

A 2-day intensive course on

# Techno-Financial Modelling For PROJECT FEASIBILITY STUDIES

5 - 6 December 2007 
Nikko Hotel, Kuala Lumpur

USING ENGINEERING FINANCE METHODOLOGY & HANDS-ON FINANCIAL MODELLING TECHNIQUES TO DETERMINE THE PROJECT VIABILITY WITH FOCUS ON <u>FINANCIAL VIABILITY</u> & DELIVERING COST-EFFECTIVE ENGINEERING PROJECT DESIGN

Led by Dr. Ir. Maulud Hj. Latif EngD. Engineering Finance (Britain), MBA Finance (Aust), B. Sc. (Hons) Mining Eng (Britain), Dip Mechanical Eng (UTM). P. Eng., MIEM, MIME, DMCC.





"To face up to the challenges of the globalised world, future CEOs must have a thorough understanding of Engineering Finance, to get the most 'cost-efficient' project design and thus obtain the 'optimum' possible yield for the project" Quote by : Dr Ir Maulud Hj. Latif – Engineering Doctorate Thesis, UTM/Warwick 2005.

## **COURSE OBJECTIVES**

Engineering Finance can be described as the 'bridge' that bridges the gap between "engineering" and "finance"; a branch of engineering adopting financial modeling techniques to deliver a project design/plan that is cost-effective and financially viable.

The aim of this 2-day intermediate level course is, therefore, to inculcate participants with practical tools & techniques, competencies to construct the Techno-Financial Model or TFM to be used in their own areas of project planning, implementation responsibilities, control of cost (construction budget) and operation and management (post construction).

The Techno-Financial Model which amalgamate the "Financial" and "Technical", or non-financial critical parameters such as marketing and legal, enables an integrated and seamless computation of the Project IRR, Equity IRR, payback period and Net Present Value (NPV). This Engineering Finance methodology could also be used to evaluate the impact of "Technology" and "Product" changes on the IRR, i.e. financial viability. It can also be used to identify the project's Critical Factor of Success (CFS).

Participants will be presented with various Techno-Financial Models ranging from a simple Airport Limousine service to a more complex Bio-diesel Plant. This financial modelling methodologies is applicable in all aspect for project developers let it be property (hotel, commercial development or residential), power plant, coal mining or palm oil mills. These examples are based actual projects conducted regionally in Malaysia, Indonesia and India.

### **EXTENSIVE CASE STUDIES**

Throughout the 2 days the course will include many case studies including Property Development Models (phased development and leased property), Biomass Power Plant, Biodiesel Plant etc...

Syndicated exercise in model construction will enable participants from various backgrounds to learn from one another...engineers learn from accountants and marketing etc.....

Model building include KLIA Taxi Limo Service... a comparison of yield computation to determine which make of limo namely Mercedes Benz or Proton V6 will give a better yield to the investment.

TIMECOURSE CONTENTDAY 1		
9.00Module 1 INTRODUCTION TO ENGINEERING FINANCE9.00Module 2 FINANCIAL RATIOS RE-VISITED1.00Lunch & Zohor2.00COMPUTATION OF IRR, PAYBACK PERIOD ETC Module 3 CORPORATE STRUCTURES IN PROJECT IMPLEMENTATION5.00End of Day 1DAY 2 9.009.00Module 5 PROJECT FINANCIAL MODEL (TFM)1.00Lunch & Zohor2.00Module 6 TECHNO-FINANCIAL MODEL (TFM)1.00Lunch & Zohor2.00Module 7 CLASS PROJECT EXERCISEModule 8 GROUP DISCUSSION AND CONCLUSIONS	TIME	COURSE CONTENT
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## **LEARNING GAIN**

Understand definition & terminology used in engineering finance. Understand the concept engineering finance as a 'bridge' to develop a proper mindset for creating financial models

To ensure participants have thorough understanding of those key financial ratios used to assess project viability

#### (please bring your own notebook)

Understand the importance of corporate organization in structuring the financial model.

Participants will learn to make more realistic assumptions and include all critical components that impinge on the project financial success

Understand the role of project managers/directors from the business development stage to project implementation and to operational management

Know the types of project funding available, their difficulties and obligations and how to calculate project interest costs

Learn how to conduct a full feasibility study using TFM as the driver in determining the financial viability of a project based on financial modeling.

A case study will be used to enable participants to follow through the logic sequence until construction of the project.

