

International Workshop

# Health, Safety, and Environment of Biomass Gasification

28<sup>th</sup> of September 2005  
Hilton Hotel Innsbruck, Austria

Organised by:



Thermal Gasification

and



Supported by the  
European Commission under the  
**Intelligent Energy - Europe**  
Programme

## SCOPE OF THE WORKSHOP

Biomass gasification is a promising technology, which can contribute to develop future energy systems which are efficient, safe in design and operation as well as environmental friendly in order to increase the share of renewable energy for heating, electricity, transport fuels and higher applications. Biomass gasification is ready for commercialisation but today large-scale introduction is hampered by various reasons. Health, Safety and Environmental (HSE) issues are recognised as a major barrier in the deployment of this technology. Awareness on HSE is a barrier because several key market actors for the implementation of these technologies are either not familiar with the technology or cannot judge the HSE risks.

In a joint effort, ThermalNet and IEA Bioenergy Task 33 «Thermal Gasification of Biomass» aim to create and improve awareness of HSE issues as an important commercialisation of biomass gasification. The ultimate goal is to establish a «state of the art procedure» to assess and improve operational safety and reliability of biomass gasification plants.

The goals of this workshop are to review the status of HSE in biomass gasification and define the next steps to achieve the «state of the art procedure» objectives stated above.

The audience addressed are manufacturers and suppliers of biomass gasification plants and gas engines, HSE permitting authorities as well as gasification engineers, scientists and experts.

## TOPICS

The scope of the workshop will be limited to biomass gasification plants up to 5 MW<sub>th</sub> capacity. Oral presentations on the following topics will be held:

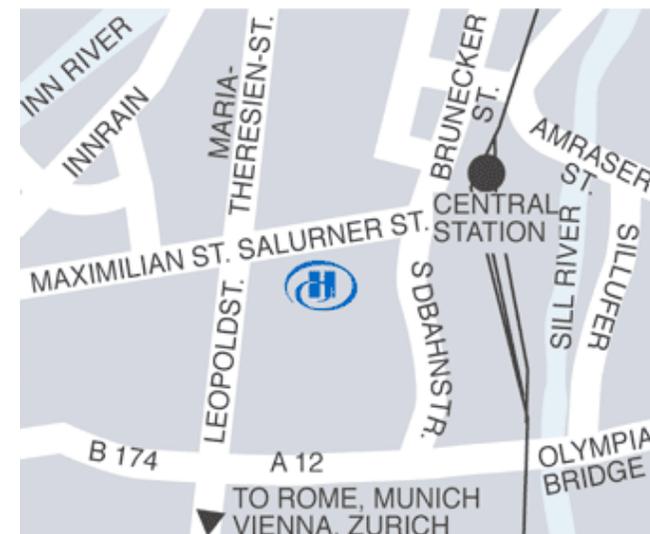
- Gaseous emissions: Emissions from biomass gas driven engines with other routes of electricity production; emissions regulations, identification of R&D needs
- Waste Water: Chemical composition, toxicity, methods to reduce waste water problems

- Health and safety risks: H+S risk factors, risk assessment, solutions to minimise risks, R&D needs
- Permitting procedure: Legal and regulatory aspects, required procedures and documents, field reports from manufacturers and authorities  
In panel and audience discussions, the focus will be on necessary steps to achieve the objectives of the joint IEA and ThermalNet task.

## LOCATION AND MAP

The workshop will be held at the  
Hilton Innsbruck Hotel  
Salurner Strasse 15  
A-6010, Innsbruck, Austria  
Tel: +43 (0) 512 59 350  
Fax: +43 (0)512 5935220  
<[www.hilton.com](http://www.hilton.com)>

The hotel is a short walk (approx. 5 minutes) from the main station in Innsbruck.



## WORKSHOP PROGRAMME

- 0830 Registration**
- 0900 Welcome Address**  
S. Babu, IEA Bioenergy, Task 33 (US)  
H. Hofbauer, GasNet (AT)
- 0915 Health, Safety and Environment in Biomass Gasification**  
R. Buehler, Umwelt+Energie (CH)

### SESSION 1: Gaseous Emissions

Chairman: S. Babu, IEA Bioenergy (US)

- 0935 Biomass Gas Engines: Overview on Emissions and Emission Regulations**  
H. Knoef, BTG (NL)
- 0955 Gaseous Emissions: Experience of GE Jenbacher Engines with Wood Gas**  
G. Herdin, GE Jenbacher (AT)
- 1020 New Emission Regulations for Gas Engines in Denmark**  
H. F. Christiansen, Danish Energy Authority
- 1040 Coffee break**
- 1100 Gaseous Emission in the View of an Expert of the Permitting Authority**  
B. Schaffernak, Styrian Government (AT)
- 1115 Emission Regulations for Gas Engines in Germany**  
N.N. (GE)
- 1130 Panel Discussion**  
Chairman: H. Hofbauer, GasNet (AT)  
Speakers of the presentations

### SESSION 2: Waste Water

Chairman: R. Buehler, Umwelt + Energie (CH)

- 1200 Formation, Treatment and Avoiding of Waste Water**  
R. Rauch, TU Vienna (AT)

- 1225 Composition and Treatment of Waste Water from Gasifiers - Danish Experience with Toxicity Evaluation and Reduction.**  
K. Jonsson, Lund University (SW)

- 1250 Discussion**

- 1300 Lunch**

### SESSION 3: Risk Assessment and Permission Procedure

Chairman: S. Babu, IEA Bioenergy, Task 33 (US)

- 1400 Standards, Good Practice and Goal-setting for Risk Assessment – the UK Regulatory Perspective**  
L. Cusco, Health & Safety Laboratory(UK)
- 1420 Overview on Risk Assessment of Gasification Plants**  
F. Lettner, H. Timmerer, TU Graz (AT)
- 1450 Explosion Parameters and Explosion Protection**  
H. Timmerer, TU Graz (AT)
- 1520 Coffee break**
- 1540 Legal Basis and Required Documents for Gasifiers Permitting Procedure**  
F. Lettner, TU Graz (AT)
- 1600 Permission of Biomass Gasification Plants – the German Regulatory Perspective**  
N.N. (DE)
- 1620 Experiences of a plant supplier**  
T. Koch, TK Energy (DK)
- 1640 Measures to meet the H+S Regulations of the Pyroforce Gasifier Plant**  
A. Hofmann, ATB (AT)  
M. Schaub, CTU / Pyroforce (CH)
- 1710 Panel Discussion: Lessons Learnt from the Workshop**  
Chairman: R. Buehler & H. Hofbauer,  
Speakers from the presentations
- 1800 Summary and Conclusions**

## REGISTRATION AND FEE

For registration download the registration form from the website of ThermalNet  
<http://www.thermalnet.co.uk/>

Members of IEA task 33 register through S. Babu <suresh.babu@gastechnology.org>.

The registration fee (see registration form) covers hotel costs and a «day delegate package» (coffee, lunch etc.) and depends on the number of overnight stays in the Hilton Hotel.

For information as regards technical content of the workshop, contact  
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For information about IEA Bioenergy task 33 see:  
<http://www.gastechnology.org/iea>

For information about ThermalNet see:  
<http://www.thermalnet.co.uk/>