



Waste-to-Energy

8th and 9th September 2014
Vienna Marriott Hotel
Parking 12a – 1010 Vienna, Austria

updated
programme

Issues

International Development

Legislation, strategies and country reports

Waste Incineration

Technology of waste incineration • Energy efficiency and use

Flue gas treatment • Treatment and utilization of slag

Alternative Waste-to-Energy Processes

Mechanical-biological treatment • Utilization of solid recovered fuels

Fermentation and utilization of biogas • Pyrolysis and gasification



Foto: ©WienTourismus/Christian Stemberger

Sponsors



Doosan Lentjes
Part of Doosan Power Systems



Scientific Chair

Professor Dr.-Ing. habil. Dr. h. c. Karl J. Thomé-Kozmiensky

Programme Coordination

Dr.-Ing. Stephanie Thiel

Steering Committee

Associate Professor Dr.-Ing. Lale Andreas

Luleå University of Technology, Department of Civil, Environmental and Natural Resources Engineering, Waste Science & Technology, Sweden

Professor Dr.-Ing. Michael Beckmann

Technical University Dresden, Chair for Combustion, Heat and Mass Transfer, Germany

Professor Dr.-Ing. Otto Carlowitz

Technical University Clausthal, Head of the Institute of Environmental Sciences, Germany

Patrick Clerens

Secretary General, European Suppliers of Waste to Energy Technology (ESWET), Belgium

Dipl.-Ing. Stefano Costa

Director Environment and Services at CNIM Constructions Industrielles de la Méditerranée, France

Professor Dr.-Ing. habil. Eberhard Gock

Technical University Clausthal, Institute of Mineral and Waste Processing, Waste Disposal and Geomechanics, Germany

Professor Dr.-Ing. Daniel Goldmann

Technical University Clausthal, Head of the Institute of Mineral and Waste Processing, Waste Disposal and Geomechanics, Germany

Professor Ing. Dagmar Juchelková, Ph. D.

Technical University of Ostrava (VŠB), Head of the Department Energy Engineering and Research Manager of the Centre ENET, Czech Republic

Professor Dr.-Ing. Martin Kranert

University of Stuttgart, Chair of Waste Management and Emissions, Germany

Professor Dr. Rundong Li

Shenyang Aerospace University, Dean of the Faculty of Energy and Environment, China

em. O. Professor Dr.-Ing. Karl E. Lorber

University of Leoben, Waste Processing Technology and Waste Management, Austria

Henrik Lystad

Member of the Board of the European Compost Network (ECN) and Assistant Director of Avfall Norge/Waste Management Norway

Dr.-Ing. Reinhard Maaß

FDBR e.V. – Association of Process Plant Engineering – Energy, Environment, Process Industry Executive Member of the Management Board, Germany

Dipl.-Ing. Johannes J. E. Martin

Managing Director of Martin GmbH für Umwelt- und Energietechnik, Germany

Adj. Professor Dr.-Ing. habil. Abdallah Nassour

University of Rostock, Department of Waste Management in Arab countries, Germany

Eur. Ing. Tadeusz Pajak, Ph. D.

University of Science and Technology AGH Kraków, Department of Power Systems and Environment, Poland

Assistant Professor Ing. Martin Pavlas, Ph. D.

Brno University of Technology, Institute of Process and Environmental Engineering, Czech Republic

Dipl.-Chem.-Ing. Luciano Pelloni

President of TBF + Partner AG, Consulting Engineers, Zurich, Switzerland

Univ.-Professor Dipl.-Ing. Dr. mont. Roland Pomberger

University of Leoben, Chair of Waste Processing Technology and Waste Management, Austria

Professor Dr.-Ing. Peter Quicker

RWTH Aachen, Unit of Technology of Fuels, Germany

Professor Dipl.-Ing. Dr. techn. Harald Raupenstrauch

University of Leoben, Chair of Thermal Processing Technology, Austria

Dr.-Ing. Gert Riemenschneider

Managing Director of Fisia Babcock Environment GmbH, Germany

Professor Dr.-Ing. Wolfgang Rommel

Managing Director of bifa Umweltinstitut GmbH, Augsburg, Germany

Professor Dr.-Ing. Vera Susanne Rotter

Technical University Berlin, Chair of Solid Waste Management, Germany

Professor Dr.-Ing. Oktay Tabasaran

Istanbul, Turkey and Stuttgart, Germany

Professor Nickolas J. Themelis

Director of the Earth Engineering Center, Columbia University, Chairman of WTERT Waste-to-Energy Research and Technology Council, New York, United States

Professor Dr. Franz Winter

Vienna University of Technology, Institute of Process Engineering, Environmental Technology and Technical Biosciences, Austria

Senol Yildiz, Ph. D.

