

## **APPENDIX 9 - WASTE MINIMISATION STRATEGY**

### **9.1 INTRODUCTION**

Guidance issued on the preparation of Municipal Waste Management strategies emphasises the need for Authorities to develop strategies for promoting the minimisation of municipal waste production in their areas. 'Wise About Waste' sets four targets relating to waste minimisation. For household waste:

- by 2009/10 waste arisings per household should be no greater than those for Wales in 1997/98
- by 2020 waste arisings per person should be less than 300 kg per annum

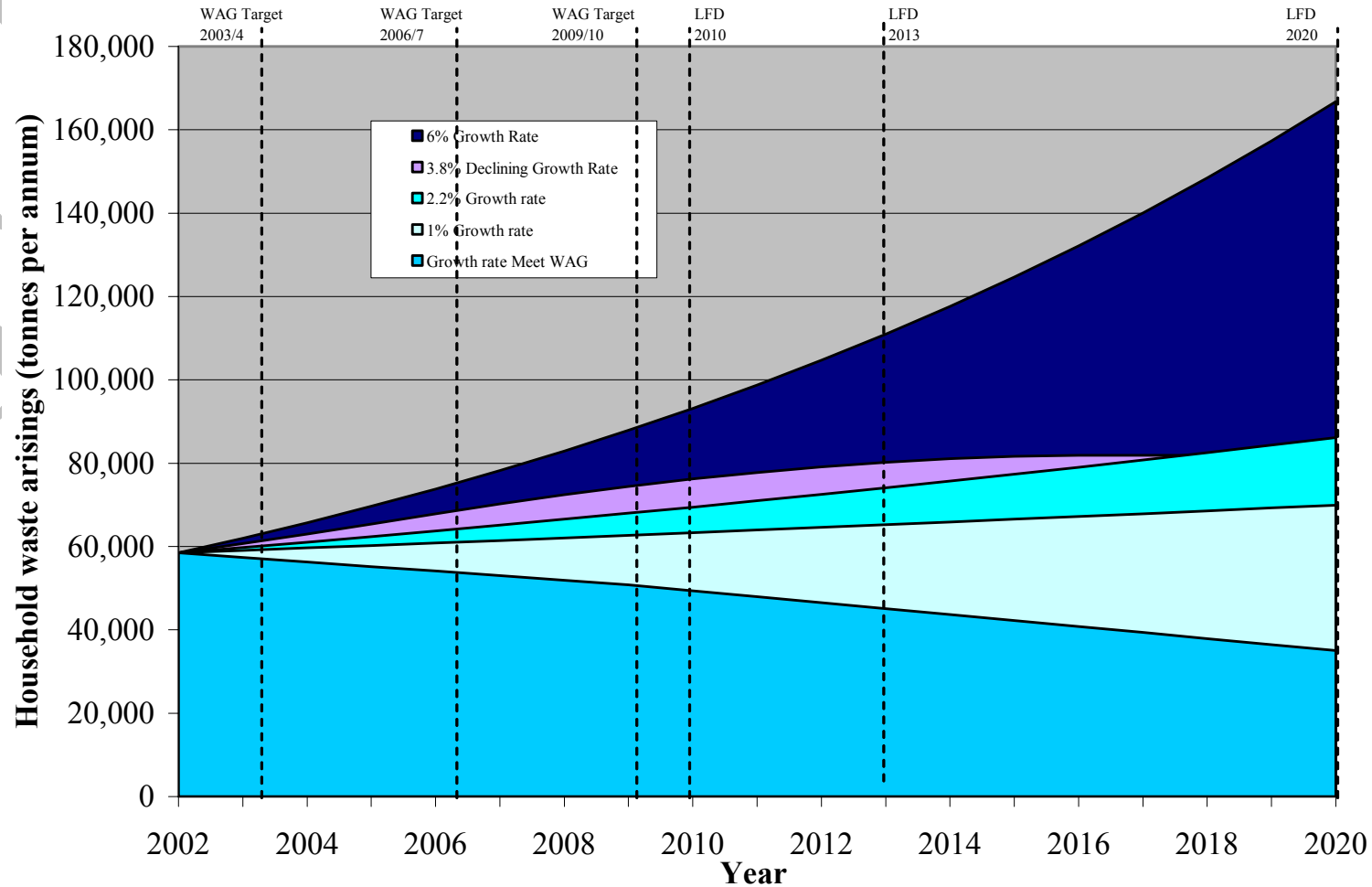
Targets are also set for local authorities to reduce their own waste arisings as follows:

