



National Assembly for Wales  
Cynulliad Cenedlaethol Cymru

# Fortnightly Collection of Residual Domestic Waste

## Abstract

This research paper provides information about fortnightly collection of residual domestic waste – that waste left over after recyclable and compostable material has been removed.

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# Fortnightly Collection of Residual Domestic Waste

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## **Executive Summary**

In 2005/06, 75.5 per cent of municipal waste in Wales was sent to landfill, 14.7 per cent was reused or recycled, 8.5 per cent was composted or biologically treated, and 0.6 per cent was used to recover heat and power. Welsh Assembly Government targets, and legislation – particularly the Landfill Directive – are directed towards attempting to reduce Wales' reliance on landfill as a waste management option.

Residual domestic waste has traditionally been collected on a weekly basis throughout the UK, although many local authorities have moved to fortnightly collections over recent years. In Wales, the local authorities of Conwy, Denbighshire, Newport, Torfaen, Wrexham and Ynys Môn operate fortnightly collections of residual domestic waste for most or all of their residential dwellings.

Some evidence indicates that fortnightly collections of residual domestic waste can increase both citizen participation in recycling, and recycling yields. All 19 councils in England that achieved more than 40.5 per cent recycling and composting in 2005/06 run fortnightly collections of residual domestic waste. No evidence has been found that moving from weekly to fortnightly waste collections has an adverse effect on health.



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# Fortnightly Collection of Residual Domestic Waste<sup>1</sup>

## 1 Background

Waste is created in all economic sectors and often indicates the inefficient use of natural materials<sup>2</sup>, loss of materials and energy, and unsustainable consumption patterns<sup>3</sup>. The amount of waste produced is regarded by the European Environment Agency as an indicator of how efficient we are as a society<sup>4</sup>.

In 2005/06, 75.5 per cent of municipal waste in Wales was sent to landfill, 14.7 per cent was reused or recycled, 8.5 per cent was composted or biologically treated, and 0.6 per cent was used to recover heat and power<sup>5</sup>.

Residual domestic waste has traditionally been collected on a weekly basis throughout the UK. However, the status of domestic waste collection is changing: more than 90 per cent of councils in Northern Ireland, and more than half of Scottish councils are now operating fortnightly collections of residual domestic waste<sup>6</sup>.

A guidance document produced by the Waste and Resources Action Programme (WRAP)<sup>7</sup> notes that fortnightly collection of residual domestic waste is not necessarily appropriate for all authorities, but advice is provided on implementing an effective scheme for those authorities that are considering a move to fortnightly collections. The following five 'clear messages' are highlighted from the experience of authorities having made the transition:

- Consultation with both elected members and residents is crucial
- Fortnightly collections must be accompanied by a high quality recycling service
- Additional resources will be required to help support residents who may be initially confused by the change in service
- The scheme design should address common public concerns, via both equipment and information
- Weekly collections of food waste can be useful for both reducing public concern and diverting biodegradable waste from landfill

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<sup>1</sup> Residual domestic waste is waste presented by households to waste collection authorities as 'rubbish', i.e. that part remaining after any recyclable and compostable components have been removed by householders (where they choose to do so).

<sup>2</sup> Phillips PS et al, 2001. An analysis of UK waste minimisation clubs: key requirements for future cost effective developments, *Waste Management*, **21**, pp. 389-404.

<sup>3</sup> European Environment Agency, 2005. *The European Environment: State and Outlook 2005*, Environment Report No. 1/2005. Copenhagen, Denmark; 2005.

<sup>4</sup> *ibid*

<sup>5</sup> Local Government Data Unit – Wales, *Dataset: Waste Management*, <http://dissemination.dataunitwales.gov.uk/webview/index.jsp>

<sup>6</sup> Waste and Resources Action Programme, *Final report: Alternate weekly collections guidance*, July 2007, [http://www.wrap.org.uk/downloads/AWC\\_Revised\\_Final\\_Report\\_-\\_130707.2db52b9c.PDF](http://www.wrap.org.uk/downloads/AWC_Revised_Final_Report_-_130707.2db52b9c.PDF)

<sup>7</sup> *ibid*

## 1.1 The waste collection system

Fortnightly collection of residual domestic waste revolves around collecting residual waste fortnightly, and recycle and/or compost either in the alternate week or every week. Features common to all such systems are that residents are provided with a weekly collection of some portion of the waste, and they are requested to separate some portions (usually the recyclable and/or compostable component) from the residual waste.

