Welsh Government

Evidence Paper in advance of the Public Accounts Committee Scrutiny Session – 18.11.2019

Inquiry into waste management

SECTION 1: Historical overview

Leading the way

Wales has built up a global reputation for waste management, foremost because of its status as number three in the world for household waste recycling. It is also the first UK nation to introduce a carrier bag charge, the only UK nation to significantly reduce household food waste, one of the few nations in the world to have a universal weekly separate household food waste collection service, and has successfully enabled consortia of Local Authorities to jointly procure infrastructure for food and residual waste treatment.

Background

The Welsh Government's strategic policies for waste were first laid out in *Wise About Waste* published in 2002. This embedded a sustainable approach to the management of waste, linking strongly to the Welsh Government's then overarching sustainable development scheme, '*Learning to Live Differently*'.

Wise About Waste included a policy on 'resource efficiency', emphasising the need to ensure that economic and environmental objectives are met at the same time. It identified that in order '*to be economically self-sustaining, recycling and composting will require the collection of higher quality, higher value material*'. *Wise About Waste* included many delivery actions for more sustainable waste management, and included the setting up of the Waste and Resources Action Programme (WRAP), Waste Awareness Wales and a number of business support programmes. A key intervention to help Local Authorities meet challenging recycling targets was the provision of the Sustainable Waste Management Grant (SWMG).

A 'Future Directions' dialogue took place between the Welsh Government and Local Authorities from 2007 to 2009 focussing on how higher recycling targets could be achieved. Proposals for a new waste strategy were consulted on in 2009, resulting in the development in 2010 of *Towards Zero Waste* (TZW), and the follow-on Sector (action) Plans and Waste Prevention Programme. TZW embedded the key goals and outcomes from the Wales Sustainable Development Scheme, '*One Wales, One Planet*'. It placed a strong emphasis on waste prevention, with as high a level of recycling as possible of the waste that cannot be prevented.

TZW highlighted the economic imperative for Wales of the security of supply of raw material resources, at an affordable price, to sustain the economy and way of life. It identified that material security could be improved by using materials more efficiently

through waste prevention and high reuse and recycling rates. TZW also stressed the need for closed loop[1] (or 'up-cycling'[2]), high quality recycling, highlighting the advantages of a kerbside sort recyclate collection system in achieving this.

The Municipal Sector Plan (MSP) and accompanying Collections Blueprint (CB), published in 2011, built on the principles of TZW. The MSP's development recognised that Wales needs to reduce its overall consumption of resources and to source, and use, resources in a way that is equitable and ethical. Where waste is produced it should be prepared for reuse or recycled using high quality, closed loop methods in order that ecological and carbon footprint reductions are optimised.

The MSP also identified the need to achieve better value for money through efficiency savings, and ensuring more transparency and accuracy on the reporting of how and where materials are recycled. It included an objective to achieve consistency across Wales in the type of materials collected for recycling and AD by Local Authorities. The MSP noted that if a core set of materials were to be collected by all Local Authorities, it would allow easier communication of these services resulting in greater understanding and participation by the public. It would also enable greater consistency and quantities in respect of recyclable materials supplied to reprocessors, especially those in Wales. This would support the aim of the Welsh Government to make Welsh based recyclate collection and reprocessing enterprises more viable. The MSP stated that the Welsh Government expects a convergence of service delivery over time such that all Local Authorities collect as many materials as possible in ways that make it more likely that they can present them to the Welsh and UK reprocessing market.

The result of the policies set out above has been that in the twenty years since devolution, Wales has transformed from a nation which recycled less than 5% of its municipal waste, to become an international leader that recycles 63%.

SECTION 2: Forthcoming waste strategy

The intention is to publish a consultation document at the turn of the year to actively engage the people of Wales on the pathway Wales and the Welsh Government should take to move to a circular economy that keeps resources in use for as long as possible and that eliminates waste.

. As part of the consultation, there will be a need to focus on reducing resource use, tackling single use plastic, further reducing food waste and further increasing recycling after 2025 in order to meet the long term milestone of zero waste (100% recycling) for 2050, as set in Towards Zero Waste. Ensuring people are able to make the necessary choices to reduce and recycle waste when they buy products and services and working with businesses through applying extended producer responsibility will also be key.

[1] 'Closed-loop' recycling is where recycled materials are being used continually for the same or similar purpose – eg. a glass bottle recycled by re-melt into a new glass bottle, or glass fibre insulation (both replacing virgin glass/silica), which can then in turn be recycled again by re-melt to replace the use of virgin glass/silica.