- by 2005, achieve a reduction in waste produced equivalent to at least 5% of the 1998 arisings figure
- by 2010, achieve a reduction in waste produced equivalent to at least 10% of 1998 arisings figure

The Council fully supports the concept of waste minimisation and is keen to promote suitable waste minimisation initiatives. The impact of increased waste minimisation would be beneficial to Gwynedd in the following ways:

- reduced cost of waste collection and disposal
- reduced use of fuel and emission of pollutants in transporting waste
- reduced landfill with its attendant pollution risk
- increased awareness of residents on waste related issues

Achieving the household stabilisation targets poses a considerable challenge. Figure A9.1 shows household waste arisings for a number of waste growth predictions together with the reduction in waste arisings required to meet the waste stabilisation targets. The reduction in waste quantities to achieve the waste stabilisation targets is not considered to be realistically achievable.



**Figure A9.1: Waste Growth projections for household waste showing waste minimisation requirements**

## 9.2 WHO IS INVOLVED?

Waste minimisation refers to the reduction of waste at primary source i.e. avoiding the consumption and use of materials is the preferred option in the hierarchy of waste management options outlined in Waste Strategy 2000.

The overall aim of any waste minimisation initiative whether it is targeted at householders or commercial organisations is:

“To promote the benefits of waste reduction, and to provide advice that results in all stakeholders making conscious efforts to reduce the waste that they produce and as a result leads to a reduction in growth in waste arisings.”

Councils have a major role to play in promoting waste minimisation. Many Councils throughout the UK are already implementing waste minimisation initiatives including:

- Promotion of home composting
- Community composting
- Community Action Groups
- Real Nappy Campaign
- Junk Mail reduction
- Waste Reduction Pack

The general public has a key role to play in waste minimisation. Individuals can make choices about the products they purchase, avoiding those that are overpackaged, buying in bulk and choosing returnable containers or natural packaging. Clearly a well educated public can make more informed choices.

Governments and national bodies also have a major part to play in waste minimisation.

### 9.3.0 WASTE MINIMISATION INITIATIVES

#### 9.3.1 UK Initiatives

Since publication of *Waste Strategy 2000* it has become apparent that considerable additional effort is required to tackle the growth in waste arisings. *Waste not, Want not* recognises that reducing the amount of waste produced by households is a major priority in the overall strategy for tackling the growing waste problem in the UK. To this end five key measures are proposed. Their aim is to bring about a 1% per annum reduction in the rate of growth in household waste quantities from 3% to 2%, equivalent to about 1 million tonnes each year by 2005/06. The measures are described in more detail below but, in summary, consist of:

- an extension of home composting participation;
- greater use of reusable nappies;
- a retailer initiative focused on the top 5 supermarkets;
- increased R&D on waste minimisation through better product design.

