

# Competition Assessment of the Impacts of Proposed Statutory Instruments Arising from Part IV of the Environment (Wales) Act and the Waste (Wales) Measure 2010

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Survey and Interview Results and Analysis

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## Report for the Welsh Government

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### *Acknowledgements*

We are grateful to the organisations that gave their time to provide data for the project and gave their views through telephone interviews and survey responses.

### *Disclaimer*

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# Executive Summary

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Eunomia Research & Consulting has undertaken this competition assessment on behalf of the Welsh Government. The assessment is based on engagement with the affected industries regarding the impacts on competitiveness of the proposed legislation arising from Part 4 of Environment (Wales) Act 2016 and the Waste (Wales) Measure 2010. This proposed legislation was detailed in the Welsh Government's recent document *Increasing Business Recycling in Wales*.<sup>1</sup>

It includes:

- Requiring non-domestic waste producers (including businesses, charities and the public sector) to present several kinds of waste – paper/card, glass, plastic/cans, food, waste electronics and textiles – separately from one another, so that they can be collected for recycling;
- requiring waste collectors to arrange for these materials to be collected separately;
- banning the disposal of specified separately collected recyclable wastes to landfill;
- banning the incineration of specified separately collected recyclable waste materials; and
- banning the disposal of food waste to sewer from non-domestic premises.

As part of its consultation process, the Welsh Government wishes to obtain a fuller understanding of how businesses believe these changes might affect their competitiveness.

The engagement carried out for this study included surveys of companies engaged in collecting, managing and sorting recycling and interviews with representatives of companies manufacturing technologies treating food waste prior to it being sent to sewer. The goal was to understand how the competitiveness of these businesses is likely to be affected by the legislation.

This report presents the results of the survey that was sent to waste companies collecting, managing, and sorting recycling and presents the results of interviews with five businesses impacted by the proposed ban on the disposal of food waste to sewer from non-domestic premises.

The response rate to the survey of waste management organisations was 16%, with 21 companies providing responses. This is not an unusually low rate of response, but it is

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<sup>1</sup> Welsh Government (2019) *Increasing Business Recycling in Wales*, September 2019, <https://gov.wales/sites/default/files/consultations/2019-09/increasing-business-recycling-in-wales.pdf>

also perhaps not indicative of a high level of concern regarding the impact of the proposed legislation on competition in Wales.

Across the different aspects of waste management, a substantial proportion of survey respondents thought that their costs would increase. However, respondents appear confident of their ability to compete within the new market, despite expectations of new competitors emerging. The answers provided by respondents generally portray a position in which the expectation is an increase in competition in the market, rather than a decrease. This may well be of concern to organisations currently providing services but suggests that there is not a strong reason to think that the proposed legislation will have a substantial detrimental impact on competition in the waste industry.

Because the Welsh Government proposes to ban the disposal of food waste to sewer, the interviews conducted with organisations engaged in the supply of technologies and the consumables that facilitate such disposal, understandably foresaw a significant impact on their ability to operate in the Welsh market. In some cases, impacts have already been felt, with businesses leaving (or intending to leave) the Welsh market for specific products.

Every business for each technology stated that the impact of the legislation in Wales would be significant. Each business's response was scored 2 or lower for Welsh-specific impacts of the proposed legislation, with the majority scoring 1 – the highest level of negative impact.

Manufacturers of enzyme digestion technology indicated that any reduction in revenue seen as a result of withdrawing from the Welsh market would result in less investment in research and development, which might reduce the ability of the business to compete in other aspects of their business in Wales. However, a common theme across each respondent was that due to the relatively small size of the Welsh market, any impact on their UK-wide business would be relatively low.

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# 1.0 Introduction

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The Welsh Government appointed Eunomia Research & Consulting (Eunomia) to research the opinions of organisations likely to be affected by proposed legislation arising from Part 4 of the Environment (Wales) Act 2016 and the Waste (Wales) Measure 2010 regarding its impact on their competitiveness.

To gather data, Eunomia conducted an online survey and telephone interviews with various organisations. This report presents the findings of the research and is structured as follows:

- Section 2.0 reports on the survey of waste management organisations:
  - Section 2.1 explains the methodology for the survey.
  - Section 2.2 describes the results of the online survey.
  - Section 2.3 provides comments from MRF Operators and Food Waste Treatment Operators
  - Section 2.6 provides general comments from the online survey
  - Section 2.5 describes additional information gathered from waste companies at the Circular Economy Wales Conference.
  - Section 2.6 summarises the main themes and results from the survey.
- Section 3.0 reports on interviews conducted with organisations engaged in the production of equipment enabling food waste to be disposed of to the sewer:
  - Section 3.1 explains the methodology for the interviews.
  - Section 3.2 describes the outputs of the interviews.
  - Section 3.3 summarizes conclusions from the interviews.

## 2.0 Survey of the Waste Industry

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### 2.1 Survey Methodology

#### 2.1.1 Survey Design

The survey was designed to capture the opinions of organisations involved in collection, transfer and reprocessing/treatment/disposal of waste arising from non-domestic premises across Wales. The survey was split into sections, addressed to organisations engaged in different activities, with 'skip logic' applied to avoid respondents having to spend time on irrelevant questions. Consistent question structures were used in each section so as to improve comparability of results, and questions with quantitative answers (e.g. number of employees) were given banded answers to facilitate increased response rates due to ease of answering. Questions of a more sensitive nature (e.g. company address, number of employees) were non-compulsory so as to remove concerns regarding anonymity and sensitive information.

In order to maximise the likely response rate, which is often a challenge with online surveys, the questions were designed to be concise and easy to answer. This approach

was also intended to encourage respondents that began the survey to complete all sections. Respondents were given detailed information on the purpose of the survey at the beginning via a letter of support from the Welsh Government and given the opportunity to ask questions from both Eunomia and the Welsh Government, with contact details provided in the introduction. The survey was distributed both in English and in Welsh to ensure that language was not a barrier to respondents.

### 2.1.2 Selection of Respondents

In order for the survey to provide an accurate picture of the impacts of the proposed legislation on the commercial waste sector, it was important that the survey participants reflected the diversity of actors within the sector. Relevant organisations were therefore contacted proactively in order to encourage participation. Two factors were considered in order to ensure a suitable level of diversity amongst respondents:

- Waste management activity – our approach ensured that a wide selection of waste collectors, transfer station operators, waste sorters, and re-processors of multiple different waste types were contacted, proportionate to the number of organisations in each category;
- Size and type of company – Eunomia contacted all large waste management companies operating across Wales, and a wide selection of smaller local companies. We also ensured that both private and public organisations, and local authorities were included in the circulation of the survey.

Organisations were identified through a range of channels:

- An initial list of key companies was provided by the Welsh Government, all of which were contacted.
- Eunomia contacted waste management companies identified in previous studies regarding waste management in Wales.
- A list of all persons registered in the Green Compass Directory as waste carriers was obtained and searched to increase the number of smaller waste collectors in the sample.
- Welsh local authorities that collect commercial waste were identified and contacted.
- All companies that had entries in the Welsh Government’s Waste Permit Returns Data (both waste received, and waste removed) were included.
- Key terms such as “paper recycling company” and “commercial waste collection” were searched in Google and Yell.com for locations in Wales.