Deputy General Manager of Istanbul Environmental Management, Industry and Trading Company (İstaç A.Ş.), Turkey

Plenary Session

PRESENTATION: PROFESSOR DR. DR. KARL J. THOMÉ-KOZMIENSKY

● **9.00 Hrs. European waste management legislation and its amendment**

Karl-Friedrich Falkenberg, General Director DG Environment
European Commission, Brussels, Belgium

● **9.30 Hrs. Current developments in European waste-to-energy**

President Ferdinand Kleppmann
CEWEP – Confederation of European Waste-to-Energy Plants, Düsseldorf, Germany

● **10.00 Hrs. Incineration – an indispensable element of a responsible waste management**

Dipl.-Chem.-Ing. Luciano Pelloni
Chairman of IRF International Recovery Foundation, Zurich, Switzerland

● **10.30 Hrs. Review of the Best Available Techniques Reference Document (BREF) for waste incineration and interactions with other BREFs**

Simon Holbrook, European IPPC Bureau (EIPPCB)
European Commission, Joint Research Centre, Seville, Spain

● **11.00 Hrs. Coffee Break**

PRESENTATION: PROFESSOR DIPL.-ING. DR. TECHN. HARALD RAUPENSTRAUCH

● **11.30 Hrs. Incineration – alternative processes – recycling**

Professor Dr. Dr. h. c. Karl J. Thomé-Kozmiensky
Dr.-Ing. Stephanie Thiel

● **12.00 Hrs. The development of waste incineration in Europe**

Managing Director Dipl.-Ing. Johannes J. E. Martin, Dipl.-Ing. Ulrich Martin
Martin GmbH für Umwelt- und Energietechnik, Munich

● **12.30 Hrs. Possibilities to elevate the energy efficiency of waste incineration plants**

Dr.-Ing. Gert Riemenschneider
Managing Director of Fisia Babcock Environment GmbH, Gummersbach, Germany

● **13.00 Hrs. Lunch Break**

PRESENTATION: PROFESSOR DR.-ING. MARTIN KRANERT

● **14.00 Hrs. Balancing and energy efficiency of waste treatment processes**

Professor Dr.-Ing. Michael Beckmann
Dipl.-Ing. Tobias Widder
Technical University Dresden, Germany

Country reports

● **14.30 Hrs. Paradigm shift in the British waste management sector – from landfilling to incineration –**

Paul Carey
Director of MVV Environment Ltd, London, United Kingdom

● **15.00 Hrs. Experiences in new EU accession countries**

Mag. Gerhard Ziehenberger, Member of the Executive Board
Dipl.-Ing. Michaela Heigl
Saubermacher Dienstleistungs AG, Feldkirchen near Graz, Austria

● **15.30 Hrs. Coffee Break**

PRESENTATION: DR.-ING. STEPHANIE THIEL

● **16.00 Hrs. Turkey achieves EU standards till 2030**

Professor Dr.-Ing. Oktay Tabasaran
Istanbul, Turkey and Stuttgart, Germany

● **16.30 Hrs. Waste generation and disposal methods in emerging countries**

Adj. Professor Dr.-Ing. habil. Abdallah Nassour
University of Rostock, Department of Waste Management in Arab Countries, Germany

● **17.00 Hrs. A guidebook for sustainable waste management in Latin America**

Associate Professor Dr. Constantinos Psomopoulos
Director of Electric Power Division, Technological Education Institution of Piraeus
Egaleo, Greece
Vice President of the Waste to Energy Research & Technology (WERT)
Council Greece – SYNERGIA

