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PROJECT FINANCE FINANCIAL MODELLING FOR POWER PROJECTS

23 – 25 OCTOBER 2017, SINGAPORE

Testimonial from PAUL'S other courses

"Excellent presentation and hands on practice for better understanding."
- GENERAL MANAGER, TENAGA NASIONAL BERHAD.

"A very good presentation which it is easy to understand and it can be used right away." - ENGINEER, POWER GENERATION, MOTT MACDONALD.

"I enjoyed all learnings from this training and will really be able to apply it in my work." - AVP CONTROLLER, ABOITIZ POWER GROUP.

"This course has provided an insight on good financial modelling practices, fundamentals, step by step on how to develop the model. A course must be attended by all analysts associates commercial project team members from banks, developers etc." - SENIOR ANALYST, YTL POWER INTERNATIONAL BERHAD

Expert Course Faculty Leader



PAUL OLSON

Associate at
Project Finance Solutions Ltd

PROJECT FINANCE FINANCIAL MODELLING FOR POWER PROJECTS

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About This Training Course

A practical course aimed at enabling participants to deepen their knowledge and understanding of project finance planning and modelling by providing them with the tools and skill sets needed to analyse and assess pertinent issues in the evolving and increasingly competitive energy sector. Building on your existing modelling skills, this course focuses on how to develop and use sophisticated and robust project finance models.

During the course you will build a financial model step by step and then use it to perform sensitivity analysis. The emphasis will be on avoiding common mistakes found in project finance models and how to build a model according to good financial modelling practice.

Learning Outcomes

- How to build a model according to modelling best practice
- Learn how to structure a project finance model
- How to calculate capital expenditure and construction timelines
- Understand the key contracts and structures involved in project financing
- Examine project revenue structures
- Build operational cashflow statements
- Learn how to develop debt tracking accounts
- Discover the key ratios used in project finance and how to calculate them in a financial model
- How to model a range of financing structures, including cash sweeps, refinancing and bullet loans
- Build in sensitivity analysis to your models

Who Should Attend

This 3 day training course is ideal for professionals who want a thorough grounding in project financing modelling. Professionals in corporate planning, economics, investment analyst, corporate/project finance, business development, infrastructure advisory and heads of business units will find this course useful. As such, it represents a perfect learning experience for professionals within Utility Companies (Power, IPP etc), Banks and Finance Companies, Government Ministries and Departments, Oil and Energy Companies, Power Equipment Manufacturers, International Finance institutions, Multilateral and Bilateral Organisations organizations providing services to the energy sector.

You must have a practical familiarity of the following:

- The layout of Excel
- Have the ability to enter data in Excel
- Be able to use basic functions such as SUM, MIN, MAX,AVERAGE
- Have knowledge of the IF function
- Use relative and absolute references

This training course has a limited attendance for up to 15 participants only.

Sessions commence at 9am on all days, with short intervals at 10.30am and 3.30pm respectively.

Refreshments will be provided in the short intervals.

Lunch will be provided at 12:30pm for 1 hour. Sessions will end at 5pm on all days.

3 Day Course Outline

DAY 1

The basics of project finance contractual structures and cashflows.

What are financial models used for in project finance?

- **Introduction to the modelling exercise**
 - Developing a project finance model for an independent power project (IPP)
 - How the exercise applies to other types of project
- **What is involved in building a financial model?**
 - How to approach the problem
 - Gathering the information you will need
 - Understanding the requirements of the model
 - The structure of a model
 - Materiality
- **Good modelling practice**
 - How to structure your models so that they can easily be understood and audited
 - Separating assumptions from calculations
 - Minimum requirements of a banking model
 - Variations between Excel versions
- **Assumptions required for construction phase calculations**
 - Sources of information
 - Project timings
 - Costs and timing of costs

Practical Exercise:

Participants will start to construct their project finance models. They will be taught how to use named ranges and learn how to establish a timeline using date functions. The course director will provide guidance on the use of Excel where necessary and will break to highlight key learning points.

- **Modelling the effects of inflation**
 - The use of real and nominal values
 - How to tackle indexation
 - The importance of timing of the costs
- **Using lookup functions**
 - Introduction to the choice of lookup functions

Practical exercise:

Participants will complete the construction capital expenditure calculations including indexation, the use of counters, using lookup functions and sensitivities under guidance from the course director.

- **Construction phase funding**
 - Modelling interest during construction
 - How to calculate commitment and arrangement fees
 - Building a debt tracking account

- **Circular references**
 - What are they?
 - How do they occur?
 - Why should we avoid them?

Practical exercise:

Participants will develop a construction funding worksheet including idc, commitment fees and a debt tracking account.

