

**National Assembly for Wales
Environment and Sustainability Committee
RW 38**

Inquiry into recycling in Wales

Response from: Eunomia Research & Consulting Ltd

**NATIONAL ASSEMBLY FOR WALES INQUIRY INTO RECYCLING IN WALES -
EUNOMIA RESEARCH & CONSULTING RESPONSE**

1. Consultee background

1.1 Eunomia is an employee-owned consultancy working throughout the UK, other EU Member States and beyond. Our consultants have experience and expertise in environmental, technical and commercial disciplines, and our main areas of specialism include waste management, low carbon energy, resource efficiency and climate change mitigation. Around 60% of our work is with or related to UK local authorities in their capacity as waste collection and disposal authorities. We have worked with over half of all UK local authorities in the 13 years since our foundation, including a majority of Welsh authorities. We have also delivered major research, analysis and policy projects in Wales for the Welsh Government, WLGA and WRAP.

2. Alignment with the Welsh Government's Municipal Waste Sector Plan Collections Blueprint, and barriers and enablers to adherence

- 2.1 We are sure that the Committee will have received detailed information on the extent of 'compliance' with the Collections Blueprint across Wales. One fundamental question to address before considering the barriers to Blueprint implementation is that of whether the robust promotion of the Collections Blueprint is a rational policy for the Welsh Government to be pursuing in the first place.
- 2.2 In answering this question in the context of waste collection, it's helpful to first assess the question of whether, from an overarching perspective, it should (or should not) be the business of central government to have detailed policies on matters such as local authority waste collection systems. If one starts from the premise that there isn't a fundamental reason why central government should stay out of such matters (accepting that this is very much a moot point within the public sector in Wales), the question is then, of the collection systems the Welsh Government could seek to promote as the 'standard' system for households in Wales, is the Blueprint a rational choice? We would conclude that, overall, roll-out of the Blueprint would meet the Welsh Government's social, environmental and economic objectives for waste collection and as such it does constitute a rational choice as a national standard.
- 2.3 It is important to understand though that that the full impact of the Collections Blueprint system on recycling and environmental performance is only achieved when all of the key elements of it are deployed collectively. For example, a weekly kerbside sort collection of recycling and food waste will only achieve its full potential under appropriate residual waste policy, such as the recommended 140L residual bin per fortnight, or similar.
- 2.4 Eunomia has recently completed research for WRAP that looks at the current performance of authorities operating services similar to the Collection Blueprint. This work concluded that full adoption of the Blueprint across all Wales would be likely to result in a national recycling rate in excess of 70%. We consider that the most important barriers to adoption are:
- The reluctance of some authorities to adopt a full separation at source collection system for their dry recycling collection service;
 - The political and operational challenges of implementing appropriate levels of residual waste restriction (e.g. 140L per fortnight); and
 - The political acceptability (or otherwise) of charging for garden waste collection.

- 2.5 Source separation is a critical component in the Collections Blueprint. It facilitates the highest quality of material, insuring that the greatest proportion possible is successfully recycled and makes it more likely that recycling is 'closed loop' (e.g. glass packaging back to glass packaging, as opposed to aggregate). Both of these factors help to maximise the environmental benefits of the service. Full separate collection is also likely to create the largest number of jobs in the local economy whilst maximising the generation of revenues per tonne through the sale of high quality collected materials.
- 2.6 Eunomia has carried out detailed analysis and collections modelling for over 130 UK authorities, including many Welsh authorities. Results from this modelling verify the principles of the Collections Blueprint, indicating that source separation can yield significant financial and environmental benefits. Recent modelling for one Welsh authority on behalf of WRAP showed that moving from its current co-mingled recycling service to a service based on the Collections Blueprint would result in saving of over £1M per year versus 'business as usual' by 2018, whilst meeting recycling targets and increasing employment levels. The saving is equivalent to £37 per household per year.
- 2.7 Where local authorities make major changes to collection systems, performance improvements generally follow. Of the authorities that have moved to a source separated collection system in recent years, all have experienced an increase in recycling rates. Powys has been rolling out a new separate collection service, and last year was the most improved local authority in Wales.¹ Bridgend and Newport (both of which are source separated using Resource Recovery Vehicles) demonstrate the financial potential of this method of collection, operating the lowest cost recycling collection services in Wales.²
- 2.8 The potential benefits of this method of collection are significant. However, many Welsh authorities actively promote the benefits of their co-mingled services and are understandably resistant to change, given the political and operational implications of undertaking a major overhaul of such a front-line service. We believe that the reluctance to move towards the Welsh Government's policy preference is part due to a lack of full understanding of the relative costs and benefits of their current systems versus the alternatives, and in part the reflection of a reaction against the robust direction being provided by the Welsh Government.
- 2.9 On the subject of full understanding of the options, we have observed that many Welsh (and English) authorities believe that co-mingled recycling will result in a higher recycling rate. This view is common for a number of reasons:
- Over the past decade, many UK authorities have moved from a source-segregated collection to a co-mingled collection and have reported improvements in recycling performance. However, this change has tended to be accompanied by the introduction of additional materials, increased service coverage and residual restriction. These performance improvements therefore cannot be attributed to co-mingling alone, but rather to the package of service changes implemented.
 - The current system of recording recycling rates accounts for material collected and 'sent for recycling', but not amounts *actually* recycled. The percentage of collected material failing to be successfully recycled is likely to vary considerably between systems, with rates as low as 1-2% being demonstrated for source separated collection.³ Co-mingled services result in a 'reject rate' at the MRF (the default used for WasteDataFlow is 10.9%) and are likely to lose a greater proportion of materials collected 'downstream' in the reprocessing process. Analysis of data collected by WRAP suggests that this 'downstream' process loss amounts to an average of over 11% in addition to the MRF reject.⁴ As a result, headline recycling rates for co-mingled collection are less likely to reflect material actually recycled versus separately collected material.

