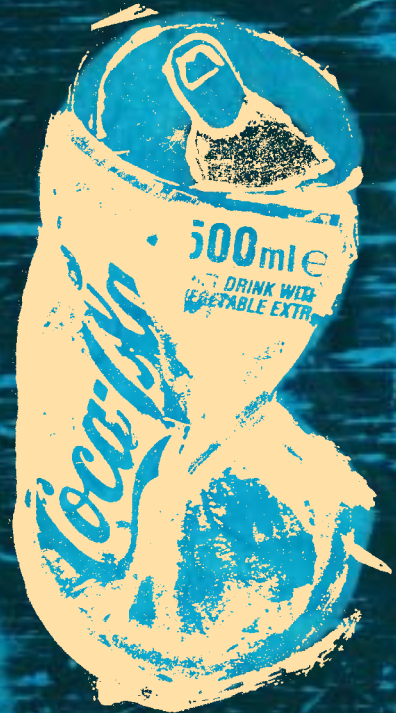




Too Good to Waste



Too Good To Waste

BAN Waste Select Committee Final Report October 2003

Select Committee's Terms of Reference

"To examine and recommend an appropriate waste strategy for the citizens of Newcastle, and to see what needs to be done by individuals, companies and the local authority to facilitate that strategy. In particular, to look at:

- *The national guidance in the Government's Waste Strategy 2000.*
- *The implications for such a strategy for the health of the community, the provision of employment, the environmental and the financial implications for citizens.*
- *Examples of best practice nationally and internationally.*

To develop new methods of participatory democracy and to ensure local people are able to have an effective say in any proposals for a waste strategy."





BAN Waste



Final Report



Contents

Chapter 1	Introduction: Too Good to Waste	Page 1
Chapter 2	Wasteful or Resourceful	Page 3
Chapter 3	Changing Legislation	Page 9
Chapter 4	Newcastle: A Safe, Healthy and Sustainable City	Page 17
Chapter 5	Crossroads	Page 20
Chapter 6	Face the Future	Page 34
Chapter 7	Environment	Page 45
Chapter 8	Health	Page 53
Chapter 9	Jobs and Other Social Benefits	Page 64
Chapter 10	Democracy	Page 70
Chapter 11	Wider Issues	Page 79
Chapter 12	Conclusions	Page 84
	References	Page 89
	Thanks	Page 95
	Select Committee Witnesses	Page 96
	Select Committee Members	Page 99
	BAN Waste & Select Committee	Page 101
	Glossary	Page 104





Introduction: Too Good To Waste

Byker and Newcastle Waste Group (BAN Waste) was established in early 2000 to address a range of issues around Newcastle upon Tyne City Council's plan to build a new incinerator in Byker. In February 2000 Newcastle Council carried a resolution to support BAN Waste.

A further resolution was agreed in February 2002 welcoming BAN Waste's Interim Report and agreeing to "seriously consider" the final report and supporting the "idea of zero waste by reduction, reuse, composting and recycling".

This, BAN Waste's final report on a new waste strategy for Newcastle, is the result of over three years of work. It widely quotes from the 60 witnesses who appeared at the Select Committee hearings as well as many supporting documents from Government and experts.

We believe that it is now unlikely that the Council will want to build the proposed new incinerator. However, this leaves the question to do instead. This report offers a strategy and method to answer that question and to greatly improve Newcastle.

Two fundamental changes are needed.

- Society must change from **waste disposal to resource recovery**. Resource recovery treats what is called waste as valuable resources. These should not be thrown away but re-used, recycled and composted.
- Those handling the resources, the council and industry must recognise that the key to success is people. This means a **shift from a priority on technology of disposal to people-centred recovery**.

The title "Too Good To Waste" refers to a comparable example of Nova Scotia. It is about treating waste as resources and about using the many skills of the people of Newcastle.

"Nova Scotia: Too Good to Waste" was the theme for the province's change in how it handled waste. Nova Scotia, on the east coast of Canada, has gone through economic difficulties similar to the North East. In 1995, after long debate, it was decided to change the waste policy. Originally the politicians and experts favoured new incinerators. The public wanted high levels of recycling and composting; this eventually became the agreed policy. The province has moved from around 5% recycling to 50% recycling and composting. This has greatly improved the environment and reduced health hazards. Equally important, it created 3,000 jobs in a population of 1 million. It also raised the self-respect and international reputation of Nova Scotia. BAN Waste believes this is a successful example for Newcastle.

Society today throws away tonnes of valuable resources. Most of the materials in the bin that are described as waste, took energy, effort and raw materials to produce, yet after a short life they are thrown away. This wastes resources, creates pollution and harms the environment for ourselves and future generations. Instead of throwing away waste, society needs to have a policy of Resource Recovery. These resources and the environment are "Too Good to Waste".

The waste industry needs to change from waste disposal to resource recovery. Crucial to the success of such a shift is to recognise the importance of people; households to separate the resources, the workforce to collect the resources, and politicians and other



decision makers to provide good support strategies and infrastructure.

The people of Newcastle have a wealth of talent and, given the opportunities, can make the city a centre of resource recovery. Their knowledge, skill and energy are “Too Good to Waste”.

Newcastle and Britain cannot continue to treat resources as waste that is thrown away. Waste disposal destroys valuable resources, damages the environment, produces pollution and harms people’s health. It is wasteful of money and human effort just to send materials to landfill and ‘airfill’. It is morally indefensible to deprive future generations of resources and instead leave them pollution. As the children of Farne Primary School said at a Select Committee hearing

“Look after our world, it’s all we’ve got”.

BAN Waste’s strategy, as outlined in this report, is based on resource recovery with benefits to the environment, health and employment. There are also benefits of increased community involvement, a strengthening of democracy and civic pride.

Introducing a new waste strategy takes a number of years. This is true whether it involves building a new incinerator or achieving the levels of recycling and composting outlined by BAN Waste. The strategy outlined in this report has the advantage that there is enough flexibility to deal with any interim shortfall in achieving these levels and the government’s short-term targets will be exceeded. BAN Waste’s proposals ensure Newcastle Council will meet all existing targets and be well placed to deal with future challenges and changes.

At present Newcastle and the region spend £millions on waste disposal, which provides few jobs, and further £millions on attracting jobs. Resource Recovery would mean that the money presently spent on waste disposal would both improve the environment and provide jobs; a strategy of combined benefits.

Over the last 3 1/2 years since BAN Waste began, the arguments have moved on. It is now widely recognised that incineration is not a long-term answer to dealing with waste, as it is still based on disposal. Proposals from BAN Waste a few years ago, which were then dismissed as visionary or impossible, are now becoming recommended policies. A key principle of BAN Waste when drawing up a long-term strategy is to recognise the pace of change and to look to the future.

The majority of the community members of BAN Waste started off wanting to **Oppose a ‘Bad’**, a new incinerator in Byker. Through experience, BAN Waste members now want to **Promote a ‘Good’**, a resource recovery strategy for Newcastle.

Our aim is that Newcastle should be a world leader.



Wasteful or Resourceful

Worldwide Waste of Resources

Resources in the world today flow one way from raw materials to waste.

This is a waste of resources, creates pollution and is robbing the future. Our children and grandchildren will have fewer resources and more pollution because of our actions.

We live in a throwaway society. Many goods are deliberately made to be used only once and then thrown away. In the USA over 99% of all materials used end up as waste (Hawken, 1999). Britain is piling up mountains of rubbish. Britain disposes of 10 tonnes of waste for every tonne of goods produced. And most of the goods, in turn, also end up as waste (Biffa, 2002). The average household produces 1,200 kilograms (2,640 pounds or 189 stones) of waste a year. Society extracts raw materials from the ground and harvests plants, processes and transports the materials and goods. All of this takes energy, labour, raw materials and money. Yet almost all ends up thrown away or destroyed in incinerators. There is enormous scope to reduce waste.

Our society has a one-way flow from usable resources to useless waste. But there is a choice. In the natural world there is really no such thing as waste, there is a constant cycle of re-use. One plant or animal's waste is another plant or animal's food. The materials that are presently thrown away as waste have a potential value and using these resources could help the economy of the region and provide jobs. The materials that society describes as waste are mainly paper and card, glass, steel and aluminium, plastics and organic matter. All of these can be used again and in many parts of the world this is what happens.

There are powerful health, environmental and economic arguments behind the drive by Europe and the British government for change.

“Our historic reliance on a linear flow of raw materials into products, consumption and waste has to change. We are now, in the early days of the 21st century moving into the world of resource efficiency.”

(Biffa, 2002)

Society needs to move from a throwaway outlook, of a one-way flow from raw material to rubbish, to a circle of recycling and re-using. Society needs to close the loop.

Protecting Soil - Vital to Life

Human life depends on plants; they produce the oxygen we need to breathe.

From plants we acquire food, medicines, fibres, wood, and fuel. Yet farming today is damaging the soil upon which plants depend. Soil is vital to provide plants with water and nutrients.

Plants as they grow remove nutrients and organic matter from the soil. In natural conditions these are replaced as the plant dies and rots down. However, if the plants are removed as crops, this does not happen. In the past, the humus content and nutrients of agricultural land would be replenished as organic material was returned to the soil. Also, if the organic content of the soil is not maintained, soil structure suffers and it is less able to hold water and air which are important to the health of the plants and the many other organisms in the soil that are important to healthy plant life.

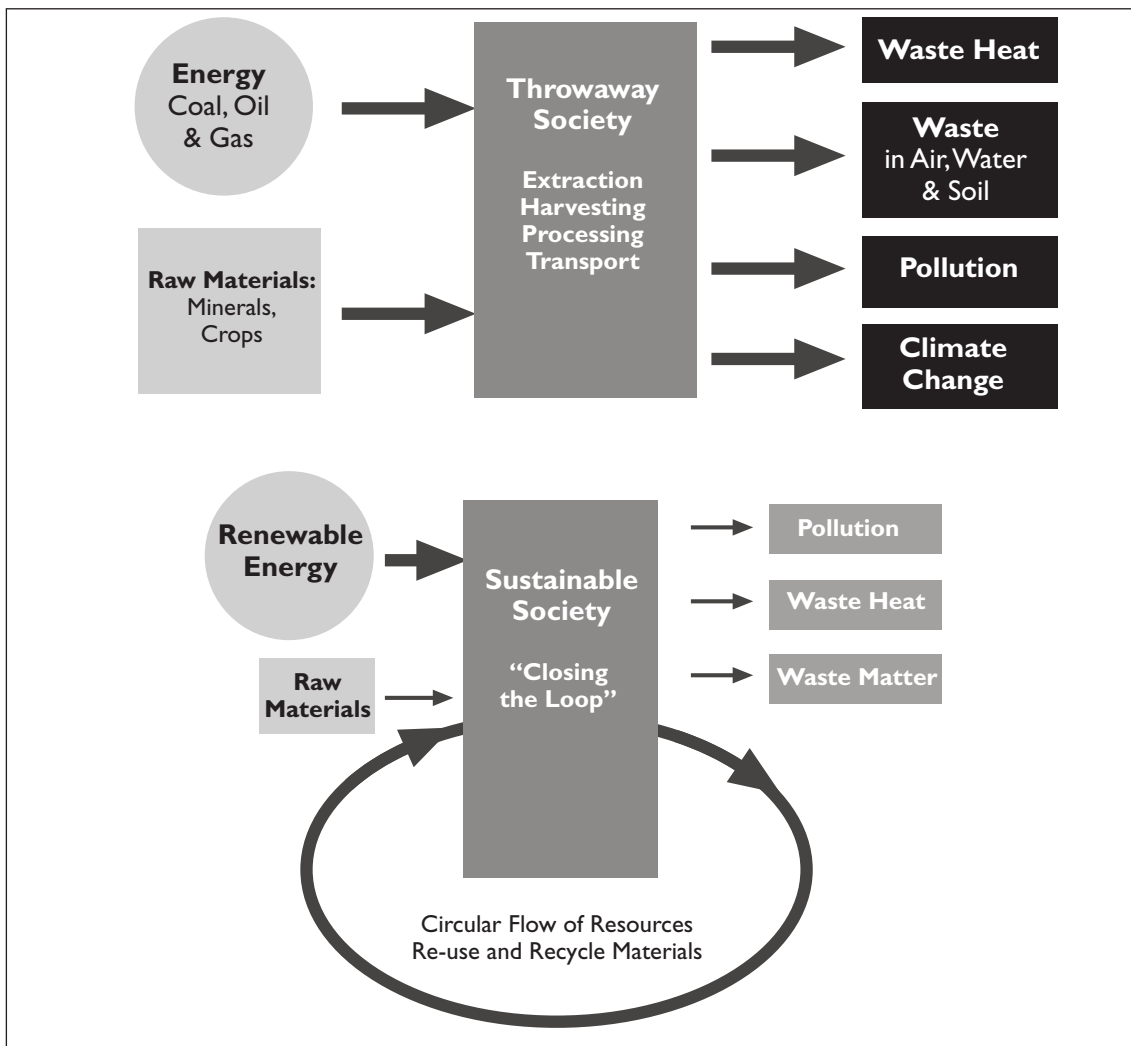


Now most of the material is removed and not returned, instead it ends up in landfill sites or burnt in incinerators. The organic content of soil, the humus, has dropped sharply across Europe. Pumfrey (2001) pointed out that 72% of farmland in Europe has lost 80% of its organic content. Soil quality in England and Wales is also declining, with an increase in the portion with low organic content from 32% to 41% in 15 years (DETR, 1999). The lack of humus means soil holds less water, has a lower fertility, is more likely to be eroded and the risk of flooding is increased.

To compensate for this loss and maintain the nutrients in the soil, large quantities of synthetic chemical fertilisers are applied. The production of these requires mining, energy use and transportation. In many cases too much fertiliser is applied so that some is washed off into water systems where it can harm many life-forms including people. It is even harder to maintain the structure of the soil. Fertilisers alone will not do this.

Yet there is an alternative to declining soil quality and mounting piles of waste. Much of what we throw away could be composted and used to improve the quality of soil and the level of nutrients. This is a very clear and simple example of closing the loop.

Change from Throwaway to Sustainable Society



Waste: Cheating on the Future

Our present society is cheating on the future. It is using up resources far faster than they can be replaced – robbing the future.

“Throwing away materials which could be recycled or re-used is often a squandering of valuable resources”

(House of Commons, 2003)

But to add insult to injury, our wasteful ways are leaving pollution for future generations. Bishop Ambrose Griffiths (2001) stated that humans should act not just as consumers but as “responsible stewards” of the world.

The performance of a Rap song by members of Farne Primary School, Newcastle, was a powerful statement about the need to change the way we treat waste. These young people will have to live in the world we leave them. It is up to us today whether tomorrow they have pollution and few resources or a clean healthy world. As the children stated, **this world is all we’ve got!**

*Hey you! Don’t throw away
Try to reuse things every day
Plastic, paper, wood, clothes,
Metal, glass and cans
Don’t put them in your wheelie bin
To waste all this would be a sin.*

*Chorus
Recycle, recycle!
Use those things again
Don’t throw out
Cut down on waste
Make this world a better place*

*Protect the environment
Pollution means more energy spent
Rubbish is filling up too much land
Using recycling bins is just grand
Plastic takes years and years to rot
Look after our world, it’s all we’ve got.*

A Rap by pupils of Farne Primary School, Newcastle

In the last 30 years, humans have used up 30% of the earth’s natural capital (Loh, 1998). Many of the resources we use are limited; they cannot be replaced. Others can be re-used such as air and water, or grow again; but only if given time and not too polluted. Oil, gas and coal took millions of years to produce and yet today we use almost all that we can get our hands on, as if it was an everlasting resource. As well as using up a valuable and limited resource this releases pollutants into the atmosphere.



Human action, especially the burning of fossil fuels by the major industrialised countries, is having an effect on the world's climate. Every product and material we throw away into a landfill or an incinerator is wasting energy and adding to climate change.

Carbon dioxide from burning and methane gas from a number of sources, including landfill, is changing the world's climate. Already recent summers are the hottest on record and there have been major fires. But the future could be much worse with hotter summers, more frequent and powerful storms and flooding, the spread of diseases, loss of agricultural land and the disappearance of land under the sea.

Most of our waste is buried in landfill sites where it takes a long time, if ever, to decompose. The plastic, glass and cans will lie in the ground almost forever. It is bad enough to throw away useful material but that is not all that happens. While the rubbish is buried in the ground dangerous chemicals can leak out into the air, soil and water.

"Our current methods of waste disposal cause significant pollution. Landfill sites account for some 25 per cent of UK methane emissions."

(House of Commons, 2003)

Fairness Today

As well as a responsibility for future generations, Bishop Ambrose Griffiths pointed to the responsibility of fairness to all humanity, so that the principle of equal rights to all people should underlie the principle that action should be for the "common good".

"The common good meant that everybody was of value ... common good for the poor as well as the rich" (Griffiths, 2001)

The production of waste in the UK varies with wealth, the poorest 10% of society produce less than one quarter of the waste of the richest 10% (Henry, 2001). Internationally, inequality – of wealth, of access to goods and production of wealth – is even greater. Roughly 20% of the world's population have access to 80% of the world's resources while the poor 80% have the use of only 20% (Henry, 2001). Yet it is the poor who suffer the most from the disposal of the waste, largely produced by others, as landfill sites and incinerators are usually located in poor areas (ESRC, 2001). This is a double injustice.

Waste Minimisation

Waste minimisation should be the top priority in any strategy dealing with waste. Even recycling, although far preferable to throwing away, is still dealing with the end of the problem. Government and business should concentrate their efforts and resources on minimising and even eliminating waste.

"Zero waste is the only target in the long term" (Collins, 2001)

Some companies and local authorities have set themselves the goal of Zero Waste. Such a fundamental change in outlook leads to a re-examination of all the organisation's processes and activities. It usually gives spectacular results (Hawken, 1999; Murray, 2001). While they may not totally succeed in achieving Zero Waste, the shift in outlook produces many benefits.



People Want a Change

The public wants to change the way waste is treated. The Environment Agency has found that most people, ~80%, were willing to sort their waste and to recycle, especially if there are good facilities and services (Environment Agency, 2002). This shows a willingness to recycle and compost higher than what is actually achieved. The key reason for this difference is the lack of easy to use facilities. Kerbside collection from households makes a significant difference.

“Where containers are provided, incidence of responsible recycling action increases dramatically across the entire spectrum of recyclable products but is especially true of “less top of mind” recyclable waste products (i.e. plastics, vegetable peelings, etc).”

(Environment Agency, 2002)

“If the aim is to increase the public’s willingness to co-operate in sorting and recycling schemes, much depends on the council provision. Findings indicate that where individuals are provided with the means/receptacles into which to separate, participation increases dramatically.”

(Environment Agency, 2002)

BAN Waste, at its seven Community Events attended by over 600 adults and children, found very high support across Newcastle for a change. There is a high concern about the environment and about the need to reduce waste. There is also very strong willingness to act (BAN Waste, 2002b).

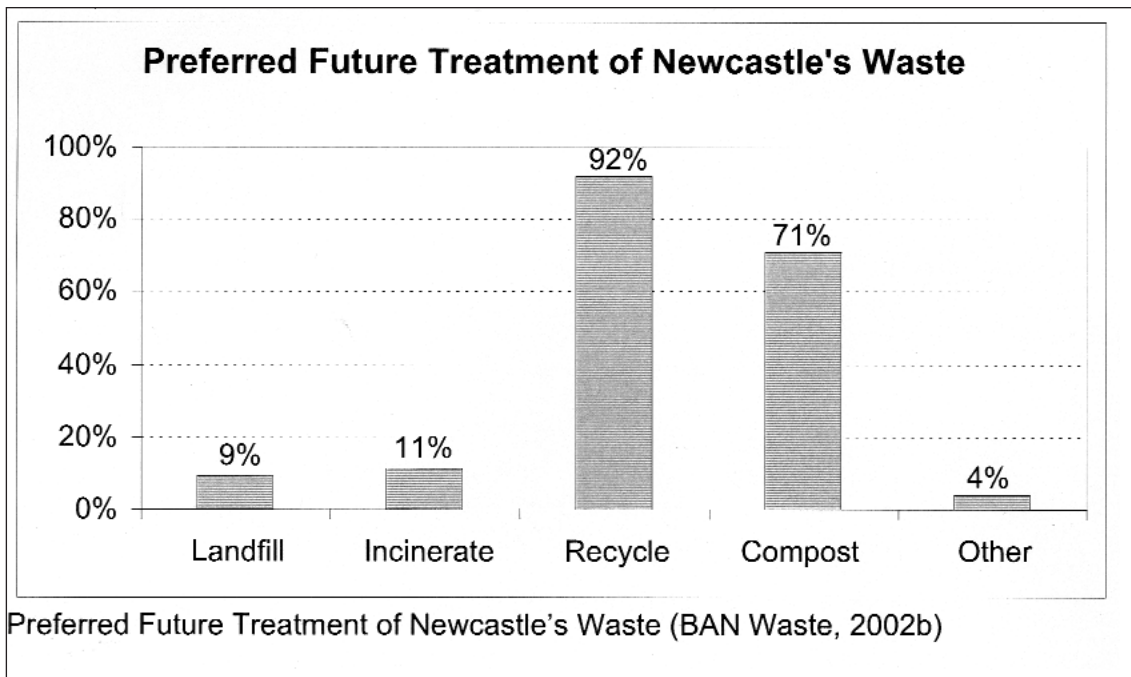
General Views on Waste in Newcastle (BAN Waste, 2002b)

	Yes
Do you ever think about the waste you throw away?	88%
Do you think that as society we produce too much waste?	96%
Do you ever try to reduce your waste?	81%
When shopping do you ever refuse extra plastic bags?	69%
Do you choose items with less packaging?	62%
Should the Council and Government do more to reduce waste and packaging?	97%
Would you put your garden/kitchen waste in a separate container for collection?	90%
Would you sort your waste into glass, paper, plastics, etc. so that it could be recycled?	95%

There was overwhelming support for recycling and composting, with people willing to separate materials. Successful recycling needs to be well supported by the council with systems that are easy to use. There was strong criticism and frustration about the lack of facilities and support for recycling in Newcastle (BAN Waste, 2002b).



Preferred Future Treatment of Newcastle's Waste (BAN Waste, 2002b)



There is very little support for incineration or landfill. Even when asked "If Newcastle decided to have an Incinerator, what should be burnt in it?" over two thirds stated "Nothing".

Green Economy

As well as the many benefits for the environment of a shift to resource recovery there are profound economic benefits. Efficient use of resources saves money, reduces costs and often produces better products (Hawken, 1999). The Government has urged such a shift with several key targets for sustainable development (DETR, 1999) covering reducing waste, making better use of resources, and reducing pollution and waste. The move towards a sustainable economy will increase.



Changing Legislation

There is a wind of change blowing through British government and European Union legislation and policy on waste. It is important that Newcastle's waste strategy for the next 10 – 20 years is based both on the existing legislation and the likely future policies.

The core principle of the policy is to change from waste disposal to resource recovery.

Waste Hierarchy

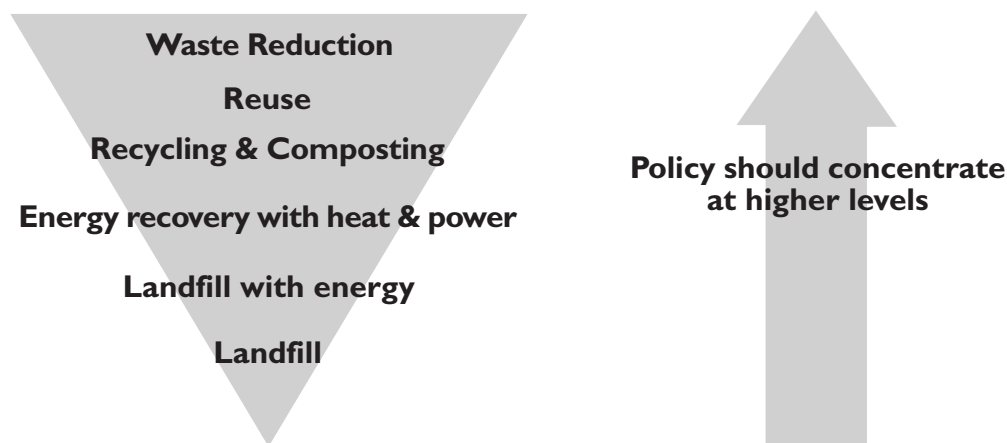
A key objective of government policy is to move up the Waste Hierarchy. This gives priority to first of all reducing the production of waste, then in order of preference re-use of objects, then recycle and compost waste, then recovery of energy from waste and finally, as a last resort, landfill.

The aim of the waste hierarchy is to move from a throw-away society; a one-way flow from raw materials to waste. Instead, society should look at a circular process in which materials flow round and round thus avoiding some consumption of energy, constant extraction and production of new materials and production of waste.