● **19.30 Hrs. Evening Reception**

Incineration

PRESENTATION: SECRETARY GENERAL PATRICK CLERENS, ESWET

8.30 Hrs. Decision-making processes in resource recovery from waste

Dipl. Natw. ETH Trimurti Irzan, Member of the Management of TBF + Partner AG, Consulting Engineers, Zurich, Switzerland

8.50 Hrs. Waste availability, successful regional strategies and shaping new waste-to-energy projects

Assistant Professor Ing. Martin Pavlas, Ph. D., Technical University of Brno, Czech Republic

9.10 Hrs. A zero-waste and energetically optimized waste-to-energy concept

Dr.-Ing. Margit Löschau, Dipl.-Ing. Günter Nebocat
Pöyry Deutschland GmbH, Germany

9.30 Hrs. Layout planning of waste-to-energy plants

Dipl.-Ing. Falko Weber
Managing Director of Envi Con & Plant Engineering GmbH, Nuremberg, Germany

9.50 Hrs. Discussion

10.00 Hrs. Coffee Break

PRESENTATION: AO. UNIV. PROF. DIPL.-ING. DR. FRANZ WINTER

10.30 Hrs. High efficient waste-to-energy facilities

Inger Anette Søndergaard, Head of Department Waste-to-Energy
Tore Hulgaard, Senior chief consultant Flue gas treatment
Lasse Tobiassen, Chief consultant Energy
Ramboll Group A/S, Copenhagen, Denmark

11.00 Hrs. Impact of operation mode and design on the energy efficiency of waste combustion plants

Dr. ir. Johan De Greef, Technology Project Manager
Keppel Seghers Belgium NV, Willebroek, Belgium

Examples of waste incineration plants

11.30 Hrs. The waste-to-energy plant Krakow

– Proceedings regarding the realisation of thermal waste treatment in Poland –

Dipl.-Wirtsch.-Ing. Gerhard Lohe, Director Business Development
Doosan Lentjes GmbH, Ratingen, Germany

Thermal waste treatment plant Spittelau – New construction to the existing plant –

Dr.-Ing. Frank Schumacher, MH Power Systems Europe Service GmbH (only book)
Dipl.-Ing. Dr. Philipp Krobath, Ing. Erich Pawelka, Ing. Ulrich Ponweiser, Wien Energie GmbH
Dipl.-Ing. Martin Höbler, MH Power Systems Europe Service GmbH

12.00 Hrs. Lunch Break

PRESENTATION: PROFESSOR DR.-ING. WOLFGANG ROMMEL

13.00 Hrs. Waste-to-energy plant as part of combined heat and power strategy – using the example of the Klaipeda plant –

Kalle-Erkki Penttilä, Head of Investments and M&A, Fortum Heat Poland

13.30 Hrs. Waste management in the metropolis of Istanbul

– Waste incineration and energy production facility in Istanbul –

Senol Yildiz, Ph. D., Deputy General Manager of Istanbul Environmental Management, Industry and Trading Company (İstaç A.Ş.), Şişli-Istanbul, Turkey

Flue gas treatment

14.00 Hrs. Flue gas cleaning today – Available technologies and latest developments –

Dipl.-Ing. Christian Fuchs, Deputy Managing Director of LAB GmbH, Stuttgart, Germany

14.30 Hrs. Coffee Break

PRESENTATION: DR.-ING. ALEXANDER GOSTEN, BSR

15.00 Hrs. Assessment of dry and semi-dry sorption procedures

on the basis of practice-related examples from the field of incineration plants

Dipl.-Ing. Rüdiger Margraf
Managing Director of LUEHR FILTER GmbH & Co. KG, Stadthagen, Germany

Recycling of incineration residues

15.30 Hrs. Recycling of waste incineration ash – Production of non-ferrous metal scrap products and a marketable mineral aggregate –

Rogier van de Weijer
Business Development Director of Inashco B.V., Rotterdam, Netherlands

16.00 Hrs. Optical sorting for the recovery of glass from WIP slags

– pilot plant in Bratislava/Slovakia –

Dipl.-HTL-Ing. Christian Makari
Binder + Co AG/Environmental Technology, Gleisdorf, Austria

