

EU-Japan small-scale biomass gasification seminar

16 January 2019 – Higashihiroshima City and Art Center Kurara

Hosted by the 14th Conference on Biomass Science

In recent years, the use of wood and wood residues for heat and power production from small-scale decentralized plants has increased in Japan, thanks to the growing interest in renewable energy and to the adoption of a supportive National policy framework. At the same time, ongoing research and technology developments across Europe led to significant improvements to small-scale biomass gasification systems and to the implementation of several commercial applications in Europe and worldwide. However, continuous research is still needed to tackle some issues related to the optimization of both processes and technologies in this sector.

This seminar will gather researchers and professionals from Europe and from Japan to share updates and knowledge on the topic of combined heat and power production using small-scale gasification technologies, promoting national and international research networks.

The presentations will introduce the recent technological and research trends in small-scale biomass gasification technologies, the points of strength and the critical issues to address, for an efficient and sustainable production of energy and materials. Solutions and strategies to increase the flexibility of the process will be discussed, such as load modulation and fuel flexibility, as well as effective pathways for the management and the valorisation of gasification by-products such as char and tar. Methodologies for plant monitoring and for the assessment of the energetic and environmental performance of relevant gasification systems will be also presented, given their importance for different aspects such as the commissioning and authorization of plants and the development of new designs.

Case studies of small-scale gasification applications across Europe will be presented,

Scientific talks will be complemented by research-oriented technical presentations from technology companies to bring the main stakeholders' interests together.

Preliminary Agenda

13.30 – Introduction

Welcome and introduction from the organizers

14.00 – Session one: research and technology context

Chairmen: Yukihiro Matsumura – Japan Institute of Energy, Maurizio Cocchi – ETA
Florence

Technology overview: main small-scale gasification technologies, point of strength and critical issues

Marco Baratieri – Free University of Bozen-Bolzano

Present situation and problems of small biomass gasification plants in Japan

Kenichi Sasauchi – Chugai Ro Co.Ltd

Fuel and load flexibility in small-scale gasification: experiences in EU and challenges

Markus Gölles – Bioenergy 2020+ GmbH

Valorization of co-products of small-scale gasification plants (biochar and bio-oil) and importance for overall profitability of the plant

Francesco Patuzzi – Free University of Bozen-Bolzano

Sustainable biomass procurement for the Japanese Energy sector

Takanobu Aikawa – Renewable Energy Institute

Methodologies for plant monitoring, energy and environmental performance assessment

Stefan Martini – Bioenergy 2020+ GmbH

16.00 – Session 2: Case studies and industry perspectives

Chairmen: Marco Baratieri (Free University of Bozen-Bolzano); Takanobu Aikawa (Renewable Energy Institute)

Case study of South Tyrol (Italy) – results of environmental and performance monitoring of gasification plants

Free University of Bozen-Bolzano

Experiences and technology challenges with 50 and 250 kWe wood biomass gasifiers installed in Japan – plant efficiency, adaptation to local feedstock and use of biochar

Rewrite Inc/RM Group

Prospects of Modern Wood Gas Cogeneration Renewable Energy Supply in Japan – Case Study of ICU

Invited

Other invited speakers

to be announced

17.00 – Question time and final remarks

17.30 End of seminar