In total, 130 companies were directly invited to participate in the survey through email. In addition, representative bodies for waste management companies (e.g. CIWM) and organisations with wide contacts in the sector (e.g. My Waste App) were asked to disseminate the survey through their newsletters. A press release was also disseminated to relevant trade press.

### 2.1.3 Survey Implementation

The invitation to participate in the survey was distributed through an email from Eunomia to 130 identified relevant companies. Where possible, a named individual was



contacted rather than a generic email address. The survey went live on 28<sup>th</sup> February 2020, and the initial invitation to participate in the survey was circulated on the same day. Follow up emails were sent on the 9<sup>th</sup> and 12<sup>th</sup> of March. The survey's initial deadline was 13<sup>th</sup> March 2020; however, additional follow up emails and select calls were made to seek further responses, with the survey closing on 20<sup>th</sup> March.

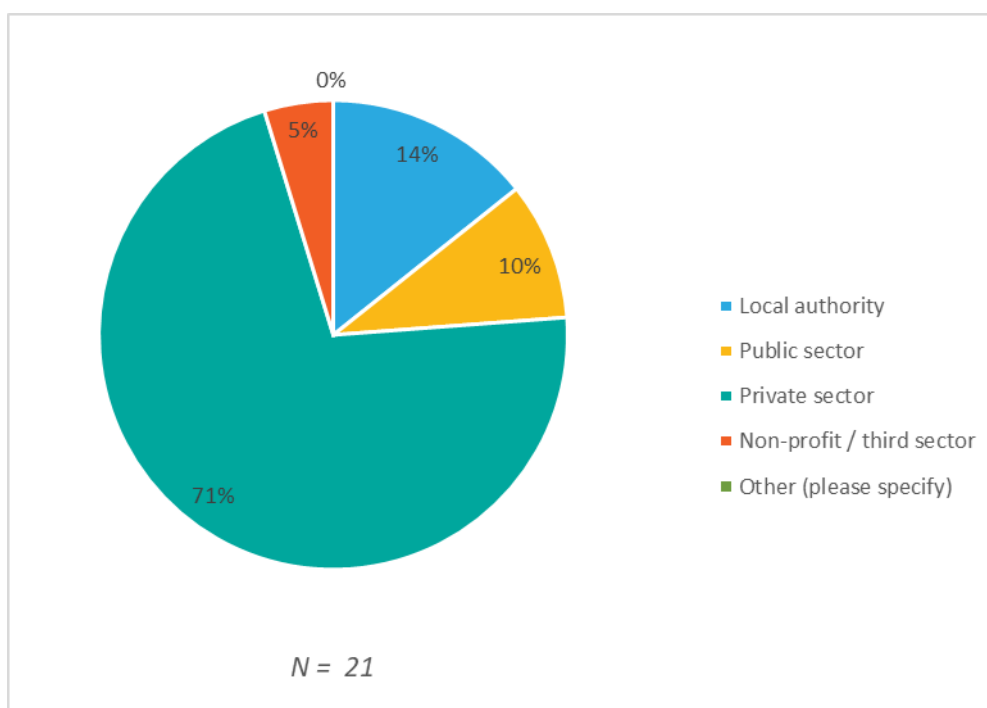
## 2.2 Summary of Results

The online survey achieved an overall response rate of 16%, with 21 companies providing responses. The following analysis focuses on the key findings from the survey. A list of all survey questions is included in Appendix A.1.0.

### 2.2.1 Organisational Response Breakdown

Figure 2-1 shows a breakdown of the types of organisation that responded.

**Figure 2-1: Q3 – What type of organisation are you?**



Of the 21 responses, 71% were private sector companies, 14% were local authorities, 10% were other public sector, and 5% were non-profit/third sector. They included organisations from North, South and Mid Wales, and from urban areas (such as Swansea and Cardiff) and rural settings (such as Powys and Gwynedd). While the number of responses was not extremely large, they do include a broad cross-section of waste management organisations.

Respondents were further differentiated as follows:

- 14 undertake waste collections from non-domestic premises.
  - All of these also collect from construction/demolition sites.
- 11 operate Waste Transfer Stations.
  - Seven of these receive household-like waste both from their own collection and third-party collectors.

- Most of the respondents receive waste from commercial and industrial sites, while a few also receive waste from large building sites.
- Four operate sorting facilities (MRFs).
- Three operate food waste recycling facilities.

Amongst the companies surveyed, the annual turnover related to non-domestic waste management in Wales was as follows:

- Four companies had an approximate annual turnover of up to £2 million;
- Two companies had a turnover between £2-£10 million; and
- Two companies had a turnover between £10-£250 million.

The number of employees directly engaged in managing non-domestic waste in Wales for these companies was as follows:

- Three companies had fewer than 10 employees;
- Three companies had between 10 and 49 employees; and
- Two companies had between 50 and 249 employees.

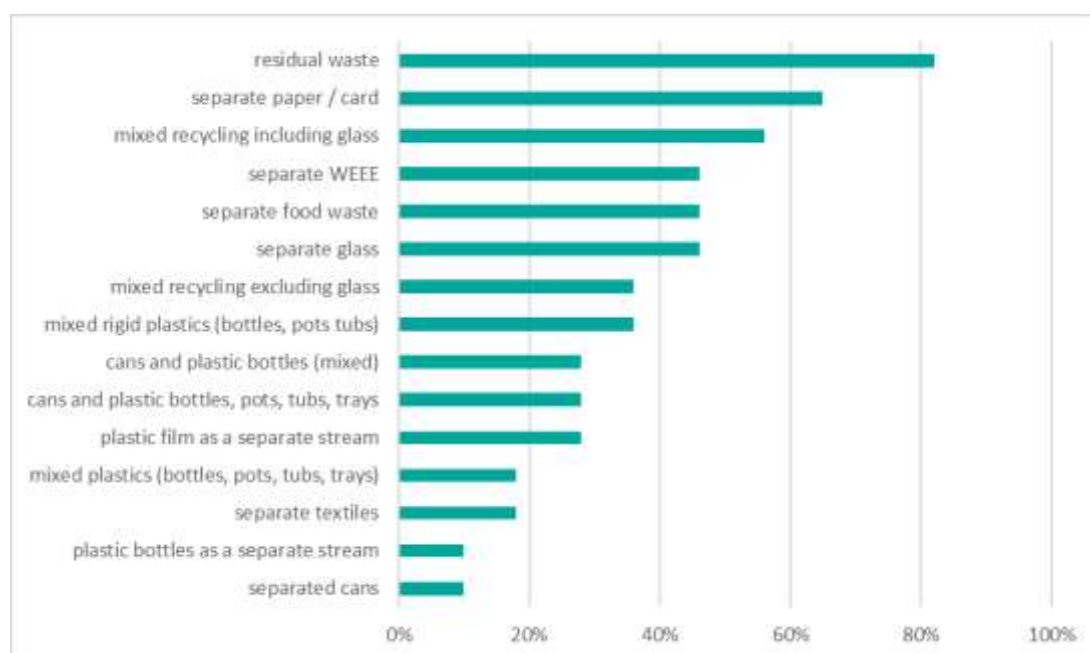
The sample sizes for companies with sorting facilities and food waste recycling are too small for detailed analysis, and we have therefore provided commentary on these results rather than a breakdown of responses. The following analysis focuses on those companies undertaking waste collection or operating transfer stations.

## 2.2.2 Waste Collection from Non-domestic Premises

### 2.2.2.1 Waste Streams Collected

Figure 2-2 shows the waste streams collected by respondents, of whom 11 provided an answer. Respondents were able to select as many waste streams as were applicable.

