

ENVIRONMENT AND SUSTAINABILITY COMMITTEE

INQUIRY ON RECYCLING IN WALES

THE WELSH GOVERNMENT'S EVIDENCE

Introduction

The Welsh Government is grateful for the opportunity to provide written evidence to the Committee and to be able to respond to some of the points made by respondents in their evidence.

We will first set out the context of Welsh Government policy regarding recycling before considering the answers to the specific questions. The Welsh Government's policy on recycling aligns with the intention of Welsh Ministers that sustainable development be a cross cutting theme at the heart of policy – to support its statutory duty to promote sustainable development under the Government of Wales Act. The Programme for Government sets the aim for Wales 'To become a "one planet nation", putting sustainable development at the heart of government.' The Welsh Government is using ecological foot-printing as a way to measure if it is meeting its sustainable development commitments, i.e. its One Planet goal. A priority of recycling in Wales is to contribute to climate change mitigation and the reduction of Wales' ecological footprint in terms of reducing overall primary resource consumption. At the same time, recycling is an important element of the drive towards achieving a circular economy for Wales, whereby valuable, and increasingly scarce, materials are kept circulating within the Welsh economy rather than being lost through incineration or landfill. The Ellen MacArthur Foundation has identified that achieving a circular economy could result in annual savings at between £0.9 billion and £1.9 billion to the Welsh economy.

If everyone in the world had the same pattern of consumption as the average Welsh person then three planets worth of resources would be required to meet their needs. Welsh Ministers have set Wales on a path from three to one planet living (thus 'living within our environmental limits'). As laid out in *Towards Zero Waste* (2010), this includes reducing the consumption of materials, minimising the production of waste and, where it occurs, ensuring that it is reused and recycled. In terms of recycling, *Towards Zero Waste* stipulates that, by the year 2025, the recycling rate across all economic sectors of the Welsh economy must be 70%. Wales is working towards 100% recycling by 2050. *Towards Zero Waste* requires that this recycling should all be 'closed loop' or 'up-cycling', thus contributing towards the achievement of a circular economy. 'Closed loop' is recycling where materials are being used continually for the same purpose, for example a glass bottle recycled into a new glass product rather than downgraded (for example being used as aggregate). 'Up-cycling' is recycling that adds value (e.g. enhances greenhouse gas benefits – as in using waste newspapers to make insulation products).

Welsh Government policy on recycling therefore starts with the objective of achieving the greatest reduction possible in ecological footprint in order to help achieve the one planet resource use goal and deliver a circular economy in Wales. Welsh Government policies in this regard are entirely consistent with EU legislation and

policy goals, in particular the EU's Roadmap to a Resource Efficient Europe and the Seventh Environmental Action Programme.

Explore reasons for and impacts of variations in local authority household waste recycling practice in Wales.

Evidence for the reasons for, and impact of, variation in local authority recycling services has been provided by a number of respondents. There are a number of reasons for variation, including historical precedent, available technologies and assessments by local authorities regarding the approaches that they believe will best suit their areas. These assessments will reflect the local authority imperatives to meet targets rather than, necessarily, to deliver broader Welsh Government policy objectives, including optimal ecological footprint reduction and other sustainable development goals.

The Local Authority Recycling Advisory Committee (LARAC) has commented: *“LARAC believes the quality of material should be determined by the requirements of the reprocessors.”*

This is only true where the re-processors are contributing to **high quality recycling** - consistent with the strategies and laws of the European Union. Different reprocessors operate to different environmental and commercial standards. However one feature of a variation in recycling practice is a consequent lack of consistency in the presentation of materials to re-processors – and the consequent environmental and economic implications.

LARAC also contends that local circumstances mean that the Blueprint approach cannot apply universally:

“The fact that collection systems not aligned to the Blueprint are delivering high levels of material that have end markets shows that local circumstances need to influence collection systems.”