The basic premise of fortnightly collections of residual waste is that the reduced collection frequency is an incentive for householders to separate recyclable material into the recycling collection<sup>8</sup>. The lower cost of the residual waste service releases financial, equipment and human resources to provide better recycling services, which should, over the long term, lead to reduced waste management costs. It can also prompt an overall reduction in waste arisings at kerbside as a result of residents changing their habits to manage waste by other means (e.g. home composting), or by changing shopping habits to reduce food and packaging waste<sup>9</sup>.

European, UK and Welsh legislation requires local authorities in Wales to reduce the amount of waste sent to landfill and increase the amount recycled and composted. The main legislative and policy drivers are detailed in the following sections.

## 1.2 The Landfill Directive

The Landfill Directive<sup>10</sup> requires the UK to limit the amount of biodegradable municipal waste (BMW) landfilled:

- By 2010 to no more than 75% of the BMW produced in 1995
- By 2013 to no more than 50% of the BMW produced in 1995
- By 2020 to no more than 35% of the BMW produced in 1995

These target dates are the result of a maximum four-year derogation, permissible for those Member States that landfilled more than 80 per cent of all municipal waste in 1995<sup>11</sup>.

In Wales, the proportion of total municipal waste deemed to be biodegradable is 61 per cent<sup>12</sup>. In Scotland the proportion is 60 per cent<sup>13</sup>, in England, the proportion is 68 per cent<sup>14</sup>, and in Northern Ireland the proportion is 71 per cent<sup>15</sup>. Since the defined proportion is now fixed in each

<sup>8</sup> Waste and Resources Action Programme, *Final report: Alternate weekly collections guidance*, July 2007, [http://www.wrap.org.uk/downloads/AWC\\_Revised\\_Final\\_Report\\_-\\_130707.2db52b9c.PDF](http://www.wrap.org.uk/downloads/AWC_Revised_Final_Report_-_130707.2db52b9c.PDF)

<sup>9</sup> *ibid*

<sup>10</sup> European Commission, *Council Directive 1999/31/EC of 26 April 1999 on the Landfill of Waste*, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0031:EN:HTML>

<sup>11</sup> *ibid*

<sup>12</sup> OPSI, *The Landfill Allowances Scheme (Wales) Regulations 2004*, SI 2004/1490 (W.155), <http://www.opsi.gov.uk/legislation/wales/wsi2004/20041490e.htm>

<sup>13</sup> Scottish Executive, *Indicators of Sustainable Development for Scotland: Progress Report 2004*, <http://www.scotland.gov.uk/Publications/2004/02/18983/33610>

<sup>14</sup> OPSI, *The Landfill Allowances and Trading Scheme (England) Regulations 2004*, <http://www.opsi.gov.uk/SI/si2004/20043212.htm>

<sup>15</sup> OPSI, *The Landfill Allowances Scheme (Northern Ireland) Regulations 2004*, <http://www.opsi.gov.uk/sr/sr2004/20040416.htm>

country, regardless of the actual biodegradable portion of municipal waste, Wales' target should be easier to achieve than those for England and Northern Ireland.

### 1.3 The Landfill Allowances Scheme (Wales) Regulations 2004

The *Waste and Emissions Trading Act 2003*<sup>16</sup> is intended to fulfil the obligations of the Landfill Directive in reducing the amount of waste sent to landfill in the UK. Section 4 of the Act obliges the National Assembly for Wales<sup>17</sup> to allocate allowances to waste disposal authorities, and *The Landfill Allowances Scheme (Wales) Regulations 2004*<sup>18</sup> make detailed provision for the monitoring and enforcement of the landfill allowances allocated to waste disposal authorities under the Act. The Regulations set penalties of £200 per tonne of biodegradable waste landfilled in excess of allowances stipulated by the Welsh Assembly Government<sup>19</sup>.

Analysis conducted by Members' Research Service<sup>20</sup> suggests that Welsh local authorities are unlikely to meet these targets overall on current trends, and the total fine projected for Welsh authorities would be nearly £10 million in 2010, rising to nearly £32 million in 2013. This £200 per tonne fine will be in addition to any infraction penalty imposed if Wales' waste management activities cause it to contribute to a UK failure to meet the Landfill Directive's requirements. Thus, failing authorities will face a fine of £200 per tonne from the Welsh Assembly Government, plus a proportion of the infraction penalty if Wales' waste management activities cause the UK to exceed its landfill allowance. The WLGA considers that these costs are likely to be far in excess of the £200 per tonne penalty<sup>21</sup>.