[2] 'Up-cycling' generally involves recyclate materials with a low embedded energy being used to substitute for materials with a high embedded energy into a product that usually has a long life – for example newspaper waste being used as a cellulose insulation material replacing the use of glass fibre or foam insulation.

SECTION 3: Climate Emergency

Using only our fair share of the world's resources and achieving a more circular economy - avoiding waste and keeping resources in use as long as possible – is also key to action on decarbonisation. This is essentially because, a low carbon economy is a circular economy – with 45% of global carbon emissions coming from the products and services we consume.[3]

Resource efficiency and a circular economy make a contribution towards reducing both direct territorial carbon emission, and consumption based carbon emissions. Embedded carbon, otherwise known as the carbon footprint, of products is key contribution to climate change and one which needs to be tackled through material substitution, and through the use of less material and the generation of less waste.

Wales is doing well in terms of reducing carbon emissions as a result of the significant progress on municipal waste recycling. The most recent edition of Eunomia's 'Recycling Carbon Index Tool' report for 2017-18[4] (which covers England, Wales and Northern Ireland) identified that "Wales remains by some distance the country which achieves the greatest carbon saving per capita from local authority recycling."

SECTION 4: Preventing waste

Waste prevention has had a strong focus in *Wise About Waste* and *Towards Zero Waste*, and the Welsh Government's *Waste Prevention Programme* published in 2013 set out our stall for the way ahead. We are one of the few European nations to set waste prevention targets.

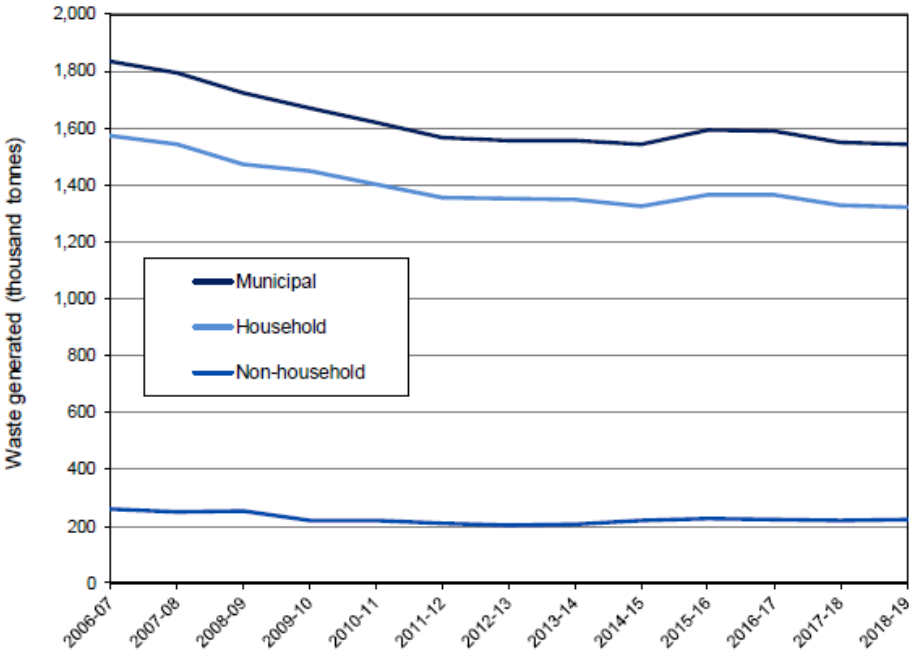
Waste prevention initiatives supported and promoted by the Welsh Government include the carrier bag charge (a UK first), junk mail reduction, home composting, reusable nappies, food waste redistribution (through grant funding of Fareshare Cymru), Landfill Disposal Tax Communities Scheme funding for waste prevention projects (e.g. Repair Cafes and community fridges), Refill Cymru, Love Food Hate Waste, Sustainable Clothing Action Plan, the Plastics Pact and Courtauld (a voluntary initiative by the food industry).

We have seen the annual increases in the quantity of household waste experienced in the late 1990s and early 2000s halted and reversed in the mid 2000s (Figure 1), despite increases in population and household expenditure. A particular success has been a significant reduction in household food waste between 2009 and 2015, Wales being the only UK nation to experience a significant decrease over this period. This means that the claim that setting weight based recycling targets generates more waste and/or mitigates against reducing waste is not born out by the evidence.

