



Waste Action Plan Consultation,
Waste Policy and Resource Efficiency,
Department Communications, Climate Action & Environment,
Newtown Road,
Carricklawn,
Wexford,
Y35 AP50.

By email only to Wastecomments@DCCAIE.gov.ie

20th February 2020

Re: Public Consultation on the Proposed Waste Action Plan

Dear Sir/Madam,

Further to your call for consultation on the above-referenced subject, I offer the following responses and comments on behalf of the Irish waste Management Association (IWMA). The IWMA is comprised of 41 members that operate 49 waste companies.

Our website, www.iwma.ie , provides details of our members. Note that some members have acquired other companies in recent years and therefore trade under several brand names.

Our members handle household, commercial, C&D, liquid and hazardous wastes and are involved in the following waste management activities:

- Waste Collection
- Waste Transfer
- Recycling Operations
- Composting
- Anaerobic Digestion
- Hazardous Waste Management
- Specialist Treatments (such as Sterilisation)
- Soil Treatment and Recovery
- Waste to Energy
- SRF Production
- Landfill Operations
- Export of Waste for Treatment Abroad

It is clear that the IWMA represents a broad spectrum of waste management activities, so we have no inherent bias towards or against any particular waste management options. Our main

goals are to raise standards in the industry, to promote compliance with all legislation and to assist Ireland in meeting the targets set by the EU in a variety of Directives. All our submissions are available publicly on our website.

Opening Comments

The IWMA supports the existing privatised waste management market in Ireland and we believe that it offers fair and open competition. We recognise that the Irish State has obligations to meet EU targets and must influence the behaviour of consumers, businesses and industry to meet those targets. We agree in principle with using fiscal measures to achieve those ends.

We also recognise that the State needs funding to support public awareness initiatives, waste enforcement, waste planning and the provision of civic amenity sites / bring banks. We accept that levies are a good source of such funding and we recommend that the Environment Fund is ring-fenced for these purposes and is used effectively to assist Ireland with meeting the challenging targets set by the EU.

We also acknowledge the provisions around Extended Producer Responsibility (EPR) and we see that as a significant contributor to funding waste prevention, reuse and recycling activities in Ireland in future years.

Specific Questions

2.0 INSTITUTIONAL ARRANGEMENTS

2.1 How are the current institutional waste prevention and management arrangements working and how could they be improved in your opinion?

The IWMA supports the current institutional arrangements, with some reservations as detailed in response to the next question. There have been many positive improvements in the last 10 to 15 years in our view, including the following:

- The setting up of the NWCPO which has led to much greater consistency and efficiency in the management of the waste collection permitting system. In recent years, the NWCPO has also introduced greater transparency in terms of returns from permitted waste facilities and we would welcome even greater transparency in that regard, as transparency makes it very difficult for criminals to hide their illegal activities. The NWCPO has been very proactive with regard to information technology and now looks to be in a position to introduce waste tracking that will help the enforcement authorities to expose criminal activity, which we very much welcome.
- The setting up of the NTFSO has led to greater consistency and efficiency with regard to exports and imports of waste. The NTFSO has also introduced greater transparency with regard to waste movements in and out of Ireland and we very much welcome this.
- The setting up of the Regional Waste Planning Offices has been a great success in our opinion. The Regional Offices have worked closely with the IWMA in areas of mutual interest over the past few years and we hope to continue to work closely together to achieve our common goals of providing the highest standard of waste

management in the world and meeting the very challenging targets set by the EU in the suite of current waste management legislation.

- The reduction from 10 waste management plans to just 3 was also welcomed by the IWMA. The 3 regional plans are fully consistent in their targets and goals, so we effectively have one national waste plan, which we welcome.
- The setting up of the WERLAs has brought some consistency in enforcement, which we welcome. However, we do have some reservations regarding consistency and focus in enforcement in the waste sector and we elaborate on those reservations in response to the next question.
- The EPA operates to a very high standard and has succeeded in raising environmental standards across Ireland over the past 3 decades. We find that EPA enforcement is very strong and operates without fear or favour, which we welcome. We suggest that certain parts of the EPA requires greater resources and/or better streamlining. We address this in response to later questions in the consultations, including the Article 27 and End of Waste sections.
- We support all the Extended Producer Responsibility Schemes in Ireland. We believe that they have achieved great success in meeting the targets set by the EU, which is their main function.
- The CCPC has a very limited role in the waste sector and we do not see a case for extending that role. Many of the consumer protection issues that were raised in the 2018 CCPC report on the '*Operation of the Household Waste Collection Market in Ireland*' have now been incorporated into waste collection permits by the NWCPO, with the support of the IWMA. Any other issues of concern in that regard could be managed by the NWCPO, as the effective regulator of all waste collection in Ireland. The NWCPO works closely with the WERLAs and the wider enforcement network, so the enforcement tools are in place to implement any measures that are required for the purpose of consumer protection.
- The current structure of the household waste collection market is working very well for consumers and for performance in waste management and resource efficiency. With incentivised charging and weighing of every bin, householders in Ireland have a greater choice of options for management of their waste compared with their EU counterparts and are financially incentivised to prevent and recycle waste. This is a major advantage with the Irish system for both the householders and the environment. Other EU countries are now looking at Ireland and learning from our experience, with a view to introducing payment systems that incentivise households in their countries to prevent and recycle waste.
- Ireland has arguably the most advanced system of kerbside household waste collection in the world, with the following advanced features:
 - Every bin is weighed and the weights reported to the customer and the authorities.
 - Charges are incentivised to promote waste prevention and recycling.
 - Materials accepted in the mixed dry recycling bins are consistent across the country.
 - Customer charters are mandatory and the details are specified by regulation.
 - Collectors maintain direct communication with customers by email and/or text messages.

- Some collectors have developed apps to provide data to their customers including recycling performance.
- Split body vehicles are used to enhance the efficiencies of collection in many rural and low-density areas.
- Collectors all employ environmental management systems including a customer complaint management system.

2.2 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

2.2.1 Regulation

For about 20 years now, the IWMA has repeatedly called for consistent regulation of all waste facilities and for a greater focus on ‘under the radar’ criminal activities. Our members believe that the two-tier system that comprises EPA regulation and Local Authority regulation puts too much focus on licensed sites, inconsistent enforcement of permitted sites and too little focus on unregulated waste activities, where the criminals can be found.

Many local authorities perform their enforcement functions very well, but the system falls down when some local authorities take a below-standard approach to regulation and enforcement of waste management activities. This has left a gap for criminal activity that harms the reputation of the waste sector.

The IWMA has previously called for a single entity, such as a fully resourced EPA to regulate and enforce all waste management activities, without fear or favour. As a minimum, we suggest that the EPA should have strengthened powers to step in and take over a case when a local authority is not able or willing to enforce unauthorised or criminal activity.

2.2.2 Improving Waste Management Practices

The IWMA suggests that the institutions are in place to greatly improve Ireland’s resource efficiency and waste management practices, but the public could do a lot more in this area and needs to be encouraged and incentivised to do so. This requires awareness, education, financial incentives and penalties.

The IWMA is working on a number of initiatives in this regard and we are aware of other worthwhile initiatives that are being developed by other bodies (Regional Planners, NWCPO, WERLAs, etc.).

It is critically important that the State invests financially in these initiatives to a much greater extent than heretofore. A budget of between €5 million and €10 million per annum is now required for awareness and education alone, in addition to the waste enforcement budget. Investment is needed now to avoid financial penalties from the EU in the event that Ireland fails to meet future waste management and resource efficiency targets. The future MSW Recycling targets are not on track currently and will require a major step change in the next 5 years to avoid failure and financial penalties.

3.0 MUNICIPAL (HOUSEHOLD AND COMMERCIAL) WASTE

Municipal Waste Questions:

3.1 What further measures should be put in place by Government, regulatory authorities (EPA, local authorities, etc.) and industry stakeholders in order to promote and incentivise waste prevention and improve proper segregation and recycling of waste by both households and businesses?

3.1.1 *Passing the Recycling Targets to the Waste Collectors*

The IWMA is strongly opposed to the Government proposal to pass on the MSW recycling targets (55%, 60% & 65% by 2025, 2030 & 2035 respectively) to the collectors of municipal waste, for the following reasons:

- Kerbside collection is just one part of the system of collecting and managing MSW. Bring banks, civic amenity sites, textile collections, WEEE take-back, specialist collections from commercial premises, reuse, drop off points for biodegradable wastes, bottles collected from pubs & restaurants, etc. all have a part to play and kerbside collection will inevitably have the lowest recycling rates within that system as that is where the bulk of the residual waste is managed.
- Waste collectors cannot control the actions of the citizens of this State. Waste collectors must provide the tools by way of different bins, information, encouragement and incentivised charging but cannot be held responsible for the behaviour of customers that manage waste badly. As the saying goes, *'you can bring the horse to water, but you cannot make it drink'*. The responsibility for meeting the EU recycling targets falls upon all stakeholders, including every citizen of the State.
- The majority of Member States will fail to meet the future MSW recycling targets. When the recycling targets were set in the CEP, it was thought that Germany was recycling 66% of MSW, Austria at 59%, Slovenia at 58%, Belgium at 54%, Netherlands at 53%, etc. Hence the 55% to 65% recycling targets appeared achievable. However, we understand now that the calculation system that will be used going forward will reduce those recycling rates dramatically. Germany will be at 52% (if not lower), Belgium will be at 50%, Austria and Slovenia at 48% and the Netherlands at 47%. This is based on data received from the German Waste Management Association (for Germany) and based on a Eunomia report for the other countries. If the highest recycling rate in the world is now measured at 52% or less, then the MSW recycling rates set in the CEP cannot be achieved by any member state in the timeframes that have been set, particularly the 60% and 65% targets. In these circumstances, we suggest that the Irish Government should call for a mechanism to review the performance of Member States that fail to meet the MSW recycling targets, rather than taking action against them. The review should consider household waste generation (comparing like with like, so household rather than MSW), improvement in waste management performance over time, residual waste generation and management (recovery v disposal), life cycle comparisons (local recovery v long haul recycling), level of unauthorised waste activities, etc. The Member States that perform poorly in an overall scoring methodology should receive the most attention with respect to EU enforcement. We believe that Ireland is performing almost as well as the best performers in the EU, yet with a 42% MSW recycling rate we appear to be in the second division and could be hammered with fines from 2025 onwards for many years. The only difference between Ireland and Germany is the collection and recycling of biodegradable garden and parks waste. We suggest that it will be embarrassing for

the EU if most member states miss the target and there is no Plan B, so the EU should be responsive to the call for such a mechanism as part of the Circular Economy Action Plan.

- Passing the targets to the waste collectors is merely 'passing the buck' and will inevitably put waste collectors in non-compliance with their permits. All stakeholders need to work together to meet the targets, not just the waste collectors. Passing the buck in this way will only lead to conflict between the authorities and the industry that will take the focus away from the task at hand. A collaborate approach between the State and the waste industry is needed at this critical time.

3.2 What measures or practices are currently in place that could be improved?

3.2.1 Awareness and Education

The awareness and education campaigns will need much larger budgets if Ireland is to increase recycling rates. Those working in the sector understand the system and are aware of the need to manage waste better. The majority of the public can be convinced to manage their waste better, but need to be constantly fed with information, encouragement and incentivisation. Waste management is a low priority issue for many people in Ireland. We need to make it a high priority for the majority of people if we are to have a step change in waste management performance in the country.

3.2.2 Bring Banks

The density of bring banks is an important factor for achieving higher recycling rates. We suggest that more bring banks are needed in Ireland for the collection of glass and textiles.

3.3 What other new measures or practices could be put in place?

3.3.1 Enforcement of households and businesses

We welcome the proposal to increase enforcement of householders and businesses and we urge the Government to put the necessary resources in place for that task.

3.3.2 Street Recycling

We also welcome the proposal to install recycling litter bins on streets and at commercial premises. The public needs to be constantly reminded that recyclables must be kept separate from residual wastes and this will help in that regard. The colour and messaging on these bins should be consistent across the country.

3.3.3 Additional Recycling Infrastructure

We support the provision of existing recycling infrastructure across the country in a general sense. We expect that the waste industry will provide sorting facilities, where required and the State will provide more civic amenity sites and will facilitate sites for bring banks. Additional reprocessing infrastructure, where feasible, would also be supported by the waste industry. Reliance on international markets (particularly in Asia) is clearly problematic, particularly in terms of paper and plastic recycling.

3.3.4 Quality Waste Management Assurance Award Scheme

The IWMA would welcome and support such a scheme.

3.3.5 Biodegradable Garden and Parks Waste

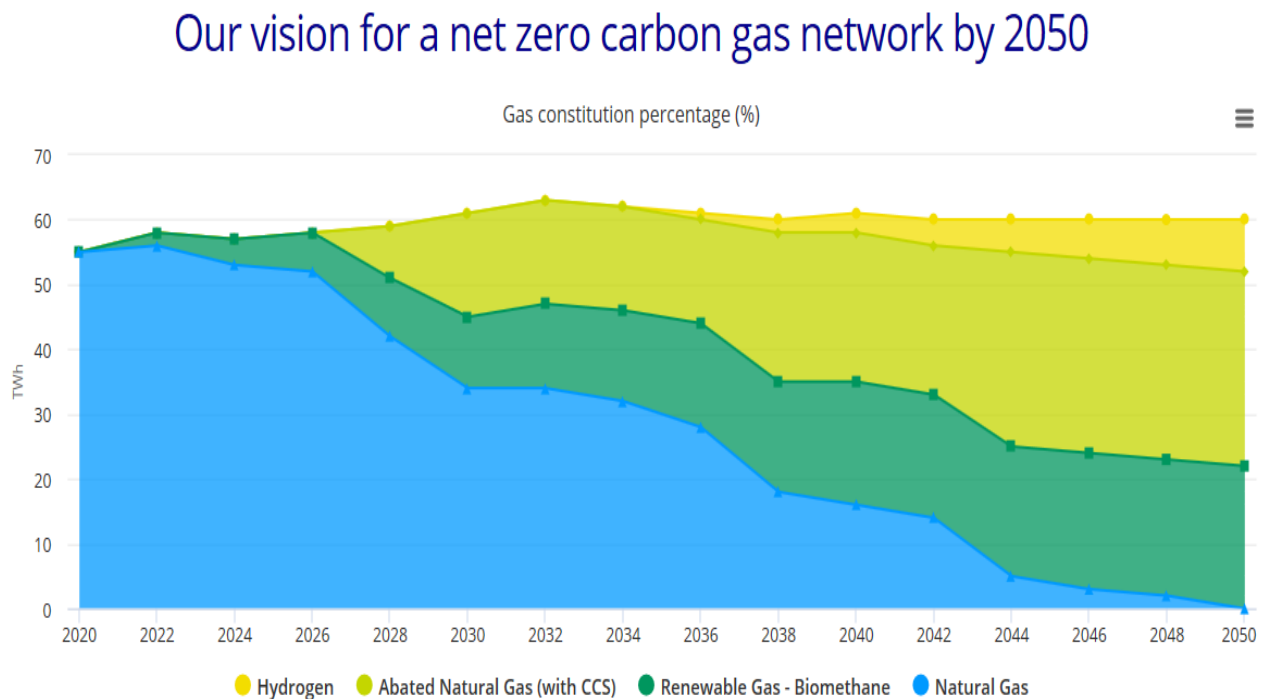
The big difference between Ireland and the countries with the highest recycling rates in the world, such as Germany and Wales is the collection and recycling of biodegradable garden and parks waste (a.k.a. green waste). In Ireland, 1.8% of MSW comprises recycled (composted) biodegradable garden and parks waste. That figure is 10.9% in Germany and 10.4% in Wales. Details are provided in the SLR Report that was commissioned by the IWMA and is attached to this submission. The following extracts from that report provide a summary here.

“Ideally, Ireland should try to reach the future MSW recycling targets without increasing waste generation, but if this proves impossible, collecting additional green waste for recycling may be necessary to avoid EU fines.

If Ireland collects and recycles an additional 250,000 tonnes of green and garden waste, it would boost the MSW recycling rate to 50%. If half of this additional waste was sourced from households, with the rest from municipal parks and commercial premises/developments, golf courses, sportsgrounds, etc, Irelands household waste generation figure would increase to 343kg per capita, which is still well below the EU average of 419kg per capita. This change would have little impact on the residual waste figures for Ireland, so that performance would still be ranked amongst the best in Europe.

In particular, consideration should be given to the collection of biowastes for the production of biomethane to generate renewable energy. We understand that Gas Networks Ireland has major plans to feed large quantities of biomethane into the national gas network and feedstock will be required for the AD plants that will generate that biogas. The graph below from GNI’s website¹ is very informative in that regard and shows a very aggressive plan that will require a strong drive and serious resources.

Figure 3-1 Gas Networks Ireland Plans to Replace Natural Gas with Renewable Gas



¹ <https://www.gasnetworks.ie/vision-2050/net-zero-carbon/>

Technologies have evolved or been adapted in Ireland that facilitate the breakdown of woody material in anaerobic digestion plants, so garden and parks waste can be used as a feedstock for biogas production. It may be more environmentally sustainable to collect garden and parks waste for this purpose rather than to use productive agricultural land to generate feedstock for the new AD plants that we expect to be developed in response to GNI's initiative.

The cost of collecting or delivering the garden and parks waste to these AD plants will be an important factor and may require subsidisation or some form of incentives. However, two national environmental priorities (recycling and renewable energy) could be advanced by such a move, so it will be in the Government's interest to at least consider this option. It is interesting to note that the collection systems for green and garden waste in Germany are funded by the German climate action funding program, as mentioned earlier in this report.

In 2019, the Irish Parliament declared a Climate Emergency and funding for worthwhile initiatives should follow. Financing the collection and recycling of green/garden waste could be as simple as a fiscal measure that makes biomethane more attractive at its cost of production compared to natural gas, i.e. a tax on natural gas that is used to subsidise biomethane production."

Biodegradable garden and parks waste are also suitable for composting plants and produce excellent compost. Our members have capacity for acceptance of this material and would particularly welcome efforts by local authorities to capture such material from parks and sportsgrounds for recycling at compost and AD plants throughout the country.

3.4 What do you see as the barriers/enablers to these measures?

3.4.1 Additional Materials in MDR Bins

We note the proposal to expand the list of materials to be accepted in the mixed dry recycling (MDR) bins. We need more information on that measure and an analysis of available outlets before we can comment on it. Additional materials in the MDR bins with no recycling outlets would present more problems to the management of wastes in Ireland, so further detail and analysis is needed.

3.4.2 Brown Bin Roll-Out to Rural Areas

We note the proposal to extend the provision of brown bins to all households in the State. The IWMA has mixed views on this measure. We support additional capture and recycling of biodegradable municipal wastes, but we fear that the full roll-out could lead to increased prices for kerbside collections in rural areas, including villages and could have some negative environmental impacts in terms of carbon footprint if more trucks are required to collect waste in rural areas. There is also the possibility that some people would drop out of the service in response to increased charges and we fear that their waste could be mis-managed as a result.

We therefore recommend a pilot-scale trial of this proposed measure before it could be introduced. The trial should:

- Quantify the additional cost of the service to each house and pass that cost to the householders in the trial.
- Count the number of households availing of the service before and afterwards.
- Quantify the gains in recycling due to the roll-out of the brown bins.
- Quantify additional environmental impacts due to additional waste collections. (most trucks operating in rural areas are split body trucks designed for two-bin collections, so a third bin could mean a second truck)

- Assess the possibility of switching to three-way split body trucks for three-bin collections in rural areas and consider the likely lead-in time for such a changeover.
- Follow up on any households that drop out of the system to analyse the environmental impact.
- The trial should be consistent with a full roll-out, i.e. information provided in a way that can be scaled up to all rural areas (e.g. door to door calling to all houses would not be realistic for large scale roll-out, but other forms of wider communication would be possible).
- The trial should be carried out over a long enough period to include renewal time, to analyse any dropouts from the service.

We are aware that some IWMA members are already collecting brown bins in rural areas, so data from those collections could also be analysed as part of a cost-benefit analysis for this proposed measure.

We suggest that participation rates for brown bin usage in urban areas (>500 agglomerations) is poor in many areas. Therefore, we suggest that this needs to be addressed as a priority, whilst trial are carried out on the roll out of brown bins to rural areas.

We suggest that the State authorities should analyse the existing situation with regard to householder participation in the areas that have already been served with brown bins. Anecdotally, our members are frustrated by the number of brown bins that have been delivered and are not currently in use. We strongly recommend that the enforcement authorities visit houses that have a brown bin and do not use it or send letters to those houses informing them of the legal obligation to put food waste in the brown bin and not in the other two bins. We suggest that this action could have a greater impact compared with delivering brown bins to all households in rural areas.

The IWMA members are open to discussions with respect to part-financing the inspection and enforcement of households that do not avail of a kerbside waste collection service and those that do not avail of the brown bin service in agglomerations of more than 500 people. The inspections could be carried out by a private company, with relevant approvals and follow up enforcement carried out by the local authority enforcement personnel.

3.4.3 Colour Coding of Bins

We recognise that consistently coloured bins would assist education and awareness, so it would be nice to have, but our members are very concerned about the costs involved in transitioning from the current situation. A variety of bin colours are currently used in both household and commercial waste collection, as there has never been a legal requirement to use any particular colours.

Our members have rolled out residual waste bins over the past 30 years and whilst the majority are grey/black, many are other colours such as green, purple, red, etc.

The MDR bins were rolled out over the last 20 years. Many of our members chose blue rather than green as green bins are used for green waste in many countries, whereas blue was associated with paper and the MDR bins were mostly paper at that time and are still 40% paper now. These decisions were made in consultation with the local authorities in many cases, so there was no suggestion in many parts of Ireland that the MDR bins should be green.

As the roll out of the food waste bins is more recent and was directed by legislation and waste policy, these bins are mostly brown in colour.

The costs of changing bin colours would have to be paid for by the State, as it would be very unfair to expect individual companies to take on such costs and if they did, it would result in unfair competition as some companies would have to recoup those costs from their customers, whilst other companies would avoid that burden. There would also be a dispute between blue versus green for the MDR bins as there are very large numbers of both in circulation today.

We have surveyed our members to determine the costs involved in replacing bins. The cost of a new 240L bin is about €26, but that is only part of the cost, as the bins need to be delivered and the old ones removed. Another factor to consider is that it can be difficult to access bins as they are not always put out on collection day, so several visits will be needed to many customers. The replacement cost is higher in lower density areas. Our members have suggested that the replacement costs for household bins are in the range of €30 to €60 per bin.

We estimate that c.1 million bins (including household and commercial) would have to be replaced to meet the suggested colour scheme, so the total cost of replacing all bins with new branded and chipped bins is estimated at c.€50 million, based on the figures provided by our members. The bins taken back would have little or no demand and would mostly be scrapped. This would represent a poor environmental outcome and would be difficult to justify in waste management policy.

Alternatives, such as replacing the bin lids or attaching a coloured plastic wrap around the bin were also considered by our members. The plastic wrap is not a good option as it is very labour intensive and requires calm and dry weather conditions to carry out in situ. Also, the wrap will get badly damaged when the bin hits the ‘shaker’ bar as it is emptied.

Replacing bin lids could be an option, but our survey of members suggested that this would cost about €27 million, which may not be good value for a partial solution.

Phased replacement of bins, based on new customers and damaged bins, would also be problematic. Companies would have customers with different coloured bins for each waste type and that would make communications between the company and its customers very difficult.

There are also dangers associated with changing the existing bins in relation to confusing customers that have followed the rules imposed by their service provider for many years or even decades. For example, there are many green bins currently used for residual waste. Telling customers that the green residual waste bin is now the green recyclable waste bin would undoubtedly lead to serious problems in those areas.

In summary, we consider it to be a ‘nice idea’ to standardise the bin colours but not an option unless the Government is willing to spend €50 million on this exercise. We suggest that the money would be better spent on awareness, education and enforcement of those that do not manage their waste correctly.

We need to accept that there are a variety of bin colours in use and refer to the bins as ‘waste’, ‘recycling’ and ‘food/compost’ or some other agreed terminology. We advise against using the term ‘recovery bin’ as many people, outside of the waste sector, do not know the difference between ‘recovery’ and ‘recycling’ and the terminology could get confused. We surveyed our members that collect kerbside household waste to see what terms are currently known to household customers. Here are the results:

1	Waste	Recycling	Compost or Food
2	Waste	Recycling	Food

3	General Waste	Dry Recycling	Food
4	General Waste	Mixed Dry Recycling	Compost or Brown
5	General Waste	Mixed Recycling	Food Waste
6	Waste	Recycling	Compost
7	Waste	Recycling	Food or Brown
8	Waste	Recycling	Organic
9	Residual	Recycling	Compost
10	Waste	Recycling	Food
11	General Waste	Recycling	Food
12	Waste	Recycling	Food
13	Waste	Recycling	Compost
14	Waste	Recycling	Compost or Food
15	General Waste	Dry Recycling	Food
16	Waste	Recycling	Organic

Any decision by the DCCAE on consistent terminology must consider the terminology that is currently used in communications between waste collectors and household customers. Trying to find technically correct terms is not always the best solution when dealing with non-technical citizens.

From our survey, it appears clear that the public will understand the terms 'waste bin' and 'recycling bin' without any problems. The word 'dry' could be placed before recycling without confusing the public but may not be necessary if a shorter term is preferred.

We do not favour the term 'food recycling bin' as used by the Regional Planners, as repeating the word 'recycling' for two different bins could add to confusion. Some of our members only want food waste in the brown bin caddies and others want garden waste as well as food waste in their wheelie bins (140 or 240 litre). We therefore suggest that the brown bin could be nationally referred to as the 'food/compost' bin and locally collectors could use either 'food' or 'compost', depending on their individual situation.

Our customers know which bin to use for dry recycling, which bin to use for food waste and which bin to use for residual waste, we just need to agree on consistent terminology across the country to facilitate national awareness campaigns and labelling by producers.

3.5 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

Consultation Questions – Household Waste

3.6 Is incentivised charging working in your opinion? Are households being financially incentivised to prevent waste and recycle correctly through the 3 bin system?

We need to compare year on year data to analyse the effectiveness of incentivised charging, so it is probably too early to form a definitive view. Anecdotally, we are getting mixed views from our members on the effectiveness of incentivised charging to date.

We suggest that the NWCPO should analyse the data from each company that collects household waste to see if the charging system is really incentivised and is getting results. Companies should be informed of this analysis and a mechanism put in place to enforce companies that are not providing sufficient incentives for their customers to change their behaviour in favour of waste prevention and recycling. The mechanism should be discussed and agreed with the IWMA as a collaborative approach is likely to be most effective.

3.7 Would an incentive scheme which compared your performance on how you generate and recycle your household waste with your area / county etc change your waste management behaviour?

This question appears to be directed at householders, rather than the waste industry. The IWMA supports this type of scheme and a number of our members are trialling it.

3.8 What role should Civic Amenity Sites (local recycling centres) play? Should there be a standard service across all Civic Amenity Sites (CAS), such as the waste streams they accept? Should CAS accept general waste or only recyclables? Should CAS be used to provide more reuse opportunities, e.g. areas dedicated to exchange and upcycling? If so, how should this be funded?

Civic amenity sites play a very important role in recycling in Ireland and the IWMA would welcome the development of more CA sites. Some of our members have developed CA sites co-located with transfer stations and we suggest that the new waste policy should encourage that type of development.

We would prefer if CA sites did not accept residual waste, but if that waste type is accepted, it should be at a high price as it reduces the efficiency of kerbside household waste collection and should not be a cheap alternative. Any customers availing of residual waste disposal at CA sites should be registered as a customer of the CA site and should have to justify that they do not have access to a kerbside collection service.

Where a customer has access to a kerbside collection service but claims that the service is too expensive for their needs, the NWCPO should have a facility to hear such claims and to seek a resolution with local waste collectors. In the event of a failure to resolve the issue, the householder could be allowed access to the CA site with residual waste.

We also recommend that any residual waste accepted at CA sites should be weighed as it is deposited, in the same way that all household kerbside bins are weighed. The weights should be assigned to the customer's account and can be analysed in the same way that kerbside customers can be analysed for waste prevention and recycling performance.

We support the provision of additional reuse opportunities at CA sites, in principal. That has the advantage of a recovery/disposal route for any items that are not reused within a specified timeframe. Items should be priced attractively and the price reduced each week until they are sold or become obsolete. This would help with the funding to some extent.

The Government proposes to introduce additional levies that will significantly bolster the Environment Fund. The IWMA, in our response to that consultation, has supported most of the proposed levies. We suggest that CA sites should be part-funded from the Environment Fund.

We also suggest that the further development of Extended Producer Responsibility schemes should contribute to the funding of CA sites, particularly in terms of reuse efforts. All producers of products should have responsibility for the post-consumer management of their products and should have to contribute to waste prevention, reuse and recycling in line with the principles of the Circular Economy. There should be funding from this source to develop more CA sites and to expand the services on offer in the existing ones.

3.9 What can be done to improve recycling (including organic waste) in apartment complexes?

We understand that Dublin City Council, with the support of IWMA members, are working on trials at apartment complexes to introduce food waste recycling and we await the results of those trials.

Waste management at apartment complexes is arranged by the management company and the cost is invariably more important than the recycling and waste prevention outcomes. That dynamic needs to be tackled by the State, with the support of the waste collectors.

It should be mandatory to charge for each waste type by weight and to provide incentivised pricing to encourage waste prevention and recycling. There would then be an incentive for the apartment management company to inform, encourage and incentivise the residents to use the system correctly.

The Quality Waste Management Assurance Award Scheme, suggested in the consultation document, could be applied to apartment complexes. The scheme should involve the inspection of records and inspections of bins by independent auditors. It would be ideal if this was somehow tied to a financial reward and/or penalty system such as rates or water/wastewater charges and the savings/charges passed on to the apartment dwellers via their service charges. This could lead to peer pressure and self-policing by the residents.

3.10 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

Consultation Questions – Commercial Waste

3.11 How could pricing structures for commercial waste collection be improved to incentivise better segregation and recycling of waste? For example, should pay by weight be introduced for commercial waste?

Yes, we recommend the introduction of mandatory pay by weight for commercial premises to better incentivise waste prevention and recycling. Charging by weight will also provide better data that will better inform future measures, plans and policy.

3.12 What further incentives could be put in place to encourage business to recycle more?

We recommend the introduction of a ban on placing food waste, garden waste and recyclable wastes in residual waste bins at commercial premises accompanied by enforcement.

We also recommend the introduction of mandatory material separation for different types of commercial premises. For example, wastes generated at offices should have separate paper bins, whereas a distribution warehouse should have separate collection of cardboard, pallet wrap, pallets, etc. The work carried out by The Clean Technology Centre for the EPA Waste Characterisation study should assist in this regard. A series of guidance documents could be prepared and distributed via business organisations such as IBEC, SFA, ISME, etc.

We also recommend a properly funded, strong awareness campaign to inform business owners and the general public of their waste management obligations at home and at work.

3.13 Should a certification scheme be introduced for businesses to demonstrate that businesses are managing their municipal waste correctly (e.g. using the mixed dry recycling and organic waste bins properly)?

We support the Quality Waste Management Assurance Award Scheme, suggested in the consultation document. We suggest that the scheme should be linked to commercial rates with discounts applied based on performance. The companies should have to pay independent accredited auditors to rate their performance, thereby reducing the enforcement burden on the local authorities.

3.13.1 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

4.0 FOOD WASTE

Consultation Questions – Food Waste

4.1 What are the underlying causes of food waste in Ireland?

Some food waste such as peelings and inedible parts of food products are inevitable. However, we recognise that food waste also contains a lot of out-of-date and uneaten products at household and commercial premises. The main underlying cause is poor management by the householder and/or the commercial premises. It is difficult to completely avoid wasting food, but there is a lot of room for improvement in Ireland, as in other countries.

4.2 Should Ireland introduce a national prevention target in advance of a possible EU target?

The targets in the Circular Economy Package are very challenging, particularly the MSW recycling targets, so we advise against additional measures that would make the EU targets even more challenging.

4.3 How can Ireland become a 'farm to fork' global leader in food waste reduction?

The EPA and others are doing a lot of good research in this area and we recommend that the lessons learnt from that research be passed to the public in the State's education and awareness campaigns.

4.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

The Quality Waste Management Assurance Award Scheme, suggested in the consultation document, could be applied to restaurants, hotels, supermarkets, etc and food waste management be included as one of the criteria used in the rating system. Good management of food waste could include donations of surplus edible food to local charities, just before its 'use by' date and upon reaching its 'best before' date.

5.0 PLASTIC AND PACKAGING WASTE

Consultation Questions – Plastic and Packaging Waste

5.1 How can we make it easier for citizens to play a role in delivering on our targets?

The provision of MDR bins to all households with a kerbside waste collection service is an excellent first step in terms of convenience for citizens.

The second step is to develop further awareness and education to ensure that all citizens have the required knowledge on what material to put in each bin and what should go to bring centres, CA sites, take-back shops, etc.

The third step should be better labelling on packaging products. When a citizen is deciding whether a packaging item is recyclable or not, they are likely to look for information on the item. The labelling is generally confusing and not helpful in that regard. In fact, non-recyclable complex products such as crisp packets displaying the REPAK logo can mis-inform citizens into thinking that the item is recyclable and should be placed in the MDR Bin. That leads to contamination of the MDR bin and can impact on the quality of the paper. We therefore suggest that recyclable items should have a message that says, '*place in dry recycling bin*' or '*place in food waste bin*' or '*place in bottle bank*', etc. Non-recyclable items should have a message that says '*non-recyclable, place in general waste bin*'.

The fourth step should follow logically from the third step. Any packaging items that are non-recyclable should be levied to make them more expensive than recyclable alternatives. Alternatively, they could be made to pay much higher eco-modulated fees as part of their producer responsibility obligations.

5.2 Do waste collectors have a role to play?

Yes, in a number of ways, as follow:

- Waste collectors need to keep informing their customers of the items accepted in each bin and what to do with items that are not accepted at kerbside,
- Waste collectors need to charge in an incentivised manner that encourages citizens to prevent and recycle waste at home, at work and everywhere else.
- The incentivised charging system must not have weight or volumes allowances that are too large to be effective in changing behaviour.

5.3 What is the role of retailers?

Retailers can:

- manage their stock in a manner that minimises waste;
- encourage reuse amongst their customers;
- educate their staff to segregate their waste correctly, including signage;
- select products for sale that have less packaging / recyclable packaging, rejecting products that use non-recyclable packaging.

The Quality Waste Management Assurance Award Scheme, suggested in the consultation document, could be applied to retailers.

5.4 What is the role of manufacturers?

See third and fourth steps in response to 5.1 above. Manufacturers should be obliged to label their products to identify whether they should be placed in recycling, food waste or general waste bins. They should also pay higher levies or eco-modulated fees if their packaging is not recyclable.

5.5 Is there a role for voluntary measures (individual or by sector) and if so, what might they be?

Possibly, but if they prove to be ineffective, they should be replaced with mandatory measures.