Alternative Waste-to-Energy processes

Pyrolysis and gasification

PRESENTATION: PROFESSOR DR.-ING. PETER QUICKER

● **8.30 Hrs. State of the art of alternative thermal processes**

Professor Dr.-Ing. Peter Quicker
RWTH Aachen, Unit of Technology of Fuels, Germany

● **9.00 Hrs. Waste gasification technology with direct melting for energy and material recovery**

M. Sc. Nobuhiro Tanigaki, Chief Technical Manager
Nippon Steel & Sumikin Engineering Co., LTD.

● **9.30 Hrs. Industrial scale plasma gasification technology for the conversion of various feedstocks into clean energy**

Richard Fish, President of Westinghouse Plasma Corporation, Calgary, Canada

● **10.00 Hrs. Coffee Break**

PRESENTATION: ASSISTANT DIRECTOR HENRIK LYSTAD, WASTE MANAGEMENT NORWAY

● **10.30 Hrs. The biobattery – Integrated heat and power generation from biomass, waste and residues via intermediate pyrolysis/reforming**

Professor Dr. rer. nat. Dipl.-Ing. Andreas Hornung
Director of the European Bioenergy Research Institute (EBRI), Aston University
Birmingham, United Kingdom
Director of the Institute Branch Sulzbach-Rosenberg, Fraunhofer UMSICHT, Germany

Fermentation and biogas utilisation

● **11.00 Hrs. Eco-efficiency comparison of fermentation, composting and incineration of bio waste**

Managing Director Professor Dr.-Ing. Wolfgang Rommel
Dipl.-Ing. Thorsten Pitschke, Dipl.-Ing. René Peche, Dr. rer. agr. Dieter Tronecker
Deputy Managing Director Dr. rer. nat. Siegfried Kreibe
bifa Umweltinstitut GmbH, Augsburg, Germany

● **11.30 Hrs. Application of anaerobic digestion for the treatment of municipal solid waste in several projects**

Dipl. oec. Univ. Martin Hagenmeyer, Business Development Manager
STRABAG Umwelthanlagen GmbH, Linz, Austria

● **12.00 Hrs. Lunch Break**

PRESENTATION: PROFESSOR DR.-ING. ANKE BOCKREIS

● **13.00 Hrs. The success story of Scandinavian biogas industry**

Henrik Lystad, Assistant Director of Avfall Norge/Waste Management Norway, Oslo, Norway
and Member of the Board of the European Compost Network (ECN)

● **13.30 Hrs. Utilisation of biogas**

Dr.-Ing. Alexander Gosten, Berliner Stadtreinigungsbetriebe (BSR), Germany

Mechanical-biological waste treatment

● **14.00 Hrs. Best Available Techniques (BAT) for mechanical-biological waste treatment plants**

Professor Dr.-Ing. Anke Bockreis, Vice Rector for Infrastructure
University of Innsbruck, Austria

● **14.30 Hrs. Coffee Break**

PRESENTATION: UNIV.-PROFESSOR DIPL.-ING. DR. MONT. ROLAND POMBERGER

● **15.00 Hrs. Mechanical-biological stabilisation plant in Fusina near Venice/Italy (260,000 t/y) – Twelve years of operating experience –**

Dr.-Ing. Simone Paoli, Ladurner srl, Bolzano, Italy

Solid recovered fuels

● **15.30 Hrs. Concepts for processing of solid recovered fuels from different waste origin for waste-to-energy plants**

Ing. Michael Pinkel, Ing. Jürgen Deditz
IUT Ingenieurgesellschaft Innovative Umwelttechnik GmbH, Seebenstein, Austria
Univ.-Professor Dipl.-Ing. Dr. mont. Roland Pomberger
University of Leoben, Chair of Waste Processing Technology
and Waste Management, Austria

● **16.00 Hrs. Use of solid recovered fuels in the cement industry**

Univ.-Professor Dipl.-Ing. Dr. mont. Roland Pomberger, University of Leoben
Chair of Waste Processing Technology and Waste Management, Austria

