This course provides hands-on instruction for building, developing and applying spreadsheet economics, risk, finance and decision evaluation models to a range of projects from the oil, natural gas and power supply chains. The course is built around a series of workbook modules compatible with Excel 2010, 2007 and 2003 versions.

Delegates are required to bring their own laptop computers loaded with a functioning version of Excel (i.e. 2003, 2007 or 2010 version) for use during the course. Delegates are provided with a number of spreadsheet workbooks to load and then evaluate with structured exercises. Some basic knowledge of operating Excel software is required, but detailed computer modelling expertise is not essential. The emphasis is on fit-for-purpose gas industry model applications rather than developing spreadsheet skills, but both should be part of the learning outcomes.

The course is broken down into approximately one-quarter theoretical instruction and three-quarters practical hands-on facilitated spreadsheet model evaluation. Brief PowerPoint presentations are delivered to review the industry topics covered and these will lead swiftly into the practical sessions. The economic analysis theory sections also aim to provide insight to the key economic issues impacting the supply chains covered.

Many companies make extensive use of proprietary economic modelling software, often requiring macros to be built to evaluate case-specific problems. In such cases, even though spreadsheets may not be used routinely, it is of enormous benefit for analysts and decision-makers to understand how such models can be built, developed and manipulated on a spreadsheet platform. Spreadsheets in conjunction with built-in functions, add-ins and VBA macros provide an extremely powerful platform for such analysis. The course’s practical sessions will demonstrate how such features can be simply and effectively harnessed to build quite sophisticated, but highly functional, analytical models.

Digital copies of all training materials will be provided to delegates.

Who Should Attend this Course?
Commercial, technical and financial analysts, economists, planners and decision makers, plus others working in the oil, gas and power industry wishing to develop practical economic analytical skills using spreadsheets to evaluate natural gas projects.

Detailed Content Covered by Course

**Day One – Oil and Gas Project Analysis**
- Overview of Cash Flow Analysis and Discounting Techniques
- Cash Flow Model For Oil and Gas Exploration, Development and Production
- Fiscal Models for Tax and Royalty and Production Sharing Terms
- Excel’s VLOOKUP Function Aids Models with Sliding Scales
- Excel’s Pivot Table Functions Aids Models with Midstream Infrastructure
- Levelized and Rolled-in Tariffs

**Day Two – Pricing Issues and Sensitivity and Scenario Analysis**
- Inflation, Money of the Day versus Real Terms
- Selecting Alternative Multi-year Pricing Profiles
- Excel’s Spinners and Choose Function
- Netback Pricing Models
- Establishing Break-even Prices
- Using Excel’s Solver and Goal Seek Functions

**Day Three – Decision Trees and Simulation**
- Building Oil and Gas Production Profiles Using Decline Equations
- Building Cost Escalation Using growth Equations
- Decision Trees and their Application
- Dynamic Graphics with Updating Labels Driven by Spinners
- Monte Carlo Simulation Method and input Distributions
- Demonstrations with Excel Add-in Crystal Ball
- Statistical Analysis of Simulation Outputs
- Refinery Economics: Gross Product Worth (GPW) and Margin Analysis

**Day Four – Power Generation, Debt Finance and Hedging**
- Cash flow Model for Combined Cycle Gas Turbines (CCGT)
- Cash flow Model for Coal-fired Power Plant
- Carbon Capture and Sequestration (CCS) Models
- Cash flow Model for Full-cycle Nuclear Power Plant
- Cash flow Model for Offshore Wind Farm
- Debt Financing Upstream Oil and Gas Projects
- Evaluating Hedging Alternatives
- Profit and Loss Model for Futures Swaps and Options

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For more information please contact Nick Wilkinson
T: +44 (0)20 7467 7100
E: nnwilkinson@energyinst.org
W: www.energyinst.org
EI Oil and Gas Training

Registration form

To register, by post or fax, please complete this registration form in BLOCK CAPITALS and return it to the address below, together with payment of all fees. Nick Wilkinson, EI Oil and Gas Training, Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK.

Date: __________________________

For more information please contact Nick Wilkinson
Phone: +44 (0)20 7255 1472
Email: nwilkinson@energyinst.org

The Energy Institute is accredited by the British Accreditation Council for Independent Further and Higher Education

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I enclose my remittance, made payable to the Energy Institute, for: £________________________

Entrance fees are payable on receipt of this form. Payment of all fees is required before arrival at the course.

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Signature: __________________________ Date: __________________________

Please indicate if you have any particular dietary requirements: ________________________________________________________________

☐ I confirm that I have read and agree to the conditions of registration as specified in the General Information section.

Language and course materials: All presentations, course materials and supporting documentation will be presented in English. Audio-visual recording of presentations is strictly forbidden. Course materials cannot be purchased by non-attendees.

Cancellation: In the event of a delegate cancelling, a refund of the registration fee less a 20% administration charge will be made provided that notice is received in writing at least 28 days before the date of the course. No refunds will be paid after that date. However, course papers, as supplied to attendees, will be provided after the event.

Substitution: If you are unable to attend, a substitute delegate may attend in your place, provided that EI Oil and Gas Training is notified in advance.

Enquiries
EI Oil and Gas Training, Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK.
Phone: +44 (0)20 7467 7100 F: +44 (0)20 7255 1472
Email: nwilkinson@energyinst.org

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The EI will hold your personal data on its computer database. This information may be accessed, retrieved and used by the EI and its associates for normal administrative purposes. If you are based outside the European Economic Area (the “EEA”), information about you may be transferred outside the EEA. The EI may also periodically send you information on membership, training courses, events, conferences and publications in which you may be interested. If you do not wish to receive such information, please tick this box ☐

The EI would also like to share your personal information with carefully selected third parties in order to provide you with information on other events and benefits that may be of interest to you. Your data may be managed by a third party in the capacity of a list processor only and the data owner will at all times be the EI. If you are happy for your details to be used in this way, please tick this box ☐

UK Entry Visas: Please note that there have been recent changes to the UK Entry Visa application system. Given this, it now takes a minimum of 15 working days/3 weeks, to process any applications. If you wish to attend a course and need a visa, you are urged to apply at least 1 calendar month prior to the start date of the course.

For full information at: www.ukvisas.gov.uk/en/howtoapply/wheretoapply/

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