**Figure 2-2: Q5 - Which waste streams do you collect as part of your non-domestic waste collections?**



The most commonly collected materials were residual waste, separate paper/card and mixed recycling including glass – the latter being rather more common in the sample group than mixed recycling excluding glass. Fewer than half of the respondents collected separate food waste or separate glass.

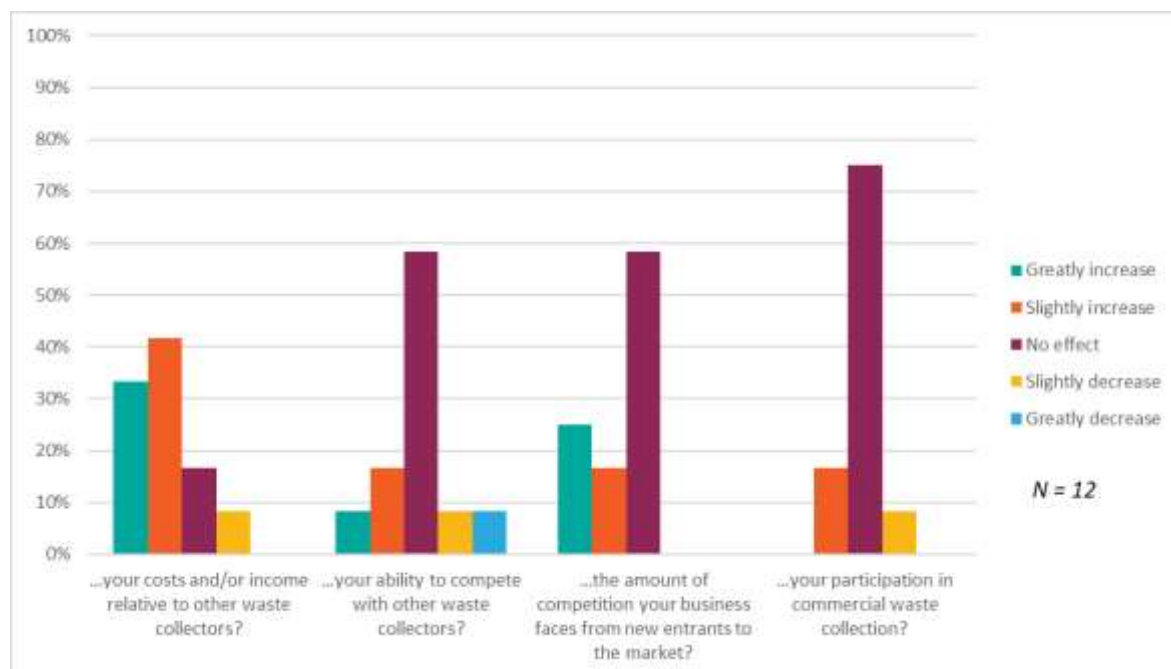
### 2.2.2.2 Impact of Three-stream Dry Recycling

Figure 2-3 shows respondents' perceptions of the impact of the introduction of a requirement to separate dry recycling into three streams. This is the Welsh Government's preferred option as presented in the consultation document.

A majority of respondents considered that the system was likely to result in an increase in costs relative to other waste collectors, although it seems as though some may have answered this question by simply by considering whether it would increase their own costs. These costs would, in the commercial waste market, be passed on to customers, and so would not necessarily affect profitability.

Few foresaw any impact in terms of competition with established and new waste collectors or participation in the market. A larger number of respondents thought that they would be better able to compete with other waste collectors than thought they would be less able to compete. Some anticipated new entrants to the market leading to an increase in competition.

**Figure 2-3: Q7 - If all non-domestic premises and C&D sites in Wales were required to separate dry recycling into three streams: paper/card, plastic/metal, and glass, would this change...**



Respondents were asked to provide additional commentary on the potential impact to their business. The following comments were received, which in particular highlighted a concern regarding the adequacy of enforcement and the economics of separate collections in rural areas:

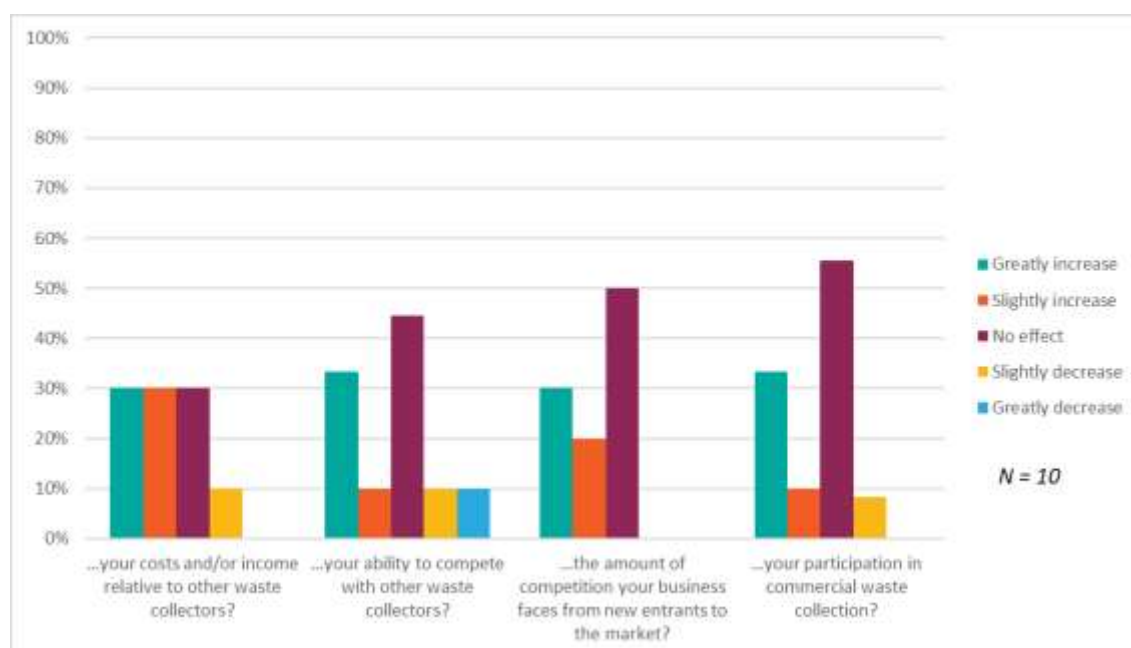
- “The collector has no authority to impose any mechanism on the market. The choice to move to a lower cost lower regulation provider is possible. Low geographic density does not favour economic separate collections.”
- “Biggest competition issue is non-compliance of other collection businesses.”
- “The requirement means we should be able to levy a charge that makes the service profitable. Currently offering recycling at a loss, subsidised by residual service.”

Concern about non-compliant competitors may have influenced some of the respondents that indicated that their costs might increase relative to other waste collectors.

### 2.2.2.3 Impact of Separate Food Waste Collection

Figure 2-4 shows respondents’ perceptions of the impact of the introduction of a requirement to separately collect food waste. 60% of respondents considered that there would be an increase in costs – which in the commercial waste market would be passed on to customers, while 30% foresaw no change. As with the proposed changes to dry recycling collections, few respondents foresaw negative impacts for them in terms of competition with established waste collectors, or their participation in the market. Again, an increase in competition from new entrants was considered likely, possibly reflecting the relatively small proportion of respondents currently collecting food waste.