Speakers



Professor Dr.-Ing.
Michael Beckmann



Professor Dr.-Ing.
Anke Bockreis



Paul Carey



General Director
Karl-Friedrich Falkenberg



Dr. ir.
Johan De Greef



Dipl.-Ing.
Christian Fuchs



Dr.-Ing.
Alexander Gosten



Dipl. oec. Univ.
Martin Hagenmeyer



Dipl.-Ing.
Bernhard Haimel



Simon Holbrook



Professor
Dr. rer. nat. Dipl.-Ing.
Andreas Hornung



Dipl. Natw. ETH
Trimurti Irzan



Ferdinand Kleppmann



Dipl.-Wirtsch.-Ing.
Gerhard Lohe



Henrik Lystad



Dipl.-HTL-Ing.
Christian Makari



Dipl.-Ing.
Rüdiger Margraf



Dipl.-Ing.
Johannes J. E. Martin



Adj. Professor
Dr.-Ing. habil.
Abdallah Nassour



Dipl.-Ing.
Günter Nebocat



Dr.-Ing.
Simone Paoli



Assistant Professor
Ing., Ph. D.
Martin Pavlas



Kalle-Erkki Penttilä



Dipl.-Chem.-Ing.
Luciano Pelloni



Ing.
Michael Pinkel



Univ. Professor
Dipl.-Ing. Dr. mont.
Roland Pomberger



Associate Professor Dr.
Constantinos Psoomopoulos



Professor Dr.-Ing.
Peter Quicker



Dr.-Ing.
Gert Riemenschneider



Professor Dr.-Ing.
Wolfgang Rommel



Inger Anette Sondergaard



Professor Dr.-Ing.
Oktay Tabasaran



M.Sc.
Nobuhiro Tanigaki



Dr.-Ing.
Stephanie Thiel



Professor Dr. Dr. h. c.
Karl J.
Thomé-Kozmiensky



Rogier van de Weijer



Dipl.-Ing.
Falko Weber



Ph. D.
Senol Yıldız



Mag.
Gerhard Ziehenberger

Additional Speakers: Richard Fish

Invitation

The IRRC is a forum for the exchange of information about materials flow management and closed substance cycle, applied technologies as well as organisational forms of countries that largely comply with the EU-norms and those that are only at the beginning of this development.

Internationally acknowledged speakers of the industry, from politics, science, and technology will present the current themes and discuss them with the participants. The exchange of experiences, ideas, and concepts will give impulses for cooperation and is going to promote development particularly in the new EU-member states.

About 270 participants from more than twenty countries attended our last congresses, which took place in Warsaw and Berlin. The international character of the congress shall be developed successively. For 2014, in addition to the German-speaking region, the following countries are envisaged amongst others: Czech Republic, Poland, Serbia, Russia, Great Britain and Turkey.

This year's IRRC – Waste-to-Energy – is going to take place on 8th and 9th September in Vienna. With the congress venue Vienna additional participants from the above mentioned and other countries shall be attracted.

On the first day of the English congress, there will be a plenary session with political and strategic presentations.



On the second day there will be two parallel sessions, in which projects and technical developments are going to be presented. Scheduled are the subjects **incineration** – technology of waste incineration, energy efficiency and use, flue gas treatment, treatment and utilization of slag – and **alternative Waste-to-Energy processes** – mechanical-biological treatment, utilization of solid recovered fuels, fermentation and utilization of biogas, pyrolysis and gasification.

At the congress we are publishing an English book of about 400 pages containing the elaborated articles written by the lecturers.

Karl J. Thomé-Kozmiensky



Partners

Deutsche Gesellschaft
für Abfallwirtschaft e.V.



VBSA
ASED
ASIR



Media Partners



RECYCLING
magazine

ReSource

Abfall • Rohstoff • Energie Fachzeitschrift für nachhaltiges Wirtschaften

8th and 9th September 2014

Congress venue

Vienna Marriott Hotel

Parking 12a • A-1010 Vienna
 Tel. +43-1-515180
 Fax +43-1-515186736
 Internet: www.marriott.com
 Single room for 209,- EUR per night
 limited offer reserved until 8th August 2014

IMPORTANT

Organize your overnight stay as early as possible.
 Vienna is a very popular city and there are a number of other events taking place in September.

