



# The Zero Waste & Organic Cycle

*seminar*

**Florianopolis, 27 October 2016**

**08:30 – 18:00**

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**VENUE:**

**GRANFPOLIS**  
ASSOCIAÇÃO DOS MUNICÍPIOS  
DA REGIÃO DA GRANDE FLORIANÓPOLIS

**Rua Cândido Ramos 250,  
Capoeiras Florianópolis - SC**

## Steps towards Sustainable Waste Management

- From waste to resource – prevention – reuse/recycling – energy recovery - disposal
- Legal and strategic framework for a modern resource recycling society?
- Step by step planning of key elements towards an ecological waste management
- Basics of food waste prevention along the food supply chain
- Integrating waste treatment options: composting, AD, MBT, Recycling plants for glass, plastics, metals, paper & cardboard etc., waste to energy
- Logistics and infrastructure for cost effective collection models for recycling
- Intercommunity cooperation: for efficient municipal waste collection and recycling
- Collection schemes for bio-waste at the source: garden and park waste, kitchen waste, food waste from households, shops, restaurants etc.
- Low tech – low cost composting systems in cooperation with agriculture
- Basic elements of the art of composting and humus production
- Quality management and quality assurance in composting plants
- Possible features of a pilot and demonstration project

## PROGRAM

*With simultaneous translation English - Portuguese*

### Steps towards Sustainable Waste Management

<b>8.30</b>	<b>Coffee &amp; Registration</b>
<b>09:00 h</b>	<b>Opening &amp; welcome addresses</b> Representative of Ministry Florianopolis Municipality,
<b>09:20</b>	<b>Situation key challenges and perspective of (bio-) waste management in Brasil and Sta Catarina</b> NN - ARIS
<b>10:00</b>	<b>The Austrian showcase: Key elements in practical transitions towards resource efficiency and recycling practice</b> Walter Hauer, 100NGO/TB Hauer, Austria
<b>10.45 h</b>	<b>Coffee break</b>
<b>11.15</b>	<b>What legal and strategic framework conditions needs a modern waste management towards a recycling society</b> - Learning from Europe and experience with implementation in 'start-up' countries Grigor Stoyanov, 100-NGO, Austria
<b>11:45</b>	<b>Collection of municipal waste: residual waste, recyclables, from 'door to door' to recycling centres – logistics and economic instruments</b> Walter Hauer, 100NGO/TB Hauer, Austria
<b>12:30</b>	<b>Questions &amp; Answers</b>
<b>12:45</b>	<b>Lunch</b>
<b>13:45</b>	<b>Integrating waste treatment and recycling technology options how to get the most out of it</b> Wolfgang Müller, Technical University Innsbruck, Austria)
<b>14:30</b>	<b>Bio-waste management</b> Florian Amlinger & Wolfgang Müller 100-NGO; Austria <b>Part I: Collection:</b> Collection schemes for bio-waste at the source: garden and park waste, kitchen waste, food waste from households, shops, restaurants etc.
<b>15.15</b>	<b>Coffee break</b>
<b>15:45</b>	<b>Part II: Composting and anaerobic digestion– the decentralized way of organic recycling:</b> Techniques, quality management and quality assurance, agricultural composting, humus management, Options for integration of biogas technology
<b>16:30</b>	<b>Basics of food waste prevention along the food supply chain</b> - Generation of food waste and negative impact, reasons for generation and ideas for prevention measures Felicitas Schneider, 100-NGO, Austria
<b>17:15</b>	<b>Possible steps towards a pilot and demonstration project</b> <b>Debate &amp; Questions &amp; Answers &amp; Outlook</b>
<b>ca 18.00 h</b>	<b>End of seminar</b>

## Our '100NGO' team

### Ing. Mag. Walter Hauer

#### Key words:

- Main strategies to reduce the residual to be landfilled (→ Zero Waste)
- Key criteria for cost effective modern waste collection and increasing recycling rates
- Economic drivers and waste fee models supporting recycling
- Smart locally adapted collection schemes and logistics: door to door, bring sites and recycling centres
- How to design and organise a recycling centre – inter-municipal cooperation
- Waste composition analyses
- Participative procedures with all important players for the change from waste to resource



Walter Hauer is CEO of Technisches Büro HAUER Umweltwirtschaft GmbH. He is independent Consultant for Waste Management, resource efficiency, sustainable development and environmental economics since 1992. He is holding degrees in economics and mechanical engineering and is experienced in developing and improving waste management and resource management in different regions – technically, economically, organisational (Central Europe, South-East Europe, Iraq). He is experienced in leading developing process with participation of different stakeholders and the public. Author of innumerable number of studies for public and private organisations, Mediator, State Certified Expert, Member of Scientific committee of international congress, speaker at international congresses

### Florian Amlinger, MSc

#### Key words:

- Collection schemes for organic waste in cities and rural environments
- Decentralised and cooperative collection and composting models between municipalities and farmers
- The art of composting: low tech – low cost – high quality composting
- Quality assurance scheme and quality management in composting and quality standards for compost
- Logistics for food waste collection from big producers (restaurants, food processors, markets)



Mr. Amlinger is agronomist and director of Compost – Consulting & Development (Austria) and Board Member in '100NGO'. He has been involved in research and development projects in the area of separate collection and composting of organic waste as well as compost application since 1986. He participated in applied research projects involving the process optimisation of organic waste composting, the quality definition und best practice of compost application including the assessment of nutrition value, nitrogen dynamic, the assessment of potential toxic elements (PTEs) and organic pollutants in composts of different origins as well as greenhouse gas emissions from decentralised small scale composting systems.