[3] Ellen MacArthur Foundation (2019) Completing the Picture: How the Circular Economy tackles Climate Change https://www.ellenmacarthurfoundation.org/publications/completing-the-picture-climate-change

[4] https://www.eunomia.co.uk/carbonindex/

Figure 1 Total Local Authority municipal and household waste generated in Wales (thousand tonnes), 2006-07 to 2018-19



Source: WasteDataFlow; Welsh Government, Statistical First Release, Local Authority Municipal Waste Management, 2018-9.

Moving forward, there will need to be a continued focus on eliminating unnecessary waste, including single use plastic and food waste, together with a reduction in clothing waste, all of which have a high carbon footprint.

There is also be a focus on improving the data on waste produced by businesses and the public sector, with the results of the Industrial and Commercial waste survey commissioned by Natural Resources Wales with funding from the Welsh Government to be published in 2020. We are also working with Defra and the other devolved administrations on a new electronic waste tracking system.

SECTION 5: Municipal waste recycling

Overview

Recycling helps reduce carbon emissions and tackle climate change, saves money, creates jobs and helps to reduce the pressure on the world's natural resources. Over the last two decades we have worked with our Local Authorities to guide and support change, whilst respecting their right to make their own choices at their own pace. But in order to help drive progress across Wales and make sure that all citizens where ever they live get a good recycling service, the Welsh Government set Local Authorities minimum statutory recycling targets.

Consistency and high quality recycling

Councils are responsible for deciding on the service that they think best suits their residents. However, greater standardisation in recycling collection across Wales would help to make recycling easier for everyone. This is why the Welsh Government has been working with councils to encourage them to adopt the best practice system outlined in the Collections Blueprint published in 2011. The Welsh Government has also provided support to councils via the Collaborative Change Programme to help them to change their system. By early 2021, fifteen of our councils will be providing the same Collections Blueprint service.

The development of the Collections Blueprint followed extensive research into the efficacy of different recyclate collection systems. Comparisons have been made between the relative costs and benefits of kerbside sort[5], twin/triple stream[6] and co-mingling[7] approaches. Evidence was also obtained from the reprocessing industry in Wales, in particular on their need for, and ability to source, high quality recyclate. The commodity price crash in 2008-09 highlighted the fragility of the recycling market, with higher quality materials being better able to withstand the market pressures at the time. From the evidence available the Welsh Government concluded that a kerbside sort system, where residents put dry recyclables into three separate containers which are then loaded together with food waste onto a single multi-compartment vehicle, would represent the best option for Wales. The evidence suggested that this would yield the best economic, environmental and social outcomes for Wales. In particular, it generated the highest quality of recycling that would be more likely to be used in Wales rather than being exported. A box or returnable bag based system also enables council collection staff to return non-recyclable items to the householder, so they learn quickly what can and cannot be recycled by the council.

Higher quantity of recycling

There has been a plateauing of the recycling rate in over the last three years, with a one percentage point reduction from 64% in 2016-17 to 63% in 2017-18. If Wales is to achieve its targets going forward, it will therefore require further steps to improve performance.

The compositional analysis of Welsh Municipal Waste carried out for WRAP Cymru by Resource Futures in 2015-16 and published in June 2016[8] showed that more

[5] 'Kerbside sort' involves householders putting dry recyclables in one of more boxes or re-usable bags, with the recyclables then sorted by material by the collection staff, and placed into different containers on the single collection vehicle.

