International Battery, Hybrid and Fuel Cell Electric Vehicle Symposium and Exhibition (EVS-22) Yokohama, Japan, October 23-28, 2006.

EPA SmartWay® focuses on biodiesel with new "Grow & Go" program ([news](#)). The [SmartWay® Transport Partnership](#) is a collaboration between the U.S. EPA and the freight industry to increase energy efficiency while reducing greenhouse gases and air pollution.

Reducing road transport carbon emissions: Options for government policy - 2007 Victoria University School of Geography, Environment and Earth Sciences [research report](#).

DOE to provide nearly \$20 million to further development of advanced batteries for plug-in hybrid electric vehicles - U.S. DOE [press release](#) (25th September 2007).

Enabling biofuels: Biofuels supply options. Hale & Twomey [report](#) prepared for the Ministry of Transport in 2006.

Conferences

Join the New Zealand & Australian experts at the [Inaugural Advanced Metering Summit](#) 27 November 2007 at Stamford Plaza, Auckland.

This one day summit will include discussion on Advanced Metering, Demand Management and Load Control – evaluating the technical, business and regulatory issues faced when attempting a roll out of advanced meters.

[New Zealand's 2nd Annual Electricity Networks Asset Management Summit](#) - Lifting the Game: Practical Strategies for Optimising Network Asset Performance and Efficiency. 20 and 21 November 2007 at Wellington Town Hall.

As soon as an asset is acquired and installed, the ageing process begins and the challenge becomes how to ensure that the maximum capability of an asset is achieved. Strategic asset management offers the ability to manage and maximise the performance of critical capital assets throughout their lifecycles and as we plan for a secure future achieving and sustaining network reliability, robustness and efficiency is going require strategic investments.

Key speakers will talk on practical strategies for optimizing network asset performance and efficiency.

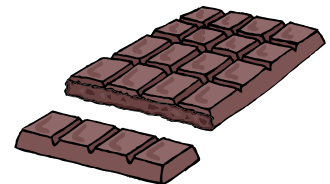
Energy Chocolate Competition

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

Dr Bob Lloyd is Director of Energy Studies at the University of Otago's Department of Physics. What is the title of his paper that was recently published in the journal Energy Policy?

(Clue: the article citation appears in this Update).

Draw closes 4pm Friday 12th October 2007.



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