

Waste Context, Policy Alignment, and Capacity Considerations

Another key aspect of policy relevant to Indaver’s proposed Ringaskiddy development is that relating to waste. Waste is intrinsically bound to that third key policy aspect: circularity. Both are an indivisible part of climate policy.

In the Programme for Government and the Climate Act, 2021, Ireland committed to halving our emissions by 2030 and reaching net zero by 2050 at the latest, placing climate action at the heart of all Government plans and policies over the next decade and beyond. The Programme for Government also recognises that the transition to a circular economy is a crucial part of the solution to tackle climate change.

Government of Ireland, 2022¹⁴

Ireland is legally bound by both European and national policy to prioritise waste prevention, reuse, recycling. Policies supporting a circular economy have been published only in the last decade but the waste hierarchy, that cornerstone of all waste management, was first introduced into European legislation in 1975⁷. At that time, Ireland’s waste “management” was dominated by the hole in the ground. In truth, if we get the waste hierarchy right, circularity and sustainability simply follow naturally.

When it was passed in 2022, the Circular Economy Act¹³ was hailed as a landmark commitment to move Ireland from a linear model of resource use to a more circular pattern of production and consumption. While the legislation was welcome, it not unfair to say that there had been two decades of commitments in waste policy to this kind of circularity and two decades prior to that again in European waste legislation.

With our focus on economic indicators as a measure of national success, the shift from take-make-waste is not a move Ireland has made willingly. Policy-makers are still vulnerable to the dazzle of promises of easy solutions to stubborn problems. Our national move to outsourcing management of waste from the public to the private sector has commoditised waste production. Whilst it might have looked like the answer to the hopelessness of the public sector’s hole-in-the-ground era, the practical reality is that every tonne of waste now has a monetary value. The continued production of waste is essential to a sector that has built an entire infrastructure around handling it.

It is more than vital – it is critical – that when policymakers and planning authorities are enabling Ireland’s future waste management infrastructure, they look towards the new rake of legislation around circularity and the lessons learned by some of our European brethren who are at least two decades further advanced than us in the management of waste. Locking Ireland into more privately-run residual waste infrastructure at this point is a commitment to three decades of linearity. It might be the dazzling promise; it is not the right thing to do.

2.1 Waste in Ireland: reality, trends and obligations

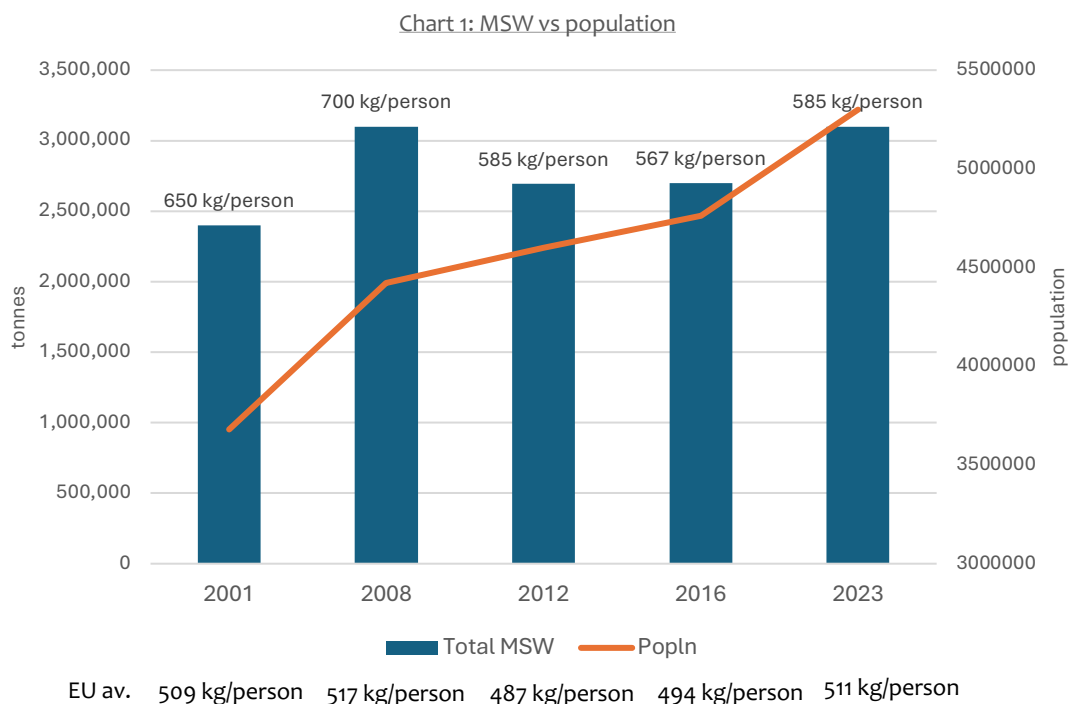
The Coimisiún will be entirely familiar with Ireland’s commitments to:

- Reducing waste production
- Encouraging reuse and repair
- Achieving a rate of 55% recycling in the Municipal Solid Waste (MSW) stream by 2025
- Achieving a rate of 65% recycling in that same stream by 2030 and 65% by 2035
- Achieving a packaging waste recycling target of 65% by 2025 and 70% by 2030
- Achieving a special rate of recycling for plastic packaging waste of 50% by 2025 and 55% by 2030
- Reducing food waste by 10% in manufacturing/processing and 30% per capita in retail, food services, and households by 2030, compared to 2021-2023 levels
- Sending less than 10% of waste to landfill by 2035.

The national waste stream comprises household, commercial, industrial and other wastes (including sludges, street sweepings, etc.) and in turn, each of those can be broken down into hazardous and non-hazardous categories. However, most of the targeted focus is on non-hazardous MSW, generally being considered to be a combination of household and commercial waste. A reference to MSW hereafter is a reference to non-hazardous MSW.