5.6 Are there targets other than EU that we should be striving towards?

Yes, we recommend that we strive towards the following targets:

- The elimination of non-recyclable packaging in Ireland
- The elimination of 100% virgin plastic in all packaging placed on the market in Ireland

5.7 Is the introduction of eco modulated EPR fees sufficient to eliminate excessive or difficult to recycle plastic packaging? If not, what other measures are necessary?

It may be enough if it is managed well and set at the right levels. Time will tell.

5.8 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

6.0 SINGLE USE PLASTIC

Consultation Questions – Single Use Plastics

6.1 What measures could be considered to reduce the amount of single use food containers we use, taking the provisions of the Packaging Directive into account? Should a ban on non-reusable cups be explored?

Single use food containers are inevitable to a large extent as food must be protected during transport and storage. However, we recommend that all food containers should be easily recyclable and should be labelled in a way that makes it easy for consumers to segregate them correctly.

A ban on non-reusable cups would undoubtedly be challenged by the coffee shops and could attract strong public opposition, so a meaningful levy on single use cups would have more chance of an effective outcome in the short term.

6.2 Are there measures already in place that could be strengthened by legislation – for example, obligating retailers to give a reduction to consumers who use re-useable ware?

Yes.

6.3 Do retailers have a role to play in exploring viable reusable food containers for on the go consumption?

Yes.

6.4 Are there additional products that are suitable for consumption reduction?

No comment.

6.5 What data is necessary for measuring consumption reduction of these specific products and any new products suggested?

No comment.

6.6 The role of levies in reducing our consumption is well documented. However, in the case of plastic bags the levy was applied to a commodity which had previously been available for free. Given the range of prices involved for commodities sold in SUP food containers and beverage cups, do you believe a levy would affect behavioural change?

Yes, if the levy is applied at a higher level on non-recyclable food containers.

6.7 Are there other SUP items that cause litter and for which there are sustainable alternatives available, which Ireland should consider banning?

No comment.

6.8 What are the challenges faced by industry in ensuring caps are tethered on all beverage containers by 3 July 2024?

No comment.

6.9 What are manufacturers doing now to ensure all beverage bottles contain 30% recycled content?

- **What, if any, are the obstacles to achieving this?**
- **Is there sufficient supply of recycled plastic content to achieve this ambition?**
- **To what extent is price a factor?**
- **Is there scope for Ireland to be more ambitious and go beyond 30%?**

We support this measure and support more ambitious targets in principle, but we do not have to expertise to comment further at this stage.

6.10 Can our current co-mingled collection model be enhanced in order to deliver a collection rate of 90% for PET beverage containers?

The co-mingled collection model is very effective in separating out PET beverage containers. We need to focus on encouraging and incentivising the consumer to place these items in the mixed dry recyclable bins and we need to extend those bins to the streets and public places as well as houses and commercial premises.

6.11 Would you use a segregated bin just for the responsible disposal of single use PET containers?

There is greater need for source segregation of paper than plastic as paper is a much bigger fraction and more difficult to achieve good quality and secure outlets. Given Ireland's low population density and high level of housing in rural areas, our demographics are not suited to additional bins and additional waste collections. We therefore argue that the current 3-bin system in urban areas and 2-bin in rural areas is best placed to service the customers and to collect recyclable wastes.

6.12 What role can an Extended Producer Responsibility Scheme play in delivering on these targets?

The State needs to tackle the producers in terms of:

- the recyclability of products placed on the market,
- the labelling of those products with respect to waste management and
- the awareness and education of the consumers of those products.

This can be done through the various producer responsibility schemes.

6.13 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

We understand that a report has been commissioned by DCCAE and prepared by Eunomia that gives consideration to the development of a deposit and return scheme (DRS) for plastic beverage bottles in Ireland. We have not seen this report yet as it has not been published.

The IWMA commissioned SLR Consulting to prepare a report on the likely impact of a DRS on waste management in Ireland. We attach that report to this submission for your consideration. The following extracts from the Executive Summary of that report summarise SLR's findings in this regard.

“Deposit and Refund Scheme

A DRS for PET bottles and aluminium cans is currently under consideration by the Oireachtas Joint Committee on Communications, Climate Action and the Environment. The Waste Reduction Bill 2017 promotes the idea of a DRS in Ireland.

In parallel, the Minister for Communications, Climate Action and the Environment has stated publicly he will commission a review which will consider how we can deliver a 90% collection target for single use plastic bottles in Ireland. This review will also examine the possibility of introducing a DRS and how this might operate in an Irish context. Eunomia has been appointed to carry out that review.

International Examples

In this report, we have looked at examples of similar schemes in each of the States in Australia, where SLR has good waste management expertise. SLR’s review found that the DRS schemes in Australia were largely introduced to reduce litter. A secondary element was to increase recycling rates. In particular, the South Australia DRS was targeted at increasing recycling rates as it pre-dated kerbside collections.

In the schemes that have been introduced in recent years in Australia, efforts have been made to work in tandem with kerbside recycling, rather than to compete against it. The New South Wales scheme pays deposits to MRFs for relevant materials that are recycled. This should be considered if a DRS is introduced to Ireland as the impact of a DRS on the MRF gate fees could have wider consequences in terms of the overall viability of kerbside recycling.

Potential Impact on Kerbside Recycling

SLR consulted with each of the MRF Operators in Ireland to see what impact the removal of plastic bottles and aluminium cans would have on the Material Recovery Facilities in Ireland. The MRF Operators estimated that this would have a €20 to €40 per tonne impact on gate fees at their facilities. Some of the MRF Operators also commented that there would be other impacts to be considered, such as:

- Without good quality materials, such as plastic bottles and aluminium cans, it is difficult to move lower quality materials such as plastic pots/tubs/trays and plastic films. Reduced recycling of these materials would impact negatively on Ireland’s recycling performance.
- The processing lines at the MRFs would have to be re-configured to manage the changes to the input materials.
- A DRS is likely to impact on all REPAK subsidies, as the producers of aluminium cans and plastic bottles would not provide subsidy for MRF operations, so the existing subsidy could be reduced for all materials.

Based on the tonnages and values of these materials as reported by the MRF Operators, SLR independently analysed the potential impact on the MRFs from a successful DRS. The results are shown in Tables 2 and 3 below.

Table 2 Expected Revenue Losses at MRFs if DRS Materials Removed

Material	Volume Handled (t/a)	Average Value of Material including REPAK subsidy (€)	Loss of Revenue (€)
Aluminium Cans	4,444	915	€ 4,066,260
PET Bottles	11,227	247	€ 2,773,069
Estimated Cost due to Loss of Beverage Containers			€ 6,839,329

Material	Volume Handled (t/a)	Average Value of Material including REPAK subsidy (€)	Loss of Revenue (€)
HDPE Bottles	7,283	415	€ 3,022,445
Estimated Cost due to Loss of Beverage Containers and HDPE Bottles			€ 9,861,774

Table 3 Expected Increase in MRF Gate Fees for Household MDR if DRS Materials Removed

Material	Revenue Loss (€)	Household MDR Handled in 2016 (t/a)	Household MDR Handled after DRS materials removed (t/a)	Loss of Revenue per Unit / Potential Gate Fee increase (€)
Loss of Beverage Containers	€ 6,839,329	253,328	237,657	€ 28.78
Loss of Beverage Containers and HDPE Bottles	€ 9,861,774	253,328	230,374	€ 42.81

The increase in gate fees at the MRFs could have very serious consequences on kerbside recycling in Ireland as the incentive to collect recyclables at kerbside would be reduced to a point where it would favour rogue operators that collect household waste with no source segregation.

Likely Increases in Recycling Rates

It is widely accepted that a DRS would have a positive impact on litter and that has been the focus of many DRS systems across the world. In particular, a DRS with a high value deposit of c.25 cent is expected to attract litter pickers.

However, the impact on recycling rates is not so clear. In countries that do not have a kerbside collection system for recyclables and have a low recycling rate, the impact of a DRS on recycling rates will be greater than in countries with well advanced systems for collecting recyclables.

SLR examined the quantities of beverage containers already recycled in Ireland and assessed the impact on MSW recycling and packaging waste recycling of an increase to 90% recycling of those materials. The results were as follows:

PET Bottles:

- Total on the market = 25,490 t/a.
- Uplift from 60.7% to 90% = 29.3% = 7,469 t/a extra recycled.
- 7,469 t/a out of a total MSW generation of 2.8 million t/a = **0.27%**

Aluminium Cans:

- Total on the market = c.11,456 t/a.²
- Uplift from 73% to 90% = 17% = 1,948 t/a extra recycled.
- 1,948 t/a out of a total MSW generation of 2.8 million t/a = **0.07%**

Total Uplift in MSW Recycling rate = 0.34%

² REPAK's annual report states that 8,363 tonnes of aluminium cans were recycled in Ireland in 2018. Later data from REPAK given to the IWMA and to Eunomia states that 73% of aluminium cans are recycled, so we calculate that 11,456 t/a are placed on the market. REPAK has also stated that 9,427 t/a of aluminium cans are placed on the market by REPAK members in ROI, so the additional tonnage is likely to be imported (e.g. Northern Ireland shopping) or placed on the market by non-members of REPAK.

The data suggests that a successful DRS would only increase overall MSW recycling rates by 0.34% which would do little to assist with the WFD requirement to increase MSW Recycling rates from the current 41% rate to 65% by 2035, with intermediate targets for 2025 and 2030.

The extra tonnage of PET bottles would increase the plastic packaging recycling rate from 34% to 36.5%, still well short of the 50% target by 2025 and the 55% target by 2030.

It appears that Ireland has already exceeded the 2025 and 2030 targets for aluminium packaging recycling, so the uplift in that category would be welcome, but is not of greatest concern at this time.

The effect of a successful DRS on the overall packaging recycling targets would be about 0.7% increase in the recycling rate from 65.6% to 66.3%.

A DRS would undoubtedly increase recycling rates for PET bottles and aluminium cans and would assist Ireland in meeting the SUP Directive targets for 2025 and 2029 but would clearly have very little impact on the other recycling targets that are currently not on track.

Costs of a DRS in Ireland

We also estimated the likely costs associated with developing and operating a comprehensive and successful DRS in Ireland. These are rough estimates that are detailed in the main body of the report and are comparable with other estimates that we reviewed in DRS related reports. Rather than consider capital and operational costs, we spread the capital costs over 10 years to view all the costs as 'annual costs'. We summarise these costs as follows.

Table 4 Overview of Potential Annual Costs of DRS in Ireland

Item	Description	Estimated Cost per annum millions
1	Installation of RVMs & Storage Room (spread over 10 years)	€ 25.0
2	Development of 3 Regional Depots (spread over 10 years)	€ 3.8
3	Set-Up costs (spread over 10 years)	€ 2.1
4	Ongoing labour and space costs at stores	€ 6.3
5	Logistics Costs	€ 22.4
6	Counting Centre Costs	€ 3.2
7	Central Administration Costs	€ 2.7
8	Labelling & Security Markings	€ 7.7
	Total Estimated Annual Costs (Gross)	€ 73.2
	Added Value of Additional Beverage Containers Captured	€2.6
	Total Estimated Annual Costs (Net)	€ 70.6

In light of these estimated costs and considering the additional tonnages of beverage containers likely to be captured and recycled by a DRS, we estimate that the cost of recycling the additional tonnage works out at **€7,497** per tonne. To put this figure in perspective, we calculated the cost of kerbside recycling at just under €500 per tonne and the cost of CA Site recycling at about €240 per tonne.

In order to meet future targets, Ireland needs to recycle a large amount of additional materials and we expect that 'recycling at any cost' is not a financially sustainable policy for Ireland. Using a modest 2% growth rate, we have calculated that Ireland needs to recycle an additional 1 million tonnes per annum by 2030 and 1.75 million additional tonnes per annum by 2040. It is clear from the data that recycling costs of €7,497 for every additional tonne is not viable for the Irish State as it would cost more than €168 billion over the next 20 years to meet the targets."

7.0 CIRCULAR ECONOMY

Consultation Questions – Circular Economy

7.1 What are the areas with greatest potential for transformation in Ireland under the Circular Economy?

No comment.

7.2 What measures are required to increase understanding of Circular Economy principles and their uptake by relevant actors?

No comment.

7.3 What might be a meaningful national waste reduction target and how could it be achieved?

No comment.

7.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

8.0 CITIZEN ENGAGEMENT – AWARENESS & EDUCATION

Consultation Questions – Citizen Engagement

8.1 What campaigns would better assist householders and businesses in preventing and segregating waste properly?

We suggest that a consistent and prolonged media campaign is needed to fully inform citizens of their obligations and their options with respect to waste management. This should be linked to climate change and plastic pollution, both of which are currently high on the agenda of most citizens. Citizens should be exposed to consistent messages about recycling and waste prevention in work, at home and when they are out and about.

8.2 Should this be funded by Government or should the sector play a role in funding campaigns?

The waste collectors have obligations in their waste permits to inform their customers about segregation of wastes and the proper use of the various bins. That is where their resources should be spent.

The wider campaign should be funded by Government using the Environmental Fund, which should be bolstered by new levies that are currently under consideration and largely supported by the IWMA.

EPR puts an onus on manufacturers to contribute to recycling and waste prevention. We suggest that their resources should be focussed on product design and on simple relevant labelling that makes it easy for the citizens to segregate waste correctly.

8.3 Waste Collectors have a condition in their permits to maintain on-going communication with their customers in accordance with their customer charter. Do you agree that collectors are giving sufficient information to their customers in relation to separating waste into the 3 bins?

The IWMA and REPAK funded an initiative last year to print and deliver bin hangers to all household customers with information on what materials to place in the MDR bin.

The IWMA will continue to encourage and support additional communications with customers that can improve recycling and waste prevention performance.

8.4 Do you think information stickers for bins showing what's accepted in each bin should be rolled out to all households?

The IWMA chose to roll-out bin hangers last year as it is difficult to apply stickers if the bins are wet or dirty. Also, bins cannot be accessed if they are not put out for collection.

It may be possible for waste collectors to deliver stickers to houses for the customer to apply themselves to the bins. However, there is a risk that the customers with the least interest in their waste will just bin the stickers and these are the customers that need to be convinced to change their habits. If good incentives and/or penalties can be applied, customers will take more interest in source segregation of wastes and can easily find the information that they need on several websites, such as Mywaste.ie, iwma.ie or their collector's website.

Another issue with stickers is that changes to the list of acceptable materials cannot be easily changed as stickers would have to be replaced.

8.5 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

9.0 CONSTRUCTION & DEMOLITION WASTE

Consultation Questions – Construction and Demolition Waste

9.1 What other measures need to be put in place to encourage all players to prevent and recycle waste from construction?

It should be mandatory to charge by weight for mixed waste materials collected from C&D sites in order to encourage greater waste prevention and recycling. This would also reduce the over-loading of skips, which can be dangerous. Source segregated skips could be exempt from the mandatory weight charging, thereby encouraging on-site separation of recyclable materials.

9.2 What existing measures are in place that could be improved?

Planning compliance for construction and demolition projects requires a C&D waste management plan to be submitted to the local authority. Those plans should be scrutinised by a person or persons in the local authority that has adequate expertise in the area of C&D waste management. Training should be provided as necessary. The plans should indicate if any materials are likely to be declared as by-products and any later declarations of by-products should not be allowed without revision of the plan and approval of the local authority of the revised plan.

Once the C&D waste management plan has been agreed with the local authority, there should be inspections and enforcement to ensure that the plan is carried out as described.

In this context, we welcome the proposal in the consultation document to ‘*Revise the 2006 Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Waste Projects.*’

9.3 What changes could be made to environmental and/or planning legislation to facilitate more recycling of construction waste?

Planning permission for C&D projects should always require C&D waste management plans to be agreed with the local authority in advance of commencement of development.

We recommend that legislation should be introduced to require minimum recycled content to be used in building materials, such as aggregate and other materials.

9.4 What incentives could be introduced to increase the use of recycled materials?

In this context, we welcome the following proposals in the consultation document:

- *“Develop national end of waste decisions for specific construction and demolition waste streams.*
- *We will develop a ‘best available techniques’ document for the Construction Sector.*
- *DCCAE will seek to work with the Department of Housing, Planning and Local Government to produce Section 28 Planning Guidelines on Construction Waste to further drive the prevention and recycling of C&D waste.*
- *Incentives will be put in place to encourage the use of recycled materials.*
- *Implement and monitor Green Public Procurement specifications for public construction contracts to use recycled material and for the design of buildings to allow their future demolition in such a way as to facilitate reuse/recycling of the materials.*

- *Development of reuse and recovery targets for plastic from the construction and demolition sector.”*

In addition, we recommend that National Standards should be developed for recycled materials derived from C&D waste to allow these materials to be used in construction projects.

9.5 Should levies be applied to the use of virgin material where a recycled material is available as an alternative?

Yes, and the money ring-fenced to assist recycling and to assist the development of secondary raw materials, including product specifications and standards.

As an alternative to imposing levies on virgin materials, consideration should also be given to the requirement of a mandatory percentage of recycled content in materials used in construction.

9.6 How can site managers be encouraged to ensure more on-site segregation? What financial incentives / penalties could be introduced to encourage better waste management practices?

This should be required as part of the C&D Waste Management Plans for all C&D developments, to be agreed with the relevant local authority under planning compliance and should be adequately enforced.

9.7 What are the best approaches to raising awareness and education?

We recommend a strongly funded awareness and education campaign in the national media for all waste management.

We also recommend training for site managers in C&D waste management and that could be included as a planning condition for C&D projects. It could be included as part of the condition that requires the submission of a C&D waste management plan to the local authority. Certified training courses would follow on from such a move and it would be incumbent upon construction companies to ensure that their site managers have the appropriate certificate in C&D waste management.

9.8 What are the barriers/enablers to these measures?

We expect that all these measures can be put in place if there are adequate resources applied and with some minor changes to legislation in some cases.

9.9 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

In recent years, Ireland has successfully complied with the 70% target for recovery of C&D waste, set in the Waste Framework Directive. However, this has been largely facilitated by the need for engineering materials at municipal waste landfills. C&D fines have been used as landfill cover and recycled aggregates have been used for landfill berms and roads. Now that Ireland is landfilling a lot less municipal waste, the 70% target will have to be reached in different ways, so much greater effort is required by the relevant stakeholders to find more sustainable recovery options for C&D materials. This will require work in the areas of ‘end of waste’, specifications/standards and legislation to require minimum recycled content and/or levies on virgin materials.

10.0 TEXTILES

Consultation Questions – Textiles

10.1 What measures would best support the successful collection of household textiles?

We recommend increasing the density of bring banks where textiles can be delivered.

We also recommend an investigation into 'door-to-door' textile collections with appropriate enforcement, if necessary. There are legitimate charities collecting textiles from householders and also some bogus collectors masquerading as charities. Citizens are generally unsure of the legitimacy of such collectors and are nervous that their textiles could be collected by criminals, masquerading as charities. This is confounded when textiles are left at the kerbside in labelled bags for legitimate charities to collect and they are collected by another party in an unmarked van.

We also recommend that clothes retailers should be obliged to accept old clothes for recycling at their stores. These could be donated to registered legitimate charities free of charge and should not be a financial burden on the retailers.

10.2 What measures would best support sustainable consumption of textiles by the general public?

No comment.

10.3 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

We have serious concerns in relation to the proposal to *'Ban textiles from the general waste bin, landfill and incineration.'*

Householders generally put their residual waste in black plastic bags, tie them and then place them in the residual waste bins. Waste collectors do not know what is in those bags in those bins, yet they could be held responsible for any textiles found upon inspection by an enforcement officer and could be prosecuted. That would be very unfair and would criminalise all waste collectors.

We suggest that education, awareness, encouragement, incentivisation, along with making it easier for citizens to recycle textiles by developing a higher density of bring banks and better regulating door-to-door collections, would be a more appropriate response to this issue.

11.0 WASTE MANAGEMENT INFRASTRUCTURE

Consultation Questions – Waste Management Infrastructure

11.1 Should one national waste management plan be produced in place of the 3 current plans?

We recognise and welcome the progression from 10 regional plans to just 3 and we also welcome the consistency in the 3 plans, which gives us a national plan in all but name. The 3 regional plans if not replaced by a national plan should not create artificial boundaries with respect to waste management.

11.2 Should the regional offices be set up on a statutory basis?

No comment. More information is required on this.

11.3 Should the State assist in funding the development of indigenous waste recycling facilities? If so, how should this be funded?

The waste industry has provided transfer stations, Materials Recovery Facilities (MRFs), composting plants, anaerobic digestion plants, Waste to Energy (WtE) plants and landfills. There is no requirement for the State to assist with the development of additional facilities of that nature. However, we see a role for the state in the following way in relation to the provision of recycling facilities:

- Providing more sites for bring banks;
- Developing more Civic Amenity (CA) sites; and
- Subsidising and promoting the development of indigenous recycling infrastructure that is not viable without Government support and would not compete against similar facilities developed by the private sector. For example, the Government should support the development of a paper mill in Ireland as there are none currently in the country and the international market for recycled paper is very volatile and problematic. Mixed soft paper collected in the MDR bins in Ireland is a product that is at the mercy of international markets. The future of MDR recycling in Ireland could depend on controlling our own destiny in that regard.

The funding of such interventions should come from the Environment Fund and a Climate Action Fund, which we expect to be established if the Irish Government is serious about tackling Climate Change. Those Funds should be boosted by appropriate levies that are targeted to change consumer behaviour in favour of the Environment and Climate Action.

11.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

We are concerned about the following proposal in the consultation document :

“Legislation to strengthen the powers of the regulatory authorities to ensure that collectors have contingent capacity in place and that waste can be directed by the regulatory authorities to be introduced.”

The IWMA is strongly opposed to the State directing waste to facilities and any legislation that would give that power to the State would have a devastating impact on investment in waste management infrastructure. Investors need to be confident that facilities can compete fairly in the marketplace and are wary of any legislation that would undermine the free flow of waste to privately owned recycling and recovery facilities. Directing waste to a higher tier in the

waste management hierarchy has been accepted by the IWMA in the past but directing waste to particular facilities has been successfully challenged and we will continue to oppose such a move in the future.

We welcome the concept of providing contingent capacity to cover issues that arise from time to time. However, it is not practical for transfer stations or most other infrastructure to provide that capacity without reducing the effectiveness and the viability of that infrastructure. Therefore, we recommend that emergency measures should be put in place and be easy to implement quickly in the event of a serious issue. The existing operational landfills are best placed to take additional waste in the event of a short-term emergency and that option should be fully explored.

We would also welcome emergency powers that would allow the short-term storage of dry recyclables such as paper or plastic in sheds when there is a serious problem with outlets for those materials. The sheds could be leased short term and would not have authorisations other than that applied by the emergency powers, in full consultation with the relevant authority (DCCA, EPA, etc).

We welcome the following proposal:

“Legislation and procedures regulating the development of waste infrastructure to be examined to see if processes and timelines can be streamlined.”

The processing of applications by the EPA is far too slow and is a hindrance to the provision of necessary waste management infrastructure. This has been the case for many years and rarely improves. The EPA needs to urgently allocate more resources to this area.

We suggest that all licences should be issued in less than 12 months and amendments to licences should be facilitated in a process that takes a few months rather than several years. The current system is just not fit for purpose and urgently requires attention. The industrial emissions licensing regulations include statutory timelines for decisions, but the EPA is not complying with those timelines and is constantly seeking consent from the applicants for more time. So the issue requires more than legislative changes.

We suggest that the legislation surrounding Strategic Infrastructure Developments (SID) should be reviewed and revised. The 6-month timeline for processing a SID application by An Bord Pleanála is meaningless when the Board does not have to accept an application until it is ready. There is no time limits on the pre-application process and we can see that this is used by the Board to buy time.

Also, the threshold for waste facilities under the Strategic Infrastructure Act is too low and should be reconsidered. A 100,000 t/a waste facility is relatively modest in the current context and we are aware of several facilities that have been designed to be less than the threshold to avoid the Strategic Infrastructure process. That is a poor indictment of a process that was designed to fast-track and streamline the development of strategically important infrastructure. We suggest that the applicant should have the option of going down the standard planning route with their local authority, regardless of the size of the development.

We also recommend that there should be an option to engage in SID for changes to facilities that are above the SID threshold, but are operating with an historical planning permission that was achieved through the conventional planning system, prior to the introduction of the SID process.

12.0 BY-PRODUCTS

Consultation Questions – By-Products

12.1 How do you think the By-product process could be improved?

We would welcome more EPA resources in considering Article 27 By-product decisions in a shorter timeframe. The 10-week standstill period advised in the new guidance for soil and stone declarations is too long in our view.

Also, as it is only advisory to wait for the EPA decision, we are concerned that large volumes of material will be moved without waiting 10 weeks and we may end up with large scale unauthorised dumping if the EPA decides that such material is waste and not a by-product.

12.2 Do you support the introduction of fees to assess by-product notifications?

We would not oppose a reasonable fee being applied for faster EPA decisions in response to Article 27 Declarations, but the two would have to be linked. The EPA previously considered a 4-week period to make initial decision on Article 27 declarations and we believe that this is a much more reasonable timeframe to expect people to wait for a decision.

12.3 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

We are aware from EPA feedback that a large number of Article 27 Declarations provide insufficient information for the EPA to make a decision. In these cases, the EPA requests further information and in many cases that information is not provided.

We are concerned that this may be a loophole exploited by unscrupulous operators that move inappropriate material and make a substandard declaration. That can then lead to a stalemate where no decision is made by the EPA and the inappropriate material is not properly assessed by the enforcement authorities.

We recommend that the EPA declares material to be a waste if the economic operator does not respond in a satisfactory manner to a further information request within a 4-week timeframe from the date of the EPA request.

13.0 END OF WASTE

Consultation Questions – End of Waste

13.1 Should the Government seek to establish a group to apply for national End of Waste decisions for appropriate products e.g. Aggregates, Incinerator Bottom Ash?

Yes. We would very much welcome the State seeking national ‘end of waste’ decisions for appropriate materials.

If yes:

- **what expertise would be necessary for such a team,**

A group of experts with a combined understanding of waste legislation, environmental science and product standards/specifications.

- **who should be represented,**

A steering group could comprise the DCCAE, EPA, Local Authority personnel, NSAI, Transport Infrastructure Ireland (TII) and the waste industry (IWMA). However, the work involved requires a dedicated team of experts, such as consultants and/or academics.

- **are there other materials which you believe are suitable for national end of waste decisions?**

Yes. This should be discussed and considered by the steering group rather than put forward in the policy document. There may be materials that are not currently produced from waste, so the process should be flexible enough to introduce new materials for consideration.

13.2 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

‘End of waste’ decisions are important. We suggest that the EPA should put more resources into this area to facilitate a shorter timeframe for such decisions. We would not object to the EPA charging a reasonable fee for ‘end of waste’ applications, so long as that was tied to an acceptable statutory timeframe for making determinations on these applications.

We also advise that ‘case by case’ decisions are important for many of our members, so resources are needed to advance both national decisions and ‘case by case’ decisions.

We note the proposal to:

‘give local authorities a role in terms of assessing End of Waste applications from facilities authorised by the local authority.’

We are concerned that such a role could lead to inconsistencies between facilities located in different counties and also inconsistencies between licensed and permitted sites. We have observed some local authorities being too lenient on local waste companies and observed others being too strict. This issue is important from a fair competition perspective, so consistency is critically important.

We also believe that the EPA is better placed than the local authorities to have and to maintain the necessary expertise to facilitate analysis of 'end of waste' applications.

We therefore recommend that all final decisions should be made by the EPA and the Agency should be fully resourced to do this within acceptable timeframes.

14.0 EXEMPTIONS

Consultation Questions – Exemptions

14.1 Are there particular waste streams which you think might be suitable to the ‘exemption’ approach described above, for example, the on-site controlled incineration or deep burial of Invasive Alien Plant Species? Which other waste streams could or should be considered in the context of an ‘exemption’ approach?

The existing Certificate of Registration process effectively exempts some small-scale waste management activities from the requirement for a permit or a licence. Consideration could be given to further use of the registration system as an alternative to exemptions.

14.2 In your opinion, what are the dangers/risks or advantages associated with an ‘exemption’ approach?

There should be an opportunity for stakeholders, such as the IWMA, to comment on any specific proposed exemptions in advance of their implementation. We have no view on the on-site treatment of Invasive Alien Plant Species but feel that this should be explored with the National Parks and Wildlife Service, as the leading authority and stakeholder in this area.

14.3 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

15.0 EXTENDED PRODUCER RESPONSIBILITY (EPR)

Consultation Questions – Extended Producer Responsibility

15.1 How is the new EPR infrastructure going to impact on Ireland's existing EPR structures?

No comment.

15.2 How do we ensure Ireland's existing producer responsibility initiatives are in a position to adapt in response to the EU legislative changes for EPR models?

No comment.

15.3 How do EPRs help Ireland achieve our targets?

In our experience, the EPRs are very effective in producing data on obligated materials and in encouraging the collection and recycling of those materials.

15.4 How do we influence decisions made at the product design stage to ensure circular design principles are put in place?

By implementing a system of labelling as mentioned earlier in this submission and then introducing levies that hit materials that cannot be recycled easily within the system available in Ireland. We suggest that recyclable items should have a message that says, '*place in dry recycling bin*' or '*place in food waste bin*' or '*place in bottle bank*', etc. Non-recyclable items should have a message that says '*non-recyclable, place in general waste bin*'.

15.5 How could modulated fees be best introduced to drive change and transform our approach to waste in line with modern, circular economy principles?

The most effective way to introduce this in the short term is via the existing producer responsibility schemes. If this proves ineffective, then further measures such as levies could be considered.

15.6 Primary focus is on introducing the new EPR schemes as outlined in the SUP Directive but are there other waste streams that would fit with the EPR model?

No comment.

15.7 Is there a role for voluntary agreements with industry?

Possibly, but if they prove to be ineffective, they should be replaced with mandatory measures.

15.8 What mechanisms will bring the entire supply chain and waste management systems together to share solutions?

The introduction of labelling and levies as mentioned above and earlier in this submission would draw attention to materials that are not accepted for recycling in Ireland. This should result in discussions between the producers, the retailers and the waste industry on the development of alternative recyclable products.

15.9 Looking at the example of WEEE, retailers now play an increased role in collection, is this approach suitable for other potential EPR waste? If so, what areas?

Yes. This could be applied to a wide range of retail outlets. For example:

- Clothes shops could be obliged to accept old clothes for recycling and could donate those clothes to reputable charities. This should not be a financial burden.
- The retailers of gas cylinders should be obliged to take back empty cylinders (some do, but many do not, including industrial gas cylinders)
- Shops that sell paint could be obliged to take back used and partly used paint cans.
- Coffee shops could be obliged to accept single-use tea and coffee cups for recycling or composting, regardless of the origin of the tea or coffee cups.
- Petrol stations and garages could be obliged to accept waste oil for recycling.
- Etc, etc.

15.10 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

16.0 WASTE ENFORCEMENT

Consultation Questions - Waste Enforcement

16.1 What, in your view, are the factors leading to waste crime (please tick one box)

Ineffective enforcement by the authorities

16.2 What measures are required to respond to the links between waste crime and other forms of serious criminal offences, such as organised crime?

The IWMA recommends the establishment of an Environmental Crime Unit to address the serious criminals and crime gangs that are active in burning and illegally dumping waste. We believe that these serious criminals are being supplied with waste by rogue waste collectors and rogue skip operators. The Environmental Crime Unit could be a small unit consisting of armed detectives, waste management enforcement personnel and forensic accountants.

We understand the dangers associated with local authority and EPA personnel tackling serious criminals, so we believe that this requires the involvement of trained and armed Gardaí with the technical back-up of waste management experts and others. We also recognise that this is not a 9 to 5, Monday to Friday job, as the criminal activities in the waste sector normally occur outside of office hours.

16.3 What changes could make the regulatory or industry response to serious and organised waste crime more effective?

As above.

16.4 Are the penalties available under the Waste Management Act appropriate?

No comment.

16.5 What other penalties could be considered for illegal dumping by households/members of the public

This is a serious offence and should be prosecuted in the courts.

16.6 Are there examples of existing good practice to prevent illegal dumping?

No comment.

16.7 What contribution to the cost of the enforcement system should the waste industry make?

The waste collectors within the IWMA are open to discussions on part-financing the enforcement of households that do not avail of a waste collection service and those that have a service but still mis-manage their waste by not using the system correctly, e.g. not using brown bins or contaminating MDR bins.

In terms of enforcement of criminal activity, the waste industry has to compete against criminals that engage in unauthorised waste activities and is entitled to the support of the State to apprehend and prosecute such criminals.

Any charges levied on the waste industry to address this issue would have to be passed on to customers, which is not a progressive form of taxation, as those that manage their waste in a responsible manner would be asked to pay for those that do not.

The State is responsible for law and order and cannot credibly pass that responsibility to legitimate businesses that are providing essential services to the public.

New environmental and climate change levies could be used to support enforcement activities and would be much more progressive in terms of changing the behaviour of citizens. Also, higher fines for illegal dumping and court decisions requiring guilty parties to cover the State's costs in the legal action would help to reduce the State's burden.

16.8 Should financial provision be a requirement for permitted waste facilities?

That depends on the risks associated with any particular facility. It should be consistent with licensed facilities, so there should be collaboration between the EPA and the local authorities in this regard and a fair and consistent system applied.

16.9 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

Transparency is very helpful in terms of identifying criminal activity in the waste sector. Legislation should be introduced that ensures that all waste facility annual environmental reports are available to view on-line. More eyes on waste reports will help to identify the false data that hides criminal activities.

17.0 WASTE DATA AND WASTE FLOWS

Consultation Questions - Waste Data

17.1 Do you believe it would be beneficial to have all/most waste data available on at least a quarterly basis?

No, annual data is adequate and should be transparent.

17.2 What resources are needed to validate this data more quickly and what are the barriers?

The IWMA made a detailed submission to the NWCPO in June 2018 in response to a proposal to increase the frequency of reporting waste collection data. The following extracts from that submission are relevant to this question:

“We are strongly opposed to the suggested requirement to provide monthly reports on kerbside household waste collection.

- *IWMA members stated that monthly reporting would be very time consuming and a significant burden on business. The data is not readily available in a form that can be collated quickly and easily. The person collating the data needs to check local authority areas and needs to verify large quantities of data before it is fit for submission to the NWCPO. This would be a full-time job, even in a small company, if monthly reporting was required.*
- *It was suggested that the WERLAs could target companies that are under investigation and they could require more frequent reporting by that company during the course of their investigation, rather than targeting the whole industry in this way.*
- *The datasets currently used by our members do not include fields identifying each local authority area, so a detailed verification process is undertaken by each waste collector before a report is submitted to the NWCPO. It would require a lot of work for this to be applied retrospectively to 1.2 million household customers (including non-IWMA collectors), so we consider this to be a significant burden on business.*
- *Apartments are often considered to be commercial customers by our members as they are arranged by way of commercial contracts with the management companies. Hence there is a lot of verification work when these are included as households in the annual returns. This would be increased 12-fold for monthly reporting and we consider this to be an unnecessary burden on business.*

In addition, written feedback from members includes the following comments.

