

An intensive  
training course

# Power Generation Assets & Hedging

Barcelona, Spain 5-6 October 2010

*A highly practical course, focusing on business  
cases and in-depth learning.*

[www.energyforum.com](http://www.energyforum.com)



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# Course Leaders

Dr. Cyriel de Jong

Before Cyriel de Jong founded KYOS, he was assistant professor at Erasmus University in Rotterdam. Since 2001 Cyriel de Jong has been a trainer in energy markets, mainly focusing on financial risk management and energy finance. Next to training, Cyriel de Jong has done a great number of projects related to energy derivative valuation, risk management, and investment analysis (including real options). He is particularly active in the application of financial simulation methodologies to value power plants, gas storages, long-term contracts, and transportation. Cyriel de Jong is director of KYOS, holds an MSc in Econometrics from the University of Maastricht and a PhD in Financial Derivatives from Erasmus University.

Hans van Dijken

Hans van Dijken has been active in energy markets since 2001. Before Hans van Dijken joined KYOS, he worked for Reeliant Energy and Nuon in the Netherlands. During this period, he worked in various functions within risk management and business development. Hans van Dijken was responsible for the analysis of various investments, of which the 1200 MW multi-fuel plant Magnum. Within KYOS, Hans van Dijken has done various projects related to investment analysis, power plant valuation, tolling deals and implementation of hedging strategies. Hans van Dijken is largely active in optimizing power plant dispatch decisions, while enhancing value through the application of hedging strategies. Hans van Dijken is a partner at KYOS, and holds an MSc in Business Administration from the University of Twente.

The course is made in collaboration with KYOS - an independent consultancy firm, specializing on trading and risk management in energy markets as well as developing academic research.



*We are glad to offer you a 2-day cutting-edge course on valuation and hedging techniques for power generation assets.*

*The course provides in-depth analysis of methodologies to value and manage generation assets and power contracts. The course mainly covers thermal plants, but also contains separate discussion of virtual power plant contracts, tolling deals, and wind and hydro generation assets*

*With real life examples and cases studies the course will demonstrate what techniques can be used to properly value and manage power plants, thereby incorporating relevant technical and commercial plant constraints. Furthermore, the course shows how to construct realistic price scenarios, a key element in valuation and hedging.*

*We wish you welcome to join us in Barcelona in October!*

*Energyforum.*

## Who should attend?

The course aims to attract a wide range of people active in the energy and financial sector, including

- Energy traders
- Asset developers
- Portfolio and risk managers
- Energy market analysts
- Regulators
- Consultants.

The course does not require any specific pre-knowledge. The instructors are used to present technical details in an intuitive manner, both appealing to quantitative and non-quantitative people.

A practical course, adapted to your needs.

Throughout the course you will work on case studies with specialized analysis models for plant valuation and hedging analysis. The models will be provided to you for the duration of the course plus a month thereafter. Apart from case studies, the course also features an energy trading game. The goal is to optimize a portfolio of power plants, while hedging in the market and responding to news.

**Book now! Limited number of seats available.**

# Program

## DAY 1: October 5

9.00 – 9.15 Registration

9.15 – 17.00 Intensive course, including coffee breaks and lunch

### Session 1: Power generation and power contract types: technical and commercial issues

- Technical (physical) constraints: efficiency curves, ramp rates, min runtime/offtime, seasonal effects, degradation, outages & maintenance
- Commercial constraints: start costs and start limitations, gas Take-or-Pay contracts

### Session 2: Dispatch optimization of thermal power plants: optimization techniques and practical limitations

- Extreme approaches: power plant as a simple spark/dark spread versus power plant as an hourly option
- Linear Programming versus Dynamic Programming techniques
- Impact of construction forward curve on intrinsic value
- Impact efficiency curve on optimal dispatch

### Session 3: Price and spread dynamics: volatility, correlations, cointegration

- Price modeling approaches: oil, gas, power, coal, CO2
- Cointegration: combine fundamental information in a simulation framework
- Parameter estimation: volatility, correlation, mean reversion
- Spark spreads: distribution with and without cointegration

**Spanish networking dinner** in the evening.

## DAY 2: October 5

9.00 – 15.30 Intensive course, including coffee breaks and lunch

### Session 4: Power plant hedging strategies and portfolio effects

- Hedging of generation assets
- Static versus dynamic hedging: calculate delta positions
- Impact of hedging on risk profile

### Session 5: Wind & Hydro power analysis

- Characteristics and impact of wind power
- Least squares Monte Carlo for hydro power
- Optimization of multiple hydro power plants

### Session 6: Practical case study - investment analysis

Developing a cash-flow valuation model for a power plant investment



## THE VENUE



A 4-star hotel in the heart of Barcelona. The course is held at the business hotel Tryp Apolo in the very centre of beautiful Barcelona. A perfect option for business travellers who wish to combine work and leisure.

The hotel is situated very close to the old quarter, the Ramblas and the historical centre of the city. It is also only a short distance from the Trade Fair Centre, Congress Centre and the port of Barcelona. The hotel is strategically located for international clients, only 10 km from the airport, with bus stops and a metro station right outside of the hotel entrance.

**Tryp Apolo**  
**Avda. Paralelo, 57-59**  
**08004 – Barcelona**  
**Spain**  
**Tel: (34) 93 343 3000**  
**Fax: (34) 93 4430059**  
**Email: [tryp.apolo@solmelia.com](mailto:tryp.apolo@solmelia.com)**  
**[www.tryp-apolo.com](http://www.tryp-apolo.com)**

## REGISTRATION

**Price : 2 475 €**  
**Register on our web [www.energyforum.com](http://www.energyforum.com)**

**Included in the price are course materials, coffee breaks and lunch as well as a delicious Spanish dinner with informal networking opportunities after the first day.**



**Register early and receive our very best offer!**

We offer you the flexibility to book right up until the day before each event. We can further improve our offer to you if you are able to complete your registration at an earlier time.

For each event, we have a set of offers which change depending on how soon you can make your registration. Of course, our best offers expire early so be sure not to miss out!

Look out for the icons below, in conjunction with the offer timeframe, to be sure that you are getting the very best offer available.

### ULTIMATE OFFER



This is your chance to receive our very best offer. Be sure not to miss this limited opportunity.

### GREAT DEAL



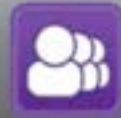
If you want the flexibility to leave your booking a little closer to the event, you can still receive a great deal when you see this icon.

### FLEXIBLE RATE



Our most flexible rate allows you to book right up until the day before the event.

### MULTIPLE DELEGATE



If you choose to register with one or more of your colleagues, you will qualify for a further 10% discount\*. To qualify, all delegates must register at the same time.

### NETWORK DINNER



Join us as a guest at the Network Dinner, a great opportunity to socialise with your fellow industry colleagues.

### BONUS ITEM



When you register for our Ultimate Offer you will receive an additional Bonus Item, as specified on the event listing, to further enhance your event experience.

\*Terms & Conditions apply