



Development of EU policies for biowaste treatment

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The Chartered Institution
Of Wastes Management
Serving Professional Waste Managers

ISWA Biological Treatment Workshop
Global Issues Pertaining to Bio-waste
Turin, Italy
15 March 2012



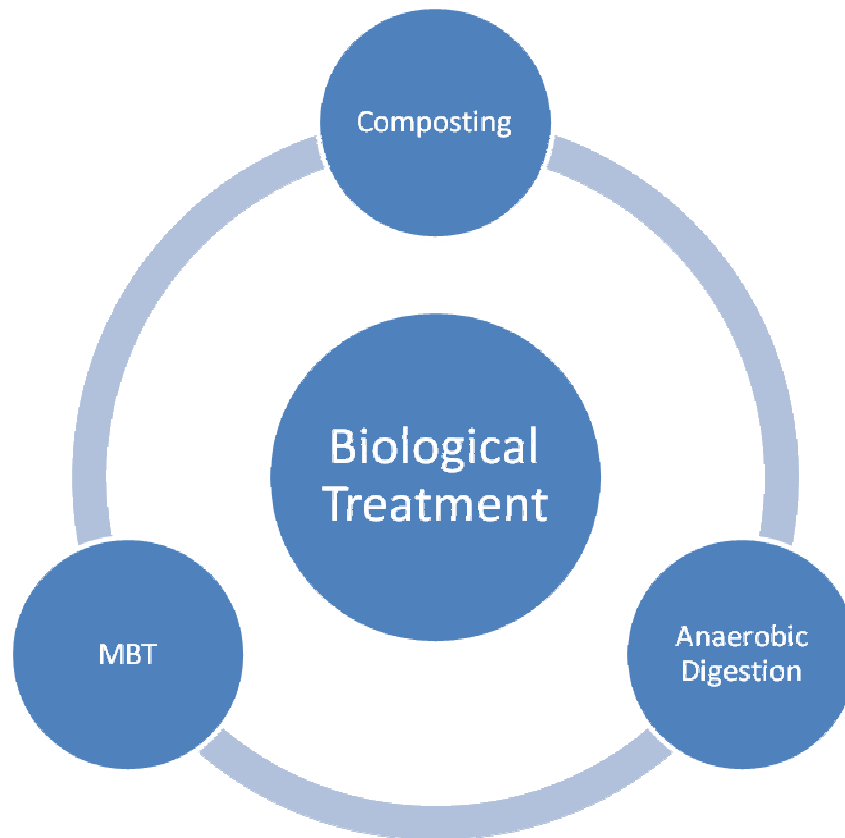


Presentation overview

- Introduction to biological treatment
- Developing EU policies
- Realising bio-waste's potential



What is Biological Treatment?



- Range of processes
- Treat **bio-wastes** to manufacture products
- Stabilise waste before disposal
- In presence or absence of oxygen
- Many benefits



What is bio-waste?

- Defined in the **Waste Framework Directive**
- Includes: garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and food processing plants
- Across the EU:
 - Between **118** and **138** million tonnes per annum
 - **88** million tonnes is municipal waste





EU biowaste policy ... a potted history

- 2000 – 1st Working Document on Biowaste
- 2001 – 2nd Working Document on Biowaste
 - Widespread stakeholder consensus
- 2004 – Draft discussion document on Biowastes and Sludges
- 2008 - Waste Framework Directive
 - Calls upon the Commission to assess biowaste management in the EU and proposes measures to improve it, if appropriate
- December 2008 - Green Paper on biowaste
- May 2010 - Commission Communication on biowaste
 - Calls for better use of existing legislation