¹ Based on 2012/13 data reported on <http://www.wastedataflow.org/>

² Based on WLGA benchmarking data

³ *Contamination in source-separated municipal and business recycle in the UK*, Zero Waste Scotland (2013)

⁴ Derived from *MRF Quality Assessment Study*, WRAP (2009)

- Some major waste management companies have a strong commercial interest in promoting co-mingled recycling, as investment in MRF facilities has been considerable. Several of these companies seem to genuinely believe that co-mingled collection is fundamentally 'better'. Efforts to promote co-mingled collection have included media campaigns, lobbying local government bodies and the funding of quasi-independent reports that take a pro co-mingled stance.

2.10 All of these factors have understandably influenced local authority opinion. Common misconceptions regarding source separation, including perceptions that it results in higher financial costs and carbon emissions, are also likely to have an impact on decision making. However, there is now a considerable body of robust, published evidence that sets out the fundamental characteristics, advantages and disadvantages of the different collection systems, which can (all else being equal) be broadly summarised as follows:

- 'Optimised' co-mingled collection systems yield larger tonnages of *collected* material per household, but of that material, a considerably larger proportion is likely to be 'lost' in the supply chain and not ultimately recycled, or to be recycled into products that provide less environmental benefit, relative to 'optimised' source separation systems.
- Collection costs for optimised co-mingled collection systems tend to be lower, but revenues for materials collected also tend to be lower, meaning that in net cost terms it is often found that source separation delivers a lower overall cost.
- Essentially, the difference in approach is that source separation requires collection crews to sort material into different compartments on the vehicle, slowing the collection process down and reducing vehicle payload. Co-mingled collection is quicker and allows larger vehicles to be used efficiently, but material has to be sorted subsequently at a central facility, which is costly and generates material that tends to have a lower unit value relative to source separated material.

2.11 None of these observations is particularly controversial, but the debate within the industry can become polarised, due in part to the real challenges in changing from one system to another. For authorities that currently co-mingle, the key practical barriers to introducing source separation are the need to engage with residents and the greater complexity of the operation. Both are likely to present significant challenges to management and operational officers used to a less complex collection system. Contamination would also have to be addressed as a part of any change management process and would form a key part of a wider communications strategy.

2.12 Whilst improving resident awareness of contamination issues may be difficult in the short-term, maximising secondary material quality is a fundamental cornerstone of the Welsh Government's environmental policies. The European Waste Framework Directive sets out a programme of measures to change to a 'recycling society' and to achieve this vision, an understanding of and full engagement with recycling by householders will be necessary.

2.13 The biggest barriers to residual waste restriction have in the main been overcome, with all Welsh authorities now operating a fortnightly refuse collection service (compared to around 70% in England). However, the next step in further restricting residual containment volume is crucial, as without restricting this to 140L per fortnight (or equivalent) we do not believe that the Welsh Government's longer-term targets will be met.

2.14 It is understandable that replacing an entire suite of residual waste bins can be a daunting prospect. There are often concerns about this being (or being perceived as being) a waste of money. In practice a quick return on investment in replacing bins can often be demonstrated, but this is often difficult to convey to elected members and the public. There are also fears associated with increasing restriction such as fly-tipping, although in our experience these have been largely unfounded in well-managed schemes. Where authorities have recently made changes to their residual bin size, for example replacing 240L with 180L, it may be advisable to look at alternative, three-weekly residual waste collections rather than replacing all bins again. Three-weekly collections are likely to be slightly more cost effective and incentivise greater food waste separation, which has significant environmental benefits.

2.15 Welsh local authorities are provided with funding for their recycling service through the Sustainable Waste Management Grant. This is a significant additional investment not seen in any other part of the UK, and has certainly been a contributing factor to Wales having the highest recycling performance in the UK. This funding, however, is given regardless of service design, and in many circumstances authorities are only able to operate relatively expensive, lower performing services because of it. It would seem to make more sense that this funding was to be targeted at facilitating change towards the Collections Blueprint and compliance with other Welsh Government policy.

