

# Ireland Now – Current Status of Composting and Prospects for the Future

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# Presentation Format

- **Development to date of Composting in Ireland**
- **Focus today on municipal waste (organic wastes from households, businesses and green waste) and on centralised schemes**
- **Opportunities and Challenges ahead**

# Pioneering Schemes – Phase 1

- **A number of Schemes pre-dated regional waste plans, e.g.**
  - **Limerick City**
  - **Tralee/ Killarney Schemes**
  - **St. Annes Park, Dublin (green waste)**
  - **Cork City (green waste)**
- **Knowledge brought forward:**
  - **Value of pro-active public communication**
  - **Good quality compost produced**
  - **Management challenges – collection systems, financing, facility operation, local communications**

# Local Authority led Composting Development - Phase 2

- **Benefit of Regional Waste Planning and Political Buy-In**
- **Local Authority Schemes**
  - **Galway City (Sandy Road/ Carrowbrowne)**
  - **Galway County (Ballinalsoe)**
  - **Waterford City and County Schemes**
  - **Green Waste composting (Limerick, South Dublin etc.)**
- **Application of new technologies and environmental controls**
- **Emergence of local authority/ private sector 'partnerships'**
- **Growing confidence of public and waste management industry in the ability to deliver a good product**

# Current Stage of Commercial Growth – Phase 3

- **Private Sector driven development**

- Mc Gill (sludges initially)
- CTO Cork
- Organic Gold (Meath), etc

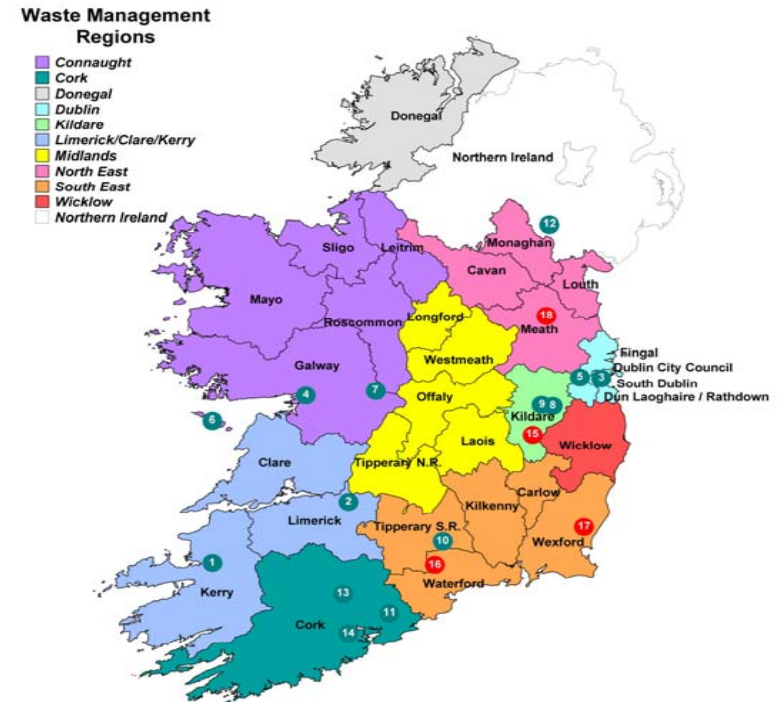
- **Large Scale Facilities in construction or in planning, e.g.:**

- Barna Waste (Galway City)
- Greenstar (Ballycoolin, Dublin)
- AES Tullamore
- Thornton Waste
- Mr Binman (Limerick)

