

Project no.:
019809

Project acronym:
NextGenBioWaste

Project title:
Innovative demonstrations for the next generation of biomass and waste combustion plants for energy recovery and renewable electricity production

Instrument : Integrated project
Thematic priority : SUSTEV-1.1.1 - Cost effective supply of renewable energies

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International Conference
8 – 10 October 2008

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Dissemination Level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential , only for members of the consortium (including the Commission Services)	

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Abstract
<p>The International Conference on Waste and Biomass Combustion was held in Milan, Italy 8-10 October 2008. The conference was arranged by SINTEF and A2A within the NextGenBioWaste project. There were 75 participants from 14 countries, nearly 50% of the participants were employees of NextGenBioWaste partners.</p>

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1 INTRODUCTION

An international conference was planned within the project to discuss progress, activities and results in the project and in Europe and to encourage the sharing of approaches and knowledge among the participating contractors.

The International Conference on Waste and Biomass Combustion was held in Milan, Italy 8-10 October 2008. The conference focussed on the technical aspects of biomass and waste combustion including the sub-themes fuel preparation and handling, combustion processes, ash handling and emissions.

The deliverables in NextGenBioWaste are classified with nature report, prototype, demonstrator or other. This deliverable has nature "other", and this document serves as documentation that the D4.1.3 International Conference has been carried out.

2 THE CONFERENCE

The International Conference on Waste and Biomass Combustion was held in Milan, Italy 8-10 October 2008. The conference was arranged by SINTEF and A2A within the NextGenBioWaste project. There were 75 participants from 14 countries, nearly 50% of the participants was employees of NextGenBioWaste partners.

The conference focussed on the technical aspects of biomass and waste combustion including the sub-themes fuel preparation and handling, combustion processes, ash handling and emissions, and technological innovations were presented. Several NextGenBioWaste activities were presented, in addition presentations were given by other invited speakers (not NextGenBioWaste partners). The original conference programme is attached. However, the chairmen of session 3 and session 6 changed places.

The presentations from the conference are available for download from the conference website (www.energy.sintef.no/arr/ngbw) for those who participated in the conference. For others that are interested in the documentation, a fee has to be paid to get access. For username and password please contact ngbw-conference@sintef.no.



International Conference on Waste and Biomass Combustion

Progress beyond state-of-the-art
– next generation technologies for retrofit and new
combustion plants

Conference programme

Wednesday 8 October 2008

11:00 Registration

12:00 Lunch

Opening session; Chairman: Sverre Aam, SINTEF

13:00 Welcome and introduction
Lars Sørum, SINTEF

13:30 Welcome by local host
Antonio Bonomo, A2A

14:00 Latest EU policy and framework developments
for energy from biomass and waste
Jean-Pierre Schosger, EC

14:25 Coffee break

Keynote session; Chairman: Lars Sørum, SINTEF

14:45 Keynote 1 - Waste,
Gerrit Brem, University of Twente

15:30 Keynote 2 - Biomass,
Ingwald Obernberger, TU Graz, TU Eindhoven

16:15 Coffee break

**Session 1 – Fuel: Characteristics, effects and
pre-treatment;**

Chairman: Peter Glarborg, Technical University
of Denmark

16:35 Overview on fuel characteristics
Lars Sørum, SINTEF

17:00 Characterisation of combustion properties of
solid fuels
Daniel Nordgren, Vattenfall R&D

17:20 Synergy effects on co-firing sewage sludge with
biomass/waste on the presence of alkali
chlorides in a circulating fluidised bed boiler
Lars-Erik Åmand, Chalmers University of
Technology

17:40 Emission assessments for biomass and waste
fuels in a multi-fuel reactor
Øyvind Skreiberg, SINTEF

18:00 End

19:30 Welcome reception

Thursday 9 October 2008

**Session 2 – Fuel: Practical operational aspects & Ash:
Characteristics and effects;**

Chairman: Lars-Erik Åmand, Chalmers University
of Technology

9:00 Problem solution concepts for firing risky
biomass in efficient power plants
Matti Aho, VTT Technical Research of Finland