It is true that some collection services that are not aligned with the Blueprint do report high recycling rates. However, the Collections Blueprint was developed to advise local authorities on how to achieve the balance of high recycling, low financial costs and best overall environmental outcomes (as measured by ecological footprint impact). Having end markets is not sufficient; they must be end markets that contribute to high quality recycling. That said, the Welsh Government does acknowledge that there may be circumstances within local authority areas where the Blueprint (in essence the separate collection of materials) is not practicable. In such circumstances the ‘TEEP test’ (as provided by Article 11 of the EU Waste Framework Directive, as transposed in Wales under Regulation 13 of Waste (England and Wales) Regulations 2011 (as amended)) should be applied and services more appropriate to those circumstances should be provided. The TEEP test is a test of whether separate collections are technically, environmentally and economically practicable. At the local authority level, however, it is the Welsh Government's view, based on the evidence, that separate collections are possible in all local authority types, with some areas or some property types in some authorities potentially requiring derogation.

Under the Collaborative Change Programme (CCP) local authorities are able to request that whole collection services are reviewed and the Blueprint approach tested based on the individual circumstances of those authorities.

To what extent local authorities' recycling practice aligns with the Welsh Government's Municipal Waste Sector Plan Collections Blueprint, and to explore barriers and enablers to adherence.

Local authorities have a statutory duty to comply with the separate collection requirements laid down in Regulation 13 of the Waste (England and Wales) Regulations 2011, as amended. This requires local authorities and private waste management companies to set up by 1 January 2015 separate collections for paper, glass, metal and plastic where this is necessary to achieve high quality recycling, and it is technically, environmentally and economically practicable. Co-mingling is not a form of separate collection. It is the opinion of the Welsh Government that the Collections Blueprint service is compliant with Regulation 13 (as amended).

The following local authorities currently have, or have announced the intention to have, services that align with the Collections Blueprint: Anglesey; Conwy; Powys; Newport; Torfaen; Bridgend; Merthyr Tydfil and Blaenau Gwent. Neath Port Talbot is trialling the Blueprint approach and may adopt it soon.

In addition, there are a number of authorities that provide multi-stream, kerbside sort collections which, though not Blueprint, are closely aligned to it: Gwynedd, Flintshire and Wrexham. Swansea provides a multi-stream service that, whilst not kerbside sort, is never-the-less intended to comply with the separate collection requirements that start on 1st January 2015.

Of the remaining nine local authorities, Monmouthshire, Cardiff, Rhondda Cynon Taff and Ceredigion are currently reviewing service delivery options. Denbighshire, Caerphilly, the Vale of Glamorgan, Carmarthenshire and Pembrokeshire are not considering alternatives to co-mingled collections.

The Welsh Government's Collections Blueprint is currently advisory and is not mandatory for local authorities. It provides an approach to recycling that the Welsh Government considers offers the best opportunities:

- to reduce ecological footprint;
- for lower cost recycling services; and
- for resource efficiency and the facilitation of high quality materials to be retained within the circular economy.

The evidence sources that have informed the Blueprint are provided in Annex 1.

The benefits of wider adoption of the Blueprint include achieving the benefits listed above. They also include the potential to standardise services, reduce costs and enable better value procurements of fleets and containers. The barriers to wider adoption of the Blueprint include the reluctance of some to accept the Welsh Government's evidence base in support of the approach. Where such reluctance

does not exist the barrier is principally the capital cost of making a service switch. This cost may be mitigated by aligning service switches with the end of contracts for vehicles etc.

Monmouthshire County Council (MCC) has highlighted the Welsh Government's prioritisation of sustainability to the exclusion of other factors as one reason that the Blueprint is not universally followed:

“WG’s waste strategy and the rWFD consultation are solely focused on sustainability, yet sustainability is only one of the considerations that we must have regard to when exercising our statutory functions.”

It is correct that the Welsh Government's waste strategies and policies do start from an environmental and sustainability perspective; however, the latter also encompasses economic and social goals. It is the objective of the waste strategy to contribute as much as possible to reducing overall ecological footprint impacts, and to delivering good economic and social outcomes at the same time, and reduce service costs. Data collected by Welsh Local Government Association (WLGA) and modelling recently carried out by and on behalf of the Waste and Resources Action Programme (WRAP) for several Welsh local authorities suggests that the Collections Blueprint approach will save money as well as achieving the best sustainable development outcomes. This is consistent with the findings of the consultants Eunomia, which concluded that as higher levels of recycling were reached so the financial savings of the Collections Blueprint approach would become greater - reaching ca. £20 million/year.