Time and resources – *at present our members collect waste from approximately 875,000 households and a large number of commercial customers. All waste data is recorded using the relevant software and report templates have been prepared to allow annual return data to be collated. However, data is often run at a site level to facilitate EPA licence requirements. The waste collection data forms part of wider datasets that need to be manually screened and analysed to pull out the required information. Whilst the suggested requirement for monthly data may be limited to domestic customers, the same amount of data validation is required to separate the domestic collected tonnage data from the commercial.*

It typically takes 3 months to prepare and validate annual data. Some of our members are large multi-facility companies and even our medium sized members have more than one facility. Annual returns are primarily collated by the compliance team with additional support from individuals at each waste facility as well as the central logistics team. It is not as simple as running a report – the report must be

reviewed by weighbridge staff and validated as accurate. If we were to move to monthly or even a quarterly reporting regime, the resources required would be crippling to site and compliance operations.

NWCPO and Enforcement Resources – We find it hard to believe that the NWCPO and the enforcement authorities have the resources to examine and analyse data from 1.2 million houses on a monthly basis. We suggest that it would be a better use of their time if they targeted a specific waste collector by conducting onsite audits to gather live data in real time.

In short, placing this burden on business would inevitably cost our members millions of euro in additional human resources.

It would also require significant additional human resources to be put in place by the State to manage that data and to use it for enforcement purposes. We are currently working off national waste data that is 4 years old and we have not seen the publication of a National Waste Report (NWR) since 2012. We respectfully suggest that the State would do better to put additional resources into the National Waste Report team in the EPA to prepare more frequent and more current NWRs.

We also respectfully suggest that the enforcement authorities would be more effective if they regularly conducted spot checks at waste collectors' offices, rather than attempting to gather an unmanageable amount of data.

Regulatory and Administrative Burdens on Business

In 2008, the IWMA engaged with a 'High Level Group on Business Regulation' that was tasked with reducing regulatory and administrative burdens on business. The work was commissioned by the Tánaiste & Minister for Enterprise, Trade & Employment³ and culminated in a report published in July 2008.

That report recognised a number of regulatory burdens in the waste sector and was instrumental in the streamlining of waste collection permits, which eventually led to the establishment of the NWCPO.

Section 2.1.6 of the report recognised an administrative cost saving of €8 million due to the streamlining of the waste collection permitting system. From 31st March 2008 it was possible to apply to a single authority for a National waste collection permit and this was a major move forward for all concerned.

We suggest that the requirement for monthly reporting would overturn those savings and would introduce a major administrative burden that would be contrary to the efforts of the work carried out by the High-Level Working Group on behalf of the Tánaiste & Minister for Enterprise, Trade & Employment. This would also add to the cost of household waste collection, which would inevitably be passed on to the consumer.

In Section 6 of Appendix B, the report noted that, in the consultation process, the IWMA had requested that "Information required for licensing and enforcement should be necessary and only collected once".

In response, the authors of the report stated that "There should be scope to reduce. The EPA is looking at risk-based approaches." And under Action items, the report stated "Being explored by the EPA. The High-level Group will be kept up to date."

³ Now the Department of Business, Enterprise and Innovation (DBEI)

It is clear that the Irish Government is concerned about unnecessary administrative burdens on business and is doing all in its power to remove or reduce any such burdens. In the event that more frequent reporting is mandated by the NWCPO & WERLAs, despite our opposition, we reserve the right to challenge it and to seek the support of the Department of Business, Enterprise and Innovation in that challenge.”

17.3 How would you balance the need for validated reporting data for EU reporting against the desire for more up to date statistics?

The IWMA considers that annual data is ideal. EU reporting is every second year (biennial), which we consider too infrequent and the NWCPO now requires quarterly reporting for kerbside household waste collection data, which we consider to be overly onerous and a burden on business.

17.4 Do you believe that all waste should and could be tracked from site of creation to final destination?

We would need to see details of this before commenting. If it can be done without adding a significant burden on business and improves enforcement, then we might be in a position to support it.

17.5 Are there confidentiality or other issues for industry in reporting on waste flows?

Yes, but this must be balanced against the greater good in combatting illegal waste activities. Citizens and businesses need to be able to see where waste companies send waste to make informed decisions on which company to engage for their waste management needs.

17.6 What changes need to be put in place to facilitate better reporting?

Firstly, there should be stronger enforcement of waste companies that do not make annual returns, as required by law.

Secondly, there should be better engagement between the various authorities to seek data in a consistent format. The NWCPO appears best placed to advance that goal.

17.7 What uses can be made of having more detailed, accurate, timely data?

We can better understand progress to targets and focus resources where they are needed most. Annual data is adequate to achieve this.

17.8 What penalties should be in place for the non-provision of data?

Strong penalties, including prosecutions.

17.9 Should there be voluntarily reporting on particular waste streams and its treatment destination prior to legislative changes being put in place?

No comment.

17.10 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

18.0 RESEARCH AND INNOVATION

Consultation Questions - Research & Innovation

18.1 What are the research areas you would consider to be important in developing a circular economy?

No comment.

18.2 What new research programmes/initiatives do you think could be put in place?

No comment.

18.3 What do you see as the main barriers/enablers to fostering a positive research culture around the circular economy?

No comment.

18.4 Do you think research on waste, resource efficiency and the circular economy could be better publicised and more readily accessible? How?

No comment.

18.5 What further incentives could be put in place to encourage research?

No comment.

18.6 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No comment.

19.0 CONSUMER PROTECTION & MARKET MONITORING

Consultation Questions - Consumer Protection & Market Monitoring

19.1 The CCPC recommended the establishment of an economic regulator for household waste collection.

- In your opinion, should an economic regulator be established? In considering your reply it is recommended you consider the detailed rationale set out in the CCPC report, available [here](#).
- If a regulator was to be introduced what powers should the office have? Should they be confined to economic powers?
- Should a new office be set up or should the powers of existing regulator be broadened?
- What alternatives are there to setting up a regulator, for example, improved regulatory oversight for customer's complaints?

We do not believe that an economic regulator is needed. Many of the consumer protection issues that were raised in the 2018 CCPC report on the '*Operation of the Household Waste Collection Market in Ireland*' have now been incorporated into waste collection permits by the NWCPO, with the support of the IWMA. Any other issues of concern in that regard could be managed by the NWCPO, as the effective regulator of all waste collection in Ireland. The NWCPO works closely with the WERLAs and the wider enforcement network, so the enforcement tools are in place to implement any measures that are required for the purpose of consumer protection.

The IWMA reviewed the CCPC Report and found it to be biased and seriously flawed. Our critique of the CCPC report is attached to this submission.

19.2 Do you believe the information currently available on kerbside waste collection pricing could be improved, and if yes, how?

The IWMA does not engage with members on issues of pricing other than to advise that all pricing must incentivise waste prevention and recycling. We suggest that the NWCPO should work with the enforcement authorities to analyse pricing structures to ensure that waste prevention and recycling is incentivised. That analysis should not be limited to just kerbside household waste collection but should be a broad rule across the sector.

19.3 Do you believe that the information prepared by the Price Monitoring Group is useful? If No, what changes would you like to see?

Yes, very useful.

19.4 Given that the last time flat rates fees were identified was July 2018, do you believe the work of the Group should continue?

Yes, as it provides confidence that prices are responding to competition and are not constantly increasing, as is the case in other utilities.

19.5 Would you support the Group undertaking whole of market monitoring including publishing prices for household waste collection for all collectors in all areas?

No. Firstly, the PMG work shows that there are a wide variety of ways in which householders are charged in an incentivised manner for kerbside waste collection, so comparisons between companies' prices are not easily made. In fact, many companies offer a number of different

price plans that are designed to be attractive to a range of different sized households, which makes it even more complicated for price comparisons.

Household waste collectors are obliged to charge in a manner that incentivises waste prevention and recycling. The PMG ensures that prices are fair and not escalating. These are the two most important factors.

Publishing all prices is likely to turn kerbside household waste collection into a popularity contest. The problem with that is that fixed charges are popular with the public but not good for the environment. Any such move would put undue pressure on collectors to reduce the variable charging to a minimum and to maximise the fixed element of the charge.

There is a clear conflict in waste collection between maximum competitive forces and maximum environmental performance. We suggest that waste collection needs to move towards maximum environmental performance, whilst maintaining fair prices, as observed by the PMG. Otherwise, we have no chance of meeting future EU targets.

So long as prices are demonstrated to be fair, reasonable and not escalating, there is no need for the State to focus on the introduction of measures that are designed to encourage people to switch service provider, just because that is a theoretical measure of competitive forces in a market. The real measure of competition is provided by the PMG reports on the market and those reports have not suggested that there is a need for further interventions at this time.

19.6 Do you believe there needs to be further oversight of the waste sector from a consumer rights perspective?

No, but the IWMA would not object to an ombudsman or other body that would handle consumer complaints relating to the waste sector. It would make sense for such a body to be attached to the NWCPO.

19.7 Do you believe that a consumer complaints body should be put in place?

No.

19.8 If yes, what powers would such a body have?

If such a body was put in place, it should be attached to the NWCPO and its powers could include reviews and revocations of waste collection permits, as well as fixed penalty notices for breaches of certain conditions of the waste collection permits.

19.9 Should it be included within an existing body e.g. CCPC or the National Waste Collection Permit Office?

The NWCPO, for the reasons given above.

19.10 Is further regulation from a consumer perspective of the sector needed?

Recent changes to the waste collection permits have introduced new regulation from a consumer perspective, with the support of the IWMA. The IWMA is open to any further discussions of that nature.

19.11 If yes, what measures do you see as necessary for further regulation or what legislation needs to be strengthened?

No comment.

20.0 GREEN PUBLIC PROCUREMENT

Consultation Questions - Green Public Procurement (GPP)

20.1 What are the barriers to public authorities using GPP?

No comment.

20.2 How can business support more widespread use of GPP?

No comment.

20.3 What % target should apply to the use of GPP in Ireland?

No comment.

20.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our green public procurement practices?

No comment.

21.0 HOUSEHOLD BULKY WASTE

Consultation Questions - Household Bulky Waste

21.1 What supports do consumers require to prevent bulky waste?

There needs to be easy options for householders to bring bulky waste to reuse centres. The higher the density of such centres the easier it will be for consumers.

21.2 Are consumers willing to pay more to ensure appropriate end-of-life disposal for these products?

Probably, but we suggest that a survey is needed.

21.3 Should Government support investment in the recycling of large plastic items that are not suitable for domestic recycle collection?

Yes.

21.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No further comments.

22.0 BIOECONOMY

Consultation Questions - Bioeconomy

22.1 What kinds of activities to increase the financial support for bioeconomy development in Ireland?

No comment.

22.2 Are current policy options in relation to innovation & enterprise policy instruments suitable or sufficient to address the development of systemic and cross-cutting bioeconomy approaches, business models and new value chains?

No comment.

22.3 How best to develop a value chain approach to link bio-based actors, value chains and territories?

No comment.

22.4 Have you any other comments or suggestions on how you would like to see Ireland transition to a more resource efficient and circular economy by improving our waste management practices?

No comment.

We hope that this submission is helpful and we look forward to further positive engagement with the DCCAE on this and other waste policy issues.

Yours Sincerely,



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Attachments:

1. 'Likely Impact of a Deposit & Return Scheme on Waste Management in Ireland', SLR Consulting for the IWMA, January 2020.
2. IWMA Critique of CCPC Report on 'The Operation of the Household Waste Collection Market', November 2018.

LIKELY IMPACT OF A DEPOSIT & RETURN SCHEME ON WASTE MANAGEMENT IN IRELAND

Prepared for:



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Executive Summary

The Irish Waste Management Association (IWMA) commissioned SLR Consulting to prepare a report addressing likely impacts of a Deposit & Return Scheme (DRS) for plastic and aluminium beverage containers on waste management in Ireland. The report also considers Ireland's future recycling targets and recommends measures to assist the country in meeting those targets.

Municipal Solid Waste Management in Ireland

The Irish household waste market differs from most countries as the local authorities (or municipalities) do not engage in kerbside household waste collection. The householder in Ireland contracts directly with private sector service providers and generally has a choice of two or three companies for kerbside waste collection. The service is fairly consistent as the minimum number of bins and the types of material collected in each bin have been standardised in legislation, as has the requirement to weigh every bin lift and report the data to each householder. In addition, householders must be charged in a way that incentivises waste prevention and recycling.

The top 20 waste collection companies collect waste from approximately 90% of the household kerbside customers. The other 10% of households are serviced by about 40 small companies, with that number reducing regularly due to consolidation.

Household waste collection largely consists of a 3-bin system for mixed dry recyclables (MDR), food waste and residual waste in urban areas and a 2-bin system for MDR and residual waste in rural areas. The residual and MDR bins are normally 240 litres in size but can be larger or smaller depending on the customer's needs and the frequency of collection. The brown (organic) bins vary in size from small caddies that are designed for food waste without garden waste to 240 litre bins that are suitable for both food and garden waste. Many companies also use 140 litre bins that are suitable for food waste plus some garden waste, such as grass. The food waste bins are not mandated in rural areas, where householders are encouraged to home compost.

The local authorities still play an important role in waste management in Ireland in the areas of planning, permitting, enforcement and the development/operation of civic amenity sites as well as the siting of bring banks. The CA sites and bring bank infrastructure contribute much to recycling in Ireland and will undoubtedly have a greater role in meeting future recycling targets.

A recent waste characterisation study commissioned by the EPA found that the 3-bin kerbside household collection system is somewhat effective in Ireland but could be a lot more effective if the majority of householders made a greater effort to segregate their wastes at home. The report stated that the household recycling bins contained an average of 26.3% non-target materials and the biowaste bins contained an average of 8.2% non-biodegradable materials.

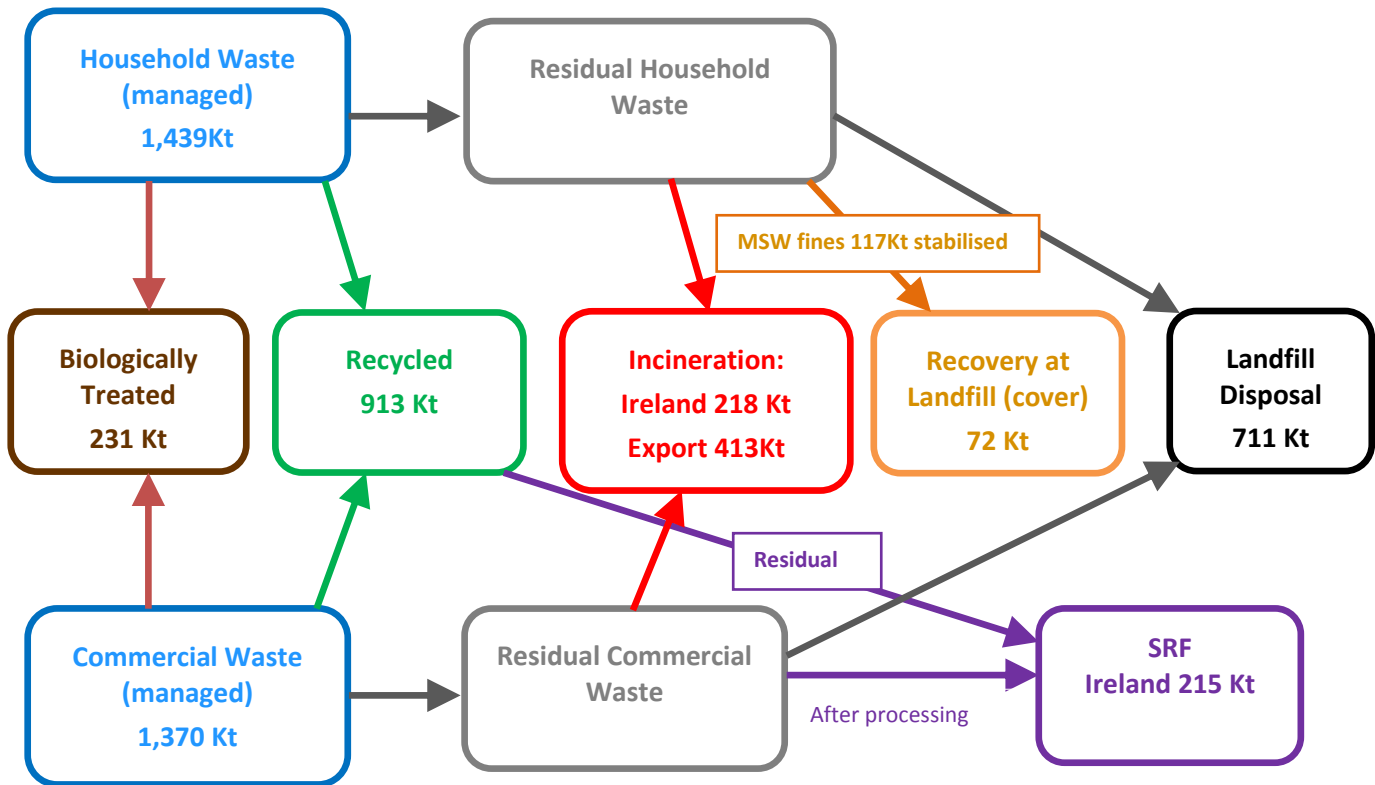
The EPA Characterisation study for non-household (commercial) waste found that the commercial 3-bin system is not producing good quantities and quality of recyclables and could be a lot more effective. The EPA report found that the commercial MDR bins contained 40% non-target materials. However, the commercial biowaste bins performed much better containing just 1.4% non-biodegradable material.

The EPA found that more about 73% of the materials in the commercial residual waste bin should not be there, as they should be recycled. This equivalent figure was 35% for the household residual bin, so greater awareness and incentivisation is clearly needed in the management of commercial waste.

MSW Volumes in Ireland

Municipal Solid Waste (MSW) in Ireland consists of household waste and commercial & industrial wastes that are similar in composition to household waste. Figure 1 below shows the generalised flows of MSW in Ireland in 2016, based on EPA data and SLR’s analysis.

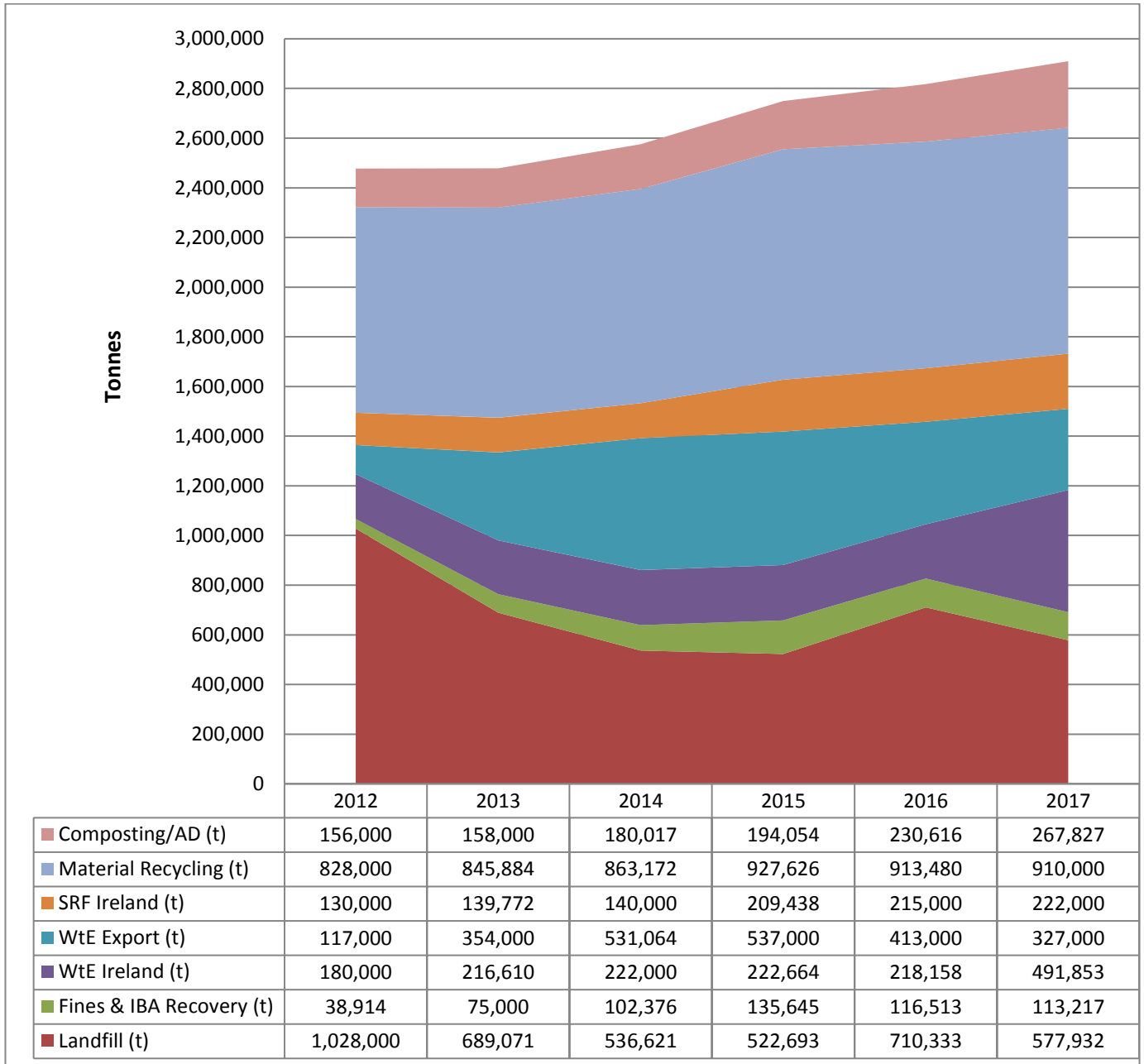
Figure 1 Generalised Flows of MSW in Ireland in 2016



The main difference between 2016 and 2018 is the opening of the Dublin WtE facility at Poolbeg, which is accepting 600Kt/a of rMSW. The export of waste has decreased significantly since the 2014 peak of 531Kt to a projected 221Kt for 2018, based on analysis carried out by the regional waste planning offices. Landfill has also decreased from 711Kt in 2016 to a projected 370Kt in 2018, which is about 13% of managed MSW.

Based on a combination of EPA data and more recent data provided to SLR by the NWCPO and the regional waste planning offices, Figure 2 shows a summary of the treatment of waste generated in Ireland between 2012 to 2017.

Figure 2 Summary of Treatment of Waste Generated in Ireland from 2012 to 2017



The recycling rate calculated from that data presented in Figure 2 is as follows:

- 2012 = 39.7%
- 2013 = 40.5%
- 2014 = 40.5%
- 2015 = 40.8%
- 2016 = 40.6%
- 2017 = 40.8%

SLR’s analysis predicts that 2018 will see an MSW recycling rate of about 41.8% in response to increased volumes of brown bin material sent for composting and anaerobic digestion, which we estimate should reach about 290Kt (c.10%). Total MSW is expected to be just under 3 million tonnes. Landfill disposal should reduce to less than

400Kt (c.13.5%), as the full impact of the Poolbeg WtE plant boosts the WtE in Ireland figure to more than 800Kt (c.27%).

The stagnated recycling rate is a real concern for the waste sector in Ireland, in the context of the future MSW recycling targets set by the EU in the Circular Economy Package (CEP).

Ireland’s Recycling Performance

In this report, SLR has outlined the current performance of municipal solid waste management in Ireland in the context of the recycling challenges set in EU Directives. Ireland has met all targets to date and is on track to meet the 2020 targets, so the performance of the waste sector has been good. This has been achieved by a broad range of actors in the sector including, the waste industry, the local authorities, the regional waste planners, the Government (DCCA) and the Producer Responsibility schemes, amongst others. Consultation between these stakeholders has been an important factor in Ireland’s success and is likely to be equally important in the future, so the IWMA is being proactive in bringing ideas and recommendations to the table. This report falls into that category.

Regardless of Ireland’s success to date, the new targets set by the EU in the Circular Economy Package and the Single Use Plastics Directive are much more challenging and Ireland is likely to struggle to meet some targets. The targets of most concern are detailed in Table 1 below.

Table 1 EU Municipal Waste Targets of Greatest Concern to Ireland

EU Directive	By 2025	By 2030	By 2035	Target Specifics	Reference Year	Rate	SLR Comment
Waste Framework Directive (2018/851)	55%	60%	65%	Preparing for re-use and the recycling of municipal waste	2016	41%	Not on Track
Packaging Directive (2018/852)	50%	55%	-	Percentage of Plastic packaging waste to be recycled.	2017	34%	Not on Track
EU Directive	By 2025	By 2029	By 2035	Target Specifics	Reference Year	Rate	SLR Comment
Single Use Plastics Directive (2019/904)	77%	90%	-	Separate collection for recycling of single use plastic beverage bottles with a capacity of up to 3 litres, including their caps and lids, but excluding: <ul style="list-style-type: none"> • Glass or metal beverage bottles that have caps and lids made of plastic. • Beverage bottles intended and used for food for special medical purposes that is in liquid form. 	2018	60.7%	Not on Track

Ireland needs to find ways to boost the recycling of MSW and plastic waste to meet these targets. A step change is required, as gradual increases in recycling will not be enough to increase from the current rate of c.42% MSW recycling to the 2025 target of 55% in just 5 or 6 years. The penalties imposed by the EU for missing these targets could be very expensive for Ireland, so investment now to avoid such penalties would be money well spent.

Deposit and Refund Scheme

A DRS for PET bottles and aluminium cans is currently under consideration by the Oireachtas Joint Committee on Communications, Climate Action and the Environment. The *Waste Reduction Bill 2017* promotes the idea of a DRS in Ireland.

In parallel, the Minister for Communications, Climate Action and the Environment has stated publicly he will commission a review which will consider how we can deliver a 90% collection target for single use plastic bottles in Ireland. This review will also examine the possibility of introducing a DRS and how this might operate in an Irish context. Eunomia has been appointed to carry out that review.

International Examples

In this report, we have looked at examples of similar schemes in each of the States in Australia, where SLR has good waste management expertise. SLR's review found that the DRS schemes in Australia were largely introduced to reduce litter. A secondary element was to increase recycling rates. In particular, the South Australia DRS was targeted at increasing recycling rates as it pre-dated kerbside collections.

In the schemes that have been introduced in recent years in Australia, efforts have been made to work in tandem with kerbside recycling, rather than to compete against it. The New South Wales scheme pays deposits to MRFs for relevant materials that are recycled. This should be considered if a DRS is introduced to Ireland as the impact of a DRS on the MRF gate fees could have wider consequences in terms of the overall viability of kerbside recycling.

Potential Impact on Kerbside Recycling

SLR consulted with each of the MRF Operators in Ireland to see what impact the removal of plastic bottles and aluminium cans would have on the Material Recovery Facilities in Ireland. The MRF Operators estimated that this would have a €20 to €40 per tonne impact on gate fees at their facilities. Some of the MRF Operators also commented that there would be other impacts to be considered, such as:

- Without good quality materials, such as plastic bottles and aluminium cans, it is difficult to move lower quality materials such as plastic pots/tubs/trays and plastic films. Reduced recycling of these materials would impact negatively on Ireland's recycling performance.
- The processing lines at the MRFs would have to be re-configured to manage the changes to the input materials.
- A DRS is likely to impact on all REPAK subsidies, as the producers of aluminium cans and plastic bottles would not provide subsidy for MRF operations, so the existing subsidy could be reduced for all materials.

Based on the tonnages and values of these materials as reported by the MRF Operators, SLR independently analysed the potential impact on the MRFs from a successful DRS. The results are shown in Tables 2 and 3 below.

Table 2 Expected Revenue Losses at MRFs if DRS Materials Removed

Material	Volume Handled (t/a)	Average Value of Material including REPAK subsidy (€)	Loss of Revenue (€)
Aluminium Cans	4,444	915	€ 4,066,260
PET Bottles	11,227	247	€ 2,773,069
Estimated Cost due to Loss of Beverage Containers			€ 6,839,329
HDPE Bottles	7,283	415	€ 3,022,445
Estimated Cost due to Loss of Beverage Containers and HDPE Bottles			€ 9,861,774

Table 3 Expected Increase in MRF Gate Fees for Household MDR if DRS Materials Removed

Material	Revenue Loss (€)	Household MDR Handled in 2016 (t/a)	Household MDR Handled after DRS materials removed (t/a)	Loss of Revenue per Unit / Potential Gate Fee increase (€)
Loss of Beverage Containers	€ 6,839,329	253,328	237,657	€ 28.78
Loss of Beverage Containers and HDPE Bottles	€ 9,861,774	253,328	230,374	€ 42.81

The increase in gate fees at the MRFs could have very serious consequences on kerbside recycling in Ireland as the incentive to collect recyclables at kerbside would be reduced to a point where it would favour rogue operators that collect household waste with no source segregation.

Likely Increases in Recycling Rates

It is widely accepted that a DRS would have a positive impact on litter and that has been the focus of many DRS systems across the world. In particular, a DRS with a high value deposit of c.25 cent is expected to attract litter pickers.

However, the impact on recycling rates is not so clear. In countries that do not have a kerbside collection system for recyclables and have a low recycling rate, the impact of a DRS on recycling rates will be greater than in countries with well advanced systems for collecting recyclables.

SLR examined the quantities of beverage containers already recycled in Ireland and assessed the impact on MSW recycling and packaging waste recycling of an increase to 90% recycling of those materials. The results were as follows:

PET Bottles:

- Total on the market = 25,490 t/a.
- Uplift from 60.7% to 90% = 29.3% = 7,469 t/a extra recycled.
- 7,469 t/a out of a total MSW generation of 2.8 million t/a = **0.27%**

Aluminium Cans:

- Total on the market = c.11,456 t/a.¹
- Uplift from 73% to 90% = 17% = 1,948 t/a extra recycled.
- 1,948 t/a out of a total MSW generation of 2.8 million t/a = **0.07%**

Total Uplift in MSW Recycling rate = **0.34%**

The data suggests that a successful DRS would only increase overall MSW recycling rates by 0.34% which would do little to assist with the WFD requirement to increase MSW Recycling rates from the current 41% rate to 65% by 2035, with intermediate targets for 2025 and 2030.

The extra tonnage of PET bottles would increase the plastic packaging recycling rate from 34% to 36.5%, still well short of the 50% target by 2025 and the 55% target by 2030.

¹ REPAK's annual report states that 8,363 tonnes of aluminium cans were recycled in Ireland in 2018. Later data from REPAK given to the IWMA and to Eunomia states that 73% of aluminium cans are recycled, so we calculate that 11,456 t/a are placed on the market. REPAK has also stated that 9,427 t/a of aluminium cans are placed on the market by REPAK members in RoI, so the additional tonnage is likely to be imported (e.g. Northern Ireland shopping) or placed on the market by non-members of REPAK.

It appears that Ireland has already exceeded the 2025 and 2030 targets for aluminium packaging recycling, so the uplift in that category would be welcome, but is not of greatest concern at this time.

The effect of a successful DRS on the overall packaging recycling targets would be about 0.7% increase in the recycling rate from 65.6% to 66.3%.

A DRS would undoubtedly increase recycling rates for PET bottles and aluminium cans and would assist Ireland in meeting the SUP Directive targets for 2025 and 2029 but would clearly have very little impact on the other recycling targets that are currently not on track.

Costs of a DRS in Ireland

We also estimated the likely costs associated with developing and operating a comprehensive and successful DRS in Ireland. These are rough estimates that are detailed in the main body of the report and are comparable with other estimates that we reviewed in DRS related reports. Rather than consider capital and operational costs, we spread the capital costs over 10 years to view all the costs as 'annual costs'. We summarise these costs as follows.

Table 4 Overview of Potential Annual Costs of DRS in Ireland

Item	Description	Estimated Cost per annum millions
1	Installation of RVMs & Storage Room (spread over 10 years)	€ 25.0
2	Development of 3 Regional Depots (spread over 10 years)	€ 3.8
3	Set-Up costs (spread over 10 years)	€ 2.1
4	Ongoing labour and space costs at stores	€ 6.3
5	Logistics Costs	€ 22.4
6	Counting Centre Costs	€ 3.2
7	Central Administration Costs	€ 2.7
8	Labelling & Security Markings	€ 7.7
	Total Estimated Annual Costs (Gross)	€ 73.2
	Added Value of Additional Beverage Containers Captured	€2.6
	Total Estimated Annual Costs (Net)	€ 70.6

In light of these estimated costs and considering the additional tonnages of beverage containers likely to be captured and recycled by a DRS, we estimate that the cost of recycling the additional tonnage works out at **€7,497** per tonne. To put this figure in perspective, we calculated the cost of kerbside recycling at just under €500 per tonne and the cost of CA Site recycling at about €240 per tonne.

In order to meet future targets, Ireland needs to recycle a large amount of additional materials and we expect that '*recycling at any cost*' is not a financially sustainable policy for Ireland. Using a modest 2% growth rate, we have calculated that Ireland needs to recycle an additional 1 million tonnes per annum by 2030 and 1.75 million additional tonnes per annum by 2040. It is clear from the data that recycling costs of €7,497 for every additional tonne is not viable for the Irish State as it would cost more than €168 billion over the next 20 years to meet the targets.

Alternative Options to Increase Recycling Rates

Given that a DRS would do little for Ireland's very challenging future MSW and packaging waste recycling targets, the report gives consideration to other ways to increase the relevant recycling rates. Some of the initiatives and ideas presented in the report were derived from IWMA reports and submissions, but SLR also looked at international experiences in that regard.

Recycling Encouragement and Incentivisation

The IWMA has commenced a trial that is designed to encourage and incentivise customers to better source segregate household waste and thereby achieve higher recycling rates individually and collectively. The trial is being conducted by three IWMA Member companies in different parts of the country, covering both urban and rural areas. Each company will involve 500 of their household customers with a broad range of demographics, so there will be a total of 1,500 houses in the trial.

Customers will be informed by text or email on a monthly basis of their household's recycling performance, based on the weights of material in each of the 3 bins. Bins will be checked to ensure that householders do not deliberately place residual wastes in the recycling bins.

Customers will then be encouraged to improve their recycling performance and will receive a financial reward for achieving higher recycling rates. We understand that the financial incentive in the trial is set at €1 per percentage increase in recycling, but that may be subject to change. The trials are part funded by REPAK and part funded by the three companies involved.

The IWMA intends to encourage all members that collect kerbside household waste to partake in a full roll-out of this system, assuming a successful outcome from the trials. The IWMA will also lobby the Government and the relevant Producer Responsibility Schemes to provide finances to assist with incentivisation of householders that improve their recycling performance.

