ibc Global Academy

Apply by
22nd July 2011
for an **early**
enrolment
discount

Commences:
3rd October 2011

FUNDAMENTALS OF
LNG

Operational and commercial elements of the liquefied natural gas value chain

DELIVERED BY DISTANCE LEARNING OVER 12 WEEKS

Course Programme

1 Introducing LNG: Background, Properties, Production and Use
2 The LNG Value Chain (1): Production to Shipping
3 The LNG Value Chain (2): Regasification to the End-User
4 LNG Markets, Supply and Demand
5 LNG Pricing and Trading
6 LNG Projects, Contracts and Future Trends

COURSE DIRECTOR:
Bill Sooby BA, MBA, CEng
Consultant
LNG2020 Ltd

"A very enriching and informative course. I would recommend it to anyone looking to enhance their knowledge in this field"
(Gbenga J Oroge, MD/CEO, Omnibus Integrated Resources Ltd)

IDEAL FOR:

- **Energy** and **maritime personnel** needing a wider understanding
- **Professionals** and **analysts** in supporting or aligned sectors
- **Oil and gas industry managers** seeing an LNG focus
- **Ships' officers, vessel managers** and **port operators**
- **Employees** moving into a new area of specialisation
- **Experts** joining or working temporarily on an LNG project

CPD 21 hours

CEUs 2.1

Enquiries tel: +44 (0)20 7017 7636
+1 (646) 957 8929
Visit: www.ibcglobalacademy.com/lng

Dear Colleague,

Liquefied Natural Gas (LNG) is one of the **fastest-growing energy markets in the world**. The LNG value chain links production fields to markets over vast distances to deliver cleaner-burning natural gas around the globe.

The LNG industry is complex and capital intensive. It is a **specialised field** which **demands a good understanding** of its unique challenges and opportunities. There are also some dark clouds on the horizon which may act to reduce the expected growth rates; a clear understanding of these influences is needed by all in the industry.

This training course has been carefully designed to **demystify every aspect of the LNG industry**, from the upstream through the value chain to the end-users, including pricing and trading. It will analyse the ever-changing LNG markets and explain the distinctive models used in LNG projects and contracts.

Whether you need an **operational or commercial grounding**, or simply a **comprehensive overview** of all the key issues, the Fundamentals of LNG will be indispensible to your engagement with this vital sector.

Studying the LNG industry by distance learning gives you the **freedom to learn while you work**. There's no need to travel to attend seminars. All materials are delivered to you online, and you have full access to expert tutorial support and peer networking via an online forum.

This **clear and complete explanation** of a complex energy sector will give you the knowledge you need to work in or alongside the LNG industry, delivering a critical link in the global energy demands of the future.

I look forward to welcoming you on to the course.

Bill Sooby

Bill Sooby BA, MBA, CEng
Course Director

HOW DOES THE COURSE WORK?

The course starts on Monday 3rd October 2011 which is the first day that course access will be available.

Modules are released one every two weeks over the 12-week duration of the course.

Each student receives their own username and password to access our secure site and materials can be accessed from wherever they have an internet connection. The modules can be downloaded as PDF files and they can save them to their computer as well as print them out if they want to study whilst they are on the move.

Once a student has completed the study of each module in a two week period, they then sit an online test in order to check their understanding. All tests must be passed by the end of the course. Those who successfully complete all six tests will be awarded a certificate of completion from IBC Global Academy for CPD purposes.

ADVANTAGES OF DISTANCE LEARNING

Increasingly, we all face more pressures in our business lives. Finding time to attend courses of any kind can be very difficult and well meant plans are often put aside indefinitely.

Distance learning can be the solution to your training needs. You can enjoy the full benefits of studying, whilst still in employment using this freedom and flexibility to study around your other commitments.

DELIVERED BY

ibc Global Academy

IBC Global Academy delivers high quality training to the ports, logistics, energy, environment and safety industries, assisting individuals and organisations to achieve goals by developing skills, knowledge and performance. We address the growing need for professional training in specific industry areas by providing open and in-house learning and training solutions, delivered by leading industry experts. **www.ibcglobalacademy.com**

COURSE DIRECTOR

Bill Sooby BA, MBA, CEng
Consultant, LNG2020 Ltd

Bill Sooby has a degree in Physics and an MBA. He worked in the UK power generation industry during the 1980s. Subsequently, he worked at Shell for 17 years in their LPG, aviation, and gas and power divisions. From 1997 to 2007 he was the LNG supply manager for Shell's European gas and power businesses. Since then he has been working as an independent consultant to the LNG industry, as well as bringing his training expertise to IBC Global Academy.