Participants undertake a hands-on project evaluation to understand the complexities and arrive at investment decision-making

Run through some TFM cases eg Biomass Power plant, Biodiesel and property projects

To assess how much the participants understood the concepts and applications of TFM in investment projects

## **LEARNING GAINS:**

At the end of this course, participants will be able to:

- Construct simple Techno-Financial Models<sup>©</sup> "TFM" to determine the financial viability of a project prior to launch
- 2. Use TFM as an 'enabler' to evaluate the project direction
- 3. Identify the critical success factors (CSF) that undermines the financial viability of the project
- 4. Determine the risks in project implementation (risk management)
- 5. Know how to 'justify' their investment requests during negotiations CapEx, tariff etc.
- 6. Use TFM to monitor project implementation and take corrective action (construction management)
- Use TFM as the basis for the project operating budget and reporting and ensuring performance is as budgeted. (during Operation & Management)
- Take away not just know-how but practical spreadsheet tools to conduct similar evaluations back in their organizations.

#### **METHODOLOGY**

The contents have been designed on a mix of classroom financial know-how and application of learning gains to real case studies by the participants as individual exercises and team assignments during the workshop sessions.

## WHO SHOULD ATTEND

Engineers, Project Managers/Leaders or Directors, Decision-Makers, Corporate Planners, Financial Planners, Project Accountants, Finance Managers, Manufacturing Heads/Managers, Business Heads involved with decision-making for investment projects and any one who wants a good grasp on engineering finance/financial modeling.

Participants would take away not just know-how but practical spreadsheet tools to conduct similar evaluations back in their organizations

Program topics, speakers and schedules published herein are confirmed as at printing time. Please refer to the event's timetable page at www.cmtevents.com for the most up-to-date information.

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	cc	completion of each course. This serves as evidence of your personal and professional commitment to you career. COURSE TIMING Registration: 8.30 am, Course Begins: 9.00 am, Morning Coffee: 10.30 am,Lunch & Zohor: 12.30 pm to 2.00 pm, Tea Break: 3:30 pm, Course Ends: 5.30 pm			HQ in Singap market lead provide infor annual 60 ev	pore. CMT's dec ers to analyze mation support vents encircle th	a global conferen dicated team works the latest industry ing your decision e globe from Asia (Russia and Latin)

#### LEARN FROM THE BEST

#### **DR Ir MAULUD HJ LATIF**

EngD. Engineering Finance (Britain), MBA Finance (Aust), B. Sc. (Hons) Mining Eng (Britain), Dip Mechanical Eng (UTM). P. Eng., MIEM, MIME, DMCC.

Dr. Ir. Maulud Hj Latif obtained his Doctor of Engineering degree (EngD) in Engineering Finance at the UTM/University of Warwick . He was the creator of the Techno-Financial Model©, the basic tool of Engineering Finance, that enables the determination of the long-term financial viability of engineering projects. Dr. Ir. Maulud also holds an MBA Finance from the University of Queensland Business School, a B.Sc. (Hons) Mining Engineering from the University of Wales

He started his career as a dredge master of Malaysia Mining Corporation's dredges in the Kinta Valley of Malaysia. He had extensive experience in project feasibility studies (technical, marketing and finance). He was Deputy Manager of the Sg. Besi Mines Berhad, the deepest open cast metal mine in the world.

In the period between 1984 and 1992, Dr. Ir. Maulud worked with various reputable organizations including Permodalan Nasional Berhad, a foreign bank and the Ministry of Finance, Malaysia (UPSAK, predecessor of Khazanah Nasional ). He has acquired vast corporate experience not only in project financing but also corporate restructuring and turnaround. He was also involved in privatization projects.

Since 1992 Dr. Ir. Maulud was actively involved in project feasibility studies on various sectors like power generation, renewable fuels, mining, property development and oil & gas projects in Indonesia, India and Malaysia.

Dr. Ir. Maulud was involved in both Technical and Financial engineering of projects from inception to operation, and is responsible for the packaging of projects with investors, equipment suppliers, EPCC contractors as well as financial and legal advisors. He is also responsible for liaising with government officials and agencies to ensure project takes off successfully within the budget and time schedule.

His current consultancy work, inter alia, include re-engineering of a coal mining company in Indonesia for acquisition by an Australian PLC, review of privatisation proposal for distribution of drugs by a pharmaceutical company and training of project managers for a Telecommunication company.

Dr. Ir. Maulud advocates a new subject for the engineering fraternity called "Engineering Finance" which uses financial and engineering technologies in producing a cost efficient engineering design. The super-ordinate objectives of this Engineering Finance Methodology were to create the next generation of "Globalised Engineers" rather than merely Professional Engineers.