This clearly involves direct **reduction** by making products to the same standard but with less energy and materials involved. If a product's life is extended by **reuse** rather than disposal this reduces the need for making a new product. **Recycling** saves energy and avoids the costs and environmental impacts of producing new materials.

Much of the rubbish we throw away can be made into **compost** to increase the soil's organic matter which is vital to its health providing nutrients and aiding water and air availability to plants. **Energy recovery** aims to capture some of the energy used to produce goods rather than throwing them away, clearly this only applies to materials that can be burnt – it is not applicable to glass or cans.

Waste Hierarchy



The government has made it clear that the waste hierarchy must be used when drawing up a waste strategy by stating that when the recovery of energy from waste is considered the strategy

“should demonstrate that all opportunities for waste reduction, recycling and composting have been considered first”.

(DEFRA, 2001a)

Existing Policy

Waste Strategy 2000 (White Paper)

The UK Government presented a new waste policy based on the waste hierarchy in the White Paper, Waste Strategy 2000 (DETR, 2000a). The primary aims are to tackle the amount of waste produced by

*“Breaking the link between economic growth and waste production” and
“Putting waste which is produced to good use.”*

The Waste Strategy 2000 states that Local Authorities should base decisions concerning waste on:

- Best Practicable Environmental Option
- Aiming for the highest levels of the Waste Hierarchy (Reduce, re-use, recycle, compost, recover, disposal),
- Handling waste close to production (Proximity Principle)
- Regions should not export waste (Self Sufficiency).

Local Government Act, 2000

Gives local authorities a new power and responsibility to *“promote or improve the economic, social or environmental well-being of the area and inhabitants”* which includes a duty to prepare a community strategy to this end (DETR, 2000b). Waste management is included as one of the areas for local community partnerships.

European Landfill Directive

The Directive requires regulation of landfill sites, reductions in biodegradable waste going to landfill, separation of landfill into hazardous, non-hazardous and inert, the treatment of most waste before landfill and a ban on certain materials being landfilled, such as liquid wastes. The Directive will ban whole tyres from landfill in 2003 and shredded tyres in 2006.

Waste Electrical and Electronic Equipment Directive

Waste Electrical and Electronic Equipment (WEEE) Directive comes into effect in stages over the next few years and requires the producers of Electrical and Electronic Equipment (including computers, hi-fi, household appliances, lighting and power tools) to take responsibility for the disposal of these goods. This will require separate collection of WEEE and the setting up of systems to treat, recycle and re-use this equipment and parts.

Waste Targets

The government has set a number of targets, which while dealing with different parts of the waste stream somewhat overlap. The national recycling targets have been translated into specific targets for each local authority under Best Value.



Targets for Recycling and Composting Household Waste

Year	National	Newcastle Best Value
2003/2004		10%
2005	25%	
2005/06		18%
2010	30%	
2015	33%	

There is also a target to reduce the amount of biodegradable waste – paper, card, kitchen scraps, garden cuttings, etc – that goes to landfill. By 2010 only 75% of the biodegradable waste that went to landfill in 1995 will be allowed to be landfilled and this is to be reduced to only 35% of the 1995 amount by 2020.

Municipal Biodegradable Waste Targets:

To reduce the biodegradable municipal waste landfilled compared to the 1995 amount

	Percent of 1995 Municipal Biodegradable Waste Sent to Landfill
2010	75
2013	50
2020	35

The recovery target includes both composting and recycling and the portion treated to recover energy. The energy recovery can be by incineration, anaerobic digestion, pyrolysis or gasification. This amount treated is calculated on the total amount that is sent for treatment, the 'gross' amount of household waste sent for recovery, whether in an incinerator or by the capture of methane gas in an anaerobic digester (Audit Commission, 2003).



Municipal Waste Recovery Targets

(includes recycle, compost and energy from waste)

	Percent of Municipal Waste Recovered
2005	40
2010	45
2015	67

It is clear that the recovery target, of energy from waste, has a lower priority for the government than recycling and composting (DEFRA, 2001a). The government has not set compulsory recovery targets for local authorities, as it has for recycling. There is a question mark over the long-term importance of the recovery target. In its comprehensive report the Strategy Unit (2002) did not discuss the recovery targets. Recent decisions in the EU have undermined the idea of recovery targets.

“There is little evidence that recovery will become a statutory target.”
(Watson, 2003)

It is likely that the crucial targets for local authorities will be for recycling and composting and diversion of biodegradables from landfill.

Impact of Legislation

Existing, and proposed, EU legislation to protect the environment is having a major impact on UK waste policy.

“Now the driver is Europe.”
(Khan, 2002)

“European Legislation ... has at last meant that the UK is taking recycling and a more sustainable approach to waste management seriously.”
(Dumpleton, 2001)

The British government established targets to reduce biodegradable materials going to landfill because of the European Landfill Directive. The directive also requires that “*all the waste will have to be treated*” before going to landfill to reduce the release of pollutants (Khan, 2002).

This Directive will require hazardous waste – including the fly ash from any incinerator - to go to special landfill sites. These will be expensive to operate and there are likely to be only a few in the country. Both the transport and use costs for landfilling hazardous waste are likely to rise sharply (Khan, 2002).



The Landfill directive is backed up with the possibility of fines and if Britain does not deliver it could face fines of £180 million a year (Strategy Unit, 2002) or “millions of pounds a day” (Khan, 2002). Britain has already been criticised by the EU for its slowness to act and failure to comply with EU directives on waste (Khan, 2002). If fined, the British Government would probably recover this money from councils that were not reaching their targets. Britain lags far behind most European countries, and Newcastle, at below 4% recycling in 2002, lags behind the average of English cities.

These policies represent a fundamental shift in government policy, clearly recognising the need for a “step change” to end the throwaway society. This change cannot be achieved by collecting all household waste together in one bin and then, at a later stage, trying to separate it again; this is like trying to unscramble an egg. The best way to collect clean materials is to collect them separately either by doorstep collection or separate containers at bring schemes and Civic Amenity sites.

Future

Although the details of the future are unknown, every trend in public opinion, environmental protection, government legislation and economics points towards a future where we would no longer have a waste strategy; instead we would have a resource recovery strategy. Biffa (2002) outlines some of the likely changes in the handling of waste/resources:

- *“More separation at source, banning some materials from landfill”*
- *“Ratchet effect of ever-tightening legislation”*
- *“Greater public concerns over emissions, greater support for green purchasing and increased risk awareness”*
- *“Increased public pressure (under threat of civil or criminal action) against those who supply products and services (including waste management)”*

This will require a reduction in waste, treatment of the waste produced as a resource and minimisation of the negative impacts on health and the environment. As Newcastle Council considers its strategy for the next 20-25 years it has a choice. Does it look to the future and aim to be a leader? Or does it aim only to meet the immediate short-term targets and leave Newcastle in 5-10 years with the problem of changing an inflexible strategy?

Britain

Already, as BAN Waste expected, the Chancellor has announced an increase of the landfill tax by £3 per year from 2005 with the aim of raising it to £35 a tonne (Treasury, 2002). It is likely that in the future there will be a tax on incineration as supported by the Strategy Unit (2002), Environment Agency (Environment Agency, 2001; Burns, 2002), Jones, Director of Biffa (2002) and many other bodies including the Environment Select Committee of MPs (House of Commons, 2001).

Recently the Strategy Unit carried out a review of the present waste policy and its report *Waste not, Want not* (2002) makes a number of recommendations. Although these are for consultation, they do indicate the direction in which government policy is moving.



There are recommendations for government and industry, as well as important ones for Local Authorities.

The report states:

- *“Over 50% of household waste could be diverted from incineration and landfill through home composting and recycling on the basis of current best practice.*
- *“Other countries provide successful examples of better waste management.*
- *“Local authorities need to set a strategy ... [with] sufficient resources ... to support home composting, kerbside recycling (focusing on organics first), more bring sites and better Civic Amenity sites.*
- *“A target of at least 35% of household waste being composted or recycled by 2010 and at least 45% of household waste being composted or recycled by 2015.”*
- *“New targets for local authorities and alternative indicators [for Best Value] should be set to reflect the Strategy Unit’s reduce [and] recycling strategy.”*
- *“[The government] should review the case for a ban on the landfilling of recyclable products in 2006/7”*
- *“[The government] should consider the case for a ban [in 2006/7] on incinerating recyclable products”.*
- *The Case for an incinerator tax should be kept under review”*

(Strategy Unit, 2002)

The government has stated that it *“welcomes the report”* and *“accepts the majority of the recommendations and supports the direction or intent of many of the others.”* It has recognised the need for a shift from *“seeing waste as a problem to management of resources”*. The government recognises that recycling rates higher than the present targets are *“possible and desirable”* and will review the targets in 2004. The government has stated it will consider banning the disposal of recyclable products and an incinerator tax. It will support work to *“maximise the potential of kerbside collection for all materials, particularly biodegradable organics.”* (DEFRA, 2003a)

Already the regional governments have set higher recycling targets than the Waste Strategy with a target in Wales of 40% recycling by 2009-10 and Scotland’s target of 55% by 2020. **Given these examples and the Strategy Unit’s recommendations it is likely that Britain will move towards a target of 45% recycling and composting by 2015** (Watson, 2003).

In 1992 and 2000, the legislation on incineration was tightened, which resulted in the closure of several plants (Simmons, 2003). It is likely that in the next few years there will be further tightening on incinerator releases, probably including controls on ultrafine particles, which will



either require significant and expensive upgrading of plant or their closure (Khan, 2002; Howard, 2003). Even without legislation, as technology improves the quality of plants must improve as well, so there will be constant upgrades.

“What this means is that if anywhere in the world that technology is available then it must be used here ... so you can forget about the standards now, the standards are only guidelines. If your plant or incinerator, if you are not complying with the best technology because at the time [it was built] it was not available, now the technology has become available the [Environment] Agency will modify your permit and require you to do this”
(Khan, 2002)

The Regional Draft Waste strategy has recommended that no new incinerators should be built in the region,

“The north East Region would be served by 1 energy from waste plant with a capacity of 400,000 tonnes per annum.”
(ERM, 2003)

European Union

The European Union is drawing up a Directive (European Commission, 2001) that will require organic waste to be properly treated to produce good quality compost for improving soil. Crucial to the production of compost that is safe for use in farming and on gardens is that it is not contaminated with plastics, heavy metals, harmful chemicals, organic toxins or pathogens. To prevent their presence, the original materials to be composted must be collected separately.

The draft makes clear that

“Member states shall set up, ... separate collection schemes with the aim of collecting biowaste separately from other kinds of waste in order to prevent the contamination of biowaste with other polluting wastes, material and substances.”
“In particular, food waste from private households ... shall be collected separately unless they are home composted or community composted:

The keys to producing high quality compost are separate collection of organic matter and a good treatment system, such as in-vessel, so that it reaches a high enough temperature to kill pathogens. The entire direction of policy on compost is for separate collection and treatment rather than trying to produce compost from mixed waste.

In May 2003 the European Commission confirmed the ruling of the European Court that

“energy recovery from dedicated waste incinerators can no longer be counted towards waste recovery targets under the EU packaging directive”.
(ENDS, 2003)

This raises further questions about the long-term role of incineration as part of a waste strategy.



The Directive on hazardous waste is also likely to affect household waste collection. Most household waste is not hazardous but paints, oil, pesticides, some treated timber, consumer batteries and some lightbulbs are classed as hazardous waste. Some time in the future there will be a requirement to collect it separately (Khan, 2002).

The Future is Clear

It is clear that the trend in policy is away from disposal such as landfill and incineration and towards the re-use of materials via recycling and composting and the re-use of objects. The separate collection of recyclable materials, organic matter, and household hazardous waste is going to be required. This shift is likely to be increasingly backed up by higher targets, taxation, financial penalties and other actions. Already some cities in Europe and North America are achieving high levels. Britain and Newcastle must look to the future and make a dramatic change.



Newcastle: A safe, Healthy and Sustainable City

Newcastle is going through major changes. The Newcastle Partnership (2002) has stated its vision is that Newcastle

“will be a successful, prosperous and cosmopolitan city that fully utilises the creativity, innovation and talent of our people ... making us one of the best places in Europe to live, work and visit ... a safe, healthy and sustainable city”.

BAN Waste shares this aim and believes that a shift from waste disposal and incineration to resource recovery would contribute to this in many ways. It would improve the environment making the city more attractive for housing and business, it would enhance Newcastle’s reputation as a forward looking city, it would help to reduce inequalities in health and would provide many new and long-term jobs. All of these achievements fit well with the aims for the city.

East Newcastle

There are plans to improve many areas of East Newcastle.

- The Ouseburn valley is becoming a leading centre for cultural activities in the region. It has seen new housing and businesses and is aiming to be a sustainable urban village within Newcastle.
- There has been a great deal of new development along the Quayside, including St Peters basin immediately beside the incinerator, with expensive housing and entertainment. The new Baltic and Millennium Bridge and, soon to be opened, Sage Music Centre have added to the attractions of the Quayside. Plans are being prepared to expand the Quayside development further east along the river.
- The Byker estate has been recently proposed for Grade II listing. This is in recognition of the historic and architectural importance of the estate, with its unique design of an attractive and green urban environment, with low car usage, public spaces and sunlit homes. This listing could be the spur to turn Byker into a model of urban sustainability.
- Walker Road Allotments are being remediated for contamination and improved at a cost of over £2million.
- There is discussion about improvements and new housing developments in the South Byker area as well as a possible new neighbourhood centre and improvements to the residential environment.
- Places for People have drawn up proposals for significant new housing along Walker Riverside, as well as improving the environment, transport and local shopping.

A high quality environment will help the success of all of these proposals. Given the plans and aims for Newcastle and the East End it is amazing that the council has proposed to build a new incinerator in Byker. This would be within a mile of the Ouseburn, Byker Estate, Walker Riverside, the Quayside and the Sage and Baltic. It seems a total contradiction to encourage new houses, offices and cultural activities and build a new incinerator in the same area.

In fact, it is not a good idea to build an incinerator near any houses. Every witness, who commented on location, agreed that incinerators should not be built near to people's homes. Dumpleton (2001), of SITA, recognised that incinerators are an industrial process and

"it was better to locate any industrial process away from people".

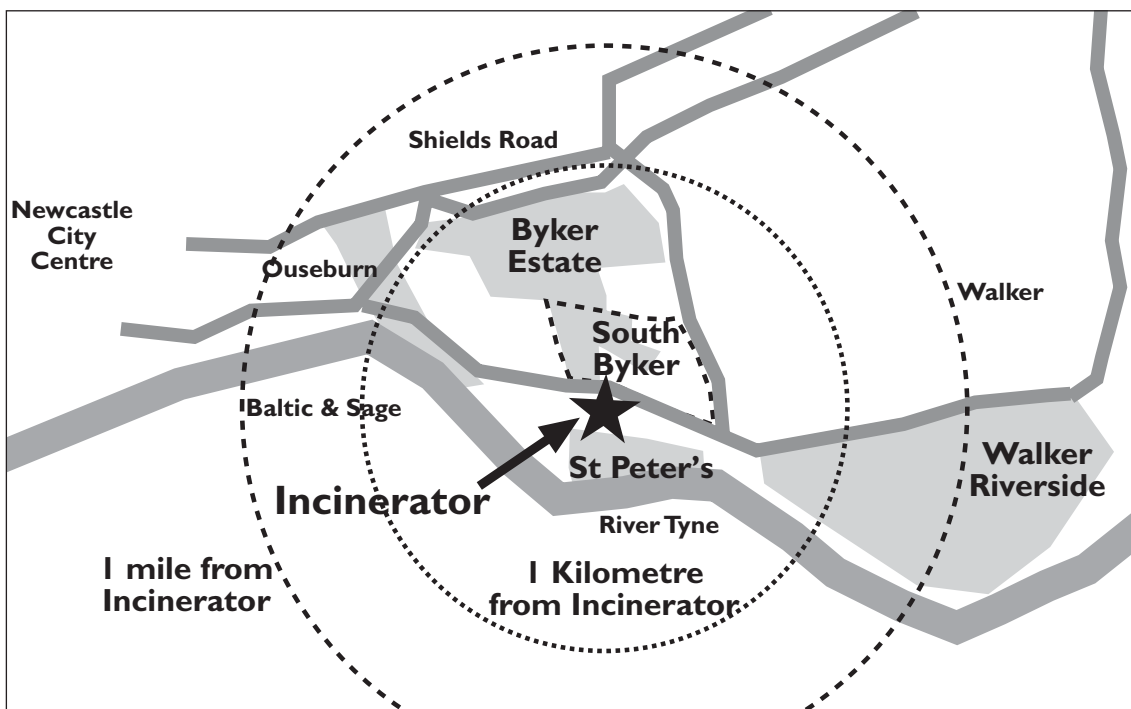
Halliday (2001), of Northumberland Council and the Chair of the North East Region Technical Advisory Board on Waste, said that councils should avoid putting energy from waste plants in populated areas and he didn't

"blame people for not wanting one nearby due to concerns about health, environment and noise".

Prescott (2001) while in favour of incinerators stated that incinerators should be

"sited in industrial park, not in the middle of the city". He would *"not want an incinerator in my backyard"*.

East Newcastle



The pollution from an incinerator can spread over a wide range. BAN Waste believes that there is nowhere in Newcastle that is safe to build an incinerator.



Equity

The city centre of Newcastle has seen dramatic changes so it now has an air of prosperity. However, there are still significant areas that suffer from poverty, deprivation, environmental and health inequality close to the city centre. Newcastle Partnership (2002) has stated that it aims to ensure that the people in these areas are not “disadvantaged by where they live” and “do not have to suffer conditions and services that are failing”. Part of this strategy must include ensuring a good quality local environment and providing good long-term employment.

There is a long history of waste disposal and treatment sites, because of their negative pollution and health impacts, being located in poor areas. The vision for the future needs to tackle this inequality; if an incinerator is built, contrary to BAN Waste’s recommendations, then in the interests of tackling inequality it should not be located in an area of deprivation. Bishop Ambrose Griffiths (2001) stated

“that if you actually decided to have an incinerator, it should be away from population altogether ... it should not be sited in a poor area ... they often have less voice.”

Alongside tackling physical and economic deprivation, any strategy to tackle inequity needs to ensure that the views of people in deprived areas are given at least equal weight in decisions as people in richer areas and big business. The residents of Byker have made their opposition to a new incinerator very clear and a decision to go ahead with it would be an affront to their views.

Planning Policy

Newcastle’s planning rules have policies that would have to be changed to allow a new incinerator in Byker. The Unitary Development Plan (Newcastle Council, 1998, POL1) states that developments subject to Pollution Control, which would include a new incinerator,

“will only be allowed where it can be demonstrated that there will be no harmful effect on the environment or detriment to the safety or amenity of the public”.

It is impossible to demonstrate that an incinerator will not have a harmful effect. It is extremely unlikely that a new incinerator in Byker would gain planning permission.

“If public don’t want an incinerator not likely to be built ... people object at planning ... probably no chance of permission for Byker.”

(Simmons, 2003)

“Most incinerators are rejected at public inquiry ... Very high risk of not getting planning permission for Byker, given that Kidderminster and Hull were rejected.”

(Watson, 2003)

Reputation

Newcastle in the past had a reputation for innovation and forward-looking based on engineering and shipbuilding. It was a world leader in these fields. Now Newcastle is aiming to gain a reputation as a world leader for culture, quality of life and new economic activities. A good quality environment is vital to such a policy. A strategy of resource recovery and being one of the best British cities for recycling and composting would enhance the city’s reputation, making it more attractive to live and work here. This approach would also provide long-term jobs in one of the fastest growing sectors of the international economy.



Crossroads

After several years of debate and investigation the city of Newcastle faces a choice about its future waste strategy with all the various long-term impacts on health, the environment, employment, finance and reputation.

Newcastle Council developed a provisional policy a few years ago based on incineration, recycling, composting mixed waste and landfill. This policy was the basis for the Strategic Environmental Assessment and Health Impact Assessment (Long, 2003) and is used for comparison in the report. BAN Waste has developed an alternative based on higher levels of recycling, composting separated materials and treatment of residue before landfill.

These two approaches have some common points, but there are fundamental differences. The Council's policy concentrates on the use of technology primarily to dispose of waste. This strategy does not give a high priority to connections with other and wider policy areas.

BAN Waste puts the emphasis on people and resource recovery. Its policy is based on improving the environment, reducing negative health impacts, providing jobs, tackling inequalities and increasing public involvement. This means that the proposed strategy both meets and exceeds government policy on waste and is integrated with wider city and national policy aims.

BAN Waste's Principles and Approach

BAN Waste has based its proposals on a number of key **aims**.

- High levels of Separation of Materials
- Exceed Government Targets
- Move the Handling of Waste Up the Waste Hierarchy
- Look to the Future
- Minimise negative Health and Environmental impacts and inequality
- Make Newcastle a leader in Resource Recovery
- Effective Expenditure to ensure Costs produce Maximum Benefits
- Realise Employment opportunities of resource recovery

It has based its proposals on certain **methods**.

- Concentrate Resources at the higher levels of the waste hierarchy
- Put the Priority on People, including involvement and education
- Using Technologies that are flexible and safe
- Systems that are Easy to Use

Outline of Strategies

The outline of the two strategies has approximate percentages of treatment. Obviously, over time these will change as the volume and composition of waste changes. However the outline



here indicates the broad issues and principles involved. There are more details of BAN Waste's strategy in A Waste of Wealth (BAN Waste, 2003).

Newcastle Council's Strategy

Newcastle Council aims to reach the government recycling targets by a number of actions. The Council is introducing kerbside collection of dry recyclables, which it is hoped will capture 10% of the city's household waste, increasing over time towards 15% (Rowland, 2002). In addition there will be recycling from the Civic Amenity sites, bring schemes, bulky collection and the metals extracted from the mixed waste. Overall this should give a recycling level of 26% of household waste. In addition, some green waste collected at the Civic Amenity sites, 4% of total household waste, will be composted. The Council does not propose to collect organic matter from households for composting.

The majority of waste, 70%, will not be collected separately for recycling or composting. This will be collected as mixed waste. The council proposes that this mixed waste will be treated in three ways: 40% incinerated, 15% treated by a compost process and 15% landfilled. The ash from the incinerator will add a further 7,000 tonnes to go to landfill. The fly ash from the incinerator's filters is a hazardous waste so has to be sent to special landfill sites.

BAN Waste's Proposal

BAN Waste's proposals aim to keep materials separate as much as possible in order to reduce problems and maximise the opportunities for resource recovery. The core method is the collection of recyclables (paper, glass, cans, textiles and plastics), organic matter and some household hazardous waste direct from the household by kerbside collection.

Recyclable materials will be gathered from households. In addition, BAN Waste proposes to collect recyclable materials from improved Civic Amenity sites, enhanced bring schemes, and the sorting of bulky collections from households. Metals will be extracted from the remaining mixed waste. Overall this would give a recycling level of 36%.

Increased household composting would reduce the volume of waste for further treatment by 2%, although as it is not collected it is not included in government calculations. Organic matter for composting will be collected separately from households, Civic Amenity sites and sorting of bulky collections. This will be composted in enclosed vessels to remove problems of odour, pests, release of bio-aerosols and releases of harmful chemicals to water.

Around 20% of the city's household waste would be treated to produce high quality compost.

The residue of waste, that which is not composted, recycled or re-used, from all sources is around 42% of household waste. This will be Mechanically and Biologically treated to remove metals by magnets, produce methane gas, which is a fuel, and reduce the overall weight of the waste by 25%-40%. The end product from this process is not reactive so that, when landfilled, it does not produce harmful leachate and gases.

Outline Comparisons

Both proposals include improved Civic Amenity sites with separation of materials for recycling and composting, continued use of bring schemes and improvements to the bulky collection so that materials are separated for recycling and composting.



The key differences in collecting waste are that **BAN Waste** aims for higher levels of collection for recycling from houses, including of organic matter, and therefore has only ~40% of mixed waste for treatment compared to the council's proposed 70%. This mixed waste is sent for Mechanical and Biological Treatment (MBT) before landfill rather than being treated by a mix of incineration, a compost process and landfill.

Comparison of Main Treatments as Proposed by BAN Waste and Newcastle Council

	BAN Waste	Newcastle Council
Increased Home Compost	(2)	0
Recycle and Reuse	36	26
Compost of Separate Organic Matter	20	4
Stabilisation by Composting of Mixed Waste	0	15
Incineration	0	40
Mechanical and Biological Treatment	42	0
Direct Landfill	0	15
Total	100	100

Discussion of BAN Waste's Proposals

Central to BAN Waste's proposals is taking steps to ensure that, as far as reasonably possible, different materials in the waste stream are kept separate. The mixing of waste lowers the market value of any end products. It presents many problems for handling such as release of harmful and toxic chemicals. Mechanical separation of mixed waste is virtually impossible.