### 1.4 The National Waste Strategy for Wales

Under the National Waste Strategy for Wales<sup>22</sup>, each local authority in Wales should achieve the following recycling and composting targets:

- By 2003/04, at least 15 per cent recycling and composting of municipal waste, with a minimum of 5 per cent composting and 5 per cent recycling
- By 2006/07, at least 25 per cent recycling and composting of municipal waste, with a minimum of 10 per cent composting and 10 per cent recycling
- By 2009/10, at least 40 per cent recycling and composting of municipal waste, with a minimum of 15 per cent composting and 15 per cent recycling

<sup>16</sup> OPSI, *Waste and Emissions Trading Act 2003*,

<http://www.legislation.gov.uk/acts/acts2003/20030033.htm>

<sup>17</sup> These responsibilities transferred from the National Assembly for Wales to Welsh Ministers in May 2007

<sup>18</sup> OPSI, *The Landfill Allowances Scheme (Wales) Regulations 2004*, SI 2004/1490 (W.155),

<http://www.opsi.gov.uk/legislation/wales/wsi2004/20041490e.htm>

<sup>19</sup> Minister for Environment, Planning and Countryside, *The Landfill Allowance Scheme: Allocation of Allowances*, 14 August 2004.

[http://www.environment-agency.gov.uk/commondata/105385/landfillallowitr\\_e\\_868975.pdf](http://www.environment-agency.gov.uk/commondata/105385/landfillallowitr_e_868975.pdf)

<sup>20</sup> National Assembly for Wales, *Waste Management in Wales*, March 2007,

<http://www.cynulliadcymru.org/07-052.pdf>

<sup>21</sup> Welsh Local Government Association, *WLGA Co-ordinating Committee: Item 7 Waste Management*, 31 March 2006,

<http://www.wlga.gov.uk/uploads/publications/1174.pdf>

<sup>22</sup> Welsh Assembly Government, June 2002, *Wise About Waste: The National Waste Strategy for Wales*, Part 1,

[http://new.wales.gov.uk/topics/environmentcountryside/epq/waste\\_recycling/wise\\_about\\_waste\\_strategy?lang=en](http://new.wales.gov.uk/topics/environmentcountryside/epq/waste_recycling/wise_about_waste_strategy?lang=en)

Analysis conducted by Members' Research Service<sup>23</sup> suggests that 11 of the 22 Welsh local authorities are unlikely to meet the 2009/10 targets on current trends.

The National Waste Strategy is currently undergoing a review.

### 1.5 The Household Waste Recycling Act 2003

The *Household Waste Recycling Act 2003*<sup>24</sup> permits the National Assembly for Wales<sup>25</sup> to regulate for local authorities to collect at least two types of recyclable waste together or individually separated from the rest of the household waste<sup>26</sup>. No such Regulation has been implemented in Wales, although "the percentage of households served by a kerbside collection of two or more recyclables" is a core set indicator for Welsh local authorities. In 2005/06, five authorities had coverage of less than 50 per cent of households, while eleven had coverage of more than 90 per cent of households<sup>27</sup>.

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<sup>23</sup> National Assembly for Wales, *Waste Management in Wales*, March 2007,  
<http://www.cynulliadcymru.org/07-052.pdf>

<sup>24</sup> OPSI, *Household Waste Recycling Act 2003*,  
<http://www.opsi.gov.uk/ACTS/acts2003/20030029.htm>

<sup>25</sup> These responsibilities transferred from the National Assembly for Wales to Welsh Ministers in May 2007

<sup>26</sup> Any such requirement may only apply from 31 December 2010 at the earliest

<sup>27</sup> Local Government Data Unit – Wales, *Waste management – core set indicators*,  
<http://dissemination.dataunitwales.gov.uk/webview/index.jsp>

## 2 Issues to Consider

### 2.1 Evidence for increased recycling

Many councils that have adopted a fortnightly collection of residual domestic waste claim substantial consequent increases in recycling and by implication landfill diversion<sup>28</sup>. The adoption of alternate weekly collection systems in around 140 local authority areas in England has been accompanied in most of them by rapid and substantial increases in local recycling<sup>29</sup>, and all 19 councils in England that achieved more than 40.5 per cent recycling and composting in 2005/06 run fortnightly collections of residual domestic waste<sup>30</sup>. According to the Local Government Association, English councils with fortnightly collection of residual domestic waste recycle 30 per cent of municipal waste, compared with 23 per cent in councils that do not<sup>31</sup>. Whether there is a direct causal link between adoption of fortnightly collections and increasing recycling is, however, unproven, although 90 per cent of those surveyed in one study thought that fortnightly collections of residual domestic waste were beneficial to the environment<sup>32</sup>.