The MCC view reflects the position of several local authorities and appears to relate to their interpretation of Section 2 of the Local Government (Wales) Measure 2009:

2 General duty in relation to improvement

(1) A Welsh improvement authority must make arrangements to secure continuous improvement in the exercise of its functions.

(2) In discharging its duty under subsection (1), an authority must have regard in particular to the need to improve the exercise of its functions in terms of

- (a) strategic effectiveness;*
- (b) service quality;*
- (c) service availability;*
- (d) fairness;*
- (e) sustainability;*
- (f) efficiency; and*
- (g) innovation.*

(3) For the meanings of paragraphs (a) to (g) of subsection (2), see section 4.

It is the view of the Welsh Government that the Collections Blueprint promotes strategic effectiveness, improves service quality, improves service availability, is fair, is sustainable, is efficient and promotes innovation. There is no contradiction

between the Welsh Government's promotion of the Collections Blueprint and high quality, citizen centred services. Further, it is the opinion of the Welsh Government that the Collections Blueprint is fully compliant with the law.

Assess the availability of information and guidance to householders about why and how they should be recycling, and to explore potential barriers and enablers to improving recycling rates.

The Welsh Government funds Waste Awareness Wales (hosted by WLGA) to communicate messages on recycling and to support local authorities to communicate messages. The more standard recycling services are across Wales the easier, and more cost effective, it is for Waste Awareness Wales to use pan-Wales messages with consistent themes.

Once the householders and businesses of Wales understand what is expected of them in relation to participation in recycling services, most of them take part. This is irrespective of the recycling approach undertaken. Barriers to higher recycling include the nature of wastes (e.g. multi material composite packaging), suitable re-processing capacity (e.g. for absorbent hygiene products (AHP) and price volatility for recyclates. The Welsh Government recognises that it may need to act further to help overcome these barriers and is working with its delivery agents to this end.

Explore Local Authority reactions to the recently published Waste Regulations Route Map and the potential impacts and implications of this on recycling practice across Wales.

There have been a number of local authority responses to the 'Consultation on draft Statutory Guidance on Separate Collection of Waste Paper, Metal, Plastic and Glass' issued by the Welsh Government in April 2014. These are being considered and will be responded to by Welsh Government in due course. Some of the responses from local authorities are broadly similar to the reactions of local authorities to the 'Waste Regulations Route Map' published by WRAP since this aligns with the draft Statutory Guidance.

Gain greater understanding of the relationship between recycling collection practice and recycling rates.

Initial analysis of data returns made by local authorities on the WasteDataFlow system suggests that there may be an inadvertent under-reporting of reject rates by several local authorities, thus making meaningful comparisons of performance difficult. The Welsh Government has asked WRAP to map the flows of waste materials from householders to end destinations, considering rejects in each stage of the journey.

The Materials Recycling Facility (MRF) Regulations which apply from October 2014 will hopefully result in more accurate measures of rejects and contamination at MRFs. MRFs range from primary sorting facilities that received co-mingled materials through secondary and tertiary facilities that progressively sort materials to produce higher quality materials.

It is the view of the Welsh Government, based on evidence provided by WRAP and several consultancies that **net** recycling rates will be little different between local authorities using separate collections (as in the Blueprint) and those using co-mingled collections. However, recent work by WRAP shows that, if applied across Wales, then Collections Blueprint aligned services would result in a national recycling rate in excess of 70%. This will be true of co-mingled services too. The evidence though indicates that the environmental and financial benefits of achieving similar high recycling rates are much greater for the Blueprint services. This includes reduced ecological footprint impacts and lower unit costs of service delivery.