Camera Detection System

An IWMA member has introduced a Camera Detection System (CDS) to its household kerbside waste collection service in Fingal and intends to roll-out this system to other areas where the company collects household waste. Cameras have been fitted to each truck that collects mixed dry recyclables and may in the future also be fitted to each truck that collects brown bin bio-waste. The cameras take a photograph the recyclable waste as it is emptied into the truck.

The system links each photograph to the RFID chip in the bin and this provides a link to the customers address. A warning letter is sent to the customer that includes the photograph and highlights the unacceptable materials. The first warning letter can change behaviour in many cases. A second or third warning letter is required in other cases.

A small minority of customers do not change their behaviour after several warning letters with photographs of the unacceptable materials and in these cases, the company applies the residual waste charge to the bin, as the materials placed in the bin are not compliant with the MDR bin acceptable materials.

Feedback from the company suggests that the camera detection system is very effective in changing customers' behaviour and is encouraging householders to take a greater interest when source segregating their household waste. The company plans to introduce a similar system to its commercial customers to further encourage better source segregation of all municipal wastes.

Improving Commercial Waste Recycling

The IWMA, in a letter to the Department of Communications, Climate Action and Environment in September 2018 recommends the following actions to improve recycling performance from the commercial waste stream:

1. Introduce mandatory charging per kilo for all commercial wastes.
2. Introduce mandatory incentivised charging whereby recycled wastes (including brown bins) have a lower per kilo charge compared with residual wastes.

3. Introduce a ban on placing food waste, garden waste and recyclable wastes in residual waste bins at commercial premises.
4. Consider the introduction of mandatory material separation for different types of commercial premises.
5. Commence and properly fund a strong awareness campaign to inform business owners and the general public of their waste management obligations at home and at work.
6. Encourage and fund enforcement of these obligations.
7. Consider the introduction of a Recycling Performance Rating Scheme for businesses, perhaps along the lines of Building Energy Rating (BER) scheme or another appropriate certification scheme.

The IWMA expects that these recommendations will be considered by DCCAE in emerging waste policy, which is due to be finalised in 2020.

Other Recommended Measures to Increase Recycling Rates

The IWMA made recommendations to the DCCAE in January 2019 with respect to increasing MSW recycling rates in Ireland. These recommendations included the following measures:

- Increasing public awareness by spending at least €5m per annum on an awareness programme including national TV and Radio media to deliver the key messages with regard to recycling.
- The enforcement authorities to review the incentivised charges offered to householders and to seek a revision of the charging systems that provide too little incentive.
- The promotion and subsidisation of home composting in rural areas.
- Improvements in apartment waste management.
- Mandatory deposit and refund system for beverages served at major events in Ireland, such as concerts, sporting events, festivals, etc.
- Better public space recycling.

International Best Practice

Germany has been one of the best performing countries in the world for many years now with respect to MSW recycling rates. SLR reviewed the details behind that performance to see if any recommendations for Ireland could be found.

Wales has also reportedly performed very well in recent years and appears to have made a step change to the MSW recycling rates that Ireland now needs. Wales is relatively close to Ireland in terms of geography, scale, demographics, so a comparison could be interesting, so SLR reviewed the detail behind Wales' MSW recycling figures.

Over-estimated Recycling Rates

Eurostat 2017 data suggests that Germany has an MSW Recycling Rate of 67.6%. However, the German Waste Management Association commissioned work by TOMM+C that showed that the 67.6% figure is no longer valid under the rules of reporting recycling data to Eurostat. The consultants estimate that the actual recycling rate in Germany is somewhere between 47% and 52%. We are informed by the German waste Management Association that the relevant Ministry in Germany has accepted that the recycling rate will drop to 52% under the new EU rules.

The main issues are :

- A large proportion of source separated plastics delivered to sorting plants and counted as recycled, end up being sent to WtE rather than recycled - only 20% to 50% is actually recycled. (4.8 to 7.6% MSW recycling lost)
- There is weight loss in MBT plants, mainly due to bio-drying. This is currently counted as recycled waste, but under EU rules going forward it will be recovery, not recycling. (4.5% MSW recycling lost)
- Bulky waste delivered to sorting plants is counted as recycled, but only 20% to 50% is actually recycled. (1.4 to 2.2% MSW recycling lost)
- Recycling of commercial waste sent to sorting plants also appears to be vastly over-estimated. (2.1 to 2.3% MSW recycling lost)
- Road sweepings will not count for recycling. (1.4% MSW recycling lost)
- Other fractions also appear to be over-estimated but are at low volumes that have little impact on the overall recycling figure.

SLR examined the differences between MSW recycling in Germany and in Ireland and concluded that the main difference was that garden and park waste in Germany is a much greater contributor to MSW Recycling at 10.9% versus 1.8% in Ireland. Whilst the source of the garden and park waste is described as ‘household waste’, we understand that it includes park waste collected by the municipalities.

MSW Recycling Rates in Wales

Wales is reportedly achieving a very high MSW recycling rates at 62.7% for the year to Oct 2018, according to statistics compiled by the Welsh Government. However, SLR found that the Welsh data reveals the following issues with regard to the measurement of the recycling rate:

- The Welsh MSW recycling figures include rubble and soil collected at civic amenity sites. This is not MSW and should not be counted in MSW figures.
- Incinerator Bottom Ash (IBA) is counted as recycled in Wales, whereas the new EU rules only allow metals recycled from IBA to be counted as MSW recycling.
- The Welsh recycling figures include all collected co-mingled recyclables, whereas the EU rules are now based on actual recycling rather than collection for recycling. In Ireland 26% of collected co-mingled recyclables are non-recyclable and are not counted towards our recycling figures.

The impact of these differences on recycling figures are quantified in Table 5 below:

Table 5 Analysis of MSW Recycling Data Published by the Welsh Government

Material	Quantity Reduction (t)	Impact on Wales Recycling Rate	Comments
Rubble & Soil Recycled	104,942	-6.8%	From CA sites
IBA Recycled	60,300	-3.9%	allow 10% for metal recycling
Residues from Co-Mingled Recyclables	38,328	-1.9%	Conservatively assume 15% over-estimate
Total Reduction in Recycling Rate		12.6%	

SLR’s analysis suggests that the actual recycling figure in Wales is approximately 50.1%.

As with Germany, discussed above, the big difference between Wales and Ireland is Green/Garden Waste recycling. Wales recycles 160Kt of green waste per annum (10.4% of MSW), compared to 50Kt in Ireland (1.8% of

MSW). The Welsh figure includes 100Kt of green waste collected separately at kerbside, whereas very little green waste is collected separately from food waste at kerbside in Ireland.

Conclusions on International Comparisons

The main conclusion from this section of the report is that Ireland could achieve a 50% MSW recycling rate if green / garden waste recycling was increased to the levels found in Wales and Germany. Ideally, Ireland should try to reach the future MSW recycling targets without increasing waste generation, but if this proves impossible, collecting additional green waste for recycling may be necessary to avoid EU fines.

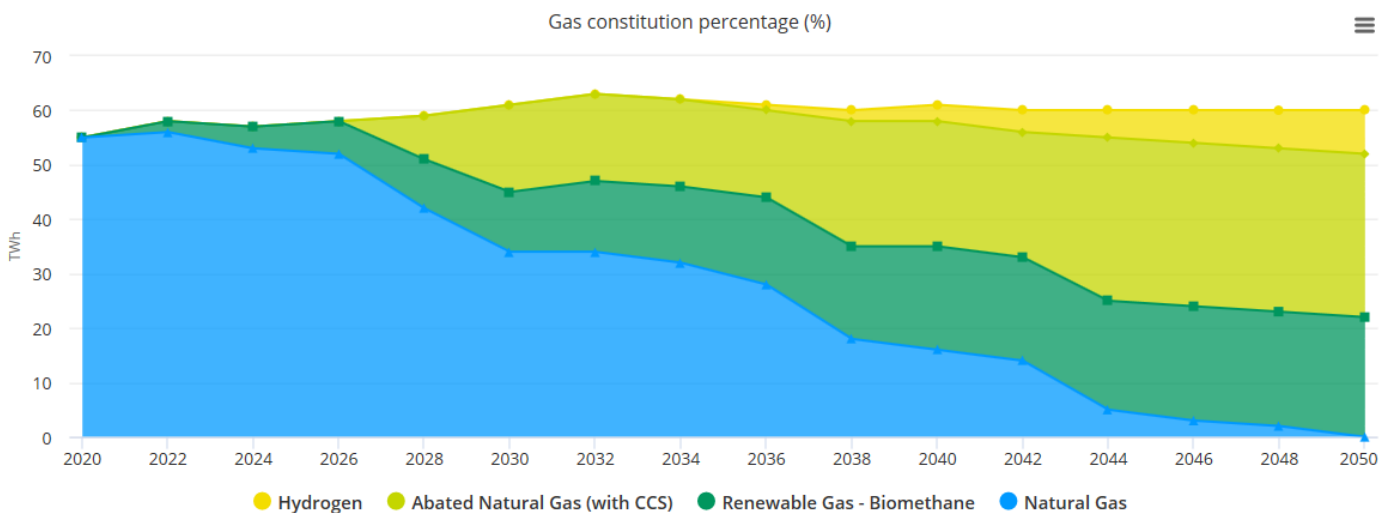
If Ireland collects and recycles an additional 250,000 tonnes of green and garden waste, it would boost the MSW recycling rate to 50%. If half of this additional waste was sourced from households, with the rest from municipal parks and commercial premises/developments, Irelands household waste generation figure would increase to 343kg per capita, which is still well below the EU average of 419kg per capita. This change would have little impact on the residual waste figures for Ireland, so that performance would still be ranked amongst the best in Europe.

Collecting Biowaste as a Feedstock for Biomethane Production

Consideration should be given to the collection of biowastes for the production of biomethane to generate renewable energy. We understand that Gas Networks Ireland has major plans to feed large quantities of biomethane into the national gas network and feedstock will be required for the AD plants that will generate that biogas. The graph below from GNI’s website is very informative in that regard and shows a very aggressive plan that will require a strong drive and serious resources.

Figure 3 Gas Networks Ireland Plans to Replace Natural Gas with Renewable Gas

Our vision for a net zero carbon gas network by 2050



Technologies have evolved or been adapted in Ireland that facilitate the breakdown of woody material in anaerobic digestion plants, so garden and parks waste can be used as a feedstock for biogas production. It may be more environmentally sustainable to collect garden and parks waste for this purpose rather than to use productive agricultural land to generate feedstock for the new AD plants that we expect to be developed in response to GNI’s initiative.

The cost of collecting or delivering the garden and parks waste to these AD plants will be an important factor and may require subsidisation or some form of incentives. However, two national environmental priorities (recycling

and renewable energy) could be advanced by such a move, so it will be in the Government's interest to at least consider this option. It is interesting to note that the collection systems for green and garden waste in Germany are funded by the German climate action funding program, as mentioned earlier in this report.

In 2019, the Irish Parliament declared a Climate Emergency and funding for worthwhile initiatives should follow. Financing the collection and recycling of green/garden waste could be as simple as a fiscal measure that makes biomethane more attractive at its cost of production compared to natural gas, i.e. a tax on natural gas that is used to subsidise biomethane production.

1.0 Introduction

The Irish Waste Management Association (IWMA) commissioned SLR Consulting to prepare a report addressing the likely impacts of a Deposit & Return Scheme (DRS) for plastic and aluminium beverage containers on waste management in Ireland².

A DRS for PET bottles and aluminium cans is currently under consideration by the Oireachtas Joint Committee on Communications, Climate Action and the Environment. The *Waste Reduction Bill 2017*³, sponsored by Catherine Martin and Eamon Ryan of the Green Party, includes the following section:

“Deposit and return schemes

4. By 1 July 2019 the Minister shall make regulations in exercise of his/her powers under section 29 of the Act of 1996 to provide for a deposit and return scheme for sealed containers in which beverages are sold.”

The Oireachtas Joint Committee has heard and received submissions on the merits of the Waste Reduction Bill from a number of parties, including opinions on the costs and benefits of a DRS in Ireland. The Committee produced a report⁴ outlining the different views on the matters contained in the Waste Reduction Bill.

In parallel, the Minister for Communications, Climate Action and the Environment has stated publicly on 28th January 2019 that he will commission a review which will consider how we can deliver a 90% collection target for single use plastic bottles in Ireland. This review will also examine the possibility of introducing a DRS and how this might operate in an Irish context. Eunomia has now been appointed to carry out that review.

The report prepared by the Oireachtas Joint Committee, mentioned above, states that Eunomia is supportive of the introduction of a DRS in Ireland.⁵ The reasons given for this support are stated as follows:

“Eunomia identifies a number of key benefits with a DRS (in general), as follows:

- 1. Increases in recycling rates, and a correlating reduction in greenhouse gas emissions (as Ireland is increasingly moving from landfill to incineration to manage its waste);*
- 2. Reduces littering;*
- 3. Improves the quality of materials for recycling by reducing the contamination of recyclable materials; and*
- 4. Helps companies meet corporate social responsibility (CSR) objectives.”*

The IWMA is concerned that a company that has lobbied for a DRS in Ireland may not be best placed to fairly and independently assess the likely impacts, costs and benefits associated with the introduction of a DRS to Ireland.

In this report, SLR considers the wider picture of municipal waste management in Ireland and the challenges posed by EU Directives on waste. The report considers the potential positive and negative impacts associated with a DRS and also offers alternative ideas that could potentially achieve similar or better results at a lower cost.

² In this report where we refer to ‘Ireland’ and where Eurostat data refers to ‘Ireland’, this means the Republic of Ireland and does not include Northern Ireland.

³ Bill 80 of 2017

⁴ Joint Committee on Communications, Climate Action and Environment Report of the Joint Committee on the Detailed Scrutiny of the Waste Reduction Bill 2017 [PMB] - 32CCAE006

⁵ See Table 6: Summary and categorisation of main stakeholder arguments, page 33.

2.0 Municipal Solid Waste (MSW) Management in Ireland

2.1 Historical Context

The Irish household waste market differs from other countries as the local authorities (or municipalities) do not engage in kerbside household waste collection. The householder in Ireland contracts directly with private sector service providers and generally has a choice of two or three companies for kerbside waste collection.⁶ The service is fairly consistent as the minimum number of bins and the types of material collected in each bin have been standardised in legislation.

Traditionally, the private waste sector serviced commercial enterprise while the local authorities generally provided waste collection and disposal services to households across the country. Collection and disposal at landfill was a free service to householders funded by locally collected domestic and commercial rates, hence private operators did not compete in this market. However, domestic rates were abolished in 1978, so the funding of household waste collection services was collected through a combination of commercial rates and central government funding.

The funding of waste collection was clearly a burden on local authorities, but they were obliged to provide the service or arrange for its provision on their behalf. Initially, many authorities withdrew the service from rural areas due to the cost of service provision and actively encouraged privatised collection in those areas. Some authorities withdrew from waste collection altogether following local arrangements with private waste contractors in the area to take over the collection and deliver the waste to the local authority owned and operated landfills.

An inequity evolved during the 1980s and 1990s, whereby householders with private waste collections paid directly for the service, while those with local authority collections received a free service. This inequity was most commonly observed as a rural-urban issue, as the local authorities continued to provide the service in cities such as Dublin, Cork, Waterford, Limerick and Galway (amongst others), while withdrawing from most rural parts of the country (with some exceptions).

In the 1990s, as compliance costs of waste management escalated, the local authorities introduced waste charges that the householders paid directly to the authorities to fund the collection and treatment of their waste. The charges were low compared to private waste companies' charges, so the local authorities maintained control of the household waste market in most urban areas. In addition, local authorities did not charge VAT for the service (this situation has now changed). However, the local authority waste charges increased as they sought to achieve total cost recovery. As the local authority charges increased, critical points were reached that allowed the private sector enter household waste markets in direct competition with the local authorities.

As the market became more competitive, local authorities struggled to introduce efficiencies to their services and improve productivity so by c.2012 practically all local authorities had withdrawn from providing kerbside household waste collection services in Ireland. Most sold their assets, including bins, trucks, customer names and address, etc, to the highest bidder.

⁶ In some rare cases, the householder can have a choice of as many as 5 or 6 waste collection companies, but the average is thought to be 3 or less.

2.2 Overview of Household Waste Collection in Ireland

2.2.1 Household Kerbside Collection

As mentioned in the previous section, household waste collection in Ireland is now fully privatised with side-by-side competition that is tightly regulated by the authorities through a permitting system and associated enforcement. The top 20 waste collection companies collect waste from approximately 90% of the household kerbside customers. The other 10% of households are serviced by about 40 small companies, with that number reducing regularly due to consolidation.

Household waste collection largely consists of a 3-bin system for mixed dry recyclables (MDR)⁷, food waste and residual waste in urban areas⁸ and a 2-bin system for MDR and residual waste in rural areas. The residual and MDR bins are normally 240 litres in size but can be larger or smaller depending on the customer's needs and the frequency of collection. The brown bins vary in size from small caddies that are designed for food waste without garden waste to 240 litre bins that are suitable for both food and garden waste. Many companies also use 120 litre bins that are suitable for food waste plus some garden waste, such as grass.

The food waste bins are not mandated in rural areas, where householders are encouraged to home compost. The IWMA considers that introducing the brown bin to rural areas would be inefficient and would add costs that would make rural kerbside collections quite expensive compared to urban collections. In this scenario, it is possible that more people in rural areas would refuse to avail of a kerbside collection service and this would undoubtedly have a negative environmental outcome.

The IWMA considers that home composting is a better environmental option in rural areas where the efficiency of kerbside waste collection is low and people generally have gardens in which to install and use a home composting unit. The Department of Communications, Climate Action and Environment (DCCAE) commenced a consultation in early 2018 to consider extending the brown (organic) bin roll-out to all houses in the State. The IWMA submission on that consultation suggested that such a move would be likely to lead to a price differential between urban and rural kerbside waste collections and this in turn could lead to an increase in rural households refusing to avail of a kerbside household waste collection service. The IWMA takes the view that the environmental impact of such an unintended consequence could outweigh any environmental benefit achieved through the universal roll-out of brown bins to all households in the State.

Additional service offerings such as glass collections or garden waste collections do occur, generally on a monthly basis, but are not common across Ireland.

Every household bin in Ireland contains a Radio-Frequency Identification (RFID) chip that is linked to the address of the customer. Every bin lift is weighed, recorded and reported. The individual weights are reported to the customers and the accumulated data is reported to the authorities in annual reports.

The EPA 2012 National Waste Report shows that 1,068,918 tonnes of household waste was collected at kerbside in that year, comprising:

- | | |
|------------------|----------|
| • Residual waste | 724,244t |
| • MDR | 260,528t |
| • Food/Organic | 80,046t |
| • Glass | 4,100t |

⁷ Comprising paper, card, aluminium cans, steel cans, plastic bottles and plastic pots/tubs/trays. Other plastics such as film, bags, toys, etc are not acceptable due to the lack of recycling outlets for these materials.

⁸ All agglomerations with a population of 500 people or more. Required since 2016.

Data compiled by the National Waste Collection Permit Office (NWCPO) suggests that the quantity of organic (food) wastes collected from households increased to 129,081 tonnes in 2017, an increase of 61% over a 5-year period. This reflects the effect of the roll-out of brown bins to houses with a kerbside collection service in agglomerations of 500 people or more. That roll-out is close to completion and there is now an emphasis on encouraging householders to use the system more effectively to reduce residual waste and increase recycling rates. Participation and presentation rates are varied, particularly for the brown organic bins, so incentivisation to better use the brown bins is clearly needed.

There are roughly 1.2 million houses in Ireland that avail of a kerbside waste collection service. There are believed to be between 200,000 and 300,000 occupied houses that do not avail of a kerbside collection service. A small number of these households cannot access a service due to road limitations, but the vast majority have a choice and choose not to pay for a service.

A 2014 survey by the CSO, which sampled 13,000 households, concluded the following:

“Household’s main method for disposing of non-recyclable household waste

A wheelie bin collection service was used by 80% of households to dispose of non-recyclable household waste. Another 8% of households brought their non-recyclable household waste to a recycling centre and 4% of households shared a bin with another household such as a neighbour, relative or friend - in one-person households, where the person was aged 65 and over, the rate for sharing was 12%. Apartment dwellers were also more likely to share a bin (18% of apartments).

Dublin and the Mid-East had the highest percentage of wheelie bin use at 86%. Rural households made much more use of recycling centres (18% of rural households) compared with 3% of urban households.

Household’s main method for disposing of recyclable household waste

The most popular method of disposing of recyclable waste was through a wheelie bin service with 76% of households using this method. The second most popular method was to bring this waste to a recycling centre (12%). There was a clear urban/rural divide with 24% of rural households bringing the recyclable waste to a recycling centre compared with 6% of urban households. 2% of households did not recycle waste.”

It is recognised that some households that do not avail of a kerbside waste collection service, dispose of their waste illegally, largely by the following methods:

- Backyard burning;
- Fly-tipping;
- Depositing waste in public litter bins;
- Depositing waste in other people’s bins;
- Depositing waste in commercial waste bins.

The EPA 2016 data estimated that 44,868 tonnes of household waste was unmanaged in that year. That accounts for 3% of household waste and 1.6% of MSW. Previous estimates by the EPA of unmanaged household waste were much higher, but the CSO 2014 survey may have influenced the most recent EPA calculation of this figure. It is clear from the CSO survey that many people without a collection service manage their waste responsibly.

To address the issue of unmanaged household waste, the local authorities have introduced new bye-laws on the storage, presentation and collection of household and commercial waste. The bye-laws require householders that do not avail of a waste collection service to account for their waste management. Enforcement of the bye-laws will be critical to their success and it appears at this early stage that the local authorities are making a

concerted effort in that regard. The IWMA members are supporting the enforcement authorities by providing customer lists, as required by the Waste Management Act.

2.2.2 Effectiveness of Household Kerbside System

A recent waste characterisation study commissioned by the EPA and conducted by RPS found that the 3-bin kerbside household collection system is somewhat effective but could be a lot more effective if the majority of householders made a greater effort to segregate their wastes at home.

The EPA⁹ summarised the results as follows:

Figure 2-1
EPA Waste Characterisation for Household General Waste



⁹ Presentation by Helen Seanson, EPA, to the Irish Waste Conference in November 2018.

Figure 2-2
EPA Waste Characterisation for Household MDR Waste



Figure 2-3
EPA Waste Characterisation for Household Organic Waste



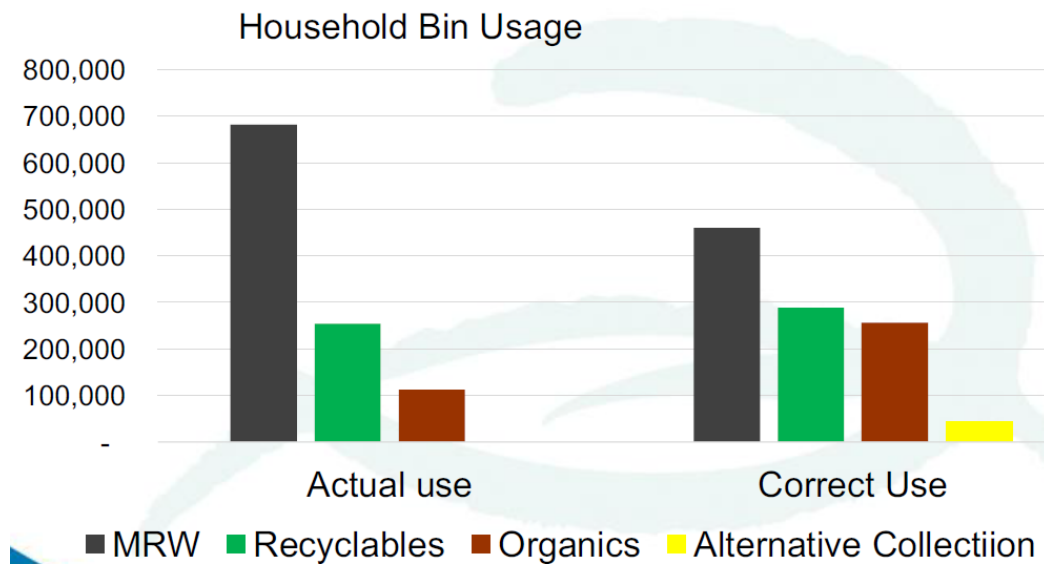
The report stated that the household MDR bins contained 26.3% non-target materials. The non-target materials included plastics (films, EPS, etc.) at 8.1%, textiles and nappies at 3.6%, organic waste at 2.3%, unclassified combustibles (e.g. composite packaging other than composite beverage cartons (e.g. Tetrapak)) at 2.8%, tissue and unrecyclable papers at 2.6%, fines (<20mm) at 1.9%, glass at 2.0%, metals at 1.1%, hazardous waste at 0.7%, WEEE at 0.4%, unclassified incombustibles at 0.8% and wood at 0.5%. These non-target materials end up as residues that are recovered as RDF/SRF rather than recycled.

The report stated that the organic bins contained 14.1% non-target materials. However, some non-target materials such as soiled paper and fines are biodegradable and comprise acceptable feedstock for composting and anaerobic digestion (AD) plants. The EPA/RPS report found that 91.8% of material in the organic/brown bins was found to be biodegradable, so 8.2% comprised non-biodegradable contaminants that end up as non-recycled residues.

Analysis of the data presented in the EPA/RPS Waste Characterisation report suggests that householders are achieving a 27.7% recycling rate at kerbside, when non-recycled residues are discounted from the raw data. This is just part of the overall recycling figure, as it does not include materials brought to bring banks and civic amenity sites.

The EPA has suggested from the waste characterisation data that correct use of the 3-bin system by all householders would have resulted in the following outcome, which is a 56% recycling rate at kerbside.

Figure 2-4
EPA Analysis of Actual Use versus Correct Use for Household Bins



In reality, individual houses can achieve much higher recycling rates by proper use of the 3-bin system, combined with frequent use of bring banks and civic amenity sites. Recycling rates above 70% can be achieved in that way, if householders are diligent.

2.2.3 Civic Amenity Sites and Bring Banks

The kerbside collection system is supported by a network of Bring Banks (BB) for glass bottles, aluminium cans and textiles, as well as Civic Amenity (CA) sites where a wider range of materials are accepted for recycling. Some CA sites also accept residual waste for onward transport to energy recovery (incineration) or landfill disposal.

According to the Regional waste Plans 2015 to 2021, there were 118 CA sites in Ireland in 2012 and 1,825 bring banks. A total of 207,177 tonnes of MSW was brought to those facilities in that year, which was 7.7% of all MSW generated in Ireland in 2012.

The remaining MSW is collected from business premises, as MSW in Ireland includes all commercial wastes collected in a similar manner to household wastes. MSW in Ireland is a broader term than many EU countries where MSW is restricted to wastes collected by the municipalities and most commercial waste is excluded. For this reason, Eurostat data on 'MSW generated per capita' unfairly places Ireland at the higher end of the waste generation scale. By contrast, extrapolation of the Eurostat data puts Ireland at the lower end of the household waste generation scale at 316kg per capita versus the EU average of 419kg per capita. The capture of garden waste can be a big influence on household waste generation per capita and a very low volume of garden waste is collected in Ireland¹⁰ compared to some EU member states that achieve higher recycling rates.

2.3 Overview of Commercial Waste Collection in Ireland

Many companies that collect household waste in Ireland also collect commercial and similar industrial wastes. There are also some companies that only collect commercial wastes. The commercial sector generates a range of single stream wastes that are recycled, such as cardboard, plastic wrap, wooden pallets/crates, glass, metals, etc. However, a recent waste characterisation study commissioned by the EPA and conducted by the Clean Technology Centre (CTC) found that the non-household 3-bin system is not producing good quantities and quality of recyclables and could be a lot more effective. The EPA¹¹ summarised the results as follows:

Figure 2-5
EPA Waste Characterisation for Non-Household General Waste



¹⁰ Garden waste collected (or delivered) from households accounts for 1.8% of MSW in Ireland (2016 data), compared with 10.9% in Germany (2015 data). Using these figures, Ireland recycles 10.7 kg of garden waste per capita, whereas Germany recycles 69.7 kg of garden waste per capita. But Germany's household waste generation is much higher than Ireland's at 452 kg per capita.

¹¹ Presentation by Helen Searson, EPA, to the Irish Waste Conference in November 2018.

Figure 2-6
EPA Waste Characterisation for Non-Household MDR



Figure 2-7
EPA Waste Characterisation for Non-Household Organic Waste



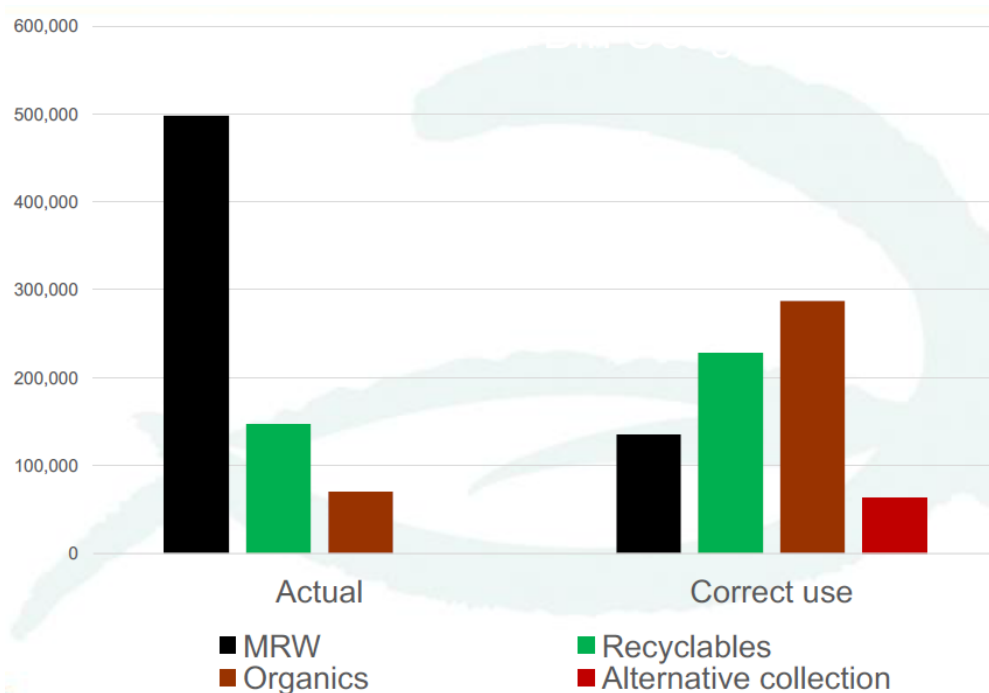
The EPA/CTC report found that the non-household (commercial) MDR bins contained 40% non-target materials. The non-targeted materials included plastics (films, PS, etc.) at 14%, organic waste at 10.1%, tissue paper (7.7%), composites at 2.2% (mainly coffee cups), unclassified materials (2.1%), compostables (1.5%), textiles (including nappies) at 0.9% and hazardous wastes (0.15%).

The EPA/CTC report found that 98.6% of material in the organic/brown bins was found to be biodegradable, so 1.4% comprised non-biodegradable contaminants that end up as non-recycled residues.

Analysis of the data presented in the EPA/CTC Waste Characterisation report suggests that businesses are achieving a 22% recycling rate with the 3-bin system, when non-recycled residues are discounted from the raw data. This is just part of the overall recycling figure, as it does not include materials that are separately collected such as cardboard, plastic wrap, wooden pallets, etc.

The EPA has suggested from the waste characterisation data that correct use of the 3-bin system by businesses would have resulted in the following outcome, which represents an 81% recycling rate.

Figure 2-8
EPA Analysis of Actual Use versus Correct Use for Non-Household Bins



It is clear from this data that there are large gains to be made in recycling rates if businesses are encouraged to put a lot more effort into source segregation of wastes placed in the 3-bin system.

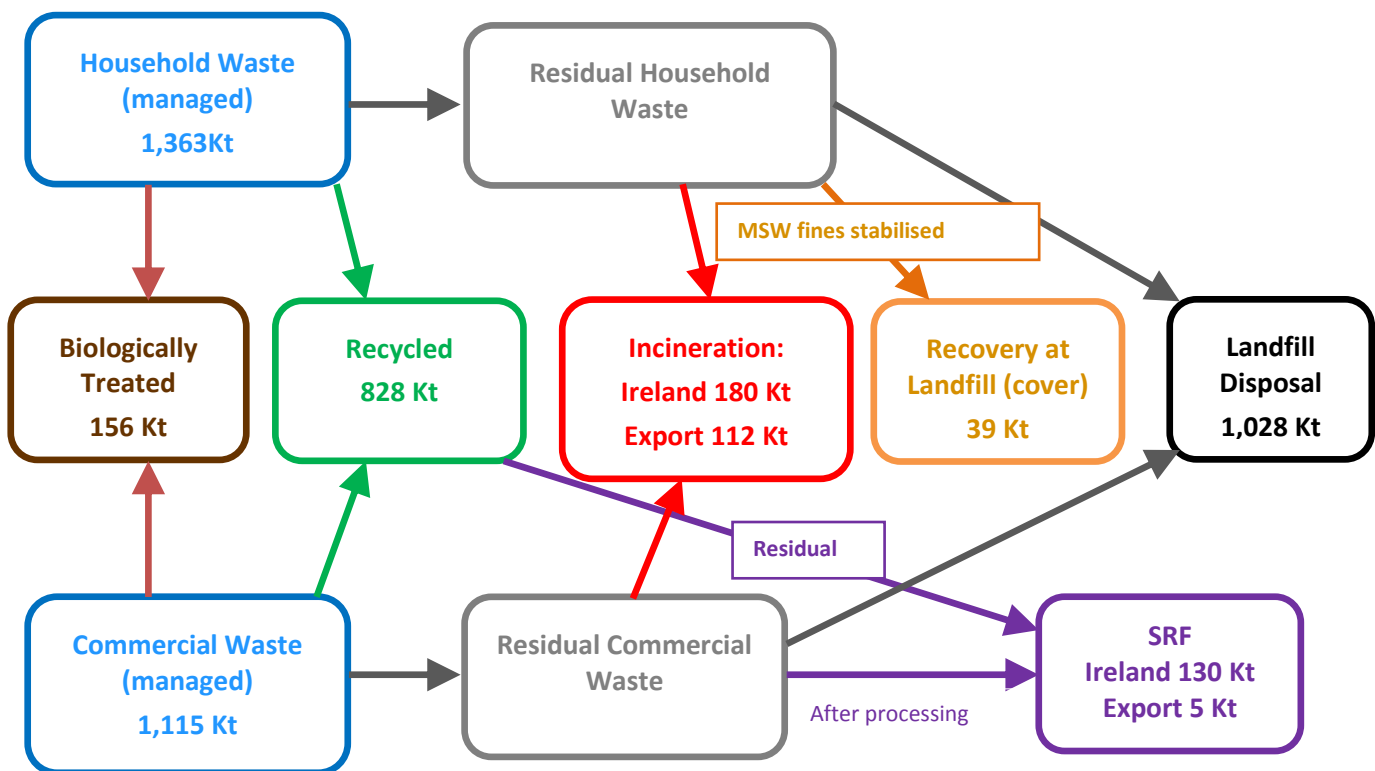
2.4 Waste Generation in Ireland

2.4.1 MSW Volumes

Municipal Solid Waste (MSW) in Ireland consists of household waste and commercial & industrial¹² wastes that are similar in composition to household waste. The EPA produces annual reports on the quantities of MSW generated and managed in Ireland and a breakdown of this data is contained in their National Waste Reports (NWRs).