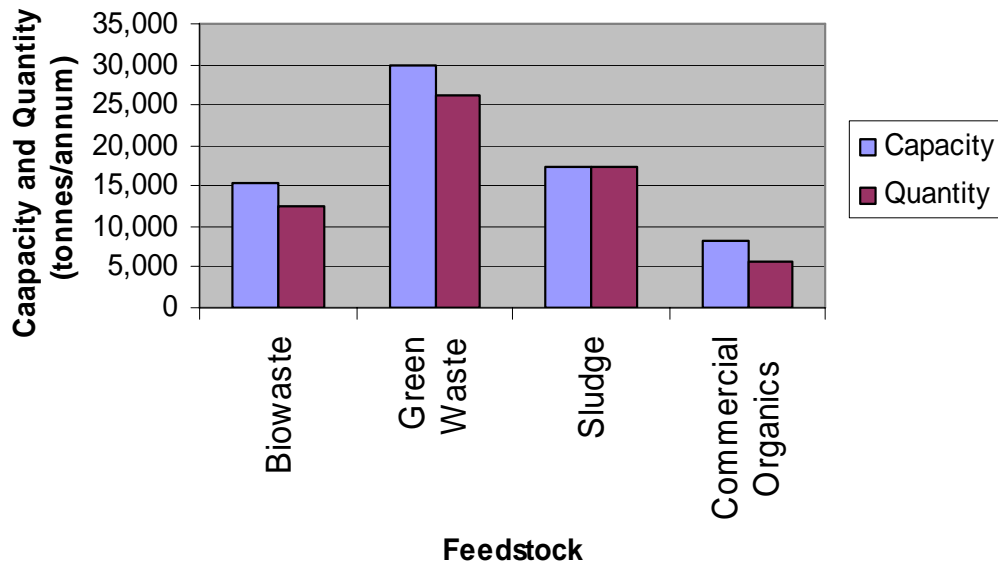
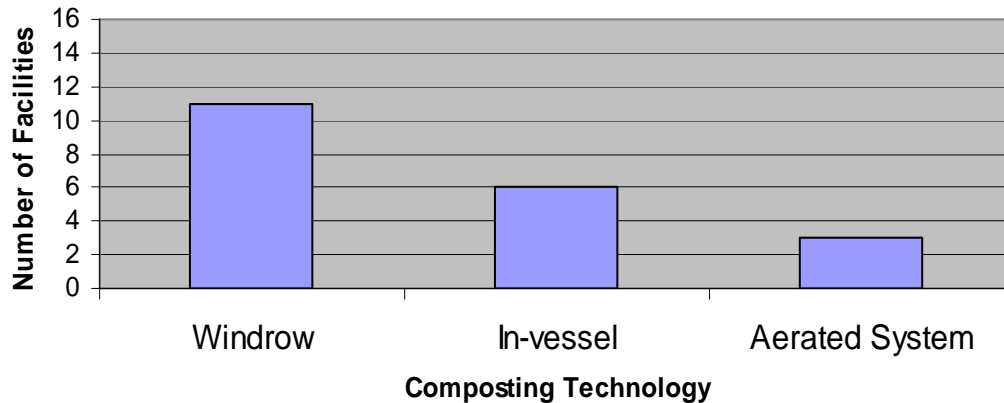
- **Key Points –commercially viable scale, flexible regarding waste streams, employing a range of technologies & approaches to end-market development**

# Location of Composting Facilities in Ireland (2003)

- 16 Facilities in Republic
- 4 Facilities in N. Ireland
- Several New Facilities Planned
- Biowaste, Green Waste, Sludge and Commercial Organics accounted for 61,950 tonnes of waste composted in 2003
- At least 4 more facilities in last year
- Need for several fold increase in biological treatment facilities



# Types of Composting Facilities in mid- 2003



- Regulation – Mainly operating under Local Authority Waste Permit, until 2002/ 2003

- Gradually newer facilities operating under EPA Waste Licence (some in conjunction with landfill Licence)

# Experience Gained in Initial Phases

- **Siting of facilities a critical factor**
- **Management Challenges for facility operators (odours, feedstock acceptance criteria and recording, biofilters, bioaerosols, site security etc..)**
- **Monitoring/ Waste Permits : need for 'even playing pitch' across local authorities and regular monitoring of all composting plants even green waste facilities**
- **Flexibility in choice of plant : robust, mobile, compatible with improved technologies and environmental controls**
- **Better technology and facility management helps avoid nuisance problems.**

# Composting Plants



Cork City -  
(CTO/ Green waste  
composting)