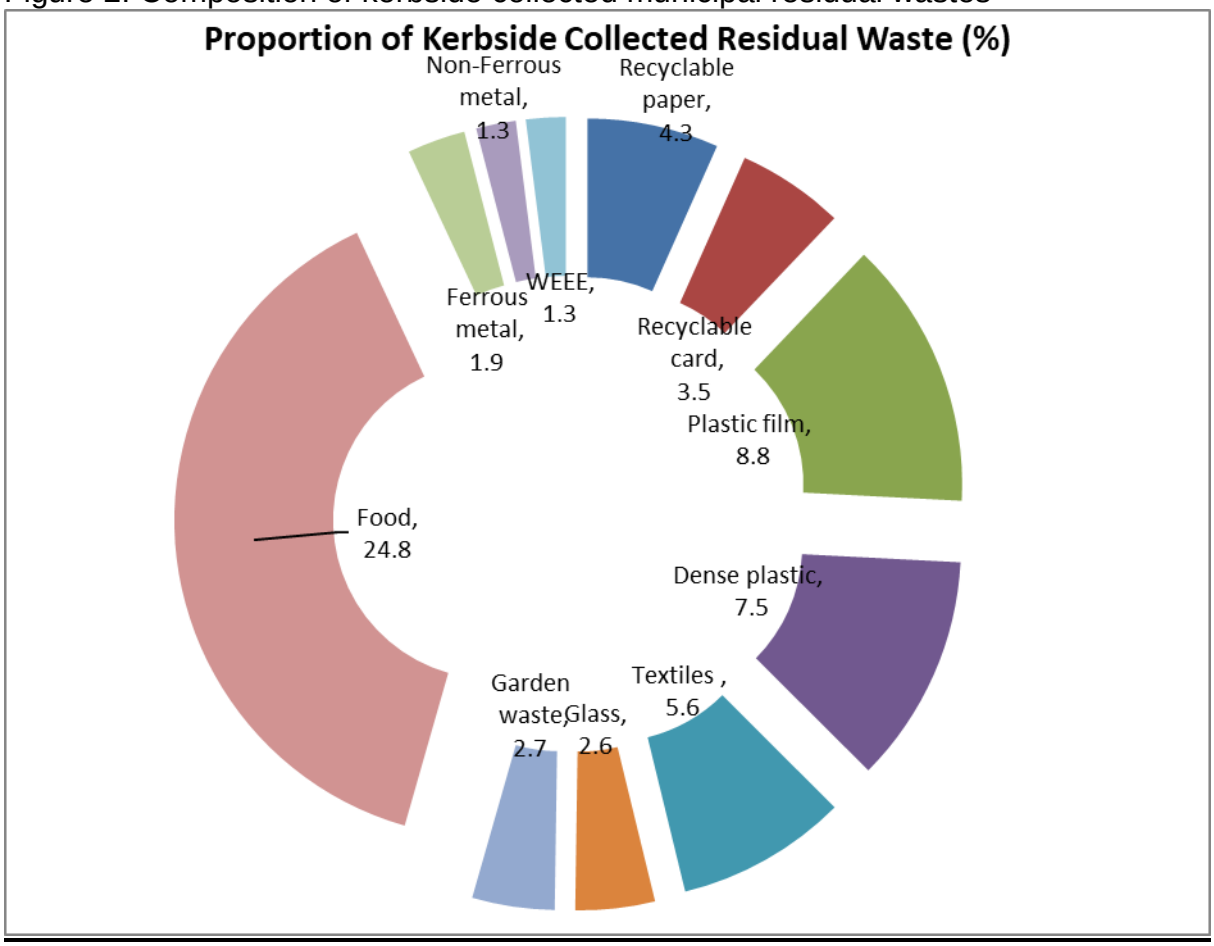
[6] 'Twin/triple stream' usually involves householders putting one or two materials separately into different bags (e.g. paper/card in one bag or bin, glass in another – with them collected by either separate vehicles or placed into a different compartment on the same vehicle) with the remaining recyclable materials placed mixed in another bag or bin and placed in a vehicle. The mixed materials are then sorted in a materials recovery facility (MRF).

[7]' Co-mingling' involves householders putting all the dry recyclable materials into a single bag or bin which is then loaded onto a single vehicle. The materials are then sorted at a material recovery facility (MRF).

[8] http://www.wrapcymru.org.uk/sites/files/wrap/Wales%20Municipal%20Waste%20Composition%202015-16%20FINAL.pdf

than half of the material in residual kerbside waste collections was recyclable (see figure 2).

Figure 2: Composition of kerbside collected municipal residual wastes



To address the plateau in the recycling rates and deliver on the current 70% target, it is therefore vital to encourage households to not put dry recyclables (paper, card, plastics, glass, metals, textiles) and food waste in their residual waste. Successfully doing so could result in an increase in municipal and household waste recycling rates. This is because the evidence shows that if all the recyclables and food were put in the right containers instead of the residual container, Wales' recycling rates would exceed 80%. In addition, getting more people to use the already funded recycling service will reduce the costs of dealing with the residual waste.

On the basis of this evidence, a Behaviour Change Programme has been developed to increase municipal and household recycling rates. The development of the programme has been overseen by the waste Ministerial Programme Board (MPB) comprising Welsh Government, Local Authorities, the WLGA, the Waste and Resources Action Programme (WRAP) and procured contractors.

