

International VDI Conference 2017

Sewage Sludge Treatment

May 17 – 18, 2017 in Copenhagen, Denmark

- Developments of international Markets
- Thermal Treatment of Sewage Sludge
- Recovery of Phosphorus
- Political Developments and current EU-Legislation
- Methods for the (energetic) Recovery of Sewage Sludge

+ Excursion to the BIOFOS Plant in Copenhagen on May 16, 2017

Meet experts from the following companies:



Outotec

PYREG



AVaccani&Partners
Management Consultants
S&A-Advisors



Conference chair:

Prof. Dr.-Ing., Peter Quicker, Professor and Institute Director, RWTH Aachen, Germany



About us



The Association of German Engineers (VDI) is one of the largest technical-scientific associations in Europe. Throughout the years, the VDI has successfully expanded its activities nationally and internationally to foster and impart knowledge about technology-related issues. As a financially independent, politically unaffiliated and non-profit organization the VDI is recognized as the key representative of engineers both within the profession and in public.

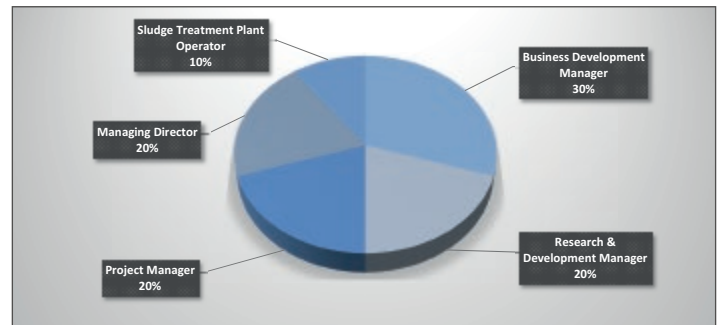
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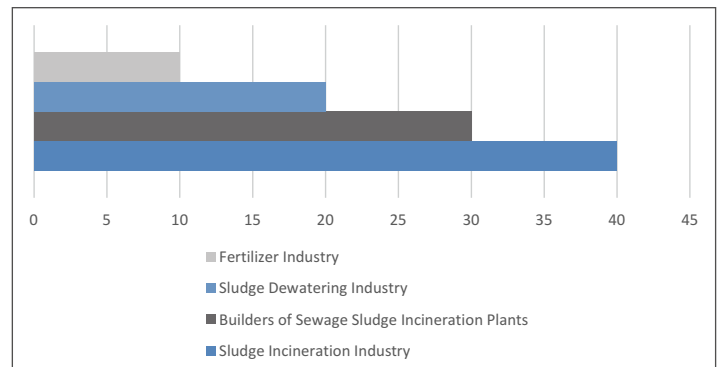
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Expected Participants according to Functions



Expected Participants according to Industries



**16:00 Excursion BIOFOS Plant**

On May 16, 2017 we will visit the BIOFOS plant. The excursion will take two hours and you will get a detailed insight into the operations of the plant. The visit is included in the registration fee. However, due to organizational reasons you need to register for the tour in advance. Please see the registration form on the last page.

Wednesday, May 17, 2017

1st day

10:00 Registration & welcome coffee

10:30 Chair's welcome and opening address

Chair: Prof. Dr.-Ing., Peter Quicker, Professor and Institute Director, RWTH Aachen, Germany

I. Legislation, Policy and Markets**10:45 The European Union Policy and Law on Sewage Sludge**

- Existing legal framework
- Implementation in the EU Member States
- Reviewing the existing legal framework
- The Circular Economy Package and Sewage Sludge

Dr. Wybe Th. Douma, Senior Researcher, T.M.C. Asser Institute for International and European Law, The Netherlands

11:15 EU Policy on Sewage Sludge Utilization and Perspectives on new Approaches of Sludge Management

- European and national legislation
- Surveys of sludge production and processing around Europe
- Organic contaminants in sewage sludge
- Novelty in sewage sludge processing

Giuseppe Mininni, Coordinator of the sector on sludge, biomass and waste management, Water Research Institute, National Research Council, Italy, co-speaker: Prof. Stephen Smith, Head of Environmental Water Resource Engineering, Imperial College, UK

11:45 Strategies of Sewage Sludge Disposal in the EU

- Risks of organic materials in sewage sludge
- Sludge treatment and disposal strategies in relation to technology market feasibility assessments
- Outlook on future legislation and regulation in sewage sludge disposal and treatment
- Resource recovery