"One of the main reasons we are faced with the waste industry problems of today, is our insistence on mixing organic wastes with inert wastes."
(Pumfrey, 2001b)

"Sorting at source into boxes for collection was without doubt the best process ... producing the best quality of separated materials which helped to ensure best prices."
(Moore, 2001)

"It was not possible to accept mixed waste" [for recycling]
(Jose, 2001)

"Mechanical separation is extremely expensive ... separation at source is the only way."
(Jose, 2001)

Kerbside collection of household separated materials is the key to effective resource recovery.



Recycling

The core of the recycling policy would be based on the kerbside collection of recyclates from households. BAN Waste would envisage an improved version of the system presently being introduced in the city. The core would be a weekly collection of glass, paper and card, metals, plastic and textiles. These would be sorted at the kerbside into vehicles, which helps to ensure very low levels of contamination, less than 0.5%.

To reduce pollution and congestion BAN Waste has proposed using electric vehicles, which are manufactured locally, rather than large diesel trucks. These could be based in local depots or even schools to reduce travelling distances and build links between recycling and the community. The use of electric vehicles would also allow greater interaction between the collectors and the public in line with BAN Waste's view that the workforce should be 'green ambassadors'.

Crucial to the success of the scheme would be a high level of community involvement, good promotion, public awareness and education and a well-motivated and trained workforce.

The level of recycling proposed by BAN Waste has been criticised as too optimistic (Long, 2003). However the only real difference with the strategy proposed by the council is the level of recyclates collected from the household, with BAN Waste suggesting ~20% of total household waste and the council aiming for 10% in the short-term rising to 15%.

According to CRN (2002) the level of household collection suggested by BAN Waste is in line with what is achievable in Britain and already good practice in parts of Europe. BAN Waste recognises that achieving this level would be a challenge, but one we believe that the people and council of Newcastle can achieve. As we explain later there would be flexibility in the system to allow time to reach this target.

Recycling Rates: Comparison of BAN Waste and Newcastle Council Proposals

	BAN Waste	Newcastle Council
Kerbside Collection	20.5	11
Bring Schemes	4	5
Civic Amenity Sites	4.5	2
Bulky Collection	2.5	5
Metals	4.5	3
Total	36	26

Compost

The mixing of organic waste in with recyclates causes contamination and loss of value, while organics in landfill react to produce leachate and methane gas, which can cause fires and explosions, and contributes significantly to climate change. On the other hand, organic matter



if composted can contribute to restoring declining soil quality and there is a market for good quality compost.

BAN Waste supports the existing home composting programme of Newcastle council which already handles at least 2,000 tonnes of waste (Rowland, 2002). We would urge increased support for this programme to more than double the amount. This would be relatively inexpensive and save on the costs of collection and transport of materials.

In addition to home composting, BAN Waste recommends the introduction of a kerbside collection of organic matter, from kitchens and gardens. This is already being carried out in cities internationally, some with a high level of success, and is likely to become a legal requirement in Britain.

BAN Waste has proposed that each household is provided with a sealed container with a biodegradable bag to be used for kitchen scraps. The bag would be collected weekly from households. The collection of garden waste from those areas with gardens, around 40,000 houses, fortnightly in the growing season and monthly in the winter, would ensure a large portion of organic matter is captured for composting. Further organic matter, which is already collected via Civic Amenity Sites and bulky collections, could be sent for composting. On the basis of the levels achieved in European cities this would result in around 20% of household waste being composted.

The organic materials would be treated in sealed containers. In the past compost was done in open rows, however doing it in-vessel means the process occupies less space, ensures the compost meets requirements on quality and removes the problems of odours, pests and bio-aerosols. The reactions within the vessel would raise the temperature to 60-70°C, high enough to kill off weeds and pathogens. The process relies on natural processes rather than high technology, is generally safe and uses little energy.

The resulting compost is free of contamination from glass, plastics, heavy metals or other dangerous chemicals. It will be a high quality material that can be used by the council on its parks and gardens and sold to the public.

Other Sources

Civic Amenity Sites

The Council is committed to improving the quality of Civic Amenity sites and to increase the levels of materials saved for compost, recycling and re-use. BAN Waste welcomes this. Civic Amenity sites should be safe and attractive Recycling Centres, with helpful and friendly staff

“Civic Amenity sites need to be psychologically exciting, attractive, where people want to go with coffee bar, close circuit camera, charts telling people about trends, reward schemes etc. Need clear signage, clarity.”

(Jones, 2002)

The best sites across Britain are re-using, recycling and composting over 60% of the materials that are delivered to these sites.

Bulky Collection

BAN Waste commends the Council's collection of bulky materials from households.



This helps to reduce fly tipping and provides a valuable service to the many households in Newcastle without a car. At present this service collects some 13,000 tonnes a year, nearly 10% of the household waste. We believe that with good management a significant portion of the materials collected could be recycled, refurbished and re-used or composted.

There already exist in Newcastle and the region a number of schemes, such as the Children's Warehouse, ReByte, Renew North East and Community Transport, that re-use household goods, such as old furniture and electrical goods from computers to hi-fis, cookers and fridges, and we would urge these to be supported, strengthened and increased in Newcastle. The SWAP report (2003) outlined further opportunities to recycle and reuse wood and paint. As well as increasing re-use, these schemes remove potentially harmful materials from the waste stream, provide jobs and training and a useful social service (Malone, 2001; Redmayne, 2001; Leadbitter & Shipley, 2001).

Bring Schemes

At present bring schemes collect 2-3% of household waste. They are likely to continue to play a minor role in recycling, but this could be improved by providing more sites in busy shopping centres and expanding the scheme to include separate bins in the city centre, which is common in many European cities.

Household Hazardous Waste

Although household hazardous waste is only a small portion of the waste stream, less than 1%, it still amounts to 500 – 700 tonnes of paints, batteries, solvents, etc thrown away every year. BAN Waste would propose that there is system for the collection of these materials from the household both alongside bulky collection and recycles. They should also be collected at Civic Amenity sites. If mixed in with either compost, landfill or recycles, they cause many problems and can cause downstream harm to the environment and people's health.

Mechanical and Biological Treatment

After extracting materials for recycling, compost and re-use, there would be a residue of mixed waste from households, street sweepings, and other sources. BAN Waste would estimate that this would be 40-45% of the total household waste. As levels of recycling and composting increase this amount may reduce.

BAN Waste recommends Mechanical and Biological Treatment to reduce the weight of this material and to make it safe for landfilling. Although relatively underused in Britain, it is widely used in Europe and while there are a number of variations in the details, the basic processes are well understood and common. The mechanical treatment includes removing the metal for recycling, possibly removing some inert matter such as glass and stones, and the necessary pre-treatment for the biological process.

The biological treatment BAN Waste is proposing is anaerobic digestion. This is a naturally occurring process where organic matter is broken down without the presence of oxygen. The main products are humus and methane. Methane is the main component of natural gas that is widely used as a fuel in Britain. The digestion takes place in sealed containers avoiding problems of odour, pathogens, bio-aerosols and pests.



Mechanical and Biological Treatment

- removes steel and aluminium for recycling
- reduces the weight of the material by 25-40%,
- captures the methane gas for use as a fuel rather than it being produced in landfill sites to cause problems in sites or escape to the atmosphere adding to climate change
- ensures that the materials going to landfill are not reactive so do not produce leachate or harmful gases.

Cost

A key consideration for the Council is the cost of any proposed strategy. Although BAN Waste does not have the resources to carry out a full cost/benefit analysis and such an analysis would require a detailed look at a range of options within a broad strategy, the previous report, *A Wealth of Waste*, (BAN Waste, 2003) outlined broad costings drawing on McLanaghan (2002) and others. BAN Waste believes that Newcastle Council should investigate the details of the costs and benefits of implementing the proposals of BAN Waste by working with BAN Waste, the workforce, Community Recycling Network and others.

It is clear that waste disposal is becoming increasingly costly. The increase in landfill tax to £35 a tonne will have a major impact as will new legislation requiring higher standards of landfill operation and safety. It is also possible that in the future there will be a tax on incineration. This is to encourage moving higher up the waste hierarchy, from disposal to resource recovery. Another benefit of resource recovery is that the sale of the materials and compost produces income.

While some of the proposals from BAN Waste will cost more than is presently planned by Newcastle Council, others will be significantly less.

“Source-separated schemes are likely to have lower system costs ... although collection costs may be greater with a source-separated scheme, capital costs (sorting facilities, for example) are likely to be comparatively low, and revenues generated by sales of material are likely to be much higher, as less material will become contaminated.”

(Luckin & Sharp, 2003)

There are also opportunities to access valuable additional funding by taking an innovative approach and working in partnership.

It is crucial for Newcastle that the costs, while being maintained at a reasonable level, produce the greatest benefits possible for the expenditure. BAN Waste's proposals, as they concentrate on health, jobs and the environment will provide significant benefits.

Recycling

Newcastle Council has agreed a 5 year contract with SITA for collecting from households, handling and dispatching recyclates with a charge of £70/tonne to collect 10,000 tonnes a year. The Council Trade Unions in their proposals for an in-house service estimated the cost at around £58/tonne, also for 10,000 tonnes a year. Both of these proposals included the cost of the depot and income from sales of recyclates. Both are based on a lower tonnage collected than BAN Waste envisages, so that as the levels increased to the levels proposed by BAN Waste the cost per tonne would decline, due to economies of scale.



This needs to be compared to the cost of landfill which will rise sharply over the next few years due to the landfill tax and the need to raise standards and cover long-term liabilities (Khan, 2002). The council's present costs of collection are around £26 per tonne (Rowland, 2002) and landfill costs are likely to be around £60 (tax, gate fee, etc) per tonne by 2006/7, with a possible further rise after that. This would mean that a net collection cost of £60 per tonne for kerbside collection would compare very favourably.

Compost

BAN Waste has estimated that the collection costs for household compostable materials would be around £60 per tonne. Treatment of clean organic matter is relatively inexpensive at around £30-35 per tonne, including the capital costs spread over 10 years. This would give an overall cost of around £95 per tonne, less a possible income of £5-10 per tonne for sales. This again has to be compared to the likely cost of collection and then landfill of £80-90 per tonne.

In addition, as the levels of collection proposed are realised there would be a strong opportunity to reduce the collection of the residual waste stream from weekly to fortnightly with a sizeable savings.

Residual Waste

The cost of collecting the residual is assumed to remain at around £26 per tonne, although this might well change if done on a fortnightly rather than weekly basis. The comparisons are between methods of treatment. The present treatment is to landfill which is likely to cost around £60 per tonne. BAN Waste is proposing that this stream is handled by Mechanical and Biological (MBT) treatment before landfill, while the Council is suggesting a combination of incineration, compost process and direct landfill. The landfill cost is £60 per tonne.

The costs of MBT, including capital costs spread over 10 years, will depend significantly on the design and technology used. However the best estimate is around £35-50 per tonne. One of the attractions of MBT is that it can be made up of small units so that it does not need to be located in one large plant. This allows the opportunity for a number of smaller plants, which will both reduce the distance travelled to the plant and may make planning permission easier. Also the capacity can be easily and cheaply expanded or reduced depending on need, with some of the units converted to treat clean organic matter. In addition to the MBT, the residual would be landfilled at a cost of £60 per tonne. There would also be an income from the use of the methane gas as a fuel.

The cost of the Council's proposals would include collection of residual, £26 per tonne, and then treatment. While collecting mixed waste is cheaper than source separation into recyclates and organic matter, there are a number of crucial penalties that follow from mixing waste.

Any downstream process, such as incineration or compost-like treatment, requires a number of mechanical processes to attempt to un-mix the mixed waste, materials from mixed waste are inevitably contaminated and there are more potential health and environmental problems.

An incinerator is much more expensive than an MBT plant with cost, including capital expenditure spread over 10 years, of £70-90 per tonne. The costs of incinerators are raised because of the need to install a large number of control and filter systems to reduce the dangers from a high-temperature and hazardous process. As incinerators have high capital costs, once built they need to keep operating for 10-20 years to cover the initial outlay,



which reduces the flexibility available to the Council. As it is expensive to construct and modify an incinerator, unlike MBT, it will have a fixed capacity which reduces flexibility. In addition to the incinerator costs, there would be the landfill costs both of the ash, £60 per tonne, and the hazardous fly ash which would be much more expensive, perhaps £100 per tonne. A further likely cost of using incineration is that they will probably need to have expensive upgrades to deal with future legislation and raised standards (Howard, 2003; Khan, 2002; Simmons, 2003)

An incinerator currently being built in the Isle of Man, with a similar capacity to that proposed for Byker, has capital costs of £28 million and will have a gate fee of £100 per tonne (Watson, 2003). These costs and charges are higher than BAN Waste has used in its estimates of costs, which may mean that BAN Waste has underestimated the cost of incineration.

The compost process that the council proposes, which starts with mixed waste, will be more expensive than BAN Waste's proposal, which starts with clean organic matter. The mechanical processes that aim to screen and sort the mixed waste to remove contaminants before and after composting are likely to add £10-20 per tonne to the cost, giving a cost of £40-55 per tonne. As the material is based on mixed waste, it is less likely to have a marketable value.

Overview of Costs

The strategy outlined by BAN Waste, based on the best publicly available information, will have overall costs that are the same as the policy proposed by the Council.

A recent study by Enviros (2003) on London's proposed strategy, used figures that are somewhat different from those used by BAN Waste or McLanaghan (2002) perhaps due to different circumstances of London. However it found that a strategy based on high recycling and MBT is no more expensive than incineration over the next twenty years. In addition, there are significant environmental benefits to strategies that avoid landfill and incineration.

"Under most environmental measures recycling has a lower impact on the environment than landfill and energy from waste."

(Enviros, 2003)

Although the direct costs of BAN Waste's strategy are similar to Newcastle Council's proposals, BAN Waste's strategy

- **concentrates resources on the higher levels of the waste hierarchy,**
- **will produce more jobs**
- **is more flexible**
- **is better for health and environment and**
- **is in line with present and future British and EU policy**

Funding

BAN Waste recognises that, at least in the transitional phase from waste disposal to Resource Recovery, the strategy would require additional resources and that the Council operates on a tight financial budget. SWAP (2003) outlines a number of possible sources of additional



funding that Newcastle Council could access including DEFRA, Landfill Tax, the New Opportunities Fund, Neighbourhood Renewal, the European Union, the Community Fund, WRAP and grant making trusts.

Most of these additional funds are only available for strategies that improve upon standard practice, due to

- a commitment to innovation
- high levels of recycling and composting above government targets
- strong community involvement
- wide environmental improvements
- production of clean renewable energy
- new employment and training opportunities
- increased social cohesion

The proposals from BAN Waste cover all of these issues and joint applications by Newcastle Council and BAN Waste would indicate a very strong partnership approach.

Targets

The government has set national targets for recycling and composting, recovery and diversion from landfill. It has also set targets for individual authorities. The Strategy Unit (2002) has proposed that the recycling and composting target is increased, and it is likely that this advice will be supported by the government. It is possible that the recovery targets will be dropped or given less importance in the future. European Union policy will produce targets for the collection of biowaste and household hazardous waste from households.

BAN Waste's strategy would exceed all of the government's targets. This allows the Council flexibility and ensures if there is a shortfall, for whatever reason, the targets are still exceeded. In addition BAN Waste's strategy will meet the planned or proposed new targets on higher levels of recycling and collection of bio-waste and household hazardous waste.

BAN Waste proposes that over 50% of household waste is recycled and composted.

Almost all of the residual would be treated in an MBT, which would produce methane, and therefore would exceed the recovery target. In addition there would be virtually no biodegradable waste being sent to landfill as a sizeable portion would be composted and the remainder would be inert after Mechanical and Biological Treatment.

The policy proposed by Newcastle Council will meet the short-term targets, but will not meet existing targets over the longer-term and will have to be changed to deal with planned requirements for bio-waste and household hazardous waste.

Newcastle Council plans to recycle and compost 25% by 2010 and over 30% by 2015 (Rowland, 2002). Key to achieving this is success of the kerbside collection which should contribute 10% or more of this recycling, 13,500 to 17,500 tonnes.



The contract with SITA for the fortnightly kerbside recycling collection commenced operation in the summer of 2003. In the first two months operating in 6 wards of the city, an average of 88.4 tonnes each fortnight was collected from an area covering 29,000 households. If this level is maintained across the city it is likely to collect around 9,500 tonnes for recycling. To achieve the aim of kerbside collection for recycling of 13,500 tonnes rising to 17,500 tonnes in a few years, will require a stepping up of recycling levels.

There is a fundamental difference in approach to kerbside collection between that of the Council's present system and that proposed by BAN Waste. The Council has followed "current standard practice of local authorities in Britain" (SWAP, 2003), with results roughly in line with what would be expected from such practice.

BAN Waste aims for levels similar to best practice internationally and are more in line with those "urged by the new Strategy Unit report" (SWAP, 2003). BAN Waste agrees with SWAP that to

"achieve these higher levels in Britain, which are achieved in other countries, will take a cultural shift as urged by BAN Waste".

The core of this cultural shift is an emphasis on the human side of recycling. People have to be fully involved in recycling. What is needed is a highly active and engaging campaign to reach out to people in many different ways.

So far the Newcastle scheme has delivered a leaflet to houses in the areas covered and had some publicity in Citylife and a few other places. There is a low level of promotion and information, virtually no education, awareness raising or community involvement, the workforce is poorly paid and motivated. Unless there is a real shift to high community involvement, awareness raising and workforce motivation, Newcastle may struggle to reach the government's present recycling targets.

In addition, even if the hoped for levels of kerbside recycling are achieved, the present government target of 33% recycling and composting will only be achieved by a successful production of compost from mixed waste, a high risk reliance.

If the compost process does not produce clean compost then the recovery target would not be met. In addition, the recent EU Court ruling on incineration casts a doubt about whether incineration will, in the long-term, count towards recovery. Both of these pose a question over achieving the recovery targets.

The council's present proposals will fall well short of the Landfill Diversion targets in the longer-term.

The presently proposed policy from Newcastle Council will not meet possible future changes such as the need for separate collections of household hazardous waste and bio-waste, or an increase in recycling targets.



Proposed Strategies in Achievement of Present and Future Targets

	BAN Waste	Newcastle Council
Present Targets		
<i>Recycle</i>		
Recycle 18% by 2005/6 (Best Value Target)	Yes	Yes
Recycle 30% by 2010	Yes	Depends on making Compost from Mixed Waste
Recycle 33% by 2015	Yes	
<i>Landfill Diversion</i>		
Only 75% of 1995 weight by 2010/11	Yes	Yes
Only 50% of 1995 weight by 2013/14	Yes	Yes
Only 35% of 1995 weight by 2020/21	Yes	No
<i>Recovery (If remain a target)</i>		
40% by 2005	Yes	Yes (If Incineration Counts to Recovery)
45% by 2010	Yes	
67% by 2015	Yes	
Probable Future Targets		
Recycle 35% by 2010 (Strategy Unit)	Yes	No
Recycle 45% by 2015 (Strategy Unit)	Yes	No
Collect Bio-waste (EU Directive)	Yes	No
Collect Household Hazardous Waste (EU Directive)	Yes	No

Summary

Newcastle Council's policy relies on incineration and producing compost from mixed waste. There are significant health and environmental concerns with these technologies (see Chapters 7 and 8). The strategy will not meet all the existing targets and will require major changes to deal with planned and possible new legislation. Most of the expenditure is concentrated on disposal techniques, especially incineration. The strategy is much less flexible due to the need to feed an incinerator long term.

BAN Waste's strategy would exceed all existing targets and cope with planned and possible new legislation. There are fewer health and environmental concerns with this strategy. Although the overall costs are similar to the Council's proposals, more of the finances are concentrated on resource recovery through recycling and composting. BAN Waste's strategy has more flexibility to deal with change.

What is also clear is that the Newcastle Council's proposed strategy

- may not even reach the government's targets for recycling, never mind the higher targets proposed by the Strategy Unit
- offers few extra funding opportunities
- does not represent the best long-term approach
- has few wider benefits in terms of community, employment, the wider environment, quality of life or enhancing Newcastle's reputation.

BAN Waste's strategy offers all of these advantages.



Outline Costs to Collect and Treat Waste Collected From Household

(excludes Civic Amenity sites, Bring Schemes, Bulky Collection, Schools and Street Sweepings)

2005/6

Total Waste assumed (tonnes) 155,500

Landfill Cost assumed £40-50/tonne

BAN Waste Proposals for Households

Waste collected from household (tonnes) 98,500

Percent of total household waste 63%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	32,000	60	1,920,000	70	2,240,000
Compost: Kerbside collect	20,000	60	1,200,000	70	1,400,000
Compost: Compost (excludes income from sale of compost)	20,000	30	600,000	35	700,000
Residue: Collect from household	46,500	26	1,209,000	26	1,209,000
Residue: MBT (excludes income from sale of methane)	46,500	35	1,627,500	50	2,325,000
Landfill: Residue after MBT	31,000	40	1,240,000	50	1,550,000
Total Cost			7,796,500		9,424,000

Council Proposal

Waste collected from household (tonnes) 94,500

Percent of total household waste 61%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	17,500	60	1,050,000	70	1,225,000
Residue: Collect from household	77,000	26	2,002,000	26	2,002,000
Treatment of 77,000 tonnes residual					
Incineration	46,000	70	3,220,000	100	4,600,000
Compost from Mixed Waste	21,000	40	840,000	55	1,155,000
Landfill Residual	10,000	40	400,000	50	500,000
Landfill Ash	5,000	40	200,000	50	250,000
Landfill Fly Ash	500	75	37,500	100	50,000
Total			7,749,500		9,782,000

Continue as Present

(Assume that Kerbside Collection reaches levels Council expects, but no other changes)

Waste collected from household (tonnes) 100,000

Percent of total household waste 64%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	17,500	60	1,050,000	70	1,225,000
Residue: Collect from household	82,500	26	2,145,000	26	2,145,000
Residual: Landfill	82,500	40	3,300,000	50	4,125,000
Total			6,495,000		7,495,000



2010/11

Total Waste assumed (tonnes) 176,000

Landfill Cost assumed £60/tonne

BAN Waste Proposals for Households

Waste collected from household (tonnes) 111,000

Percent of total household waste 63%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	36,000	60	2,160,000	70	2,520,000
Compost: Kerbside collect	22,500	60	1,350,000	70	1,575,000
Compost: Compost (excludes income from sale of compost)	22,500	30	675,000	35	787,500
Residue: Collect from household	52,500	26	1,365,000	26	1,365,000
Residue: MBT (excludes income from sale of methane)	52,500	35	1,837,500	50	2,625,000
Landfill: Residue after MBT	35,000	60	2,100,000	60	2,100,000
Total Cost			9,487,500		10,972,500

Council Proposal

Waste collected from household (tonnes) 107,000

Percent of total household waste 61%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	17,500	60	1,050,000	70	1,225,000
Residue: Collect from household	89,500	26	2,327,000	26	2,327,000
Treatment of 89,500 tonnes residual					0
Incineration	46,000	70	3,220,000	100	4,600,000
Compost from Mixed Waste	25,000	40	1,000,000	55	1,375,000
Landfill Residual	18,500	60	1,110,000	60	1,110,000
Landfill Ash	5,000	60	300,000	60	300,000
Landfill Fly Ash	500	100	50,000	100	50,000
Total			9,057,000		10,987,000

Continue as Present

(Assume that Kerbside Collection reaches levels Council expects, but no other changes)

Waste collected from household (tonnes) 113,000

Percent of total household waste 64%

	Tonnes	Lower Estimate Cost of Collection or Treatment		Higher Estimate Cost of Collection or Treatment	
		£/tonne	£s	£/tonne	£s
Recycle: Kerbside Collect and Handle	17,500	60	1,050,000	70	1,225,000
Residue: Collect from household	95,000	26	2,470,000	26	2,470,000
Residual: Landfill	95,000	60	5,700,000	60	5,700,000
Total			9,220,000		9,395,000



Face the Future

Newcastle's Council and people face a crucial choice about the long-term waste strategy for the city. The decision will influence the next 20 years and beyond, with impacts on health, the environment, employment and finance.

There is growing evidence that Newcastle Council is unlikely to want to build the proposed new incinerator in Byker. This is to be welcomed, but there are still crucial decisions to be taken. This report outlines many reasons why incineration is not the best approach, in Byker or anywhere else. Instead of investing in incineration and other waste disposal approaches, BAN Waste recommends a shift to resource recovery.

There are many benefits to shifting to resource recovery, which the report outlines. This chapter examines some of the steps needed to make this change.