2010 Bio-waste Communication Recommendations

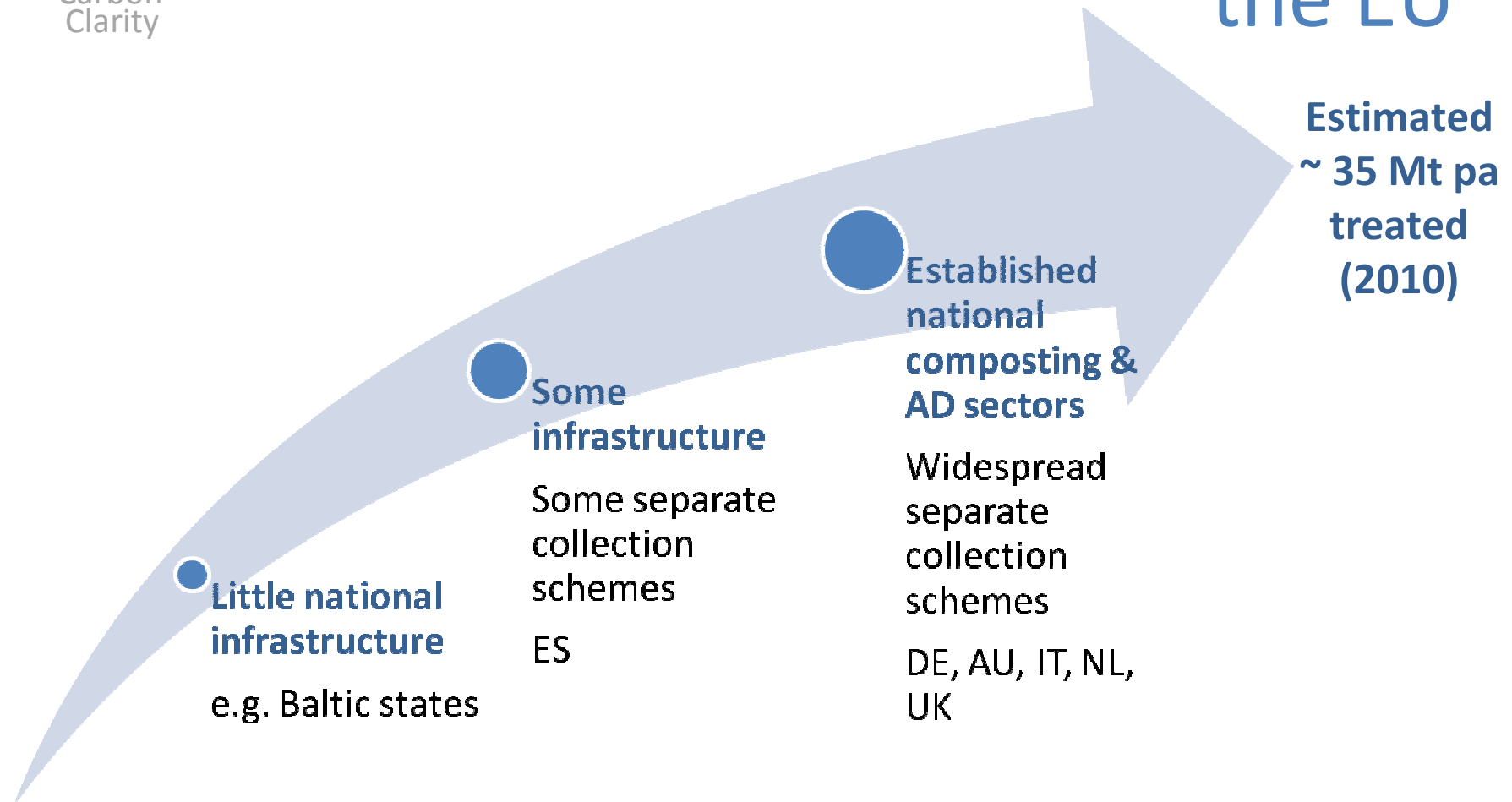
- Separate collection and biological treatment
 - justified on economic and environmental grounds

BUT, Commission prefers

- Enforcement of current legislation
 - Landfill Directive & Waste Framework Directive
- Improved biowaste prevention
- Improved compost/digestate management and markets
 - End-of-waste criteria