He has experience of structuring and completing large complex commercial deals in the gas and LNG business involving foreign governments and joint venture partners. He established a portfolio of LNG supply contracts for Southern Europe and in completing the gas supply chain to downstream wholesalers. This included negotiations with LNG suppliers in Oman, Nigeria and Qatar and with large end-users of gas in Southern Europe (e.g. power plants) for the supply of gas sourced from LNG.

He held responsibility for promoting innovative commercial structures to support gas supply and business development with potential Independent Power Producers. He was also a member of the team which closed a power tolling agreement for a 750MW gas-fired power plant in Spain.

Since leaving Shell in Autumn 2007 Bill has consulted on LNG business covering issues including:

- The availability and potential sources of short term and spot LNG volumes.
- LNG and gas pricing in the various markets of the Atlantic Basin.
- Developing a model of the global LNG supply/demand balance in the period 2008 to 2020 with particular emphasis on volumes which can be diverted between regional markets.
- The relative attractiveness to suppliers of potential new LNG terminals in Europe.
- The impact of gas prices on the cost of power generation and the competitiveness of various generation technologies.
- The value of potential LNG arbitrage opportunities, the potential barriers to achieving such movements of gas and ways of overcoming them.

He has also developed and delivered a number of training modules including:

- All aspects of the LNG business from upstream of the liquefaction plant to the end-user.
- A commercial overview of an LNG Sales and Purchase Agreement.
- An introduction to the economic modelling of major gas projects.

COMPANIES THAT HAVE ALREADY BENEFITED FROM IBC GLOBAL ACADEMY'S ENERGY TRAINING PROGRAMMES INCLUDE:

A. P. Moller Maersk • Acergy Services Ltd • Addax Petroleum Services • Aegean Energy SA • Agency Ltd • Alldeco S R O • AMEC Business Consulting • Ariel Reinsurance • Bagerngas Norge A/S • Bank PHB Plc • Barbados National Oil Company Ltd • BG Group • BOC Gases • Boskalis Offshore • BP • British Pipeline • CB&I • Chevron Texaco • Daewoo Nigeria Ltd • E.ON Ruhrgas • Enereco • ESSO Exploration Angola Ltd • Fugro Ltd • Gaslink Nigeria Ltd • Gasunie • Germanischer Oil & Gas • Helix Energy Solutions BV • Industry Canada • JOGMEC • JP Morgan Chase • Lion Petroleum Pty Ltd • Lloyds Banking Group • Maersk Oil • Ministry of Energy and Mineral Development, Uganda • MR Offshore Navigation • National Grid Plc • Oil Spill Response Ltd • Omnibus Integrated Resources Ltd • Oryx Oil Company Ltd • Petrasco • Petro Mekong Corporation • Petron Corporation • Phoenixtide Offshore Nigeria Ltd • Pipeline Integrity Engineers • Principia • Qatar Gas • Qatar General Petroleum Corporation • Ruiise Underwater Engineering • Saith Ltd • Saudi Arabian Texaco Inc • Sevan Marine • Shell Petroleum • Songa Offshore SE • SPT Group • Statoil Asa • Subsea 7 • Suez-Tractebel • TD Williamson Offshore Services AS • Thomson Reuters Point Carbon • Total E&P Nigeria • Tullow Uganda Operations Pty Ltd • Validus Reinsurance Ltd •

COURSE SYLLABUS

Module One

Introducing LNG: Background, Properties, Production and Use

- What is LNG and how does it fit in to the global natural gas industry?
  - Reserves
  - Extraction and production
  - International transportation of gas and LNG
- Background to the LNG industry
  - History
  - Key players
  - Key differences between natural gas/LNG and oil
- Properties of LNG
  - Natural gas and LNG: definitions and composition
- Production and processing of LNG
- Main uses of natural gas and LNG
- Conversions: LNG and natural gas; natural gas/LNG and other energy sources

Module Two

The LNG Value Chain (1): Production to Shipping

- Introducing the value chain
  - Economics of the LNG value chain
    - Cost issues
    - Production of Natural Gas Liquids and Liquid Petroleum Gases
- Exploration, production and transportation of gas to the liquefaction plant
- Liquefaction
  - The liquefaction "train"
  - Economies of scale
  - Liquefaction plant operations
- Shipping
  - Introduction to LNG shipping
  - The LNG fleet
    - Drivers of growth
    - Key players
  - LNG ship finance
  - Freight calculations
- Safety and environmental issues