ANNEX 1

EVIDENCE USED TO DEVELOP, UPDATE AND TEST THE COLLECTIONS BLUEPRINT

- ADAS UK LTD, 2006. This was the first attempt, some four years after local authorities embarked on higher levels of recycling, to measure the respective carbon impacts of separate collections of recyclables and co-mingled collections of recyclables. It clearly demonstrated the carbon impacts of Materials Recovery facilities (MRFs).

Since the study was carried out there have been changes that have led to there being even greater differences between the carbon impacts of the respective approaches. The development of Resource Recovery Vehicles (RRVs) specifically designed to enable recycling collections using fuel efficient vehicles has reduced the carbon impacts of separately collecting recyclables.

The value of separate collections is that materials can be prepared and bulked at a depot and then sent on directly to re-processors. Co-mingled materials require MRFs. The ADAS study assumed a primary MRF only. Several waste companies now openly describe their business models as being based on performing secondary sorting. The primary MRF will sort into material types and a secondary MRF will sort into paper grades, plastic polymers, glass colours etc. Such secondary sorting is required to produce materials required by re-processors that are carrying out high quality recycling. The introduction of secondary sorting introduces a new tier of carbon (and financial) costs.

- Eunomia Kerbside Collections Options Wales, January 2011. The most data intensive study of collection methods and their consequences ever undertaken, with detailed reports for 6 participating local authorities. This study concluded that at high levels of recycling the costs differences between kerbside sort and co-mingled services would become magnified. The report estimated annual savings to Wales of ca. £20 million if all local authorities pursued the Blueprint approach. It is important to note that the Eunomia study was not able to consider the most up-to-date Blueprint services (e.g. Bridgend and Conwy) which developed later. Consequently, it would be reasonable to assume that the savings might be larger than estimated in the report.
- 4R Environmental analysis of procurement outcomes. The contention that kerbside sort services will prove to be lower cost is borne out in this report by 4R Environmental. The report shows that where tenders for different approaches were allowed that the kerbside sort tenders tended to be significantly lower cost. The study covers April 2008 to February 2012.
- The ARUP Ecological Footprint report, May 2009. This report suggests that for some materials, including plastics and glass, that there is a significant difference in ecological impact between high and low quality recycling (in the context of what happens to of materials).

- The European Declaration on Paper Recycling 2011 to 2015. This declaration reflects the view of the relevant recycling sector for paper that co-mingling should be phased out and replaced with separate collections, to support high quality recycling:

“To secure [sic] used paper collected in Europe can be recycled in the paper industry, multi-material collection schemes (“co-mingled collection”) where all recyclable materials are collected in one stream must not spread further in Europe and must be phased out where it already exists. Co-mingled collection leads to contact with organic materials, a higher share of unusable materials and refuse and is therefore less resource efficient and more costly.

Countries where co-mingled collection is predominant today must make significant progress towards the targets on separate collection set out by the Waste Directive.”

- The WRATE analysis for WRAP by Environmental Resources Management Ltd, March 2009. This study concluded that the environmental impacts of separate collections were lower than the environmental impacts of co-mingled collections. The study was based on use of the Waste and Resources Assessment Tool for the Environment (WRATE) developed by the Environment Agency. Whilst the tool was not designed to model differences in collection methods *per se* its use and conclusions are consistent with other studies.
- The KAT analysis by WRAP, March 2009. The Kerbside Analysis Tool (KAT) has been developed to model the financial impacts of different methods of collection. In this report by WRAP it was concluded that separate collections would tend to be lower cost than co-mingled collections. The KAT model has been used to carry out options appraisals for several different local authorities under the Collaborative Change Programme (CCP). The process has involved the active participation and co-operation of local authority officers and the use of local authority specific data. In all cases separate collection options have been shown to be lower cost.
- Grant Thornton/Oakdene Hollins Carbon Agenda report on glass recycling – showing carbon benefits of re-melt. This report highlights the carbon difference between re-melt and non re-melt applications for recycling glass. Re-melt options have a lower carbon impact.
- ACR+ and FEVE, the European Container Glass Federation published: Glass Recycling and Separate Waste Collection: Key Drivers Towards a Circular Economy in 2012:

“In separate collection systems the processed material is of better quality to meet the specifications necessary for the bottle-to-bottle production and is cost competitive in relation to the use of virgin raw materials. Other systems, like co-mingled collections can be either too costly or provide glass only suitable for low-grade applications (e.g. as aggregate). These applications are

literally a waste – because the material is lost forever from the circular economy.”