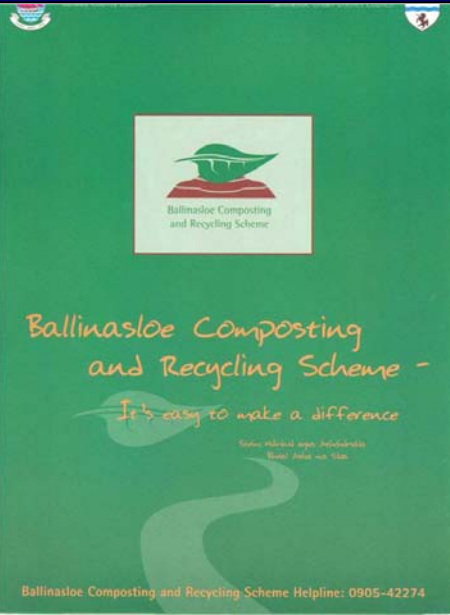


Galway City - Carrowbrowne  
(VAR system)



Waterford City -  
(Celtic Composting System)

# Ballinasloe Composting Scheme



# Current Organic Waste Collection Systems

- **Green Waste – via Recycling Centres (Civic Amenity), Waste Landscaping Contractors and Waste Collection Contractors.**
- **Household Organic Waste – Source Separated Collections in Place in Galway, Ballinasloe, Waterford City, Killarney, Limerick, etc. – currently 52,000 households with brown bin**
- **Commercial Organic Waste (hotels, canteens, food processors)**
  - **Emerging source separation schemes**
  - **Waterford County Scheme/ Killarney**
- **Mechanical Separation of organic waste from mixed municipal waste (trommels/ shredders etc.)**

# Irish Compost Quality

- **Comprehensive research project in 2003 by Lorraine Herity / QUB supported by Cré & RPS-MCOS**
- **Indications of good quality compost – especially from source separated household and green waste**
- **Room for improvement from operators:**
  - **Presentation in the afternoon session – more details**
- **Operators need to appreciate the value of monitoring/ sampling**



# Current Compost End Markets

## Initial Schemes

- Local markets, not for profit
- Back to public for free, or local authority landscaping works

## Recent trends (divergence of markets)

- Emergence of stable end use markets for Class 1 compost, even into UK market (peat 'extender') green waste but also source-separated biowaste
- Some companies happy to produce 'lower grade' compost / stabilised biowaste, not earning revenue

# Regional Waste Management Plans

- **Developed over 1997 – 2001**
- **Follow EU/ international best practice models**
- **All place emphasis on biological treatment of organic waste using both home composting and centralised facilities**
- **Objective to collect organic waste separately through brown bin systems and Waste Recycling Centres (CA Sites)**
- **Foundation Stone for our developing integrated waste management system**
- **To be reviewed soon by local authorities – requirement for biological treatment likely to *increase*.**

# Regional Waste Management Plans

	System proposed	National coverage	Compostable Materials
<b>Collection (Households)</b>	Kerbside collection of biowaste	Majority of urban households	Food waste/ vegetable/ green waste
	Recycling Centres (Civic Amenity Centres)	<b>81+ proposed</b>	Green waste, paper, timber
<b>Collection (Commerce/ Industry)</b>	Separation at source of recyclables incl. organic waste	Major businesses	Including food waste
<b>Biological treatment</b>	Home composting	Subsidised home composting units available to all (especially rural)	Food waste/ green waste
	Local composting facilities (mainly windrow)	<b>26 proposed (green waste )</b>	Food waste/ green waste
	Biowaste- biological treatment plant	<b>10 central facilities</b> proposed – mainly source separated biowaste <b>6+ local facilities</b> proposed	Food waste/ green waste

**Targets of All Plans combined, for organic waste**

# Future Policy Framework for Management of Organic Waste

- EU level – Biowaste Directive (forthcoming), Landfill Directive (in place), EU Soil Strategy (emerging)
- Government Policies (Changing Our Ways (1998), Delivering Change (2001), Taking Stock and Moving Forward (2004))
- National Strategy on Biodegradable Waste (Currently in consultation on Draft)
- Waste Management Plans – due to be revised in 2004/2005
- Direction of Policies:
  - Increased biological treatment required (Composting/ AD)
  - Emphasis on source separation/ separate collection systems
  - Use of instruments to support these objectives: Awareness, improved regulation, economic instruments, market development, pay-by-use etc..