The Behaviour Change Programme (BCP) has three components:

(a) Providing clear instructional information about and promoting the benefits to householders of service changes and encouraging residents to place recyclable materials in the right bin and not in residual waste containers;

(b) Using behavioural change techniques and communications to encourage the diversion of recyclable materials at a national, regional and local level, including by aiming to make it socially unacceptable to put recyclable materials into residual waste; and,

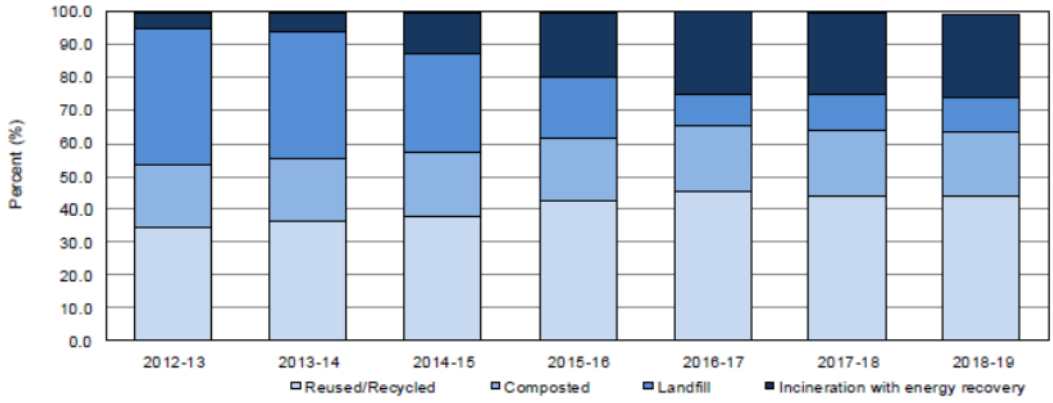
(c) Encouraging the diversion of recyclable materials from residual waste containers using appropriate legislation and the potential use of enforcement.

The nature of the campaign means that it is difficult to quantify the potential outputs from a behaviour change campaign in advance. However, for illustration, if the campaign increased recycling to capture half of the recyclable material in the residual waste, this would lead to a 9.9% increase in recycling rate to over 72% with over £5.5million net savings per year. Ultimately, if Wales is successful in achieving an increase in recycling that captured 100% of the recyclable material in the residual waste, shown in figure 2, it would lead to a 17.3% increase in the recycling rate to 80% based on data from WRAP[9] .

SECTION 6: Procuring residual and food waste treatment capacity

After twenty years of progress, Wales is now a high recycling society, with high quality collection infrastructure, well-developed re-processing infrastructure, and a worldwide reputation. There has been a significant decrease in the proportion of municipal waste disposed of via landfill, falling from 42 percent in 2013-13 to 10 percent in 2018-19 (Figure 3).

Figure 3: Municipal waste sent for treatment by management method (%), 2012-13 to 2018-19.



Source: WasteDataFlow; Welsh Government, Statistical First Release, Local Authority Municipal Waste Management, 2018-9.

[9] Impact of Increased Residual Waste Diversion on LA Recycling Rates and Costs, WRAP Collaborative Change Unit, November 2018 – Provisional analysis

The main focus over the last decade and a half has been in ensuring the necessary infrastructure is put in place to recycle and generate renewable energy from the separately collected household food waste, and to generate partially renewable energy from residual waste. Both of these help us on our pathway to eliminate the use of landfill, which is at the bottom of the waste hierarchy as it has the worst environmental outcomes. This new infrastructure also helps significantly reduce the carbon emissions associated with the management of waste. The food, garden and paper wastes that used to be landfilled generated methane when they decomposed, a harmful greenhouse gas many times more potent than carbon dioxide.

Since the publication of the AGW/WAO report, Parc Adfer, the Energy from Waste facility serving the North Wales residual waste project, has now started operation and is currently being commissioned. The other nine contracts continue to operate as intended.

Working in partnership with local authorities, strategic investment in waste infrastructure addresses increasing affordability pressures as well as offering long-term solutions for improved service performance. In moving towards higher recycling and a zero-waste society, investment decisions will need to be made as part of a package of investments which are synergistic, rather than taken in isolation.

New projects currently in development are being planned through joint partnerships that provide regional coverage to maximise scale and minimise cost. The new programme has identified the benefits of addressing three priority materials – absorbent hygiene products (AHP), wood and plastics.

SECTION 7: Conclusion

Recycling has been a great success story for Wales; it has led the way and has a globally recognised reputation. But the challenge now is to get to the next level, with an approach that builds on the progress to date, recognising the need to drive resource efficiency and waste prevention by moving to a circular economy. This not only brings with it economic opportunities for Wales, but will make a significant contribution to addressing a climate emergency and the wider impacts of consumption on global biodiversity.