<b>Measure</b>	<b>Aim</b>
<p><b>Extension of home composting</b>                      A three year programme to help households start home composting and to improve composting rates for those who already participate.</p> <p>Led by WRAP through a programme of roll-out of composting bins and high quality, practical advice directly to individual households. Based on the successful Master Composter model from the US and Canada.</p>	<p>- to raise householder participation in home composting by 10% in urban areas and 15% in rural areas.</p> <p>- specific target areas would be selected after research. The emphasis will be on rural areas where a realistic target would be to divert 120 kg/household a year. In urban areas a realistic target is to divert 90kg/household a year.</p> <p>- aim is to reduce arisings by a total of 400,000 tonnes over three years;</p> <p>- in each of the following years the aim is to reduce arisings by a further 300,000 tonnes per annum.</p>
<p><b>Re-usable nappies</b>                      Building on successful schemes such as the West Sussex Initiative, promoting reusable nappies and developing nappy washing businesses.</p> <p>The main feature is pump-priming grant aid for SMEs and new start-ups for nappy washing businesses.</p>	<p>- to achieve an average diversion of 225kg/yr per participating household by the third year of the programme.</p> <p>- the scheme would aim to reach 550,000 households equivalent to 24% of households with children aged 0-3 years.</p> <p>- aim is to reduce arisings by a total of 200,000 tonnes over three years.</p>
<p><b>Retailer initiative</b>                      Engaging the top 5 supermarket chains at a high level to secure agreement to reduce own brand packaging and plastic film, introduce refillable bottles and help households reduce food waste, for example through improved labelling of sell by/use by dates.</p> <p>WRAP will draw up the strategy and take the lead in its implementation. WRAP should also work with DEFRA to ensure that existing requirements placed on retailers under the Packaging Regulations are properly taken into account.</p>	<p>- to reduce plastic bags, own-brand packaging, householder food waste, plastic film waste and to promote the use of refillable bottles.</p> <p>- aim is to reduce arisings by a total of 310,000 tonnes over three years.</p> <p>- in each of the following years the aim is to reduce arisings by 250,000 tonnes per year.</p>
<p><b>R&amp;D Innovation Fund</b>                      Establish an innovation fund for waste minimisation including mechanisms for targeting products that impact on the municipal waste stream, particularly biodegradable waste. The fund would be competitive based on key criteria of reduction in tonnage of material and be led and managed by WRAP. The fund should be sufficient to identify and develop five new innovative products that will reduce biodegradable MSW.</p>	<p>- provide funding for the development of high quality innovations.</p>

In addition, *Waste Not Want Not* identifies a further priority, that of “improving the information and advice available to households and industry”. It is recognised that awareness of waste issues is low particularly amongst householders and for this reason two measures are proposed:

- a national programme to raise public awareness of waste issues, building on the ‘Rethink Rubbish’ brand used by NWA; and

- a series of issue-specific programmes to support at local level the related programme activity in waste minimisation and kerbside recycling.

### 9.3.2 UK Waste Minimisation Schemes

A number of waste minimisation initiatives are already occurring at a national and UK level, details of these initiatives are given below..

#### **Information and awareness campaigns**

At school level, e.g., *SWAC* (Schools Waste Action Club), *WESP* (Waste Education Support Programme) and *Eco-Schools* and at general public level, e.g., “*Are you doing your bit?*” Campaign literature is available for use by organisations.

The school programmes are delivered via the curriculum and teaching resources are provided. Can be run in a competitive way (awards etc). National campaigns have celebrity endorsement and multi-media delivery.

The campaigns and initiatives raise awareness of waste issues and associated environmental impacts, encourages waste reduction and recycling in schools whilst promoting the citizenship ethos amongst children and the wider community.

#### **Community composting**

Community composting is the pooling of organic wastes to produce compost larger scales than is possible at home, for example composting in schools and involving people with special needs.

The *Community Composting Network* is an umbrella organisation that represents, advises and supports community composting organisations. The CCN comprises over 125 members that include community composting projects and local authorities.

#### **Community recycling**

Unwanted usable items are donated to individual groups for storage and sorting. The materials are then sold or redistributed to low income members of the community or charities and voluntary community groups. Examples are *Re>Paint*, the *Furniture Recycling Network*, *Scrapstores* etc.

The *Community Recycling Network* is a not-for-profit umbrella organisation that supports over 300 community based schemes involved in waste reduction, reuse and recycling. CRN is also compiling databases (Measure your Treasure) covering quantities and types of wastes. Data is entered by members onto the CRN website.