The EPA provides regular comprehensive updates on progress towards those commitments⁵. I will not rehash them here but rather pick out key highlights that are relevant to the purpose of this submission.

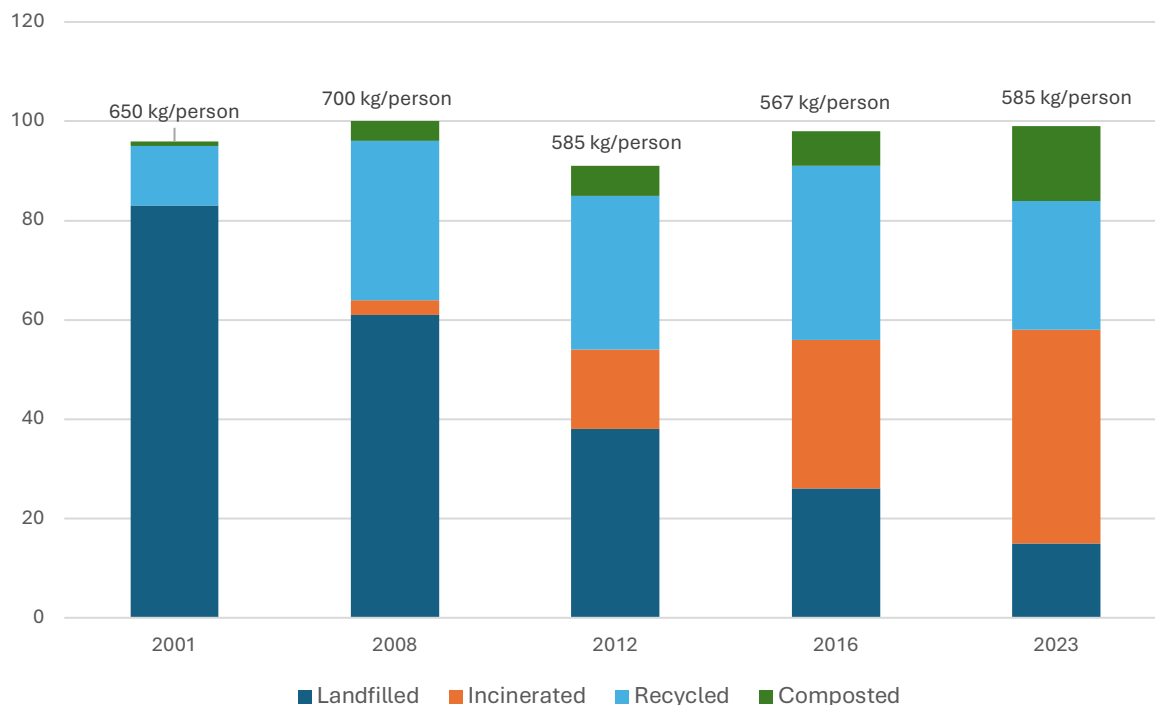
When the Indaver project was first proposed for Ringaskiddy, MSW arisings in Ireland were, on the face of it, lower than they are now. But so was the population. So the more instructive metric to understanding how effectively we are managing our resources is waste production per person. As shown in Chart 1 below, in the past few years, Ireland appears to have somewhat decoupled MSW arisings from economic growth. This is a tentative but positive trend. What is less positive however is how out of line our waste production per person is relative to the European average⁶.



Around 2001, Ireland was in the first flush of attempting to move from the hole-in-the-ground era. Landfills already in use were being piped for gas recovery; landfills not yet built were being designed to standards of lining and gas capture never seen before. We were making our first foray into targeted recycling. Recovery of materials for recycling was increasingly successful until about 2016 when rates became stagnant at around 41%.

As the volumes of waste to landfill fell, volumes to incineration increased. Indaver established Ireland’s first non-hazardous incinerator in Carranstown, Co. Meath; the 2012 column in Chart 2 below reflects the entry of waste-to-energy into the Irish waste management repertoire. As the Poolbeg waste-to-energy plant did not open for business until 2017, this is first represented in the 2023 column. In general, it is clear that as waste to landfill has decreased, waste to incineration has increased. Most recent statistics from the EPA are that 43% of MSW is burned whilst 15% of MSW is buried.

