

Briefing: COVID-19 and UK Waste Sector

Potential Impacts



EXECUTIVE SUMMARY

- ◆ This Briefing Report considers the potential impact of COVID-19 on the UK waste sector, with a particular focus on Residual Waste in England. It assesses both the immediate short term effect of the Government’s actions to slow down the spread of the virus and the potential medium to long term impact of a general economic slow down. This report, prepared during the week of 23rd March, is subject to ongoing update as the emerging situation develops.
- ◆ Whilst Government restrictions effectively “lock down” all but essential services, as reported, there will be a “*very significant reduction*” in tonnages of Residual C&I Waste. Based on current restrictions **the fall in Residual C&I Waste in the immediate short term is estimated to be just under 50%**.
- ◆ However these restrictions will inevitably lead to increases in Household Waste. For example it is calculated that number of meals eaten at home could rise by just under a quarter. Together with potentially modest rises in online shopping and an increased focus on activities such as DIY, gardening and decluttering, the **total tonnage of Household Waste generated is modelled to increase by around 13%**. This in turn will impact on tonnages of Residual Household Waste.
- ◆ However local authority waste management services are already starting to be affected by COVID-19. Almost all HWRCs have closed, whilst a number of local authorities are reporting that employee absences are impacting their ability to collect some waste streams – particularly dry recyclables, bulky waste and garden waste – and that service changes will be made.
- ◆ **Local authorities’ ability to sustain recycling services will be key to determining the level of Residual Waste generated during the outbreak.** If on average 85% of Household Waste recycling services are retained – then overall Residual Waste tonnages are projected to fall by 10.5% for the duration of current restrictions.
- ◆ Early indications are that this seems optimistic. If, for example, only 35% of recycling services continue, then the increase in Residual Household Waste could be sufficient as to offset the drop in Residual C&I Waste such that the total tonnage of Residual Waste could rise to levels just above those seen immediately prior to the outbreak of COVID-19.

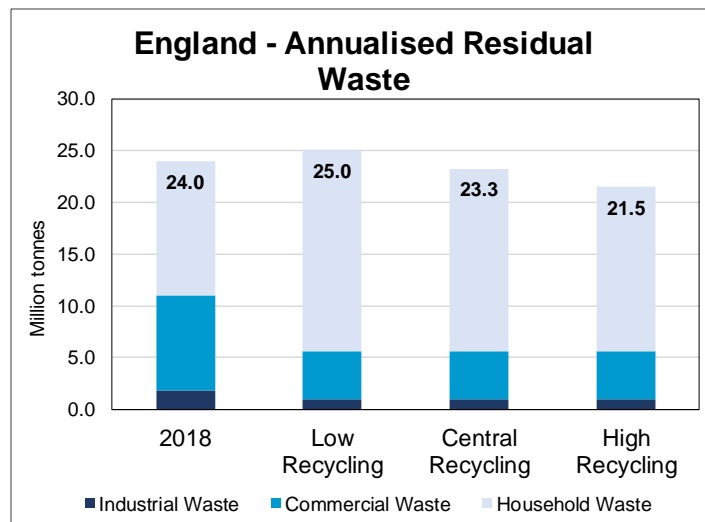


Figure E1: Annualised Impact of COVID-19 on Residual Waste in England

- ◆ Assuming that there are sufficient staff available to ensure 60% of recyclables are collected and Residual Waste collections continue as normal, modelling suggests that **there would be a modest 3-4% decline in Residual Waste tonnages in England whilst current Government restrictions are in place.**
- ◆ In practice the impact of COVID-19 will develop over time and Government restrictions are likely to progressively reduce – although there is always the possibility of restrictions being re-introduced if the virus breaks out again. Such scenarios have not been modelled in this Briefing Report.
- ◆ The Briefing Report pulls together three scenarios for Residual Waste in England for the period to the end of 2021. In the scenario in which COVID-19 has the greatest impact on Residual Waste tonnages, in the short term tonnages rise (consistent with the scenario in which 35% of recycling services are maintained) and then fall furthest due to the projected impact of a post-COVID recession on the C&I Waste sector. The variations under other two scenarios are less pronounced.