Big differences in capacity across the EU



Implementation of the Landfill Directive across member states was found to be impartial, due, in part, to varying performance on bio-waste diversion
EC Report Jan 2012

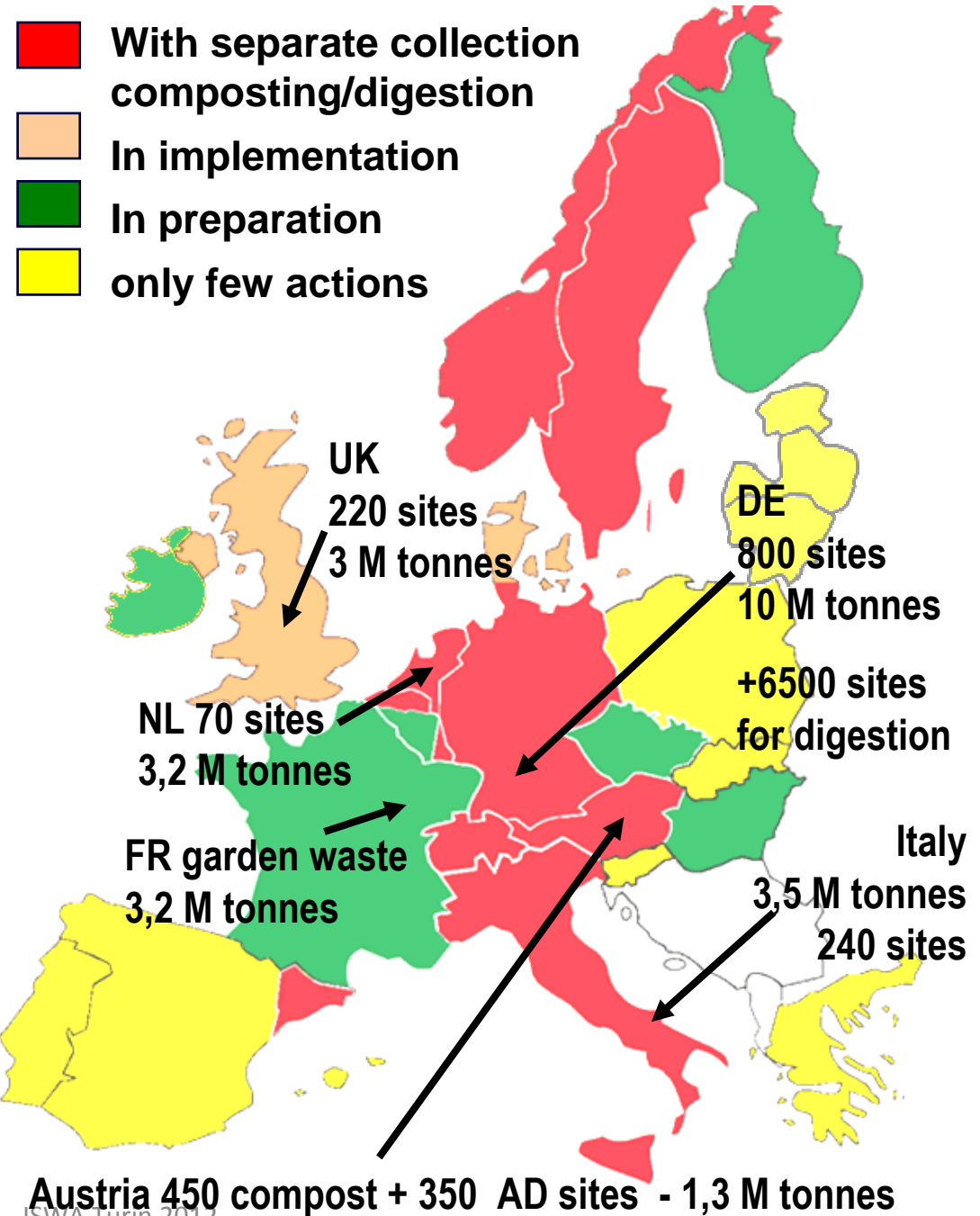


Potential of organic waste in EU27: 115 M tonnes / year

Recycling in 2009:
16 M tonnes organic waste
11 M tonnes green waste
5 M tonnes digested