Module Three

The LNG Value Chain (2): Regasification to the End-User

- Regasification
  - Elements of a regasification terminal
  - Optimising regasification terminal design and operations
  - Land based and floating terminals
  - Safety, environmental and permitting issues
- Transportation from regasification terminal to end users
  - Pipelines
  - LNG in different types of markets
    - LNG as the only form of gas supply
    - LNG as a small element of a predominately pipeline-supplied market
    - LNG and pipeline supply as approximately equal suppliers
  - LNG in liberalised gas markets and Third Party Access issues
- End-user issues
  - Combined Cycle Gas Turbine (CCGT) power plants
  - Industrial users
  - Domestic and commercial users
  - Sales contracts to end-users and the ability to align these with LNG contracts
    - LNG as a "floating pipeline"
    - Differing legal systems
- LNG value chain: conclusion

Module Four

LNG Markets, Supply and Demand

- LNG in the context of global demand for energy
- The global supply of LNG and its principal outlets
- Geographical overview of markets
  - Main suppliers
  - Main buyers
  - Changing patterns and emerging markets
  - New markets and new trade routes
- Supply security issues
  - Gas and LNG in a carbon constrained world
  - Diversity of supply and flexibility of destination
  - Producers' dilemma: exports vs. domestic demands

Module Five

LNG Pricing and Trading

- Principles of gas and LNG pricing
  - Pricing regimes in the various global markets
  - Cost components
  - Gas price indexation
  - Pipeline gas vs. LNG prices
- Long term vs. spot prices
- LNG and gas trade
  - How LNG and pipeline gas compete
  - How LNG can complement pipeline gas
- Trade barriers
- Differences between long term and short term trading
  - Emerging LNG spot trade
- The evolving dynamics of LNG trading
- Short term LNG contracts and Master Sales Agreements
- Global trade practices
- Risk management
- Payment security and guarantees

Module Six

LNG Projects, Contracts and Future Trends

- LNG Projects
  - The Joint Venture Model
  - Financing LNG projects
  - Project decisions
  - Developments of the Joint Venture Model
    - Other project models (e.g. tolling)
- The role of governments in LNG projects
- LNG business models
- LNG contracts (Sales and Purchase Agreements)
  - Main features of an LNG contract
  - Long term vs. short term
- Free On Board (FOB) vs. ex-ship contracts
- The process of getting to a final agreement
  - Term sheet
  - Heads of Agreement/Memorandum of Understanding
  - Full agreement
  - Negotiating process and time required
- LNG outlook and future trends
  - Opportunities for the industry
  - Potential threats

TERMS AND CONDITIONS

1. APPLICATIONS To apply for a place on the Course (as defined below) either complete the relevant application form ("Application Form") or apply online. Your application is an offer to IBC Global Academy (a trading division of IIR Limited) ("IBCGA") to study on the course as set out in the Application Form ("the Course") which is subject to IBCGA's (and any associated academic partner's) acceptance. A binding contract between IBCGA and you will only be formed when written confirmation of acceptance (which may be sent by email) is sent by IBCGA to you.

2. PAYMENT You must pay to IBCGA the fees set out in the Application Form. Payment of any invoice must be received by IBCGA, in full and in cleared funds, by the due date set out on the invoice or at least seven days before the start of the Course, whichever is sooner. Please note that non-payment of fees will result in the withholding of any Course materials due to be provided as part of the Course ("the Course Materials") and IBCGA may charge you interest on any overdue fees at the rate of 2% per annum above National Westminster Bank Plc's base lending rate from time to time. You may pay by (i) Visa, MasterCard, Diners Club or American Express; (ii) a cheque made payable to IIR Ltd; or (iii) bank transfer. On booking, if paying by cheque or bank transfer, your credit card details will be required to confirm your application. No charge will be taken at this point, but if you fail to pay any invoice in full and on time, we will charge the card for any outstanding sums.

3. TAXES The fees stated are exclusive of any applicable VAT, sales, service or similar taxes (which will be charged, where applicable, at the appropriate rate as at the date of invoice). Where payment is subject to a withholding tax the student will apply the reduced rate under the appropriate double tax treaty, if applicable, and agree to provide IBCGA with a certificate of tax deduction within three months of payment. If a certificate of tax deduction is not provided within three months, you will become immediately liable to pay the outstanding amount.