**Figure 2-4: Q8 - If all non-domestic premises in Wales were required to separate food waste for recycling, would this change...**



One operator indicated that it would withdraw from some areas of Wales if a requirement to separate food waste was introduced.

Respondents were asked to provide additional commentary on the potential impact to their business. The comments received were broadly descriptive, rather than being specifically critical or supportive of the Welsh Government’s proposed legislation:

- “There is not a competitive marketplace for food recycling in Wales.”
- “LAs well placed to offer competitive prices due to tonnage bands via AD contracts.”

#### **2.2.2.4 Impact of Separate Textile and Separate WEEE Collections**

The majority of respondents expected no effect in terms of an increase in costs and/or income, competition with established and new waste collectors or participation in the market as a result of the Welsh Government’s proposed legislation to require textiles and WEEE to be collected separately. This perhaps reflects the fact that few respondents currently collect these materials separately (five collect WEEE, two collect textiles). One operator indicated that it would withdraw from some areas of Wales if a requirement to separate textiles or WEEE was introduced.

Respondents were asked to provide additional commentary on the potential impact to their business. The following comments were received, indicating concerns about a de minimis level and the practicality of collecting minor waste streams on existing rounds:

##### **Regarding textiles:**

- “Is there a minimum quantity for this service? And all services?”
- “Third Sector “partner” would offer services and collect independently. Opportunity for them to bring in additional income and support worthy business models with social benefits.”

##### **Regarding WEEE:**

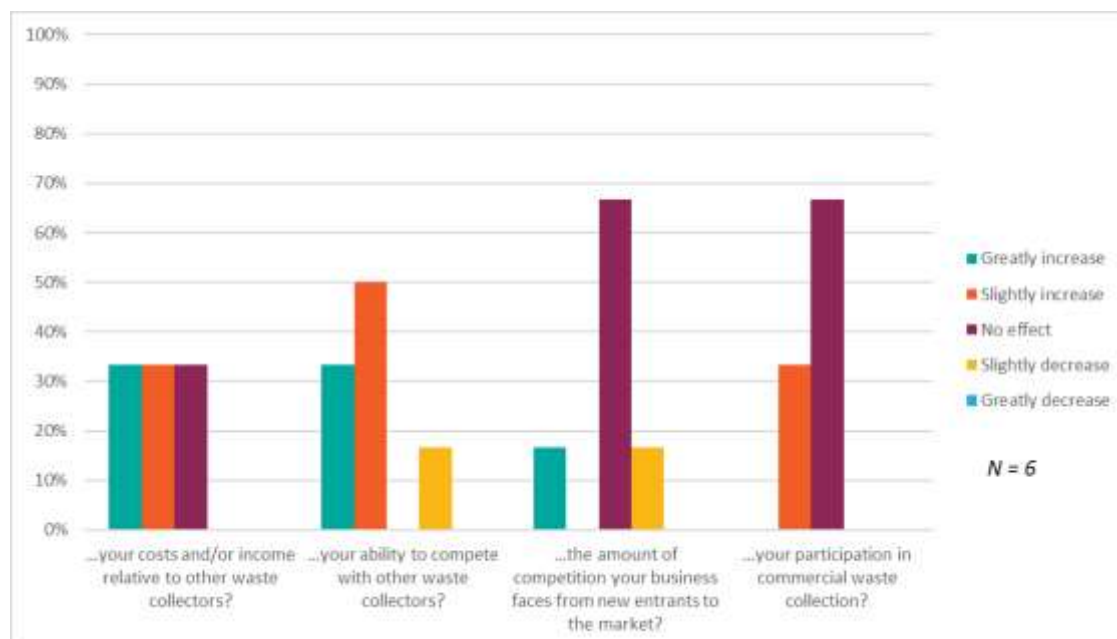
- “Will this be regulated as a hazardous collection?”
- “Co-collection with other materials problematic on RCVs. OK for smaller businesses if collecting on RRVs in future.”

### **2.2.3 Businesses Operating a Transfer Station**

#### **2.2.3.1 Impact of Three-stream Dry Recycling**

Figure 2-5 shows respondents’ perceptions of the impact of the introduction of a requirement to separate dry recycling into three streams. This is the Welsh Government’s preferred option as presented in the consultation document. The majority of respondents considered that the system was likely to result in an increase in costs relative to other transfer stations – which in the commercial waste market would be passed on to customers. However, the majority thought that the new requirements would improve their ability to compete with other transfer stations. Most foresaw no change in respect of new entrants to the market, or their own level of participation in the market.

**Figure 2-5: Q14 - If all non-domestic premises and large C&D sites in Wales were required to separate dry recycling into three streams: paper/card, plastic/metal and glass, would this change...**



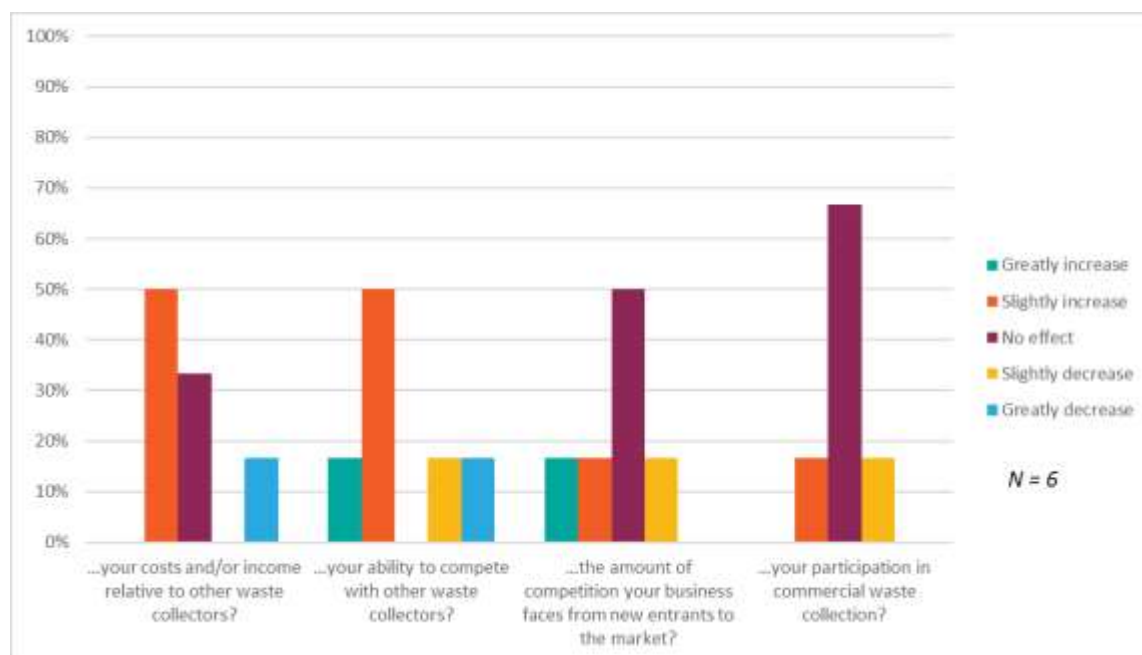
Respondents were asked to provide additional commentary on the potential impact to their business. The following comments were received, which again highlight a concern about enforcement:

- “Non-compliance of other businesses greatest risk.”
- “We are moving to a source seg system Sept 2021 so no effect.”