9:25 Deposit Formation in the FASAN WtE Boiler as a
Function of Feedstock Composition and Boiler
Operation
Flemming Frandsen, Technical University of
Denmark

9:50 A full-scale study on the partitioning of trace
elements in a WtE plant - Effects of firing
different waste types
Anne Juul Pedersen, Technical University of
Denmark

10:10 Coffee break

Session 3 – Ash: Utilization;

Chairman: Ragnar Warnecke, GKS

10:30 Developments in upgrading and utilisation of
MSWI bottom ashes within Europe
Frans Lamers, KEMA

10:55 Wet-chemical separation of critical elements
from incineration ashes
Holger Ecke, Vattenfall R&D

11:15 Wet upgrading of MSWI bottom ashes into
marketable products
Laurens van Kooy, Afvall Energie Befrijf

11:35 Treatment and utilisation of MSWI fly ashes and
APC residues
Henrik Ørnebjerg, Vestforbrænding

12:00 Lunch

Session 4 – Conversion:

Processes, applications and system design;

Chairman: Frans Lamers, KEMA

13:00 EfW implementation in England - latest trends/
future projections
Niranjan Patel, Partnerships UK

13:25 High Efficiency Waste to Energy: Drivers for new
developments, experiences in Amsterdam
Marcel van Berlo, Afval Energie Bedrijf

13:45 Thermodynamic Process Analyses to realize
efficiency improvements of Waste to Energy
plants
Pierre Ploumen, KEMA

14:05 Demonstration of model predictive control in
waste incinerators
Ruud van der Linden, TNO

14:25 Monitoring the combustion process directly on
the grate of Municipal Solid Waste incinerators
Jiri Martinec, JRC-IE

14:45 Gasification Comes of Age on Isle of White (UK)
Tony Grimshaw, Energos

15:05 Brief introduction to A2A's plant in Brescia

15:15 Bus to Brescia

Site visit at A2A's plant in Brescia

Conference dinner in Brescia

Friday 10 October 2008

Session 5 – Conversion: Corrosion and fouling control;

Chairman: Flemming Frandsen, Technical
University of Denmark

9:00 Role of gas and particle phase on high-
temperature-chlorine-corrosion
Ragnar Warnecke, GKS

9:25 Acid dewpoint corrosion, the influence on the
boiler design
Johan De Greef, Keppel Seghers Belgium

9:45 Corrosion behaviour of candidate steels and
alloys in laboratory conditions of biomass
combustion environment
Jiri Krejčík, SVUM as

10:05 Corrosion reducing additives: Results from the
use of ChlorOut-solution in waste and biomass
fired boilers
Anders Hjørnhede, Vattenfall Power
Consultant AB

10:25 Coffee break

10:45 High Temperature Corrosion – Lab-scale
investigation of deposit-induced corrosion of
superheater alloys under simulated waste and
biomass incineration environments
Markus Schmitt, Max-Planck-Institut

11:05 Lab-Scale Investigation of Corrosion of
Superheater Materials under Simulated
Biomass-Firing Conditions
Simone van Lith, Technical University of
Denmark

11:25 Corrosion in waste fired boilers: A
thermodynamic study
Michaël Becidan, SINTEF

11:45 Check out break

12:00 Lunch

**Session 6 – Conversion: Emissions, emission
reduction**

and cleaning;

Chairman: Peter Paul van 't Veen, TNO

13:00 Nitrogen Chemistry in Biomass and Waste
Combustion
Peter Glarborg, Technical University of Denmark

13:25 Industrial testing of an innovative catalyst
system for NOx removal in WtE plant of Brescia
Antonio Bonomo, A2A

13:45 Development aspects in thermal treatment of
municipal solid wastes
Alfred Sigg, Von Roll Inova

14:05 Coffee break

14:25 A comparison of alternative strategies for
energy recovery from municipal solid waste
Stefano Consonni, Politecnico di Milano

14:45 Closing remarks by NGBW co-ordinator