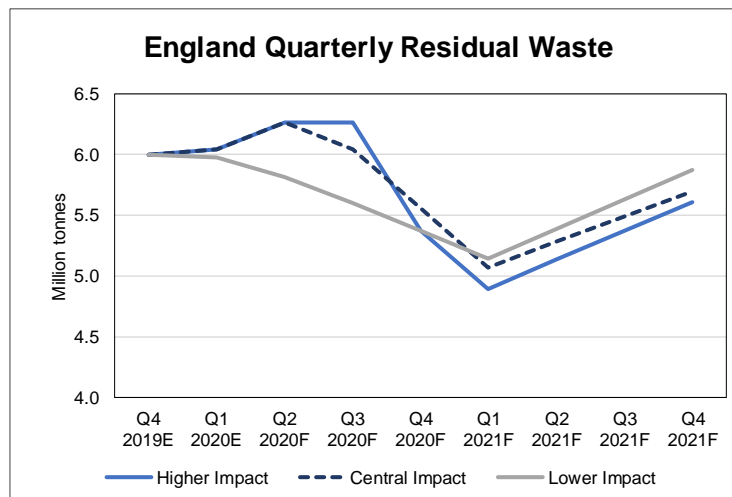


Figure E2: Projected Quarterly Residual Waste Source: Tolvik analysis

- ◆ Overall initial modelling suggests that, by the end of 2021, as a result in the impact on the economy and specifically C&I Waste, Residual Waste tonnages in England will be between 0.5Mtpa (2.2%) and 1.6Mtpa (6.5%) lower than in 2019. As expert GDP projections for the period post COVID-19 develop, so this analysis will require updating.

BACKGROUND

Given the rate at which our way of living in the UK has changed in recent weeks, it is with some trepidation that, in response to requests from a number of clients, we have prepared this initial Briefing Report on the potential impacts of the COVID-19 pandemic on the UK waste sector.

It is still very early days in the development of the COV-19 virus. In the coming months the impact of the virus, and the UK Government's response to it, is likely to evolve. As a result we plan to review this Briefing Report from time to time and update it as necessary.

The Briefing Report splits into three specific elements:

- ◆ An analysis of the **short term impact** of the Government's actions to slow down the spread of the virus, with a particular emphasis on the effects on Residual Waste in England. This section of the report develops an assumed baseline which reflects the impact, on an annualised basis, of current restrictions. Based on current information it seems unlikely that any further Government restrictions would have a material impact on this analysis;
- ◆ Using this analysis, an assessment of the **potential quarter-by-quarter** evolution of the market in the period to the end of 2021;
- ◆ Using third party GDP projections, a **preliminary assessment of the potential medium to long term economic impacts** of the virus on the UK Residual Waste market.

This Briefing Report draws on a range of sources – from early evidence from those countries in which the virus is more developed, horizon scanning from other publications, conversations with the industry and our own numerical analysis. In a rapidly developing market it can represent a “snapshot” in time and will no doubt change.

The availability of data means that this Briefing Report is focussed on England but the analysis is generally applicable to the UK as a whole.

We would very much welcome comments and feedback which we will then use to inform any subsequent updates of the report.

As previously in our reports, Residual Waste is defined as non-hazardous, solid, combustible mixed waste which remains after recycling activities and is capable of being processed alongside Residual Household Waste.

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NB tables may not total due to roundings.

1. PROJECTING THE COVID-19 BASELINE

1.1. Waste Generation

Government advice has had an immediate impact on patterns of waste generation across the UK. This has manifested itself through a mix of a shock to demand through households' reduced willingness and ability of to spend and a general shock to supply of key resources to the sector as a result of staff availability and other supply chain disruptions.