The latest NWR was issued by the EPA in August 2014 and covered the calendar year 2012. Figure 2-9 shows the flow of MSW in Ireland in 2012.

Figure 2-9 Generalised Flows of MSW in Ireland in 2012

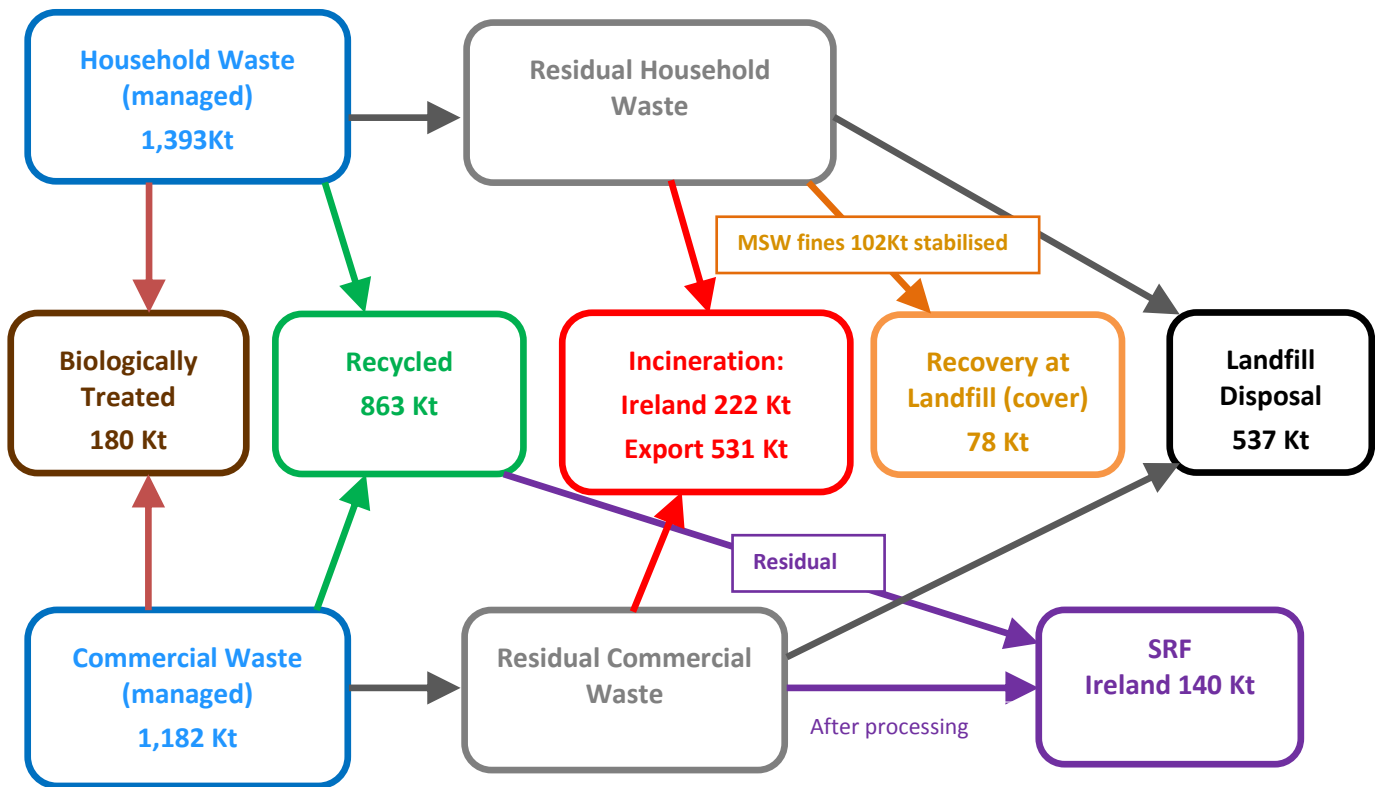


Whilst the EPA has not published a full NWR since 2012, the EPA has provided 2014 and 2016 calendar year data on their website¹³. Figures 2-10 and 2-11 show the MSW flows updated for 2014 and 2016 respectively, using this EPA data, supplemented by data gathered by SLR from Annual Environmental Reports.

¹² In this report the term ‘commercial waste’ is generally used to describe C&I waste that is similar in nature to household waste. This includes some industrial waste that is collected alongside commercial waste or managed in a similar manner to commercial waste. Industrial waste that is handled differently is not included in MSW.

¹³ <http://www.epa.ie/nationalwastestatistics/municipal/>

Figure 2-10 Generalised Flows of MSW in Ireland in 2014

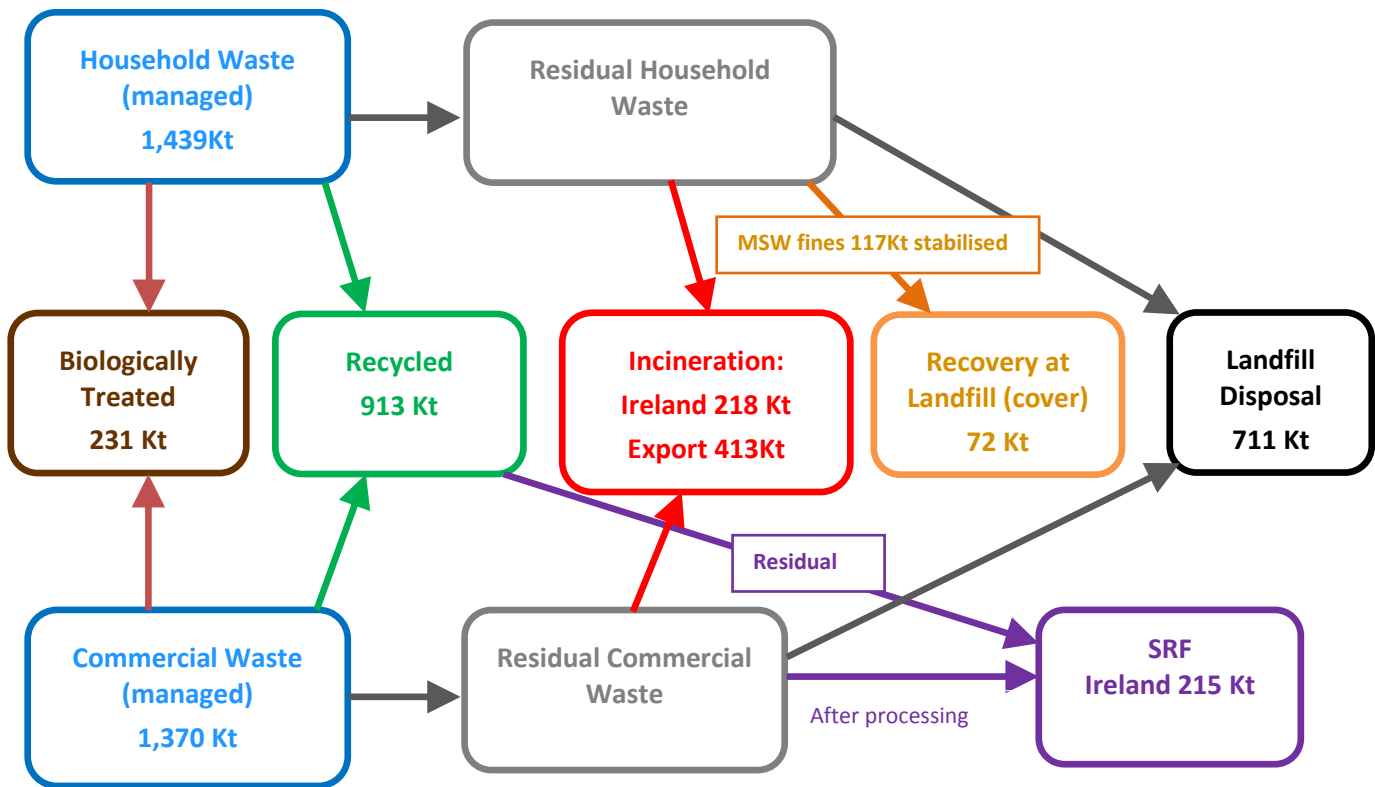


The 2014 data shows a big reduction in landfill disposal from 2012 and a big increase in the export of waste to waste to energy plants in other EU States – mostly Germany, Netherlands, Denmark and Sweden. It also shows increased waste generation and increased recycled tonnage for both mechanically sorted dry recyclables and biologically treated organic recyclables (food and garden waste).

The 2016 EPA data for Municipal Waste has under-reported biological treatment (composting/AD) from commercial sources and also under-reported MSW arisings. This is clear from the EPA survey of biological treatment plants, also on the EPA website. The issue has been discussed with the Agency and whilst they do not intend to change the data, which is already submitted to Eurostat, they recognise that more waste has been biologically treated than reported in the on-line data. The main issue relates to non-reporting of about 40,000 t/a of commercial food waste by a single company and a lesser issue relates to the difference between waste received at biological treatment plants and the quantity considered to be recycled at those plants. We therefore amend the data to include the additional commercial organic waste in this report.

We also find that when we add the individual totals of treatment routes for waste in 2016, as reported by the EPA, we get a higher figure than the EPA total for MSW. We therefore increase the commercial waste element of the MSW arisings to be consistent with the treatment data.

Figure 2-11 Generalised Flows of MSW in Ireland in 2016

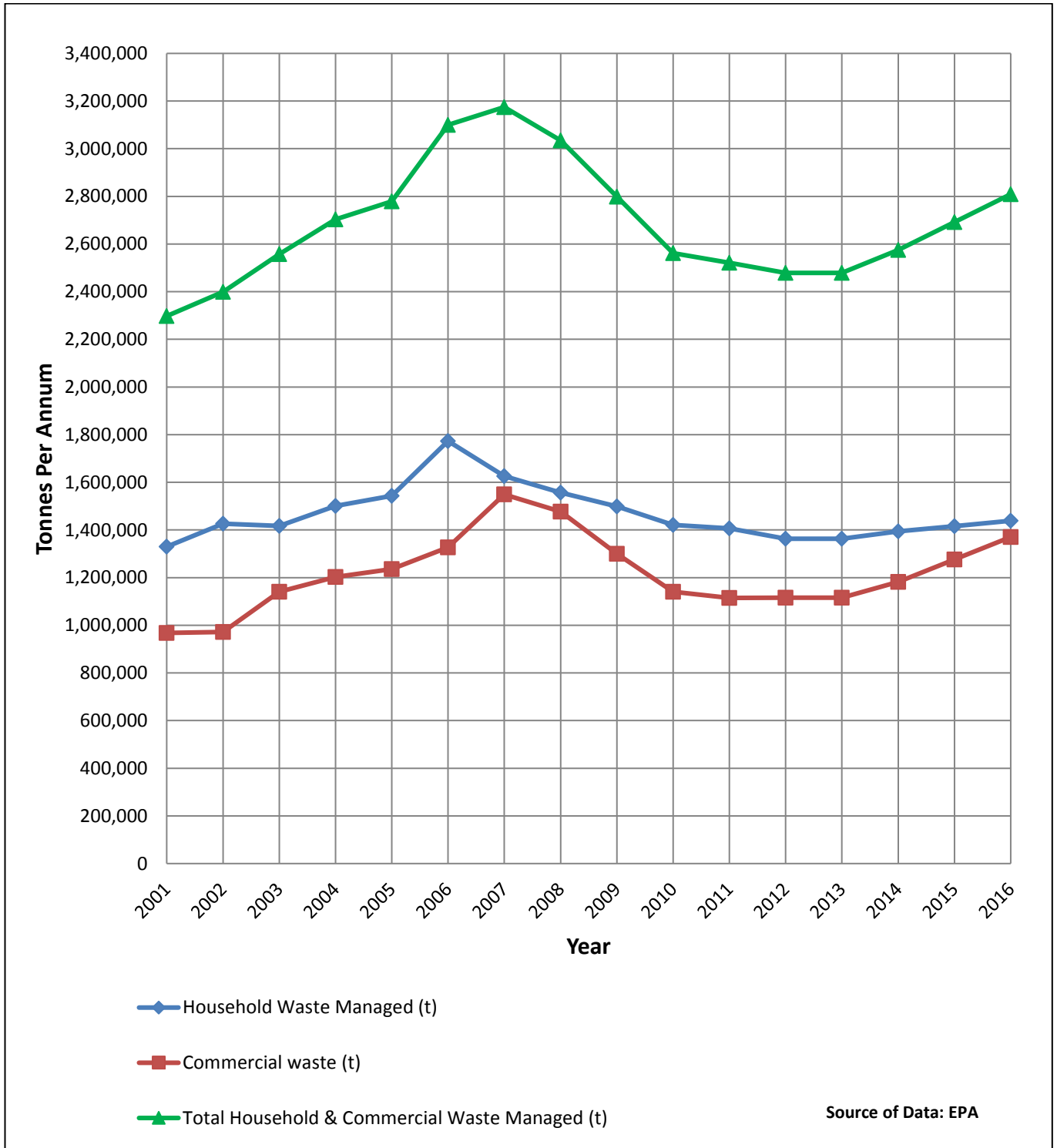


The 2016 data shows an increase in landfill disposal and a decrease in exports for incineration. It also shows continued increases waste generation and recycled tonnage for both mechanically sorted dry recyclables and biologically treated organic recyclables.

The main difference between 2016 and 2018 is the opening of the Dublin WtE facility at Poolbeg, which is accepting 600Kt/a of rMSW. The export of waste has decreased significantly since the 2014 peak of 531Kt to a projected 221Kt for 2018, based on analysis carried out by the regional waste planning offices. Landfill has also decreased from 711Kt in 2016 to a projected 370Kt in 2018, which is about 13% of managed MSW.

Figure 2-12 shows the growth trends in household and commercial wastes in Ireland from 2001 to 2016, based on the EPA National Waste Reports, including the latest on-line data for 2014 and 2016. The EPA did not report on 2013 and 2015, but our analysis of Annual Environmental Returns from key facilities suggests that there was little or no growth from 2012 to 2013, so we use the 2012 data for both years. The data for 2015 is extrapolated from the 2014 and 2016 data.

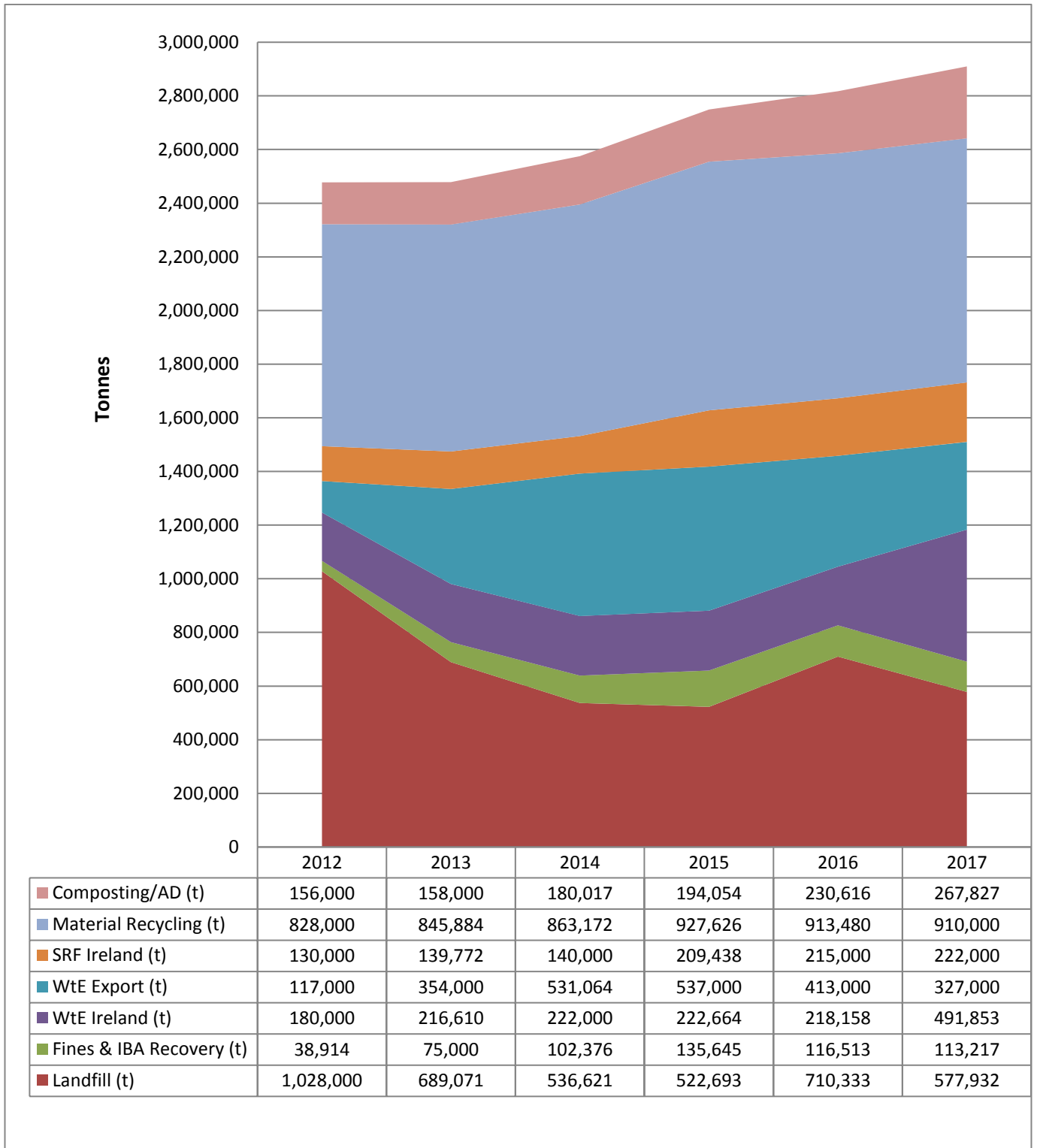
Figure 2-12 Household and Commercial Waste Arisings in Ireland 2001-2016



2.5 Summary of MSW Treatment in Ireland

Based on a combination of EPA data and more recent data provided to SLR by the NWCPPO and the regional waste planning offices, Figure 2-13 shows a summary of the treatment of waste generated in Ireland between 2012 to 2017.

Figure 2-13 Summary of Treatment of Waste Generated in Ireland from 2012 to 2017



The recycling rate calculated from that data presented in Figure 2-13 is as follows:

- 2012 = 39.7%
- 2013 = 40.5%
- 2014 = 40.5%
- 2015 = 40.8%
- 2016 = 40.6%
- 2017 = 40.8%

SLR's analysis predicts that 2018 will see an MSW recycling rate of about 41.8% in response to increased volumes of brown bin material sent for composting and anaerobic digestion, which we estimate should reach about 290Kt (c.10%). Total MSW is expected to be just under 3 million tonnes. Landfill disposal should reduce to less than 400Kt (c.13.5%), as the full impact of the Poolbeg WtE plant boosts the WtE in Ireland figure to more than 800Kt (c.27%).

The stagnated recycling rate is a real concern for the waste sector in Ireland, in the context of the future MSW recycling targets set by the EU in the Circular Economy Package (CEP), which we discuss in the next Chapter of this report.

3.0 Future EU Targets

Ireland is obliged to meet a range of waste management targets set by the EU for municipal and packaging wastes. The MSW and packaging waste targets, set prior to the Circular Economy Package (CEP) are summarised on the EPA website as follows.

Table 3-1 EPA Analysis of MSW and Packaging Waste Targets (Pre-CEP)

EU Directive	Target Date	Target Specifics	Reference Year	Rate	Indicator	
Waste Framework Directive (2008/98/EC)	12/12/2020	Preparing for reuse and recycling of 50% by weight of household derived paper, metal, plastic & glass (calculation method 1)	2017	50%	On track Due December 2020	
Packaging Directive (94/62/EC as amended)	31/12/2011	60% as a minimum by weight of packaging waste will be recovered or incinerated at waste incineration plants with energy recovery.	2017	87%	Achieved	
		55% as a minimum by weight of packaging waste will be recycled.	2017	66%	Achieved	
		No later than 31 st December 2011 the following minimum recycling targets for materials contained in packaging waste will be attained:				
		(i) 60% by weight for glass;	2017	84%	Achieved	
		(ii) 60% by weight for paper and board;	2017	79%	Achieved	
		(iii) 50% by weight for metals;	2017	72%	Achieved	
		(iv) 22.5% by weight for plastics, counting exclusively material that is recycled back into plastics;	2017	34%	Achieved	
(v) 15% by weight for wood.	2017	74%	Achieved			

Further targets were set in the Circular Economy Package in 2018, that resulted in revised Waste and Packaging Directives, as well as other Directives that are not relevant to this report. The Single Use Plastics Directive was introduced in June 2019 and sets targets for the separate collection and recycling of plastic beverage containers.

Table 3-2 New MSW and Packaging Waste Targets (CEP)

EU Directive	By 2025	By 2030	By 2035	Target Specifics	Reference Year	Rate	SLR Comment
Waste Framework Directive (2018/851)	55%	60%	65%	Preparing for re-use and the recycling of municipal waste	2016	41%	Not on Track
Packaging Directive (2018/852)	65%	70%	-	Percentage of all packaging waste to be recycled.	2017	66%	On Track
	50%	55%	-	Percentage of Plastic packaging waste to be recycled.	2017	34%	Not on Track

EU Directive	By 2025	By 2030	By 2035	Target Specifics	Reference Year	Rate	SLR Comment
	25%	30%	-	Percentage of Wood packaging waste to be recycled.	2017	74%	Achieved
	70%	80%	-	Percentage of Ferrous Metal packaging waste to be recycled.	2017	72% ¹⁴	On Track
	50%	60%	-	Percentage of Aluminium packaging waste to be recycled.	2017	73% ¹⁵	On Track
	70%	75%	-	Percentage of Glass packaging waste to be recycled.	2017	84%	Achieved
	75%	85%	-	Percentage of Paper & Cardboard packaging waste to be recycled.	2017	79%	On Track
EU Directive	By 2025	By 2029	By 2035	Target Specifics	Reference Year	Rate	SLR Comment
Single Use Plastics Directive (2019/904)	77%	90%	-	Separate collection for recycling of single use plastic beverage bottles with a capacity of up to 3 litres, including their caps and lids, but excluding: <ul style="list-style-type: none"> • Glass or metal beverage bottles that have caps and lids made of plastic. • Beverage bottles intended and used for food for special medical purposes that is in liquid form. 	2018	60.7% ¹⁶	Not on Track

The biggest issue for Ireland going forward is the WFD targets for municipal waste re-use and recycling. Having stagnated at about 40% for the last 6 years (39.7% to 40.8%), increasing to 55% by 2025 will be extremely challenging and is definitely not on track. We consider this to be the biggest issue as it involves a large volume of waste and if it can be tackled, other targets should prove less challenging.

The future targets for recycling of plastic packaging and single use plastic beverage containers are also not on track at this time and will be very challenging.

Ireland now needs solutions to significantly increase recycling rates for MSW, as well as to increase recycling rates for plastic packaging and single use plastic beverage containers, both of which are subsets of MSW.

¹⁴ The reported figure for 2017 is for 'metal packaging'. The EPA and REPAK data do not currently differentiate between ferrous and aluminium packaging.

¹⁵ Figure provided by REPAK in 2019. We understand that this estimate includes the capture of aluminium can from residual waste and from incinerator bottom ash.

¹⁶ REPAK data.

4.0 Deposit and Return Schemes (DRS)

4.1 Introduction

Eunomia has been commissioned by Department of Communications, Climate Action and Environment (DCCA) to prepare a report on the costs and benefits of introducing a DRS in Ireland. Eunomia's report is expected to be published at the end of Summer 2019. We understand that the report will consider deposit and return of PET bottles and aluminium cans.

The IWMA has reviewed a number of previous reports that Eunomia has prepared on DRS for other countries, including Scotland¹⁷. The Association has concerns that the cost-benefit analysis in those reports has not adequately addressed the impact on existing kerbside waste recycling schemes. For example, Eunomia's report on Scotland stated in Section 5.2.1 that:

“Overall savings to local authorities across Scotland are calculated to be £4.6m per annum. This results from £0.5m of savings relating to collection service operations, and £4.1m from the net difference between lost material revenue and avoided disposal benefits.”

The IWMA expects that removing PET bottles and aluminium cans from the kerbside waste collection system would have a negative financial impact as these are the highest value materials in the recycling bins.

For this reason, SLR has been asked to review the potential impact of a DRS on existing kerbside recycling in Ireland, as well as looking at the overall impact of such a scheme.

4.2 Benefits of a DRS

As mentioned in Chapter 1 of this report, Eunomia identified key benefits of a DRS, as follows:

“Eunomia identifies a number of key benefits with a DRS (in general), as follows:

- 1. Increases in recycling rates, and a correlating reduction in greenhouse gas emissions (as Ireland is increasingly moving from landfill to incineration to manage its waste);*
- 2. Reduces littering;*
- 3. Improves the quality of materials for recycling by reducing the contamination of recyclable materials; and*
- 4. Helps companies meet corporate social responsibility (CSR) objectives.”*

We address these issues below.

4.2.1 Increases in Recycling Rates

As detailed in the previous Chapter of this report, the recycling rate for PET Bottles is estimated at 60.7% and the recycling rate for aluminium cans is estimated at 73%.

It is debateable as to whether a DRS would increase those rates to greater than 90%, but if it did, we calculate how that would impact on the other relevant recycling targets as follows.

¹⁷ A Scottish Deposit and Refund System – Final Report for Zero waste Scotland. Eunomia 7th May 2015.

MSW Recycling Targets:

PET Bottles:

- Total on the market = 25,490 t/a.
- Uplift from 60.7% to 90% = 29.3% = 7,469 t/a extra recycled.
- 7,469 t/a out of a total MSW generation of 2.8 million t/a = **0.27%**

Aluminium Cans:

- Total on the market = c.11,456 t/a.¹⁸
- Uplift from 73% to 90% = 17% = 1,948 t/a extra recycled.
- 1,948 t/a out of a total MSW generation of 2.8 million t/a = **0.07%**

Total Uplift in MSW Recycling rate = **0.34%**

The data suggests that a successful DRS would only increase overall MSW recycling rates by 0.34% which would do little to assist with the WFD requirement to increase MSW Recycling rates from the current 41% rate to 65% by 2035, with intermediate targets for 2025 and 2030.

Packaging Recycling Targets:

A successful DRS would assist the plastic packaging recycling target by adding 7,469 t/a to the existing recycled tonnage of 94,889 t/a, which is estimated by the EPA¹⁹ to be 34% of the plastic packaging placed on the market. That extra tonnage would increase the plastic packaging recycling rate to 36.5%, still well short of the 50% target by 2025 and the 55% target by 2030.

It appears that Ireland has already exceeded the 2025 and 2030 targets for aluminium packaging recycling, so the uplift in that category would be welcome, but is not of greatest concern at this time.

The effect of a successful DRS on the overall packaging recycling targets would be about 0.7% increase in the recycling rate from 65.6% to 66.3%.

A DRS would undoubtedly increase recycling rates for PET bottles and aluminium cans and would assist Ireland in meeting the SUP Directive targets for 2025 and 2029 but would clearly have very little impact on the other recycling targets that are currently not on track.

4.2.2 Reduction in Litter

We would expect that a DRS would reduce the volumes of plastic bottles and aluminium cans in litter. A DRS would also assist with the cost of litter clean-ups as local or charitable groups could reclaim deposits on littered cans and bottles.

However, we expect that there are more cost-effective ways to prevent and to clean-up litter compared to the cost of a DRS, which is addressed later in this report. For example, IWMA members regularly assist 'Tidy Towns' groups and resident associations in local litter clean-up works. This work is largely carried out 'under the radar' but is extensive across Ireland and can be increased in response to requests by interested groups, particularly if the waste industry and/or local government is more pro-active in publicising this collaboration.

¹⁸ REPAK's annual report states that 8,363 tonnes of aluminium cans were recycled in Ireland in 2018. Later data from REPAK given to the IWMA and to Eunomia states that 73% of aluminium cans are recycled, so we calculate that 11,456 t/a are placed on the market. REPAK has also stated that 9,427 t/a of aluminium cans are placed on the market by REPAK members in RoI, so the additional tonnage is likely to be imported (e.g. Northern Ireland shopping) or placed on the market by non-members of REPAK.

¹⁹ EPA published data on www.epa.ie estimates that there were 280,673 tonnes of plastic packaging placed on the Irish market in 2017 and 94,889 tonnes of plastic packaging was recycled in that year.

We are also aware of plans by REPAK to pay for plastic bottles that are collected by sports clubs and other social groups in a manner that is much more cost-effective than a DRS. Trials of this scheme are due to commence in Q3 2019, with a view to full roll-out by 2020. The details of that proposed scheme are outside the scope of this report.

4.2.3 Improving the Quality of Materials for Recycling

Materials collected via DRS should be high quality as they are individually deposited in order to reclaim the deposit. Aluminium cans and plastic beverage bottles placed in the MDR bins are generally segregated by machinery at MRFs with individual pickers used more often for quality control rather than for positive picking of these materials.

In our analysis, we found that the prices paid for aluminium cans and plastic beverage bottles at Irish MRFs appear to be impacted more by the location for collection rather than by the quality of the materials. The prices paid are also consistent with the prices paid in the UK, as reported on www.letsrecycle.com, which is a recognised and reliable source for recycled commodity prices in that jurisdiction.

These facts suggest that the aluminium cans and plastic beverage bottles sorted from MDR at MRFs in Ireland are of sufficient quality to ensure that they are recycled to make new aluminium and PET products, which is the main point of the exercise.

In order to attract more and better segregated recyclables into the MDR bins, the IWMA is working on initiatives to educate customers and to reward good recycling performance. These initiatives are discussed later in this report and it is expected that they will improve the quality of all materials accepted in the MDR bins. The quality of recycled paper is equally if not more important than the quality of plastic beverage bottles and aluminium cans, as paper is easily contaminated by food or liquid and an excess of such contamination can render a bale of paper non-recyclable. Hence, efforts made to improve the quality of all materials in the recycling bins should be more productive than efforts to improve the quality of recycled beverage containers.

4.2.4 Helps Companies to Meet Corporate Social Responsibilities

All waste prevention and recycling efforts assist companies to meet Corporate Social Responsibilities (CSR). The companies responsible for placing beverage containers on the Irish market are already contributing to recycling those products via REPAK.

If Ireland is to meet the very challenging future recycling targets set by the EU, it is inevitable that producers will have to contribute increased funds to support recycling in Ireland. However, it is important that such additional funding is used to maximum effect. Our analysis in this report considers different ways in which such funds could be spent including DRS and alternatives.

4.3 Examples of DRS in Australia

SLR has reviewed a number of DRS schemes²⁰ operated in different States in Australia, where SLR has a strong presence as a waste management consultancy. Our experts working in Australia provide some details below as background information for this report.

4.3.1 South Australia (SA)

SA was the first State in Australia to introduce a container deposit system in 1975. It was introduced as an anti-litter measure. The deposit amount has increased from the original 5 cents to 10 cents now. The system was

²⁰ Known as Container Deposit Systems (CDS) in Australia.

introduced before kerbside recycling in SA, as a result, the economics of kerbside recycling in SA developed in a different environment than other jurisdictions.

Consumers return containers to one of 132 approved depots where they redeem their deposits. Depots are run by commercial companies, social enterprises and charities, most notably the Scouts. They are often also places that receive a range of other recyclable and recoverable materials. The containers are delivered to one of several 'super collectors' who pay the deposits, plus a handling fee, to the depot operators. Super collectors sell the collected materials to market and have contracts with the beverage suppliers which pay the deposits based on declared sales. The Northern Territory model is also based closely on that in South Australia.

The range of materials collected under the South Australian system are as follows:

Table 4-1 Range of Materials Accepted in South Australia DRS

ALCOHOLIC BEVERAGES			
BEVERAGE TYPE	CONTAINER MATERIAL	CONTAINER SIZE	
		INCLUDED	EXEMPTED
Beers/ales/stouts	ALL	3 litres or less	Greater than 3 litres
Spirituous liquor – a liqueur or other alcoholic beverage produced by distillation (eg: brandy, gin, rum, vodka, whisky)	Glass	NIL	ALL
	All other materials	3 litres or less	Greater than 3 litres
Wine (straight wine) – a beverage produced by the fermentation of grapes that contains only grapes and no other beverages. Includes de-alcoholised wine (alcohol has been removed from the wine) but does not include non-alcoholic grape juice which has not undergone fermentation process.	Glass	NIL	ALL
	Aluminium	ALL	NIL
	Plastic	Less than 250ml	250 ml or greater
	Sachets (plastic and/or foil)	Less than 250ml	250 ml or greater
	Aseptic packs/casks (cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
Flavoured alcoholic beverages with a wine base – any beverage that contains wine plus additional beverages, ingredients or flavours. This can include (but is not limited to) fruit-flavoured wine, wine coolers, ready to drink alcoholic beverages (RTDs)	Aseptic packs/casks (cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
	All other materials	3 litres or less	Greater than 3 litres
Alcoholic beverages – derived from fruit or other substances (cider, alcoholic lemonade, plum wine, sake etc)	ALL	Up to and including 3 litres	Greater than 3 litres
Flavoured alcoholic beverages with a spirit base – any beverage that contains spirituous liquor plus additional beverages, ingredients or flavours. This can include (but is not limited to) 'alcopops', ready to drink alcoholic beverages (RTDs) and spirit-based beverages sold in casks	ALL	3 litres or less	Greater than 3 litres

NON-ALCOHOLIC BEVERAGES			
BEVERAGE TYPE	CONTAINER MATERIAL	CONTAINER SIZE	
		INCLUDED	EXEMPTED
Carbonated soft drinks	All	3 litres or less	Greater than 3 litres
Non-carbonated, soft drinks including (but not limited to) fruit juice based drinks (containing less than 90% juice), 'sports' drinks, 'vitamin' drinks, 'energy' drinks, ready to drink cordials	All	3 litres or less	Greater than 3 litres
Water —plain, still or carbonated spring water, mineral water and any other water intended for human consumption	Aseptic packs/casks (made from cardboard and/or plastic and/or foil)	Less than 1 litre	1 litre or more
	All other materials	3 litres or less	Greater than 3 litres
Pure fruit/vegetable juice – means a liquid containing at least 90% fruit juice and/or vegetable juice	ALL	Less than 1 litre	1 litre or more
Flavoured milk — milk to which flavour has been added (milk being cow's milk or the milk of any other animal, soy milk, ultra heat-treated milk, low-fat milk, etc)	ALL	Less than 1 Litre	1 litre or more
<ul style="list-style-type: none"> • Plain, unflavoured milk • Concentrated fruit and/or vegetable juice intended to be diluted before consumption • Health tonic included on the Australian Register of Therapeutic Goods • Cordial (undiluted) 	ALL	NIL	ALL

4.3.2 New South Wales (NSW)²¹

NSW introduced the 'Return and Earn' container deposit scheme (CDS) in December 2017, placing a 10 cent deposit on eligible drink containers which can be redeemed at any of the 650+ approved collection points that have been introduced across the State. Eligible containers include those most commonly used away from the home and found in the NSW litter stream (most glass, cans, plastic and paperboard drink containers between 150ml and three litres).