No Incinerator in Byker (or Elsewhere)

It is becoming increasingly clear that many in Newcastle Council have concluded that an incinerator in Byker is not the best policy for the city. A new incinerator in Byker would be in conflict with plans to improve the existing environment of the area and to attract new houses and shops to the South Byker, St Lawrence Square, Ouseburn and Walker Riverside areas. Byker councillor George Allison (2003) has publicly stated

"I have been given an assurance there will be no incinerator in Byker".

There is no doubt that the strong public opposition to incineration is a key factor in the shift in policy

"Public pressure is building up and saying that recovery of energy [by incineration] must not be counted as recovery. And if that happens, incinerators will have a very bad time."
(Khan, 2002)

Dr Les Grant, the Chief Executive of Premier Waste, recently made it clear that councils and the waste industry should stop pushing for new incinerators.

"Incineration is unsaleable and unpopular."
(Grant, 2003)

If Newcastle Council decides not to build an incinerator in Byker, it will need to have a major re-think of policy. One option that has been suggested is to ship the waste over 40 miles down the road to the incinerator in Teesside. This would off-load the environmental and political problems onto others and would almost certainly face strong local opposition in Teesside. It would break the principle that waste should be treated where it is produced. Why should the people of Teesside suffer from handling Newcastle's waste? In addition there would be significant environmental damage and financial costs of shipping 54,000 tonnes of waste to Teesside. It would be equally wrong to send waste to incineration at some other location outside of Newcastle.

More fundamentally it would mean that Newcastle would still be dependent on a strategy based on waste disposal, which will struggle to meet future legislation and will not achieve the shift to resource recovery and all its benefits that BAN Waste is recommending.



Change & Flexibility

There is clear evidence that the legislation covering waste is changing and that there will be a further shift towards source separation, recycling and composting. In addition the nature of what is classed as waste and how it is treated will change.

“Big chunks of materials in the waste stream will pass to the manufacturers, such as tyres, packaging, junk mail, electrics.”
(Jones, 2002)

“Take the long view - waste will be totally different in 30 years, [we] need to be totally flexible towards change.”
(Boden, 2001)

“Change is here to stay ... Household waste will not be the same in 10 years as now.”
(Stevens, 2001)

It is clear that the rate of change is going to increase. Policy and contracts should be flexible to adapt to change and forward looking to future legislation. Halliday (2001), Chair of the North East Regional Technical Advisory Board was clear;

“Predict and Provide is dead.”
(Halliday, 2001)

This flexibility will require a major change in the outlook of councils and the waste industry.

“There is a need to change ways ... and a shake-up.”
(Pruce, 2001)

“There is a need to challenge the status quo, be pro-active and radical.”
(Stevens, 2001)

“It is impossible to predict in an industry which is having the most radical change that had happened ... for a century.”
(Murray, 2001)

A waste strategy that is not flexible will make compliance with change and new directives very difficult. The council would be well advised not to concentrate resources on expensive technologies that require long-term use to be viable, such as incineration, or risk not meeting present and future targets such as trying to compost mixed waste.

“Need to develop ‘flexibility’ to deal with change ... with all these uncertainties the idea of putting in a capital-intensive plant is inappropriate.”
(Murray, 2001)

“Local authorities [should] avoid ... huge integrated waste collection and disposal contracts spanning several decades. Such contracts are unlikely to provide the flexibility and capacity for innovation needed to facilitate the sustainable waste management transition, and may also prove troublesome for local authorities faced with changing European and national policy on waste.”

(Luckin & Sharp, 2003)



“Rigid contracts had a tendency to hurt the Council.”
 (Stevens, 2001)

“It is not possible to stick to a rigid plan over a 20 year period and that ... flexibility in terms of strategy and length of contract was at the present time considered to be an important message because of the uncertainties of the future and new emerging technologies.”
 (Halliday, 2001)

“MBT is more flexible than incineration.”
 (Simmons, 2003)

Newcastle Council should look to the future by aiming to be a leader in Britain in recycling and composting. A sustainable waste strategy for Newcastle has to be based on flexibility.

Invest in the Future

BAN Waste has continually stressed that the decision on a new waste strategy is for the long term and that the public’s attitude and the government’s rules are shifting away from waste disposal.

To get the best out of the large sums of money the council will be spending over the next 20 years it would be best policy to concentrate on activities that are best suited to meet the future and generate the greatest benefits. The Council’s budget is limited and if money is spent on one activity, there is less available for others. The money that goes towards waste disposal is not available for resource recovery. Therefore it would be the best use of resources to maximise the levels of recycling, composting and re-use and put less resources in disposal of the residual. An important portion of the budget should be allocated to human relations with the public and workforces, which are the key to success.

“Put emphasis on the soft side – that is spend the money on advising householders, spending time with them – getting collection vehicles to drive slowly down streets to talk with people and generate commitment.”
 (Murray, 2001)

Prioritise for Resource Recovery Strategy

Strategic Approach	Level of Waste Hierarchy	Priority of Policy
Resource Recovery	Waste Reduction Reuse Recycling & Composting	Concentrate Expenditure Maximise Amount
Waste Disposal	Energy recovery with heat & power Landfill with energy Landfill	Minimise Expenditure Minimise Amount



A long-term strategy should consider in which direction policy is going and how the strategy will fit with this trend. It is clear that the direction of British and EU policy is away from waste disposal. Yet the proposed strategy of Newcastle Council, based on incineration, composting mixed waste and landfilling mixed waste is still based on disposal of several problematic waste streams. The incinerator is likely to need several expensive upgrades over its lifetime. There will need to be additional strategies to collect separately household hazardous waste and organic matter.

In contrast, BAN Waste's strategy aims to remove hazardous waste. It establishes source separation of organic matter. It moves towards minimising the amount of waste produced and that waste is treated to be inert. It has moved Newcastle onto the path of Zero Waste (Watson, 2003).

Achieving Success

It is clear that the waste industry and local authorities will have to change, not only the way they deal with waste, but the very way they think about it. At present the constant drive for change is producing a response that mainly sees the problems. There is a constant claim that people will not recycle, that the targets are too hard and that methods of treatment such as MBT and in-vessel composting are new.

There needs to be a sense of looking forward, not with fear, but with vision.

Tyneside was built by vision. No doubt there were people who said when building ships from steel was suggested that they would never float. That outlook, similar to that widespread in the waste industry today, would have only meant that other places would have been world leaders.

The shift in outlook needs to cover more than from waste disposal to resource recovery. The crucial shift is to realise that the key to success is concentrating on people. The waste industry has generally given little consideration to motivating and involving people. The key to success in resource recovery is people. The systems introduced need to consider people's needs and be easy to use. People need to feel they have been involved in the decisions and their views are listened to. People in the home need to be motivated to separate and recycle. The workforce needs to be motivated to ensure success.

"In the past the waste management industry had not given the public enough credit for good sense."

(Dumpleton, 2001)

In the past costs and benefits were simply considered in terms of what was the cheapest way to dispose of waste. Many of the costs of this approach – pollution, ill-health, neighbourhood blight and resource waste – never appeared on the balance sheet. Now an integrated view of costs and benefits is needed. There is growing pressure for the costs of pollution and ill-health to be carried by the operators of the system. There may even be court cases where costs are awarded for poor operating standards and actions that damage health. In addition, the benefits such as employment, strengthening of social cohesion and improved environment are all of significant value. The waste industry needs to put people before technology and fully value the social, economic and environmental costs and benefits.



Involve People

The core of a successful strategy of re-use, recycling and composting is people. It is people in their homes who will sort the separate materials and put them out for collection. They are the most important link in the chain. This was stressed by several witnesses (Whitney, 2002; Friesen, 2002; Dalton, 2002).

“Partnership working is CRUCIAL to the success of sustainable waste management in the city of Newcastle.”
(SWAP, 2003)

“In order to have good waste management it is essential to have the community in the centre.”
(Murray, 2001)

“Engage householders as intelligent human beings capable of making moral choices ... progress in waste reduction would not happen unless the public were very well informed.”
(Moore, 2001)

“Better to work with people ... take people with you.”
(Collins, 2001)

“Involvement of local people vital ... Need to keep householders on side.”
(Jose, 2001).

“Need to react positively to public consultation.”
(Pruce, 2001)

Households have the crucial role in the separation of waste.

“The success of recycling in this country depended on the active participation of the public.”
(Dumpleton, 2001)

This marks a change from the traditional waste disposal approach where the public only had to fill the bin and put it out. Too often councils and large waste companies have adopted a top-down approach and not involved the public enough.

“The question of stakeholders is vital ... had everyone – not just the waste industry – been involved?”
(Stevens, 2001)

“Essential to listen closely to people in the communities and think your way through.”
(Boden, 2001)

“Separate kerbside collection is the best opportunity for educating and motivating the public.”
(Moore, 2001)

“Successful recycling depends on good information and support.”
(Simmons, 2003)



The move to high levels of recycling has a big advantage as it is going with the flow of the public's desires. Studies (BAN Waste, 2002b & Environment Agency, 2002; MORI, 2002) have consistently found a high level of support for recycling.

"90% would be certain or very likely to sort for recycling if their council provided containers"
(Environment Agency, 2002)

"The vast majority of people want to dramatically increase the levels of recycling and composting and are willing to do their share, especially if good, comprehensive and easy to use systems are in place."
(BAN Waste, 2002b)

"The public is supportive of recycling, re-use, and composting and recognises that these are 'good' activities."
(MORI, 2002)

Biffa (2002) point out that only 10% of the population are

"a hard core who appear completely resistant to recycling".

MORI (2002) found a similar very small minority resistant to recycling. Too often policy has worried about this minority; instead a strategy should give priority to supporting the views of the vast majority.

High levels of support are best achieved by treating the public with respect and working with them in a genuine partnership. People need to feel that their views and actions are making a difference. The approach should include:

- Involving the public from the start in the design and implementation of the system
- A good educational and awareness raising programme that reaches out to communities using schools, colleges, community, residents and voluntary groups
- Imaginative and enjoyable forms of presentation such as art, participatory appraisal, open days
- Modest and creative incentives for success, perhaps fed back through schools and community groups
- Regular information to the public about the successes and benefits
- Links between the collection systems, such as kerbside collection and Civic Amenity sites, and the public through Green Ambassadors, regular contacts with schools and residents
- Community and workforce participation in the delivery of the system

With imagination there are a host of ways to achieve high levels of public support. Some suggestions include that the Resource Recovery team could have an 'artist in residence', that the electric collection vehicles could be based in and sponsored by local schools, and that schools and community organisations could receive incentives in support of their activities for involvement in recycling.



It is recognised that some sections of society, such as primary school children and members of community and environmental groups, are highly motivated to recycle and are aware of environmental issues. In the past local authorities have sometimes had difficulties in working with community groups and campaigners. To achieve high levels of recycling, this needs to change – school children should be encouraged, community groups should have a real say and campaigners should be embraced. These people should be given support and encouragement to help motivate and encourage their neighbours and the wider community.

“In Nova Scotia, peer pressure was an important factor in building recycling.”
(Friesen, 2002)

Sometimes the low levels of recycling in Britain and the North East are blamed on cultural differences with Europe and North America. Jones (2002) challenged this stating,

“I don’t believe that these cultural differences are that real. This is a function of commitment – the right economic framework, education, sending the right signals and the will. It is not really a function of where you are. Really it’s down to commitment.”
(Jones, 2002)

Friesen (2002) pointed out that North Americans are

“consuming pigs, yet we can recycle”.

Britain has an advantage in the

“network of community groups who are committed to recycling”.
(Collins, 2001)

BAN Waste believes that the people of Newcastle can do as well as people in other cities if the policies, commitment and infrastructure are provided. The collection system needs to be easy to use and designed with the needs of the public as the top consideration.

One other objection to achieving high recycling rates is related to levels of deprivation. *Maximising Recycling Rates* (CRN, 2002) points out that areas of greater deprivation have lower recycling levels than more affluent levels. There are both practical and social issues involved, which need to be considered in preparing a recycling strategy.

People in more deprived areas produce less waste (Henry, 2001), so there will be less material for recycling. Crucially as the houses are usually smaller, without gardens and garages, there is less space for storage. The design of containers, so they are convenient to store and move, is important. Also a weekly collection reduces the need to store materials for recycling in small kitchens or other crowded spaces. The lessons of the wheelie bins, which litter streets or back lanes (BAN Waste, 2002b), are that the introduction of new systems needs to avoid a standardised approach and should consider the practicalities of different housing types.

Perhaps the most challenging issue is that people in more deprived areas are often more alienated from the council. Therefore a letter announcing kerbside collection for recycling and composting may not gain much support. Success requires real community involvement in the decisions and an active information programme. There is growing evidence that by ensuing



that the benefits of environmental improvements are returned to deprived communities, particularly through community organisations, there can be strong support for recycling. In addition there can be wider benefits of regeneration, tackling exclusion and increased involvement in decisions (Christie & Worpole, 2000; Sustainable Development Commission, 2002; Luckin & Sharp, 2003). It should also be noted that in some areas of high deprivation, recycling has been a success (Murray, 2002).

Newcastle is rich in community and voluntary groups committed to improving their neighbourhoods and the quality of life of the city. This valuable resource should be fully mobilised to benefit the city.

“The city of Newcastle benefits from a very strong community sector presence, more so than in many other UK cities of a comparable size.”
(SWAP, 2003)

BAN Waste has proposed that there should be a structure for community involvement in the running of Newcastle’s waste strategy, perhaps a supervisory board representing a number of stakeholders.

“A network or ‘community sector forum’ should be established in order to represent all ... groups. In this way, the potential for each of these groups to play an integral part in the new waste strategy will be realised.”
(SWAP, 2003)

This partnership would also have a key role in public awareness. There needs to be an active programme of information and dialogue with the public. This would involve community representatives and the workforce, as ‘Green Ambassadors’, going out to the public. There would be a programme of speaking in schools, discussions in the many organisations such as the Women’s Institute, residents’ groups and the many community and voluntary groups. Information events would be held in public places such as libraries, swimming pools and shopping centres.

BAN Waste recognises that this would be a new approach to the management and delivery of the waste strategy. It would not be consultation, but real partnership and participation. This would overcome the feeling of consultation fatigue where groups are asked their views but often feel that the results do not measure up to their hopes. It would bring direct benefits in resource recovery and wider benefits of enhancing community involvement, improved public services and strengthening of citizenship and community awareness.

Workforce

An enthusiastic workforce can have a key role in the success of recycling and composting. Whether on the kerbside collection or at Civic Amenity sites, motivated and well-informed staff can provide guidance, information and support to the public.

A well-motivated workforce will not be produced by paying low wages and having poor working conditions. Although it may cost more up-front, it is a better investment to have a workforce that is well trained, covered for health and safety and has decent pay and conditions. In addition to pay and conditions, BAN Waste is recommending that the staff be trained as ‘Green Ambassadors’ (Dalton, 2002) to explain to the public issues around recycling



and composting, while doing their normal work, providing guided visits to the various parts of the recycling and composting process and in going out to community groups and schools.

The lessons of Brighton and Hove Council illustrate both good and bad ways of going about handling waste and staff. The Council privatised its waste management in 1999. Within months the press were reporting a catalogue of disasters, the workforce had passed a vote of no confidence in the management and the Council was highly critical. In less than two years the Council took back the waste management contract with the company, SITA, paying £3 million in compensation (Davies, 2001). Since then industrial relations have improved and the workforce is much more motivated, the quality of the service has improved and recycling has increased. There is now talk of “a real partnership”. The latest move is a training programme for staff as ‘green ambassadors’ in support of recycling (Brighton & Hove Council, 2002).

Waste Industry

The waste industry has a key role in changing how we handle waste. However we would urge them to change their name, attitude and self-image from waste disposal to resource recovery.

“Business needs to be done by people who are committed to resource recovery not waste disposal.”

(Murray, 2002)

Some companies are not committed to resource recovery

“as big waste disposal companies are more interested in incineration – they can make more money.”

(Dalton, 2002)

Companies need to improve how they work with communities and elected organisations.

“They need to be there giving transparent and clear advice, and be absolutely clear where [they are] coming from and on what basis [they] are talking.”

(Jones, 2002)

BAN Waste has raised concerns previously about company secrets and the claim that contracts, even after being signed, are ‘commercially confidential’ and how this can damage trust and democratic accountability. The risk of long-term contracts that lock councils into particular strategies and businesses need to be avoided, as flexibility is required (Jones, 2002; Murray, 2002).

The Council

Newcastle Council has the fundamental role in changing the way waste is dealt with. It is the legally responsible body and, whether the system is run by the Council or on its behalf, the Council determines the strategy, its aims, its character and the terms of its operation.

Newcastle Council has to decide whether to continue with a waste disposal policy, which may not even reach national targets. Or it can, as BAN Waste recommends, introduce a strategy of resource recovery, in line with the aims of the Strategy Unit (2002), and put Newcastle at the front of policies for the 21st century.



“Councils are aware of the changes in policy, if they decide to ignore the direction of policy and sign fixed 25 year contracts and use process that will cause problems they will be responsible for the consequences.”

(Watson, 2003)

While resource recovery in the short-term is a more challenging path, in the long run it is more rewarding. It will require a change in outlook about what is waste, a shift in human and economic resources, increased public participation and political will.

There are welcome signs that Newcastle Council is moving in this direction.

“Trying very hard to develop frameworks, structures and process to engage the community ... traditionally we have come from a functional background ... we are learning to work with communities ...but the gap in resource terms is enormous ... the skills and capacity don't exist ... [we] continue to recruit, train and develop.”

(Rowland, 2002)

While councils, including Newcastle, are short of cash, a forward looking council can tap into a resource as valuable as money – the skills, energy and abilities of people. If Newcastle Council decides to work with the city's citizens and workforce to achieve a vision for the future it would discover, as Nova Scotia has, that this is a powerful force for change.

Success is possible

Barry Rowland, Director of Newcastle's Cityworks (2001) believed that recycling, reuse and compost levels of

“80% could be achieved in major shifts, say by 2020”.

All over the world cities are recycling and composting over 40% of their municipal waste. The Strategy Unit's study (2002) stated that

“Other countries provide successful examples of better waste management. There is much that England can learn from other nations.”

Flanders is recycling and composting 62% of its municipal waste, Netherlands 47% and Switzerland 45% (Green Alliance, 2002). The province of Nova Scotia in Canada reached 47% recycling and composting of its household waste in 1999, after less than a decade of effort (Friesen, 2002). Seattle has been over 40% since the mid 1990s. The state of California has diverted 42% of its waste by reduction, recycling and composting, with many cities over 50% (Green Alliance, 2002). Lower Austria is recycling and composting around 60% and Lecco province in Italy has rapidly reached 53% (CRN, 2002). NordRhine Westphalia in Germany is recycling 60% (Watson, 2003).

Similar levels can be achieved in Britain. Already Daventry is recycling 44% (Watson, 2003)

“We could soon be in a situation in which more than 60 per cent of household waste is recycled and composted. At the national level, this development could take a decade, though for individual local authorities, it could be achieved more quickly.”

(CRN, 2002)



“Targets of recycling 50 per cent of municipal solid waste should be achievable over the next five to seven years.”

(Green Alliance, 2002)

Jones, of Biffa (2002), stated that a readily achievable goal would be about 30% recycling and 30% composting, with between 18,000 and 28,000 tonnes of kerbside recycling possible in Newcastle.

SWAP in its report (2003) based most of its calculations of the levels of collection on the present “*standard practice of local authorities in Britain*”. In contrast, their evidence to the Select Committee (Robb & Stevens, 2002) gave figures for what could be achieved by a high quality system that was innovative and based on strong community involvement, similar to that proposed by BAN Waste. The levels achievable by such a system are similar to those outlined by BAN Waste.

Comparison of BAN Waste & SWAP's analysis of Re-use and Recycling

	BAN Waste	SWAP High Level Scheme
Kerbside Recycle	24,000	23,220
Kerbside Compost	18,000	23,220
Civic Amenity Site	14,850	13,000
Bring Schemes	5,000	7,130
Re-use (included in other streams by BAN Waste)		4,481
Total	61,850	71,051 36

The strategy outlined by BAN Waste is achievable. We need a determination from all parties to make this a reality. We believe that success depends on:

- **Vision and determination from the council**
- **Committed and enthusiastic workforce**
- **High public involvement**



Environment

All human actions have an impact on the environment. Some impacts are mainly localised to around activity sites while others have long-term and global impacts. Policy should aim to minimise the negative impacts and to ensure that any impacts do not unfairly affect one section of the population.

The main impact of waste policy on the environment is the very concept of waste itself, where valuable materials and objects, and all the resources energy and processes that have gone into their production, are discarded. The greatest benefit to the environment would be a shift from waste disposal to resource recovery.

“The environmental benefits of every extra 1% of recycling in the USA is equal to taking 1 million cars off the road”.

(Whitney, 2002)

A major and growing area of environmental concern is the release of greenhouse gases that contribute to climate change. According to the United State’s Environment Protection Agency (1998) recycling is better than landfill or incineration for reducing the release of greenhouse gases. Recycling has significant savings on energy compared to either landfill or incineration. Landfill produces significant quantities of methane gas which is a powerful greenhouse gas.

In many considerations of the environment this key issue is not given enough prominence and discussion concentrates on the impacts of various disposal techniques. BAN Waste’s strategy starts with the aim of realising a high level of resource recovery to protect the environment. This strategy also has benefits of improved health and increased employment opportunities.

Landfill

The vast majority of municipal waste in Britain, 79%, goes to landfill. Landfill sites take a mix of waste including organic matter, food waste, metals and hazardous household chemicals such as paints, solvents and insecticides.

“The contents of a yoghurt container may last a few weeks but the container itself lasts for 1,000 years.”

(Friesen, 2002)

The materials in landfill take tens even hundreds of years to rot completely and in the process they react and produce leachate, methane, hydrogen sulphide and cancer causing gases, such as benzene. One example is that the mercury in batteries is converted to its di-methylated form which is a lethal nerve gas (Lindberg, 2001). All of these are harmful to the environment and human health. If active organic waste is sent to landfill it will attract pests and vermin and release unpleasant odours.

Methane gas can cause explosions and is an important contributor to global warming – it is 30 times more powerful than carbon dioxide. Landfill sites account for 25% of all the UK’s methane releases. This contributes as much to global warming as 12% of all road transport. In addition, due to the reactions within landfills, methane gas can be contaminated by cancer causing volatile organic compounds (EPA, 1999).

Although the running of landfill sites has improved in recent years they still have many problems as they are based on throwing away valuable resources and taking mixed waste.



Modern landfill sites rely on a number of technical barriers to capture and control the harmful materials that are produced from the reactions that take place within the mixed waste. However these controls often fail. A modern landfill site, opened in 1978 near Halifax, Nova Scotia failed.

“It was claimed to be well designed with good protection. But it leaked leachate into the ground and surface water as the installed plant only handled one quarter of the leachate. The place stunk and released methane gas.”
(Friesen, 2002)

The liners to capture leachate are only guaranteed for 20-40 years while the reactions inside the landfill site may continue for hundreds of years. Dalton (2002) gave the example of a modern so-called ‘state-of-the-art’ landfill site near Wakefield

“which suffered constant problems, residents were regularly complaining – there were pests, noise, smells ... the liner is only guaranteed for 25 years.”

The leachate barriers often leak

“More than two dozen landfill liner failures in England over the past few years have been recorded for the first time by a study commissioned by the Environment Agency”
(ENDS, 2003b)

The systems to capture methane gas also fall below the desired standards, failing to capture the majority of the methane and in the process of trying to capture methane may have other undesirable impacts on the environment (Anderson, 2001).

The management of landfill sites often leaves much to be desired. The Brenkley, Burnhills and Seghill landfill sites used by Newcastle, and managed by SITA have a poor record. The Environment Agency survey of 921 national landfill sites placed them in the bottom 24 (ENDS, 2003c). Although Brenkley has closed and Burnhills is likely to close, the more fundamental issue is the management approach and whether this will improve on the remaining site at Seghill and the new site at Path Head.

The liability for pollution from landfill sites can last for over 100 years, far longer than the barriers are likely to last, and this is likely to add to the future costs (Khan, 2002).

The only way to really stop these problems, rather than trying to add on controls to limit their negative impacts, is to stop sending mixed waste, especially organic matter to landfill. This is the aim of the EU’s landfill directive. The best way to sharply reduce the harm of landfill sites is to ensure that what goes into them is both safe and not reactive.

Newcastle Council’s policy would continue to send mixed waste, including organic and household hazardous waste, directly to landfill which will continue to attract pests and vermin, release unpleasant odours, and produce leachate, methane and other harmful gases. In addition the ash from the incinerator will go to landfill. This ash will contain a host of heavy metals, dioxins and other harmful chemicals which could escape into the environment.



