3rd Baltic Biowaste Conference, 23/24 Nov. 2011, Vilnius
"Landfill Directive, ABPR, End-of-Waste, Recycling targets, resources strategy - Follow ups of EU Legislation for national organic waste management strategies and policies"
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Landfill Directive, ABPR, End-of-Waste, Recycling targets, resources strategy - Follow ups of EU Legislation for national organic waste management strategies and policies

Florian Amlinger,
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Austria

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European Legislation and Policy on Biowaste

- EU Landfill Directive; (EC) Nr. 1999/31
- EU Waste Framework Directive; (EC) Nr. 2008/98
  - ✓ Recycling Targets- Biowaste
  - ✓ Waste Hierearchy & Life Cycle Thinking (!)
  - ✓ End of Waste for Compost & Digestate
- Communication on the Management of Bio-Waste in the EU *COM(2011) 571 final*
- EU Climate Change Programme
- Fertiliser Regulation (EC) Nr. 2003/2003
- Animal By-Products Regulation (EC) Nr. 1069/2009
- REACH – EU Chemicals Regulation (EC) Nr. 1907/2006
- IPPC / Industrial Emission Directive; 2(EC) Nr. 2010/75
- Renewable Energy Directive (EC) Nr. 28/2009
- Roadmap to a Resource Efficient Europe *COM(2011) 571 final*
- EU Soil Protection Strategy *COM(2006) 231 final*

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EU-Landfill Directive 1999/31/EC

Reduction of **biodegradable** waste from landfill

in % of biodegradable waste 1995

25% → 2006/10 | 50% → 2009/13 | 65% → 2016/20

separated at the source

liquid → BIOGAS → DIGESTATE

dry/solid → COMPOST

mixed waste → MBT / INC.

For the **Landfill Directive diversion targets** (Art. 5) an **impact assessment** on the need of the revision of these targets will be started soon (2012).

?? > 65% ?? ... ?? Complete Ban from 2020/25 ??

INCINERATION ???

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The Waste Framework Directive

- **Recycling Targets** ...
  - ✓ **50% Recycling until 2020** at least for
    - Paper, Metals, Plastic and Glass *from households or similar sources*
  - ✓ **Accounting method**
    Draft COM Decision of "Establishing rules and calculation methods for verifying compliance with Recycling targets set in Art. 11 (2) of the WFD"
    - 20 01 08 ... Biodegradable kitchen and canteen waste
    - 20 02 01 ... Biodegradable garden and park waste

    Generating Compost & Digestate ending up in Recovery method R 10 Land treatment resulting in benefit to agriculture or ecological improvement
    - **Home Composting**
- → No Energy Recovery !!
  → No Sludges !!

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The Waste Framework Directive

- **Article 22 on Biowaste**
  - ✓ Member States shall take measures, as appropriate,..., to encourage:
    a) separate collection & composting and digestion
    b) at a a high level of environmental protection;
    c) the use of environmentally safe materials.
  - ✓ The Commission will carry out an assessment on the management of bio-waste with a view to submit a proposal if appropriate.
    → setting minimum requirements for bio-waste management and quality criteria for compost

1.) Green Paper ..... 2.) Impact Assessment Studies ..... 3.) Communication

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Waste Hierarchy vs. Impact Assessment & LCT/LCA

The 5-Step Waste Hierarchy

PREVENTION
PREPARING FOR RE-USE
RECYCLING
ENERGY RECOVERY
DISPOSAL

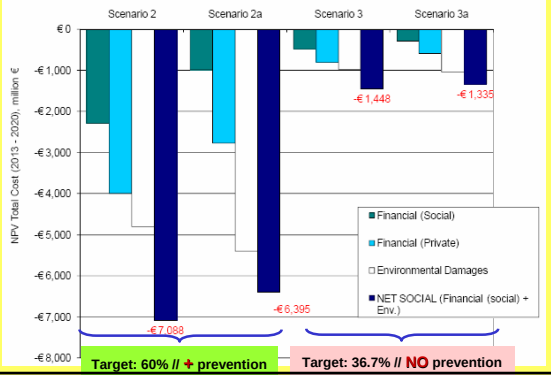
- ***Study I*: ASSESSMENT OF THE OPTIONS TO IMPROVE THE MANAGEMENT OF BIOWASTE IN THE EUROPEAN UNION** [2009/2010]
  - ✓ *PROBLEM*:
    "the baseline scenario is developed on the assumption that all Member States are coping with the targets from the Landfill Directive"
  - ✓ *SCENARIOS*:
    - 2 TARGETS for separate collection → 60% & 36,7%
    - With / without PREVENTION
    - FOOD WASTE
      - optimised combination of in-vessel composting & AD
      - all food waste → AD

Significant financial and environmental benefits in ALL scenarios

Impact Assessment Studies

Biowaste Management; EU-Perspectives

***Study I*: Financial & Environmental Costs – Total Cost/Benefit**



Impact Assessment Studies

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***Study I*: Reductions of GHG emissions in 2020 compared to the baseline (Mt CO_2-eq)**

60% recycling + prevention	40 Mt
Of which: waste prevention	*80%*
36.7% Recycling … No Prevention	Ca. 2 Mt

➢ ***CONCLUSION COMMISSION*:**

"… make best use of the existing regulatory framework …… Member States may choose the best options for their respective circumstances."