4. PARTICIPANT CANCELLATION POLICY You may cancel your place on the Course by giving notice in writing to the Course Administrator up to (and including) 7 days from the date IBCGA confirms your acceptance to the Course in accordance with Condition 1 and you will not be liable for the payment of any fees and any fees already paid to IBCGA for the Course will be refunded. If IBCGA receives your notice of cancellation 8 days or more from the date IBCGA has confirmed your acceptance to the Course you will still receive a refund of your fees already paid to IBCGA, subject to payment by you to IBCGA of a £175 cancellation fee to cover administrative costs (which shall be payable immediately upon your cancellation), provided such notice of cancellation is received by IBCGA before the first day of the Course. IBCGA regrets that no refunds can be given for any cancellation notice it receives on or after the first day of the Course and, in such circumstances, the full fees remain payable by you to IBCGA.

5. COURSE CANCELLATION, RE-SCHEDULING AND ALTERATIONS IBCGA reserves the right to cancel or change the dates of the Course. IBCGA may offer you the option of participating in any re-arranged comparable Course that IBCGA chooses (in its sole discretion) to organise. If you choose not to participate in any re-arranged Course or if IBCGA does not organise such a Course then you will (as your sole remedy) be entitled to receive either a credit note or a refund in respect of the fees received from you by IBCGA. IBCGA reserves the right to make non-material alterations and/or amendments to the Course as in its reasonable opinion it considers to be in the best interest of the Course (including, without limitation, any non-material alteration to the Course or the scope of the Course) without liability.

6. INTELLECTUAL PROPERTY IBCGA owns or is licensed all intellectual property rights in the Course and Course Materials. You acknowledge and agree that any Course Materials which are provided to you may only be used solely for your own private, non-commercial use. You may not reproduce, transmit, distribute, resell, sub-license, rent, lease, transfer or attempt to assign the rights in or commercially exploit or use the Course Materials, alter or create derivative works from the Course Materials or otherwise use or exploit the Course Materials other than as expressly permitted in this Condition 6.

7. ENTIRE AGREEMENT You and IBCGA ("the Parties") acknowledge that these terms and conditions, together with your application form, constitute the entire agreement between the Parties "Agreement") in relation to the Course and that neither Party relies upon any oral or written representation made to it by the other Party. No variation of this Agreement shall be effective unless made in writing signed by or on behalf of each of the Parties to this Agreement.

8. GOVERNING LAW AND JURISDICTION This Agreement will be governed by the laws of the England and disputes under or in connection with them shall be subject to the non-exclusive jurisdiction of the English courts.

9. LIMITATION OF LIABILITY IBCGA's liability for losses you suffer as a result of IBCGA breaching this Agreement or otherwise in connection with the Course is limited to those losses that are a foreseeable consequence of IBCGA breaching this Agreement. Losses are foreseeable where they could be contemplated by you and IBCGA at the time IBCGA accept you onto the Course. To the extent that IBCGA is liable for such losses, IBCGA's total liability will only extend to the fees paid by you to IBCGA under the Agreement. In addition, IBCGA shall not be responsible for any indirect losses which happen as a side effect of the main loss or damage and which are not foreseeable by IBCGA. For the avoidance of doubt, nothing in this section 9 shall seek to limit or exclude IBCGA's liability for: (i) death or personal injury resulting from negligence or (ii) fraud or fraudulent misrepresentation; (iii) any breach of IBCGA's obligations implied by section 12 of the Sale of Goods Act 1979 or section 2 of the Supply of Services and Services Act 1982; (iv) any losses for which it is prohibited by section 7 of the Consumer Protection Act 1987 to limit liability; or (v) any other matter for which it would be illegal or unlawful for IBCGA to exclude or attempt to exclude its liability.

10. SEVERANCE If any provision of this Agreement (or any part of any provision) is found by a court or other authority of competent jurisdiction to be invalid, illegal or unenforceable, that provision or part-provision shall, to the extent required, be deemed not to form part of this Agreement and the validity and enforceability of the other provisions of this Agreement shall not be affected.

11. WAIVER No failure by either Party in exercising any right, power or remedy shall operate as a waiver of the same.

12. FORCE MAJEURE IBCGA shall not be deemed to be in breach of this Agreement or otherwise be liable to you as a result of any delay or failure to perform its obligations if and to the extent that such delay or failure is caused by a force majeure event (this means any event arising that is beyond the reasonable control of IBCGA, including but not limited to, any industrial dispute, health scares or epidemics, tutor, consultant or participant cancellation or withdrawal, venue damage or cancellation, governmental regulations or action, fire, flood, disaster, civil riot, acts of terrorism or war). If the period of delay or non-performance continues for 3 months, either party may terminate this Agreement by giving 14 days' written notice to the other party and any fees already paid to IBCGA for the Course will be refunded.