In contrast BAN Waste, while using landfill, would only send materials that had been treated to make them inert. MBT reduces the production of methane, leachate etc by over 90%. The treatment will also sharply reduce the release of odours and attracting pests and vermin. This approach prevents the problems in landfill rather than trying to control the impacts. Controls rely on good operator practice, constant monitoring, and high performance standards of equipment – there are a host of things that can go wrong. Preventing a problem is better than trying to control it.

In addition BAN Waste's strategy includes separate collection of household hazardous waste so the levels of heavy metals and dangerous chemicals are sharply reduced.

Compost

The EU proposals on compost will have a profound impact on the way waste is treated in Britain. Across Europe, intensive agriculture has damaged the quality of soil, which is vital both for food production, natural vegetation and biodiversity.

"Soil is a vital resource increasingly under pressure. For sustainable development it must be protected"

(European Commission, 2002)

Agricultural land across Britain and Europe is suffering a loss of organic matter and a decline in nutrients and fertility.

"European Union Directives are aimed at getting carbon back into the soil."

(Jones, 2002)

"Soils are suffering a loss of organic matter and nutrients ... we will need to compost, rather than burn or landfill, organic matter from kitchens and gardens. This will need separate collection."

(Whitney, 2002)

Chemical fertilisers are used to replace the nutrients and maintain fertility, however this does little to maintain soil quality.

"Farming is a mineral extractive industry with an increased reliance on synthesised fertilisers"

(Pumfrey, 2001).

Nitrogen is an important nutrient which is readily available in compost. An incinerator burning organic matter destroys nitrogen in a form that is readily available to plants. To replace this nitrogen requires seven times as much electricity as is produced in its burning (Whaley, 2001).

At present, most organic matter is not returned to the soil; it becomes food waste or sewage and ends up buried in landfills or burnt in incinerators. If organic matter is placed in landfill it contributes to chemical reactions with dangerous products. On the other hand composting organic waste is simple, avoids the problems of putting it in landfill and has significant benefits.

"Most of the problems with waste management, particularly landfill, is from the biodegradable waste. It is biodegradable waste that produces leachate, methane and odour and this is the waste that can be composted. Nature is so good, composting is simple."

(Khan, 2002)



“It is an inescapable fact that any waste management strategy should put organic waste fraction at its heart; ... its presence in mixed waste contaminates the dry recyclables ... A major influence in the development of effective new composting schemes has been the EU landfill directive ... successful diversion of biodegradable waste depends on separation at source This has been reinforced by the EU soils directive ... Separate collection is critical for the efficient collection of clean feedstock, resulting in a high quality end product ... End markets exist; sales of compost or soil conditioner fund the scheme.”
(Biffa, 2002)

After BSE and Foot & Mouth disease, the Environment Agency issued guidance that animal waste should not be included in compost. Since then DEFRA has carried out a risk Assessment (DEFRA, 2002) on the composting of kitchen and catering waste which concluded it is safe as long as certain safeguards are observed. In addition, EU regulation on animal by-products has leading to legislation (DEFRA, 2003b) which lays down standards for composting animal waste. Standards for compost have been established by WRAP (2002). Composting is back on track (Burns, 2002).

The options from BAN Waste and Newcastle Council, both propose compost as a treatment for waste, but they are very different processes and will have different environmental impacts.

BAN Waste proposes the separate collection of household organic matter. This is in line with likely EU requirements. Composting this matter is straight forward and will produce clean compost that can be used to improve soil quality, used by the council on its parks and sold to the public. The process would be carried out in enclosed containers, in-vessel, which ensures uniform decomposition, contains any smells, prevents the attraction of vermin and successfully kills pathogens, as all the matter reaches a high enough temperature.

In contrast the Council proposes the treatment of over 20,000 tonnes of mixed waste. The proposed process of separation has never been tried before, so Newcastle would be the test case. There is uncertainty about the quality of the material that can be produced from mixed waste. There are serious doubts about whether it is possible to separate waste after it is mixed so that it is not contaminated with plastics, glass, heavy metals and other chemicals.

“Segregation was the key.”
(Pruce, 2001)

“Important to have a decent collection service up front ... a quality product could never be produced from mixed waste ... if everything was thrown in this would cause problems.”
(Pumfrey, 2001)

The plan is to separate the materials to be composted from mixed waste by using a 50 millimetre (2 inch) sieve (Simmons, 2003). However, this waste will have already been crushed in the compactors of the collection vehicles so that glass bottles are shattered, tins of paint and bottles of chemical and solvents will have burst and consumer batteries may be crushed. Therefore a significant portion of contamination, glass, paint, chemicals and plastics, will pass through the sieve to go to composting.



There are serious concerns, that BAN Waste has consistently raised, that this method will not produce compost.

“Compost must be up to the quality guidelines ... Pre-sorting of materials was important to producing compost, the product from mixed waste causes concern it may only be suited to landfill ... ‘Grey compost’ was actually pre-treatment for landfill.”

(Burns, 2002)

“The proposed product of treating mixed waste, ‘grey compost’, is not likely to meet the standards for compost.”

(Dalton, 2002)

“Concerns about separation of mixed waste to make compost.”

(Simmons, 2003)

There is a growing insistence that only high quality material can be classed as compost to be used on gardens and farming (European Commission, 2001). Mr Meacher, former Environment Secretary, criticised the practice of composting mixed municipal wastes, rather than segregated organic materials.

“Such waste would still be biodegradable municipal waste even it had been composted. It would probably...have to go to landfill. That would tell against our landfill targets so the Government are strongly against any such proposal.”

(ENDS, 2003d)

The Welsh Assembly has already excluded classing composted mixed waste as compost (Watson, 2003). The forthcoming review of the Waste Strategy may also exclude mixed waste compost as recycling. If the product from mixed waste does not meet the required standards or is excluded the Council will not reach its targets, with the risk of penalties (Watson, 2003).

A previous experiment by Newcastle Council, at Big Waters, to produce compost from mixed waste, although it had produced a rotted matter, had “high levels of metal contamination” (Henry, 2001). It is claimed that the new process will use a different composting method, however the real problem is unscrambling the mixed waste so that the organic matter is free from the contamination.

According to John Buckham, Newcastle Council Officer, Head of Energy & Waste (Buckham, 2003) the product must be of a high enough standard to be classed as compost and the mechanical sorting of the mixed waste will remove all the impurities. However, Barry Rowland, Director of Cityworks, described it as “grey composted” (Rowland, 2002), with the aim of “stabilisation”. There is a very high risk that the level of contamination from glass, plastics, heavy metals and chemicals will mean that the resultant material will not be compost. It would not be suitable for gardens or agriculture. In effect, the process may only be an expensive treatment before landfill.

In addition, the policy will not meet the forthcoming EU Directive that will require the separate collection of food waste from private households.



As well as a failing to meet future regulations and being an expensive exercise in landfill it will have negative environmental impacts. If sent to landfill the potentially useful organic matter will not be available to improve the soil. The composting of mixed waste will be more likely to produce harmful reaction between organic matter and contaminating chemicals and heavy metals that could escape to air, soil and water.

In contrast BAN Waste's strategy results in high quality compost that can be used on gardens and in agriculture. This will comply with likely future legislation and could provide revenue from the sale of compost. It will have environmental benefits to the soil and be less likely to produce negative impacts during the treatment process.

Incineration

Incineration has been justified as a means of capturing for use some of the energy that originally went into the production of goods and to reduce the volume going to landfill. However, although some energy is recovered from the waste, incineration remains an approach based on discarding useful material resources rather than reusing them. The energy efficiency is low as the 'fuel' has a high level of water, some of it does not burn, and a lot of the energy is absorbed in the filters and other operating processes (Jones, 2002; Biffa, 2002).

Moreover, the amount of energy realised in incineration with electricity generation is far less than the energy that would be saved if the materials were recycled for further use. For example, producing a tonne of newsprint from new pulp uses three times as much energy as from recycled fibres (Morris, 1996; Aylesford Newsprint, 2000).

A comprehensive study (Morris, 1996) stated that

“for 24 out of 25 solid waste materials, recycling saves more energy than is generated by incinerating solid mixed waste in an energy-from-waste facility. Furthermore, energy conserved by recycling exceeds electricity generated by energy-from-waste by much more than the additional energy necessary to collect recycled materials separately from mixed solid waste, process recycled materials into manufacturing feedstocks, and ship them to manufacturers.”

Morris (1996) concluded that

“energy conserved by recycling is three to five times as great on average as the energy generated by incinerating mixed solid waste in an energy-from-waste facility”.

Incineration does not save energy, at best it reduces the amount of energy that is wasted. But in the process it destroys almost all the resources as useful materials including paper, textiles, organic matter and plastics. Only the steel and aluminium can be recycled after being passed through an incinerator, but with a lower market value.

Furthermore incineration is an expensive process which can reduce the finances and opportunities for more environmentally beneficial actions such as recycling and composting. The costs of an incinerator mean that the local authority has far less money to support recycling and composting (Murray, 2001). The government recommends (DEFRA, 2001a) that incineration should only come after a serious drive to recycle and compost. Rowland (2001) of Newcastle Council stated that

“Everything else should come before reverting to Combined Heat and Power”.



Prescott (2001), although in favour of incineration, thought

“that first, what could be removed sensibly should be, and that green waste should be composted”.

If most paper, plastic and compostable materials are removed there is not a lot left to burn, and it has a very low heat value, as glass and metals do not burn. Taylor (2001), of SITA, recognise that if waste reduction and recycling were successful then

“there might be a problem for incineration”.

Incineration can require a council to supply a certain level of waste, or risk financial penalties, in order to fulfil the contract.

“Incinerators had to be constantly fed ... there is a deep conflict between incineration and recycling.”
(Collins, 2001)

In years to come, this may produce a conflict with the aim to reduce waste as well as increase recycling, re-use and composting. The Council may face a conflict between legal requirements to raise recycling and a contractual requirement to feed an incinerator. Incineration can be a barrier to improving the environment by recycling, composting and reusing.

Modern waste, full of manufactured chemicals and materials, is much more toxic than household waste of 100 years ago (Howard, 2003). The mix of waste going into an incinerator results in the production of a cocktail of chemicals including dioxins, acids, harmful gases, and reactive heavy metals as well as ultra fine particles. In many cases the high temperatures of an incinerator turn chemicals from relatively safe forms into highly reactive forms which are more harmful to health and the environment.

Over the years several new generations of incinerators have been introduced, each claiming to be clean and safe. By the 1990s almost all of the existing plants in Britain were closed down due to operating problems, levels of pollution released into the air and widespread health concerns. In the last few years there have been renewed claims that the new generation are hi-tech, safe and clean.

“Told in the past all were safe ‘state of the art’, yet all closed in 1990s. Now getting the same claims again.”
(Howard, 2003)

The growing scientific understanding of ultrafine particles is likely to produce new legislation with even higher controls.

“Science always runs ahead of regulation and policy”.
(Howard, 2003)

While filters and operating controls can be increased, requiring a “huge investment” (Taylor, 2001), these do not address the real issues. Incinerators are inherently risky processes as they rely on very high temperatures to treat a complex mix of waste which includes potentially dangerous chemicals.



“Incinerators use high-temperature reactions and these always have a risk of going wrong. It is best to avoid them. Incinerators all regularly break their operation limits.”

(Dalton, 2002)

The filters and controls are attempts to reduce the level of risk of a risky process.

If the dangerous chemicals are captured by the filters, they still remain. This contaminated fly ash is sent to landfill, and although there are controls, these sites leak so that the fly ash and its chemicals can be released into the environment. In some cases things can go badly wrong, such as when Byker incinerator ash was spread on allotment footpaths and other public places.

In spite of changes in technology and regulation, new incinerators have suffered from failures in addition to that at Byker. A new ‘state of the art’ plant in Dundee, opened in 1999, has had three fires, released dioxins far above the EU standards and a filter burst releasing 24 kilograms of fly ash (ENDS, 2002). Modern British incinerators breached regulations on releases to air over 900 times between 1996 & 2000 (ENDS, 2001)

Transport

The key impacts of transport depend on the location of facilities and the collection of materials. A full appreciation of transport impacts would require testing a range of options.

BAN Waste has suggested that it might be beneficial, both for the environment and to reduce transport, to have several small MBT plants rather than a single large one.

The environmental impact of collections could be greatly reduced by using electric vehicles, which also have other benefits. This would contribute to Newcastle’s aim of being ‘Carbon Neutral’.

It has been suggested that if no new incinerator is built in Byker, then waste may be exported to the Cleveland incinerator. This would have all the same negative impacts of an incinerator in Byker. In addition there would be the environmental impacts of shipping 54,000 tonnes of waste a year, with over 50 trucks a week making an 80 mile round trip to Cleveland.

Summary

A recent study by Enviro (2003) stated that

“By most environmental measures recycling is better than landfill or incineration.”

BAN Waste’s proposals have both immediate and long-term environmental benefits. There would be high saving in the use of resources and energy, there would be no incineration or sending of mixed waste to landfill. High quality compost would be produced to improve the soil.



Health

The health impacts of any strategy to deal with waste are of vital concern. Many of the issues interconnect with environmental issues considered in the previous chapter. There are number of key principles that underlie any examination of health issues.

Social Health

The World Health Organisation defines health as

“a state of complete physical, mental and spiritual well-being and not merely the absence of disease and infirmity”.

This is in line with the government’s policy on health.

“We know that the causes of ill-health are many: a complex interaction between personal, social, economic and environmental factors.”

(DoH, 1999)

A medical view of health concentrates on individuals, assumes a one-to-one relation of individual and cause. Yet many factors interact to affect health, including wider issues of society, environment and economy, so it is often not possible to isolate a single cause of ill-health. While the medical approach has contributed to improvements in health, as important are wider public health issues.

These issues mean that a review of health impacts needs to consider both the medical and wider social issues. Feelings and perceptions do influence health; self perception is a valid issue. Social issues include quality of employment, well-being, environment of neighbourhood and people’s influence over their lives and conditions.

Health Inequalities

A key concern of the government and of BAN Waste is to tackle inequalities of health. It is well established that poorer communities suffer from poorer health and environmental quality (Acheson, 1998). On top of this, it is more deprived communities that suffer the added burdens of polluting activities such as landfill and incineration.

“Disadvantaged people and communities are most vulnerable.”

(Howard, 2003)

Newcastle Council and Partnership state that their aim is that

“No-one should be seriously disadvantaged by where they live.”

(Newcastle Partnership, 2002)

The city’s waste policy should have a firm commitment to environmental and health justice. This would mean the policy would aim to reduce as much as possible the negative health impacts, and if there are any, these should not be inflicted on the areas of poorer health.

Precautionary Principle

The aim of any policy relating to health is that prevention is better than cure.

In some cases prevention is the only option, as some forms of ill-health cannot be cured. It is therefore crucial that the Precautionary Principle is applied to health issues.

The Precautionary Principle recognises that absolute proof of a cause of ill-health (or other damages) may be difficult to achieve and in the process of waiting great damage can be done. It is therefore better to act on the evidence of a threat than wait for full certainty.

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures.”
(UNCED, 1992)

Much of the evidence on health impacts from waste facilities are based on large statistical (epidemiological) studies that make comparisons between the health of populations close to and at a distance from facilities. These studies inevitably look backwards and show impacts after they have happened. In addition they do not prove the cause of ill-health, this is impossible by such a study. However what these studies do, is show that there is a possible link and if a number of these studies find a similar pattern this possibility should be taken seriously.

“It is true that epidemiological studies do not prove a link, but evidence does suggest cause and highlight a need for concern. Also a problem that either the impact has to be significant, such as thalidomide, or widespread to be detected. Many impacts hard to clearly spot unless the study is very large and long-term – then can be too late. It is best to use the precautionary principle.”
(Howard, 2003)

Some of the key findings in health have been based on this approach. For years there was a strong statistical evidence that smoking led to ill-health but it took more time to prove a link between smoking and ill-health.

The Precautionary Principle means that the warnings from epidemiological studies should be acted upon, as there is clearly a “*threat of serious or irreversible damage*” although not yet “*full scientific certainty*”.

There is a long and unfortunately tragic history of warnings being ignored until a great deal of damage was done (Harremeos et al, 2001). Some examples include ignoring the warnings about asbestos, smoking and PCBs. Too often when the first evidence is produced it is suppressed, then the link is denied, then there is demand for more research and then finally action is taken, years after the first warning. Such an approach is clearly harmful to human health and the environment. It can also be damaging to those responsible for these health harming actions, as the huge costs for damages against the asbestos and tobacco industry show.

Landfill

“Human exposure to toxic chemicals in landfill (which include volatile organic compounds, pesticides, solvents, and heavy metals) may occur by dispersion of contaminated air or soil, leaching or runoff, or by animals and birds.”
(Elliott et al, 2001a)

BAN Waste’s proposal would avoid almost all of these problems. Although it includes landfilling, this is only after treatment so that what goes in would produce very little leachate, methane or other harmful chemicals. In contrast the Council’s proposal includes sending mixed waste and incinerator ash to landfill.



There is a growing body of evidence that mixed waste landfill sites are harmful to human health. A European study found

“There was a significantly overall increased risk of neural-tube defects, malformations of the cardiac septa, and malformations of the great arteries and veins in residents near the landfill sites in our study.”
(Dolk et al, 1998)

A review of a number of studies found

“Increases in risk of adverse health effects (low birth weight, birth defects, certain types of cancers) have been reported near individual landfill sites and in some multi-site studies, and although biases and confounding factors cannot be excluded as explanations for these findings, they may indicate real risks associated with residence near certain landfill sites. An increased prevalence of self-reported health symptoms such as fatigue, sleepiness, and headaches among residents near waste sites has consistently been reported in more than 10 of the reviewed papers.”
(Vrijheid, 2000)

A further European study, after allowing for (adjustment for confounding) a number of wider issues such as deprivation, found

“After adjustment for confounding by maternal age and socioeconomic status, we noted a higher risk of chromosomal anomalies in people who lived close to sites (0-3 km) than in those who lived further away (3-7 km). Our results suggest an increase in risk of chromosomal anomalies similar to that found for non-chromosomal anomalies.”
(Vrijheid et al, 2002)

A government supported study of British landfill sites from the Small Area Health Statistics Unit, found

“With adjustment for potential confounders, relative risks within 2 km of landfill (all waste types) were 1.01 for all anomalies combined, 1.05 for neural tube defects, 1.07 for hypospadias and epispadias and 1.08 for abdominal wall defects. Relative risk for surgical correction of gastroschisis and exomphalos was 1.19. Relative risks for low and very low birth weight were 1.05 and 1.04 respectively, with no excess risk of still birth.”
(Elliott et al, 2001b)

To some a level of 1.01 may seem small, but it means 1 birth in 100 which is a significant number, especially if you are, or are the parent of, that one child.

Some of the technical medical terms used in the report are also not commonly used so to clarify

- **Neural tube defects:** Precursor of the central nervous system. The neural tube gives rise to the central nervous system (the brain and spinal cord), and failure to close results in anencephaly (absence of the cranial vault and absence of most or all of the cerebral hemispheres [major portion] of the brain) and spina bifida or meningomyelocele (open spina with exposure and protrusion of the spinal cord).



- Hypospadias & Epispadias: A birth defect so the urine opening is on the wrong part of the penis
- Gastroschisis: Defect in abdominal wall
- Exomphalos: protruding navel

While there may be some debate about the details of these studies, the Precautionary Principle would strongly suggest that there are problems with landfilling mixed waste. Although the causes of this ill-health have not been fully identified it is clear that mixed waste produces a host of harmful chemicals including benzene, toluene, xylenes, carbon tetrachloride, and di-methylated mercury. The answer from the waste industry has not been to stop landfilling mixed waste, but to try to add in more controls, barriers, etc to prevent the escape of all the harmful chemicals. However as pointed out in the previous chapter these attempts to control a hazardous process often fail and do not tackle the real issues. It would be much better not to send mixed waste to landfill sites. This is especially the case as there is a practical and cost effective alternative such as that proposed by BAN Waste. There clearly is a difference between mixed active waste (including household hazardous waste) and largely inert and treated waste.

In addition to the release of a cocktail of harmful gases, landfilling mixed waste produces leachate, water contaminated with harmful chemicals. These can enter the soil, water supplies and the food chain, and so affect human health.

The Strategic Environmental Assessment and Health Impact Assessment (Long, 2003) ignores the difference between sending treated and untreated waste to landfill (Watson, 2003). It down plays the evidence and concerns about ill-health due to landfilling mixed waste. These are genuine health issues that the Council should seriously consider in preparing its strategy.

Incineration

The burning of waste at high temperatures in an incinerator produces a lot of carbon dioxide, which contributes to climate change, and a complex mix of gases that are damaging to health include reactive heavy metals, volatile organic compounds, the acid Hydrogen chloride, dioxins, nitrous oxides, and particulates and ultrafine particles. In addition there is the ash from the burning and what is captured in the filters, called fly ash. These also contain harmful chemicals. Some of these gases are extremely harmful to health, do not break down and therefore build up in the body over decades. They are produced because of what is in mixed waste, particularly plastics, solvents and flame-retardants, that goes into the incinerator. They can either be captured in the filters or be released to air. In either case they are not destroyed, rather their pathways into the environment are different, via landfill or via 'airfill'.

Dioxins

The human body has a host of ways of dealing with naturally occurring chemicals that are harmful. But many of these chemicals produced by incineration do not occur naturally so the body has no method of dealing with them. The body absorbs these harmful chemicals from the air and especially from food and cannot easily get rid of them. As they accumulate in the food chains the levels build up as an animal eats vegetation or one animal eats another so that the dioxin levels in fish are 100,000 times that of the surrounding environment. As humans are at the top of the food chain they accumulate worryingly high levels of these chemicals.



As the body has no way of dealing with these chemicals they are harmful to health, even in very small quantities. There has been a rapid increase of awareness and concern about dioxins in the last few decades. They are part of a group of chemicals called Persistent Organic Pollutants (POPs) that last a long time and travel around the world. People in the Arctic have high levels of POPs although they are far from any sources.

The World Health Organisation (1999) state that

“Once dioxins have entered the environment or body, they are there to stay due to their uncanny ability to dissolve in fats and to their rock-solid chemical stability. Their half-life in the body is, on average, seven years. In the environment, dioxins tend to bio-accumulate in the food chain. The higher in the food chain one goes, the higher is the concentration of dioxins.”

Dioxins have been described as

“one of the two or three most toxic chemicals ever discovered”
(Rachel’s Environment and Health Weekly, 1990)

“There are several hundred forms of dioxins. So far only the chlorinated dioxins are measured, there are no measurements of brominated dioxins or bromo-chlorinated dioxins.”
(Howard, 2003)

The Environment Protection Agency (2000) in the United States stated that

“Dioxins can alter the fundamental growth and development of cells in ways that have the potential to lead to many kinds of impacts. These include, for example, adverse effects upon reproduction and development; suppression of the immune system; and cancer.”

Dioxins are particularly harmful to children. Dioxins, volatile organic compounds and heavy metals can cause cancer, damage the reproductive and immune systems, disrupt hormones, damage the development of the brain and affect the development of the foetus in the womb. They are passed from the mother to the foetus across the placenta and to babies in breast milk.

Many people already have levels of dioxins in their body that are potentially harmful to their health, or in the case of women, to their babies. Recent research has shown that even at levels common in human beings, the intake of dioxins in the womb have an impact on future development (Vreugdenhil, et al, 2002). A mother’s body burden accumulated over her lifetime gives the developing foetus a massive dose which is disproportionate to the size of the developing baby. Therefore it would be foolish to allow any further releases of dioxins into the environment.

In the past, incinerators were one of the main sources of dioxins in the environment. While new safety guidelines have reduced the level of dioxins released into the air from incinerators, most of the dioxins are captured instead in the fly ash which is sent to landfill. This assumes that all the safety controls on incinerators and landfill are operated to high standards at all times, an assumption that is open to doubt.



The failure of human controls that led to 2,000 tonnes of ash, containing toxic fly ash, from the Byker incinerator being spread on allotments in Newcastle, resulting in

“massive contamination with dioxins”
(Pless-Mulloli & Edwards, 2000)

is well known. The operation of the incinerator also had constant problems.

Even modern incinerators, as outlined in the previous chapter, have fared little better with regular breakdowns and releases of pollutants above the levels at which they are supposed to operate.

“Poor management, poor regulation and poor operating practices can produce a real health risk from an incinerator ... the regulation of incineration to date has been poor and this has resulted in poor practices.”
(House of Commons, 2001)

Incinerators depend for safety on

“A complex and expensive engineering solution working under adverse conditions which must work 100% of the time and the competence of the operators, who must resist expediency at expense of safety. System failures guaranteed.”
(Watson, 2003)

Ultrafines

Awareness of the harmful effects of dioxins has been gathering for several decades, although there is still a lot to find out. The harmful health effects of particles of around 10-2.5 microns has been established, but there is a growing awareness that the very small ones are even more harmful (Wichmann & Peters, 2000). Awareness of the dangers of ultrafine particles is only just beginning. Ultrafine particles are particles with a diameter of less than 0.1 micron. That is one ten thousandth of a millimetre or one millionth of 4 inches. Very, very small!