#### **Sustainable shopping initiatives**

Encouragement to:

- move away from buying goods to buying services (e.g. disposable nappies and nappy washing services)
- reduce packaging by buying refills and loose fruit and vegetables.

More specifically, the *Buy Recycled* campaign has a database of recycled materials which is compiled and maintained by Waste Watch.

The *Real Nappy Association* provides information and advice relating to nappies and adult incontinence pads to local authorities, the media, health professionals and individuals. They promote Real Nappy Week (with the Women’s Environmental Network) and similar projects to local authorities which aim to reduce the number of disposable nappies entering the waste stream. Real Nappy Week in 2002 was supported by 1/3 of UK local authorities and some county councils and regional authorities. There are also some local *Real Nappy Networks* groups.

<p><b>Cancelling junk mail</b>                  Local authorities can provide householders with information on achieving a reduction in junk mail through the Waste Minimisation Act 1998. Householders register their address with the <i>Mail Preference Service</i>.</p> <p>Also stickers could be provided for front doors requesting no junk mail or free newspapers. These initiatives could be delivered with other council communications, for example, Council Tax bills</p>
<p><b>Mobile phone and ink cartridge recycling</b>                  Various schemes across the UK managed by different companies and charities. The items are removed from the waste stream, reconditioned/refilled and resold.</p>
<p><b>Method of refuse collection</b>                  Size of containers and frequency of collections. PAYT schemes (Pay As You Throw (per volume of waste)) have shown to be effective in parts of Europe and North America but would require enabling legislation to be introduced in the UK.</p>

### 9.3.3 Costs and Benefits of Waste Minimisation schemes

The table below presents a quantification of the implementation costs and possible waste minimisation benefits achievable from the initiatives identified above:

Initiative	Economic Cost	Waste Minimisation Benefit
Buy-Recycled campaigns	Medium costs (dependant on campaign) £25k - £40k <sup>9</sup>	No reduction in waste but stimulates recyclables market.
Real Nappy Campaign	High	Saving ~ 2,000 per household per year <sup>10</sup> .
Green purchasing/ Sustainable shopping	Medium costs (dependant on campaign) £25k - £40k <sup>11</sup>	Avoidance of disposable containers can minimise household waste by 10-20%. <sup>12</sup>
SWAC /WESP	£15,000 per LEA (exclusive of staff costs)	Improved school recycling and influence of the wider community by pupils. School waste has been typically reduced by 30%. Waste Warriors recovered 285 tonnes of paper in 2000 from 77 schools <sup>13</sup> .
Stop junk mail	Low cost (£5k – 20k) <sup>14</sup>	Estimated that junk mail comprises 2.5% of household waste (max) <sup>15</sup> .
Develop a campaign and identity	Medium cost. Identity - 12k-22k depending on how identity is developed. Website - £10k – 20k depending on website availability. Estimated at 45p per household per year <sup>16</sup> .	

<sup>9</sup> North Yorkshire Waste Management Strategy, 2001, AEA Technology.

<sup>10</sup> West Sussex diverted 3.6 million nappies/year.

<sup>11</sup> North Yorkshire Waste Management Strategy, 2001, AEA Technology.

<sup>12</sup> Worcestershire County Council.

<sup>13</sup> <http://www.wiltshire-web.co.uk/wildlife/>

<sup>14</sup> North Yorkshire Waste Management Strategy, 2001, AEA Technology.

<sup>15</sup> North Yorkshire Waste Management Strategy, 2001, AEA Technology.

<sup>16</sup> Waste Not Want Not, Strategy Unit, 2002.