- **Modelling project revenues**
 - How are the revenues of project financed projects structured?
 - The reasoning behind tariff structures
 - The differences between capacity, availability and output

DAY 2

- **Project Revenue Structures**
 - Bonus and penalty mechanisms and how to model them
 - Dealing with multiple currency tariffs and multiple indexations
 - Review an example tolling contract
- **Operating revenue assumptions**
 - Source of assumptions
 - Operating revenue sensitivities
 - The effects of over / under performance

Practical exercise:

Participants will develop operational cost calculations including fixed and variable components applying the relevant indexation to each of the cost items.

- **Setting up the operating costs calculations**
 - Source of assumptions
 - Operating cost sensitivities

Practical exercise:

Participants will develop operational cost calculations including fixed and variable components applying the relevant indexation to each of the cost items.

- **Modelling taxation**
 - Modelling different types of depreciation
 - Carrying tax losses

Practical exercise:

Participants will develop tax calculations including depreciation and a tax loss tracking account.

- **Determining the project's debt capacity**

- Sources of funding
- Key terms of senior debt
- Different types of debt including amortising, bullet repayment and cash sweeps

Practical exercise:

Participants will develop funding calculations including base and standby debt tracking accounts and debt service reserve account.

- **The effects of the credit crisis on financial modelling**

- Changes to financing structure
- Modelling refinancing, cash sweeps and bullet loans
- **How to construct a cashflow statement**
- **Key funding ratios**
- Introduction to NPV and IRR
- Calculating cash available for debt service
- Learn how to calculate annual debt service cover ratios and loan life cover ratios

Practical exercise:

Participants will develop a cashflow worksheet including calculation of key funding ratios. They will learn how to calculate the debt capacity based on these funding ratios.

DAY 3

- **Model optimisation**

- Adjusting repayment profiles to maximise debt capacity

- **Techniques for project appraisal**

- Evaluating investor returns
- Using the offset function

- **Use of macros**

- How they are used in project finance deals
- The dangers and precautions that could be taken

- **Income statement**

- Pulling together relevant information to produce an income statement
- Dividends and other points related to equity financing

- **Balance sheet**

- Constructing a balance sheet
- Techniques for balancing
- Using the balance sheet as an internal check on your model

- **Output from financial model**

- Producing reports

Practical exercise:

Participants will develop a summary worksheet presenting key metrics required for financing and project evaluation

- **Modelling in multiple currencies**

- Setting up your model to work with more than one currency
- Use of forward exchange rate curves and purchasing power parity

- **Risk assessment**

- Sensitivity and break-even / default analysis
- Modelling and sizing liquidated damages
- Pre-completion and post completion risks

Practical exercise:

Participants will calculate the required construction liquidated damages using their financial model

- **Examples from real life projects developed by the course director**

Problem solving session:

Participants are invited to ask questions related to using the models they have built in their own workplaces, or ask questions related to models they have inherited.

Your Expert Faculty

Paul Olson

Paul is an experienced financial modeller with broad experience in the related analysis of commercial contracts and structures for major projects. Following an initial career in aerospace market forecasting for Asia he became a business analyst at **Rolls-Royce Power Ventures (RRPV)** responsible for producing financial models and investment analysis for project finance and equity funded power projects.

Paul has **developed and reviewed financial models** for:

- **Gas fired power stations** throughout the world
- Several **wind power** projects in the Europe
- A **coal fired power station** in Africa
- A number of UK PFI health projects
- **Electricity transmission** networks in Eastern Europe
- Desalination projects in the Middle East
- **Combined water and power** projects in the Middle East
- **Gas pipeline** projects
- **Electrical interconnector** projects

He currently works for **Project Financing Solutions**, a boutique project finance advisory firm that advises a number of clients on financing power and infrastructure projects.

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	PER PARTICIPANT	2 PARTICIPANTS OR MORE	IN-HOUSE TRAINING
3 Day Programme	SGD 4,000 Per Participant	SGD 3,500 Per Participant	Guaranteed Minimum 40% Off Normal Price
	*SGD 4,280 Per Participant (GST Inclusive)	*SGD 3,745 Per Participant (GST Inclusive)	

*GST FOR SINGAPORE REGISTERED COMPANIES ONLY

ATTENDEE DETAILS

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

Name Job title

Tel Department Email

COMPANY DETAILS

Organisation name Industry.....

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Postcode..... Country.....

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PAYMENT METHODS

By Cheque/ Bank Draft: Make Payable to PowerEdge Pte Ltd.

By Telegraphic Transfer: Please quote AE1 with the remittance advise

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Bank Address: 65 Chulia Street OCBC Centre, Singapore 049513

All bank charges and payment in Singapore dollars (SGD) to be borne by payer. Please ensure that PowerEdge Pte Ltd receive the full invoiced amount.

PAYMENT POLICY

Payment is due in full at the time of registration. Full payment is mandatory for event attendance. I agree to PowerEdge Pte Ltd. payment terms

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- Electrical Generators & Excitation Systems

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Simply let us know your preferred time and dates and we will meet you at your schedule and venue.

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