Understanding electricity markets

Executive and management training course

12th and 13th August 2010 at the Wellington Regional Chamber of Commerce, Level 28, 100 Willis St, Wellington

This intensive two-day course prepares industry participants, stakeholders, major users, service providers and government officials for the challenges and opportunities in a competitive electricity market. The training is delivered through small masterclass style presentations and practical case studies. You'll also undertake hands-on market simulation exercises using NZX Energy's Market Simulation and Pricing (MSAP) model.

NZX Energy is a proven training provider in this specialised area and draws on its operational experience in energy markets around the globe to deliver a course for the New Zealand market. NZX Energy is a market designer and operator for benchmark regional electricity and gas markets in New Zealand, Singapore, South Africa, Australia, the Philippines, and Taiwan.

NZX Energy has delivered training courses to participants in new energy markets from Singapore, South Africa, Korea, China, Japan, Taiwan, and Hong Kong.

What attendees say about NZX Energy's courses

"We were very impressed with the design of the programme, the level of preparation, the way each topic was delivered, and the knowledge and experience demonstrated by the topic lecturers."
Dr. Michael John Ellman, General Manager, Market Operation & Monitoring, National Electricity Regulator, South Africa.

"The course provides a great overview of the Electricity Sector and helped me to understand and apply some of the fundamentals."
Mr. Ben Peacey, Regulatory Analyst, Meridian Energy

"The course exceeded my expectations. I would recommend attendance to a similar NZX Energy course."
Trainee, Heilongjiang Electric Power Company, China.

Presenters

Ashley Milkop – Course Director

Ashley Milkop is the Energy Services Manager at NZX Energy. He oversees the pricing, reconciliation and clearing operations for the electricity market.

Daniel Pringle

Daniel has a PhD in physics and managed the pricing function for NZX Energy between 2008 – 2010. He is currently working in the strategy area for NZX, which includes the development of electricity indices for the market.

Heather Kirkham

Heather leads the Strategy team, researching and executing growth opportunities for the business. Recently this has included the NZX Energy acquisition and integration, investigating the potential for a NZ based liquid electricity derivatives contract, and the business case for New Zealand Clearing Corp – the Clearing House and Depository that NZX will launch shortly. Before joining NZX, Heather worked at Treasury for nearly 10 years, working on fiscal policy, macro-economic policy and in the international economics team with responsibility for investment chapters of Free Trade Agreements. She worked for two years as the Economic Advisor to Finance Minister Michael Cullen. More recently she headed the Competition Policy Branch at the UK Treasury.

Karen Smith

Karen is a Principal and Director of KEA3 Limited. KEA3 provides specialist electricity market and transmission advice to the Electricity Commission and a range of other clients.

Alistair Dixon

Alistair is a Principal and Director of KEA3 Limited. Alistair's specialist area is key economic reforms, including electricity, climate change and telecommunications.

Understanding electricity markets

The course programme

Day 1

Session 1 – Understanding Electricity

Provides an introduction to the nature of electricity industries and electric power systems. While highlighting the key technical characteristics of power systems, the intention is to provide a broad overview rather than a detailed technical guide.

Topics covered:

- The physical aspects of generation and transmission
- The key features of electric power systems that affect real-time management
- The key economic features of electricity

Session 2 – Electricity Market Reform and Regulation

Highlights the issues relating to the reform of wholesale electricity markets and their regulation.

Topics covered:

- Why markets are reformed and the types of market reform possible
- Key factors to take into account when reforming a market
- The reform process of the New Zealand electricity market

Session 3 – Managing an Electricity Market in Real Time

Key design features of wholesale electricity markets are introduced.

Topics covered:

- Objectives and key features of wholesale electricity markets
- How electricity is traded under different market models
- Electricity market mechanics: offers and bids, scheduling and dispatch, market pricing, reconciliation, clearing and settlement
- Demand-side participation in wholesale electricity markets
- Real time management of the power system to manage imbalances and maintain system security

Day 2

Session 4 – Pricing Energy

Focuses on how pricing arrangements in electricity markets reflect supply and demand conditions and the availability of transmission.

Topics covered:

- The nodal pricing model (SPD model)
- Nodal pricing worked examples
- Co-optimisation of energy and reserve markets
- Key drivers of prices and price sensitivity

Session 5 – Managing Risk in Electricity Markets

Energy trading is an integral part of competitive power markets. This session explores the types of risks in electricity markets and the nature and role of hedge contracts.

Topics covered:

- Why is risk management so critical in electricity?
- The main sources of risk in an electricity market
- Alternative types of risk instrument
- The role of hedge markets

Session 6 – Market Simulation and Pricing Model (MSAP)

MSAP is used to provide practical examples of energy pricing topics discussed in session 4. Participants also engage in an interactive trading simulation game.

Topics covered:

- Impact of line constraints on optimal dispatch and nodal prices
- Alternative pricing outcomes from using average versus marginal losses
- Spring washer effects arising from transmission constraints
- How demand bids affect optimal dispatch and nodal prices
- Infeasible prices

Understanding electricity markets

Enrolment form

Please scan and email your completed enrolment form to training@nzx.com, or send it to NZX Ltd, level 2, NZX Centre, 11 Cable St, PO Box 2959, Wellington, if paying by cheque. When booking for more than one person, please complete a form for each attendee.

Your details:

☐ Mr ☐ Mrs ☐ Ms ☐ Miss ☐ Dr	Phone (business):
Name:	Phone (mobile):
Job title:	Email:
Company/Organisation:	Fax:
Physical address:	Postal address:

Select your course (please tick):

☐ 12th and 13th August 2010 - Wellington

Payment:

☐ Early Bird Registration: $1995 + GST = $2,244.38 (for registrations received by 31 July)

☐ Standard Registration: $2195 + GST = $2,469.38

☐ A group discount fee is available for three or more enrolments from the same incorporated body or organisation. To arrange a group discount fee, please email training@nzx.com.

☐ Cheque: please make cheques payable to NZX Limited.

☐ Please invoice me at the above address.

☐ Credit Card Payment:

Mastercard ☐ *Visa* ☐
Name on card:
Card number:
Expiry date:
Total Amount: $
Signature:

Enrolment conditions:
If you are no longer able to attend this training course a substitute person may take your place. A full refund of course fees, less a $250 administration fee, will be made available if a written cancellation, by email or letter, is received by two weeks before the commencement of the course. Cancellations within the two-week period before the course commencement receive a refund of 50% of the fee. NZX Ltd regrets that no refund will be available for cancellations five days or less before the commencement of the course. NZX Ltd reserves the right to vary the programme, speakers and venue. This includes cancellation or rescheduling of the course. Fees will be refunded in full or an alternative arranged as appropriate in the event that the course is cancelled for any reason.

Privacy Policy:
The information you provide on this form is being collected by NZX Ltd for the purposes of processing your registration for the training course and keeping you informed of upcoming training courses and other services offered by NZX Ltd. The information is disclosed from time to time to our related corporate bodies for these purposes. The provision of this information by you is voluntary but if you do not provide some or all of the requested information we may be unable to properly process your registration. You have both a right of access to the personal information we hold about you and to ask us to correct it if inaccurate or out-of-date. If you wish to discuss any aspect of this policy please contact us at training@nzx.com or telephone 04 473 5240.

☐ Please tick this box if you do not wish to receive NZX Energy training and other services information.