

GRUNDON

Climate Change: Green Growth

St George's House, Windsor

Waste Not, Want Not

Key Drivers for Change (1)

- EC Landfill Directive
- Landfill Tax
- Waste Hierarchy
- Best Available Techniques
- Carbon management
- Renewable energy

Key Drivers for Change (2)

- Landfill tax avoidance
- Less waste, with different composition
- Waste as a resource, either recycled or recovered , including for energy content
- New opportunities
- New threats / new entrants
- New dynamic, particularly the link between waste and renewable / sustainable energy



Business Re-structuring

- **1989**
 - 6 landfills, no purpose built recovery / recycling facilities, no energy recovery
- **2012**
 - 2 landfills (no plans for any new sites)
 - 6 Material Recovery Facilities (plus planning permissions for + 2)



Business Re-structuring

- **1989**
 - 6 landfills, no recovery / recycling facilities, no energy recovery
- **2012**
 - 2 landfills (no plans for any new sites)
 - 6 Material Recovery Facilities (plus planning permissions for + 2)
 - Lakeside EfW Facility (440,000 tpa) plus planning applications for + 2
 - Colnbrook Clinical Waste Incinerator, with heat recovery and electricity generation
 - 2 landfill gas engines (permission for + 1)



Corporate Environmental Report

- **Proportion of materials recovered from total waste handled**

2000

530,000 tonnes of waste received

20,651 tonnes recovered

3.9% recovery rate

2009

1,085,101 tonnes of waste received

156,661 tonnes recovered

14.4% recovery rate



Corporate Environmental Report

- **Proportion of material recovered from waste delivered to MRF's**

38%



Corporate Environmental Report

- **Fuel used related to waste handled**

2000

3,304,727 litres of fuel
530,000 tonnes of waste
6.24 litres per tonne

2009

4,213,354 litres of fuel
1,085,101 tonnes of waste
3.88 litres per tonne



Corporate Environmental Report

- Total greenhouse gas emissions divided by tonnes of waste handled

2000

579 kg CO_{2 eq}
per tonne of waste

2009

71 kg CO_{2 eq}
per tonne of waste



Changing Business (1) – NHS Contracts

- Focus is on better waste segregation by NHS
 - Historically a lot of ‘clinical’ waste has actually been recyclable or domestic
 - Grundon train NHS staff, audit NHS procedures
 - Provide appropriate bins, colour coded, at appropriate locations
 - Provide information about waste figures and bin counts on daily/weekly basis



Changing Business (1) – NHS Contracts

- Major NHS Trust in the Thames Valley
- September 2009
 - 32 tonnes for treatment;
 - 8 tonnes for incineration;
 - Zero tonnes to Energy from Waste
- March 2012
 - 12 tonnes for treatment;
 - 5 tonnes for incineration;
 - 10 tonnes to EfW
- 33% reduction in waste
- 40% reduction in waste management costs

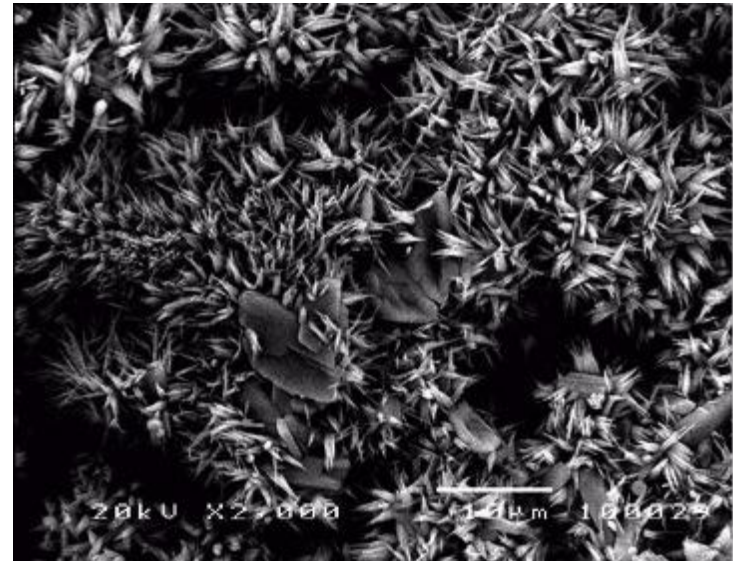


Changing Business (1) – NHS Contracts



Changing Business (2) – Hazardous Waste Recycling

- Incineration of waste / biomass creates a hazardous waste fly ash
- Approximately 120,000 tonnes per annum
- Grundon investment in Carbon8 Aggregates
- Accelerated Carbonation Technology