Ultrafines are mainly a product of high temperature burning, such as incinerators and car engines. Materials, that as larger particles are harmless, at the size of ultrafines can be toxic. Their large surface area to volume makes them highly reactive.

These tiny particles carried in air can pass into the deepest parts of the lungs where the air is exchanged with the blood system. Human bodies have no natural barriers to prevent ultrafine particles, as in our evolution we did not encounter such small particles. They are so small they can pass from the lungs into the blood stream and then into the body's organs or a foetus. They can pass directly through the cell walls into the brain.

Incinerators release a high level of ultrafines which are harmful to health (Howard, 2003). What is of particular concern is that the present filters on incinerators are only effective at capturing particles that are 2.5 microns or more in diameter. The filters are almost totally ineffective in capturing ultrafines.



Inhalation of the products of combustion processes contribute to some 3-6% of deaths per year, linked to lung cancer, coronary heart disease and strokes (Howard, 2003).

While there is still much research needed into ultrafines and their health impacts, there is enough evidence to suggest that they are an area of serious concern and should be controlled (Kunzli, 2000). At present there is no legislation on the release of ultrafine particles, their releases are not monitored and incinerator filters are virtually useless at capturing them. It is therefore amazing to see that the Strategic Environmental Assessment and Health Impact Assessment (SE & HIA) (Long, 2003) dismiss these issues as merely a “perception”.

Precautionary Principle

One of the problems of assessing risk is that the models assume an average dose to an average population. However, different people receive different dosages from the same source, some people already have a high level of pollutants in their bodies and different people respond differently to the same dosage. ‘Average’ masks the varied vulnerability of individuals (Howard, 2003). In particular, children, the elderly and people with lower income, poorer housing or a poorer overall environment are most vulnerable. Health justice depends that precautionary action is based on the vulnerable rather than the average. In a cruel twist incinerators are usually located in areas with an above average number of vulnerable people.

A further complication in understanding the health impacts of incinerators is that they release a cocktail of many chemicals, well over 100 volatile organic chemicals alone (Jay & Steiglitz, 1995). We know that some of these are harmful to health, but there is little or no research on the combined harm of these chemicals, the cocktail effect.

“One of the main problems remains that, with chronic low dose exposure to a mixture of several hundred compounds over a lifetime, classical toxicology is of little use and new assays need to be developed to assess the harm caused.”

(Howard, 2002)

The release of many of these chemicals from incinerators is not even measured.

The health impacts of incinerators have been widely debated. The US National Research Council Committee on Health Effects of Waste Incineration (NRC, 2000) and Allsopp, Costner & Johnston (2001) both pointed to health problems and the need for more research. In contrast, a recent report (Farmer & Hjerp, 2001) gained news coverage as it argued that incinerators made only a very low contribution to pollutants and have little or no health effects. However, the report (Farmer & Hjerp, 2001) has been criticised for its weaknesses including a lack of a thorough review of information, inaccuracies and factual errors, and ignoring the precautionary principle, uncertainty and the likelihood of failures in the incinerator process (Johnston & Santillo, 2001). A recent study in Cumbria found negative health impacts around incinerators (Dummer et al, 2003). A recent study in France found

“for the total of congenital malformations and the large categories of minor and non-genetic malformations, a significant difference in incidence is observed with a greater risk for the population exposed after the start of the incinerators than before”.

(Afssaps, 2002)



There is growing evidence that children's health and development is being affected by the many chemicals that are long lasting in the environment and accumulate in the body including heavy metals, dioxins, PCBs.

"An epidemic of developmental, learning, and behavioral disabilities has become evident among children."

(Greater Boston Physicians, 2000)

Children's bodies do not respond in the same ways as adults. Of particular concern is the evidence that the exposure of children and foetuses to these chemicals at very low levels can have significant long term impacts on development, intelligence, behaviour, and immune, reproductive and hormone systems (European Environment Agency, 1999; Greater Boston Physicians, 2000; Howard, 2003).

The European Environment Agency (1999) warned that the release of persistent artificial chemicals

"is an enormous and probably irreversible gamble with the health of children and future generations."

Although there are many sources of these chemicals, incineration is a source and as the Greater Boston Physicians (2000) state

"Toxic exposures deserve special scrutiny because they are preventable causes of harm."

There may still be debate about the level of health risk from incineration, just as with landfilling mixed waste. However, application of the precautionary principle would urge avoiding the use of them as they produce harmful chemicals.

Social Health

A key issue for the SE & HIA (Long, 2003) was an appreciation of a social model of health. It was clearly stated in the project brief.

On major issues with a significant impact on neighbourhoods, such as a waste strategy and location of plant, people's sense of being in control of their lives and environment and involved in decisions has an important impact on health.

"Often the public feel their views are excluded or not count ... being involved able to influence decisions is good for health ... being consulted and then ignored is not."

(Cave, 2003)

"People feel happier, and therefore likely to be more healthy, if been involved in decisions."

(Cave, 2003)

It is widely recognised that experts and the public may have different views about what is important in shaping people's health. Both viewpoints should be treated with equal value in a Health Assessment (Cave & Vohra, 2003). In the SE & HIA, people's views should have been used to examine all the health issues, treating them as equally valid as expert opinion, rather than be placed in an isolated and less important category of people's concerns.



“The report does not cover people’s views properly, people’s views should be used to look at all issues rather than put their views in a separate box.”

(Cave, 2003)

It is unfortunate that the SE & HIA (Long, 2003) while gathering the views of some members of the public does not treat these views with the importance they deserve.

“It is not acceptable to consult people and then to state ‘In spite of these deep concerns the HIA cannot be based solely on past experiences’.”

(Cave & Vohra, 2003)

While it is true that the report cannot only look to the past, the report seems to view people’s concerns as an issue for reassurance rather than as needing action and influencing the waste strategy.

The report (Long, 2003) recognises that there is a deep sense of distrust around the Byker incinerator. However it does not draw the conclusion that this will have an impact on health unless the council and other agencies fundamentally change their approach. Yet trust and influence is important to health.

The report does not do justice to the aims of the project brief by giving adequate consideration to social issues including anxiety and fears, quality of employment, sense of having influence and control over life and being valued.

Equity in Health and Justice

The government has recognised that it is the poor that suffer from the worst health and the extra burdens of environmental injustice of the poorest environment and the worst pollution add to this inequality (ESRC, 2001).

“We should not lose sight of the fact that it is the poor who suffer most from pollution.”

(Prescott, 2000)

Too often polluting industry and incinerators are located in poor areas, such as Byker.

“Why, if incinerators are claimed to be so safe, are they always located in poorer areas?”

(Dalton, 2002)

Whether this is because the market reduces houses prices near incinerators

“Supply and demand decides that houses near incinerators have lower prices.”

(Simmons, 2003)

or incinerators are located in poor areas

“Waste gravitates to poor areas.”

(Watson, 2003)



is secondary to the impact that the poor, already with poorer health suffer an added burden. Bishop Ambrose Griffiths (2001) stated

“that if you actually decided to have an incinerator, it should be away from population altogether ... it should not be sited in a poor area ... they often have less voice.”

The area around the Byker incinerator suffers from high levels of poor health (Long, 2003). However, neither the Council’s proposal nor the SE & HIA report make any recommendations as to how the waste strategy can address this.

BAN Waste’s strategy would as a minimum ensure that there is no additional burden of a new incinerator in the area. In addition one of the attractions of MBT is that it does not need one large plant, but can work as well with several small plants. One option would be to locate several small MBT plants in industrial areas of the city, perhaps one each in the north, east and west. These would not be located near houses and would have the added benefit of reducing transport journeys from household to treatment plants compared to a large centralised plant.

BAN Waste’s strategy with its emphasis on community involvement and increased employment would also offer opportunities to tackle wider inequality with benefits to health.

Reducing the Hazards

BAN Waste’s approach to reducing the health hazards is to use largely safe, benign techniques such as MBT recycling and composting clean organic matter to minimise the existence of health hazards. The Council’s option with incineration, landfilling and composting mixed waste uses hazardous techniques.

The protection of human health relies on the absolute security of the safety control, the consistent high standards of the operator and controls through regulation. One approach uses largely safe processes while the other relies on tail pipe solution to control the release of hazardous materials (Dalton, 2002; Howard, 2003; Watson, 2003). Tail-pipe solutions, which are added to the end of hazardous or polluting operations, do not tackle the cause; they attempt to prevent the release of harmful substance. The SE & HIA (Long, 2003) states that the controls and regulation will prevent breaches in operating standards and prevent the release of health harming chemicals. Unfortunately there is long history of tail-pipe controls failing.

“Incinerators have high level of filters and controls prone to risk of accidents ... The greater the degree of regulation the more inherently unsafe the process.”
(Burns, 2002)

“Low tech and benign systems require less investment in controls.”
(Simmons, 2003)

“Horrifying that the Environment Agency may reduce monitoring – it should do spot checks.”
(Simmons, 2003)

“Can remove the hazard by using process which don’t rely on abatement – use less hazardous processes instead.”
(Watson, 2003)



“Source separation is inherently benign while mixed waste treatments are inherently hazardous. Only option is hazard reduction.”

(Howard, 2003)

It is much better for the safety of human health not to have a waste strategy based on fundamentally hazardous activities.

Summary

There are serious health concerns about treating mixed waste as proposed by Newcastle Council. The household hazardous waste is mixed with other waste causing problems in any further treatment. There are major health concerns with both incineration and landfilling mixed waste.

The Strategic Environmental Assessment and Health Impact Assessment (Long, 2003) underplays the risks with incineration and mixed waste landfill. It largely dismisses the risks associated with ultrafines, claiming they are merely a “perception”. The report places too much confidence in the effectiveness of regulation and tail-pipe controls, as they have often failed. The precautionary principle would recommend avoiding these hazardous techniques. The issues of social health, people’s perceptions and well-being are unfortunately treated far too dismissively.

BAN Waste’s proposal entirely avoids the health risks and hazards of incineration and landfilling mixed waste. The techniques proposed are largely safe.

There are many social health benefits from the strategy recommended by BAN Waste.



Jobs and Other Social Benefits

A key consideration of any significant expenditure by the Council is to ensure that there are as many and as wide a range of benefits as possible. As well as considering how well different strategies deal with waste, measure up to government targets and future changes, and improve health and the environment, the wider benefits should be considered.

Employment

Clearly the employment opportunities, both the number and quality of the jobs, is a crucial issue for the city council and people of Newcastle.

Landfill sites employ few people, as do incinerators. Recycling and re-use, in contrast, offer the potential for significant employment. Alongside the collection for recycling, composting or re-use is the expansion of existing uses and the development of new ones for the materials.

Jobs will be created in the direct collection, composting and recycling of goods.

“At present there are 37,000 jobs in waste industry which is 600-650 per million of population ... If only 10 % was going to landfill, we think the direct employment would be 1,500 jobs per million of population. This would be around 400 jobs in Newcastle”
(Jones, 2002)

It is accepted even by those in favour of incinerators that

“recycling and composting ... create more jobs”.
(Murray, 2001b)

Bishop Ambrose Griffiths (2001) pointed to the growing divide between rich and poor and the need to address the issue. He stated that one of the primary ways to reduce poverty is “the creation of jobs” and that kerbside collection and recycling “*would provide good employment opportunities*”

“The employment-generating opportunities offered by reusing and recycling waste are well documented ... Recycling provides more long-term jobs than incineration”
(Stevens, 2001)

“Significant job creation could outweigh some of the costs”
(Jose, 2001)

The SWAP report (2003) calculates that there would be up to 300 extra jobs, created in the collection and handling for recycling, composting and re-use. Other estimates (House of Commons, 2003; renewal.net, 2003) are that meeting the national recycling targets would provide between 45,000 and 55,000 jobs. This translates to between 200 and 250 jobs in Newcastle to meet the existing targets. BAN Waste’s strategy has a higher level of recycling than the present targets, so would be likely to provide 300 to 400 jobs.

BAN Waste has proposed that the workforce in collection of compost and recycling, working in Civic Amenity sites, etc should be ‘green ambassadors’ trained in working with the public, knowledgeable about recycling and involved in working with the community. These jobs would be far more rewarding and satisfying than merely collecting waste for disposal. In addition there would be a need for drivers, administration staff and managers.



There are significant opportunities for employment on the basis of recycling, composting and re-use. There are even greater opportunities if the city and region develop a resource recovery economy where the collected materials are re-used or used to make new goods. At present this has not been developed, with recycled material being exported to other regions of Britain and even abroad (Jose, 2001). It is estimated that in addition to 300-400 jobs in recycling and composting there would be a further 300 to 600 if downstream uses for recycled materials were developed.

At present this sector is undeveloped in Britain although growing significantly in other European countries. The European Union has stated the environmental employment is one of the fastest growing sectors of the economy. In Germany recycling is now big business, with over 1,000 firms and 150,000 employees, larger than the telecommunications industry (SWAP, 2003). A study in the North East (ERM, 2001a) suggested that employment in recycling, composting, minimisation and downstream uses of recyclates could grow by 8% a year.

There are already a number of keen and innovative firms in the region at work to develop new products and markets and, with support, this could grow to an industry with significant employment. There is an opportunity for Newcastle and the region to be a leader in Britain. It is at the pioneering stage of development that support is needed

“to close the loop through research, longer term planning and the development of mutually supporting partnerships”.

(Jose, 2001)

A further valuable way to support the development of this sector would be for major public sector bodies to introduce a policy of preferential purchasing of materials made from recycled goods.

Developing industries in the region would provide jobs, reduce the costs of shipping materials and reduce the environmental damage of the transport. This will require a change in attitude and shared action by the council, ONE North East and industry. Resource recovery needs to be seen as

“an economic opportunity”.

(Wrigley, 2001)

Newcastle Council has an Economic Strategy (Newcastle Council, 2002) of encouraging economic clusters, where a group of related businesses are established near each other so that they can work together. **BAN Waste urges the Council to add a ‘Resource Recovery’ cluster to its target list.** The combination of the direct and indirect employment opportunities could be between 500 and 1,000 new jobs – an opportunity the Council should seize. This policy could be implemented in partnership with ONE North East.

The Council

“Needs to take steps in areas of materials use ... there are gaps in the strategy that need to be worked on and further developed ... [might] promote, encourage and facilitate a paper mill in the region.”

(Rowland, 2002)



This would allow the city to gain from the opportunities for employment that will increase as recycling grows.

If Newcastle Council worked with neighbouring councils and ONE North East there would be an opportunity for significant job provision in an economic sector that has a long-term future.

“European nations with advanced resource efficiency policies have the strongest employment and technology profiles for a buoyant world market.”
(Biffa, 2002)

Nova Scotia

Nova Scotia’s shift to resource recovery is an inspiring example for Newcastle. The Canadian province with a population of 1 million moved from virtually no recycling to 50% in a few years. The main city has reached nearly 60% recycling (SWAP, 2003). One of the most important reasons was to provide employment. Nova Scotia

“moved from waste management to resource recovery, with jobs being number one here.”
(Friesen, 2002)

The strategy created 3,000 jobs as

“There are 10 times more jobs in recycling than disposal.”
(Friesen, 2002)

The policy was adopted in 1995 because of strong public pressure to reduce the many polluting landfill sites, as even the modern sites failed, but not to use incineration as the alternative.

“There was extensive independent public consultation [and] the final strategy incorporated the views of the people and was therefore well supported.”
(Friesen, 2002)

The resulting strategy was based on the

“Principles of environmental protection and economic development.”
(Friesen, 2002)

It enjoyed wide public support as people felt they had been involved in deciding the strategy.

“The basis of success was public support, make it easy and very public, ‘in your face’.”
(Friesen, 2002)

The system involves three separate collections from households, of organics, recyclables and garbage (residue). The province has also introduced bans on some materials going to landfill, with systems to deal with household hazardous materials and linked to collections from businesses. Crucial to the success of the strategy has been an active policy of industrial development using the materials recovered.



The province ensured that the economic benefits of these resources were realised by the local people with new industries and employment. Among the new uses for recycled materials are:

- Old newspapers made into house insulation by Thermo-Cell
- Using newspaper in the manufacture of wallboard by USG
- Novapet processes plastic bottles for use in the manufacture of carpets and clothing
- CKF employs 250 people using old newspapers to produce a wide range of paper products such food trays etc (also reduces need for non-biodegradable food boxes such as used by fast food outlets)
(Nova Scotia Department of Environment, 2000)

The strategy has resulted in environmental improvements, reduced pollution that damages health and increased employment. In addition there is a strong sense of pride and achievement.

“The most satisfying thing is that the public feel proud of the achievement – feel doing something that matters and useful.”
(Friesen, 2002)

Barry Friesen, the Solid Waste-Resource Manager of Nova Scotia was one of the most inspiring of the witnesses to the Select Committee. He was enthusiastic about his work and proud of the achievements of his team and the people of Nova Scotia.

The main theme of the province’s strategy was

“Nova Scotia is Too Good to Waste.”

BAN Waste believes that this example shows what can be achieved with partnership working and commitment. Newcastle, like Nova Scotia, is Too Good to Waste.

Social Benefits

The re-use of household goods such as fridges, cookers and furniture can provide employment and reduce waste. It also provides a service to support the less well off. There are already some organisations providing such services in the area and these could be expanded (Malone, 2001; Redmayne, 2001; Leadbitter & Shipley, 2001, SWAP, 2003).

“[Many] community waste programmes ... supported low-income families through the provision of low-cost furniture or white goods.”
(Luckin & Sharp, 2003)

In particular the ideas of BAN Waste for community involvement in resource recovery would provide wider benefits. Luckin and Sharp (2003) list benefits including:

- stable employment for local people in deprived areas of the country
- any surplus income generated remains within the community



- the use of local suppliers
- training

Developing high levels of recycling and composting strengthens the public's involvement in service delivery and awareness of and care for their community and the environment.

“Recycling in particular can have a positive effect on social cohesion and inclusion, because of the community-based nature of such activities. Good waste management also sends appropriate signals to the public about valuing the local environment and can help to reduce anti-social behaviour such as fly-tipping and littering, and to improve local livability.”

(House of Commons, 2003)

On the whole, waste disposal plants tend to be located near disadvantaged communities who suffer from a poorer environment, without any benefits from these plants. The ideas of BAN Waste would go some way to tackle the environmental problems and ensure that the communities gained benefits from recycling and composting.

“Disadvantaged communities tend to live in the worst environments, yet thinking differently about waste and recycling could not only clean up poor neighbourhoods, it also supports the local economy, [with]

- *opportunities for local economic development.*
- *opportunities for social and environmental dividends that contribute to quality of life*
- *opportunities for active citizen involvement”*

(renewal.net, 2003)

Newcastle's Reputation

Newcastle is working to gain a reputation as a leading European city. Environment can play an important role as it is widely recognised that both residents and visitors are aware of the quality of the environment. A strategy based on resource recovery will improve Newcastle's image, reputation and cleanliness of its streets. It will increase awareness of the volume and production of waste, which will aid a shift towards reduction and the use of recycled goods.

“Kerbside separation encourages people to think about waste and broader issues such as excessive packaging [and] is the best opportunity for educating and motivating the public”
(Moore, 2001)

Over the long term an increased awareness of waste and litter can also save the council money.

It is widely recognised that an attractive environment encourages investment and boosts the local economy. BAN Waste's strategy would not only directly provide employment it would help to sustain existing employment and encourage new investment.



Newcastle Council is part of a European-wide review of the sustainability of cities being carried out by the cities themselves, Peer Review for European Sustainable Urban Development (PRESUD). The report on Newcastle (PRESUD, 2002) highlighted waste as an area of concern,

“Waste – a key issue, you have a long way to go.”

“Landfill – your approach does not seem sustainable in the longer term.”

“Future of the incinerator?”

“Opportunities to create jobs in environmental industries.”

“Not a clear over-arching commitment to sustainability.”

If the Council adopted the recommendations of BAN Waste it would make a real difference in answering all of these questions raised by other European cities.

Incineration is deeply unpopular. Even those in favour of incineration acknowledged the strong opposition and felt they would prefer not to live next door to one (BAN Waste, 2002). A decision by Newcastle Council to go ahead with the construction of an incinerator would provoke strong public opposition (Rowland, 2002). If on the other hand the Council goes for high levels of recycling and composting it would gain public support.

The council has an opportunity to move to sustainability, improve the environment, create new jobs, have a source of renewable energy and really work with local citizens.

Strengthening Democracy and Community Involvement

Key concerns for local government are to strengthen local democracy, the public's involvement in decision-making and community cohesion. The strategy outlined by BAN Waste would gain wide public support and, with the recycling partnership board proposed, would enable direct community involvement in public service delivery and operations. This approach would fit well with the government's strategy of partnership, community cohesion and improving services.



Democracy

Why is there a chapter on democracy in a report on waste?

Both local government and the waste industry face major challenges and need to change. The experiences of BAN Waste are relevant to both of these issues, and would contribute to pointing to a new successful future.

Resource Recovery

The waste industry has, for years, been dominated by seeking the cheapest technical solution to dispose of waste. This is no longer viable. The need to protect health and the environment and recover resources is driving fundamental change. Successful resource recovery relies on people. The key challenge is how to get people in their homes to separate their waste so that 50-70% recycling and composting is achieved. A highly motivated workforce is also vital to success. This change to a people-centred approach requires that people feel that their efforts make a difference, that their views are valued and that they count.

Local Government Crisis

Local government faces a crisis. It has suffered from over twenty years of reductions in its powers and room for initiatives. In the past, councils introduced important improvements to life with such things as establishing comprehensive education and polytechnics, building decent houses, improving public transport and supplying clean water and sewage treatment. Actions like these are almost unimaginable today.

Local authorities have suffered from cuts in finances, reduction in powers through privatisation and the hiving off of services to quangos, increased control from central government and increased use of special programmes rather than mainstream provisions.

“Between 1980 and 1994 there were 164 acts of parliament which weakened local authorities ... and the trend continues under New Labour.”

(Knight, 2003)

“Councils have been fatally eroded, they are becoming hollow shells with no real choices ... weakened by central government and short-term special funds.”

(Thomson, 2003)

This has produced a fall in the prestige of local government and a decline in public involvement and confidence in councils.

Need to Change

Although councils carried out major improvements and usually had an awareness of social issues, they usually operated in a top-down manner.

Now councils do not have the power or lack the willingness to make similar improvements, but are still largely using a top-down approach. Given the financial and power restrictions placed on councils, if they wish to carry on making improvements to life, increasing well-being, they need to find a new way of operating.

One option is to embrace the USA model where city authorities are largely facilitators for the private sector. But this risks abandoning the long-held and crucial social role of councils as finance becomes the deciding issue.



The alternative is to maintain and even strengthen responsibilities for communities, social justice and well-being, but abandon the top-down approach and work in partnership with communities and citizens.

“Councils need to change, to be open and participatory.”
(Thomson, 2003)

“Local authorities need to change, involve people.”
(Knight, 2003)

A key resource that has been underused, due to the top-down outlook, is the people of a city. The citizens know and live in the area; they have ideas and energy. Also the workforce has a great deal of expertise and knowledge, but this again has often been underused.

Democracy and Participation

The government has urged Councils to increase the level of community participation in their processes.

“The Government wishes to see consultation and participation embedded in the culture of all councils.”
(DETR, 1998)

“Too much has been imposed from above, when experience shows that success depends on communities themselves having the power and taking responsibility to make things better.”
(Tony Blair 1998)

“The involvement of local people is central to the effective development and implementation of community strategies. It is important that community planning allows communities to be fully involved in establishing both the long-term vision and the shorter term priorities for action. It is not sufficient simply to consult communities on a range of options determined by the authority and its partner organisations.”
(DETR, 2000c)

There are many benefits of such a change including:

- Improving decisions
- Improving implementation
- Strengthening community and democracy
- Accessing additional resources, such as the efforts of local people

The traditional system of local, and for that matter national government, is based on representational democracy, that every few years people elect representatives. Councillors can point to their authority based on winning an election (Folley, 2003; Thomson, 2003). It has been suggested that participatory democracy may conflict with representational democracy. However, as representational democracy is in crisis, with falling involvement in elections, growing distrust of politicians and the system and a feeling that the system ignores people (Knight, 2003), it needs to find ways to be revitalised



In many communities councillors are not viewed as representatives of the community, but as representatives of decisions taken elsewhere by a remote 'council', which are imposed upon communities.

"There has developed a culture which sees the Council as Satan ... there is deep antagonism."