Roderick Palfrey B.Sc., Senior Consultant, Treatment Processes, WRC plc, UK

12:15 International Market Developments in the Sewage Sludge Treatment Industry

- Market drivers and sewage sludge volumes
- Global technology trends
- Selected key players
- Market outlook

Amedeo Vaccani M.Sc., Managing Partner, co-author: Zeinegul Salimova, Strategy Consultant, both A.Vaccani&Partners, Switzerland

12:45  Lunch

14:15 Phosphorus Recycling – From Vision to Practice

- Policy development in Europe within the circular economy package
- Different national approaches towards sustainable phosphorus management
- Phosphorus recycling: Reasons, technological developments and market potentials

Ludwig Hermann, MEW Business Innovations Manager, Outotec GmbH & Co. KG, Germany and **Dr. Daniel Frank**, Secretary, Deutsche Phosphorus-Plattform DPP, Germany

II. Introduction**14:45 Overview about Methods and the Status Quo in Sewage Sludge Treatment**

- Technologies in sewage sludge treatment
- Advantages and disadvantages of different methods
- Plant concepts and aims of sewage sludge treatment

Prof. Dr. Ing. Peter Quicker, Professor and Institute Director, RWTH Aachen, Germany

III. Current Status of Sludge Incineration**15:15 Successfully Execution and Commissioning of Sludge Incineration Plants**


- Project execution on clients time schedule and clients budget
- Challenges in process design to comply with emission limits
- Design for best lifetime cost

Dipl. Eng. Ralf Decker, Vice President, Thermal Processing co-author: Dr. Dieter Müller, both Outotec GmbH & Co.KG, Germany

15:45 Reducing Operation Problems by Co-Firing with municipal Sludge

- Co-firing of municipal and industrial waste with digested municipal sludge
- Results from full scale trials in fluidised bed boilers and grate fired boilers
- Reduction of risk for bed agglomeration and corrosive deposits

Solvie Herstad Svärd M.Sc., Senior Consultant, Heat&Power, WSP Sverige AB, Sweden

16:15  Networking & coffee break

IV. Trends in Resource Recovery

16:45 Outlook on Resource Recovery from Sewage Sludge

- Current schemes and technologies
- Current and future drivers to increase resource recovery
- New innovations and aspects of sustainability in the sewage sludge industry
- Industrial symbiosis as an opportunity for improvement

Mona Arnold Tech. Lic., MBA, Business Development Manager, Solutions for Natural Resources, VTT Technical Research Centre of Finland, Finland

17:15 The Role of Phosphorus Recycling in Circular Economy

- Development over the last decade in phosphate recycling
- ICL's worldwide activities – Approaching different markets
- Best practice, future developments and lessons learned – Projects: Fertilizers, RecoPhos and Tenova

Kees Langeveld, Vice President, Business Development, ICL Europe, The Netherlands

17:30 End of conference day one



Get-together

At the end of the first conference day we kindly invite you to use the relaxed and informal atmosphere for in-depth conversations with other participants and speakers.

09:00 15-years Experience in ecological Sound Sewage Sludge Recovery at HeidelbergCement

- Sourcing and drying of dewatered sewage sludge
- Transport and storage of dry sewage sludge
- Mineral and thermal recovery of sewage sludge
- P2O5 recovery and optimization of energy efficiency
- Emission control when co-processing sewage sludge in cement kiln

Ir. Jan Theulen, Director Alternative Resources, Global Environmental Sustainability, HeidelbergCement, Belgium

V. Methods in Sewage Sludge Treatment

09:30 Making Room for Innovation – New Methods and Concepts for the Treatment and Drying of Sludge

Panel Discussion

Moderator: Prof. Dr.-Ing. Peter Quicker, Professor and Institute Director, RWTH Aachen, Germany

Panelists:

- **Changes in the global Market for municipal Sludge Drying from a Technology Provider's Point of View**

Dipl.-Ing. Alexander Kuppe, Managing Director, ANDRITZ Gouda B.V., The Netherlands

- **Waterleau's Activities in Sludge Incineration and thermal Treatment of Sludge using Solar Energy**