Chart 2: MSW management trends

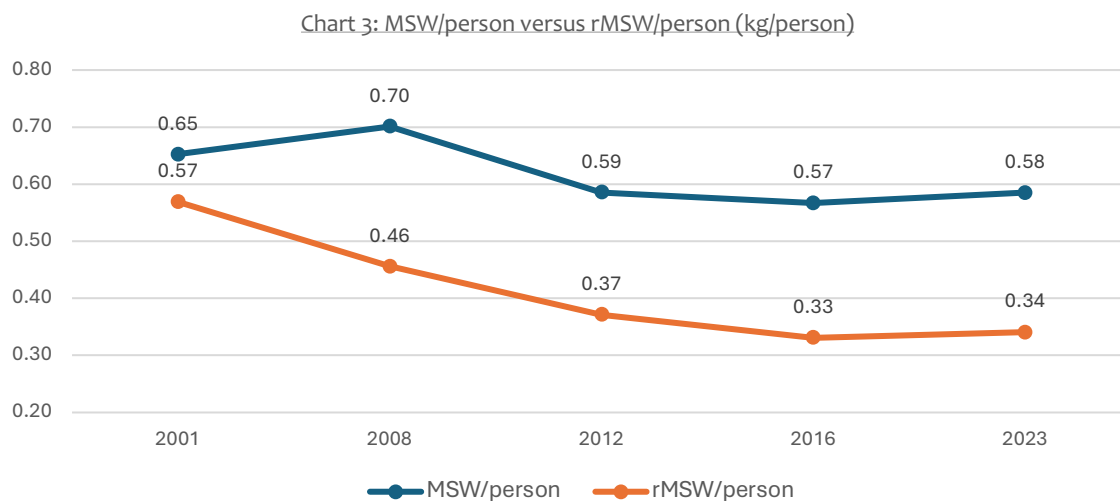


Some of the relevant key milestones impacting the metrics above were the introduction of bring banks (2001), the introduction of pay-by-weight (2005), the introduction of kerbside recycling (2007+), separation of food waste for commercial premises (2009) and the introduction of the kerbside brown bin (2016+). As capture of quality materials began, the infrastructure to support recycling grew. The peak of MSW/person in 2007 is a reflection of the strength of the economy at that time. Its fall in 2012 mirrors the subsequent collapse.

The final key metric to understanding overall trends and aims is the rMSW measure. rMSW is the residual waste that remains after recoverable resources have been removed from the general waste stream. In tonnage terms, it is a combination of the waste sent to burying and burning. Once waste is either burned or buried, nothing further beneficial can come from it; hence the term “residual”. Because energy can be recovered from burning waste, it is elevated above burying on

the waste hierarchy. However the Law of Conservation of Mass means burning will always need burying, albeit in lesser volumes. So the obvious aim in a circular economy is to minimise that which is either burned or buried.

Chart 3 shows that at the end of the hole-in-the-ground era, our MSW/person and rMSW/person were much the same. Few valuable materials were extracted from the waste stream. As efforts in recycling kicked in, the two metrics began to diverge and, since 2012, have been largely parallel.



To work towards circularity, a concept which is wholly in line with the 40-year old waste hierarchy, these two lines (MSWpp and rMSWpp) need to slowly come back down, with the rMSW line trending downward faster. Those two metrics capture our primary resource use, our secondary resource recovery and our wasted residuals.

The Circular Economy is about looking at our ‘throwaway’ economy and recognising that there is a better way, that it is possible to break the cycle of wasteful resource extraction, unsustainable consumption, and unnecessary disposal. Environmental degradation must not be the inevitable consequence of economic growth.

Government of Ireland, 2022¹⁴

Unfortunately the stagnation evidenced in recycling in Chart 2 means that Ireland has not achieved the 50% recycling rate mandated for 2020. Remaining stubbornly at 40-42%, we will likely struggle to meet the mandated target for 2025 of 55%. When figures are published for 2025 (they typically lag two years behind), it will be interesting to see the magnitude of the new Deposit Return scheme on the aluminium and PET (plastic) streams.

It is a somewhat embarrassing statistic that Ireland uses more packaging than any other country in the EU (223 kg/person versus 177.81 kg/person in 2023). We also uses more plastic packaging than any other country in the EU (66.53 kg/person versus 35.25 kg/person). More embarrassingly still, work carried out on behalf of the Irish Waste Management Association indicates that our rate of capture of that plastic from the MSW stream is one of the lowest¹⁷. They also found that our captures of organic waste are especially poor whilst our captures of paper and card are high.

In fact to describe our recycling rate has having “stagnated” is not really accurate. Looking once again at Chart 2, one can see that while the capture of organics increased between 2016 and 2023, materials capture actually dropped from 35% to 25%⁶. This is disconcerting during a period when the public seemed to be increasingly aware of the benefits of recycling.

Note that the Poolbeg waste-to-energy plant came on stream in 2017. There may be no connection between that and the drop in materials recycling over the same period but it is fair to remark on the introduction of what is a very large addition of burn capacity into the Irish waste management system.

2.2 Exports of Irish MSW

Headlines about Ireland’s export of waste never fail to shock:

Ireland sent over one million tonnes of waste abroad in 2022 because it lacked the capacity to treat it here, and the amount of waste generated each year in the country has grown by over 20% in the last decade ... Furthermore, the EPA highlighted that Ireland has an “over-reliance” on other countries to treat its waste with 38% of all municipal waste exported for treatment abroad in 2022.

Irish Examiner, 16/12/2024

Similarly the National Waste Management Plan²⁴:

EPA waste statistics for 2021 show that circa 400,000 tonnes of rMSW were exported for final treatment indicating that the shortfall in treatment capacity is being managed through exports. Relying on this level of export is neither sustainable nor complies with the principles of self-sufficiency and proximity and the analysis suggests the need for further treatment capacity within the State.

Analysis of Transfrontier Shipment data shows a fuller picture. Ireland generated some 15.3 million tonnes of non-hazardous waste in 2023. Of that, just over 600,000 tonnes was exported with waste status. Note this is the entire waste stream: household, commercial and industrial. That represents just 4% of total arisings.

Of non-hazardous waste exported, approximately two thirds, i.e. 400,000 tonnes, was from MSW-derived sources. It is this to which the National Waste Management Plan²⁴ refers. In 2023, 4,200 tonnes (or 1%) was exported under the MSW code (EWC 20), suggesting that this may have been unprocessed waste. The rest was exported as processed residuals such as Refuse Derived Fuel (RDF), Solid Recovered Fuel (SRF) and similar under the EWC 19 code. There is a significant market demand for both RDF and SRF¹⁹.

The headline 1.2 million tonnes comprised this 400,000 tonnes plus 800,000 tonnes of clean, recovered materials. They too were exported into the European market as secondary materials²⁰. One cannot see secondary materials in TFS data because they are not classified as a waste.

“We need to be honest about the current reality that the waste management sector, including plastic recycling, operates in a global market and that a large part of the plastic recycling collected, including under the deposit return scheme, is traded internationally, based on volume and quality and on economic viability.”