(Thomson, 2003)

However, rather than seeing participation and representation as in conflict, it is possible to combine them for the benefit of society (Walker, 2003). Democracy needs to move from the

"thin democracy of the ballot box to thick democracy with involvement between elections including genuine partnerships."

(Knight, 2003)

Consultation and Participation

The government has urged councils to use both consultation and participation.

"The Government wishes to see consultation and participation embedded in the culture of all councils."

(DETR, 1998)

However they are different processes. Councils have a long history of consultation, while participation is much less common.

The World Health Organisation defines participation as

"A process by which people are enabled to become actively and genuinely involved in defining the issue of concern to them, making decisions about factors that influence their lives, in formulating policies on planning, developing and delivering services and in taking action to achieve change."

It points out, in contrast, consultation is where

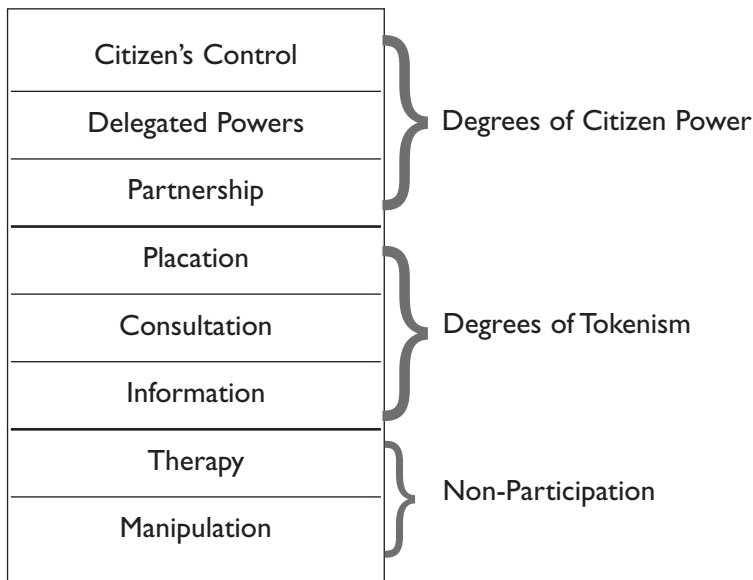
"Views may be taken into account but people are not actively involved."

Consultation is where people are

"presented with a number of options and the comments received are taken into account in deciding what action to take. However real decision-making still rests with the agency that is consulting the community."

(DETR, 1997)





Arnstein's Ladder of Participation

Arnstein (1969) presented a ladder of levels of public participation in decisions. She pointed out that participation really begins at partnership, this is where people and communities “become actively and genuinely involved”. Participation requires a sharing of power, resources, information and decision making. It involves people, as equals, discussing issues, examining options, with full access to information, and drawing up proposals.

Power

Although local government is both required to increase participation and claims to be in favour, progress is slow.

“The council has moved to partnership, at least on paper, still working on move from principle of participation to the practice.”

(Thomson, 2003)

Councils are reluctant to embrace the rich partnership of the World Health Organisation

“Newcastle Council not aiming for the level of World Health Organisation.”

(Folley, 2003)

and the thick democracy proposed by Knight (2003). The consultation on Newcastle's Community Participation strategy revealed strong frustration and a deep desire for more involvement (Newcastle Council, 2001). Consultation fatigue, where views are asked but it is felt that little happens, is widespread. Consultation, if not leading to action, can actually increase alienation from government.

Due to the weakening of local authorities over the last 20 years, many within them have a feeling of a lack of power. In some cases the response is a beleaguered mentality, fighting to defend powers against encroachment (Knight, 2003; Walker, 2003). Participation can be seen as a weakening of power, and with councils' power already greatly reduced many are unwilling to see a further decline in power.

“Very few examples in history of people in power giving it up voluntarily.”
(Knight, 2003)

Yet compared to most communities local authorities still have a great deal of power, with access to resources and information, and are seen as remote from influence.

“People feel powerless, there is a mismatch of power and resources, ... and unequal relations.”
(Knight, 2003)

Many times when local people come forward with good ideas, a desire to make a difference and enthusiasm, they feel rejected or taken advantage of by those in power. This is often even more upsetting as the public give of their own time and energy, while those with power are paid.

Instead of seeing participation as the council losing power, there needs to be a shift from a ‘them and us’ to a

“We Can.”
(Walker, 2003)

Power can be shared and grow. If a council, working in partnership, is more able to influence development in the city than it could on its own, power has grown. If communities, working in partnership, are more able to improve their neighbourhoods than they could by fighting the council, power has grown.

Partnership and participation are about sharing information, learning from all partners and reaching better decisions. There would be

“Equal but different power relations”.
(Knight, 2003)

Part of effective partnerships is to ensure that the communities have the independence, time and resources to participate equally (Walker, 2003). This requires support without strings from various authorities. While being part of partnerships, communities also have the right to campaign on issues (Knight, 2003).

Experts

The councils generally base decisions on advice and guidance from professional experts. The public were largely beneficiaries rather than shapers of policy.

A crucial shift is to recognise that as well as professional experts – people who have knowledge **about** an issue, there are public experts – people who have knowledge **of** an issue. A crucial difference is that professional experts earn their living from their knowledge, while the public may not. Even the workforce who have knowledge which is needed to do the job are paid primarily to do the job rather than for their knowledge about the job or issue. Professional expertise comes largely through study and theory while public knowledge comes through experience and practice. British society has long undervalued, and even ignored, public knowledge.



While local government should not reject valuable professional knowledge, it should make much greater use of public knowledge. This wider knowledge will give a fuller understanding of issues and solutions, will challenge preconceptions, produce original solutions and almost always result in better decisions (Walker, 2003). Sharing of problems and information leads to solving together.

Too often it seems that the tops of the council are remote from what is happening on the ground. Participation in decisions would overcome much of this as residents live in an area, the workforce is involved in doing the work, together they have a very good idea about what is happening with services and in communities. There is a need to move from a complaints procedure to

“Positive feedback loops where residents inform decisions and actions.”
(Thomson, 2003)

One of the aims of participatory democracy is to fuse the expertise of the bus driver with the transport planner, the patient with the doctor, and the citizens with the council officers. This will help to rebuild trust between the council and the public.

Complacency and Conflict, Challenge and Consensus

As well as a sense that participation will weaken power, councils often feel that involving communities in decisions will produce conflict. However, not involving communities is likely to produce even greater conflict as people respond to imposed decisions that they have not been part of.

The public often feels that, when dealing with the council and officers, they are met by a wall of ‘the council knows best’, of remote decision making and a complacency of not needing to engage with the public’s concerns or change.

Councils, working under the pressure of cuts in resources and increased targets, often feel that the last thing they need is to spend more time and the extra burden of working with the public. Officers and councillors can easily become set in routine and inertia, based on a view that this is how things have always been done. A different viewpoint is that working with communities provides new ideas and outlooks and better understanding. If combined with resources and training for council staff and the public, then participation can be stimulating, rewarding and produce better decisions and improve implementation.

More fundamentally though, challenge is part of reaching an understanding (Knight, 2003). There are different viewpoints, which it is better to debate and discuss so that people learn from others rather than try to stifle or ignore.

“Partnerships need autonomy and ability to challenge.”
(Knight, 2003)

“Robustness is good, need challenges, Council should welcome criticism.”
(Thomson, 2003)

The aim of participation and partnership should not be cosy relations, these often feel like tokenism; or to incorporate individuals or to blunt the energy of people.



A partnership, based on ground rules of mutual respect, needs to be dynamic and challenging. Only by such an approach will issues be examined, preconception challenged, wider understanding gained and new solutions developed.

It may be that participation takes more time as there is more talking, but as long as this is well supported and structured, it is almost always beneficial. It is better to take longer to reach a good decision than rush to a poorer one.

BAN Waste

BAN Waste was established as a partnership between the community, Newcastle Council (both councillors and officers) and other public agencies. This could have been a great opportunity for shared learning, discussions and making decisions.

Over time the community members gained in knowledge and understanding. Unfortunately over the same time the professionals withdrew from BAN Waste. On the one-hand this weakened the partnership so that all the work fell onto the community members who did this in their spare time after work, looking after children, etc. and unpaid (apart from the BAN Waste support worker). This increased the pressure on the members of BAN Waste who carried forward all the activities including the Select Committees, gathering information, and the Community events. But as important, as an example of how to improve public involvement in decision making, it undermined the partnership. There was a reluctance from the Council and other agencies to share information. This lack of joint investigation, debate and sharing of decisions meant that there was not a joint learning and discussion among the partners with an exchange of professional and public knowledge. This is unfortunate as such a partnership process would have led to increased knowledge all round.

BAN Waste challenged the traditional paternalistic top-down decision making where a few experts advise senior councillors who take a decision which then flows down the decision making and operating structures.

BAN Waste could be a model for future investigations and informed decisions making. But to be successful, it requires a real partnership involving a sharing of resources, information, knowledge and decision making.

Example 1: Kerbside recycling

The ideas for the in-house option brought together the professional and the public knowledge of the workforce and BAN Waste members. This included the Women's Institute knowledge on the issues of separation, storage and handling of the different resource streams in the house; experience of many community businesses; the workforce's knowledge of collecting and handling of materials; an understanding of public motivation; as well as public and professional knowledge about waste and resource recovery.

All this knowledge resulted in an innovative proposal that would have been no more expensive than the privatisation of services, would have had much stronger community and workforce support so would be more likely to reach higher levels of recycling and maintained and even strengthened the democratic accountability of the service delivery.

“Disappointed that the Council preferred an inferior option instead of the exciting opportunities.”

(Thomson, 2003)



Unfortunately Newcastle Council's professional experts, with a narrow view of risk and success, rejected innovation and preferred to privatise the service to a large waste disposal company.

Example 2: Select Committee

BAN Waste used a Parliamentary style Select Committee system to support its work in developing a strategy for Newcastle's waste. The Select Committee has consisted of 20 members, mainly from BAN Waste, supplemented by people from a number of other stakeholders. It is important to note that the members of the Select Committee did not start with a common outlook on waste. Some members held very strong views, differing from others, while some members had only a broad concern about the issues with little clear idea of a solution.

The Select Committee has held hearings at which there have been presentations from a range of witnesses, with differing viewpoints. The witnesses were mainly professional experts but some have been public experts. The statements of the witnesses have been examined and challenged by the questions from members of the Select Committee. Some of the experts that BAN Waste invited to be witnesses declined to attend. It is disappointing that some experts, while willing to publish reports, were unwilling to allow their views and statements to be tested by members of the public. As the Select Committee gained the attendance of a significant number of leading experts on the issues, it is unfortunate that only a very few councillors and council officers were able to attend these very informative hearings.

Through the process of the Select Committee BAN Waste members have themselves become experts on many issues. The process didn't start with a clearly defined final strategy; rather it started with a review of the broad issues and consideration of a range of options. Through the hearings and discussion a general consensus developed as to a strategy which in turn was tested by further witnesses. The process of the Select Committee has produced a well-researched strategy that offers Newcastle many benefits.

It is clear that through the Select Committee members have learned a great deal. It is also striking that ordinary members of the public will give a great deal of time and effort to help improve the city.

As well as producing a resource recovery strategy, the experiences and processes of BAN Waste have a great deal to offer the city in strengthening participation in decisions.

Participation and Waste

The government requires public involvement in decisions on waste and the waste strategy, which

“should be open to meaningful and wide-ranging consultation”.
(DEFRA, 2001a)

Newcastle Council faces a choice. Its plan to build an incinerator in Byker is deeply unpopular, so it needs to decide what to do instead. Ideally, working in partnership would provide a better answer of what to do instead. The methods of BAN Waste illustrate how to draw up a strategy based on wide-ranging public involvement and the use of experts. It offers a solution to the dilemma of Newcastle's future strategy.



As important as the technical solutions that BAN Waste has proposed, the process provides an example of how to ensure public involvement, commitment and enthusiasm in the preparation and implementation of a strategy. A successful shift to resource recovery requires more than consultation; it needs shared decision making and implementation.

Wider Participation

The Local Government Act 2000 (DETR, 2000b) gives local authorities the power to “promote the economic, social and environmental well-being of their area”. A sustainable waste strategy offers the opportunity to do just that. The Act also urges local authorities to “actively engage the community in local decisions”. The approach that we urge in this report fits well with the aims of the Act.

Summary

The public feels increasing isolated from government, which is breeding deep distrust and a feeling of inability to influence. The reaction of the public is either

“Flight or fight”.
(Knight, 2003)

People either retreat into their individual lives and abandon civil society – ‘Flight’; or ‘Fight’ – for a different future, in conflict with government. Unless government is opened up to public involvement the crisis of democracy will deepen.

These issues are sharpest for local authorities which have suffered from a dramatic decrease in their room to act and in turn the standing of local government has declined. Councils need to find a new way of operating to save local government and democracy. In the past, councils were largely top down and heavily reliant on professional experts with the public influencing the councillors on broad issues and receiving services. This model no longer works, as councillors are less seen as representing their community and more dictated to by central government. Decisions are seen as taken elsewhere.

Participation in decisions offers a way of reviving local democracy. It strengthens decision making, results in better decisions, draws on the wide knowledge, skills and energy of local people.

Participation and partnership will need a fundamental change in attitudes in many council departments. It will require a sharing of power, information and resources. It clearly is a major challenge. However the alternative of a withering of local government and democracy is much less desirable.

The experience of BAN Waste could help to strengthen local democracy. There are international examples of participation but very few in Britain. Many councils across the country are struggling with moving from the words to putting real partnership and participation into practice. Newcastle could be a leader.



Wider Issues

The main focus of BAN Waste's work was on the long-term strategy for treating waste in Newcastle. However, it is clear that there are wider issues and policy decisions that will impact on the ability of Newcastle to deliver a high environmental and health standard and move to resource recovery.

Reduction

The government has stated that a key aim of its strategy is to stop the production of waste, with the Waste Strategy 2000 stating one of its two main aims

"is breaking the link between economic growth and waste production."

It is unreasonable to put all the pressure on local authorities and communities to deal with an ever growing mountain of waste. The top priority should be waste reduction. However, so far, the government has not produced a clear policy or targets to minimise waste. The responsibility for waste reduction primarily lies with producers.

"Top priority is reduction."
(Prescott, 2001)

"The need to minimise waste, ... packaging is an example area."
(Pruce, 2001)

"Minimisation takes place at source."
(Henry, 2001)

While some firms are seeing great opportunities by moving in this direction a large number need the push of legislation, just as many local authorities needed legislation to drive the shift to recycling.

"New approach was being driven mainly by legislation."
(Taylor, 2001)

As the Strategy Unit has urged, the government needs to make minimisation a policy priority, with legislation, clear actions and targets.

Hazardous Waste

Although household hazardous waste, such as paint, consumer batteries, fluorescent lights and solvents, are only a small portion of the total weight of waste, they are especially harmful to health and the environment. Unfortunately, so far the government's targets have been based only on reducing the weight of waste. This inevitably means that local authorities and the waste industry concentrate on the weight of materials.

"Waste industry gave equal value in weight to different materials."
(Collins, 2001)

"It is important to reduce the quantity of hazardous ... waste within the waste management hierarchy."
(Henry, 2001)

There is a need for targets and actions on household hazardous waste. Clear policies on hazardous waste will also help to strengthen producer responsibility, by sending a message back up the chain of production to manufacturers to stop using hazardous materials.

National Government

The legislation introduced by the Government has already had a major impact. However, there is still a long way to go before Britain reaches the standards of other European countries or what is needed to protect the environment and health now and in the future. The experience of other regions with high recycling is that financial measures, such as taxation on incineration, and banning certain materials going to landfill and incineration have helped. The success of the tax on plastic bags in the Republic of Ireland or Nova Scotia's ban on sending some materials to landfill are examples that Britain should consider.

The Strategy Unit (2002) outlines a number of changes the government should make including:

- Greater effort to support the use of recycled materials, including extending the role of WRAP, investing in research and a national education programme
- Allowing councils to introduce a range of incentives to households in support of recycling
- Adequate financial resources for councils to introduce changes
- Increased producer responsibility
- National quality standards for compost to encourage sale of good quality compost and discourage the production of contaminated material.
- Banning the landfilling and incineration of recyclable materials
- A national purchase policy for the public sector that favours recycled goods
- A tax on incineration

BAN Waste supports all of these actions. A further change that has been successful elsewhere is a deposit scheme on drinks containers and BAN Waste would urge that it is considered in future policy reviews.

Science is always ahead of legislation (Howard, 2003), but the government needs to ensure it is up-to-date with current research and that this research informs legislation. Policy needs to be based on the precautionary principle. Up to now government has been reluctant to use legislation, especially to industry and business, as it still

“regards the use of legislation ... as an instrument of last resort. They would rather explore the ‘voluntary’ aspect.”

(Wrigley, 2001)

BAN Waste recognises that legislation may well be necessary to support the forward thinking business and councils and to push the laggards in the right direction.



The Region

“The environment of the North East of England is one of the region’s biggest assets”
(ERM, 2001b)

Tom Warburton of ONE North East (2002) stressed the importance of the environment to the region. Protection and enhancing the quality of the environment is an important issue for the region’s future and a new way of dealing with waste can contribute to this.

The draft Regional Waste Strategy (ERM, 2003) is a welcome change in its approach to waste, giving priority to recycling and composting. To realise all the benefits of a shift to

“treating waste as a resource”
(Warburton, 2002)

will need regional action. While an individual council will not produce a large enough volume of recyclates to develop new industries, the North East overall will have the basis to support new developments. ERM (2001b) urge that

“recycling initiatives are coordinated within the North East ... to obtain the economies of scale necessary.”

ONE North East has a crucial role in this as it is responsible for the region’s economic strategy. A policy of developing industries based on resource recovery will have social and environmental benefits as well as aiding the economy. There needs to be a

“shift to a view of resources regionally ... a paper mill in the region would be a big step forward ... the Regional Development Agency could consider.”
(Rowland, 2002)

There are great opportunities for employment in the use of recyclates with the sector expected to double in size in the next decade (ERM, 2001a). However this will need support and ONE North East has an important role.

“Market development is an area where the RDA could do more”
(Warburton, 2002)

There are a number of centres of excellence in the region. BAN Waste proposes the establishment of one on resource recovery, alongside the welcome decision to establish an Environment Industries cluster in the new Regional Strategy.

“The global market for environmental products and services is huge. Business opportunities in this market will be pursued through the Environment Industries Cluster.”
(ONE, 2002)

This aim needs to be backed up by coordinated action linking the collection of recyclates to the development of new uses.

As well, the public sector agencies could provide significant support to these businesses by a policy to purchase recycled goods.



“The public sector has a key role in making change, with ~30% of North East’s economy being the public sector, its actions can stimulate markets.”
(Warburton, 2002)

ONE North East and the North East Assembly could challenge all the public sector bodies in the region to adopt a purchase policy which encourages recycling.

Environment Agency

The Environment Agency has a key role in protecting the environment and using its expertise to shape future policy on this matter. Unfortunately a list of incidents, including the failure of the Agency to prevent the spreading of toxic ash from the Byker incinerator on allotment paths in Newcastle, has undermined the public’s trust. The Environment Agency trusted the operator of the Byker plant, relying on the operator’s ‘duty of care’, and initially did not believe members of the public when informed about the ash. The ash scandal revealed that the Agency did not have any records to track the use of incinerator ash. The Agency was complacent on this matter; it needs to be proactive. The Environment Agency itself recognises that it must improve its actions and cooperation with the public (Burns, 2002).

The Environment Agency does suffer from a shortage of staff. A key resource that could be used is the public, who see and hear a great deal. They could be the “eyes and ears” of the Agency (Burns, 2002). Too often it dismisses the public, as was the case in Byker for far too long. **The Environment Agency has to increase its willingness to take seriously information that the public provides.**

At present, the Environment Agency mainly works to persuade business to abide by regulations. This approach has led to many failures, as not surprisingly some businesses are not open to persuasion.

“Environment Agency should be on the side of the public and the environment, Can’t expect business to protect the environment, they are interested in profit; need regulations, which are enforced”.
(Dalton, 2002)

In addition as

“The Environment Agency is stretched for resources – there are problems of operators cutting corners and bending rules.”
(Burns, 2002)

In cases where companies break the rules the best action is to take them to court; not only will it dissuade the individual business, it will act as a warning to others.

“Education in the courtroom is better than education in the boardroom.”
(Khan, 2002)



Too often the Environment Agency comes under pressure from politicians to tread softly.

“There is concern that Number 10 sometimes influences the EA on controlling companies ... Originally the Environment Agency planned a ‘name & shame’ policy but watered it down due to political pressure.”

(Dalton, 2002)

Society needs a strong Environment Agency; it needs to be more high profile. As well as listening, the Agency will have to be more open in dealing with the public and provide reports as to what actions have followed from information.

“Need an Environment Agency, but needs to be more high profile, it is understaffed so should welcome the public, listen to them, act on the information and report back.”

(Dalton, 2002)

BAN Waste reaffirms its support for a citizens’ monitoring system supported by resources (Murray, 2001). We believe that the Agency must carry out regular monitoring of operations that can potentially harm health and the environment. It is not enough to trust the self monitoring of the operator.

The public accountability of the Environment Agency needs to be strengthened. This would increase confidence in the Agency and it would strengthen the Agency’s ability to act.

The Environment Agency needs to increase its understanding of links between environment and public health.

The Environment Agency should be the defender of the best interests of the public and a champion of the environment and sustainable development.



Conclusions

We Have To Change

The need to protect the environment for ourselves and future generations means we have to stop throwing away mountains of waste and creating pollution that is damaging to health and the environment. We have to move from waste disposal to resource recovery.

British and European law states that we have to recycle and compost more. These laws are going to become stricter in the future. There is already a sharply increasing tax on landfill. In the next few years there are likely to be:

- bans on landfilling some materials
- higher recycling and composting targets
- a tax and further controls on incineration
- requirements to collect organic waste separately and produce clean compost
- requirements to collect separately household hazardous waste

Newcastle has to change! The city faces a choice of either carrying out modest changes to a policy largely based on waste disposal aiming to reach the minimum targets set by the government. Or Newcastle can aim to be a leader, moving to a strategy of resource recovery and in the process surpassing all government targets and gaining many wider benefits.

A Policy for Now and the Future

BAN Waste has outlined a policy that meets present government targets and likely future ones. It is based on high levels of recycling and composting and the safe treatment of materials to produce clean compost, energy and inert matter to landfill. It would be based on strong community involvement and a well-motivated workforce; perhaps including a partnership supervisory board.

The Council's proposed policy, which includes incineration and landfilling active waste, may not meet present targets and will struggle with future legislation.

There are serious doubts about whether an incinerator in Newcastle would even gain planning permission. One suggested option, of shipping the waste to be burnt in Cleveland, would still cause all the damages of incineration and in addition the transport would cost money and damage the environment.

BAN Waste's policy is based on what other cities in Europe and North America are already doing. BAN Waste wants Newcastle to be a leader in resource recovery in Britain. Newcastle Council's proposed strategy will not do this.

An Affordable Policy

BAN Waste's policy is affordable and the overall costs are similar to what the Council plans to spend. However the Council's proposals concentrate expenditure on technology dealing with waste disposal, which may become obsolete due to new legislation. BAN Waste's strategy is more flexible to deal with change and concentrates financial and human resources at the top of the waste hierarchy and on people.



It means that the city is moving in line with changing policy to move up the waste hierarchy and towards Zero Waste, an aim endorsed by the Council in 2002.

BAN Waste's policy would allow access to additional funds that are only available to community partnerships.

Doing It

Cities all over the world are reaching levels of 50% or more recycling and composting. There is strong public support for policies to improve the environment and high levels of recycling and composting. The people of Newcastle are as capable as any in the world of achieving these levels. What is needed is

- Vision and determination from the Council and Senior Management
- An enthusiastic workforce
- High public involvement

Nova Scotia reached 50% recycling in less than 10 years by involving the public. The change has created jobs and raised the confidence of people there. BAN Waste believes that like Nova Scotia, Newcastle is Too Good to Waste.

There should be a detailed investigation of these proposals with the involvement of the council, the workforce, BAN Waste and other community groups and stakeholders.

Environment

The needless use of resources is a major threat to the environment and the well-being of future generations. The more that society recycles and composts the better. Recycling and composting save much more energy than landfill or incineration. Energy use consumes valuable resources and contributes to climate change. Landfilling of mixed waste produces methane, a gas that when released into the atmosphere adds to climate change.

Producing clean compost is important to help to restore the fertility of soil. Landfill and incinerating organic matter is a waste of a potentially valuable resource. Compost is best produced from separated organic matter, it is doubtful that it can be made from mixed waste.