- MRF Output Material Quality Thresholds report, November 2009. Resource Futures was commissioned by WRAP to investigate the quality requirements of UK re-processors and their relationship to the output from UK materials recovery facilities (MRFs). The results found high levels of contamination in the output from MRFs, which are classed as being recycled. The compound loss for a typical ‘basket’ of material collected for recycling is ca. 20%.
- MRF Quality Assessment Study report, WRAP, November 2009. The aim of this project was to provide robust data on the composition of input, output and residual waste materials at MRFs across England, Wales, Northern Ireland and Scotland. The data provides information on the quality of material processed at MRFs and material contaminant levels. This showed that across the 17 MRFs studied, the median level of contamination of the incoming co-mingled material was 6.4% to 17.5%.
- Choosing the right collection system, WRAP June 2009. In this guidance WRAP concluded that:

“On the evidence available to WRAP, our view is that kerbside sort systems offer reliable material quality and lower net costs for council taxpayers. They are also capable of capturing the same volume of material as co-mingled schemes. There is no evidence that their operation – properly explained and justified – is unacceptable to householders and the physical evidence of sorting of materials happening at the kerbside is reassuring to sceptical residents. There appear to be no unmanageable health and safety considerations. Because of our priority for quality materials as a way to improve resource efficiency, WRAP believes that kerbside sort collections should be preferred where they are practical and that should be in the majority of local authority areas.”

Oakdene Hollins Ltd ‘Maximising Reuse and Recycling of UK Clothing and Textiles’ report for Defra, October 2009. The report suggested that separate collections of textiles would be needed to promote high quality recycling:

“The availability of kerbside collection of used textiles has almost doubled since 2002 to over 30%, but is still only half of that for glass, plastics and metals. The growth of co-mingled household collections is a threat to greater recycling and reuse, as textiles are unattractive to MRF operators and the collection methods often result in poor quality.”

- Future Perfect, Biffa 2003, which includes: *“Biffa considers that the earlier in the materials recovery stage that separation of materials can be effected the better the overall system and the lower the likely environmental impact and cost. The householder is ideally placed to act in a way in which dry recyclables (and organic materials) are kept out of the waste, reducing both contamination and the quantity of residual waste for final disposal. This can capture a high level of the available materials in a form which would be*

welcomed by many processors, circumventing any need for MRFs, which tend to be both labour and capital intensive”.

This illustrates the rationale for separate collections that the waste industry promoted ten years ago. The Welsh Government took account of such arguments during the development of its strategies and policies. It is considered that this rationale applies just as much today – that separate collections have lower environmental impacts and enable local authorities to provide lower cost services.

- Zero Waste Scotland report, March 2014, on contamination in separately collected materials. This report published in March 2014 shows that contamination rates in separate collected fractions tend to be very low.
- A Caerphilly Council Regeneration and Environment Scrutiny Committee report of 10 December 2013. This report refers to contamination issues and impacts on the Council’s co-mingled collection service:

“During this period our collection crews had been trying to identify properties that are placing non-targeted materials in their bins and attach stickers to the bins advising of the problems.

The above exercise resulted in a reduction in the amount of recycling we are collecting at the kerbside (over 15% in some areas) with a similar increase in tonnages being delivered to our Household Waste Recycling Centres (HWRC). Whilst this material is not lost from our recycling performance, it is sent to a MRF better suited to dealing with a combination of materials. Again, this is at a substantially increased cost.”