Deputy Alan Dillon, 2025¹

In fact, if our rMSW/person is to decrease – as we should rightly aim to do – then our volume of materials exports will likely increase rather than decrease. As long as we are exporting good quality, clean, recaptured secondary materials, this is a good thing. The reality is that even if Ireland created domestic reprocessing capacity for recyclables (difficult to do for many streams because we are a small country), materials will always seek the most favourable markets whether at home or abroad.

That same consideration applies to the MSW-derived wastes logged in the TFS data sheets. Production of SRF is not a bad thing. It is a fuel of high calorific value and can substitute for fossil fuels in industry where consistency is needed and heat demand is high. RDF is a lesser grade fuel source and is generally used in incinerators. Many of the incinerators on the European mainland have excess capacity and are hungry for RDF⁸. However one does have to be careful with RDF. Whilst making SRF is a deliberate choice, RDF can sometimes be the consequence of a poorly performing upstream sorting system. In such situations, materials that would potentially be recoverable for recycling get lost into the residual stream. So whilst making RDF is definitely better than burying or burning black bag waste, improving upstream materials quality and capture is preferable from a circular economy point of view.

Evidence of significant RDF production and the IWMA’s aforementioned study¹⁷ both point to the nub of the issue in Ireland. The key to unlocking our recycling/materials recovery rate sits upstream in the waste flow, not downstream. This means that the true shortfall is not thermal treatment capacity but rather collection, sorting capacity and capture of recyclables.

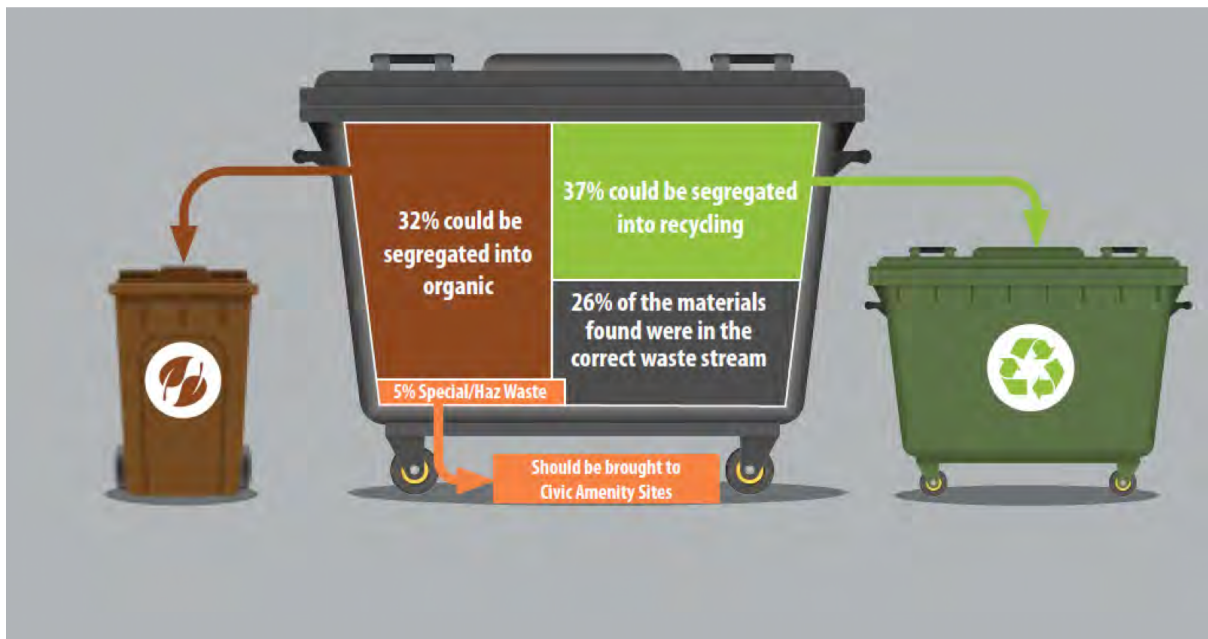
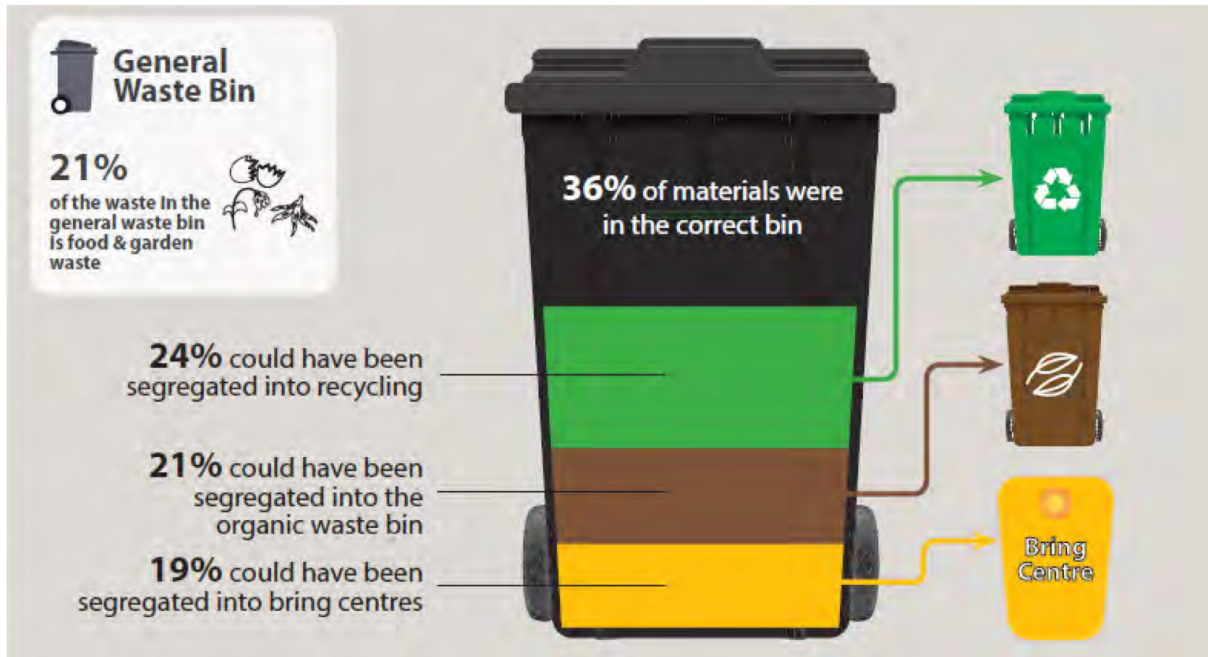
1.3 Systemic upstream issues: the root of the problem