He has managed large multi-disciplinary projects such as "The handbook of composting" (Austrian Ministry for Agriculture and Ministry for Science, 1993), "The Bio-Bin of Vienna" (City of Vienna, 1993), the study "Beneficial Effects of Compost Application on Fertility and Productivity of Soils - Literature Study" (Austrian Ministry for Environment, 2007) Austrian Guideline in Good Practice of Composting in 2008, the study "Bio-based plastics –sustainable introduction – waste collection and recovery", Provincial Government of Lower Austria, 2008), The "Action Plan for Organic Waste" in Austria (Austrian Compost & Biogas Association®, 2010)

He was main consultant in preparing the Austrian Compost Ordinance

2012 – 2014 he is lead partner of a 2-years EU funded project developing the “Legal and Structural Framework for a Bio-Waste Strategy for Bulgaria”

Since 2004 Mr. Amlinger held numerous workshops, and lectures in sustainable bio-waste management, compost production and use in Europe and overseas (e.g. Spain, Portugal, Slovakia, Czech Republic, Bulgaria, Georgia, Australia, Romania, Estonia, Armenia ...).

### **Dr. Ing. Wolfgang Müller**

#### **Key words:**

- Recycling techniques for mixed and residual municipal waste
- Mechanical-biological treatment as central unit for environmentally sound treatment of residual waste
- Stabilisation of organic waste fractions before landfilling or the production of low grade compost
- Possible mechanical recycling techniques for residual waste.
- The wide range of MBT solutions: from small decentralized to large centralized solutions and its combinations
- Centralised techniques for biological treatment:
  - Open windrow composting
  - Aerobic stabilisation in closed reactors (composting)
  - Anaerobic Digestion in Biogas Plants
  - Production of Refuse Derived Fuel (RDF)



Wolfgang Müller works at Innsbruck University as senior scientist since November 2009. His responsibilities are the development and execution of research projects as well as lecturing.

Wolfgang Müller has more than 20 years of experience in the field of solid waste. His specialist areas are mechanical and biological waste treatment, covering composting and anaerobic digestion. During the last few years he increasingly focused on energy issues by means of biomass utilisation and the production of refuse derived fuels (RDF). He can draw from the experience of a vast amount of applied waste management projects.

Wolfgang has extensive international experience with selecting and developing the most appropriate integrated waste treatment/ energy production systems for any given situation, not limited to anaerobic digestion of mixed waste and source separated organics, production or Refuse Derived Fuel (RDF), utilisation in cement kilns, pyrolysis, Oxygen Starved Combustion (syngas) and other purpose built combustion facilities. Due to his intimate understanding of the technical and operational requirements for the various waste treatment systems, Wolfgang was also involved in the development of national regulations for waste treatment in Germany, UK and Bulgaria, regarding MBT (mechanical-biological waste treatment) in the context of European Landfill Directive, which mandates the minimisation of landfill disposal of waste with harvestable energy.



## **Grigor Stoyanov, MSc**

### **Key words:**

- Modern Waste Policy making: Key elements of the necessary national regulatory framework
  - Waste Management act
  - Ordinances for selected waste streams
  - Strategies, Waste Management Plans and guidance documents for the stakeholders
- Supporting local authorities in implementing waste legislation, strategies and local WM plans
  - Municipal Waste management Programs and planning
  - Guidelines and education tools
  - Drivers and incentives
- Important elements for a national (state) and local strategies for bio-waste recycling



Mr. Grigor Stoyanov has graduated the bachelor diploma on “High molecular chemistry and polymers, Chemical technology and biotechnology” and become an engineer on “Engineering protection on environment” in State Technology Institute (Technical University), Saint Petersburg, Russia. His professional career is already more than 11 years in the field of environment protection; 5 years from which were in the public administration working for the Ministry of environment and water of Bulgaria, Waste management and soil protection directorate.

## **Felicitas Schneider, MSc**

### **Key words:**

- Food waste generation and underlying reasons in the food supply chain
- Framework conditions towards stakeholder cooperation
- Successful food waste prevention and reduction projects, e.g.:
  - Concepts for food waste reduction at retailers and supermarkets
  - Food waste prevention initiatives in HORECA sector
  - Case studies related to social markets, food banks etc.
  - Awareness campaigns for households



Felicitas Schneider is research associate at the Institute of Waste Management, BOKU-University of Natural Resources and Life Sciences, Vienna, since 2001. Her specialised knowledge covers among others food waste, waste logistics, waste generation, waste prevention, Life Cycle Analysis (LCA), renewable resources, plastics. Her main activities include acquisition and working on research projects, teaching and supervision of students, PR work, national and international networking and training.

### **Laurinho Bandejas**

- Project coordinator and moderator
- Public relations

From 1985 until 1990 co-founder from Mato Grosso GmbH, a firm that represents the cultural tradition from Brazil in Austria

From 2000 until 2010 general secretary of the Austrian-Brazilian society/ umbrella organisation for foreign companies. During this time frame different political and economic delegations were welcomed in Austria

2005 accompanist of an official Austrian governmental delegation to Brazil

Since 2010 general secretary of the Sociedade Austro-Brasileria (platform for bilateral relations). Establishment of four official representatives in Brazil. Reached the status as Public Interest Civil Society Organization OSCIP in Brazil.

Since 2012 leader of an own PR firm.