# Overall Targets – Biodegradable Waste Strategy

- **Biological Treatment of Organic Municipal Waste:**
  - **425,000 tonnes/ annum by 2009**
  - **> 350,000 tonnes/ annum in central facilities (green waste, central composting, AD facilities)**
  - **Separate collections for households and relevant businesses**

Galway City –  
3-bin waste collection system



# Green Waste Composting Opportunities

- **Growing Urban Population – more houses, more parks, etc..**
- **Network of Recycling Centres growing: drop-off points for green waste**
- **Relatively low investment in equipment – alternatively co-composting of green waste with biowaste**
- **Opportunity for agricultural sector?**
- **Lower gate fees but good long-term facility, and excellent market potential for compost**

# Composting – Further Opportunities

- **Co-composting with other waste streams – agri-food industry, fish industry, sludge etc..**
- **Vermicomposting Schemes**
- **Community Composting Projects**
- **Development of Home Composting – training, management of programmes**
- **On-site composting schemes (business, industry, institutions)**
- **All of these will contribute to development of public awareness and meeting national targets**

# On-Farm Composting Plants ?

- Agriculture in a state of flux
- Difficulties with nutrient management
- Alternative enterprises emerging
- Compatability with composting/ AD initiatives – existing buildings, machinery, etc..
- Green waste,
- Possibly Biowaste



# Dublin's Composting Plants



Ballyogan Recycling park (baling station)

- **Two Biowaste Composting Plants at Ballyogan & Kilshane**
- **Each 30,000 - 45,000 tpa capacity – food waste – Brown Bin collection**
- **Both form part of Integrated Recycling Parks**
- **Procurement underway via PPP arrangement**

# Challenges Ahead

- **Evolving Legislation**

- **Technical Standards for composting (Animal By Products Regulation/ Biowaste Directive etc..). Cost Implications.**

- **Growing Pains**

- **Scale of increase in capacity required means some 'bad news stories' are a risk. All waste facilities are potentially contentious.**

- **Economic Changes**

- **Likelihood of Disposal Prices falling – smaller margins for composting plants/ consolidation of facilities – advantage of a saleable compost product**

- **Improved Facility Management – Environmental Management Systems, traceability (feedstock, compost), sampling/ monitoring...**

# Market Development Challenges

**Up to 200,000 tonnes/ annum of compost will be produced by 2009 -  
The following steps are required, involving all stakeholders:**

## **Waste Management Industry / Local Authorities**

- Commitment to producing a quality product**
- Commitment to separate collection systems, public involvement**

## **Government/ DOEHLG**

- Identification of Relevant Standards/ Uses of compost grades**
- Co-ordination of *Market Development Programme*  
(involving agriculture, horticulture, forestry etc.)**