- The Local Authority Carbon Recycling Index produced by Eunomia, July 2014. This report provides an alternative metric of environmental performance of recycling services based on carbon impacts. Separate collection services tend to perform better in carbon terms than co-mingled services. The data shows that both Powys and Cheshire West and Chester (the best performer) improved their carbon performance following a switch from co-mingling to kerbside sort based separate collections.
- The Collections Blueprint report. WRAP commissioned a report by Eunomia examining the likely impacts if all local authorities in Wales were to implement Blueprint recycling services. These would include separate collections of recyclables, food waste being collected on the same vehicles as dry recyclables, restricted residual waste storage capacity and the other aspects of the Blueprint approach. The study looked at recycling/waste services across the UK that included the main aspects of the Blueprint approach. Where there were significant aspects that were absent (e.g. restricted residual waste capacity) the data was adjusted accordingly (as explained in the report). The conclusion is that there is extremely strong evidence to suggest that full adoption of the Blueprint will result in a national recycling rate of at least 69%. Combined with other measures there is a probability of comfortably exceeding the 70% target.

- Resource Recovery Vehicle (RRV) Report. WRAP has commissioned a review of the different RRVs available on the market. This report considers relevant technical specifications and considers advantages and disadvantages with different models. It illustrates the good fuel economy achieved by these vehicles.
- End destination reports for Wales. The end destinations reports for the Welsh Government have highlighted that the information about the end destinations of materials is poor. A separate study is being carried out by WRAP to try and improve mass flow analysis.
- It is possible that MRF recycling rates are being over-reported via WasteDataFlow. The WRAP reports on MRF contamination previously referred to suggest potential overall contamination rates of outputs in excess of 20%. In an article in 'Materials Recycling Week' ['MRF key to improving real recycling rates' - 26 July 2013] John Glover the Managing Director of Bywaters, which operates a large MRF in London, wrote:

"If truth and reality are accepted using existing norms true recycling rates could flatline in 2012 and 2013.

When recycle prices were high in 2011 all parties were driven forward on a strong wind and contamination and fines were effectively ignored.

But reality hit hard in 2012 in both the public and private sectors and we all have had to address the issues or go home. I believe the corrected norm of 5% contamination/fines became 18%+ by the end of 2012 and this is how we started 2013. There will be those that wish to ignore the facts but if the new Defra MRF rules are implemented later this year and the sampling is effectively standardised there will be no hiding place for delivering excessive fines/contamination to a MRF."

If MRF rejects are being under-reported, especially if contamination is as high as Mr Glover reports, then this will lead to over reporting of recycling rates.

- Over the last 10 years WRAP has been providing support to hundreds of LAs in England, NI and, latterly, Wales. During the course of this work WRAP or its appointed contractors have used modelling tools to compare the performance of the various collection systems: multi-stream (separate collections), single stream co-mingled and twin stream co-mingled. In the overwhelming majority of cases the multi-stream separate collections have performed better.

Contrary evidence:

- There is other evidence that does not support the Blueprint approach and this has also been considered.
- WasteDataFlow. Over recent years the recycling rates obtained via WasteDataFlow have in many cases shown that authorities that operate single stream co-mingled systems often record higher recycling rates than those collecting separately. The view of the Welsh Government is that these reasons need to be properly understood before a conclusion on policy is reached.
- White Young Green (WYG) has produced reports which it claims show that yields of materials are higher where co-mingled collections are used. It uses information from WasteDataFlow to demonstrate that weights of recyclables collected (rather than proportions) are higher where co-mingled.
- The Welsh Government considered the WYG reports carefully and concluded that there were a number of flaws in the approach taken to the analysis of the information available. If inaccurate reject rates from MRFs are accepted (and they were unless the reject rates reported were zero) then the calculations based on them will be flawed.
- In their environmental assessment WYG did not differentiate between the type of recycling of the materials (ie. whether closed or open loop) and assumed that the environmental impacts of all forms of recycling are the same. This contrasts with the evidence referenced by the Welsh Government, drawn from other sources.
- The WYG reports make no analysis of other factors that affect recycling rates including the restriction of residual waste storage capacity through either smaller containers or less frequent collections. The report also fails to consider the impact of the range of materials collected. The Blueprint approach results in a wider range of materials being collected than some of the previous kerbside sort services.