NO additional regulation or targets for Biowaste

Assessment of implementation of existing regulations 2014

Impact Assessment Studies

Biowaste Management; EU-Perspectives

➢ ***Study II*: ASSESSMENT OF FEASIBILITY OF SETTING BIO-WASTE RECYCLING TARGETS IN EU, INCLUDING SUBSIDIARITY ASPECTS [2011]**

✓ *RESULT*:

- NO fundamental revision of previous results: both targets bring net benefits
- Net benefits of bio-waste recycling exceed the costs

Scenario	Target	Removed Biowaste from MSW	NET Benefit 2013 - 2020	GHG Reduction
I	60% food waste 90% garden waste	88 Mt +27 Mt capacity	3,000 M€	6 Mt CO_2
II	36.5%	21 Mt +5 Mt capacity	668 M€	1.5 Mt CO_2

END of WASTE criteria for COMPOST & DIGESTATE

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Final Report: October 2008

➢ 2 Consultation Meetings
- ✓ February 2011
- ✓ 24/25 October 2011
- ✓ Draft Reports

➢ 2nd Consultation
- ✓ → 11 January 2012

➢ Final Report to DG ENV
- ✓ March 2012

➢ EoW Regulation
- ✓ End of 2012 ?

No separate regulation for DIGESTATE !

END of WASTE proposal for COMPOST

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➢ **The key elements**

- ✓ Positive List of feedstocks
- ✓ Limit Values
- ✓ Product property to be declared & labelled
- ✓ Standard external control and Quality Assurance scheme

Fertiliser Regulation (EC) Nr. 2003/2003

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- ✓ Inclusion of Organic Fertilisers
- ✓ Results of CONSULTATION/IMPACT ASSESSMENT → December
- ✓ 4 working groups within TAC: January 2012
  - ✓ Overall structure; Nutrient content, Contaminants/Risks; Labelling/Control
- ✓ Proposal new regulation until the end of 2012
- ✓ Reference: End-of-Waste standards & QAS for market control

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ABPR – the 2 Documents

- **Animal By-Products Regulation (EC) Nr. 1069/2009**
  …it shall apply from 4 March 2011
- **Implementation rules Regulation (EC) Nr. 142/2011**
  …published OJ L54 26 Feb 2011
- **Composting and AD: Cat. 2 / Cat. 3 Material only !**

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- **Catering Waste ….** → **National rules …..**
- **Article 15 (2) (a) (ii)**
- *Pending the adoption of common (EU) rules …*
  - Member States may adopt or maintain national rules for:
    the transformation of animal by-products referred to in Article 10(p) [=catering waste]

including:

- manure;
- digestive tract content separated from the digestive tract;
- milk; milk-based products; milk-derived products; colostrum; colostrum products;
- eggs; egg products;
- former foodstuff which has undergone processing.

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Time –Temperature Regime

- Other Cat. 3 Material

→ 70 °C → 1 hr → particle size: 12 mm

- …. does not reflect the reality of hygienisation processes. A more flexible system is necessary…..

… therefore …

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Time – Temperature Regime … flexible … well experienced and investigated !

Composting system	°C	Time	Further conditions
OPEN windrows	> 55 °C 65 °C	10 days 3 days	➢ At least 3 to 5 times of physical agitation (turning) ➢ > 40 to 55% moisture ➢ Min 6 – 8 weeks composting
CLOSED Systems	60 °C	3 days	
ANAEROBIC Digestion thermophile	> 55 °C	24 h 20 days	➢ Followed by composting (?) ➢ see above
ANAEROBIC Digestion mesophile	< 40 °	28 days	➢ Pasteurisation unit OR ➢ Followed by composting ➢ see above

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REACH - EU Chemicals Regulation (EC) Nr. 1907/2006

- EXCLUDED from REACH
  - ✓ COMPOST and DIGESTATES as WASTES
  - ✓ COMPOST as a PRODUCT according to article 5.

  BUT DIGESTATE is NOT EXCLUDED
- Commission's current INTERPRETATION:
  - ✓ Material coming partly or fully **from living organisms** which are **unprocessed** (NOT chemically modified) is **exempted** from REACH.

Problem for AD

- ✓ food residues often have undergone chemical modification during food processing (e.g. strawberry and strawberry marmalade).

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IPPC / IED - Inclusion of Biological Treatment?

- Best Available Technique Reference Document [BREF] for the whole waste management sector starts January 2012.
- "Mini-BREF" for biological treatment
- New concept:
  - ✓ Instead of BAT document: description of typical (suitable) technologies acknowledged in biowaste management in MSs (technology, management, operation, emission control & costs)

ECN … **DANGER:** expensive and disproportionate Over-Regulation Quality management / assurance is much more effective, covers all scales of facilities than high level of technology … we need
flexible, locally adapted solutions.

Renewable Energy DIR. (EC) Nr. 28/2009

Biowaste Management; EU-Perspectives

- Target → 2020: 20% renewable recourses; 10% trafic sector
- Framework for
  - ✓ Make use of manure and agricultural residues: decentralised, regional investments → new agricultural income → rural development
- Sustainability criteria for biofuels and bioliquids
  - ✓ CO_2 savings: > 35%
  - ✓ Respecting biodiversity and soil/landscape conservation
- Definition of BIOMASS
  - ✓ 'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste;
  - ✓ Energy Efficiency Coefficient is missing

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Roadmap for Resource Efficiency in Europe

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- Important initiative: it includes the change of the waste status into a qualification as resource.
  - revision of the Waste framework Directive → 2014
  - biowaste recycling = resource management.
- → use of phosphorous sources
  → reduce erosion
  → increase organic matter in soil, + biodiversity.
- full implementation of the EU waste acquis → minimum targets
- Stimulate demand for recycled materials → economic incentives (2012);
- Minimum recycled material rates (2012);
- Public / EU funding → support recycling plants rather than incinerators (2014);
- Review existing prevention, re-use, recycling and landfill diversion targets
  - ✓ → economy based on recycling → residual waste close to zero
    → 2014

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The Key = BIODIVERSITY !

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