Contamination of bins is a problem, with recent EPA figures indicating that 20% of the material in household recycling bins should not be there, and 70% of the material in general waste bins from the commercial sector should be in recycling or organic bins.

Government of Ireland, 2020¹¹

In fact, a waste characterisation study carried out by the EPA in 2022 found that the combined problem of contamination and poor sorting are even worse than thought in 2020³, graphically illustrated overleaf. Consequently National Target 2 of the National Waste Management Plan²⁴ is to improve material compliance in both the recycling bin and the residual waste bin.

Ireland’s household and commercial separation performance is constrained by a lack of understanding and “ownership” on the part of the householder and/or business, inconsistent messaging from private waste collectors, lack of feedback to households on contamination, weak behavioural incentives and minimal enforcement of proper segregation.



Contamination/incorrect sorting in the residual household bin and the residual commercial bin
 (Source: EPA, 2023³)

My own domestic situation provides a very practical example. Our household of seven avails of kerbside collection. We have a three-bin system: general, recycling and glass. Each bin has a 240 litre capacity. We compost our organic residuals in two home composting bins and although I have been offered same, I do not want a brown bin. However there is no reduction in the charge I pay even though I take responsibility for the treatment and reuse of our biowaste stream. We continually aim to reduce our volume of residuals, typically producing a black bag each week. If I were to exchange our 240 litre residuals bin for a bin of half that capacity, we would not get a reduction in price for our efforts towards minimisation. The consequence of such poor reward for effort has been that I have several times filled the empty space in our black bin with garden waste

(which typically we would take to the local civic amenity site). Other than the ethics being entirely wrong, why would I not when I have already paid for the service? On these occasions, I have never experienced a reprimand for having put woody material in my residual bin.

The National Waste Management Plan²⁴ specifically highlights education and communication as being critical in a successful shift towards a circular economy:

Create better understanding, through polls, surveys and research and then influence and encourage informed behavioural improvements in business and households through Local Authority and external networks and coordinated multi-agency awareness campaigns, including mywaste.ie, to prevent waste and manage resources to increase the value and circular potential of materials.

The reality is though, language such as this rarely engages the ordinary householder, the mywaste.ie portal is poorly advertised and singularly ineffective at encouraging “ownership” of the waste stream whilst radio and other broadcasts relating to waste simply sound patronising.

Policy as set out in the National Waste Management Plan does recognise the priority of upstream infrastructure: “*The development or enhancement of existing or new infrastructure or initiatives will be subject to the application of the waste hierarchy*”. Surprisingly, however, it does not speak strongly about the benefits of better sorting capacity enabling recovery of a greater number of materials with higher quality, nor does it have definitive targets towards improving this upstream infrastructure. The need for same is telling: the Plan²⁴ details that whilst Ireland has 6.2 million tonnes of sorting capacity, we have only 650,000 tonnes of MRF capacity:

The standard of pre-treatment facilities ranges from basic transfer stations to basic functional processing (such as compaction) to sophisticated mechanical processing involving multiple steps to optimise separation and deliver quality outputs ...

Advanced processing operations that produce higher quality materials are preferred and help to achieve higher rates of recycling. The quality outputs from these operations attract higher market prices ...

Material Recovery Facilities (MRF) are sophisticated mechanical processing facilities essential to the efficient sorting of co-mingled recyclables collected through kerbside and other collection systems. These MRFs are classed as pre-treatment.

The need for pre-treatment/upstream capacity to better handle waste streams was strongly highlighted by the IWMA¹⁶:

- *It is clear from the evidence presented ... that the National Waste Management Plan should support the development of new waste transfer and pre-treatment capacity throughout Ireland and particularly in Cork and Dublin. The evidence suggests that existing capacity is reaching critical levels, particularly in Cork and Dublin and will not cope with future waste management needs without the development of further capacity.*
- *The evidence presented in this report shows that the existing transfer and pre-treatment waste infrastructure in Ireland was heavily utilised in 2019 (>75%), with a significant increase in utilisation rates from 2018 to 2019.*

- *Some partial analysis of 2021, suggests that the utilisation rates had increased further by that year and there is concern that some areas, such as Cork and Dublin, are at (or very close to) saturation point.*
- *We recommend that the new National Waste Management Plan (NWMP) encourages the provision of additional transfer and pre-treatment waste management capacity and new infrastructure across Ireland in general and in Cork and Dublin in particular.*
- *The evidence presented in this report also shows that MRF capacity in Ireland is at (or very close to) saturation point in most of the country.*
- *There is some scope to increase capacity within a couple of existing large facilities that handle a wider range of materials (e.g. Barna, Mulleadys), but the location of these facilities is not suitable for serving the east and south of the country where spare capacity is very low.*
- *We recommend that the new NWMP encourages the provision of additional MRF capacity and new infrastructure across Ireland.*

The circular economy is all about recovering quality materials. Comprehensive investment in this kind of upstream infrastructure is therefore critical. Without it, our waste will continually slip down the waste hierarchy towards burn and bury, producing excess residual fractions that have only one destination.