The primary driver behind the scheme was litter reduction. Drinks containers were thought to represent as much as 44% of litter generation, costing the State an estimated \$162M to clean up each year. The scheme was identified as a key mechanism to achieve the State target of reducing litter by 40% by 2020²².

²¹ The section on NSW written by Grant Pearson (SLR). The full article is available here <https://www.linkedin.com/pulse/return-earn-what-should-we-learn-grant-pearson/>

²² <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn>

How Does the Return and Earn Scheme Work?



A network of collection points continues to be developed across the State by the 'Network Operator' (TOMRA Cleanaway), prioritising collection areas in metropolitan and regional locations through a combination of:

- Reverse vending machines (RVMs);
- Automated depots (for bulk returns);
- Over the counter sites (for small quantities, generally via local shops); and
- Donation stations (self-service RVMs for donations only, with no refunds given).

Local schools, charities, sports teams and community groups can benefit from the scheme, as in some cases those returning containers are able to choose between taking the refund themselves or donating the value to registered organisations in their area.

To fund the scheme, manufacturers, distributors, wholesalers and retailers are all required to register as 'suppliers' and pay a monthly fee which reflects their market share.

The fee structure is designed to include the 10 cent return value plus the costs of administering and managing the scheme. The total estimated range of fees for the first three months after the scheme's introduction (exclusive of GST) was:

- 10.94 to 13.54 cent for aluminium containers;
- 11.36 to 14.07 cent for glass containers; and
- 11.13 to 13.78 cent for PET containers²³.

Management of the system is the remit of the 'Scheme Co-Ordinator' (Exchange for Change) – which provides financial management and community education support.

Although the scheme was introduced primarily to reduce litter, eligible containers collected at the kerbside and delivered to material recycling facilities (MRFs), through NSW's predominantly commingled recyclables collections services, are also included in the system. As a result, one likely outcome is an impact on both the composition and quantity of recyclables collected at the kerbside. Container Deposit Schemes of this type have the potential to reduce quantities of higher value materials collected through household waste services (e.g. aluminium cans and PET plastic bottles) resulting in reduced revenues for MRFs, which may in turn result in them increasing their gate fees for processing mixed recyclables.

In NSW, MRF operators are entitled to receive quarterly 'processing refunds' for eligible containers which pass through their facility, including material received via local government kerbside collections. Using the results of audits conducted on MRF outputs, the NSW Environment Protection Authority (EPA) calculates an 'Eligible Container Factor' for each kilogramme of different materials processed, examples of which are shown in Table 4-2 below for Q1 2018.

²³ http://www.exchangeforchange.com.au/ReturnAndEarn_MediaRelease.pdf

Table 4-2 Eligible Container Factors in NSW – Quarter 1, 2018²⁴

Material	Approved Factor (eligible count per kg)	Assumed count per tonne	Assumed CDS income per tonne
Aluminium	59.17	59,170	\$5,917
PET segregated	18.96	18,960	\$1,896
HDPE segregated	0.69	690	\$69
Mixed segregated ²⁵	3.62	3,620	\$362
Mixed combined ²⁶	8.74	8,740	\$874
Glass	2.25	2,250	\$225

MRF operators may use this factor to calculate the refund they can claim (based on the weight of eligible material processed) or alternatively can count each eligible container.

Research commissioned by NSW Government into the potential economic impacts of the scheme on MRF operators²⁷ estimated that additional revenues arising from eligible containers collected through kerbside recycling systems could be worth around \$100 million per annum for councils and MRF operators across NSW. The number of eligible containers in each tonne of commingled MRF input material was estimated to be at least 1,500 to 2,000, suggesting that the level of refund available would be between \$150 and \$200 per input tonne.

The same research concluded that the direct cost of CDS compliance on NSW MRFs is very low (at around 5% of estimated additional revenue) and that eligible containers are worth more from the CDS refunds than their current value in commodity markets.

A key consideration in a wider context is the extent to which a reduction in total tonnage of materials collected at the kerbside, as a result of residents claiming refund values themselves, offsets the additional MRF income derived from CDS refunds.

To be able to claim the eligible refunds specific to council kerbside collections, suitable agreements must be in place between the collecting council and their MRF contractors to define how CDS income will be returned to the supplying council, and how this process will be monitored. Approved mechanisms include:

- the council and its MRF operator entering into a 'Refund Sharing Agreement';
- the council notifying the EPA that the sharing arrangement is 'fair and reasonable' without a Refund Sharing Agreement; or
- the council and the MRF operator entering into a 'Processing Agreement'.

MRF operators must also provide evidence that the containers for which they are claiming the refund have been recycled appropriately, including submission of monthly data, quarterly claims and an annual recycling report which must all be presented in a prescribed format.

²⁴ <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn/material-recovery-facility-operator>

²⁵ For MRFs which segregate PET and HDPE plastic types, this category refers to the remaining plastic types, in aggregate.

²⁶ This category applies to MRFs which do not segregate plastic types, and refers to all plastic types, aggregated.

²⁷ <https://www.olg.nsw.gov.au/container-deposit-scheme>

Failure to have an appropriate agreement in place or provide suitable evidence of recycling can result in both the council and MRF operator being ineligible to receive applicable refund payments.

A generic summary of material and money flows created by a DRS is shown in Figure 4-1 below.²⁸

Figure 4-1 Typical Material and Money Flows in a DRS



Has Return and Earn Worked?

As the scheme nears completion of its first year, some early outcomes can be identified, and conclusions drawn as to its effectiveness.

Inevitably, the overall cost of the scheme to manufacturers, wholesalers and retailers has been passed on to consumers through an uplift in product costs. Anecdotally the level of cost increases being applied has in some cases exceeded the costs associated with the scheme. With higher costs being introduced almost immediately following the introduction of the scheme, there has been some initial criticism associated with residents not being able to offset higher shopping bills by recouping the refund value locally. This has been due to the programmed roll out of collection points not providing sufficiently accessible outlets (particularly in more rural areas) in the early months of implementation²⁹.

However, in terms of the capture of materials the scheme appears to have been successful, with Exchange for Change indicating that in the first four months almost 200 million containers were recycled that would otherwise have ended up in landfill or in the litter stream. This was accompanied by a rise in the kerbside recycling rate for beverage containers from 33% to 61%.³⁰ At the time of writing, the Return and Earn website claims that over 700

²⁸ Source: Envision (2015) The Incentive to Recycle: the case for a container deposit system in New Zealand
²⁹ <http://www.abc.net.au/news/2018-02-14/nsw-recycling-container-deposit-scheme-costing-consumers-more/9444948>
³⁰ https://returnandearn.org.au/exc_news/return-and-earns-resounding-numbers/

million eligible containers have been returned, equating to approximately 3 million containers being returned each day.

In August 2018, Keep Australia Beautiful reported a 33% drop in Return and Earn eligible drink containers in the litter stream since November 2017, immediately prior to the scheme's introduction³¹, although in SLR's experience of working in Australia and NSW specifically, collation of robust litter data is often cited as an area for improvement.

4.3.3 Australian Capital Territory (ACT)

The ACT scheme commenced on 30 June 2018 and is run by the same scheme co-ordinator as NSW, Exchange for Change. The network operator is Return It which is owned by ReGroup, the operator of the only MRF in the ACT. Return It also includes some charity partners.

Return It uses a hub-and-spoke network based around three depots and a number of Express Points feeding into them. At the start of May there were 14 return sites in the ACT, including the three depots, with 20 planned by the end of 2019.

The depots have the look of a clean retail environment. Users can redeem containers and receive cash or they can drop off bags of materials which are later counted on-site and the value credited to the user's account.

The Express Points are small stand-alone unstaffed self-serve units, occupying about 1-2 m² of space, that are often located in charity shops, high rise apartments and office buildings. They do not dispense cash, instead users enter their phone numbers and the value of deposited materials are credited to their account. There are also larger self-serve units called 'pods' which are housed in shipping containers and often located in car parks. These occupy about 10 m² and are most like a reverse vending machine.

The MRF is included in the scheme and a factor calculated in the same way as in NSW.

4.3.4 Queensland

The Queensland DRS commenced on 1 November 2018. Drivers for a DRS in Queensland were slightly different. Recovery of containers was only 45% before the introduction of the scheme. Queensland was also Australia's most littered state. The Government was expecting that a DRS would increase recovery of materials, provide money for communities, create jobs, provide a clean stream of material and provide opportunities for new investment.

All jurisdictions think they are different and unique but there are a number of factors in Queensland that make a DRS system more problematic. Queensland has a long coastline and there are many islands. It is a large state, so distances are long between towns and cities. Quantities of materials are likely to be small outside the south-east and major centres, and parts of it are inaccessible in the wet season (December to February).

The scheme is run by a project responsibility organisation (PRO) which oversees whole scheme. The PRO is a 'not for profit' company directly appointed by the Minister. The current PRO is 'Containers for Change'.

At the commencement of the scheme there were 250 container return points (CRPs) of which there were a variety of types including depots, bag drop points and RVMs, although RVMs were not available in many places. There are no set operating hours for CRPs but there is a minimum number of hours they must be accessible. Rural and remote communities are a particular challenge and 'pop up' CRPs are often used.

³¹ <http://wastemanagementreview.com.au/nsw-litter-reduce-third/>

MRFs are included in the scheme but each MRF has its own factor and recovered deposits are shared 50:50 between MRFs and councils.

Users get paid by EFT so they must register and get a scheme ID. Collected containers are auctioned through an online portal.

By the end of April 2019 there were more than 300 CRPs and 420 million containers had been returned, \$78 million returned and 620 new jobs created.

4.3.5 Lessons from Australian DRS Schemes

The DRS schemes in Australia were largely introduced to reduce litter. A secondary element was to increase recycling rates. In particular, the South Australia DRS was targeted at increasing recycling rates as it pre-dated kerbside collections.

In the schemes that have been introduced in recent years, efforts have been made to work in tandem with kerbside recycling, rather than to compete against it. The NSW scheme pays deposits to MRFs for relevant materials that are recycled. This should be considered if a DRS is introduced to Ireland as the impact of a DRS on the MRF gate fees could have wider consequences in terms of the overall viability of kerbside recycling.

The Scottish DRS proposed by Eunomia is designed to take high value materials away from the kerbside recycling scheme, so it does not support kerbside recycling. We see this as a significant flaw, as addressed later in this report.

Other specific lessons learned from the Australian experience, and wider implications for elsewhere include:

1. Appropriate Level of Refund – the value should be set at a suitable level to influence behavioural change.
2. Achievable Roll Out Programme - sufficient time should be allowed to set up collection points which are accessible for all.
3. Effective Location Management – return points should be available, easy to use and well maintained.
4. Allocation of Scheme Costs – linkages between a DRS and complementary Extended Producer Responsibility (EPR) measures must be fully considered so the overall system is seen as ‘fair’ whilst driving positive changes in both manufacturer and consumer behaviour.
5. Use of Funds – directing some refund values towards supporting local community organisations and projects would generate positive publicity.
6. Impact on MRF Operators – the operational and economic impact on the MRF sector must be robustly assessed.
7. Impact on Local Authorities – the effects of changes to kerbside collection systems and all other associated costs (e.g. litter management) should be considered.
8. Scope of Container Eligibility – limiting the scope of a DRS to ‘on the go’ containers consumed outside of the home, could mitigate potential loss of income through reduced kerbside collection tonnages of high value materials.
9. Scope of Materials – focussing on specific materials (e.g. certain types of plastic) could promote development of associated reprocessing infrastructure.
10. Quality Requirements – returned containers should be in a suitable condition for recycling.

The overall financial impacts and linkages with potential wider change in waste management practices will need to be fully considered for maximum benefits to be realised.

4.4 Costs of a DRS in Ireland

4.4.1 Estimate of DRS Costs

A full evaluation of the costs of introducing and operating a DRS in Ireland is beyond the scope of this report, so we take a cursory look at the likely costs in the context of overall municipal waste management in Ireland to put it in perspective.

We are informed by REPAK, that there are 3,887 supermarkets operating in Ireland. For a DRS to operate smoothly, we assume that all of these premises are fitted with Reverse Vending Machines (RVMs) and undergo alterations to their storage arrangements to cater for the collected PET bottles and aluminium cans. The likely cost of the capital works is expected to be about €50,000 per store including the cost of installing the equipment and providing additional storage capacity separate from stock. That comes to a once-off cost of €194.35 million. We assume that this is paid off over 10 years at an interest rate of 5% per annum, which works out at about **€25 million per annum**.

We assume that 3 regional depots would have to be developed for counting and processing of deposit materials at a cost of €10 million each = €30m. Using the same assumptions that this would be paid for over 10 years at 5% interest per annum, the cost would be about **€4 million per annum**.

In order to further analyse the costs of operating a DRS in Ireland, we examined data presented by Eunomia in their report on a DRS in Scotland. The population of Scotland is approximately 5.4 million, which is a little higher than the population of Ireland which is currently estimated to be about 4.8 million. However, Scotland is easier to service as the rural population in Scotland is just 17%, compared with 37% in Ireland³². The average cost of labour in Ireland is €31 per person per hour versus €25.7 for the UK, based on Eurostat 2017 data.

Given these facts, we consider that many of the costs predicted for a Scottish DRS should translate to similar, if not higher costs, for a DRS in Ireland.

In Eunomia's report on Scotland, it was estimated that £15 million sterling would be required to cover other set-up costs for the scheme including planning and designing the system, such as deciding on fee structures and creating legal entities, and then implementing the system once the design has been finalised. The latter activities would include those such as procuring logistics contractors, stakeholder communications, populating the container database and setting up a call centre.

Converting this to euro³³ and spreading it over 10 years at 5% interest, this would add **€2.1 million per annum** to the costs of a DRS in Ireland.

Eunomia calculated that ongoing labour and space costs for the RVMs used in a DRS in Scotland would cost about £3.9 million per annum, based on 2,700 RVMs. In this report, we consider the costs of operating 3,887 RVMs, so that cost pro-rata would increase to £5.6 million (c.**€6.3 million per annum**). Eunomia also estimated costs for manual handling at stores without RVMs, but we have not included those costs, as our analysis considers that all supermarkets would have an RVM.

Eunomia calculated that Logistics costs would be c.£20 million (**€22.4 million**) per annum in the Scottish DRS.

Eunomia calculated that counting centre costs would be c.£2.9 million (**€3.2 million**) per annum in the Scottish DRS.

³² World Bank Statistics for Ireland and UK - see <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS> Scotland figure confirm by Government of Scotland here <https://www.gov.scot/publications/rural-scotland-key-facts-2018/pages/2/>

³³ Based on €1.12 = £1stg

Eunomia calculated that central administration costs would be c.£2.45 million (**€2.7 million**) per annum in the Scottish DRS.

Eunomia's costs for labelling and security for the Scottish scheme are unclear. There is reference to a £4.8 million one-off cost for designing labels and then a reference to a potential £6.9 million per annum for additional security markings on the beverage containers. Given that Ireland has a land border with the United Kingdom, we suggest that security markings would be important to prevent fraud, so we add the £6.9 million (**€7.7 million**) annual cost for security labelling.

We summarise these costs in Table 4-1.

Table 4-3 Overview of Potential Annual Costs of DRS in Ireland

Item	Description	Estimated Cost per annum millions
1	Installation of RVMs & Storage Room (spread over 10 years)	€ 25.0
2	Development of 3 Regional Depots (spread over 10 years)	€ 3.8
3	Set-Up costs (spread over 10 years)	€ 2.1
4	Ongoing labour and space costs at stores	€ 6.3
5	Logistics Costs	€ 22.4
6	Counting Centre Costs	€ 3.2
7	Central Administration Costs	€ 2.7
8	Labelling & Security Markings	€ 7.7
	Total Estimated Annual Costs	€ 73.2

A successful DRS could capture an additional 7,469 t/a of plastic beverage containers and an additional 1,948 t/a of aluminium cans. The value of these materials is estimated at:

- Plastic beverage containers: average price³⁴ €127/t x 7,469t = **€948,563**
- Aluminium cans: average price³⁵ €850/t x 1,948t = **€1,655,800**

The value of these materials generally depends on the location from which they must be collected, so the average figure is representative of a national spread of materials, as would be the case with a DRS. We have examined the value of these materials in the UK, as quoted in <https://www.letsrecycle.com/prices/> for comparison. The quoted prices for the last 4 months (March to June 2019) are in the following range:

- Plastic beverage containers: UK price £20 to £290 per tonne (€22 to €325³⁶).
- Aluminium cans: UK price £700 to £780 per tonne (€784 to €874).

The value of materials achieved at the Material Recovery Facilities (MRFs) in Ireland is within the range quoted in the UK, so the data is consistent.

The value of collecting additional materials in a DRS is therefore estimated at €2.6 million per annum, which we discount from the €73.2 million gross costs, leaving a net cost of **€70.6 million per annum**. We recognise that the

³⁴ Average price received at 8 MRFs in Ireland (2018 data).

³⁵ Average price received at 8 MRFs in Ireland (2019 data).

³⁶ Based on €1.12 = £1stg

DRS would collect a lot more material and get the value of that material, but that is not a net gain for the country, it just transfers the revenue from the existing MRFs to the DRS. This report is concerned with the costs and benefits to the country, rather than to the operator of the scheme.

At a net cost of €70.6 million per annum, the cost of recycling each additional tonne of material is estimated at €70.6 million / 9,417 tonnes = **€7,497 per tonne**.

4.4.2 Estimate of Kerbside Recycling Costs

In this subsection of the report, we compare that figure with the cost of recycling other wastes from the municipal waste stream to put it in perspective.

The IWMA considers that the average charge for kerbside household waste collection in Ireland is roughly €270 per house per annum³⁷ or less. In Table 4-2, we attempt to breakdown that cost into the three fractions collected at kerbside in Ireland (residual waste - grey, mixed dry recyclables – green/blue and food waste - brown), using EPA data³⁸ for the average tonnage of each waste type collected at kerbside in 2016. There is a degree of guesswork in this analysis, but it provides a reasonable overview of the cost of each element.

This data was peer-reviewed by IWMA members during the course of this project and has been accepted as being a reasonable assessment, although we recognise that each service provider will vary considerably from the data presented below and will vary from the EPA average data on tonnages.

Table 4-4 Rough Breakdown of Average Household Kerbside Service

Item	Number	Unit	Cost per unit (€)	Total Cost (€)
Residual Waste Collections	24	pick-ups	1.9	45.60
MDR Collections	24	pick-ups	1.9	45.60
Food Waste Collections (excludes rural)	16	pick-ups	1.9	30.40
Residual Waste Transfer	0.569	tonne	15	8.53
MDR Transfer	0.212	tonne	15	3.17
Food Waste Transfer	0.094	tonne	15	1.41
Residual Waste Transport & Disposal/Recovery ³⁹	0.569	tonne	128	72.82
MDR Transport & Recycling	0.212	tonne	80	16.93
Food Waste Transport & Composting/AD	0.094	tonne	84	7.89
Residual Waste Overheads & Profit	0.569	tonne	6	3.41
MDR Overheads & Profit	0.212	tonne	6	1.27
Food Waste Overheads & Profit	0.094	tonne	6	0.56
Subtotal (ex VAT)				237.61

³⁷ The CCPC confirmed this in their report 'Operation of the Household Waste Collection Market, published on 28th September 2018. A consumer survey taken by Behaviour and Attitudes, summarised in Appendix E found that the typical home was paying between €230 and €280 per annum for a waste collection service. Elsewhere in the report, the CCPC estimated that the average charge was €228 per house, but this was based on data from operators in 11 counties and was skewed towards Dublin.

³⁸ Provided by Helen Searson EPA in March 2019, using 2016 kerbside data.

³⁹ We assume €14 per tonne transport costs from transfer station to final destination. Recyclables may have a shorter journey than residual or organic wastes as there are more facilities available in urban areas. However, the material is lighter so the cost per km is higher.

Item	Number	Unit	Cost per unit (€)	Total Cost (€)
VAT			13.50%	32.08
Total (incl. VAT)				269.69

Using the data presented in Table 4-2, we estimate the cost of each fraction as follows. We have excluded VAT from the breakdown as that is not a real cost.

Table 4-5 Breakdown Costs of Average Household Kerbside Service by Fraction

Fraction	Estimated Cost per House (ex. VAT) in euro
Residual Waste Cost	130.37
MDR Cost	66.98
Food Waste Cost	40.27
Total Cost	237.61

Kerbside MDR recycling is subsidised by REPAK to the value of €12.8 million per annum⁴⁰ currently. There are approximately 1.2 million houses on a kerbside collection service, so this contributes €10.66 per house. We add this to the cost of €66.98 calculated above to get an overall average cost per house of €77.64 per annum for MDR recycling.

This relates to the collection of 212 kg per annum from the average house. However, we know from the EPA/RPS Waste Characterisation study quoted earlier in this report, that there is an average of 26.3% non-target materials in the MDR collections. We therefore conclude that 156 kg (73.7%) of the collected 212kg is actually recycled. At a cost of €77.64 for 156kg, we estimate that it costs **€497** per tonne to recycle kerbside household waste. This puts some perspective on using a DRS to chase additional recyclables at a cost that is almost 12 times the cost of kerbside recycling.

4.4.3 Cost of Civic Amenity Sites and Bring Banks

We have reviewed the three Regional Waste Management Plans that were published in Ireland in 2015 to estimate the costs associated with materials recycled at civic amenity sites and bring banks. Table 18-1 of each regional waste plan provides details the amount of money spent by local authorities on waste recovery and recycling in 2013.

These costs relate to civic amenity centres, bring sites and bottle banks. Occasional and seasonal expenditures, such as Christmas tree recycling, are generally included under this expenditure heading also. The total spend for the local authorities in this area was €31.14 million in 2013.

The EPA National Waste Report for 2012 states that the following tonnages of waste were received at CA Sites and Bring Banks in 2012:

- Bring Banks 77,041 tonnes
- Civic Amenity Sites 129,897 tonnes

⁴⁰ REPAK annual report for 2018, page 29.

We assume that a similar amount was received in 2013, as data is not publicly available for that year. The cost of operating this infrastructure and managing the materials is therefore estimated at **€240 per tonne per annum**.

In 2012, the CA sites accepted 31,600 tonnes of mixed residual waste (MRW), 13,400kt/a bulky wastes and 7,647 tonnes of C&D (DIY) waste. We recognise that the MRW and a lot of the bulky and C&D wastes were probably not recycled, but the cost of disposal or energy recovery would have been higher than the cost of recycling, so the average cost of recycling at bring banks and CA sites, which accounted for an estimated 75% of the materials accepted at those facilities, was undoubtedly less the €240 per tonne.

4.4.4 Putting DRS Costs in perspective

To put the cost of additional recycling via DRS in context, in Table 4-4 we have put that cost (€7,497) on every additional tonne of recycling required to meet the MSW recycling targets set by the EU.

Using a modest 2% growth rate, it can be seen that Ireland needs to recycle an additional 1 million tonnes per annum by 2030 and 1.75 million additional tonnes per annum by 2040. It is clear from the data that recycling costs of €7,497 for every additional tonne is not viable for the Irish State as it would cost more than €168 billion over the next 20 years to meet the targets.

Table 4-6 DRS Costs for Additional Recycling Applied to MSW Recycling Requirements

Year	MSW Generation (t/a)	Recycling Rate to meet targets	Recycling Required (t/a)	Additional Recycling Required above 2016 rate (t/a)	Cost Equivalent to DRS at €7,497 per tonne for additional recycling
2016	2,763,166	41%	1,132,898	0	€ 0
2017	2,818,429	42%	1,183,740	50,842	€ 381,162,474
2018	2,874,798	43%	1,236,163	103,265	€ 774,177,705
2019	2,932,294	44%	1,290,209	157,311	€ 1,179,360,567
2020	2,990,940	46%	1,375,832	242,934	€ 1,821,276,198
2021	3,050,759	48%	1,464,364	331,466	€ 2,485,000,602
2022	3,111,774	50%	1,555,887	422,989	€ 3,171,148,533
2023	3,174,009	52%	1,650,485	517,587	€ 3,880,349,739
2024	3,237,489	54%	1,748,244	615,346	€ 4,613,248,962
2025	3,302,239	55%	1,816,232	683,333	€ 5,122,947,501
2026	3,368,284	56%	1,886,239	753,341	€ 5,647,797,477
2027	3,435,650	57%	1,958,320	825,422	€ 6,188,188,734
2028	3,504,363	58%	2,032,530	899,632	€ 6,744,541,104
2029	3,574,450	59%	2,108,925	976,027	€ 7,317,274,419
2030	3,645,939	60%	2,187,563	1,054,665	€ 7,906,823,505
2031	3,718,858	61%	2,268,503	1,135,605	€ 8,513,630,685
2032	3,793,235	62%	2,351,806	1,218,908	€ 9,138,153,276
2033	3,869,099	63%	2,437,533	1,304,635	€ 9,780,848,595
2034	3,946,481	64%	2,525,748	1,392,850	€ 10,442,196,450
2035	4,025,411	65%	2,616,517	1,483,619	€ 11,122,691,643

Year	MSW Generation (t/a)	Recycling Rate to meet targets	Recycling Required (t/a)	Additional Recycling Required above 2016 rate (t/a)	Cost Equivalent to DRS at €7,497 per tonne for additional recycling
2036	4,105,919	65%	2,668,848	1,535,949	€ 11,515,009,653
2037	4,188,038	65%	2,722,225	1,589,326	€ 11,915,177,022
2038	4,271,798	65%	2,776,669	1,643,771	€ 12,323,351,187
2039	4,357,234	65%	2,832,202	1,699,304	€ 12,739,682,088
2040	4,444,379	65%	2,888,846	1,755,948	€ 13,164,342,156
				Total Cost:	€ 167,888,380,275

The MSW recycling targets are just as important as the SUP targets for recycling plastic beverage containers, so costs associated with increasing recycling rates must be viable and 'recycling at any cost' is not considered to be a viable policy for Ireland. More cost-effective alternatives are considered later in this report.

4.5 Likely Impact of a DRS on Kerbside Recycling in Ireland

4.5.1 Potential Price Increases

SLR consulted with the operators of Materials Recovery Facilities (MRFs) in Ireland to establish the likely impact of a DRS on the gate fees for acceptance of co-mingled Mixed Dry Recyclables (MDR) if the aluminium cans and plastic bottles were removed from the MDR bins.

We received responses from all 9 MRFs that are processing the MDR collected in Ireland. The average current gate fee for these facilities is €66 per tonne. Each MRF Operator calculated the impact of taking plastic bottles and aluminium cans out of the MDR stream and they responded with a range of €20 to €40 for the likely increase in gate fee as a result of the loss of these high value materials. The average gate fee increase figure provided by the MRFs was €28.44 per tonne, with the weighted average at €29.53.

Some of the MRF Operators also commented that there would be other impacts to be considered, such as:

- Without good quality materials, such as plastic bottles and aluminium cans, it is difficult to move lower quality materials such as plastic pots/tubs/trays and plastic films. Reduced recycling of these materials would impact negatively on Ireland's recycling performance.
- The processing lines at the MRFs would have to be re-configured to manage the changes to the input materials.
- A DRS is likely to impact on all REPAK subsidies, as the producers of aluminium cans and plastic bottles would not provide subsidy for MRF operations, so the existing subsidy could be reduced for all materials.

SLR has carried out an independent analysis to verify the figures provided by the MRF Operators. Based on actual tonnages supplied by the MRF Operators and average values of materials and REPAK, as quoted by the MRF Operators, we calculate the following revenue losses that would occur if DRS materials were removed from the MDR bins.

Table 4-7 Expected Revenue Losses at MRFs if DRS Materials Removed

Material	Volume Handled (t/a)	Average Value of Material including REPAK subsidy (€)	Loss of Revenue (€)
Aluminium Cans	4,444	915	€ 4,066,260
PET Bottles	11,227	247	€ 2,773,069
Estimated Cost due to Loss of Beverage Containers			€ 6,839,329
HDPE Bottles	7,283	415	€ 3,022,445
Estimated Cost due to Loss of Beverage Containers and HDPE Bottles			€ 9,861,774

The EPA estimates that 253,328 tonnes of household MDR was collected in Ireland in 2016. Spreading the loss in revenues across that tonnage, we estimate that the MRFs would have to increase gate fees for household MDR by the following amounts to cover the loss.

Table 4-8 Expected Increase in MRF Gate Fees for Household MDR if DRS Materials Removed

Material	Revenue Loss (€)	Household MDR Handled in 2016 (t/a)	Household MDR Handled after DRS materials removed (t/a)	Loss of Revenue per Unit / Potential Gate Fee increase (€)
Loss of Beverage Containers	€ 6,839,329	253,328	237,657	€ 28.78
Loss of Beverage Containers and HDPE Bottles	€ 9,861,774	253,328	230,374	€ 42.81

The figure of €28.78 is very close to the €28.44 average figure and the €29.53 weighted average figure estimated by the MRF Operators for likely gate fee increase after removal of plastic beverage containers and aluminium cans, so the data is considered to be credible. Removal of HDPE bottles would have an even greater impact as it would result in an estimated increase of €42.81 in the MRF gate fees.

There are approximately 1.2 million houses in Ireland with a kerbside waste collection service. If waste companies decided to regain the revenue loss directly through increases in prices, the required price increases would be as follows.

Table 4-9 Potential Price Increases to Householders to Cover Revenue Losses due to DRS

Material	Revenue Loss (€)	Total Number of Household Customers	Potential Price Increase Excluding VAT (€)
Loss of Beverage Containers	€ 6,839,329	1,200,000	€ 5.70
Loss of Beverage Containers and HDPE Bottles	€ 9,861,774	1,200,000	€ 8.22

In a successful DRS, the removal of the DRS materials from the collection system would also remove similar materials from the residual waste stream and that would result in cost savings to compensate the revenue losses. It is unlikely that removing a small percentage of the overall residual waste would result in reduced collections at

kerbside or reduced costs at transfer stations, but final disposal/recovery costs, including transport would be reduced.

Using the EPA Waste characterisation data and the EPA estimation of 681,027 tonnes of MRW collected in Ireland in the household kerbside system in 2016, we calculate these potential cost savings as follows.

Table 4-10 Potential Cost Savings in Recovery/Disposal of MRW due to DRS

Material	% of MRW	Estimated Volume in MRW (t/a)	Cost per tonne for Residual Waste Transport & Disposal/Recovery (€)	Total Saving (€)	Saving per Household Excluding VAT (€)
Aluminium Cans	1.30%	8,853 ⁴¹	128	€1,133,229	€ 0.94
PET Bottles	1.20%	8,172	128	€1,046,057	€ 0.87
Saving due to Loss of Beverage Containers				€2,179,286	€ 1.82
HDPE Bottles	1.30%	8,853	128	€1,133,229	€0.94
Saving due to Loss of Beverage Containers and HDPE Bottles				€3,312,515	€ 2.76

The revenue losses outweigh the cost savings leaving an overall negative impact as follows.

Table 4-11 Overall Impact of DRS on Kerbside Household Waste Collections

Material	Overall Costs (MDR Revenue Loss less MRW Savings) (€)	Potential Price Increase excluding VAT (€)	Potential Price Increase including VAT (€)
Loss of Beverage Containers	€ 4,660,043	€ 3.88	€ 4.41
Loss of Beverage Containers and HDPE Bottles	€ 6,549,259	€ 5.46	€ 6.19

4.5.2 Potential Impact on Wider Recycling

The potential price increase for household waste collection due to a DRS is relatively modest. However, there is a greater concern that the MRF Gate Fees could reach a tipping point that would discourage recycling altogether. In the previous section, we have calculated that removal of PET Bottles and aluminium cans from MRFs would increase the gate fees by c.€29 and if HDPE bottles were included in the DRS, that increase would be c.€43 per tonne.

At a current MRF gate fees of between €60 and €75 per tonne, a DRS would increase these gate fees to between €89 and €104 per tonne and if HDPE bottles were included, this would increase to between €102 and €117. Gate

⁴¹ Note that REPAK has indicated that 18% of recycled aluminium cans are recovered from MRW, which we calculate to be approximately 2,062 t/a. The remaining estimate of 6,791 tonnes of aluminium cans in MRW is higher than expected. This may be due to a number of factors such as inconsistencies in the waste characterisation returns from different transfer stations (range of 0.49% to 3.18%), contamination with liquids of other residual materials or there may be more aluminium cans in the system than we realise.

fees at that level would be similar to WtE gate fees and would be higher than cement kiln gate fees for SRF. That then introduces an incentive for waste collectors to avoid recycling altogether.

Legislation in Ireland requires waste collectors to collect MDR at kerbside and to recycle it after it is collected. However, there are a small number of unauthorised rogue collectors operating in Ireland⁴² and the enforcement authorities have so far been unable to stamp them out. A change to the dynamics whereby MDR costs the same or more than MRW, gives a boost to rogue collectors that will collect mixed waste with no recycling. It is less expensive to collect unsegregated waste and if there is no saving available for MDR gate fees, there will be a significant incentive to collect unsegregated wastes.

Such high MRF gate fees would also introduce an incentive for waste collectors to mix residual and recyclable wastes and send that mixture to landfill or WtE. Residual and recyclable wastes can be collected in a single truck if the truck has a split body and the two waste types are kept separate. However, high gate fees at MRFs remove the financial incentive that encourages all collectors to keep these waste streams separate.

There is currently a 'carrot and stick' approach that ensures that dry recyclables are delivered to MRFs. However, there is a concern that if the carrot is removed⁴³, this would result in an over-reliance on the stick (enforcement). In this scenario, there is a high risk that unethical waste collectors will find ways to mix these ways without detection and that encourages rogue behaviour and criminal interest in waste collection, which should be avoided at all costs. The level of criminal activity in waste collection in Ireland is relatively low compared to many countries, but it clearly exists and any measure that encourages its expansion should be avoided.

⁴² 'Man in the Van' operators that collect black bags of mixed household waste at a low price and are highly likely to fly-tip this waste.

⁴³ i.e. MRF gate fees increasing to match residual waste gate fees

5.0 Improving Ireland’s Recycling Performance

5.1 Introduction

The previous Chapters of this report show that a DRS would have some benefits in relation to waste management and litter prevention in Ireland but would do little to increase MSW recycling rates in Ireland, which is considered the biggest challenge associated with the future EU targets.