### 2.2.3.2 Impact of Separate Food Waste Collection

Figure 2-6 shows respondents’ perceptions of the impact of the introduction of a requirement to separate food waste. Half of respondents considered that the system was likely to result in a slight increase in costs relative to other transfer stations – which in the commercial waste market could be recovered through income. However, most foresaw no negative impact in terms of competition with other waste transfer stations, with new entrants to the market, or their level of participation in the market.

**Figure 2-6: Q15 - If all non-domestic premises and large C&D sites in Wales were required to separate food waste for recycling, would this change...**



### 2.2.3.3 Impact of Separate Textile and WEEE Collection

The majority of respondents expected no effect in terms of competition with established and new waste collectors or participation in the market as a result of the Welsh Government's proposed legislation to require textiles and WEEE to be collected separately. While some anticipated increases in costs, these were not considered likely to affect competitiveness.

## 2.3 MRF Operators and Food Waste Treatment Operators

There were a small number of responses from MRF operators and food waste treatment providers.

The small number of responses makes a meaningful, detailed analysis impossible. However, the responses can be summarised as follows:

- Two MRF operators responded.
  - Neither foresaw any change in their involvement in the market in Wales;
  - One anticipated increased costs, while the other thought there would be no change.
  - One anticipated increased competition from new entrants, while the other thought there would be no change.
  - One thought that their ability to compete would improve, while the other thought there would be no change.
- Two food waste treatment providers responded.
  - Neither thought that their costs or ability to compete would change.

- One anticipated increased competition from new entrants, while the other thought there would be no change.
- One anticipated increasing their involvement in the market in Wales, while the other thought there would be no change.

These responses do not signal any significant concerns on the part of the industry regarding competition impacts.

## 2.4 General Comments from Respondents

Respondents were offered an opportunity to provide any general comments regarding impacts on competitiveness. Four chose to do so, although none of the comments bore directly on the question of competitiveness.

- One asked whether there would be funding to support private sector collectors to introduce separate collections.
- One queried whether the survey should have addressed the impacts of the proposed ban on certain waste being sent to landfill.
- Two commented on a need for effective enforcement. This raised a competition issue, as collectors were concerned about being undercut by competitors that did not abide by the new regulations.
- One asked for clarification regarding the proposed implementation date for the legislation, highlighting that time was needed to obtain new containers.

## 2.5 Views Expressed by Waste Management Organisations at the Circular Economy Wales Conference

During a presentation from Jane Hall of my MyWasteApp at the Circular Economy Wales conference on 28<sup>th</sup> February 2020, the audience was polled on a few key questions inspired by the survey whose results are reported on above. No specific information is known about the attendees that participated in the live poll, and the questions were worded differently from the survey, so the results are not directly comparable; but the results offer an additional data point regarding perceived impacts on competitiveness.

Key takeaways from the poll included:

- 76% of 33 respondents said that a requirement for their business to segregate recyclables would increase their operating costs.
- 54% of 26 respondents said that additional source segregation would not affect their ability to compete with other waste companies. A further 31% responded that segregation of recyclables would improve their ability to compete, with only 15% declaring it would worsen their ability to compete.
- There was a divergence of views regarding how segregating recyclables would impact profitability. Of the 24 respondents:
  - 37.5% said that it would decrease their profitability;
  - 33% said there would be no change; and
  - 29% said it would increase their profitability.



The results of this straw poll are broadly consistent with the survey findings, with a widespread view that costs would increase, but relatively little concern regarding impacts on competitiveness.

However, questions were voted on live, with little time for participants to reflect on the potential impacts of the proposed legislation. The results must therefore be treated with some caution.

## **2.6 Summary and Conclusions**

The survey response rate of 16% response rate is within the typical range for exercises of this type but represents a relatively low level of engagement from the sector. Given the efforts made to reach as many organisations as possible, a low level of engagement is perhaps indicative of a relatively low level of concern regarding the impacts of the proposed legislation on competition in the waste management market.

The responses received are reasonably reflective of the number of businesses engaged in different waste management activities across Wales – generally, waste collectors are the most numerous, while sorting plant operators and food waste treatment providers are the least numerous.

With a low response rate, one might anticipate a tendency for responses to tend to come from the businesses with the greatest concerns about the impacts of the proposed legislation. However, few of the responses disclosed an expectation on the part of the respondent that they would leave or reduce their participation in the Welsh market.

Across the different aspects of waste management, a substantial proportion of respondents thought that costs would increase. However, respondents appear confident of their ability to compete within the new market, despite expectations of new competitors emerging. The answers provided by respondents generally portray a position in which the expectation is an increase in competition in the market, rather than a decrease. This may well be of concern to organisations currently providing services but suggests that there is not a strong reason to think that the proposed legislation will have a substantial detrimental impact on competition in the waste industry.

## **3.0 Interviews with Manufacturers Affected by the Food Waste to Sewer Ban**

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### **3.1 Methodology**

#### **3.1.1 Interview Design**

During the interviews, each participant was asked the same set of questions. The interview questions are listed in Appendix A.2.0.

The interview participants were:

- BioHiTech

- Mechline
- IMC
- Foodservice Equipment Association
- Anonymous consultant

There are few businesses operating in this market, and so the respondents represent a very significant share of those affected by the proposed legislation.

### **3.1.2 Approach to Analysis**

In order to provide the Welsh Government with quantifiable outputs from the largely qualitative survey, Eunomia has assigned a numerical score to the answers provided by respondents. The scoring mechanism used for each question is explained in the sections below. In addition, information is included about the specific comments made by respondents.

## **3.2 Interview Outputs**

### **3.2.1 Questions About the Interview Participants**

Summary information regarding the businesses surveyed is shown in Table 3-1.

Participants include a range of businesses impacted by the proposed legislation including manufacturers of macerators, dewatering machines, enzyme digester producers, and trade suppliers. All the businesses operate within the wider UK market as well as within Wales.

**Table 3-1: Businesses Surveyed**

Company	Products manufactured/sold	Number of employees directly or indirectly engaged in the business activities	Approximate annual UK turnover related to products
<b>BioHiTech</b>	European arm of US firm that is engaged in various forms of food waste treatment. Manufactures and sells enzyme digestors; manufactures and sells products that are required for the operation of enzyme digester equipment; sells services supporting the operation of this equipment.	Employs 8 people directly or indirectly	Less than £1million
<b>Mechline</b>	Manufactures a range of products for the food service and hospitality industry, including bio-digestors	Website shows 48 employees; difficult to estimate how many roles rely on bio-digestors	~£0.5million
<b>IMC</b>	Manufactures and sells macerators and dewatering machines, alongside other waste management equipment including compactors. Based in Wrexham Wales.	Employs 14 people directly or indirectly	~£1.1million
<b>Foodservice Equipment Association</b>	Trade association	n/a	n/a
<b>Anonymised Consultancy</b>	Consultant representing equipment suppliers and manufacturers affected by the proposed legislation	n/a	n/a

### 3.2.2 Impacts of the Ban on Food Waste to Sewer

Table 3-2 shows the answers given by respondents to survey Question 5, regarding the proposed ban on the disposal of food waste to sewer.

The scoring system used for this question was a ranking system from 1-5, where 1 represents a serious or negative impact, and 5 represents minimal impact.