According to the recently released UK Statistics on Waste⁽¹⁾, the tonnage of Household Waste generated in England was 22.0 Million tonnes ("Mt"), whilst the total tonnage of Commercial and Industrial ("C&I") Waste was estimated to be 37.2Mt. Figure 1 also provides Tolvik's estimate of the tonnages of Residual Waste in 2018 based on its own analysis of a range of data sources. These figures are the starting point for the analysis in this report.

England, 2018 Mt	Arisings	Residual Waste
Industrial Waste	10.1	1.8
Commercial Waste	27.1	9.3
Household Waste	23.0	13.0
Total	60.2	24.0

Figure 1: Total Waste Arisings – England – 2018 Source: UK Statistics on Waste, Tolvik

1.2. Industrial Waste

The impact of COVID-19 on the manufacturing sector (and hence Industrial Waste production) is expected to be mixed. Whilst the Government is particularly keen to ensure that the food and pharmaceutical sectors continue to operate (but with potentially fewer product lines to provide greater underlying resilience), difficulties in sourcing materials and components, the impact of social distancing and increasing absence through sickness have led to a significant number of larger manufacturing companies (including all UK car manufacturers) to cease operations. It is likely that there will be further closures in coming weeks.

As Figure 1 shows that only a relatively small proportion of Industrial Waste is managed and treated alongside Household Waste and Commercial Waste as Residual Waste. As most recycling of Industrial Waste is at source, it has been assumed in this report that recycling activities at industrial sites will not change as a result of the virus – although anecdotally for some food manufacturers are so focussed on increased production that recycling activities are already much reduced.

SIC Sector, Mt	SIC	% of Residual Waste	2018 Residual Waste	COVID-19 Impact	Revised Residual Waste
Food & Beverage	C10-C12	30.0%	0.5	90%	0.5
Chemical & Pharmaceutical	C20-C22	29.9%	0.5	50%	0.3
Metal Product Fabrication etc	C24-C25	20.0%	0.4	25%	0.1
Computing, Electronic, Cars	C26-C30	10.0%	0.2	25%	0.0
Paper & Card Products etc	C17-C18	10.0%	0.2	50%	0.1
Other	-	0.1%	0.0	25%	0.0
Total		100.0%	1.8		1.0

Figure 2: Residual Industrial Waste Source: UK Statistics on Waste, Tolvik

Figure 2 shows the breakdown in Residual Waste generated by industry by SIC code.

The two industrial sectors which are expected, as a matter of necessity, to be most resilient to the COVID-19 outbreak are Food & Beverage and the Chemical & Pharmaceutical sectors. These generate the greatest tonnages of Residual Waste and in modelling the impact of current restrictions it has been conservatively assumed that, at its lowest, production activity for each will be down to 90% and 50% respectively when compared with 2018 levels.

For other sectors, at its lowest activity has been assumed to reduce to 25% of 2018 levels – save for Paper & Card Products where a 50% reduction has been assumed on 2018 levels on the basis that this sector will be needed to support ongoing materials supply in certain sectors, but not all.

The net effect, on an annualised basis, means that, at its lowest it is estimated that there would be a reduction in Residual Waste tonnages from the Industrial sector by 46% to 1.0Mt.

1.3. Commercial Waste

A recent report from WRAP⁽²⁾ analysed the composition of municipal waste in England in 2017. This looked at both Household Waste and municipal Commercial Waste. The total tonnage of Residual Waste in the WRAP report, of 25.1Mt, is very similar to the estimate in Figure 1 – but uses slightly different definitions to those used in this Briefing Report. As a result this Briefing Report uses the composition percentages (rather than tonnage) data in the WRAP report.

There are two ways in which the impact of COVID-19 on Commercial Waste tonnages can be considered – by activity generating the waste or through an analysis of the composition.

It has been assumed that Commercial Waste recycling rates will not change as a result of COVID-19.