Hans Grootaerd, Vice President Operations, Waterleau Group NV, Belgium

- **Supercritical (hydrothermal) Gasification**


Dr. John Harinck, Managing Director, Gensos B.V., The Netherlands

- **Thermal Hydrolysis of Sludge for Fertilizers**

Joost Edens B.Sc., Manager Water & Sales, Sustec B.V., The Netherlands

- **Sewage Sludge Drying – Efficient Developments**

Ulf Bojner, Managing Director, AB Torkapparater, Sweden

11:00  Networking & coffee break

VI. New Plant Concepts and Plant Optimization

11:30 Sewage Sludge Utilization with PYREG Technology

- Energy autarkic sludge mineralization
- Fertilizer production
- Emission standards in small scale combustion units

Kevin Friedrich M.Sc., Head of Research and Development, co-author: Dipl.-Ing. Helmut Gerber, Managing Partner, both PYREG GmbH, Germany

12:00 Industrial HTC Technology applied to Sewage Sludge Treatment

- Design concept of an Industrial HTC facility for sewage sludge
- Economic and technical data from HTC Industrial Plant operation with sewage sludge
- Uses and market for bioproducts obtained
- European market for sludge treatment

María Luisa Hernández Latorre MBA, CEO, co-author: Dip-Ing. Martin Hitzl, both INGELIA S.L., Spain

12:30  Lunch

13:30 Reduction of the Minimum Incineration Temperature: Effects on the Emissions

- Optimization of a sewage sludge incineration plant
- Approved test operation for reduction of the minimum incineration temperature
- Temperature dependency of air pollutants emissions
- Effects on the auxiliary fuel demand

Dr.-Ing. Margit Löschau, Managing Director, wandschneider + gutjahr ingenieurgesellschaft mbh, Germany

14:00 Thermal Sludge Treatment in Germany – Case Studies


- Sludge framework in Germany
- Technology for thermal sludge treatment
- Reference projects and economics

Dipl.-Ing. Jörn Franck M.Sc., Managing Director, Dr. Born – Dr. Ermel Ingenieure GmbH, Germany

14:30 Sewage Sludge – Driving Energy Recovery and Usage to its Potential

- Maximising energy recovery by digestion, incineration and flue gas condensation
- Optimal energy use through integration with city infrastructure for gas and district-heating
- Synergies through co-location of thermal sludge treatment and WtE plants
- Biofos, Lynetten, Copenhagen; The world's largest energy recovery from sewage sludge?
- South East Asia: Maximising electricity output from sewage sludge treatment through synergies

Tore Hulgaard Ph.D., Technical Manager, Waste-to-Energy, Ramboll, Denmark

15:30  Networking & coffee break

16:00 Hong Kong's T Park – A Solution for Sewage Sludge with Societal Benefits

- Sewage sludge disposal
- Energy recovery
- Permitting and approvals
- Benefits to the society
- Solutions

Dr. Anne Kerr, Global Head Cities, Mott MacDonald, China

16:30 Conference chair's closing remarks

16:45 End of conference



Workshop

Wastewater Treatment

Workshop Chair:

Dr. Fabio Masi, Ph.D. – R&D Manager – IRIDRA Srl – Florence – Italy

Date and venue:

May 16, 2017
Park Inn by Radisson Copenhagen Airport

Time:

10:00 – 15:30

Content:

Wastewater (WW) management is included in one of the 17 Sustainable Development Goals of the United Nations: SDG 6 is dedicated on water and sanitation. A UNEP report in 2010 stated that more than 90% of the WW produced worldwide was still discharged untreated in oceans, seas, rivers, etc. In several countries the WW management is nowadays a norm, but still there are open discussions about the kind of approach to be adopted, i.e. centralisation vs. decentralisation. The choice of the adopted technologies is strictly linked to environmental performances and economical aspects; due to the scarce “willingness to pay” for this service a great focus should be given to all the technologies that are able to lower the treatment costs still maintaining reliable and robust performances in the long term. Furthermore, WW has to be seen as a carrier of valuable primary chemicals that can be easily converted to marketable products (fertilisers, bio-plastics, soil conditioners, biofuels, etc.), and as well as a relevant source of “new water” to be used for specific purposes.

Introduction

- Biogeochemical cycles, their perturbation by anthropic activities and links with sanitation and WW management
- Centralisation vs. decentralisation
- WW management in circular economy
- Sustainable Water Management and Sustainable Sanitation
- Nature-based solutions for WW treatment and water pollution control

Case studies

- Sludge Drying Reed Beds – experiences in Denmark and abroad
- Treatment Wetlands WW Treatment Plant in Orhei (20000 pe), Moldova
- Greywater treatment and close-loop recycling
- Ecosystem services for Combined Sewer Overflows management

Summary

The near future of WW treatment in respect to the SDG 6 targets

Please note that the number of participants is limited. Registrations and individual parts and segments of the workshop are subject to confirmation.

