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

Start date of project: 2006-02-24
Duration: 4 years

D 4.1.3
International Conference
8 – 10 October 2008

Revision: Final

Due date of deliverable: 2008-10-23
Actual submission date: 2009-01-09

Organisation name of lead contractor for this deliverable: SINTEF Energiforskning AS

<table>
<thead>
<tr>
<th>Dissemination Level</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PU (Public)</td>
<td>x</td>
</tr>
<tr>
<td>PP (Restricted to other programme participants)</td>
<td></td>
</tr>
<tr>
<td>RE (Restricted to a group specified by the consortium)</td>
<td></td>
</tr>
<tr>
<td>CO (Confidential, only for members of the consortium)</td>
<td></td>
</tr>
</tbody>
</table>
Deliverable number: D 4.1.3
Deliverable name: International conference 8 – 10 October 2008
Work package: WP 4.1 Dissemination
Lead contractor: SINTEF

Status of deliverable

<table>
<thead>
<tr>
<th>Action</th>
<th>By</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted (Author(s))</td>
<td>Mette Bugge, SINTEF</td>
<td>2009-01-09</td>
</tr>
<tr>
<td>Verified (WP-leader)</td>
<td>Mette Bugge, SINTEF</td>
<td>2009-01-09</td>
</tr>
<tr>
<td>Approved (SP-leader)</td>
<td>Mette Bugge, SINTEF</td>
<td>2009-01-09</td>
</tr>
</tbody>
</table>

Author(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mette Bugge</td>
<td>SINTEF</td>
<td><a href="mailto:Mette.Bugge@sintef.no">Mette.Bugge@sintef.no</a></td>
</tr>
</tbody>
</table>

Abstract

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.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th></th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>THE CONFERENCE</td>
<td>5</td>
</tr>
</tbody>
</table>
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 Welcome by local host
Lars Sørum, SINTEF
15:45 Welcome and introduction
Chairman: Sverre Aam, SINTEF
Opening session
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 biomass from Denmark
Anne Juul Pedersen, Technical University of Denmark
17:35 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
Martti Aho, VTT Technical Research of Finland
9:25 Deposit Formation in the FASAN WtE Boiler as a Function of Feedstock Composition and Boiler Operation
Flomming 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 MSW bottom ashes within Europe
Frans Lammers, KEMA
10:55 Wet-chemical separation of critical elements from incineration ashes
Holger Ecke, Vattenfall R&D
11:15 Wet upgrading of MSW bottom ashes into marketable products
Laurens van Kooy, Afval Energie Befrijf
11:35 Treatment and utilisation of MSW fly ashes and APC residues
Hennrik Brinbjerg, Vestforbrænding
12:00 Lunch

Session 4 – Conversion: Processes, applications and system design;
Chairman: Frans Lammers, KEMA
13:00 EfW implementation in England - latest trends/future projections
Niranjani Patel, Partnerships UK
13:25 High Efficiency Waste to Energy: Drivers for new developments, experiences in Amsterdam
Marcel van Berlo, Alval 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
Rudolf van der Linden, TNO
14:25 Monitoring the combustion process directly on the grate of Municipal Solid Waste incinerators
Jiri Martinec, JRC-IIE
14:45 Gasification Cames of Age on Isle of White (UK)
Tony Grimshaw, Energos
15:05 Brief introduction to A2As plant in Brescia
15:15 Bus to Brescia
Site visit at A2As 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, Keuppel Seghers Belgium
9:45 Corrosion behaviour of candidate steels and alloys in laboratory conditions of biomass combustion environment
Jiri Krejci, 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
Michael Beciden, 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, Van Roll Inova
14:05 Coffee break
14:25 A comparison of alternative strategies for energy recovery from municipal solid waste
Stefano Consomni, Politecnico di Milano
14:45 Closing remarks by NGBW co-ordinator