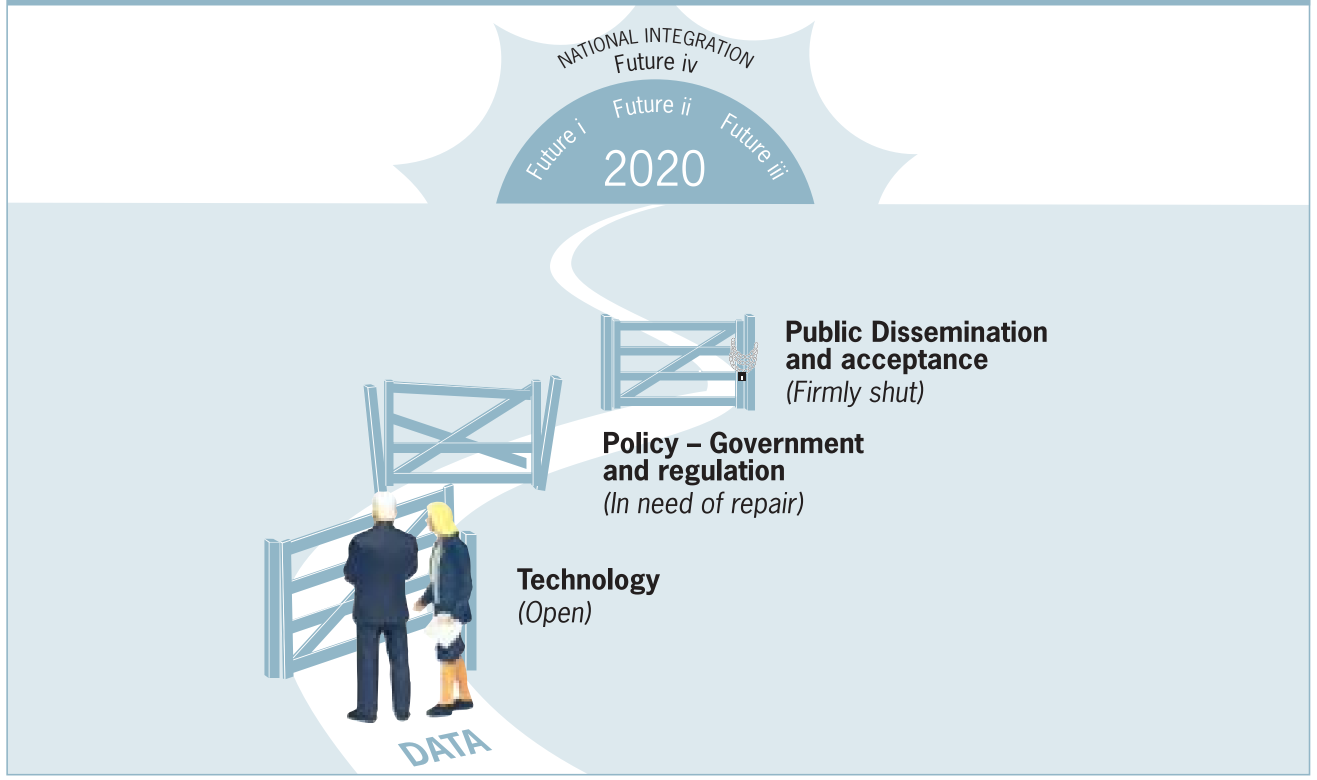
THE YELLOW BRICK ROAD



…The Yellow Brick Road

We draw the analogy of the "Yellow Brick Road" in deference to Walt Disney. Elements of the last 10 years development of a National Waste Strategy have sometimes resembled excerpts from cartoons. **Many blockages have been created by perverse policy initiatives, an absence of strategic, integrated thinking** (sometimes in Government departments) and a **reluctance to fund a national database collection infrastructure** across waste producers in the public and private sectors, the regulator and central Government. If we continue the ad hoc, erratic process based on yesterday's mistakes in an atmosphere of distrust, suspicion, ignorance and failed policy initiatives without any apparent overarching understanding of a common binding framework, it is probable that **the waste issue will become much more of an economic and political hot potato than it is today**. Failure to tackle this will also have grave implications for our international competitiveness in what promises to be the fastest growing services and engineered products market on a global scale in the coming century.
The ripple down wealth creation, job creation and service opportunities promise to be huge as the rest of the developing world seeks to learn from the experience of the best nations in Europe. **Our track record in the UK thus far is still that of the laggard**, underpinned by a lack of cohesive Cabinet support for integrated environmental management in the UK.

This is where the Yellow Brick Road comes in. The road itself needs to sit on a foundation of sound data. **There are 3 gates. The first is open and labelled 'TECHNOLOGY'.** Much of the process equipment and science of inorganic and organic material management is already available – albeit at a cost double or treble what is currently being paid in the UK (even including inadequate levels of Landfill Tax). **The second – labelled 'GOVERNMENT AND REGULATION'** – is pretty ramshackle, cobbled together as a compromise across the competing objectives of different Government departments and implemented via a Regulator which lacks funding for critical strategic tasks (but equally could probably be more efficiently operated if much of its routine tasks were privatised). **The UK needs clear sectorally driven strategies based on distinct product supply chains** developed within a unified framework between Government, the supply chain itself, the Regulator and the waste industry. The options we present are a veritable industrial revolution in the waste industry and it will not happen unless Government (as opposed to DEFRA) develop a unified, regulatory and fiscal stance in response to obligations and directives we have already signed up to with Europe.