= 15 M tonnes compost

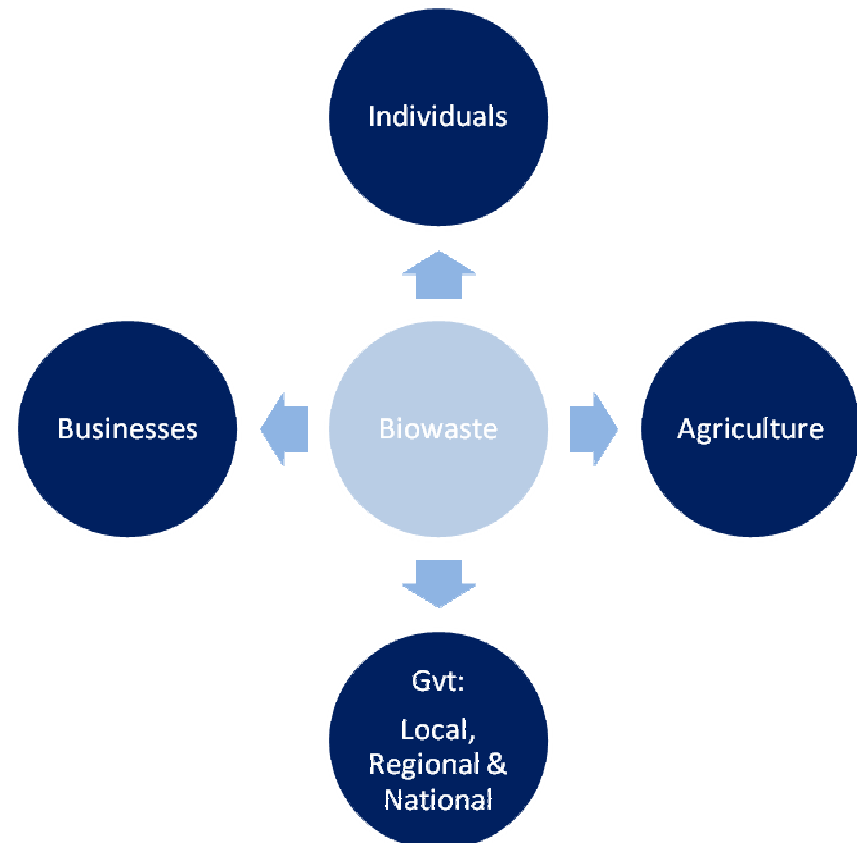
Only 1/4 of the potential - still a long way to go