We have also shown that a DRS would be very expensive to set up and to operate. It would therefore require significant financial resources that the IWMA suggests could be better spent in assisting Ireland to achieve a wider range of EU waste management obligations.

5.2 Co-mingled Collections of Dry Recyclables

One important aspect to consider prior to considering alternatives to DRS is the wording in the SUP Directive that requires:

“Separate collection for recycling of single use plastic beverage bottles with a capacity of up to 3 litres, including their caps and lids”.

Plastic beverage bottles are currently collected alongside other dry recyclables in a co-mingled manner in household bins that are generally green or blue in colour. In fact, the co-mingled collection of dry recyclables is required by legislation. The Waste Management (Collection Permit) Regulations 2007 (as amended) contains the following regulations:

“20. (1) The nominated authority shall attach to each waste collection permit that may be granted by it such conditions as are in the reasonable opinion of the nominated authority, necessary to—

(g) In the case of household kerbside waste collection, ensure that the following actions are taken—

(VII) provide for the collection of at least the recyclable waste materials listed in the seventh schedule as part of the segregated collection arrangements provided in accordance with (VIII) for household kerbside waste collection.

(VIII) provide that the collection of recyclable household kerbside waste shall occur at least once every fortnight,”

The Seventh Schedule of the Regulations is as follows:

“SEVENTH SCHEDULE (Article 20)

Recyclable Household Waste Materials

Paper

Newspapers
Magazines
Junk mail
Envelopes
Paper
Phone books
Catalogues
Tissue boxes
Sugar bags
Calendars

Plastic Bottles (PET 1)

Mineral Bottles
Water Bottles
Mouthwash bottles
Salad dressing bottles

Steel cans

Pet food cans
Food cans
Biscuit tins
Soup tins

Dairies
 Letters
 Computer paper
 Used Beverage and Juice cartons Milk cartons
 Egg Boxes
 Holiday brochures
 Paper Potato bags

Plastic Bottles (HDPE2)

Milk Bottles
 Juice Bottles
 Cosmetic bottles
 Shampoo bottles
 Household cleaning bottles
 Laundry detergent bottles
 Window Cleaning Bottles
 Bath room bottles

Aluminium cans
 Drink cans

Plastic packaging (PP)

Yogurt containers
 Margarine tubs
 Rigid food packaging- (except black)
 Liquid Soap Containers
 Fruit containers

Cardboard

Food boxes
 Packaging boxes
 Cereal boxes Kitchen
 Towel tubes

(Optional — In addition, we will accept the following items in the recycling bin:)"

The Waste Management Regional Planners have done a lot of good work in promoting the current mixed dry recycling system in Ireland and have produced the following image as a clear representation of the materials to be placed in the mixed dry recycling bins.

Figure 5-1 Materials Accepted in MDR Bins



This and similar images have been distributed nationally through billboards, buses, websites, social media, public engagement, etc. This is now well established as the definitive list of materials to be placed in dry recycling bins. Any change from that position would undo several years of promotional work by the Regional Authorities and other parties, including the Department of Communications, Climate Action and Environment.

SLR believes⁴⁴ that collecting beverage containers alongside other dry recyclables in co-mingled collections can continue to fulfil the ‘*separate collection*’ requirement of the EU Directives on waste as it currently does under

⁴⁴ Until proven otherwise. An enquiry has been made by the IWMA to the EU Commission via FEAD for a definitive position on this issue.

the waste framework directive (WFD) which also requires ‘*separate collection*’ of recyclables including paper, metal, plastic and glass.

Recital 42 of the WFD states:

“(42) Separate collection could be achieved through door-to-door collection, bring and reception systems or other collection arrangements. While the obligation to separately collect waste requires that waste be kept separate by type and nature, it should be possible to collect certain types of waste together provided that this does not impede high-quality recycling or other recovery of waste, in line with the waste hierarchy. Member States should also be allowed to deviate from the general obligation to separately collect waste in other duly justified cases, for instance where the separate collection of specific waste streams in remote and scarcely populated areas causes negative environmental impacts that outweigh its overall environmental benefits or entails disproportionate economic costs. When assessing any cases in which economic costs might be disproportionate, Member States should take into account the overall economic benefits of separate collection, including in terms of avoided direct costs and costs of adverse environmental and health impacts associated with the collection and treatment of mixed waste, revenues from sales of secondary raw materials and the possibility to develop markets for such materials, as well as contributions by waste producers and producers of products, which could further improve the cost- efficiency of waste management systems.”

More specifically, Article 10 of the WFD says:

“Article 10

Recovery

1. Member States shall take the necessary measures to ensure that waste undergoes preparing for re-use, recycling or other recovery operations, in accordance with Articles 4 and 13.
2. Where necessary to comply with paragraph 1 and to facilitate or improve preparing for re-use, recycling and other recovery operations, waste shall be subject to separate collection and shall not be mixed with other waste or other materials with different properties.
3. Member States may allow derogations from paragraph 2 provided that at least one of the following conditions is met:
 - a. collecting certain types of waste together does not affect their potential to undergo preparing for re-use, recycling or other recovery operations in accordance with Article 4 and results in output from those operations which is of comparable quality to that achieved through separate collection;
 - b. separate collection does not deliver the best environmental outcome when considering the overall environmental impacts of the management of the relevant waste streams;
 - c. separate collection is not technically feasible taking into consideration good practices in waste collection;
 - d. separate collection would entail disproportionate economic costs taking into account the costs of adverse environmental and health impacts of mixed waste collection and treatment, the potential for efficiency improvements in waste collection and treatment, revenues from sales of secondary raw materials as well as the application of the polluter-pays principle and extended producer responsibility.

Member States shall regularly review derogations under this paragraph taking into account good practices in separate collection of waste and other developments in waste management.”

Also, Recital 27 of the SUP Directive addresses separate collection as follows:

“While the obligation to separately collect waste requires that waste be kept separate by type and nature, it should be possible to collect certain types of waste together provided that this does not impede high-quality recycling in line with the waste hierarchy in accordance with Article 10(2) and point (a) of Article 10(3) of Directive 2008/98/EC.”

A legal firm⁴⁵ has examined this issue for the IWMA and their advice suggests that plastic bottles can continue to be collected co-mingled with other recyclables, provided that the criteria quoted above are met and provided that the Irish Government continues to allow and promote the collection of co-mingled dry recyclables.

We therefore proceed with this report on the basis that co-mingled collections of dry recyclables can continue to collect plastic beverage containers alongside other dry recyclable materials, which is important in the context of considering alternative ways to increase recycling rates of municipal solid waste in Ireland.

5.3 Improving Household kerbside Recycling

5.3.1 Introduction

Some IWMA members have taken pro-active steps to improve household kerbside recycling performance. These measures are supported by the IWMA DRS and the Association will encourage other members to roll-out successful initiatives after results of trials have been analysed. Some of these initiatives are described briefly below.

5.3.2 Recycling Encouragement and Incentivisation

Ireland is in a unique position whereby every household bin is fitted with a Radio Frequency Identification (RFID) chip with details of the owner/address and each bin is weighed as it is lifted by the waste collection company. The data from every household bin lift is then recorded and reported to the householder on a regular basis.

Photo 1 – Example of Weighing System on Refuse Collection Vehicle in Ireland



There is also national consistency with respect to the materials accepted in each bin, although the variable bin size for brown bins have an impact on the type of biowaste that can be deposited in each. Larger brown bins are suitable for both food and garden waste, whereas small brown bins (caddies) are only suitable for food waste.

The IWMA has commenced a trial that is designed to encourage and incentivise customers to better source segregate household waste and thereby achieve higher recycling rates individually and collectively. The trial is being conducted by three IWMA Member companies⁴⁶ in different parts of the country, covering both urban and rural areas. Each company will involve 500 of their household customers with a broad range of demographics, so there will be a total of 1,500 houses in the trial.

⁴⁵ A&L Goodbody

⁴⁶ Clean Ireland Recycling, McElvaney's Waste & Recycling and Panda.

Customers will be informed by text or email on a monthly basis of their household's recycling performance, based on the weights of material in each of the 3 bins. Bins will be checked to ensure that householders do not deliberately place residual wastes in the recycling bins.

Customers will then be encouraged to improve their recycling performance and will receive a financial reward for achieving higher recycling rates. We understand that the financial incentive in the trial is set at €1 per percentage increase in recycling, but that may be subject to change. The trials are part funded by REPAK and part funded by the three companies involved.

The IWMA intends to encourage all members that collect kerbside household waste to partake in a full roll-out of this system, assuming a successful outcome from the trials. The IWMA will also lobby the Government and the relevant Producer Responsibility Schemes to provide finances to assist with incentivisation of householders that improve their recycling performance.

The funding of the incentives could be sourced from new environmental levies imposed by the Irish Government or from fees paid as part of Extended Producer Responsibility schemes. Under such schemes, the producers that place products on the market are obliged to financially assist with the recovery and recycling of the products after they have been discarded by the consumer, so this would seem to be a good fit for that obligation.

The IWMA expects that this system would provide a good return on investment in the following ways:

- Providing monthly data directly to householders will cost little and will encourage some householders to better segregate their wastes for environmental reasons.
- The addition of a financial reward for higher recycling rates should attract interest from the majority of householders who would be expected to better segregate their wastes for both environmental and financial benefits.
- Providing householders with information on local bring banks, civic amenity sites and other drop-off recycling points, in conjunction with this new reward system, should encourage people to divert the following wastes from the household bins for recycling:
 - Glass bottles and jars – to bring banks or CA sites
 - Textiles – to bring banks or CA sites
 - Electrical goods – to electrical retailers
 - Batteries – to supermarkets/other stores or CA sites
 - Paints & varnish – to CA sites
 - Wood/ timber – to CA sites
 - Large metal goods – to CA sites
 - Waste Oil – to CA sites
 - Household hazardous materials – to CA sites
 - Bulky goods – to CA sites
 - Garden waste (where brown bin is not large enough for garden waste) – home composting or CA sites
 - Reuse or re-sale of unwanted items – several on line options for resale or www.freetradeireland.ie for free trades
- The removal of these materials from the residual waste stream will increase recycling rates for the householder and will also reduce the pressure on residual waste treatment in Ireland, which is currently supplemented by exports to Waste to Energy plants in other countries such as Netherlands, Germany, Denmark and Sweden.

- The actions of householders in response to the information, encouragement and incentivisation should increase municipal waste recycling rates and assist Ireland in meeting the targets discussed earlier in this report. Investment now will help to avoid large fines from the EU if Ireland misses the future recycling targets.
- The encouragement to use CA sites, bring banks and other drop off points should assist Ireland in meeting targets set in other Directives addressing landfill, packaging, WEEE, batteries, waste oils, etc.
- When householders become more interested in recycling at home, they become more aware of non-recyclable materials and are more likely to avoid purchasing those items.

5.3.3 Camera Detection System

An IWMA member⁴⁷ has introduced a Camera Detection System (CDS) to its household kerbside waste collection service in Fingal and intends to roll-out this system to other areas where the company collects household waste. Cameras have been fitted to each truck that collects mixed dry recyclables and may in the future also be fitted to each truck that collects brown bin bio-waste. The cameras take a photograph the recyclable waste as it is emptied into the truck. The sequence is timed to avoid the packer plate that pushes the materials into the main body of the truck where it is compacted.

Photo 2 below shows material delivered by a good recycler, with excellent quality recyclables placed in the MDR bin.

Photo 2 – Well Sorted Materials Placed in an MDR Bin



⁴⁷ Panda / Greenstar

By contrast, Photo 3 shows an example of materials placed in an MDR bin by a householder that has taken less care with respect to acceptable materials. The bin contained unacceptable materials including a Flexible Intermediate Bulk Container (FIBC) bag as well as crisp packets and other non-recyclable plastics. Some materials were also contained within a bag, which is not permitted in the MDR bin.

Photo 3 – Poorly Sorted Materials Placed in an MDR Bin



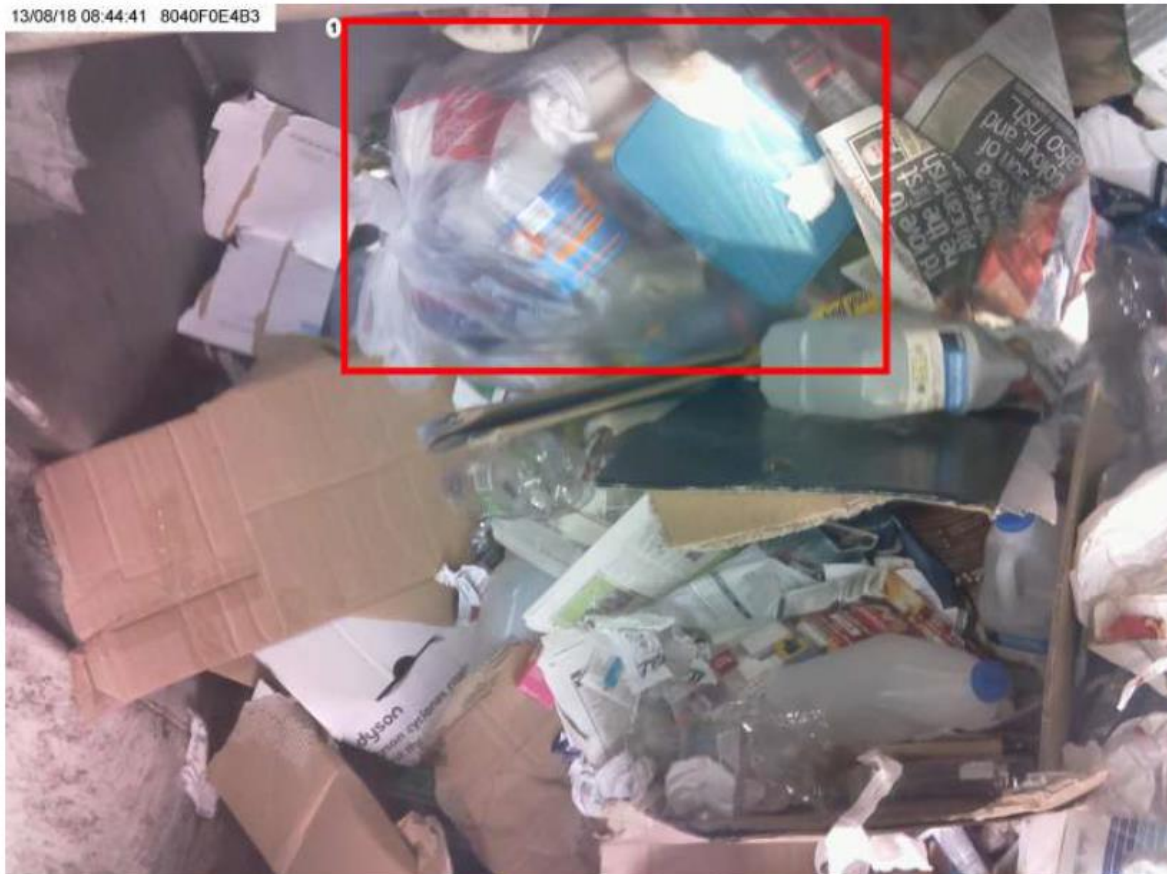
The system links each photograph to the RFID chip in the bin and this provides a link to the customer's address. A warning letter is sent to the customer that includes the photograph and highlights the unacceptable materials. The first warning letter can change behaviour in many cases. A second or third warning letter is required in other cases.

A small minority of customers do not change their behaviour after several warning letters with photographs of the unacceptable materials and in these cases, the company applies the residual waste charge to the bin, as the materials placed in the bin are not compliant with the MDR bin acceptable materials.

Photo 4 shows an example of a warning letter sent to a customer by the company.

Photo 4 – Example of Warning Letter

This is our second time writing to ask you to stop contaminating or putting full bags in your recycling bin. Failure to comply will result in a waste bin charge being added to your account. Most contamination we get is inside bags, so please empty the contents of any bags into your recycling bin loosely.



Number	Contamination	Level	Remarks
1	Bags must be empty	1	

Feedback from the company suggests that the camera detection system is very effective in changing customers' behaviour and is encouraging householders to take a greater interest when source segregating their household waste. The company plans to introduce a similar system to its commercial customers to further encourage better source segregation of all municipal wastes.

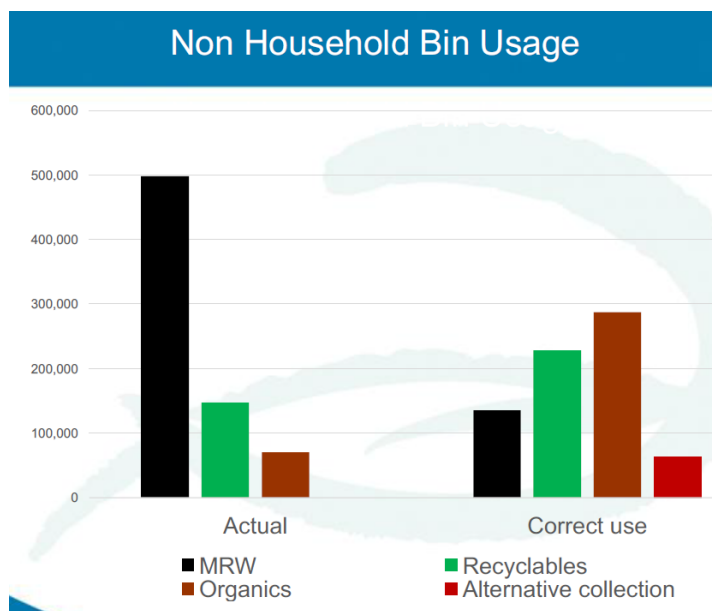
5.4 Improving Commercial Waste Recycling

The 2018 waste characterisation study of non-household waste carried out for the EPA⁴⁸ has confirmed that commercial waste is poorly presented with a lot of waste placed in inappropriate bins. The following two slides from an EPA presentation⁴⁹ at the Irish Waste Management Conference clearly illustrate the extent of the problem:

Figure 5-2 Profile of Residual Commercial Waste in Ireland – EPA 2018



Figure 5-3 Actual v Correct Use of Commercial Waste Bins in Ireland – EPA 2018



⁴⁸ Non-Household Waste Characterisation Campaign - final report, Clean Technology Centre for the EPA, 2018.

⁴⁹ By Helen Searson, EPA. November 2018

The EPA found that more about 73% of the materials in the commercial residual waste bin should not be there, as they should be recycled. This equivalent figure was 35% for the household residual bin, so greater awareness and incentivisation is clearly needed in the management of commercial waste.

The IWMA, in a letter to the Department of Communications, Climate Action and Environment in September 2018 recommends the following actions to improve recycling performance from the commercial waste stream:

1. Introduce mandatory charging per kilo for all commercial wastes.
2. Introduce mandatory incentivised charging whereby recycled wastes (including brown bins) have a lower per kilo charge compared with residual wastes.
3. Introduce a ban on placing food waste, garden waste and recyclable wastes in residual waste bins at commercial premises.
4. Consider the introduction of mandatory material separation for different types of commercial premises. For example, wastes generated at offices should have separate paper bins, whereas a distribution warehouse should have separate collection of cardboard, pallet wrap, pallets, etc. The work carried out by The Clean Technology Centre for the EPA Waste Characterisation study should assist in this regard.
5. Commence and properly fund a strong awareness campaign to inform business owners and the general public of their waste management obligations at home and at work.
6. Encourage and fund enforcement of these obligations.
7. Consider the introduction of a Recycling Performance Rating Scheme for businesses, perhaps along the lines of Building Energy Rating (BER) scheme or another appropriate certification scheme. Independent assessors could rate the recycling performance of businesses using unannounced spot checks. The resultant rating or certification could be sought in tenders and could be used by these businesses in their Environmental Policies, Environmental Management Systems and/or Annual Reports. It could be a voluntary scheme, so long as there are some advantages to businesses that partake and perform well in the scheme, such as extra points in tenders and/or marketing advantages.

The IWMA expects that these recommendations will be considered by DCCAE in emerging waste policy, which is due to be finalised in 2020.

5.5 Other Measures to Increase Recycling Rates

The IWMA made recommendations to the DCCAE in January 2019 with respect to increasing MSW recycling rates in Ireland. Some of these recommendations are repeated below.

5.5.1 Increase Public Awareness

It is clear from Municipal Waste Characterisation data published by the EPA in 2018 and discussed earlier in this report, that the residual waste bins in Ireland contain high levels of recyclable materials. The data also shows that the recycling bins contain high levels of residual waste. This is true of both household waste and commercial waste.

Strong messages are needed to raise greater awareness of recycling in Ireland and to appeal to the public to make greater efforts in this area. The Government has made available a relatively modest budget (c.€1.5million/annum) that is being used by the Regional Planners to good effect to help educate the public on how best to recycle. We suggest that this budget should be increased substantially to at least €5m per annum if it is to use national TV and Radio media to deliver the key messages with regard to recycling.

We suggest that this this level of budget would be a good investment to assist Ireland in avoiding very large EU fines, as well as avoiding reputational damage to the Irish State.

5.5.2 Incentivised Charging

All households in Ireland with a kerbside collection service are charged in a way that financially incentivises waste prevention, re-use and recycling. Some charging structures are more incentivised than others. We recommend that the enforcement authorities review the charges offered and seek a revision of the charging systems that provide too little incentive.

5.5.3 Home Composting in Rural Areas

The roll-out of brown bins to agglomerations of 500 people or more should be completed now. We expect that more than 700,000 houses, out of a total of 1.2 million that are on a collection service, now have a brown bin, based on recent trends and industry knowledge. We understand that the enforcement authorities are being very proactive in cases where they consider that waste collectors have not fulfilled their obligations in that regard.

The IWMA has suggested that extending the roll-out to all rural areas is likely to produce a diminished return and may be too costly to be supported by the public. Price increases in rural areas would be inevitable and could lead to more people opting out of participation in kerbside household waste collection, so the initiative may have a negative environmental impact.

For these reasons, the IWMA recommends that a programme to promote home composting in rural areas should be developed with adequate available resources. Local authorities and waste collectors could provide the bins and supporting information at a reasonable cost or even at a rate subsidised by the Environment Fund.

5.5.4 Apartment Waste Management

Waste collected from apartments in Ireland is generally very poorly sorted and is not a good contributor to recycling rates. Ireland has one of the lowest rates of apartment dwelling in Europe at 7.3%, but this is likely to increase towards the European average of 41.8% in future years. That could have a negative impact on recycling rates unless it is tackled now.

Dublin City Council, supported by IWMA members, is working on trials to increase recycling rates at apartment blocks. There is a particular focus in the trials on the sorting and collection of bio-waste. Further initiatives in this area would undoubtedly assist with meeting future recycling targets for MSW.

5.5.5 Deposit and Refund Schemes at Major Events.

The IWMA recommends that it should be mandatory for all festivals, concerts, matches and other major public events to only supply beverages on a deposit and refund basis. This can be controlled through the existing system of licensing events. Charging a €1 deposit on rigid plastic cups that can be washed and re-used on site is very effective and saves large scale wastage of single use plastic containers.

Photo 5 – Example of Deposit & Refund at Major Events



5.5.6 Public Space Recycling.

There is a lack of recycling facilities in streets and public spaces in Ireland. The IWMA suggests that this sends a negative message to the public that it is acceptable to mix wastes. With greater public awareness and some innovative thinking, we expect that public space recycling could be improved greatly, even if it is just a two-bin system (dry recyclables and residual waste). The use of different colours and shaped openings can make it obvious to the public that they should put recyclables in the recycling bins. Simple and consistent messages would help.

Photo 6 – Example of Street Recycling



5.6 International Best Practice

5.6.1 Introduction

Germany has been one of the best performing countries in the world for many years now with respect to MSW recycling rates. We decided to review the details behind that performance to see if any recommendations for Ireland could be found.

Wales has also reportedly performed very well in recent years and appears to have made a step change to the MSW recycling rates that Ireland now needs. Wales is relatively close to Ireland in terms of geography, scale, demographics, so a comparison could be interesting, so we reviewed the detail behind Wales’ MSW recycling figures.

5.6.2 MSW Recycling Rates in Germany

Eurostat 2017 data suggests that Germany has an MSW Recycling Rate of 67.6%. However, the German Waste Management Association commissioned work by consultants Thomas Obermeier and Sylvia Lehmann of TOMM+C that showed that the 67.6% figure is no longer valid under the rules of reporting recycling data to Eurostat.

The consultants estimate that the actual recycling rate in Germany is somewhere between 47% and 52%. The following Table provides the detail:

Table 5-1 Recalculation of Germany’s Recycling Rate by TOMM+C

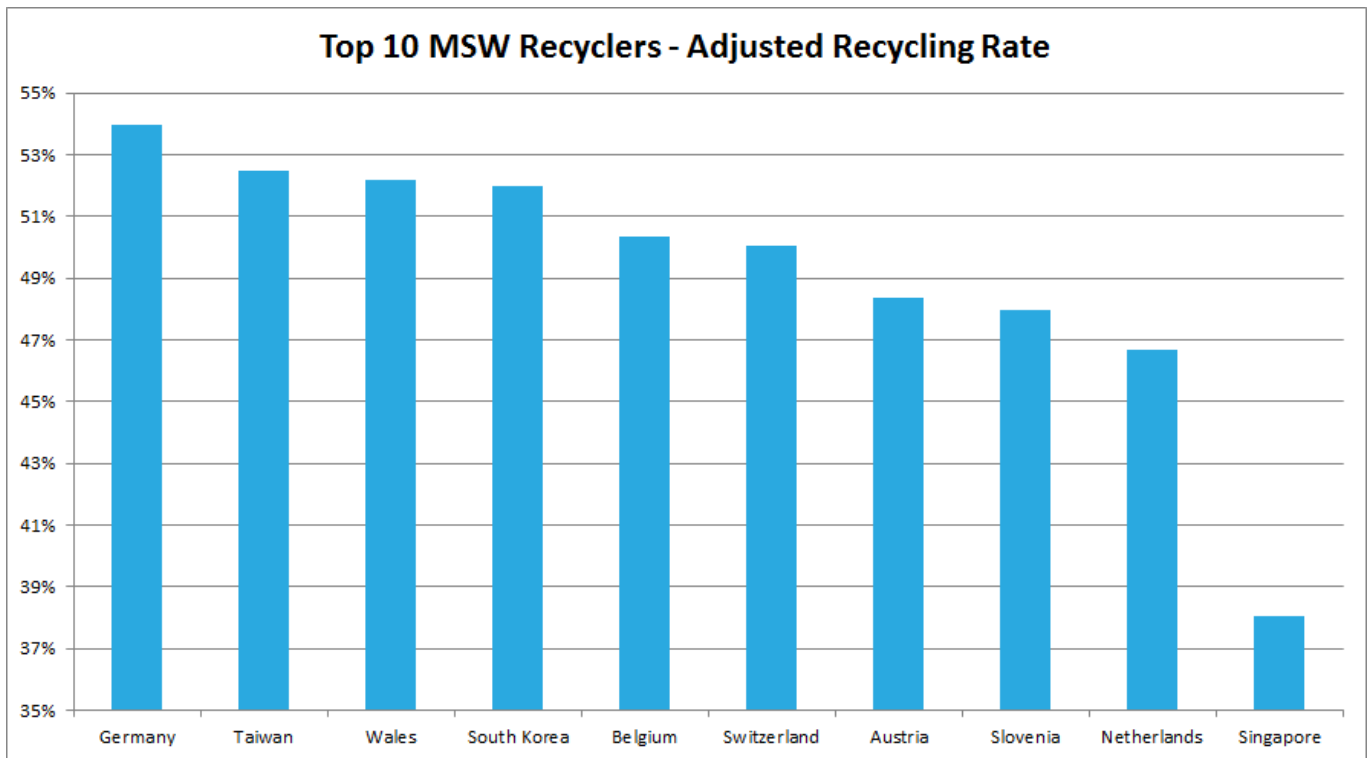
2015 Municipal solid waste (MSW), total	Waste key number (EWC)	Waste type	Waste amount, total in 1000 tonnes	Treatment and Recycling			
				Recycling plants R2 - R13 percentage of waste amount	Input R2 - R13 in 1000 tonnes	percentage of waste amount	Output R2-R13 in 1000 tonnes
Household was	20030101, ex 20030100	Household waste, similar commercial waste ¹	14,147	MBT / mechanical-physical drying (MPS)	2,443	5%	122
	200307	Bulky waste ⁸	2,495	Sorting plant	1,434	20% - 50%	287 - 717
	20030104	Bio-waste ^{2,3}	4,232	Composting/digestion plants	4,147	100%	4,147
	200201	Green and garden waste ^{2,3}	5,771	Composting/digestion plants	5,623	100%	5,623
	150107, 200102	Glass ⁴	2,553	Sorting plant	2,550	100%	2,550
	150101, 200101	Paper, cardboard ⁴	8,103	Sorting plant	8,047	100%	8,047
	150102, 15010600, 15010601, 15010602, 20019901, 200139	Light weight packaging / plastics ^{4,9}	5,952	Sorting plant	4,925	20% - 50%	985 - 2,463
	200123*, 200135*, 200138	Waste Electrical and Electronic Equipment (WEEE)	591	Sorting plant	590	70% - 80%	413 - 472
	150103, 150104, 150105, 150109, 200110, 200111, 200113*, 200114*, 200115*, 200140, 20019900, 200399, 200117*, 200119*, 200120*, 200127*, 200128, 200129*, 200130, 200131*, 200132, 200133*, 200134, 200138	Others (composite material, metals, textile, etc.) ^{4,5,6}	2,087	Sorting plant	1,528	56%	856
	Other MSW	20030102, ex 20030100	Commercial waste similar to household waste, separate collection ⁷	3,506	Sorting plant	1,365	13% - 20%
200202, 200203, 200303		Road sweepings / garden and park waste (soil, stones)	986	k.A.	717	0%	0
200108		biodegradable kitchen waste	928	Digestion plant	875	100%	875
200302		Market waste	60	Composting/ digestion plants	50	100%	50
200121*		Fluorescent tubes and other mercury containing waste	11	Sorting plant	10	70% - 80%	7 - 8
150110*, 150111*, 200125, 200137*, 200141, 200304, 200306		Other separate collected fractions ⁸	205	Sorting plant	147	10%	15
Municipal solid waste (MSW), total			51,625	67%	34,453	47% - 51%	24,154 - 26,217
				Metal recycling from Waste to Energy plants ^{10,11}		80 - 400	
				Recycling quotas including metal recycling		47% - 52% 24,234 - 26,617	

The main issues are :

- A large proportion of source separated plastics delivered to sorting plants and counted as recycled, end up being sent to WtE rather than recycled - only 20% to 50% is actually recycled. (4.8 to 7.6% MSW recycling lost)
- There is weight loss in MBT plants, mainly due to bio-drying. This is currently counted as recycled waste, but under EU rules going forward it will be recovery, not recycling. (4.5% MSW recycling lost)
- Bulky waste delivered to sorting plants is counted as recycled, but only 20% to 50% is actually recycled. (1.4 to 2.2% MSW recycling lost)
- Recycling of commercial waste sent to sorting plants also appears to be vastly over-estimated. (2.1 to 2.3% MSW recycling lost)
- Road sweepings will not count for recycling. (1.4% MSW recycling lost)
- Other fractions also appear to be over-estimated but are at low volumes that have little impact on the overall recycling figure.

Interestingly, work by Eunomia⁵⁰ confirms this issue and also shows that other countries that are considered the world’s best performers in MSW Recycling have over-estimated their recycling figures. The graph below shows Eunomia’s estimate of the Top 10 MSW Recycling countries in the world, using the new EU Rules for reporting to Eurostat. Eunomia puts Germany at 54%, which is slightly higher than the estimates by TOMM+C, working for the German Waste Management Association.

Figure 5-4 Eunomia’s Estimate of Top 10 Recycling Countries in the World



⁵⁰ <https://www.eunomia.co.uk/reports-tools/recycling-who-really-leads-the-world/>

Based on Eunomia’s conclusions, other European countries in the world Top 10 recyclers will be obliged to adjust their recycling rates as follows:

Table 5-2 Adjustments Required to Recycling Rates According to Eunomia

Country	Eurostat 2017 MSW Recycling Rate	Adjusted Rate Based on New Calculation Methods according to Eunomia
Germany	67.6%	54%
Belgium	53.7%	50%
Switzerland	52.5%	50%
Austria	57.7%	48%
Slovenia	57.8%	48%
Netherlands	54.2%	47%

This data shows that the EU Circular Economy recycling targets of 55% by 2025, rising to 65% by 2035 will be very challenging for Ireland and for all EU Member States.

Table 5-3 compares the details of Ireland’s MSW Recycling with that of Germany, after the adjustments made by TOMM+C. The data from Germany is 2015, whereas the data from Ireland is mostly from 2017 and includes some interpretation by SLR, as the breakdown is only partially provided by the EPA.

Table 5-3 Comparison of Recycled MSW in Germany v Ireland

MSW Type	Source of Recyclables	Germany	Ireland
Household Waste	Recyclables captured in Mechanical Biological Treatment	0.2%	0.0%
	Bulky waste	0.6% to 1.4%	1.3%
	Biowaste	8.0%	4.7%
	Biodegradable garden and park waste	10.9%	1.8%
	Glass	4.9%	4.8%
	Paper, cardboard, cardboard boxes	15.6%	11.8%
	Light packaging/plastics	1.9% to 4.8%	3.6%
	WEEE	0.8% to 0.9%	1.8%
	metal packaging		1.7%
Non-Household MSW	Commercial waste sent to sorting plants	0.3% to 0.5%	
	Street Sweepings/Garden and Park Waste (Soil, Stones)	0.0%	
	Biodegradable kitchen and Canteen waste (commercial)	1.7%	3.9%
	Market waste	0.1%	
	Metal recycled from Incinerator Bottom Ash	0.2% to 0.8%	0.6%
	Wooden Packaging		2.1%
	Other	1.7%	3.7%
Total MSW		46.9% to 51.6%	41.8%

The details provided for Germany’s MSW recycling figures by TOMM+C do not correlate exactly with the available data for Ireland’s MSW Recycling, so SLR has attempted to match the data for comparison purposes. The notable differences between Germany and Ireland are as follows.

Biodegradable Garden and Park Waste

Biodegradable garden and park waste from households in Germany is a much greater contributor to MSW Recycling at 10.9% versus 1.8% in Ireland. Whilst the source of the garden and park waste is described as 'household waste', we expect that it includes park waste collected by the municipalities. A report by Rostock University⁵¹ indicates that this fraction includes both yard waste from households alongside waste from the landscape management of public land.

We consulted with the German Waste Management Association to get more detail on green and garden waste collections in Germany and were informed as follows:

"In the German federal states kerbside and bring systems are used to collect green and garden waste. Mostly, green and garden waste is collected through the bio bin within a kerbside system. Citizens are encouraged to separate bio waste and also green and garden waste in the bio bin and deposit it at the kerbside for regular collection. Additionally, cities and regions can make use of different systems.

On the one hand, they can make use of bring systems with fixed point systems or drop-off centers such as civic amenity sites, green waste collecting places or compost plants with large recycling containers. Those sites are either reachable all the time or have special opening hours during the day. Also, there can be limited opening hours in periods of less vegetation.