Doing nothing is not an option. Either we vigorously move towards the deliverance of a fundamental shift away from landfill or we end up paying under looming infraction procedures for failure to achieve levels of performance that many of our mainland European colleagues achieved a decade ago. The fragmented information technology system and regulatory framework which we have, will come to haunt us – in the form of operators who go into voluntary liquidation and dump those liabilities built up in the last 10 years on the public purse.

The third gate is firmly barred and bolted at the moment. It is labelled 'PUBLIC DISSEMINATION AND ACCEPTANCE'. Confronted with warring Government, industry, waste sector and NGOs, the public is bewitched, muddled and bewildered. It is vital that all of us tackle the need to define a broad area of consensus so that in districts, counties and regions around the land, there is a more constructive, comprehensive and understandable package of options offered to the public as a whole. As consumers they have immense power to influence this debate for good – but it is unlikely that many of them are going to respond in the current climate.

This publication has been produced with the objective of enlightening that debate – not in terms of defining the ideal option (there isn't one) – but rather in terms of bringing all the relevant facts together under the most comprehensive umbrella so far produced in this country to date.

FUTURE PERFECT

AN ANALYSIS OF BRITAIN'S WASTE PRODUCTION AND DISPOSAL ACCOUNT, WITH IMPLICATIONS FOR INDUSTRY AND GOVERNMENT FOR THE NEXT TWENTY YEARS

AN INTRODUCTION

For the full report contact marketing@biffa.co.uk or telephone: 01494 521221

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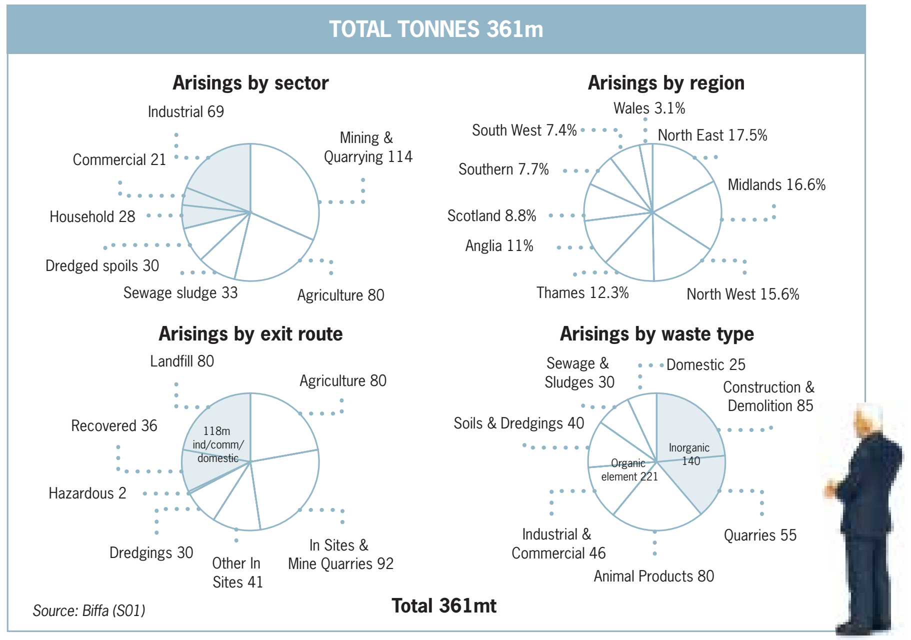

Future/Option	Landfill	Composted	Energy	Recovered	Mtpa
Today	65%	2%	3%	30%	120
i High landfill & recycling	42%	8%	12%	38%	120
ii High energy & recycling	10%	15%	35%	40%	120
iii High composting & recycling	10%	35%	15%	40%	120
iv High energy composting	8%	36%	31%	25%	361

SYNOPSIS

This publication **Future Perfect** falls into 4 different choices for handling waste arising in the UK between now and the year 2020.

We then analyse the process blockages (real and imagined) which both aid and prevent the achievement of those different choices of exit solutions.

Finally we return to the predictions we made 7 years ago in our publication 'Waste: A Game of Snakes & Ladders' regarding the perceptions of and implications for industry in general and (because of its sheer tonnage significance) the construction sector in particular.