Parallel International VDI Conference 2017

Energy and Materials from Waste

Date and venue:

May 17–18, 2017
Park Inn by Radisson Copenhagen Airport

Renowned speakers will present their results on the following topics:

- WtE in the context of European Legislation
- International Projects and Markets in the WtE-sector
- Energy Generation from Waste
- New Trends in Recycling and the Utilization of Bottom Ashes from Waste Incineration
- Innovative Technologies for the Reduction of Emissions
- Urban Mining

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Kerstin Marks

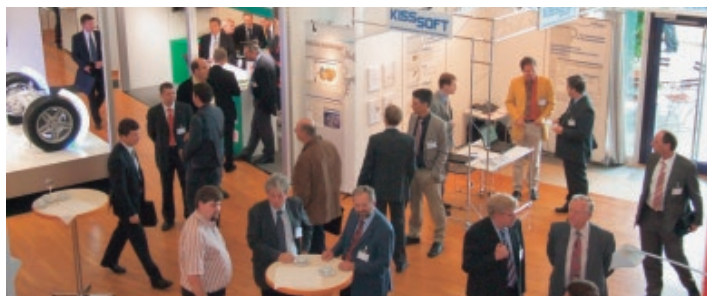
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BECOME A SPEAKER

Become a speaker at our international VDI Energy Conferences. Make yourself known in the industry and discuss best practice examples with other international experts. We are looking for speakers on: Wastewater Treatment, Power Plant Technology, Digitization in Power Plants, Urban Mining, Gas Turbines, Chemical Industry

Please submit your topic to:

Katrin Lennartz

Product Manager

International Business Development

Phone: +49 211 6214-125

Email: lennartz@vdi.de

Registration

Terms and Conditions

Registrations: Registrations for conference attendance must be made in writing. Confirmation of your registration and the associated invoice will be mailed to you. Please do not pay your conference attendance fee until you have received our invoice and its invoice number to be stated for transfer. Danish VAT directives apply. Please state your VAT-ID with your registration.

Conference venue

Park Inn by Radisson Copenhagen Airport
Engvej 171

2300 Copenhagen, Denmark

Phone: +45 32 870202

Website: www.parkinn.com/hotel-copenhagen



You will find more hotels
close to the venue at
www.vdi-wissensforum.de/hrs

Hotel room reservation: A limited number of rooms has been reserved for the benefit of the conference participants at the Park Inn by Radisson Copenhagen Airport. Please refer to "VDI Conference". For more hotels: www.vdi-wissensforum.de/hrs

VDI Wissensforum service package: The conference package includes the tour to the ARC plant or BIOFOS plant on May 16, 2017 (registration necessary!) as well as the conference documents (online), beverages during breaks, lunch and the get together on May 17, 2017.

Conference attendance conditions and terms: By way of your registration you accept the conference attendance conditions and terms of VDI Wissensforum GmbH as binding. Any cancellation of your registration must be made in writing. We will charge you only an administrative fee of € 50.00 plus Danish VAT if you cancel your registration earlier than 14 days ahead of the conference date. Any cancellation that reaches us after this deadline will entail the conference attendance fee as stated in our invoice to be charged in full. The date of the post office stamp of your written cancellation will be the decisive criterion. In that case, we will gladly mail you the conference documents on request. Subject to agreement, you may name a substitute participant. Individual parts and sections of conferences and seminars cannot be booked. You will be informed without delay if an event has to be cancelled for unforeseeable reasons. In that instance, you will be entitled only to a refund of your conference attendance fee if already paid. We reserve the right to exchange speakers and/or change the program sequence in exceptional cases. In any case, the liability of VDI Wissensforum GmbH is restricted exclusively to the conference attendance fee.

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Sewage Sludge Treatment



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Please choose your price category

Participation Fee + VAT

- VDI Conference 17.–18.05.2017**
(06KO906017) € 1,390
- Workshop 16.05.2017**
(06ST968001) € 850
- Package Price**
(conference and workshop) € 2,010

Personal VDI members + VAT

- VDI Conference 17.–18.05.2017**
(06KO906017) € 1,290
- Workshop 16.05.2017**
(06ST968001) € 800
- Package Price**
(conference and workshop) € 1,860

- Excursion ARC Plant, May 16, 2017 **OR** Excursion BIOFOS Plant, May 16, 2017

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