BAN Waste's strategy aims to maximise the levels of recycling and production of high quality compost from clean organic matter, which benefit the environment. In turn, this avoids the many detrimental impacts on the environment of incineration and landfilling mixed waste

Health

There are serious health concerns linked to incineration and landfilling active waste. The Precautionary Principle states that these should be avoided. No amount of filters and controls can guarantee that these hazardous operations do not harm people's health. The best approach is prevention by using benign, safe methods rather than relying on controlling hazardous activities. BAN Waste's strategy is based on using safe methods.

In addition, BAN Waste's policy will help to tackle health inequality and provide wider social health benefits by improving local communities, increasing their involvement in decisions and their sense of well-being.



Wider Benefits

As well as meeting government targets, BAN Waste's policy would also:

- Gain wide public support
- Provide the opportunity for 500 to 1,000 jobs
- Increase the city's sustainability
- Improve local democracy, community cohesion and public involvement
- Support the development and regeneration of the East End of Newcastle
- Enhance the city's reputation

Summary of Outcomes of Proposed Strategies

	BAN Waste	Newcastle Council
Meet Existing Government Short-term Targets	2	2
Meet Existing Government Long-term Targets	2	1
Meet Proposed New Legislation	2	0
Deliverable at Reasonable Cost	1	1
Minimise Organisational Change	0	2
Increase the Number of Rewarding Jobs	2	1
Create New Business Opportunities	2	1
Improve the East End of Newcastle	2	0
Enhance Newcastle's Reputation	2	1
Strengthen Community Involvement & Democracy	2	0
Protect the Environment	2	1
Reduce the Risk of Harm to Health	2	1
Move towards Resource Recovery Strategy	2	1

0: Will not meet Aim or Little or no Fundamental Improvement on the Present

1: Meets Aim or Modest Improvement on the Present

2: Exceeds Aim or Significant Improvement on the Present



To realise the strategy outlined by **BAN Waste** will require a change in approach from the Council and the waste industry. Priorities should move from waste disposal and technologies of handling waste to Resource Recovery and working with people.

It will be a challenge to achieve **BAN Waste's** proposals, but it is also a great opportunity as standing still is not an option. It is always a challenge to be a successful and leading city. **BAN Waste** knows that the people and city of Newcastle can respond to the challenge. Newcastle's environment and reputation, resources and people's health and abilities are all **Too Good to Waste**.





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Thanks

The Byker and Newcastle Waste Group, BAN Waste, Select Committee has been a new and exciting approach to involving the public in the decisions of local government. It would not have taken place without a great deal of effort by many people.

BAN Waste thanks Atlantic Philanthropies who have kindly funded the Select Committee. We also are grateful to Millfield House Foundation whose funding has supported the work of BAN Waste for three years.

We are grateful to the chairs of the Select Committee hearings Andrew Bennett MP, David Malone, Bob Stewart, Jim Cousins MP and Richard Adams.

We appreciate the time and effort that all the witnesses put in to preparing and giving their presentations.

BAN Waste appreciates the support of Newcastle Council and its staff in providing the venue and support for the Select Committee hearings.

BAN Waste thanks our support workers who made the Select Committee hearings happen and have helped with much of BAN Waste's work, Frances Hinton, Cal Boal, Jo Bourne and Liz Crocker

For BAN Waste, a community led partnership, to keep going and to have achieved what it has, could only have been possible because of the high level of commitment of its members. They have given a great deal of time and energy on top of their usual commitments. These members have been sustained and encouraged by a much wider public who expressed interest and support. In local shops, pubs, workplaces and in our neighbourhoods BAN Waste members have regularly been approached by people asking questions about how things are going and expressing support.



Select Committee Witnesses

First Hearings

September 20, 2001

- Sean Pruce: Environment Agency Northeast Region, Area Waste Licensing Team Leader
- Barry Rowland: Newcastle upon Tyne, Cityworks, Director
- Pete Stevens: Save Waste and Prosper (SWAP), Environmental Consultant

September 29, 2001

- Eddie Wrigley: Government Office North East, Sustainability & Environment Team
- Dennis Martin: Co-op
- Gearoid Henry: Newcastle City Council, Recycling Officer and 'Greening the Supply chain' Coordinator
- Liz Morrish: Environ, Waste and Recycling Manager

October 4, 2001

- David Malone: Children's Warehouse, Newcastle, Director.
- Garry King: RENEW North East Ltd., Gateshead
- Ron England: Glass Recycling UK
- John Redmayne: CREATE, Liverpool
- David Shipley & Mac Leadbitter, Community Transport, Newcastle

October 8, 2001

- Chris Whaley & Chris Reynall: Safe-Waste Systems, Northumberland
- Steve Tinling: Newcastle City Council Home Composting Scheme
- Matthew Pumfrey: OrrTec (Organic and Resource Recovery Technology) and Zero Waste International

October 11, 2001

- Pam Jose: North East Recycling Ltd.
- Andy Moore: Avon Friends of the Earth
- Richard Boden: Wyecycle, Kent
- Keith Collins: Ecologika

October 15, 2001

- Dan Grierson: Amec
- Robin Murray: Ecologika
- Richard Crouch: Environment Agency, North East Waste Strategy Manager



October 22, 2001

- Paul Taylor: SITA, North East Director
- Paul Dumpleton: SITA, UK Recycling Manager
- Stephen Wise: SITA, Composting Manager
- John Thistlewood: SITA, Environment and Capital Projects Manager (EfW)
- Joanna McGee: SITA, Recycling Officer
- Robin Crews: SITA, Public Relations
- Michael Robson: Abbey Well, Morpeth

October 29, 2001

- Bishop Ambrose Griffiths: Roman Catholic Bishop of Hexham and Newcastle
- Chris Mills: Newcastle City Council, Community and Housing Directorate, Capital Investment Manager
- Gordon Halliday: North East Region Technical Advisory Board on Waste, Chair & Northumberland County Council, Assistant Director of Environment
- Chris Underwood: University of Northumbria
- William Prescott: Energy from Waste Association

Second Hearings

September 23, 2002

- Cal Boal & Bill Hopwood: BAN Waste Community Events
- Farne Primary School: Pupils and Ian Dixon
- Stocksfield Primary School: Pupils and Alan French
- Ruth Mulgrew: Student Community Action Newcastle
- Paula Whitney: Friends of the Earth
- Richard Hurst: WasteWise, Durham
- Barry Friesen: Solid Waste-Resource Manager, Department of Environment and Labour, Nova Scotia, Canada

October 3, 2002

- Ashley Robb & Pete Stevens: Save Waste and Prosper (SWAP), Environmental Consultants
- Peter Jones: Biffa Waste Services, Director
- Robin Murray: Ecologika

October 9, 2002

- Tom Warburton: ONE North East
- Barry Rowland: Newcastle upon Tyne, Cityworks, Director



October 14, 2002

- Qadeer Khan: Environment Consultant
- John Burns: Environment Agency, Environment Manager Tyne Catchment
- Alan Dalton: Board member of the Environment Agency 1999-2001

Third Hearings

September 8, 2003

- Barry Knight: Government and Commonwealth Advisor
- Peter Thomson: Newcastle City Councillor, Elswick Ward, Labour Party
- Rachel Folley: Newcastle City Council, Social Policy and Strategy Unit, Manager
- Bryan Beverley: Newcastle City Council, Community Support, Manager
- Perry Walker: New Economics Foundation, Development Director of Democracy Programme

September 15, 2003

Elizabeth Simmons: Robert Long Consultants, Environmental Consultant

Alan Watson: Government Advisor and Environmental Consultant

Vyvyan Howard: Toxicologist, Liverpool University

Ben Cave: Seahorse IA, Health Assessment Consultant



BAN Waste Select Committee Members

Chairs

First Hearing

The first set of Select Committee Hearings (2001) were chaired by,
Andrew Bennett, MP

Second Hearings

The second set of Select Committee Hearings (2002) had four chairs.

David Malone, Children's Warehouse Newcastle, Director

Bob Stewart, Newcastle Healthy City Project, Chief Executive

Jim Cousins, Member of Parliament for Newcastle Central

Richard Adams, Member of EU Economic and Social Committee, Director of Contraflow

Third Hearings

The third set of Select Committee Hearings (2003) were chaired by,

Bob Stewart, Newcastle Healthy City Project, Chief Executive

Members

There were a few changes in membership of the Select Committee over the two years of work. The following have served as Select Committee members, most of them for all three sets of hearings.

Val Barton	Byker Resident
Cal Boal	Newcastle Resident
Jo Bourne	West End Resident
John Buckham	Newcastle Cityworks, Head of Energy & Waste Management
Phil Capon	Newcastle Local Authority UNISON
Bill Colwell	Newcastle Council for the Protection of Rural England, East End Resident
Sylvia Conway	Newcastle Women's Institute, Newcastle Resident
Nick Fray	East End Resident
Will Haughan	Newcastle Cityworks, General Manager
Frances Hinton	Newcastle Resident, Acting Chair of Children's Warehouse
Bill Hopwood	Byker Resident
Helen Kelly	Byker Resident
Eric Landau	Kenton Resident
Jenni Madison	Byker Resident
Steve Manchee	Newcastle Resident, Green Activist
Roger Mould	Newcastle Council for Voluntary Services
Harold Norcott	Community Action on Health
Mike Rabley	East End Resident
Carolyn Spencer	St Peter's Basin Resident
Bob Stewart	Newcastle Healthy City Project, Chief Executive
Geoff Stokle	East End resident
June Wolf	Newcastle Resident, Allotment gardener



The core membership of the Select Committee is BAN Waste members, which itself is a partnership of different interests. However, recognising that it took a high level of commitment to attend the many BAN Waste meetings, BAN Waste decided to invite a number of citywide organisations to nominate one of their members to join the Select Committee.

We approached:

- Newcastle Council to nominate a Councillor and a senior officer. Will Haughan, General Manager of Cityworks, became a member of the Select Committee. Unfortunately no Councillor was available.
- Newcastle Tenants Federation was unable to send a representative.
- Newcastle Council for Voluntary Services who nominated Roger Mould
- Community Action on Health who nominated Harold Norcott



BAN Waste and the Select Committee

BAN Waste members have, over nearly four years, worked hard to develop a sustainable waste strategy for Newcastle and to involve the public in debates about waste. Without the effort of these unpaid members none of the investigations, the Select Committee hearings or the resulting reports would have happened. Most of the work - writing letters, articles and reports, attending meetings and festivals to publicise BAN Waste's work, research, etc - has been carried out by the members of BAN Waste. The work of our paid staff has been enormous and crucial to our success, but the driving force of BAN Waste has always been the determination and commitment of its members.

There is a growing interest about public involvement in decision-making and strengthening democracy. BAN Waste has constantly worked to be open and democratic in its work, to engage the wider public in its work and to publicise the issues about waste.

BAN Waste has always aimed to conduct its activities in an open manner. It has welcomed new members to join and to be actively involved in all its work and decisions. The decisions of BAN Waste have been taken by full meetings, open to the public. All its minutes, reports and decisions are publicly available.

BAN Waste has made an effort to be open to the public wider than its membership. For the last few years it has had a stall at both the Green Festival and Ouseburn Festival.

As well as holding the Select Committee hearings, BAN Waste held a series of seven Community Events in different areas across the city. They used innovative means to engage the public with the aim both to inform the public about issues to do with waste and to listen to and record the views of the public. BAN Waste gained modest funding for these events of £4,950 from the New Opportunities Fund and £1,750 from some of the Ward committees in Newcastle. The outcome of these successful events, attended by over 600 adults and children, was the report, *BAN Waste Community Events*.

BAN Waste has worked to stimulate public interest and debate on waste issues and to find ways to involve the public in decisions. One example of BAN Waste's impact was shown at the Local Agenda 21 debates, looking at sustainability, organised in early 2001 by the then Lord Mayor, Peter Thompson. Of this series, the debate on waste was by far the best attended with over 120 people, even though other meetings were on issues that are usually much higher up the political agenda including education, culture and health. This is a striking example of how waste has become a political issue in Newcastle.

BAN Waste Background

In August, 1999 local residents of Byker, in the east end of Newcastle, became aware of proposals by Newcastle City Council to replace the existing incinerator at Byker with a new plant with a capacity to burn 80,000 tonnes of waste and 15,000 tonnes of shredded rubber tyres a year. The old plant had a history of concerns including noise, smell and atmospheric emissions including soot, 'black snow' (partly burnt matter and large quantities of ash) and a range of harmful gases.

A campaign, CAIR (Campaign Against Incinerated Refuse) was established which organised several public meetings in the area with attendances of over 100 people. Newcastle Council agreed to hold a public meeting on January 19, 2000 to discuss these concerns. This meeting, attended by 200 people, raised many concerns about the existing plant and the



proposed new one. The meeting overwhelmingly called for a public inquiry into the proposed new incinerator.

Newcastle Council proposed to establish a Working Group, which became BAN Waste, made up of residents, council officers, councillors and other involved agencies, to investigate these concerns. The Council, at its meeting in February 2000, decided to cooperate with the working group and to ensure the Working Group's recommendations were considered as part of the decision making process about the long-term waste strategy for the city.

Select Committee

The Select Committee is an integral part of BAN Waste's efforts to inform a public debate and raise awareness on waste and propose a sustainable waste strategy for Newcastle.

The Working Group decided that a Select Committee approach was the best way to investigate the issues that arose from the public meeting. This was to be modelled on the House of Commons' Select Committees, although always with the understanding that our hearings would be community led and clearly would have fewer support staff than the House of Commons enjoys.

The hearings would allow a range of experts to give evidence and be cross-examined on a wide-range of issues relating to waste management. The aim of the hearings was much wider than a simple verdict of for or against a new incinerator, which would be the outcome of a citizen's jury. The aim was to develop a sustainable waste strategy for Newcastle.

To carry out the Select Committee and investigate related matters dealing with Newcastle's long-term waste strategy a number of sub-groups were established.

- Alternative Waste Strategies (Chair: Sylvia Conway): researched and produced information on the many ways of handling waste.
- Health and Environmental Impact Assessment (Chair: Helen Kelly): researched and produced a procedure and broad guidelines for a Health and Environmental Impact Assessment on waste strategies.
- Procedures for BAN Waste & Select Committee (Chair: Ralph Barton): produced the procedures for the conduct of BAN Waste and the Select Committee
- Information (Chair: Nick Fray): produced a policy for the presentation and publication of the work of BAN Waste and the Select Committee to the people of Newcastle and the City Council.
- Select Committee Arrangements (Chair: Andrew Grey) helped identify witnesses, agree procedures and prepare questions for the Select Committee hearings.

These put in a great deal of work with many meetings, intensive discussion and wide consultation. All produced reports which were discussed by the full meetings of the Working Group and, after amendment, were all agreed.

The Select Committee hearings had to deal thoroughly with a wide range of witnesses. It was decided that this was best done through daytime hearings. To hold the hearings on an evening would have taken many weeks. But to hold daytime hearings meant that the members had to be compensated for loss of earnings or other expenses. As well as the Select Committee



members' expenses there were likely to be large costs for witnesses' travel and expenses, as well as all the support needed. An agreement was reached with Newcastle Council that it would provide some support in kind to cover meeting rooms, printing, use of equipment etc, but that BAN Waste should raise funds for members' and witnesses' expenses and other costs. After much work, eventually Atlantic Philanthropies, an international charitable Trust which supports issues of rights and democracy, offered £85,000 to carry out the Select Committee, with a further £16,000 from The Millfield House Foundation, a local charitable Trust.

The Select Committee has held three sets of hearings. The first set in autumn 2001, considered the broad issues to do with waste. The resulting report, *Our World, Our Waste, Our Choice*, outlined broad principles for a sustainable waste strategy and proposed moving towards Zero Waste based on high levels of re-use, recycling and composting. It further stated that the remaining mixed waste should be treated to make inert before sending to landfill.

BAN Waste had hoped to hold a second set of hearings in autumn 2002, to consider the details to move from the broad aims of the first report to a specific strategy for Newcastle. This in particular would consider employment, costs, health and environment. However the Health and Environment Assessment commissioned by Newcastle Council took a lot more time to carry out than anticipated. Therefore BAN Waste decided to split the second set of hearings into two parts.

The first of the second set of hearings took place in autumn 2002 and resulted in the report, *A Wealth of Waste*. This outlined the components of a proposed strategy for Newcastle, its costs, how it could be done and the wider benefits. The core aim was to move from waste disposal to resource recovery.

The final two hearings took place in autumn 2003 and this report *Too Good to Waste* is the result of those hearings but includes evidence from all the hearings.



Glossary

Grey Compost: A product from mixed waste, which uses a similar process to making compost. The mixed waste is mechanically sorted prior to the composting process. There are concerns that the resulting materials will be contaminated and will not meet the required standards for compost.

Aerobic: Composting which takes place in or depends on air

Airfill: Following incineration to use the air as a dump for waste in a similar way to landfill uses the land as a dump for waste.

Anaerobic Digestion: Where organic and putrescible materials are broken down in an enclosed container without oxygen. Produces carbon dioxide, methane (a fuel) and solids and liquids that can be used as compost and fertiliser

Best Practicable Environmental Option (BPEO): a systematic and consultative decision-making process which emphasises protecting the environment both short and long term.

Bio-aerosols: Extremely small living organisms or fragments of living things that are in the air. They occur naturally and all air contains bio-aerosols. Some, however, may be harmful to health including some bacteria, fungi spores, viruses and plant seeds. Almost all are killed or made safe when heated in compost systems.

Bring Schemes: places where the public can bring and leave various recyclable materials, with large containers for different coloured glass, paper, etc. often situated in supermarket car parks.

Calorific-value: the amount of heat energy stored in a material. Glass has no calorific value while wood, paper and plastics have high calorific values.

Civic Amenity Sites: Places where the public delivers a variety of waste materials. Usually deals with bulky objects, garden waste and building materials.

Cluster: In Economic policy where related businesses established near each other so that they can work together

Combine Heat and Power (CHP): a system for generating electricity and producing useable heat from burning. CHP is more efficient than the usual means of generating electricity as some of the heat that is often wasted in generation, such as in cooling towers, is used to heat buildings. The heat is largely a bonus as it would otherwise be wasted. The fuel can be oil, gas, coal or waste.

Compost: Organic matter that contains food for plants and improves soil structure so that it holds water and air.

Composting: Natural process that breaks down plant and animal waste into compost

Contaminate: to make something unpure, in waste this is when materials are mixed. If glass or plastics are separate they are useful, but they contaminate organic matter so that it does not produce good compost. Food matter on the other hand contaminates glass or paper for recycling.



DEFRA: Department for Environment, Food and Rural Affairs: The government department dealing with the environment after June 2001

DETR: Department of the Environment, Transport and the Regions: The government department dealing with the environment before June 2001

Dioxins: A group of chemicals containing chlorine that do not occur in nature, but are the unwanted result of high temperature reactions. They accumulate in the fat of fish and animals. Can cause cancer, disrupt growth, damage hormones, reproduction and immune systems. They can cause damage at very low levels. The World Health Organisation recommends that no one should be exposed to more than 1 to 3 picograms per kilogram of body weight per day. This is 1 to 3 parts in 1,000,000,000,000,000s. To give that some comparison, it is like a grain of sugar in the whole of the Baltic Arts Centre!

District Heating: heating of a district from a central heat production point which is distributed through a network of pipes

Dry recyclables: Paper, glass, textiles, cans, plastics and textiles

Embedded Generation: Production of electricity for specific users rather than sale to the national grid

Energy from Waste (EfW): The recovery of the energy in waste, usually by burning the waste to generate heat and/or electricity. Can also include pyrolysis, gasification and anaerobic digestion

Environmental Impact Assessment (EIA): a procedure to identify and quantify all the potential environmental impacts of a proposed policy or policies.

Epidemiological Studies: Studies into health to examine an association between a suspected cause or source of ill-health and the level of ill-health. Usually compare those suspected of being affected with some unaffected population.

European Union (EU): The political group of 15 western European countries including the United Kingdom

Fossil Fuels: Fuels, including oil, gas and coal, that have taken million of years to produce by heat and pressure within the earth

Gasification: Breakdown of waste by heating it in a controlled system but with the addition of oxygen. It mainly produces oil, although there is a residue.

Green Material: garden remains, such as from cutting grass, pruning plants, trimming hedges and plants at the end of the season

Group Heating: A small scale common heating system, has a smaller distribution network than a district heating scheme

Health Impact Assessment (HIA): A process that investigates and outlines the likely impacts on health of a proposed policy or policies.



Heavy Metals: Metals that are dense or heavy including lead, cadmium, mercury and chromium which are harmful to health. Can cause cancer, harm learning ability, damage the nervous system and affect behaviour.

Humus: decomposed matter in the soil, usually black or dark brown, which improves the soil's fertility and ability to hold water

Integrated Pollution Prevention and Control (IPPC): a range of rules and techniques that aim to prevent the production of pollution and waste and if produced minimise the amount. Should consider the range of environmental effects all together.

Kerbside collection: Collection of separated materials from houses, and businesses, usually for recycling or composting.

Landfill: Placing waste in holes in the ground. Sites need a licence from the Environment Agency. The sites have varying levels of health and environmental protection.

Leachate: Water that is polluted with acids, heavy metals and other chemicals from passing through the mixed waste in landfill. This can make water undrinkable, damage health etc.

Materials Recovery Facilities (MRFs): a location where mixed household waste is partially sorted either by hand-picking or machines to remove some of the materials for compost and recycling

Mechanical and Biological Treatment (MBT): A means of treating waste after the removal of most recyclable materials such as glass, paper, aluminium and steel, plastics and organic matter, to make it safe and stable, and therefore suitable to landfill

Methane: a gas that burns. Natural gas that is delivered to people's homes is largely methane. Methane is produced when organic matter decomposes without the presence of air.

Pathogen: any agent that can cause disease such as some germs, viruses, bacteria, etc.

Putrescibles: materials that can be composted.

Pyrolysis: heating waste (or other materials such as wood) in a sealed container, without oxygen, so that the waste breaks down to produce oil, gas, a charcoal like substance and a residue.

Resource Recovery: Resource recovery treats what is called waste as valuable resources, which should not be thrown away but re-used, recycled and composted.

SITA: multinational waste company based in France, claims to be the largest in Europe

Tail-pipe solutions: Tail-pipe solutions, which are added to the end of hazardous or polluting operations, do not tackle the cause; they attempt to prevent the release of harmful substances. They often go wrong.



Ultrafine particles: Particles with a diameter of less than 0.1 micron, one ten thousandth of a millimetre or one millionth of 4 inches. Materials that as larger particles are harmless, at the size of ultrafines can be toxic. Their large surface area to volume makes them highly reactive. They can pass into the lungs into the blood stream and into organs including the brain.

Volatile Organic Compounds: A group of chemical, including benzene and formaldehyde, that easily evaporate and are based on carbon. Are harmful to health and may cause cancer, reproductive problems and mutations.

Waste and Resources Action Programme (WRAP): A government established organisation to overcome market barriers to re-use and recycling.

Waste Electrical and Electronic Equipment (WEEE): A large variety of goods including computers, hi-fi, household appliances, lighting, power tools which are covered by a new EU directive on recycling

Zero Waste: Aim to produce zero waste by concentrating on minimisation through treating the entire lifecycle of products including design, production and end of life. What waste that is produced would be re-used, recycled and composted.



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Our world • Our waste
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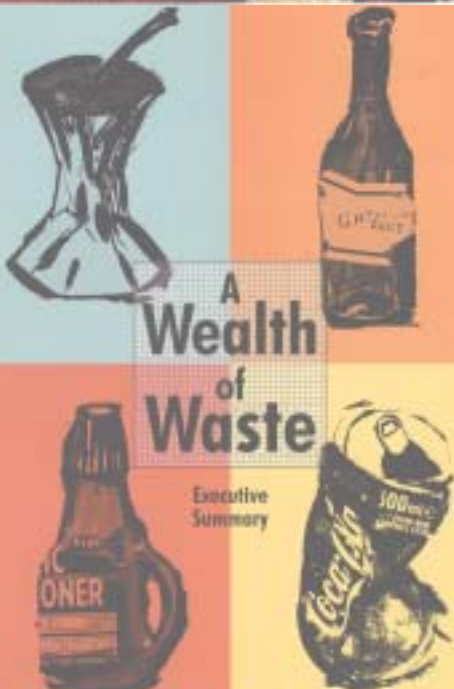
SUMMARY

BAN WASTE SELECT COMMITTEE INTERIM REPORT

**Ban Waste
Community
Events**



Community Report



A report by the BAN Waste Select Committee 2003



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C/o Healthy Cities
14 Great North Road
Newcastle upon Tyne
NE2 4PS

Tel: 0191 232 3357

Fax: 0191 261 3917

Minicom: 0191 261 7993

E-Mail: banwaste@bykerplant.freeserve.co.uk

www.banwaste.org.uk

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