Two organisations responded to these questions. Both organisations stated that the ban would have a substantial negative impact on the ability of the business to compete with other manufacturers of products designed to treat food waste prior to disposal in the sewer with regards to the Welsh market. Respondents anticipated a similar, substantial impact with respect to their sale of products required for the operation of this equipment. One organisation further responded in respect of the anticipated impact on the sale of services in respect of this type of equipment, confirming that it expected a significant impact in Wales on this aspect of their business.

Overall, a significant impact was anticipated with regards to the participation of these companies in the food waste treatment business in Wales. However, one of the two organisations also commented on the impact on their ability to compete in the wider UK market. Here, the impacts were anticipated to be much lower, rated at 4 or 5 for the relevant products and services. These scores reflect the company anticipating being able to continue to work in the larger UK market, notwithstanding a ban in Wales.

**Table 3-2. Responses to Questions 5a-d**

Questions	Responses of stakeholders				
	BioHiTech	Mechline	IMC	Foodservice Equipment Association (FEA)	Anonymous Consultancy
<b>5) If the use of macerators to treat source segregated food waste produced by commercial premises in Wales, is not exempted from the ban on food waste to sewer, would this:</b>					
a) Lead you to change your participation in the food waste treatment business	n/a	n/a	UK-wide: 5 Wales: 2	Wales: 2	n/a
b) Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer	n/a	n/a	UK-wide: 5 Wales: 2	Wales: 1	n/a
c) Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer	n/a	n/a	UK-wide: 4 Wales: 2	Wales: 2	n/a
d) Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer	n/a	n/a	n/a	Wales: 2	n/a
<b>Notes:</b> The scoring system used is a ranking system from 1-5, where 1 represents a serious or negative impact, and 5 represents minimal impact.					

Table 3-3 shows the answers given by respondents to survey Question 6, regarding the proposed ban on de-waterers.

There was only one respondent to these questions – a business which sold both macerators and de-watering technology to the UK-wide market. The participant expected the UK-wide impact on non-exempting de-watering technology from the ban on the disposal of food waste to sewer to be greater than that for macerators. This was because the former is a more expensive technology, and the business was concerned that a ban in Wales could lead to uncertainty amongst customers in England, who might anticipate a similar ban on food waste to sewer being implemented there, making them reluctant to make a substantial investment in the technology.

A similar impact was anticipated for the sale of the associated equipment required for the operation of the de-watering equipment (although the participating organisation did not sell services in this sector). Overall, the not exempting de-waterers from the ban of food waste to sewer was expected to have a moderate impact on this organisation's participation in the food waste treatment business for the UK as a whole. By contrast, the impact of not exempting macerators from the ban on food waste to sewer was anticipated to have a minimal impact on the same organisation's UK-wide business.

Table 3-4 shows the answers given by respondents to survey Question 7, regarding the not exempting enzyme digestors from the ban on food waste to sewer.

Two organisations responded to the questions regarding the enzyme digesters. Both said that the proposed ban on food waste to sewer had already significantly changed their participation in the Welsh market, resulting in them leaving the Welsh market due to a significant reduction in the number of potential customers in Wales willing to risk making a significant investment in their technology. Impacts on their ability to compete in UK market were anticipated to be much less significant, however, due to the relative size of the UK market in comparison to that of Wales. The two organisations differed somewhat, however, in their view of the extent to which the ban would impact on the ability of the business to compete with other manufacturers of enzyme digesters as far as the UK / English markets were concerned:

- One stated that the ban would significantly impact upon their ability to compete with other manufactures of enzyme digestors and felt that some of this impact would be felt UK-wide. This was due to concern that a ban on food waste to sewer in Wales might lead to uncertainty in the English market, resulting in a reduced revenue stream. The impact was, however, anticipated to be moderate.
- The other also raised concerns regarding a knock-on effect in the English market, which might affect their ability to compete due to reduced profitability, but viewed the likelihood of this happening as fairly low – with a correspondingly lower score being given in respect of the overall impact.

Both organisations anticipated that the impact of the ban on food waste to sewer would have a significant impact on to their ability to supply equipment and services for the enzyme digesters in Wales, but considered that the impact on the UK market as a whole would be much lower, due to the relative size of the UK market. The two respondents said that the reduced revenue would impact on their competitiveness and their ability to invest in research and development.

**Table 3-3. Responses to Questions 6a-d**

Questions	Responses of stakeholders				
	BioHiTech	Mechline	IMC	Foodservice Equipment Association	Anonymous Consultancy
<b>6. If the use of de-watering equipment to treat source segregated food waste produced by commercial premises in Wales, is not exempted from the ban on food waste to sewer, would this:</b>					
a) Lead you to change your participation in the food waste treatment business			UK wide: 3		
b) Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer			UK wide: 3		
c) Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer			UK wide: 3		
d) Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer			n/a		

**Table 3-4. Responses to Questions 7a-d**

Questions	Responses of stakeholders				
	BioHiTech	Mechline	IMC	Foodservice Equipment Association	Anonymous Consultancy
<b>7. If the use of enzyme digesters to treat source segregated food waste produced by commercial premises in Wales, was not exempted from the ban on food waste to sewer, would this:</b>					
a) Lead you to change your participation in the food waste treatment business	UK-wide: 4 Wales: 1	UK-wide: 4 Wales: 1			
b) Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer	UK-wide: 4 Wales: 1	UK-wide: 1			
c) Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer	UK-wide: 4 Wales: 1	UK-wide: 3 Wales: 1			n/a
d) Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer	UK-wide: 4 Wales: 1	n/a			n/a



Table 3-5 shows the answers given by respondents to survey Question 8. The question concerned the geographical area over which the business would be able to supply its services if a ban was to be put in place.

Here the scoring system used is a ranking system from 1-3, where 1 represents a serious or negative impact, and 3 represents minimal impact.

All participants in the survey answered these questions. All anticipated that the ban would significantly limit the geographic area within which the business could supply services in respect of the Welsh market, with the ban leading them to withdraw from the market. Impacts for the UK-wide market were, however, anticipated to be less significant for the affected businesses.

**Table 3-5. Responses to Questions 8a-d**

Questions	Responses of stakeholders				
	BioHiTech	Mechline	IMC	Foodservice Equipment Association	Anonymous Consultancy
8. To what extent would the new regulations limit the geographical area within which your businesses could supply its services, if all commercial premises in Wales using the following equipment to treat source segregated food waste were not exempted from the ban on food waste to sewer:					
a) Macerators - either as a standalone piece of equipment or in conjunction with other equipment such as a de-watering machine?			UK-wide: 3 Wales: 1	UK-wide: 3 Wales: 1	Wales: 1
b) De-watering machines - either as a standalone piece of equipment or in conjunction with other equipment such as a macerator?			UK-wide: 3 Wales: 1	UK-wide: 3 Wales: 1	Wales: 1
c) Enzyme digesters?	UK-wide: 2 Wales: 1	UK-wide: 3 Wales: 1	n/a	UK-wide: 3 Wales: 1	Wales: 1

Suppliers of the enzyme digester technology reiterated the point that there may be impacts on the UK-wide market as a consequence of the Welsh ban, as a result of uncertainty over whether England might follow suit. One supplier with overseas backing said that the Welsh ban might deter future investment by the parent company within the UK market.