13. DATA PROTECTION AND CALL MONITORING Personal data supplied is subject to the Data Protection Act 1998. The personal information shown on the application form, and/or provided by you, will be held on a database and may be shared with companies in the Informa Group in the UK and internationally. This information may be used for direct marketing purposes. If you do not wish your details to be available to companies in the Informa Group, please contact the Database Manager, tel: +44 (0)20 7017 7077, fax: +44 (0)20 7017 7828, email: integrity@iirltd.co.uk. Occasionally your details may be obtained from, or made available to, carefully selected external companies for marketing purposes. If you do not wish to receive details about their products and services, please contact the Database Manager. Registered in England No.1835199. VAT registration number GB 365 4626 36. IIR Ltd. Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK. Telephone calls to IIR Ltd may be recorded or monitored to check the quality of the service provided.

FUNDAMENTALS OF LNG

DELIVERED BY DISTANCE LEARNING OVER 12 WEEKS

Commences 3rd October 2011

IBCGA/SW/KAR/HM/TR/TR

VIP CODE:

FLR2224EMAG

Course Code
FLR2224

Demystify the LNG industry with this online distance learning course

5 EASY WAYS TO REGISTER

Online: www.ibcglobalacademy.com/lng
Email: helen.murray@informa.com
Tel: +44 (0)20 7017 4763
Fax: +44 (0)20 7017 7861
Mail: ATTN: Helen Murray
IBC Global Academy
6th Floor, 29 Bressenden Place
London
SW1E 5DR

Are we mailing you correctly?
To update your contact details on our database please visit **www.updates.informa.com**

STEP 1: WORK OUT THE PRICE – Please tick option

Fundamentals of LNG	Book on or before 22nd July 2011	Book after 22nd July 2011
UK Individual or UK Company	☐ £1249 + VAT @ 20% (£249.80) = £1498.80	☐ £1399 + VAT @ 20% (£279.80) = £1678.80
EU Individual or EU non-VAT Registered Company	☐ £1249 + VAT @ 20% (£249.80) = £1498.80	☐ £1399 + VAT @ 20% (£279.80) = £1678.80
EU VAT Registered Company (VAT number must be quoted in Step 2 below to qualify)	☐ £1249 (No VAT to pay)	☐ £1399 (No VAT to pay)
Individual or Company outside the EU	☐ £1249 (No VAT to pay) OR ☐ US $2035 (No VAT to pay)	☐ £1399 (No VAT to pay) OR ☐ US $2280 (No VAT to pay)

Note: Participants will be billed in either GBP or USD depending on the price option selected. The GBP invoice will include a EUR price calculated using the exchange rate in force on invoicing.

STEP 2: PARTICIPANT DETAILS – Please photocopy form for multiple bookings

1. Participant (Mr/Mrs/Ms/Miss/Dr/Capt) Family name ______ First name ______

Job title ______ Company ______

Address ______

______

City ______ Postcode/Zip code ______

Country ______ Mobile ______

Direct telephone ______ Fax ______

Preferred email ______ **VAT number** ______

2. Who is your Training Manager? (Mr/Ms) Family name ______ First name ______

Job title ______ Direct telephone ______

Email ______

3. Who is your Approving Manager? (Mr/Ms) Family name ______ First name ______

Job title ______ Direct telephone ______

Email ______

4. How did you hear about the course? ______

STEP 3: PAYMENT DETAILS – You will be charged in GBP or US$ as selected in Step 1. The GBP invoice will include a EUR price calculated using the exchange rate at time of invoicing.

1) I wish to pay by:

☐ **Credit Card**
Please charge the credit card below

☐ **Bank Transfer** ☐ **Cheque**
A credit card guarantee is required. Please complete the card details below. The details will be securely stored and no charge will be taken at this point. An invoice for payment will be provided. If the invoice is not paid by the due date, we reserve the right to charge the card for any outstanding sums. We will advise you (using your email address provided) in advance of charging the card.

Card Type: VISA ☐ MasterCard ☐ Diners ☐ American Express ☐ Please charge my credit card in: ☐GBP ☐USD ☐EUR (CVV: last 3 digits on signature strip on back of credit cards. Amex: 4 digit number on the front of the card)

Card no. ______ Expiry date _ _ / _ _ CVV Number ______ Signature ______

Cardholder's name ______ Contact tel no ______

Card billing address ______

______

2) Cheques should be made payable to IIR Ltd and please write your name and the reference FLR2224 on the back. Bank transfer details will be provided on the emailed invoice.

• I have read the Terms & Conditions as outlined on the course brochure and agree to adhere to them.

Signature ______ Date _ _ / _ _ / _ _