Initiative	Economic Cost	Waste Minimisation Benefit
Home composting	Low cost (£4k assuming no subsidy of home composters) <sup>17</sup>	4.5 kg/hh/week (9kg in summer and 2.5kg in winter) <sup>18</sup> Assumed that 30% of current householders compost and maximum sustainable participation following promotion is 55% <sup>19</sup>
Carrier bag recycling/Reuse		1.35kg waste savings per household/year <sup>20</sup>
Plastic Bag Tax	Has raised 3.5 million Euros for environmental improvement schemes	Within 4 months carrier bag usage had fallen by 90% <sup>21</sup> .
Furniture reuse schemes	Example: £500k to set up a sub regional scheme <sup>22</sup>	0.5% of MSW (maximum) <sup>23</sup> .
Community Re>paint		In 1999 560litres of paint per scheme was redistributed which is approximately equal to 500-1000 kg per annum per scheme.
Scrap Stores	£150k-200k	
Mobile phone recycling	Low	133.5 tonnes regionally (0.005% of total MSW) <sup>24</sup>

#### 9.4 WASTE MINIMISATION PLAN FOR GWYNEDD

Set out below are a range of waste minimisation initiatives that could be implemented for municipal and commercial waste.

<p><b>Regional Initiatives</b></p> <ul style="list-style-type: none"> <li>- Develop a Regional Identity / campaign that all Councils can buy into</li> <li>- Develop a Regional 'Buy – Recycled' campaign</li> <li>- Develop a Regional 'Nappy – Reuse' scheme</li> </ul>
<p><b>Internal Council Initiatives</b></p> <ul style="list-style-type: none"> <li>- Carry out a waste audit of all council operations in order to develop an internal waste minimisation plan.</li> <li>- Encourage schools to take part in the EcoSchools/Green Schools scheme</li> <li>- Develop a green procurement scheme</li> <li>- Improve recycling provision e.g. office-paper, cans and batteries</li> </ul>

<sup>17</sup> North Yorkshire Waste Management Strategy, 2001, AEA Technology.

<sup>18</sup> HDRA

<sup>19</sup> Newspaper Industry Environmental Technology Initiative -[http://www.newspaper.paisley.ac.uk/chemistry/home/environmental/projects/newspaper/nieti\\_uhcb.htm](http://www.newspaper.paisley.ac.uk/chemistry/home/environmental/projects/newspaper/nieti_uhcb.htm)

<sup>20</sup> Average of 300 carrier bags per household/year. 50% reuse/recycling = 150 per hh per year. Average bag = 9g indicating

<sup>17</sup> <http://www.sustainable-development.gov.uk/news2002/04.htm>

<sup>22</sup> Sustainable Management of Discarded Furniture and Household Electrical and Electronic Equipment in the Former Avon Area, SLR, 2002.

<sup>23</sup> Above report indicates a maximum of 73% of bulky household arisings could theoretically be recovered. Bulky collections represent 0.6% of total MSW arisings

<sup>24</sup> 45 million mobile phones in UK. 75% of population have more than 1 phone. On average, phones are replaced every 18 months, which is equal to 15 million phones being replaced annually. 15 million phones = 1500 tonnes of waste.

<ul style="list-style-type: none"><li>- Promote waste minimisation on the Council's web site</li><li>- Develop an educational programme for waste minimisation</li></ul>
<p>Commercial Initiatives</p> <ul style="list-style-type: none"><li>- Develop a Green Business Scheme for local businesses</li><li>- Develop a waste exchange for trading of waste materials</li><li>- Encourage commercial customers to carry out waste audits</li></ul>
<p>Householder Initiatives</p> <ul style="list-style-type: none"><li>- Provide subsidised home composters to householders</li><li>- Promote awareness of reducing junk mail</li><li>- Implement reuse and repair schemes for bulky waste and white goods</li><li>- Encourage 'Bags for Life' schemes</li><li>- Promote awareness of existing 'Real Nappy' scheme</li><li>- Promote furniture re-use scheme</li></ul>

<sup>2</sup> ISO 14040 – LCA: Principles and Framework. Also refer to ISO 14041 – LCA: Inventory Assessment, ISO 14042 – LCA: Impact Assessment, and, 14043 – LCA: Interpretation.

<sup>3</sup> European Directive 94/62/EC on Packaging and Packaging Waste – OJ No L 365. 31/12/94.

<sup>4</sup> Wise About Waste June 2002 (Annex 16) and TAN 21 November 2001 Annex H