### **3.2.3 Additional Commentary Provided in the Interviews**

All the respondents to the survey saw the technologies potentially affected by the ban on food waste to sewer as complementary to kerbside collections of food waste. They stated that Anaerobic Digestion (AD), the likely treatment method for separately collected food waste, is not the most environmentally friendly option in every scenario. One example cited was a commercial kitchen in a rural/inaccessible area, where a long vehicle journey might be required to collect food waste. Others cited the example of organisations with hygiene concerns, such as hospital kitchens, where they considered that daily food waste collections would be required. The respondents thought that their technologies were a more economical option in such circumstances.

The FEA stated that de-waterer technology enables a significant mass reduction in food waste, and makes the food waste a more valuable feedstock when it is sent to AD. It stated that any ban on this technology would have a significant detrimental impact on the AD industry as the food waste will be a majority of water, and pointed to the example of Northern Ireland, where they said de-waterer technology continued to be allowed although macerators had been banned.

BioHiTech and the FEA also expressed concerns that enzyme digester technologies were being viewed as similar to macerator technology. They stated that the effluent produced from macerators differed from that from enzyme digestors, and that the technologies should not be regarded as similar.

Additionally, concerns were expressed about the quality of the information from which the Welsh Government created the proposed legislation; the new research and reports on technology and sewer blockages that have appeared in the time that the proposed legislation was created; and concerns that the proposed legislation was influenced by an AD centric lobby.

Most of the respondents supplied additional supporting documents asserting the importance of their technologies and requested further direct discussion with the Welsh Government about the impacts on their businesses.

## **3.3 Summary and Conclusions**

Because of the nature of the proposed legislation under examination in this study, which bans the disposal of food waste to sewer, and thus impacts the technologies and services provided by respondents, their responses understandably foresaw a significant impact on their ability to operate in the Welsh market. In some cases, impacts have already been felt, with businesses leaving (or intending to leave) the Welsh market for specific products. However, a common theme across each respondent was that due to the relatively small size of the Welsh market, any impact on their UK-wide business would be relatively low.

Respondents found it difficult to separate their concerns over their access to the market from questions of the impact of the proposed legislation on their overall competitiveness. Clearly, the proposed legislation will make it impossible for food waste to sewer technologies to compete with kerbside collection – indeed, this is its intended goal. However, each of the respondents has wider business activities – both other technologies and other markets. While some respondents indicated concern about the impact of their

ability to compete elsewhere in the UK, this was based on a belief that potential customers might become concerned that other national governments might implement similar measures. However, much of this concern relates to a reduction in the overall size of the market for food waste to sewer technologies, rather than their ability to compete within it. The exception was a supplier of de-watering equipment, whose response indicated that the higher investment cost of their technology, compared with other food waste to sewer technologies, meant that their ability to compete in the wider UK market would be more affected by uncertainty than would that of suppliers of other technologies.

Every business for each technology stated that the impact of the legislation in Wales would be significant. Each business's response was scored 2 or lower for Welsh-specific impacts of the proposed legislation, with the majority scoring 1 – the highest level of negative impact.

Manufacturers of enzyme digestion technology indicated that any reduction in revenue seen as a result of withdrawing from the Welsh market would result in less investment in research and development, which might reduce the ability of the business to compete in other aspects of their business in Wales.

The overall impact on businesses and employment in Wales arising from the proposed ban on food waste to sewer is anticipated to be relatively small. Annual turnovers reported by respondents ranged from ~£0.5million to ~£1.1million, with an estimated 30-50 employees directly or indirectly engaged in activities related to food waste to sewer products.

There may be other businesses involved in selling services associated with equipment (whose views are to some degree represented by the FEA); however, the size of this market is also likely to be small, given the size of the market for the direct sales of the equipment.

# APPENDICES

## **A.1.0 Survey Questions**

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Thank you for agreeing to participate in this survey.

The aim of the survey is to understand how your organisation's waste management operations might be affected by proposed new legislation to increase recycling at non-domestic premises in Wales.

Your input will contribute to the ongoing stakeholder consultations regarding the changes in competitiveness that might arise from implementation of the Environment (Wales) Act 2016 and the Waste (Wales) Measure 2010. This survey comprises part of the Regulatory Impact Analysis of the proposed introduction of new legislation.

This survey is part of a research project commissioned by the Welsh Government and is being carried out by Eunomia Research & Consulting. The responses will only be used for the purposes of the research project.

Please follow this link for a letter of support from the Welsh Government and for the Welsh Privacy Terms. You can contact [ResourceEfficiencyAndCircularEconomy@gov.wales](mailto:ResourceEfficiencyAndCircularEconomy@gov.wales) if you wish to discuss the use of your data further or if you wish to withdraw your consent at any time. The survey should take less than 15 minutes.

Please complete the survey by 5 pm on the 6th of March. Thank you!

### **A.1.1 What is the name of your organisation?**

### **A.1.2 What is the address of your organisation?**

### **A.1.3 What type of organisation are you?**

- Local authority
- Public sector
- Private sector
- Non-profit / third sector
- Other (please specify)

### **A.1.4 Do you undertake waste collections from non-domestic premises?**

- Yes
- No

**A.1.5 Which waste streams do you collect as part of your non-domestic waste collections? Please select all that apply.**

- residual waste
- mixed recycling including glass
- mixed recycling excluding glass
- separate paper / card
- separate glass
- cans and plastic bottle (mixed)
- cans and plastic bottles, pots, tubs and trays (mixed)
- cans and plastic bottles, pots, tubs, trays and film (mixed)
- plastic bottles as a separate stream
- plastic film as a separate stream
- mixed rigid plastics (bottles, pots, tubs, trays) as a separate stream
- mixed plastics (bottles, pots, tubs, trays, film) as a separate stream
- separated cans
- separate food waste
- separate WEEE
- separate textiles

**A.1.6 Do you undertake collections of waste of the types mentioned above from construction / demolition sites?**

- Yes
- No

**A.1.7 If all non-domestic premises and C&D sites in Wales were required to separate dry recycling into three streams: paper/card, plastic/metal, and glass, would this change...**

**A.1.7.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste collectors?
- ...your ability to compete with other waste collectors?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste collection?
- Please provide any other comments on the impact on your business.

### **A.1.8 If all non-domestic premises in Wales were required to separate food waste for recycling, would this change...**

#### **A.1.8.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste collectors?
- ...your ability to compete with other waste collectors?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste collection?
- Please provide any other comments on the impact on your business.

### **A.1.9 If all non-domestic premises in Wales were required to separate textiles waste for recycling, would this change...**

#### **A.1.9.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste collectors?
- ...your ability to compete with other waste collectors?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste collection?
- Please provide any other comments on the impact on your business.

### **A.1.10 If all non-domestic premises and large C&D sites in Wales were required to separate waste electronic or electrical equipment (WEEE) for recycling, would this change...**

#### **A.1.10.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste collectors?
- ...your ability to compete with other waste collectors?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste collection?
- Please provide any other comments on the impact on your business.

### **A.1.11 Do you operate a transfer station where you receive household-like waste from:**

- Your own collection service?
- Third parties?
- Both your own collection service and third parties?