Alternative hotel

There are a number of alternative accommodations close to the conference venue. You can book rooms directly at the hotel or by using online hotel portals, like **hrs.com**.
 But please be aware that these special offers are binding and cannot be cancelled anymore.

If you want to make use of the limited group rate, please visit our website www.vivis.de, go to **IRRC**, then to **conference venue** and follow the link to book the group rate. You will be directed to a page of the **Vienna Marriott Hotel**, which was created only for the participants of the **IRRC**.

Conditions of Participation and Services

How to register

With the registration you acknowledge the terms and conditions of TK Verlag Karl Thomé-Kozmiensky as binding.

The registration of participants must be in writing either by e-mail, by mail, by fax or online using the application form. Please use a separate form for each applicant. It is not possible to register only for parts of the event, unless stated otherwise in the programme. On receipt of your application we will send you an invoice for your participation fee, which also serves as a confirmation of your registration.

If you are unable to attend the congress, your registration can be delegated to a substitute person. Cancellation requests must be received in writing on or before the cancellation deadline of 8th August 2014. Written notifications are accepted via email, mail or fax. Cancellations received on or before 8th August 2014 will receive a refund of the paid fees minus an administration fee of 50,- EUR + VAT. Cancellations received after the cancellation deadline will not be issued a refund. Any unpaid congress fees are due and payable to TK Verlag Karl Thomé-Kozmiensky. Congress documents will be send to registered attendees, who were unable to participate.

The organizers will provide a reduced conference registration fee for participants from economically weak countries, including the new EU-member states (countries that joined the EU in the year 2004 or later). With the term „economically weak countries“ the organizers mean those countries, defined as „low and middle income economies“ by the World Bank.

If the conference must be cancelled or moved to another date, all registered participants will be informed instantly. For losses resulting from the cancellation of the congress TK Verlag Karl Thomé-Kozmiensky is not liable. The invoice amount already paid by the participants will be refunded immediately.

The programme is subject to alterations.

Conference fees

890,- EUR + VAT.
 Regular fee for participants from the EU-15 and EFTA countries, and overseas (high-income economies)
 300,- EUR + VAT.
 Reduced fee for participants from economically weak countries, including the new EU-member states and full-time professionals of public authorities or universities
 100,- EUR + VAT.
 Reduced fee for students

Payment details

Please do not pay the congress fee until you have received your invoice. Write the invoice number and the name of the attendee legibly on the money transfer form.

The fee comprises:

- Attendance at all presentations
- Coffee breaks and luncheons for both days
- Participation at the evening event on 8th September 2014
- Congress documents
 - * Book of the congress contributions
 - * Proof-of-entry (also serves as name tag)
 - * List of speakers and participants
 - * Final program

Organisation of the Congress: TK Verlag

Dorfstraße 51 • D-16816 Nietwerder-Neuruppin
Phone +49.3391-45.45-0 • Fax +49.3391-45.45-10
Email: tkverlag@vivis.de

Fax Registration for the IRRC Waste-to-Energy +49.3391-45.45-10

My special interests on 9th September 2014 are (please tick):

9

<input type="checkbox"/> Waste incineration	<input type="checkbox"/> Flue gas treatment	<input type="checkbox"/> Mechanical-biological treatment	<input type="checkbox"/> Solid recovered fuels
<input type="checkbox"/> Examples of waste incineration plants	<input type="checkbox"/> Recycling of incineration residues	<input type="checkbox"/> Fermentation and biogas utilisation	<input type="checkbox"/> Pyrolysis and gasification

I submit my binding application to attend the **IRRC Waste-to-Energy from 8th to 9th September 2014 in Vienna.**

I accept the terms and conditions.

I will pay the following conference fees after receiving my invoice:

- 890,- EUR + 20 % VAT.** Participants from the EU-15, the EFTA countries, and overseas
- 300,- EUR + 20 % VAT.** Reduced fee for participants from other countries, public authorities and universities
- 100,- EUR + 20 % VAT.** Reduced fee for students
- I will attend the evening event on **8th September 2014.**

 Name / First Name / Title

 Company / Organisation

 Department

 Address

 Post Code / City / Country

 Phone and Fax

 Email

 Date, signature