1.4 Impact of additional thermal capacity on materials recirculation

We have two contract incinerators in Ireland. When it was built, the Poolbeg facility was licensed to burn 600,000 tpa of waste. It has since applied for and successfully achieved an increase in permitted tonnage to 690,000 tpa². When the Indaver facility in Carranstown was built, it was licensed to burn 180,000 tpa. The permitted capacity has incrementally increased with its most recently revised licence (issued September 2025) licensing a throughput of 250,000 tpa⁴.

Ireland also has four cement kilns licensed to accept processed waste as alternative fuel. These indicate that collectively they will have capacity for 400,000 tpa into the future.

Therefore total burn capacity in Ireland at present is 1.34m tonnes.

Trifol Resources opened a new pyrolysis plant in Q1 of this year. It accepts sorted plastics rather than black bag waste so although it is correctly described as a thermal process in the National Waste Management Plan²⁴, it actually responds to the clean materials stream.

Waste travels in both directions between Northern Ireland and the Republic of Ireland. A proposal for a large new waste-to-energy plant near Belfast is currently nearing the end of the planning process. Called Arc21, the project comprises a Mechanical Biological Treatment (MBT) building and a 220,000 tpa incinerator (with energy recovery). TFS data for 2023 indicate that 63,000 tonnes of

waste came south to either Carranstown or Poolbeg for burning, 95% of which had codes indicating MSW origin. The provision of an additional 220,000 tonnes of burn capacity in Northern Ireland would potentially have a significant impact.

Whilst Ireland was still in the hole-in-the-ground era, other countries in Europe relied on the burn approach to manage their waste. A case in point is Denmark, whose landmark Copenhagen facility with the ski slope on the roof made headlines in 2017. With 23 incinerators, Denmark is one of Europe's top burners. The sector is a major contributor to the Danish energy system: in 2020, it covered 24% of the total heat input to the country's district heating network and 4.3% of its electricity supply. But Denmark has made efforts to reduce waste production. As a consequence, it has massive incinerator overcapacity and has had to import waste – nearly 1m tonnes in 2018 – to keep the incinerators fed. Although initially prohibited, even the exalted Copenhagen facility now burns both imports and biomass. Rather than continue to burn plastic-laden feedstock with CO₂ consequences, Denmark has now taken a decision to restructure the country's waste management system entirely, reducing incineration capacity by 30% over the coming decade and closing seven plants. It will refocus on introducing a recycling system with 10 different streams^{22,23}.

“There is no reason to settle for a technology when [the recycling you] have is already better. So if you don't have incineration plants today, you should start with recycling.”

Mr. Jens Hjul-Nielsen, Director of BOFA (Denmark)²²

Research undertaken in Norway recognises the importance of comprehensive upstream infrastructure whilst avoiding the provision of too much burn capacity. Overcapacity can lock a waste management system into expensive, hungry infrastructure whilst undermining efforts towards reduction and recycling:

Bans on landfilling are effective, but not likely to lead to increased recycling rates if there is no functional recycling infrastructure to utilize or scale up, and existing or future incineration capacity can induce infrastructure lock-in effects. Incentives should not support material destruction.

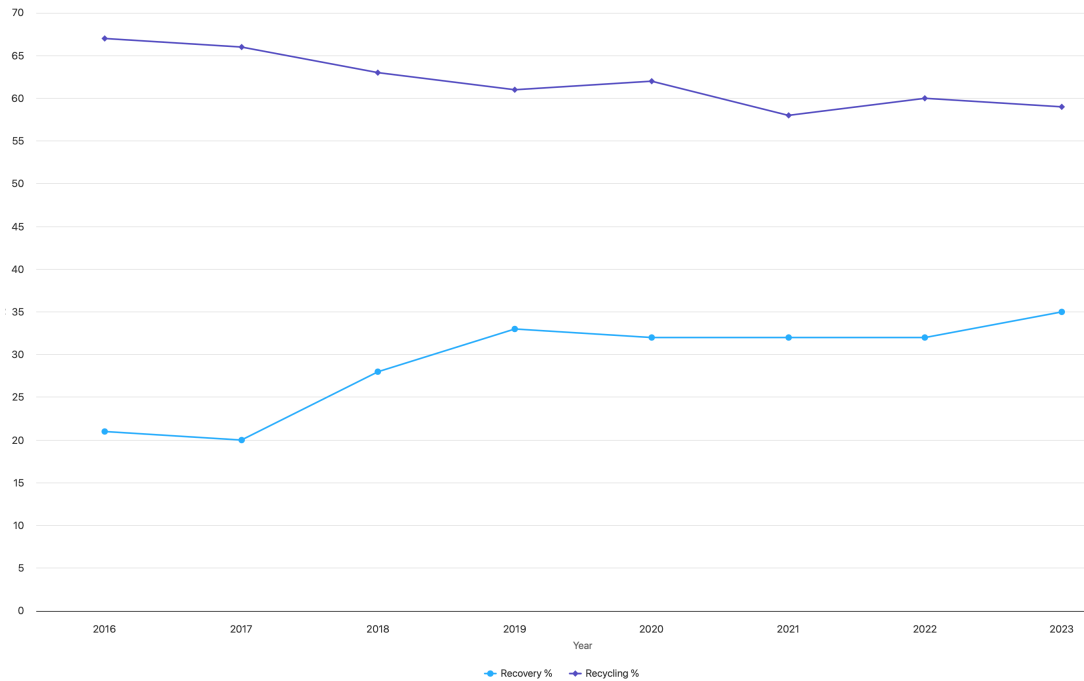
Mattson et al., 2024¹⁸

The National Waste Management Plan holds poor sorting on the part of the householder/commercial operator at least partly responsible for the burning of recyclable material:

“Of the packaging waste managed, 32% was sent for energy recovery at either thermal treatment facilities or cement kilns. The increase in thermal treatment of packaging waste, up from 18% in 2013, is due to the amount of packaging being misplaced in residual bins and the lower quality of packaging materials placed on the market.”