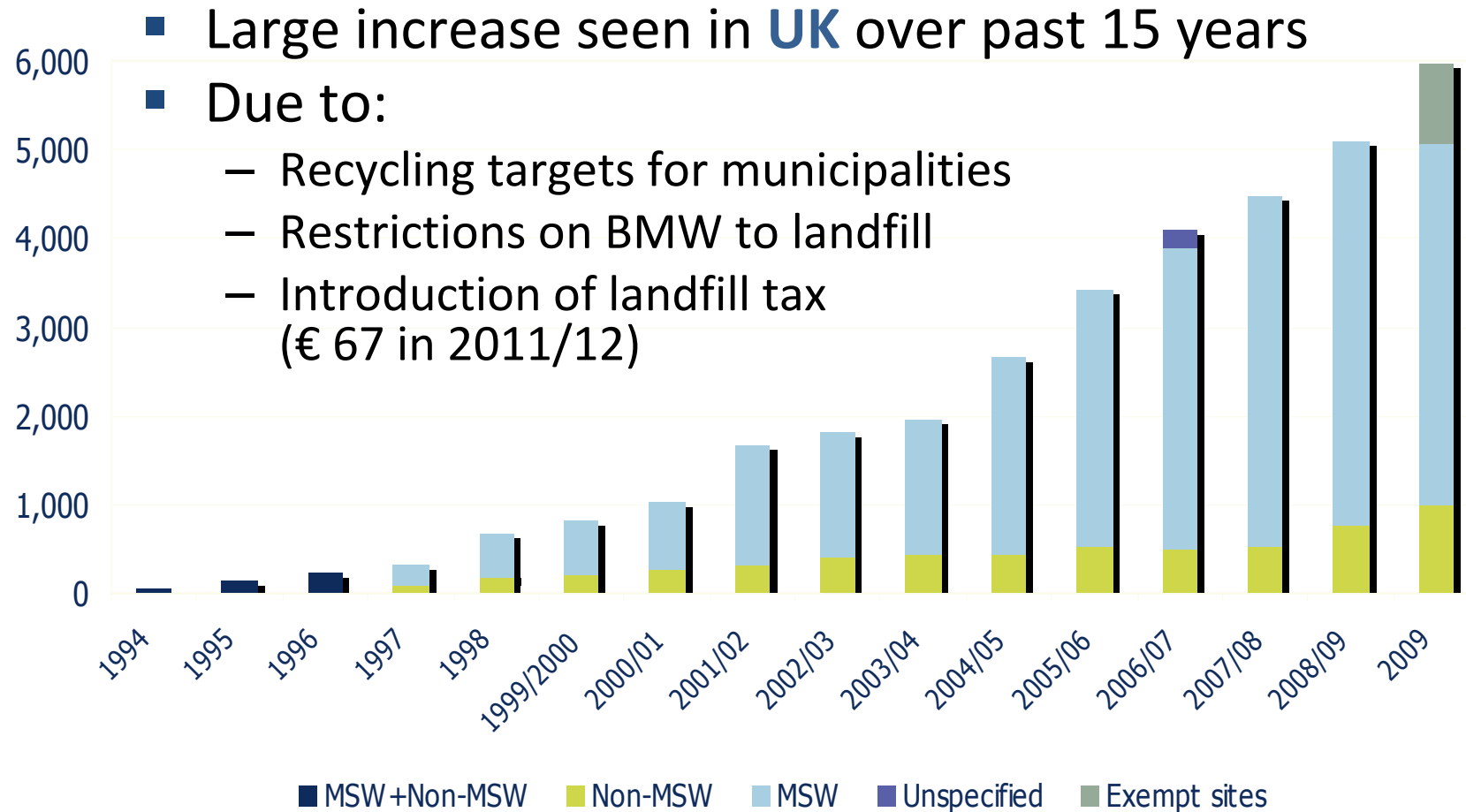
Some of the barriers

- Lack of **strategic planning** framework in many Member States
- Uncertain legislative framework
- Economies of scale not being realised
- Lack of operational experience
- Difficulties in securing **capital finance**
- Complex interplay between various parties
- Running out of **time** for Landfill Directive targets for new Member States
- Ownership of landfills by municipalities