WRAP suggests that the amount of residual domestic waste collected on a fortnightly basis is about 50 per cent greater than that collected every week<sup>33</sup>, which equates to a 25 per cent reduction of weight collected on the fortnightly cycle.

There are also indications that fortnightly collections of residual domestic waste increase participation in recycling<sup>34</sup>.

### 2.2 Possible health impacts of less frequent residual waste collections

A literature review conducted in 2007 for DEFRA examined several different aspects of health and fortnightly collections of residual waste<sup>35</sup>. Overall, no evidence was found that moving from weekly to fortnightly waste collections has any adverse effect on health. The following conclusions were reached:

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<sup>28</sup> House of Commons Communities and Local Government Committee, *Refuse collection*, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmcomloc/536/53602.htm>

<sup>29</sup> *ibid*

<sup>30</sup> Cranfield University and Enviro Consulting, *Health impact assessment of alternate week waste collections of biodegradable waste*, February 2007, <http://www.enviros.com/PDF/Defra%20HIA%20Alternate%20Week%20Collections.pdf>

<sup>31</sup> Local Government Association Press Release, *Recycling rates rocket by 30% when councils switch to alternate weekly collection*, 25 April 2007, <http://www.lga.gov.uk/PressRelease.asp?Section=0&id=5X7E03-A7842149>

<sup>32</sup> Cranfield University and Enviro Consulting, *Health impact assessment of alternate week waste collections of biodegradable waste*, February 2007, <http://www.enviros.com/PDF/Defra%20HIA%20Alternate%20Week%20Collections.pdf>

<sup>33</sup> Waste and Resources Action Programme, *Final report: Alternate weekly collections guidance*, [http://www.wrap.org.uk/downloads/AWC\\_Revised\\_Final\\_Report\\_-\\_130707.010d18c2.PDF](http://www.wrap.org.uk/downloads/AWC_Revised_Final_Report_-_130707.010d18c2.PDF)

<sup>34</sup> *ibid*

<sup>35</sup> Cranfield University and Enviro Consulting, *Health impact assessment of alternate week waste collections of biodegradable waste*, February 2007, <http://www.enviros.com/PDF/Defra%20HIA%20Alternate%20Week%20Collections.pdf>

- There is no scientific evidence that links waste management-related odours to health impacts. Odours are most intense during the first two weeks of degradation of biodegradable waste (particularly food waste). Waste stored for two weeks may become more odorous than waste stored for a single week.
- There is insufficient evidence to determine whether alternate week waste collection is favourable or non-favourable regarding rodent infestation. Other factors unrelated to the frequency of residual waste collection are likely to outweigh any effects of such a system. Rat infestations are not likely to result from household waste, if the waste is stored in a way which is not attractive to rodents, such as in rigid containers. Uncontrolled litter and waste, however, is attractive to rats.
- Waste stored for more than one week is likely to generate more flies than waste stored for less than one week. Temperature is a key factor in the life cycle of the fly: keeping waste containers tightly closed and at colder temperatures will reduce the number of flies gaining access to the waste and will slow down their breeding cycle.
- There is no evidence that alternate weekly waste collection contributes to releases of bioaerosols<sup>36</sup> at levels sufficient to compromise health. Bioaerosols occur naturally at levels similar to those associated with waste management activities.

### 2.3 Complaints to local authorities

The 2007 literature review for DEFRA<sup>37</sup> indicated that local authorities receive complaints about odours, vermin and insects from both weekly and fortnightly collection schemes. For authorities running a fortnightly collection regime, no significant difference was reported in the number of complaints before and after the scheme was implemented. The local authorities found that providing advice to residents on handling their waste dealt with the reported amenity problems. None of the local authorities in the study reported any health impacts that could be directly related to their collection scheme. Waste operatives considered resident complaints to be related to insufficient hygiene practices by residents.

### 2.4 Public perception

While many people support fortnightly collections of residual domestic waste, where these schemes are proposed there is often public opposition. Such opposition tends to be associated with concern about the perceived health risks, odour problems, and space constraints in smaller properties. In April 2007, the Daily Mail instigated a campaign to 'save weekly rubbish collections'<sup>38</sup>, and the paper credited its campaign with having influenced the outcome of some local council elections in England<sup>39</sup>.