On the other hand, cities and regions also combine the bio bin with pick-up methods where citizens can drop their green and garden waste at a given date and time in a mobile container or collection vehicle. Also, some collect greenery bags or bundles of green and garden waste in a door to door system.

Unfortunately, there also exists illegal disposal (e.g. in the woods) and burning (e.g. Easter fires). A mandatory ban of burning combined with a widespread collection system in easily accessible places could lead to an explicit rise of green and garden waste recycling.

One civic amenity site as collecting point for all kinds of waste as well as green and garden waste has to handle green and garden waste of between 500 and 300,000 citizens. Although, the collected amounts vary across the federal states. For now, backyard composting has not been part of the statistics you have. However, there could be a change with the new methods on calculating recycling quotes. The German ministry of environment signals that in the future the new methods on calculating recycling quotes should also include backyard composting and that even more effort is needed concerning the development of separate collection.

At the moment the collecting systems for green and garden waste are funded by the German climate action funding program."

Biowaste

Biowaste collected from households appears higher in Germany than in Ireland, but when commercial bio-waste is added, the figure is not that different.

Paper & Cardboard

Germany is performing better with respect to recycling of paper and cardboard. It can be seen from earlier in this report that the residual waste bins in Ireland contain significant quantities of paper and cardboard, particularly in the commercial sector.

⁵¹ 'Bio-Waste Recycling in Germany – Further Challenges' A. Schücha, G. Morschecka, A. Lemkea, M. Nellesa, University of Rostock, Department of Waste Management and Material Flow and German Biomass Research Centre gGmbH (DBFZ)

5.6.3 MSW Recycling Rates in Wales

Wales is reportedly achieving a very high MSW recycling rates at 62.7% for the year to Oct 2018, according to statistics compiled by the Welsh Government. However, Eunomia puts the figure at 52% as shown in Figure 5-4 of this report.

The Welsh data reveals the following issues with regard to the measurement of the recycling rate:

- The Welsh MSW recycling figures include rubble and soil collected at civic amenity sites. This is not MSW and should not be counted in MSW figures.
- Incinerator Bottom Ash (IBA) is counted as recycled in Wales, whereas the new EU rules only allow metals recycled from IBA to be counted as MSW recycling.
- The Welsh recycling figures include all collected co-mingled recyclables, whereas the EU rules are now based on actual recycling rather than collection for recycling. In Ireland 26% of collected co-mingled recyclables are non-recyclable and are not counted towards our recycling figures.

The impact of these differences on recycling figures are quantified in Table 5-4 below:

Table 5-4 Analysis of MSW Recycling Data Published by the Welsh Government

Material	Quantity Reduction (t)	Impact on Wales Recycling Rate	Comments
Rubble & Soil Recycled	104,942	-6.8%	From CA sites
IBA Recycled	60,300	-3.9%	allow 10% for metal recycling
Residues from Co-Mingled Recyclables	38,328	-1.9%	Conservatively assume 15% over-estimate
Total Reduction in Recycling Rate		12.6%	

SLR’s analysis suggests that the actual recycling figure in Wales is approximately 50.1%, which is a little lower than the Eunomia’s estimate.

As with Germany, discussed above, the big difference between Wales and Ireland is Green/ Garden Waste recycling. Wales recycles 160Kt of green waste per annum (10.4% of MSW), compared to 50Kt in Ireland (1.8% of MSW). The Welsh figure includes 100Kt of green waste collected separately at kerbside, whereas very little green waste is collected separately from food waste at kerbside in Ireland.

5.6.4 Conclusions on International Comparisons

The main conclusion from this section of the report is that Ireland could achieve a 50% MSW recycling rate if green / garden waste recycling was increased to the levels found in Wales and Germany. However, it is notable that household waste generation is higher in both Wales (419kg/capita) and Germany (452kg/capita), compared with Ireland (316kg/capita), so collecting more waste for recycling could be considered unhelpful to Ireland’s waste prevention efforts.

The following Table shows that Ireland is performing well with respect to the amount of residual household waste generated after recycling. Some of the countries above Ireland in this ranking have relatively poor collection systems and the low waste generation figures may not be a true reflection of environmental performance, so Ireland could be ranked even higher if those countries had a more comprehensive waste collection service.

Table 5-5 Comparison of Residual Household Waste Per Capita across Europe

Rank	Country	2016 Household Waste	Population	Household Waste Generation per capita (kg)	MSW Recycling Rate (%)	Residual Waste %	Residual Waste (t)	Residual Household Waste per Capita (kg)
EU (28 countries)		214,700,000	513,000,000	419				
1	Poland	9,534,484	38,430,000	248	44%	56%	5,339,311	139
2	Slovenia	633,790	2,066,000	307	48%	52%	329,571	160
3	Romania	4,098,427	19,640,000	209	15%	85%	3,483,663	177
4	Ireland	1,513,544	4,784,000	316	42%	58%	877,856	183
5	Finland	1,791,659	5,503,000	326	42%	58%	1,039,162	189
6	Hungary	2,905,569	9,798,000	297	35%	65%	1,888,620	193
7	Lithuania	1,119,278	2,848,000	393	50%	50%	559,639	197
8	Wales	1,329,560	3,170,000	419	50%	50%	664,780	210
9	Germany	37,409,896	82,790,000	452	52%	48%	17,956,750	217
10	Croatia	1,144,199	4,154,000	275	21%	79%	903,917	218
11	Belgium	5,041,207	11,350,000	444	50%	50%	2,520,604	222
12	Czechia	3,579,613	10,580,000	338	34%	66%	2,362,545	223
13	Sweden	4,410,872	9,995,000	441	49%	51%	2,249,545	225
14	Estonia	429,882	1,316,000	327	31%	69%	296,619	225
15	Serbia	1,589,709	7,022,000	226	0%	100%	1,589,709	226
16	United Kingdom	27,300,581	66,040,000	413	44%	56%	15,288,325	232
17	Italy	30,116,606	60,590,000	497	51%	49%	14,757,137	244
18	France	29,193,619	66,990,000	436	42%	58%	16,932,299	253
19	Austria	4,268,278	8,773,000	487	48%	52%	2,219,505	253
20	Netherlands	8,549,762	17,080,000	501	47%	53%	4,531,374	265
21	Slovakia	1,889,523	5,435,000	348	23%	77%	1,454,933	268
22	Bulgaria	2,840,316	7,102,000	400	32%	68%	1,931,415	272
23	Norway	2,444,305	5,258,000	465	38%	62%	1,515,469	288
24	Denmark	3,480,305	5,749,000	605	48%	52%	1,809,759	315
25	Turkey	27,985,092	79,810,000	351	10%	90%	25,186,583	316
26	Latvia	870,177	1,950,000	446	28%	72%	626,527	321
27	Spain	21,689,437	46,720,000	464	30%	70%	15,182,606	325
28	Malta	165,852	460,297	360	8%	92%	152,584	331
29	Portugal	4,897,262	10,310,000	475	30%	70%	3,428,083	333
30	Montenegro	227,055	622,471	365	5%	95%	215,702	347
31	Greece	4,788,304	10,770,000	445	17%	83%	3,974,292	369
32	Cyprus	394,911	854,802	462	19%	81%	319,878	374

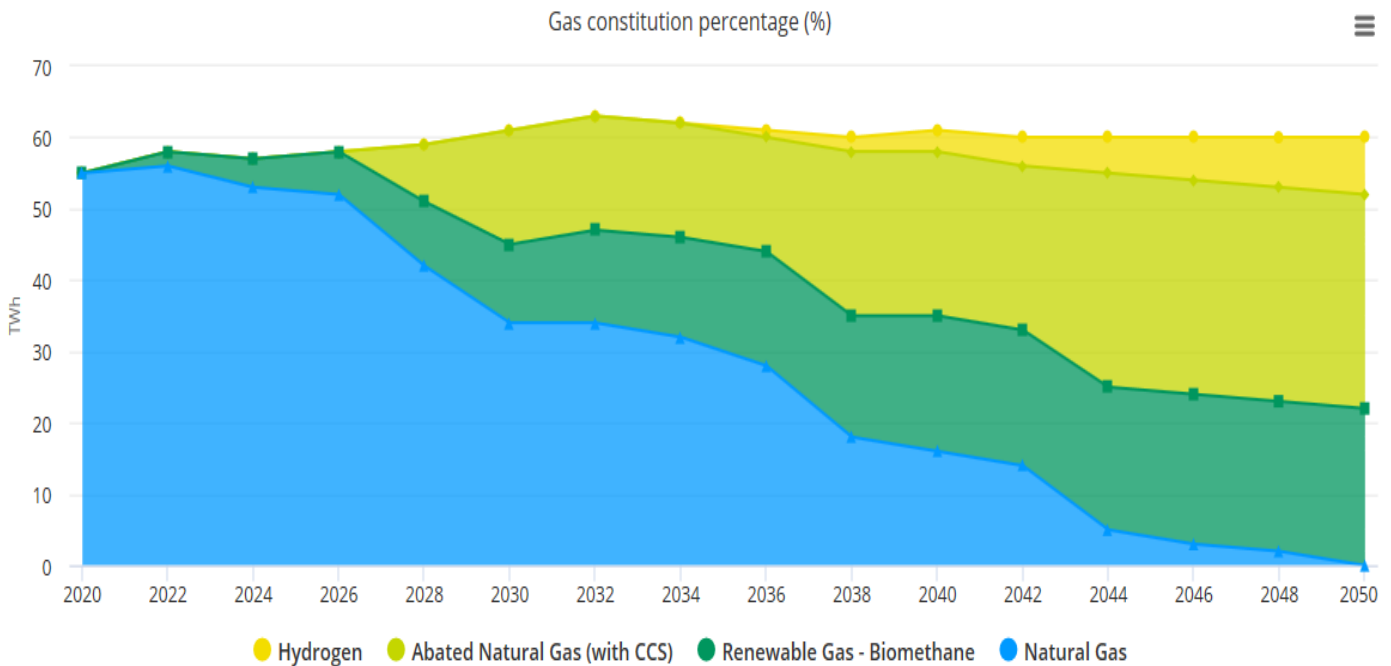
Ideally, Ireland should try to reach the future MSW recycling targets without increasing waste generation, but if this proves impossible, collecting additional green waste for recycling may be necessary to avoid EU fines.

If Ireland collects and recycles an additional 250,000 tonnes of green and garden waste, it would boost the MSW recycling rate to 50%. If half of this additional waste was sourced from households, with the rest from municipal parks and commercial premises/developments, golf courses, sportsgrounds, etc, Irelands household waste generation figure would increase to 343kg per capita, which is still well below the EU average of 419kg per capita. This change would have little impact on the residual waste figures for Ireland, so that performance would still be ranked amongst the best in Europe.

In particular, consideration should be given to the collection of biowastes for the production of biomethane to generate renewable energy. We understand that Gas Networks Ireland has major plans to feed large quantities of biomethane into the national gas network and feedstock will be required for the AD plants that will generate that biogas. The graph below from GNI’s website⁵² is very informative in that regard and shows a very aggressive plan that will require a strong drive and serious resources.

Figure 5-5 Gas Networks Ireland Plans to Replace Natural Gas with Renewable Gas

Our vision for a net zero carbon gas network by 2050



Technologies have evolved or been adapted in Ireland that facilitate the breakdown of woody material in anaerobic digestion plants, so garden and parks waste can be used as a feedstock for biogas production. It may be more environmentally sustainable to collect garden and parks waste for this purpose rather than to use productive agricultural land to generate feedstock for the new AD plants that we expect to be developed in response to GNI’s initiative.

⁵² <https://www.gasnetworks.ie/vision-2050/net-zero-carbon/>

The cost of collecting or delivering the garden and parks waste to these AD plants will be an important factor and may require subsidisation or some form of incentives. However, two national environmental priorities (recycling and renewable energy) could be advanced by such a move, so it will be in the Government's interest to at least consider this option. It is interesting to note that the collection systems for green and garden waste in Germany are funded by the German climate action funding program, as mentioned earlier in this report.

In 2019, the Irish Parliament declared a Climate Emergency and funding for worthwhile initiatives should follow. Financing the collection and recycling of green/garden waste could be as simple as a fiscal measure that makes biomethane more attractive at its cost of production compared to natural gas, i.e. a tax on natural gas that is used to subsidise biomethane production.

6.0 Conclusions

The main conclusions of this report can be summarised as follows:

1. Ireland is performing well in terms of municipal waste management but has serious challenges ahead to meet the new targets for recycling set by the EU for the 2025 to 2035 period.
2. MSW recycling has stagnated at about 41% to 42% in the last 6 years and new measures are needed in the short term to boost recycling rates.
3. The introduction of a Deposit and Return System for beverage containers to Ireland should have a positive impact on litter prevention and should assist with meeting the recycling targets for beverage containers but would do very little in terms of a contribution to the overall MSW recycling rates.
4. The cost of recycling additional materials using a DRS is estimated at approximately €7,500 per tonne, which is very high compared with approximately €500 per tonne for kerbside recycling and approximately €240 per tonne for recycling at civic amenity sites.
5. If Ireland spent €7,500 per tonne for every additional tonne of recycling needed to meet future EU MSW recycling targets, it would cost the State approximately €168 billion.
6. A DRS could have a very negative impact on the existing kerbside collection system by taking high value materials from MRFs and by impacting on existing REPAK subsidies, with the result that recycling will become less incentivised and less attractive commercially. We recommend that MRFs should be allowed to claim deposits for recycled beverage containers if a DRS is introduced to Ireland. This works well elsewhere and protects the existing recycling system.
7. The IWMA is trialling a new system that will better inform and incentivise householders to source segregate their wastes to improve their individual recycling performance. The trials are part funded by REPAK and we expect that this initiative will have a positive impact on MSW recycling rates.
8. A range of other measures to assist with MSW recycling in Ireland have been recommended by the IWMA to the DCCA and we expect that these will be considered in emerging national waste policy.
9. SLR's review of international best practice in MSW Recycling has found that many of the best performing countries have over-estimated their recycling rates and it now appears that the highest recycling rates in Europe (and probably in the world) are at about 52%, rather than the previously suggested 67%. This makes the future targets for MSW recycling look even more challenging.
10. SLR's review of MSW recycling in Germany and Wales, two of the best performing countries in the world, found that the main difference between Ireland and these two countries related to the recycling of biodegradable garden and park wastes. Ireland could achieve more than 50% MSW recycling if similar quantities per capita of this waste type was collected and recycled.
11. Whilst extra collections of garden and park waste would increase Ireland's waste generation/management figure, it could be an attractive environmental option if the material was used as feedstock to produce biomethane for injection to the national gas grid. Gas Networks Ireland has major plans to decarbonise the gas grid and biomethane injection plays a significant role in those plans. Using garden and park waste as feedstock could be a better environmental option compared with using grass or other vegetation grown specifically as energy crops.

12. Financing the collection and recycling of green/garden waste could be as simple as a fiscal measure that makes biomethane more attractive at its cost of production compared to natural gas, i.e. a tax on natural gas that is used to subsidise biomethane production.

7.0 Closure

This report has been prepared by SLR Consulting (Ireland) with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the IWMA and its members; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

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IWMA Critique of CCPC Report

On

‘The Operation of the Household Waste Collection Market’

(dated 28th September 2018)

The Competition and Consumer Protection Commission (CCPC) published their report on *“The Operation of the Household Waste Collection Market”* on 28th September 2018. The report culminated from research carried out by the CCPC in the preceding 12 months, including public and industry consultation.

The recommendations of the report were summarised on the CCPC website as follows:

“CCPC Recommendations

- *Recommendation:* Establish an economic regulator for household waste collection, with consideration to be given to the function of the regulator in relation to economic licensing, data collection and analysis, market design and consumer protection.
- *Recommendation:* A review is undertaken of the Government’s 2012 policy document, “A Resource Opportunity: Waste Management Policy in Ireland”. The CCPC suggests that this review could be usefully informed by the evidence collected in the course of this study and that the review be conducted in the context of the recommendation to establish an economic regulator.
- *Recommendation:* Ensure that all of the State’s resources are co-ordinated to deliver optimal outcomes for this market. The introduction of a new regulatory regime should also have a central objective to use these existing bodies in a manner that creates efficiencies, wherever possible. Consideration should also be given to utilising and extending existing structures to create a new regulatory regime.”

The genesis of the report was a Government Counter Motion of June 2017 which required that Dáil Eireann:

“ask the Competition & Consumer Protection Commission to report on the operation of the household waste collection market in order to inform the future development of national waste management policy before year end, which will provide an evidence base to establish a regulator to prevent price gouging.”

That agreed Motion was the basis upon which the report was commissioned, as mentioned in Section 1.6 of the report and it is no surprise that the report reached the conclusion that an economic regulator for household waste collection should be established. The evidence presented in the report was very selective in pointing to faults or potential future faults in the market, thereby supporting the conclusion that a Regulator is needed.

The CCPC identified a number of issues that it found to be problematic in this market, as follows:

- a) The market is highly concentrated in places, giving operators considerable market power
- b) The Irish household waste collection market is atypical in a European context
- c) The household waste collection market exhibits characteristics of a natural monopoly
- d) The current market structure benefits incumbents
- e) The market structure acts as a barrier to entry
- f) Operator numbers are falling and are likely to continue to do so
- g) The current market structure is impacting the State's ability to implement environmental policy
- h) The regulatory regime is fragmented and incomplete
- i) A sector-specific complaints procedure is not in place to resolve consumer issues
- j) Most households do not, or cannot, influence operator behaviour
- k) No service available to many households

Some of these issues are indisputable and some are debatable. Some are seen as actual problems in the market and some are seen as potential future problems in the market. Some are not problems at all or would be bigger problems in a competitively tendered market.

The prices charged for household waste collection were addressed briefly in Sections 4.2 and 4.3 of the report as follows:

"The CCPC has assessed the level of household charges from 2012 to 2016 to develop an initial indication of average national charges. This analysis has used the average operator revenue data received from operators in 11 local authorities, as part of this study. The CCPC notes that the average household charges represent a lower bound estimate of national average household collection charges, as the sample was skewed towards the Dublin region, where the collection charges are the lowest in the country. The findings indicate that the average annual household charge for waste collection, when adjusted for inflation, was €228 in 2016. This represents an increase of 11% from 2012 levels."

Behaviour & Attitudes (B&A) carried out market research on behalf of the CCPC and this was included in an Appendix to the CCPC Report. B&A surveyed 1,000 people and the survey is claimed to have a margin of error of 3.2%. The survey found that, on average, households pay €278 per annum on waste collection services.

In our review of the CCPC report, we found a lot of bias and selective evidence in support of the view that there are problems in the market and a regulator is required to address those problems. Evidence submitted during the consultation process proved that the consumer is getting a good price and a good service and that environmental targets are being achieved. This evidence was largely ignored by the CCPC in the report.

This selectiveness reminds us of the case of *Panda v Dublin City Council* in 2008¹ when the City Council tried to vary the regional waste management plan to halt the side-by-side competition that had commenced in Dublin in c.2006. The Judgement included the following text in Section 175:

“175. I would further note that in the course of the hearing a number of draft reports, prepared by Dr. Francis O’Toole and RPS, were handed up to the Court. The drafts of the former, contained comments written by the respondents indicating which parts of earlier drafts were acceptable to them, and either deleting or re-wording those parts which would not have supported their position. There were also e-mail references to meetings with the authors of these reports as well as notes of some meetings (including 31/01/07) which would indicate that the findings of the reports were a foregone conclusion. Whether or not the City Managers were aware of this fact is, in my opinion, immaterial: Mr. Twomey certainly was. Such massaging of reports, which were later, in their edited versions, released publicly, is a strong indicator, to me, of unacceptable influence in a process, supposedly carried out in the public interest, and further elucidates a high level of prejudgment in the decision to vary the WMP.”

We are not suggesting, at this time, that the CCPC Report was edited or massaged in this way, as we have not seen earlier drafts. However, we are suggesting that the authors included evidence that supported the need for the establishment of an economic regulator and excluded evidence, submitted in the consultation process, that was contrary to the argument that an economic regulator is needed.

In the following sections, we discuss each of the issues raised by the CCPC and we show that the report was biased and was selective in the evidence that was presented and used to reach the conclusions.

- **Prices** – The report looked at the price change over the 4 year period from 2012 to 2016 and this showed an 11% increase. The 2015 waste collection permit regulations required all household waste collectors to install weighing equipment on trucks, to install RFID chips on all bins and to install new data management systems to record and report the weights. This is thought to have cost hundreds of millions of euro and it was inevitable that this would lead to increased prices during that period. There were also significant increases in labour costs, but that was balanced by the fact that the price of diesel came down during that period.

The IWMA submission to the consultation provided data to the CCPC on prices for kerbside household waste collection in Ireland in 2004 and 2011. The 2004 prices included both private sector prices collated by the Competition Authority at the time and local authority and prices/costs collated by SLR Consulting from the local authority annual financial reports. This data was consistent with a report compiled by Trinity College Dublin for the EPA in 2005². The 2004 prices were much higher than current prices and that fact was not mentioned in the CCPC Report.

The ‘*Household Waste Collection Benchmarking Report*’ prepared by SLR for the IWMA was submitted to the CCPC as part of the consultation and showed that prices for household

¹ *Neurendale Ltd t/a Panda Waste Services -v- Dublin City Council & Ors* Neutral Citation: [2009] IEHC 588, High Court Record Number: 2008 420 JR, Date of Delivery: 21/12/2009, Judgment by: McKechnie J.

² A Nationwide Review of Pay-By-Use (PBU) Domestic Waste Collection Charges in Ireland: Extensive Survey Findings (2005-WRM-MS-33) Interim Report Prepared for the Environmental Protection Agency by Department of Geography, School of Natural Sciences, Trinity College, Dublin Authors: Abigail O’Callaghan-Platt and Anna Davies (Environmental RTDI Programme 2000–2006)

waste collection in Ireland compare favourably in an International context and once again the CCPC chose to ignore that evidence.

- **Natural Monopoly** – The CCPC report claims in Section 5.5 that *“The economies of scale and density which are prevalent in household waste collection markets mean that, at some local level, the market for household waste collection, which displays characteristics similar to other network and transport markets (such as economies of scale and density) is a natural monopoly.”*

The CCPC relied on a textbook³ as evidence for this assertion. In the High Court case between Panda and Dublin City Council in 2008 (referenced above), one of the authors of that textbook, economist Dr. Francis O’Toole, made the case for Dublin City Council that kerbside household waste collection is a Natural Monopoly. The judgement sided against Dr. O’Toole’s evidence in Section 119, as follows:

“I was also not impressed by the report of Dr. O’Toole. His assertions were of a hypothetical nature and of little application, in many situations, to this case. I found it extraordinary that he did not consider it necessary to define the potential number of markets within the Dublin region; such I would have thought would have been a prerequisite to determining if the Dublin region was a natural local monopoly, and if so to what extent. In this regard I would note that the general nature of his report may not be wholly his fault; he may have worked with what he was given. However, in circumstances where the burden is on the respondents to show that the Variation is objectively justified under s. 4(5) CA 2002, I would have expected far more empirical evidence showing that notwithstanding what potential forbearance with regards to the Variation’s effect on competition, it was in fact, when the figures were considered, both pro-competitive and to the benefit of consumers. No such evidence was presented in this case.

In contrast the report of Dr. Jenkins contains figures obtained from Panda which at least attempt an empirical analysis of minimum efficient scales and the effects of changes in both scale and density on costs, as well as evidence of pricing in the local authority areas. I am left in no doubt but that the market is capable of supporting multiple operators in competition with each other, and that this is not a situation where a monopoly is either required or to be preferred.”

The IWMA submission to the CCPC Consultation provided reference and quotes from that High Court Case, including the above quote, so the CCPC was aware of the judgement and of Dr. Jenkins report that the Judge found to be more credible than Dr. O’Toole’s evidence, yet the CCPC selectively ignored Dr. Jenkins report and ignored the judgement in favour of Dr. O’Toole’s evidence.

- **Highly Concentrated Market** – The report recognises that there are currently 62 companies collecting kerbside household waste in Ireland. That suggests an average of about 20,000 customers per collector. This is very low by international standards, so we do not agree with the CCPC claim in this regard.

Further concentration of the market is likely in the future and should lead to greater efficiencies. The CCPC suggest that the market is a Natural Monopoly and the local authority areas are an appropriate size for tendering. However, there are approximately 30 local

³ Turley G. Maloney M. & O’Toole F., “Principles of Economics - An Irish Textbook” (2006).

authority areas in Ireland, so tendering those areas would immediately remove more than half the collectors from the market. Given that larger companies would undoubtedly win more than one tender, the number of players would reduce even further making the market a lot more concentrated than the existing situation. So if a highly concentrated market is seen by the CCPC as a negative trait, then the existing free market structure is positive in this context.

- **Barriers to Entry & The current market structure benefits incumbents** – The CCPC claims that the existing market structure favours incumbents and imposes barriers to entry. However, a new company can lease a single truck, seek access to a waste transfer station and start with a few hundred customers in the current market. This has happened several times in recent years in Ireland. This would be impossible in countries that competitively tender the waste collection market and that point was not considered in the CCPC report.
- **Atypical Market** - The CCPC claim that it has not identified any specific characteristic of the Irish market that require Ireland's market structure model to be different from other EU States. However, in other EU States, the municipalities generally control the infrastructure where the collected waste is delivered. That allows a simple tendering process based around collection of waste and delivering it to a facility or facilities. The situation in Ireland is much more complex whereby the collection companies control much of the infrastructure and other private companies control the rest. The CCPC is aware of that fact but the report did not consider the importance of that fact in their argument.

There are also significant synergies with household and commercial waste collections in Ireland, particularly outside the main cities. Many household waste collection routes in towns and villages around Ireland incorporate commercial waste collections. If household waste collections were tendered, these synergies would be lost. In that scenario, there would be potential for the company that wins a tender to have a dominant position in certain towns and villages, as other collectors cannot justify continued commercial collections in these towns and villages after the synergies with household collections are lost.

- **Operator numbers are falling and are likely to continue to do so** – Operator numbers fell during the 2012 to 2016 period as standards were raised with the additional requirements imposed by new Waste Management (Collection Permit)(Amendment) Regulations introduced in 2015 and 2016. The new regulations required major investment in weighing equipment, back office systems, installation of RFID chips in bins, interactive websites, etc. etc. It was not commercially viable for some smaller collectors to make these investments, so they sold their business to larger operators. As a result, we have less operators but much higher standards amongst those that operate in the household kerbside waste collection market.

As mentioned above, an average of one collector per 20,000 households is low by international standards and further consolidation may well occur, but we do not consider that this is a negative feature of the market. There are efficiency gains from consolidation that can result in better prices and a better service for customers.

- **The current market structure is impacting the State's ability to implement environmental policy** – In support of this claim, the CCPC report states that *"The mandatory provision of a dedicated bin for organic waste has been a legislative requirement since 2007"* and goes on

to state that *“The CCPC has estimated that by 2016, 50% of all households with a scheduled service had an organic bin”*.

The 2007 waste collection permit regulations gave the power to local authorities to include conditions in waste collection permits that required the provision of brown bins, it was not a mandatory legislative requirement on all collectors relating to all households. The 2013 European Union (Household Food Waste and Bio-Waste) Regulations required collectors to provide a brown bin service in obligated urban areas, but did not insist on the delivery of brown bins to all houses in those obligated areas. The requirement for the direct delivery of brown bins was introduced in a 2015 amendment to those regulations.

Even now, only households in agglomerations of 500 people or more are required to be provided with brown bins, so the suggestion that waste collectors are only 50% of the way towards a requirement that has been there since 2007 is incorrect. In actual fact, waste collectors in 2016 were about 75% compliant with a legislative requirement that was only introduced in 2015. We believe that approximately 700,000 houses currently have brown bins, out of a total obligated number of c.800,000 (two thirds of the market). Whilst we acknowledge that the brown bin roll-out is incomplete, it must also be acknowledged that many householders do not want a brown bin and there are obligations on both collectors and householders in the regulations.

The CCPC is also critical of the delays in removing flat fees, but ignores its own evidence in the form of market research that shows that the majority of households prefer flat fees. The CCPC generally favours consumer choice and so do the waste collectors, but when that choice conflicts with Government policy, it is unfair to put all the blame on waste collectors. The Government and the public also have a role to play in these circumstances.

The CCPC also fails to consider the political failure that occurred when the Government, with the support of the waste industry, tried to introduce mandatory ‘Pay By Weight’ charging in 2016. This resulted in a 12 month voluntary price freeze for the waste collectors, with no negative impact on the Government.

The waste collectors were then instrumental in the development of an incentivised charging system that was introduced over a 12 month period from September 2017 to September 2018. The CCPC report gives no credit to the waste industry for that initiative and the 100% compliance that was noted in the Price Monitoring Group reports. In fact, the CCPC appeared to completely ignore the findings of the Price Monitoring Group as they have proven that the market price is competitive and is working well for consumers.

The third reason presented by the CCPC in support of this claim is that *“the weight limits applied by individual operators may be so high as to not achieve the intended policy objective, which is to incentivise customers to stream their waste.”* Whilst it is recognised that this could happen, the CCPC did not provide evidence that it is happening. There is no real incentive for companies to behave in this way, as customers that overload bins or that produce excessive quantities of waste are not profitable for collectors.

We examined the latest data (August 2018) produced by the Price Monitoring Group to check for such behaviour. A total of 47 price plans are included in the report. The weight allowance on the residual waste on the fair usage policies (service fee plus excess weight charge) varies from 40kg to 86kg per month. We are satisfied that this provides an incentive in each case, although some plans clearly offer more incentive than others.

It was agreed that the 'one size fits all' approach did not work with the pay by weight plan in 2016, but there is still scope for the existing authorities to enforce greater incentivised charging upon those that have the highest excess weight limits. The establishment of an economic regulator is not needed to enforce that requirement.

- **The regulatory regime is fragmented and incomplete** – The waste sector is highly regulated. All waste collectors must have a valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). Collection permits issued to kerbside household waste collectors typically contain more than 100 conditions relating to all aspects of orderly and environmentally sound waste collection. Historically, the waste collection regulatory regime was somewhat fragmented as each local authority issued waste collection permits individually, but the current National system is consistent across the country clearly is not fragmented.

Waste facilities are regulated by local authority permits or by EPA licences, depending on their nature and scale. There is a degree of fragmentation with this system and the IWMA has consistently called for greater consistency in that regard. We believe that such consistency can be achieved by a structural change or by continued engagement between EPA and local authority personnel. In recent years, there has been improved co-ordination between the various authorities since the establishment of the Network for Ireland's Environmental Compliance and Enforcement (NIECE) and the Waste Enforcement Regional Lead Authorities (WERLAs).

We consider that there needs to be a reallocation of resources to tackle serious criminal gangs that operate on the margins of waste management in Ireland. The IWMA is calling for the establishment of a fully resourced Environmental Crime Unit with armed detectives that can tackle armed criminals that are burning and burying waste. The establishment of an economic regulator would have no bearing on this situation.

- **A sector-specific complaints procedure is not in place to resolve consumer issues** – This is true and could be resolved by an Ombudsman rather than a Regulator. The ombudsman could be attached to the National waste Collection Permit Office and the issuing of future permits could be influenced by the findings of the ombudsman.

All waste collectors must have a customer charter and that charter must contain a section on complaints procedures that is fair and equitable. The IWMA would have no issue with the establishment of an ombudsman to address complaints that cannot be resolved between the company and the customer.

- **Most households do not, or cannot, influence operator behaviour** – In countries that use local authority monopolies or competitive tendering for kerbside household waste collection, there is even less possibility for the householder to influence the operator's behaviour as they cannot change their service provider, which is the best and simplest option for any dis-satisfied customer.

The CCPC report recognised that the majority of customers are satisfied with their service and the report should have pointed to the fact that side-by-side competition offers the best opportunity for householders to influence operator behaviour. The report focussed on the

18% of people that have no choice of provider, but ignores the 82% that do have a choice. In other countries that 82% figure drops to 0%.

- **No service available to many households** – The CCPC report is selective in a negative way in reporting that 23% of households do not have a waste collection service, based on CSO & NWCPO data and not referring to the Market Research provided in an Appendix of the report that suggests that 86% of homes indicate that they have an individual scheduled waste collection service. Some of these have communal services, some are on bag or tag collections and are not registered as customers to any collector, so they may be missed in the CSO/NWCPO data. Interestingly, the 1995 National Waste Report states on page 21 *“it is estimated that only 86% of the population is provided with a waste collection service”*. This was at a time when local authorities were the main collectors of household waste in Ireland, so privatisation has not impacted negatively on this situation. In fact, before private companies began collecting waste in rural areas in the 1970s and 1980s, a much greater percentage of the population had no waste collection service.

The heading is also incorrect. Many householders have access to waste collection services, but refuse to avail of one. Section 4.8 of the report correctly describes this as ‘a non-participation rate’. This is quite evident in the data presented in the report, where Figure 5 shows that only 80-85% of households in Dublin City participate in waste collection services. There is clearly 100% availability of such services in Dublin. The issue identified as a problem in the conclusions section is clearly inconsistent with the actual findings of the report.

Given the fact that the issue is one of ‘householder participation’ rather than ‘service availability’, the suggestion by the CCPC to introduce competitive tendering in certain areas is not an appropriate response. By contrast, the local authorities are addressing this issue by introducing bye-laws that require all householders to avail of a kerbside waste collection service or to otherwise explain how they manage their waste in an environmentally sound manner. The IWMA supports that approach and our members will assist the local authorities, where possible, in enforcement of those bye-laws.

In conclusion, we argue that none of the issues raised in the CCPC report provide adequate evidence that an economic regulator is currently required. The fundamental issues that would require resolution by an economic regulator are high prices and poor service and the evidence presented in the CCPC Report does not point to either of these issues.

In fact, we expect that the establishment of an economic regulator would add costs to the waste sector and would inevitably result in higher costs to the consumer. A regulator would need a large budget in order to implement the sort of changes to the existing household waste collection market that are proposed in the CCPC report and we would expect that budget to be covered by a levy on all households that avail of a waste collection service.

We would support the establishment of an Ombudsman to manage complaints and dispute resolution. We also support the continued work of the Price Monitoring Group, to give confidence to the public that all pricing structures incentivise waste prevention and source segregation. Their work has been very helpful in the last 12 months in terms of public and political confidence and that system is undoubtedly very cost effective compared with the establishment of an Economic Regulator for household waste collection.

The serious challenges for the waste sector are the achievement of future EU targets for waste prevention and recycling and enhanced enforcement of existing regulations. This extends beyond

household waste in both cases. The IWMA is committed to promoting and encouraging actions by all the relevant stakeholders to make progress in those areas. The functions of an economic regulator for household waste collection would not extend to many of these areas, so we suggest that the current needs lie elsewhere.

Prepared by: Conor Walsh, IWMA Secretary, in consultation with IWMA members.

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