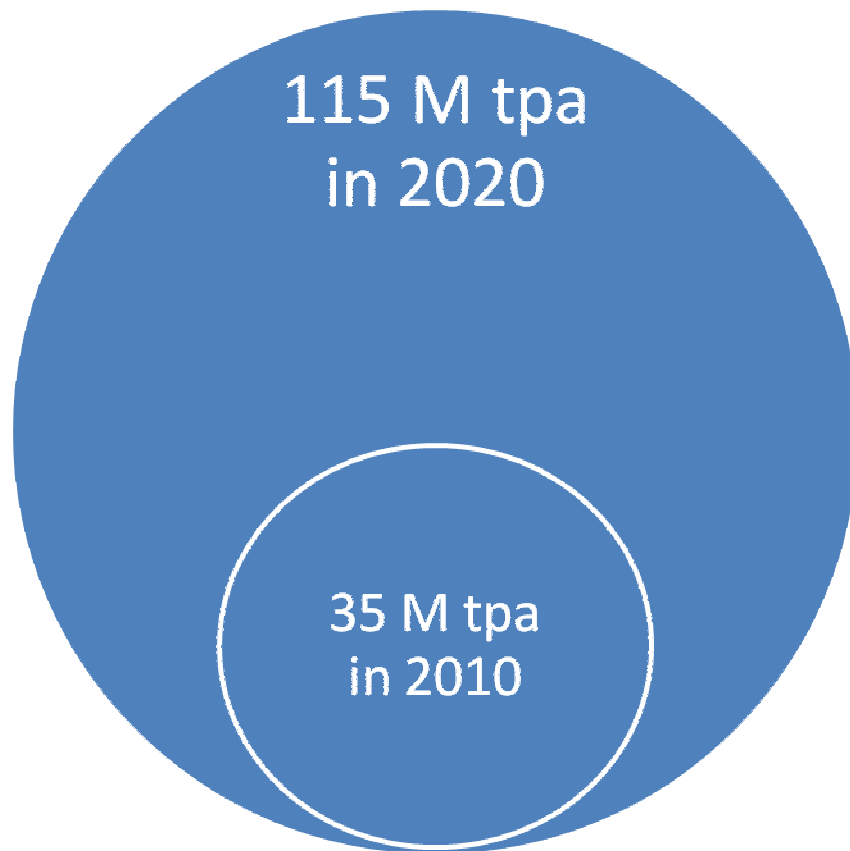
Example: when targets are set ...



