



UK Biogas Course

January 30 – February 3, 2012

The Dolphin Hotel
St Ives, Cambridgeshire, UK



The Renewable Energy Association (REA) and IBBK Fachgruppe Biogas GmbH are delighted to announce a new week long in-depth Biogas Operators & Planners Course. The course will be delivered by six speakers with many years of practical experience in the German biogas industry plus UK experts who will bring this knowledge into the context of the UK situation.



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The course covers:

- Design
- Process calculations
- Finance & funding
- Permits, regulation
- Risks, hazards, safety & accident avoidance
- UK working plant example
- Revenue from energy – FITs, ROCs, RHI, injection
- Process and external heat and gas engineering & gas pipeline
- Building materials for biogas plant construction
- Feedstocks, handling, biogas production
- Organic industrial waste and fermentation technology
- Fundamentals of biological process control
- Process monitoring and practical plant operation

Who would benefit from the course?

- Biogas plant operators & staff; farmers planning to operate AD
- AD developers
- Central & local government officials engaged with AD
- Banks & investment houses, private investors
- Academic institutions

Conditions of participation in the Training Course

Registration is required in writing per fax or e-mail. After receiving your complete registration, we will send you the confirmation and bill by e-mail. Written cancellations are possible until January 16, 2012. Upon cancellation payments made up to that time will be refunded except for an administration charge of £100. After January 16, 2012 refunds are no longer possible. Late registrations which are cancelled are billed in full. In case of late cancellations we gladly accept a substitute participant. The number of participants is limited, therefore a timely registration and prepayment is required no later than January 16, 2012. After that deadline participation is only possible upon request.

The complete price for the training course is **£ 1,490** plus VAT (**1.720 Euros** plus VAT. For REA members: **£ 1,290** plus VAT (1.490 Euros plus VAT) If there's a VAT registration number of your company available and your country belongs to EU, we won't charge VAT.

Included are

- extensive documentation
- beverages during the course
- lunch with beverages
- excursion and entrance fees

Not included are

- travel
- accommodation
- further meals and beverages

Registration form (Registration is legally binding)

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The Dolphin Hotel, St Ives, Cambridgeshire, UK

Family name: _____ First name: _____

Company/ Institution: _____

Billing Address: _____

Phone: _____ Fax: _____

E-mail: _____ www: _____

Date: _____ Signature: _____

REA member: yes no /VAT registration number: _____

Registration by fax/mail to:

IBBK Fachgruppe Biogas GmbH, Am Feuersee 6, 74592 Kirchberg, Germany
Phone: +49 - (0)7954 - 926 203
course@biogas-training.com
Fax: +49 - (0)7954 - 926 204
www.biogas-training.com/

Programme:

Monday, 30th January 2012

Welcome to the seminar

- Overview of the biogas industry in Europe and UK and its future development

Introduction to Biogas Technology

- Digester principles, shapes and performance, dry and wet fermentation, reliable substrate feed in systems, comparisons of stirring and mixing technology, pre-storage and pre-treatment technology

Fundamentals of biological process control & insitu process control

- Results of field tests from 1400 biogas plants, the anaerobic digestion process, environmental parameters, engineering parameters, inhibition factors

Process monitoring and practical plant operation

- Testing parameters during operation, practical devices for plant monitoring, record keeping

Safety features of biogas plants and equipment

- Safety in UK- Bernadette Cooney, HSE, the German safety rules, a planning standard for over 20 years, experience with safety issues, common hazards and their consequences, different scenarios for possible accidents

Tuesday, 31st January 2012

Process and external heat and gas engineering

- Gas pipeline, CHP- heat extraction, type of heating, transport, heating of digester

Biogas specific building materials

- Design and suitability, corrosion and operating conditions, reliability and installation
- ½ day study tour

Wednesday, 1st February 2012

Design, planning and process engineering

- Designing failures, technical failures, plant attendance & daily operation, data recording, minor repairs- safety during repairs, general maintenance

Substrate- input, gas yield according to the substrates composition

- Technology requirements, material and equipment wear and tear, special design and planning features

Thursday 2nd February 2012

UK renewable energy overview & income from energy

- Renewable obligation certificates, feed in tariffs, renewable heat incentive, ongoing & future developments

Connecting to the grid in the UK

- Ofgem accreditation, grid connection costs, grid enlargement costs,
- Who has to pay what?

Planning, financing and funding your biogas project

- Project planning, due diligence, debt financing, equity funding, grants,

Approval conditions and permits for building and running an AD project in the UK

- Environmental permits, the digestate standard PAS 110 & ADQP & rules for Scotland, feedback from certified plants, animal by products approval, use of waste in AD, end of waste & re- cycling, impact on AD

Friday 3rd February 2012

Ecological digestate management

- Fertilizer management, field application, digestate processing, fibre and fertiliser production

Biogas treatment: gas cleaning and desulphurisation

- Biogas washing and de- washing, internal desulphurisation through air injection, external desulphurisation

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Practical cogeneration to heat and power in gas and dual fuel engines

- Differences between injection engine and gas engine, generator and controlling, design principles and effectiveness, cost effectiveness

Biogas upgrading to biomethane for grid injection and utilisation in vehicles

- Available upgrading technology, grid injection requirements in UK, examples of injection requirements in UK, biomethane filling station technology, the biomethane vehicle base, comparing costs with CHP

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