

# Fundamentals of petroleum refining processes

4-7 May 2010, London, UK

El member £2,585.00 inc VAT Non-member £2,820.00 inc VAT\*

\*Includes complimentary Affiliate membership to the Energy Institute



This 4-day course examines the composition, main characteristics and new trends of petroleum products, examining the roles of the different refining units and their process characteristics. Participants will gain an understanding of the main manufacturing schemes encountered in the oil refining field and look at the overall economic context of this industry.

## Course content

### Petroleum products

- Energy and non-energy products and their main uses
- Principal components of petroleum products; general hydrocarbon classification and main impurities
- Quality requirements imposed on petroleum products in view of their utilisation – quality specifications measured by standard tests, characteristics related to the product composition, origin and processing routes
- New trends in market structure and product characteristics (reformulated gasoline, biofuels, etc.)

### Refining processes

#### Crude oil fractionation

- Origin, overall characteristics and classification of crude oils
- Yields and properties of straight-run cuts obtained by distillation
- Industrial units: distillation, vacuum distillation, light-ends fractionation; various process schemes, operating conditions, energy consumption

#### Catalytic reforming and isomerisation

- Octane improvement of virgin naphthas
- Basics of processes, types of catalyst, product yields
- Industrial units: process schemes, operating conditions, equipment, energy consumption

#### Hydrorefining processes

- Main features of impurities removal by catalytic hydrogen treatment
- Main refining applications
- Example of a gas oil desulphurisation unit

### Conversion units

- Outline of conversion and various cracking processes
- Characteristics and origin of feeds to be cracked
- Conversion by means of thermal cracking: visbreaker, various cokers
- Conversion by means of catalytic cracking: FCC and related units (gasoline sweetening, alkylation, MTBE and ETBE) hydrocracker and related units, hydrogen production
- Recent developments in hydrotreatment and hydroconversion of heavy residues
- Scrubbing treatments: amine washing, sulphur production, treatment of residual gases from Claus units

### Manufacturing schemes

Main routes to major products; base lube oil manufacturing

### Main economic features of refinery operations

Prices of crudes and products, operating costs, economic margin of a refinery; flexibility examples in operation and their economic consequences.



### Who should attend?

Anyone working in the oil and gas and related sectors whose activity, whether technical, commercial, legal, financial, or human resources, is in some way connected with oil refining. Auditors and others associated with administration of the commercial aspects of the sector.

# 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  
 f: +44 (0)20 7255 1472

To register by email, please provide the same contact details (shown below), together with the relevant course details and send to: [nwilkinson@energyinst.org](mailto:nwilkinson@energyinst.org) To book online, visit: [www.energyinst.org](http://www.energyinst.org)

I am/my employer is a member of the EI and entitled to the EI member's rate. EI Membership Number: .....

Family name: ..... Mr/Mrs/Miss/Ms/Dr/Other:.....

Given name(s):..... Name to be used on badge:.....

Job title or present position: .....

Company/Organisation: .....

Name and address against which an invoice should be raised: .....

.....

.....

t: ..... f:.....

e: .....

Mailing address for joining instructions (if different to invoice address above): .....

.....

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.

Signature:..... Date: .....

**Under UK Excise Regulations, delegates from all countries are required to pay VAT on any course taking place in the UK.**

Course Title:.....

Course date: ..... Cost of course: £ .....

Course Title:.....

Course date: ..... Cost of course: £ .....

Less 10% discount for each **subsequent** delegate from the **same** company attending the **same** course on the **same** date £.....

TOTAL PAYMENT £ .....

The total amount may be paid by Sterling Cheque or Draft drawn on a bank in the UK.

I enclose my remittance, made payable to the Energy Institute, for: £ .....inc VAT

To pay by Credit or Charge Card, circle appropriate card name and give card details below:



Card No: \_ \_ \_ \_ / \_ \_ \_ \_ / \_ \_ \_ \_ / \_ \_ \_ \_ Start Date \_ \_ / \_ \_ Expiry Date \_ \_ / \_ \_

Please enter your 3-digit\* security code above. This will be deleted upon authorisation. \*4-digits for Amex users.

Credit/Charge card holder's name and address: .....

.....

.....

Signature:..... Date: .....

# General information

## Payment

Full payment must be received before a place can be guaranteed. Under UK Excise Regulations, delegates from all countries are required to pay VAT on any event taking place in the UK. Please note that VAT may be liable to amendment. All prices are correct at the time of going to press, but may be subject to change without prior notice.

## Acknowledgement of registration

Confirmation of registration and a VAT receipt will be sent to all delegates. Joining instructions will be sent out prior to the start date of the course. If you have not received your acknowledgement seven days prior to the start date of the course, please contact EI Oil and Gas Training at the Energy Institute to confirm your booking.

## Language and course materials

All presentations, course materials and supporting documentation will be presented in English.

## 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  
t: +44 (0)20 7467 7100 f: +44 (0)20 7255 1472  
e: [nwilkinson@energyinst.org](mailto:nwilkinson@energyinst.org)  
[www.energyinst.org](http://www.energyinst.org)

## About the course provider

The Energy Institute (EI) is the leading professional body for the energy industries, representing almost 12,000 professionals both nationally and internationally.

A Royal Charter membership organisation, the Energy Institute serves society with independence, professionalism and a wealth of expertise in energy matters, creating a home for energy professionals and a scientific and technical reservoir for industry. It is licensed by the Engineering Council (UK) to offer Chartered, Incorporated and Engineering Technician status to engineers.

The Energy Institute (EI) cannot accept any liability for any loss, cost or expense suffered or incurred by

any person arising from reason of war, including threat of war, riots and civil strife, terrorism or threats thereof, natural disaster, weather, fire, flood, drought, technical, mechanical or electrical breakdown within any premises visited by delegates in connection with the course, non provision of services provided by hotel companies or transport operators, industrial disputes, governmental action, regulations, or technical problems which may affect the services provided in connection with the event. The right to exclude any delegate, guest or substitution and to reject any application for registration is reserved. The Institute reserves the right to make any changes to the courses as considered necessary.

## DATA PROTECTION ACT

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