Source: WRAP, 2009 Organics Survey



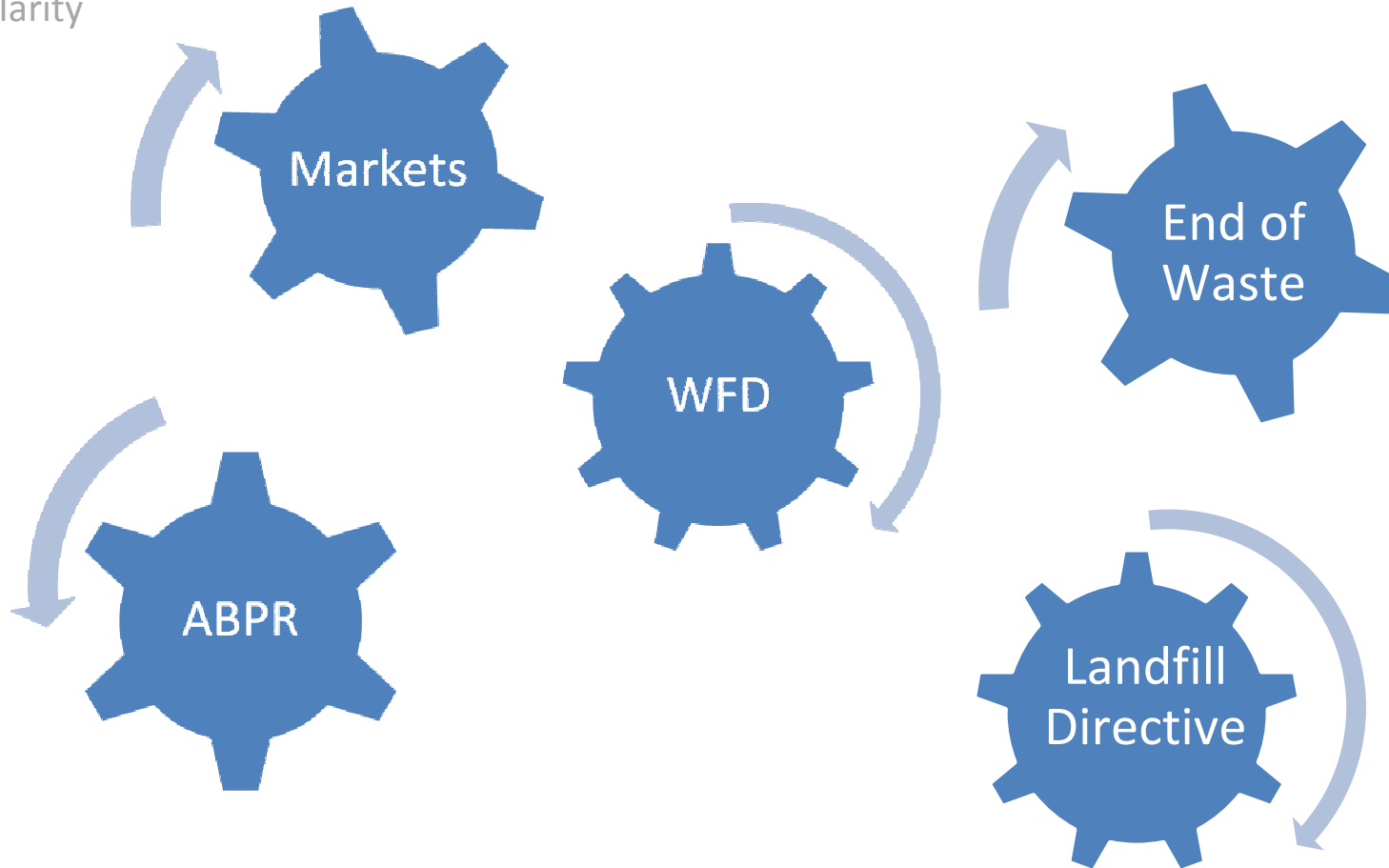
Potential across EU 27



- An additional **80 M** tonnes in 2020 could be treated
- Report by Bio Intelligence Service on behalf of the European Commission, published in January 2012



What we have ...



**Disjointed regulation and policies
Further development in 2012**



End of waste criteria (1)

- Procedure set out in 2008 Waste Framework Directive
- Work programme by EC Joint Research Institute for Prospective Technological Studies Centre
 - 2 working documents
- The proposed EoW criteria consisted of the following requirements:
 - Product quality
 - Restriction on input materials (positive list)
 - Treatment processes and techniques
 - Provision of information
 - Quality assurance procedures

<http://susproc.jrc.ec.europa.eu/activities/waste/>



End of waste criteria (2)

- Proposal expected in 2012
- "Comitology" procedure to adopt proposals

Parameter	Limit Value
Organic matter content	≥ 15 % dry matter
Stability	Compost: 15 mmol O ₂ / kg om / hr Digestate: 1500 mg organic acid / litre
Pathogen indicators	Salmonella: absent in 50 g <i>E. coli</i> : 1000 CFU / g fresh mass
Weed seeds	2 viable seeds per litre
Physical contaminants > 2mm Glass, metal & plastics	0.5 % dry matter
Zn	400 mg/kg
Cu	100 mg/kg
Ni	50 mg/kg
Cd	1.5 mg/kg
Pb	120 mg/kg
Hg	1 mg/kg
Cr	100 mg/kg
Organic contaminants	Not required



Fertiliser Regulation

- Current Regulation (EC 2003/2003) covers inorganic (mineral) fertilisers only
- Plans to revise Regulation in 2012 to include organic fertilisers, growing media and soil improvers
- 4 Working groups established
 - Meeting during 2012
- Impact assessment study conducted
- Likely to set contaminant limit values

http://ec.europa.eu/enterprise/sectors/chemicals/files/fertilizers/final_report_23jan2012_en.pdf



Animal By-Products Regulation

- Legislation revised in 2011
- Composting and AD (biogas) for specified ABP wastes only
- Complex set of treatment criteria
- Impacts on:
 - Design and operation of treatment plants
 - Use of compost or digestate



Industrial Emissions Directive

- Came into force in 2010
- Is a "Recast" of 7 directives, including:
 - IPPC Directive
- Requirement to have a Best Available Technique Reference Document (BREF) for each industry sector
- Plans to establish a "mini BREF" for biological waste treatment during 2012
 - Will set out "Best Available Technique"
 - Unclear what impacts will be