It is of course worth remembering that Ireland had only 180,000 tonnes of burn capacity in 2013 relative to 1.3m tonnes of capacity now! Change takes effort and burning is easy. The EPA⁵ seems to have a greater understanding: “Further incentivisation is needed to ensure materials are recycled rather than recovered to drive recycling rates towards statutory targets.” It points to a comparison between packaging waste recycling rate and recovery rate since 2016, commenting that:

“The recycling rate tends to decrease while the recovery rate tends to increase. The tonnes sent for recovery increased by over 23,000t and the tonnes sent for recycling decreased by over 25,000t between 2023 and 2022. This trend needs to be reversed for Ireland to meet its EU recycling targets.”



The Finnish experience parallels. With their incineration plants at 90% capacity and recycling at 42%, they added three more incinerators. Recycling dropped to 37%.

“The incineration of wastes conflicts with targets of circular economy such as reduction, reuse or recirculation of materials. Reaching recirculation targets would decrease the amounts of materials such as plastics in mixed waste and decrease both amount and heating value of the incinerated waste.

Nordic Council of Ministers, 2024²¹

1.5 Impact of additional thermal capacity on export

The continued reliance on export of rMSW for treatment is unsustainable and there is a need for additional indigenous treatment infrastructure to meet current demand without compromising this Plan’s objectives on waste prevention, material reuse/repair and the next generation of recycling targets consistent with proximity and self-sufficiency principles .

Support the provision of 200,000 to 300,000 tonnes of additional dedicated thermal recovery capacity for the treatment of non-hazardous residual wastes nationally, to ensure there is adequate active thermal treatment capacity.

National Waste Management Plan, 2024²⁴

Which is more “unsustainable”? The export of 384,000 tonnes of waste-derived fuel (i.e. representing 12% of total MSW arisings) or the provision of more incineration than we need?

Ireland currently has thermal capacity of 1.34m tonnes. Assuming the CSO’s 2030 high population growth scenario with no reduction in MSW/person at all (i.e. maintaining current waste production of 580 kg/person) whilst implementing the EU mandated recycling rate of 60%, Ireland’s current thermal capacity is sufficient for our rMSW needs. This is set out in Scenario 1 below.

Two further scenarios for 2030 are illustrated, both with the highest population growth predicted by the CSO.

- In Scenario 2, MSW/person is the EU average. (Ireland is currently above the EU average). Achieving waste reduction per person to match the EU average with a recycling rate of 55% (i.e. below the recycling rate mandated for 2030), current thermal capacity would be sufficient.
- Scenario 3 shows Ireland meeting the two EU mandated targets of halving rMSW/person by 2030 with 60% recycling. Should we meet these mandated targets, installed thermal capacity is excessive.

| | Scenario 1 | Scenario 2 | Scenario 3 |
|-----------------------------|------------|------------|------------|
| Population (m) | 5.8 | 5.8 | 5.8 |
| MSW/person (kg) | 580 | 511 | 425 |
| Recycling rate (%) | 60% | 55 | 60 |
| Gap in thermal capacity (t) | 0 | 0 | -354,000 |

There are additional considerations of a) existing facilities increasing their licensed thermal capacity as they have done to date and b) realisation of the Arc21 project. Even should neither come to pass, the above tabular data illustrates what Ireland is mandated to work towards in terms of materials recirculation. **Provision of more burn capacity than we have at present will thwart rather than support this aim.**

Specifically, by 2030 Ireland’s ambition is to significantly improve its circular material use rate (in both absolute terms and in comparison with other EU Member States) so that our national rate is above the EU average by the end of this decade.

Government of Ireland (2020) (REF)

The European incineration market currently has overcapacity. The most recent assessments indicate that European burn capacity may have increased from 60 million tonnes in 2020 to 220 million tonnes today²⁹. As discussed above, many countries have woven incineration into the fabric of energy provision, a critical contributor to district heating systems for decades. In this mode, energy production from incinerators is at its most efficient.

Finland is again an interesting case in point. According to the latest reports, during 2020-2021, Finnish incinerators were burning only 40% of permitted capacity. After 2021, partly due to available capacity and partly due to the cessation of wood imports from Russia, the Finns took an active decision to import waste-based fuels²¹. In the past two years, a new waste reception centre

has been constructed at Kilpilahti²⁷. Several Finnish plants are using a range of carbon capture techniques to recover CO₂ from flue gases¹⁰.

Finland is not the only country to be aware of the hefty carbon impact of incineration. Carbon emissions from burning waste is increasingly a grave concern. Empirical data shows that for each tonne of waste incinerated, approximately 1.11 tonne of CO₂ is released²⁹. For every kilogram of plastic burned, 2.3–2.9 kg of CO₂ is released²⁵. A recent study undertaken in the UK found that power generated by British incinerators was more carbon-intensive than electricity from natural gas and second only to coal²⁸. Some countries like Denmark have imposed hefty taxes on incineration for years to reflect its CO₂ burden. Their €75/tonne tax puts Ireland’s lauded “recovery levy” of €10/tonne in perspective.

The EU Emissions Trading System (EU ETS) is a market-based CO₂ reduction mechanism which incentivises companies to reduce greenhouse gas emissions. It covers all the larger industrial emitters in the EU, including power stations, but to date, waste incineration has not been included. However the Commission is now considering expansion of the EU ETS, potentially to include incineration. Should it do so, waste companies will have to purchase emission credits for each tonne of CO₂ they emit.