3. Waste Regulations and Route Map – potential impacts and implications in Wales

3.1 From January 2015, all waste collectors in Wales will be required by the Waste (England and Wales) Regulations 2011 (as amended) to collect four waste materials (paper, glass, plastic and metal) separately, where it is both 'necessary' and 'practicable' to do so. Separate collection is 'necessary' where this would facilitate or improve recovery (i.e. recycling); while practicability must be assessed in respect of technical, economic and environmental factors. The requirements apply not just to kerbside collected household waste, but also to other waste streams such as commercial waste. Compliance with the regulations in Wales is subject to enforcement by Natural Resources Wales.

3.2 Local authorities will naturally wish to ensure that they comply with the Regulations. In order to achieve this, they will need to carry out an assessment of whether separate collections are necessary and practicable. However there is now a short time remaining before the law comes into effect, and many councils seem to remain unclear about what the law means in practice. Eunomia was recently commissioned to develop a Route Map to guide local authorities through the process of compliance.⁵ Whilst the Welsh Government is in the process of consulting on guidance on the waste regulations, even once this is complete it will remain the case that the implications of the law for each local authority are far from self-evident. Given the lack of clarity around many of the key terms (for example "economically practicable" and "high quality recycling") and the process to be followed, the potential costs of needing to make changes to collection systems and the risk of enforcement, councils are naturally apprehensive. The required assessment is likely to entail:

- Looking carefully at the quality of the material resulting from any recycling they plan to collect co-mingled and check that it is the same as or better than would be the case with separate collection; and
- Undertaking a basic options appraisal, comparing the economic and environmental outcomes of an optimised separate collection system suited to the specific geographical and social context of the authority against one or more alternatives.

3.3 The assessment of necessity and practicability are not simple matters. For example, economic practicability will require careful consideration in the light of the authority's overall financial position. Even if separate collection were to prove to be more expensive than co-mingled, this may not necessarily mean that it is not economically practicable.

3.4 Councils are keen to obtain advice and practical support to help them work out what action they need to take – but the cost of such advice and the risk that the recommendations may not fit their preferences trouble them. Even having undertaken an assessment of whether separate collections are necessary and practicable, authorities may feel that they need to obtain legal opinion on the soundness of their reasoning, in order to provide a final assurance that the approach to collection they have settled upon is reasonable and can be expected to be compliant.

3.5 The Collections Blueprint's emphasis on separate collection fits well with the requirements of the Waste Regulations. If it can be shown that adopting the collection model set out in the Blueprint would lead to a high likelihood of being deemed compliant with the law, this could act as a significant incentive for authorities to adopt it, potentially saving them consultancy and legal costs.

⁵ <http://www.wrap.org.uk/sites/files/wrap/Waste%20Regulations%20Route%20Map%20April%202014.pdf>

4. Recycling collection practice and performance

- 4.1 The Committee is concerned with the variance in recycling performance across Wales, and although there is value in looking at causes, it should be noted that the variance in Wales is actually less than in the rest of the UK. Some variance should be expected due to the different demographics across Wales, and the different levels of services. Merthyr Tydfil, for example, currently has the lowest recycling rate at 48%, providing a co-mingled recycling collection with weekly food waste and free garden waste. Denbighshire operate a similar service configuration, yet their total amount of recycled material is 14% more than Merthyr's. This can be attributed to the factors such as Merthyr's housing stock, which is largely terraced and as such produces far less garden waste, and its residual containment system in 240L as opposed to Denbighshire's 140L bin.
- 4.2 Looking at the best performing English authorities, fortnightly refuse with smaller (140 or 180 litre) bins is operated by 48% of the 25 best performers, whereas only 7% of all English authorities use this approach. 92% collect food waste, with only 51% of all English authorities doing the same. These two factors represent the most significant variables affecting performance and are clearly reflected in the Collections Blueprint.
- 4.3 Variation in performance can also be attributed to variation in accuracy and conventions in recording of data, and also differences in non-kerbside collection waste. Household Waste Recycling Centre performance varies in Wales from sites averaging low 30% to those in the high 80%. This can be attributed to the range of materials targeted, quantities of garden waste, management process, manpower levels and policy on segregation of waste entering the sites.
- 4.4 Similarly, commercial waste services vary considerably between authorities. The calculation method for the recycling rate means authorities that happen to have a large commercial waste service are likely to have a lower recycling rate, whilst an authority that has tried to discourage take up of its commercial waste service will achieve higher recycling rates.

5. In conclusion

- 5.1 Adoption of the Collections Blueprint across all Welsh local authorities would lead to substantial environmental and economic benefits, as well as job creation within local communities. There is more that the Welsh Government could do to promote the take-up of the Blueprint. An obvious approach would be the delivery of funding programmes that are more clearly aligned with the adoption of the Blueprint, but in particular support should be provided to ensure that change from one system to another is as effective and painless as possible for authorities that do adopt the Blueprint. Ensuring that recycling data takes proper account of the end destination of material, the amount actually recycled and its quality will also encourage authorities to adopt a greater degree of separate collection.
- 5.2 Performance differences will always exist to some extent due to demographics and waste composition. However, these are likely to reduce when authorities adopt more similar collection systems and the achievement of high recycling performance levels becomes more widespread.