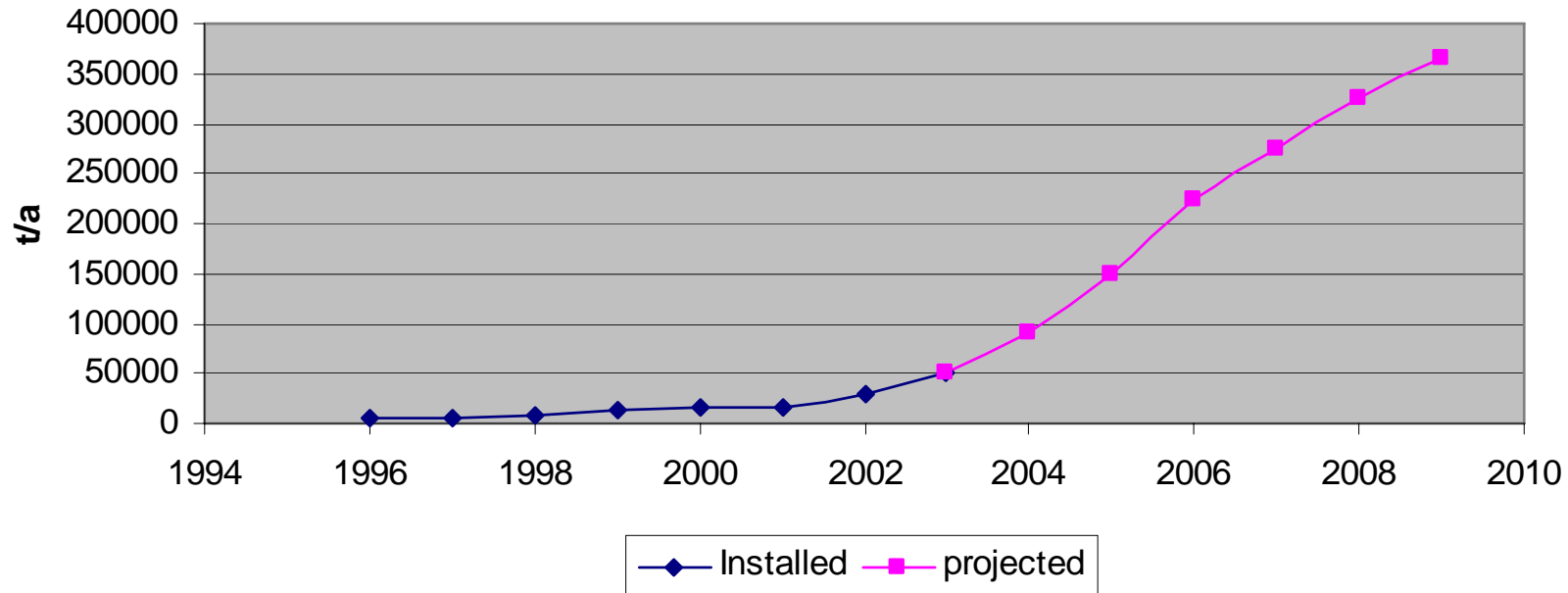
**Composting Industry – Development of Market Driven ‘Quality Assurance’ Scheme**

# Role of Mechanical Biological Treatment ?

- Range of pre-treatment systems available for mixed (residual) waste prior to landfilling or thermal treatment, producing 'stabilised biowaste' and residual fraction.
- Attractive for commercial waste and to landfill operators
- Short-term response to Landfill Directive – limited progress in terms of climbing waste hierarchy
- Need to guard against damaging the long-term market for compost – stabilised biowaste will be limited in its applications
- Should not be seen as a replacement for source-separation of organic waste

# Summary - Biological Treatment capacity for Municipal Waste

Municipal Waste Composting Capacity in Ireland



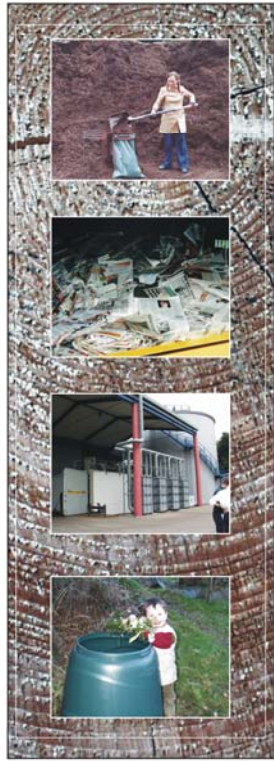
•Scale of growth required in Biological Treatment to meet targets – source separated systems

# Possible Biological Treatment capacity– Regional exercise

Region	Biological Plants		
	Capacity	No. plants	Total
<i>Nationally</i>		21 - 28	361,250
Dublin	30,000	3 - 4	105,000
Cork	20,000	2 - 3	50,000
Connaught	15,000	3	45,000
South East	15,000	2 - 3	37,500
Mid West	15,000	2 - 3	37,500
North East	12,500	2 - 3	31,250
Midlands	10,000	2 - 3	25,000
Donegal	5,000	2	10,000
Kildare	5,000	2	10,000
Wicklow	5,000	2	10,000

- Scenario for distribution of Biological Treatment required to meet targets (includes ‘spare capacity’)
- This is just one possible interpretation: each region will determine its own strategy

# CONCLUSION



**National Strategy  
on  
Biodegradable  
Waste**

**DRAFT  
STRATEGY  
REPORT**

April 2004

- National targets for biological treatment are very ambitious
- Policies are in place in support of developing biological treatment
- Economic conditions make composting commercially viable
- Industry poised for huge growth in the next five years
- Make the commitment to doing it right:
  - Clean compost
  - Facilities – well sited, designed and managed
  - Long term viability