Some Member States including Germany, Sweden and the Netherlands, already apply ETS to incineration. But in countries such as Ireland, inclusion of incineration in the EU ETS will result in massively higher disposal costs per tonne. The (intentional) benefit is to force circular alternatives, including improved sorting and processing of materials streams. This will in turn reduce incinerator feedstock.

Monitoring of CO₂ emissions became mandatory for larger incinerators at the beginning of 2024. In Q3/4 of 2026, the Commission will publish both its review of the ETS Directive⁹ and a report and legislative proposal on the possible inclusion of waste incineration plant in the EU ETS by 2028.

So which is more sustainable? To build a new domestic incinerator producing electricity only (with the associated carbon burden of construction) or to export a fraction of processed rMSW to existing plants (embedded carbon) interwoven into a long-established system of heat provision with excess capacity and a demand for waste?

It is in this context appropriate and timely to recall in entirety the Communication of the European Commission in respect of the role of incineration in a circular economy⁸. I have added emphasis where it is most relevant to the considerations above.

Public funding should also avoid creating overcapacity for non-recyclable waste treatment such as incinerators. In this respect it should be borne in mind that mixed waste as a feedstock for waste-to-energy processes is expected to fall as a result of separate collection obligations and more ambitious EU recycling targets. For these reasons, Member States are advised to gradually phase-out public support for the recovery of energy from mixed waste.

When reviewing national waste management plans and assessing the need for additional waste-to-energy capacity for the treatment of non-recyclable waste (e.g. incineration), **Member States should take a long-term perspective and carefully assess** the following factors:

- **the impact of existing and proposed separate collection obligations and recycling targets on the availability of feedstock** to sustain the operation of new incineration plants over their lifespan (20 -30 years);
- the available capacity for co-incineration in combustion plants and in cement and lime kilns or in other suitable industrial processes; and
- **planned or existing capacity in neighbouring countries.**

In justified cases, the cross-border shipments of waste could help to make optimal use of the waste-to-energy capacity already available in a number of Member States. **Exporting non-recyclable waste for energy recovery to another Member State should not necessarily be seen as contradicting the so-called principle of proximity** (i.e. using the nearest appropriate facility) that underpins EU waste legislation. However, before opting for such approach **competent authorities in the Member States should carry out a life-cycle analysis to ensure that the overall environmental impacts, including those related to the transport of waste, do not offset the sought benefits.**

We await that life-cycle analysis.

1.6. Summary of Waste Context, Policy Alignment, and Capacity Considerations

Through a range of legislative instruments and policy documents, Ireland has committed to the circular economy concept: maximising resource assets, re-capturing them for reuse, thereby minimising carbon emissions and (finally) implementing the waste hierarchy:

While the move away from disposal and increased use of recovery has helped Ireland in realising our EU targets, we need to drive on and move up the waste hierarchy with reducing reliance on recovery over the medium term.

Government of Ireland (2020)¹¹

But we have much work to do in the world of waste. Ireland's waste production per capita is higher than the European average. Our use of packaging is the highest in Europe. Our use of plastic in packaging is higher again. A shift from burying to burning in the last decade has helped, at least theoretically, in climbing one rung of the waste hierarchy ladder. But with a stagnating MSW recycling rate, missed 2020 recycling targets and a general trajectory towards missing 2025 and 2030 targets, it is clear that business as usual is no longer good enough.

Building additional incineration capacity at this point will lock these failures in for the long term.

Ireland has systemic upstream issues in waste prevention, separation, and sorting. Introducing new incineration capacity before fixing communication and separation issues will undermine participation and send contradictory signals to the public. Providing yet more burn capacity at this

stage will disincentivise the upstream infrastructure that is critically needed to improve materials capture.

A core principle of EU circular economy policy is that capacity expansion for incineration must not undermine higher tiers of the hierarchy.

In addition:

- exporting recyclable material is normal
- exporting processed MSW as fuel is normal
- Europe has spare, more efficient incineration capacity that Ireland can use during its transition
- the embodied carbon of a new installation cannot be justified when high quality existing facilities elsewhere can meet short-term needs.

To lock in additional thermal capacity for another 30+ years by permitting the proposed Ringaskiddy facility is, at very best, premature in advance of:

1. Meeting or even approaching meeting mandated targets for recycling and a reduction in rMSW/person
2. Application of the waste hierarchy as required by Targeted Policy 11.1 of the National Waste Management Plan*
3. Investment in critical upstream communication, improved collection and significant investment in enhanced sorting facilities, including follow through on Key Deliverables 10, 11, 12, 16, 33, 34, 35, 36 and 37 of the National Waste Management Plan
4. Clarity on the outcome of the Arc21 planning application
5. Clarification of the revision of the EU's ETS which may affect have a significant impact on availability of incinerator feedstock
6. A life-cycle analysis of the overall environmental impacts of the proposed Ringaskiddy facility as compared to the interim use of more efficient spare capacity in existing facilities in Europe.

The Circular Economy is not just about better waste management or less plastic pollution or better recycling rates. The Circular Economy is about looking at our 'throwaway' economy and recognising that there is a better way, that it is possible to break the cycle of wasteful resource extraction, unsustainable consumption, and unnecessary disposal. Environmental degradation must not be the inevitable consequence of economic growth.

Government of Ireland, 2022¹⁴

* Targeted policy 11.1: The development or enhancement of existing or new infrastructure or initiatives will be subject to the application of the waste hierarchy and the waste facility siting guidance for all new infrastructure (with this guidance to be embedded in Local Authority Development Plans).

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