Summary

- New legislation requires implementation
 - Industrial Emissions Directive
 - Animal By-Products Regulation
- New initiatives underway
 - End-of-waste criteria
 - Fertiliser Regulation
- Complex series of initiatives
 - Impacts on bio-waste treatment in a number of ways



Realising bio-waste's potential

- March 2011 – Report on Setting Bio-Waste Recycling Targets
 - Concluded there will be net benefits from setting targets
- January 2012 – Report by EC on "Implementing waste Legislation for Green Growth"
 - **Extra 80 million tonnes** of bio-waste could be treated in 2020
- February 2012 - European Commission called for stronger measures to protect European soils against degradation
 - "large amounts of manure, bio-waste and sewage sludge are produced every year improve soil conditions, and limit cadmium pollution is to ensure a (sic) proper collection, treatment and use of these wastes and residues"

<http://ec.europa.eu/environment/waste/studies/pdf/study%2012%20FINAL%20REPORT.pdf>

http://ec.europa.eu/environment/soil/three_en.htm



What's needed

Better integration, through:

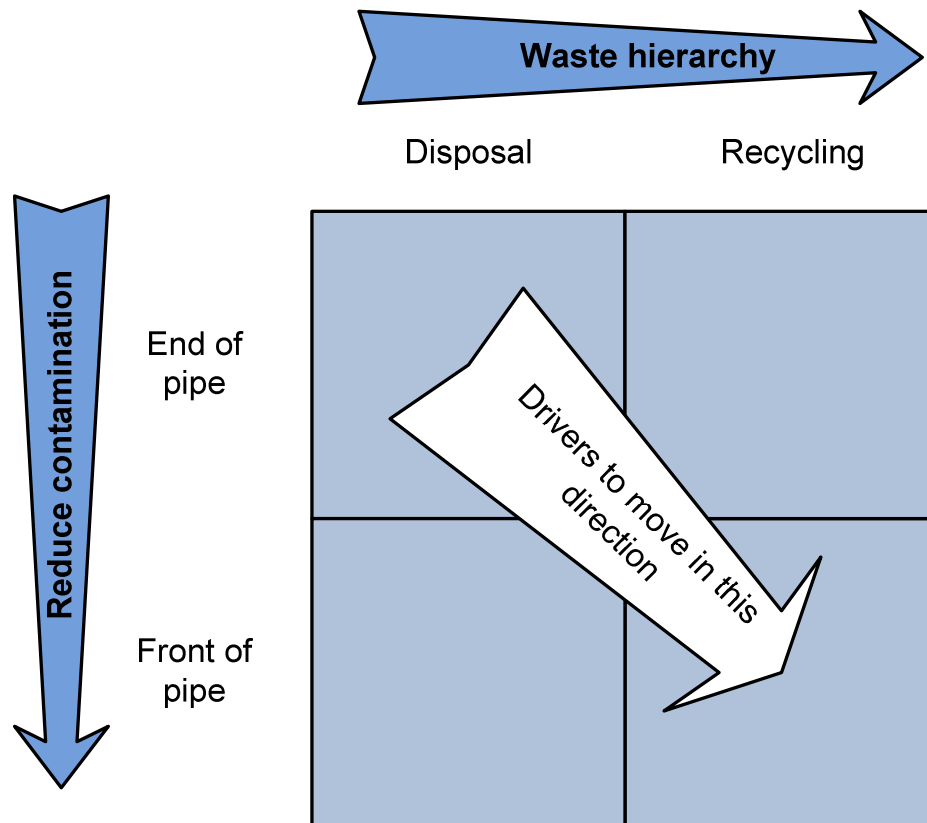
- Targets for bio-waste recycling
- Separate collection schemes
- Quality assured manufacture of products (e.g. compost)
- Markets for products



**Integration of Policies
& Legislation**



What will it achieve?



- Responding to 'waste' as a problem
- Re-using resources
- Implementing key policies and practices



How?

- Separate EU legislation on biowaste **not** expected in near future
- Set of actions aimed at
 - Supporting existing targets in WFD
 - Supporting compost markets
- Will they be effective?
 - Who knows?



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