Changing Business (2) – Hazardous Waste Recycling



Changing Business (2) – Hazardous Waste Recycling



Changing Business (3) – New Opportunities

Recycle
“on the go”



Internet connectivity (via ethernet or 3G) linking deposited items to your account (for rewards)

Ability to deposit empty plastic bottles and aluminium cans

Scanner allows 'real time' reporting of products being recycled

Easy to manage bins, that can feed into existing waste management collection





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Be rewarded for recycling with greenredeem

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greenredeem

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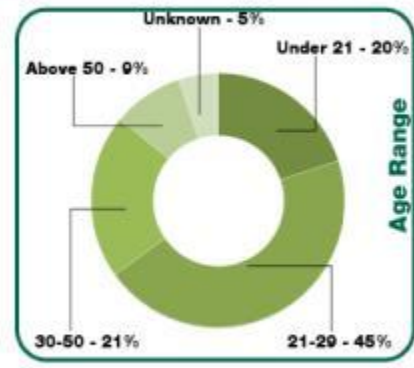
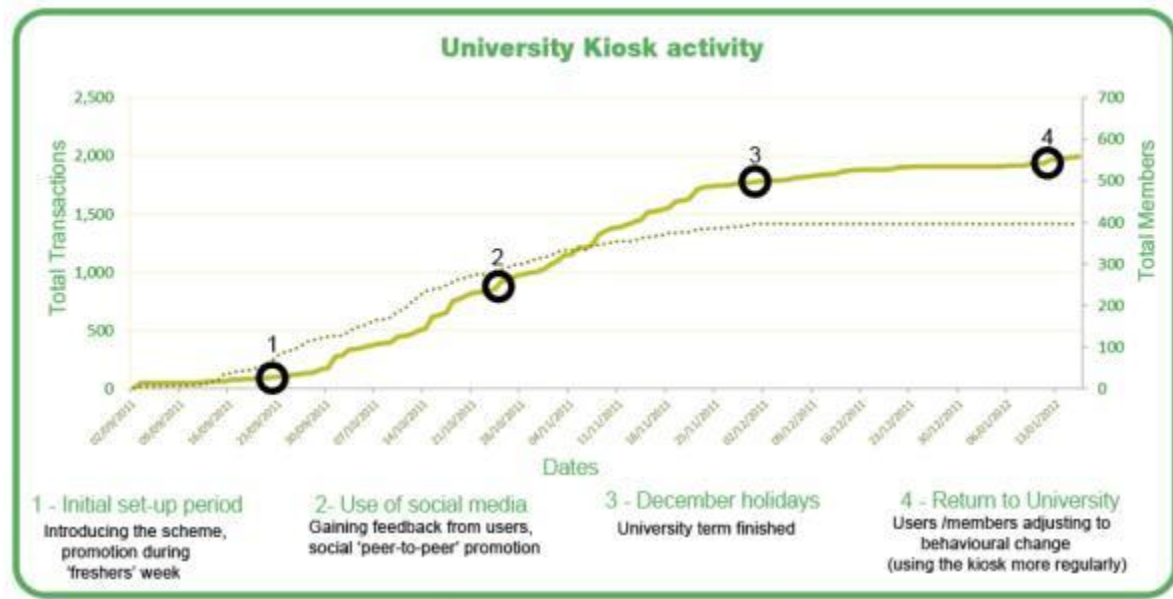
greenredeem

HelpRecycle.com Recycling just 1 ton of aluminum cans conserves more than 207 million Btu, the equivalent of 36 barrels oil, or 1,665 gallons of gasoline.
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greenredeem Can Man Counter - Over 3000 plastic bottles and cans have now been recycled #RecycleontheGo #Recycle
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Summary

- New dynamic
- New threats to established business models
- New business opportunities
- New science
- New media
- New jobs and new skills

GRUNDON