<sup>36</sup> Bioaerosols are airborne particles – solid or liquid – that are living, contain living organisms or were released from living organisms  
<sup>37</sup> Cranfield University and Enviro Consulting, *Health impact assessment of alternate week waste collections of biodegradable waste*, February 2007,

<http://www.enviros.com/PDF/Defra%20HIA%20Alternate%20Week%20Collections.pdf>

<sup>38</sup> Daily Mail, *Join the Mail's campaign to save weekly rubbish collections*,

[http://www.dailymail.co.uk/pages/live/articles/news/news.html?in\\_article\\_id=450226&in\\_page\\_id=1770](http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=450226&in_page_id=1770)

<sup>39</sup> Daily Mail, *Councils are dumped in bin backlash*, 5 May 2007,

[http://www.dailymail.co.uk/pages/live/articles/news/news.html?in\\_article\\_id=452836&in\\_page\\_id=1770](http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=452836&in_page_id=1770)

## 2.5 The situation in Wales

A summary of the domestic waste collections operated by Welsh local authorities is shown in Table 1. Most local authorities in Wales have additional recycling and waste collection facilities in addition to those listed.

Table 1 Domestic waste collections in Wales

Local authority	Residual waste collection		Recyclable waste collection	
	Weekly	Fortnightly	Weekly	Fortnightly
Blaenau Gwent	√		Plastic bottles, glass, paper, cans and textiles	
Bridgend	√			Glass, paper and textiles
Caerffili	√		One third of properties serviced weekly since November 2006	Plastic bottles, cans, glass, textiles, paper, and engine oil and filters
Cardiff	√		Alternating weekly collection of metal, glass, plastic and paper, then garden waste	
Carmarthenshire	√		Glass, cans, paper, plastic, and cardboard	
Ceredigion	√		In southern Ceredigion: paper, cardboard, plastic and cans	In northern Ceredigion: paper, cardboard, plastic and cans
Conwy		√		Glass, metal, paper and garden waste
Denbighshire	Half of all households fortnightly by May 2008			Half of all households: cans, glass, paper and textiles
Flintshire	√			Plastic bottles, glass, cans, paper, and garden waste
Gwynedd	√			Paper, glass, textiles, cans and batteries
Merthyr Tudful	√			Glass, paper, plastic, metal and textiles
Monmouthshire	√		Paper, glass, textiles, cans, garden waste and cardboard	
Neath Port Talbot	√		Glass, cans, paper, plastic bottles and garden waste in some areas	
Newport		√	Paper, textiles, mobile phones, toner cartridges, metal, glass and plastic bottles	Cardboard and garden waste
Pembrokeshire	√		Paper, plastic bottles,	



			cans and cardboard in some areas. Green garden waste is landfilled.	
Powys	√		Plastic bottles, cans, plastic bags and film, cardboard, paper and textiles	
Rhondda Cynon Taf	√		Paper, glass, plastic, metal and garden waste	
Swansea	√		Glass, paper and cans	Compostable garden and kitchen waste in some areas
Torfaen	Some areas weekly but all fortnightly by 2009		New regime - cans, glass, paper, textiles and plastic bottles	New regime - green garden waste and kitchen waste
Vale of Glamorgan	√		Alternating weekly collection of glass, paper and metal, then cardboard, plastic and garden waste	
Wrexham		All by April 2008	Plastic bottles, cans, glass, paper	Garden waste
Ynys Môn		√	Paper, cardboard, textiles, spectacles, plastic bottles, glass, cans, cartridges, batteries and mobile phones	Garden waste

Source: Members' Research Service survey of each local authority; information valid as at end of September 2007

The introduction of fortnightly collections is "fully supported" by the Welsh Local Government Association<sup>40</sup>, although some local authorities have decided that fortnightly collections are inappropriate for their areas<sup>41</sup>.

<sup>40</sup> Welsh Local Government Association, *The 6 Rs in waste management: WLGA evidence to EPC Committee*, 25 January 2007, <http://www.assemblywales.org/5130e5e3e011007dfddf4da580e96346.pdf>

<sup>41</sup> Rhondda Cynon Taf, *Refuse collections*, <http://www.rhondda-cynon-taff.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=cy&textonly=on&dDocName=014158>