- I do not operate a waste station

**A.1.12 Which of the following sources do you receive waste from?  
Please select all that apply.**

- Commercial premises
- Industrial premises
- Large building sites

**A.1.13 Which of the following streams do you receive from non-domestic sources? Please select all that apply.**

- residual waste
- mixed recycling including glass
- mixed recycling excluding glass
- separate paper / card
- separate glass
- cans and plastic bottle (mixed)
- cans and plastic bottles, pots, tubs and trays (mixed)
- cans and plastic bottles, pots, tubs, trays and film (mixed)
- plastic bottles as a separate stream
- plastic film as a separate stream
- mixed rigid plastics (bottles, pots, tubs, trays) as a separate stream
- mixed plastics (bottles, pots, tubs, trays, film) as a separate stream
- separated cans
- separate food waste
- separate WEEE
- separate textiles

**A.1.14 If all non-domestic premises and large C&D sites in Wales were required to separate dry recycling into three streams: paper/card, plastic/metal and glass, would this change...**

**A.1.14.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste transfer stations?
- ...your ability to compete with other waste transfer stations?
- ...the amount of competition your business faces from new entrants to the market?

- ...your participation in commercial waste transfer?
- Please provide any other comments on the impact on your business.

### **A.1.15 If all non-domestic premises and large C&D sites in Wales were required to separate food waste for recycling, would this change...**

#### **A.1.15.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste transfer stations?
- ...your ability to compete with other waste transfer stations?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste transfer?
- Please provide any other comments on the impact on your business.

### **A.1.16 If all non-domestic premises and large C&D sites in Wales were required to separate textiles waste for recycling, would this change...**

#### **A.1.16.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste transfer stations?
- ...your ability to compete with other waste transfer stations?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste transfer?
- Please provide any other comments on the impact on your business.

### **A.1.17 If all non-domestic premises and large C&D sites in Wales were required to separate waste electronic or electrical equipment (WEEE) for recycling, would this change...**

#### **A.1.17.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other waste transfer stations?
- ...your ability to compete with other waste transfer stations?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in commercial waste transfer?
- Please provide any other comments on the impact on your business.

**A.1.18 \* 18. Do you operate a sorting facility that receives non-domestic waste?**

- Yes
- No

**A.1.19 If all non-domestic premises and large C&D sites in Wales were required to separate dry recycling into three streams: paper/card, plastic/metal and glass, would this change...**

**A.1.19.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other MRF operators?
- ...your ability to compete with other MRF operators?
- ...the amount of competition your business faces from new entrants to the market?
- ...your participation in the MRF business?
- Please provide any other comments on the impact on your business.

**A.1.20 Do you operate a food waste recycling facility?**

- Yes
- No

**A.1.21 If non-domestic premises and large C&D sites in Wales were required to separate food waste for recycling, would this change...**

**A.1.21.1 Greatly increase, Slightly increase, No effect, Slightly decrease, Greatly decrease**

- ...your costs and/or income relative to other food waste treatment plant operators?
- ...your ability to compete with other food waste treatment plant operators?
- ...the amount of competition your food waste treatment plant faces from new entrants to the market?
- ...your participation in the food waste treatment plant business?
- Please provide any other comments on the impact on your business.

**A.1.22 What is your approximate annual turnover £/annum related to non-domestic waste management in Wales?**

- Up to £2 million
- Between £2 million and £10 million
- Between £10 million and £250 million
- More than £250 million

**A.1.23 How many of your employees are directly engaged in managing non-domestic waste in Wales? (Full time equivalent)**

- Fewer than 10 employees
- Between 10 and 49 employees
- Between 50 and 249 employees 250 or more employees

**A.1.24 Would the following changes affect the geographical area within which your business could supply its services?**

**A.1.24.1 Would withdraw from Welsh market, Would withdraw from some areas of Wales, Unaffected**

- All commercial premises and large C&D sites in Wales are required to separate dry recycling into three streams: paper/card, plastic/metal and glass?
- All commercial premises and large C&D sites in Wales are required to separate food waste?
- All commercial premises and large C&D sites in Wales are required to separate textiles for recycling?
- All commercial premises and large C&D sites in Wales were required to separate WEEE for recycling?
- Please provide any other comments on the impact on your business.

**A.1.25 Would either of the following options have a better impact on the competitiveness, income or participation of your business than the current proposal of three-stream recycling?**

- If all commercial premises and large C&D sites in Wales are required to separate paper, card, glass plastic and metal packaging from their residual waste for recycling, for collection as a co-mingled stream
- If all commercial premises and large C&D sites in Wales were required to separate dry recycling into five streams: paper, card, plastic, metal and glass

- Please add any comments on these options below.

#### **A.1.26 Do you have any other comments on these proposals?**

## A.2.0 Food Waste to Sewer Interview Questions

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The interview questions discussed with each participant were as follows:

1. Organisation
2. Does the organisation:
  - a. Manufacture or sell the following products designed to treat source segregated food waste, prior to its disposal to sewer:
    - i. Macerators (either as a standalone piece of equipment or in conjunction with other equipment such as a de-watering machine)
    - ii. De-watering machines (either as a standalone piece of equipment or in conjunction with other equipment such as a macerator)
    - iii. Enzyme digesters?
  - b. Manufacture or sell products that are required for the operation of equipment designed to treat food waste prior to its disposal to sewer (such as microbial products and enzymes)?
  - c. Sell services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer (such as maintenance contracts for this type of equipment)?
3. Approximate annual turnover related to products used for treating source segregated food waste prior to its disposal to sewer in Wales
4. Approximate number of employees directly or indirectly engaged in the business activities set out in question 2 in Wales

### **Regarding products for treating food waste prior to its disposal in sewer:**

5. If the use of macerators to treat source segregated food waste produced by commercial premises in Wales, is not exempted from the ban on food waste to sewer, would this:
  - a. Lead you to change your participation in the food waste treatment business (1-5 scale, greatly reduce to greatly increase, or 0 if not applicable)
  - b. Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
  - c. Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)

- d. Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)

Note: "not applicable" should be used where the business being surveyed does not sell the type of product or service referred to in the question

- 6. If the use of de-watering equipment to treat source segregated food waste produced by commercial premises in Wales, is not exempted from the ban on food waste to sewer, would this: Lead you to change your participation in the food waste treatment business (1-5 scale, greatly reduce to greatly increase, or 0 if not applicable)
  - a. Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
  - b. Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
  - c. Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
- 7. If the use of enzyme digesters to treat source segregated food waste produced by commercial premises in Wales, is not exempted from the ban on food waste to sewer, would this:
  - a. Lead you to change your participation in the food waste treatment business (1-5 scale, greatly reduce to greatly increase, or 0 if not applicable)
  - b. Affect your ability to compete with other manufacturers of products designed to treat food waste before its disposal in the sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
  - c. Affect your ability to compete with other manufacturers of products required for the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
  - d. Affect your ability to compete with other suppliers of services in respect of the operation of equipment designed to treat food waste prior to its disposal to sewer (1-5 scale, strongly negative to strongly positive, or 0 if not applicable)
- 8. To what extent would the new regulations limit the geographical area within which your businesses could supply its services, if all commercial premises in Wales using the following equipment to treat source segregated food waste were not exempted from the ban on food waste to sewer:

- a. Macerators - either as a standalone piece of equipment or in conjunction with other equipment such as a de-watering machine? (1: unaffected, 2: Would withdraw from some areas of Wales, 3: Would withdraw from Welsh market)
- b. De-watering machines - either as a standalone piece of equipment or in conjunction with other equipment such as a macerator? (1: unaffected, 2: Would withdraw from some areas of Wales, 3: Would withdraw from Welsh market)
- c. Enzyme digesters? (1: unaffected, 2: Would withdraw from some areas of Wales, 3: Would withdraw from Welsh market)