Considering each of these in turn: The Options

In this synopsis (and Appendix i) we model the turnover, capital investment, employee, space and numbers of facilities for each of the following:

Today

i) High recycling and high landfill (80% of total weight)

ii) High recycling and high waste to energy (75% in total)

iii) High recycling and high composting (75% in total)

All of the above assume 'steady state' – no growth in the current level of controlled waste arisings of 120mtpa, costs net of all taxes and no annualised inflation factor. Clearly this will not be the case, but it does aid like for like comparisons. In the fourth scenario (iv) we widen the terms of reference, tripling controlled waste tonnage from 120mtpa to 361mt. This growth occurs from the inclusion of agricultural effluent, straws, coppice and sewage sludges which are likely to be redefined as controlled wastes in the next 10 years or absorbed into industry flows as an element of renewable energy policy strategy on the part of the Government. The key conclusions from this first element are:

- **High recycling/high landfill is the cheapest** but is more likely to represent a transition phase on the basis that the Landfill Directive and financial liability requirements (coupled to sustainability questions regarding the landfill route) will lead to contraction of capacity as current small operators and ex municipally operated landfill companies exit.
- **High recycling/high energy is** the second most expensive option but **the most commercially realistic** given future probable trends in the value of recovered materials and renewable energy – either in response to possible resource taxation or to hardening real prices offered from Tradable Permits (especially on energy). This will be even more probable if we see continued slippage against targets we have signed up to with the EU relating to renewable energy.
- **High composting/high recycling is the most expensive** and also creates significant questions (as indeed do all) on the ability of the planning system to cope with the significant growth in the number of waste treatment facilities and their potential relocation closer to areas of habitation. Today the bulk of waste is handled through 360 very large landfill sites, handling an average of 300,000tpa. Each will require replacement by between 5 and 10 (more localised) energy, composting or recycling facilities.
- **High energy/high composting** – expanding the boundaries of the waste industry to include large volumes of agricultural and sewage/forestry material will inevitably draw it down the composting and energy route because of the high volume of carbon. If this happens on the scale indicated (361mtpa) the sector will account for substantial power generation activity *(S02, S03, S04, S05).*

Profile	Hi Landfill	Hi Landfill & Recycling	Hi Energy & Recycling	Hi Compost & Recycling	Hi Energy & Compost
Scenario	**Today**	**Future i**	**Future ii**	**Future iii**	**Future iv**
Sector turnover (£bn)	4.2	4.6	5.2	4.8	16.0
Capitalisation at replacement cost (£bn)	5.5	10.4	20.2	12.6	33.1
Million tonnes handled	120	120	120	120	361
Employment (,000)	35	40	42	40	78
Hectares (,000)	48	28.8	11.4	13.3	28.4
Number of facilities	2,134	1,544	1,858	1,525	2,300
Energy (MW)	800	2,800	4,700	3,000	7,400+

(For detailed analysis behind this table see Appendix i)
Remember that these estimates assume:

- **'No tonnage growth on 2002 profiles.**
- **No Eco-Taxes.**
- **Zero inflation** *(S06)*.

What must the Actors in this Drama do?

Government departments must move away from their binocular vision because the environment is an issue which operates on a cross cutting basis in terms of energy, industry policy, transport, health, education and policing.

The Environment Agency faces significant training, re-education and cultural shift requiring a more cohesive, nationally integrated approach to consenting and enforcement at up to 3,000 new facilities embracing complex technologies. It will need to become more 'outcome' focussed – and may even need to privatise much of its routine monitoring duties. It will probably need more financial resources as well, collected via higher consent charges and retention of prosecution fines on laggards.

Industry needs to bite the bullet on Producer Responsibility and negotiate more proactively on how the costs of sustainability best practice and resource efficiency can be absorbed into the economy without threats to inflation and employment.

Local Authorities have an urgent need to develop cohesive waste strategy plans and start the consultation process.
300 landfill sites could close and will need to be replaced by as many as 3,000 smaller sites (many of them logically needing to be located close to where people live and create waste).

The Treasury has to make some fundamental decisions as well. Whether they like it or not, direct incremental costs to the economy of around £1bn–2bn per year are moving inexorably toward us as a nation. Those costs will double or treble if we operate on the basis of muddled thinking. Creating inefficient collection systems by passing the responsibility for solutions to hundreds of overloaded Local Authorities through central state subsidies is not in the interests of national efficiency.
In 2000/01 around £1bn was promised (but not produced) to go down that route and the resultant operational chaos – for end life vehicles, tyres, electrical goods, fridges and hazardous wastes – could not exactly be called a vote winner. The cost of the environment should be funded at the point of purchase.
Any Government which provides managerial solutions through drip feed subsidies in this industry is doomed to failure – we have to work through market mechanisms.

The Professional Chartered Institutes (particularly of Civil Engineering, Wastes Management, Environmental Law, Water and Environmental Management, Mechanical Engineering and Environmental Health and Planning) have an important cross cutting role as independent, non commercial, non political bodies to be consulted more proactively. They represent a 'silent' professional constituency which straddles political, commercial, technical and precautionary 'standpoints' with a key ability to disseminate best practice and formulate forward strategies for training and skills.

Last, but by no means least, there is an important role for the NGOs. They occupy the moral high ground and independent surveys suggest they have a far higher credibility rating than any others with a viewpoint in this arena. Nevertheless, they have a growing responsibility to develop proper objectivity and buy-in to a shared process rather than stand outside the tent when it comes to delivering economically as well as environmentally realistic options. And that brings us to…