1.3.1. By Activity

Tolvik’s long standing methodology in assessing Commercial Waste generation has been based on employment data by sector and so the assessment of the effect of COVID-19 on Commercial Waste is also driven by employment data. For those sectors generating the greatest tonnage of Residual Waste, this analysis has been on the basis of detailed ONS employment data by SIC code.

SIC Sector, Mt	% of Residual Waste	2018 Residual Waste	COVID-19 Impact	Revised Residual Waste
Wholesale/Retail	22.3%	2.1	59%	1.2
Health & Social Care	18.4%	1.7	107%	1.8
Professional/Scientific/Technical	13.1%	1.2	26%	0.3
Education	13.0%	1.2	15%	0.2
Food, Tourism and Hospitality	10.7%	1.0	0%	0.0
Logistics	7.2%	0.7	100%	0.7
Public/Defence	5.7%	0.5	25%	0.1
Admin	2.7%	0.2	25%	0.1
Property	2.5%	0.2	25%	0.1
IT/Communications	1.3%	0.1	100%	0.1
Finance	1.0%	0.1	25%	0.0
Arts	0.7%	0.1	0%	0.0
Other	1.3%	0.1	50%	0.1
Total	100.0%	9.3		4.7

Figure 3: Residual Commercial Waste Source: Tolvik

At its lowest, using this methodology, as shown in Figure 3, on an annualised basis, tonnages of Residual Commercial Waste are estimated to fall by just under 50% to 4.7Mt.

1.3.2. By Composition

An alternative approach considers the composition of Residual Commercial Waste and, using professional judgement with respect to the more detailed composition analysis contained within the WRAP report, considers how composition is expected to be impacted as a result of changes in activity levels during the COVID-19 outbreak.

This approach, calculated independently to that in Section 1.3.1, generates a similar result with a projected Residual Commercial Waste total, on an annualised basis, of 4.5Mt.

Composition, Mt	% of Residual Waste	2018 Residual Waste	COVID-19 Impact	Revised Residual Waste
Food Waste	25%	2.3	10%	0.2
Garden & other organic	2%	0.2	0%	0.0
Paper & Card	30%	2.8	56%	1.6
Glass	2%	0.2	25%	0.1
Metals	4%	0.4	52%	0.2
Plastic	19%	1.8	78%	1.4
Textiles	3%	0.3	61%	0.2
WEEE	1%	0.1	50%	0.0
Wood	3%	0.3	55%	0.2
Miscellaneous	10%	0.9	67%	0.6
Total	100%	9.3		4.5

Figure 4: Residual Commercial Waste Source: Tolvik based on WRAP adjusted

1.4. Household Waste

1.4.1. Waste Generation

Waste type, Mt	2018 Arisings	2018 Residual Waste	Recycling Rate
Food Waste	4.2	3.8	10%
Dry Recyclables – Paper, card, metal etc	10.0	5.2	48%
Garden Waste - Kerbside	3.2	1.1	67%
HWRCs	4.2	1.7	59%
Other Generally Residual	1.4	1.2	11%
Total	23.0	13.0	44%

Figure 5: Household Waste Arisings Source: Tolvik based on WRAP adjusted

Figure 5 is based on WRAP data shows the composition split for the 23.0Mt of Household Waste arisings in England using some reasonably broadly defined categories. These are intended to be indicative - the uncertainty around various assumptions used in this Briefing Report means that a detailed analysis is unnecessary.

The effective closure of schools, significant increases in working from home and with almost all meals eaten at home, there is little doubt that Household Waste tonnages will rise as a result of COVID-19.

To consider the impact of COVID-19 it is therefore necessary to consider each of the component elements of the Household Waste stream.

According to Food Standards Agency data from 2014⁽³⁾, around 18% of meals in the UK were eaten away from the home. More recently it has been reported in the press that these meals account for one quarter of all calories consumed. Given that the level of eating out has risen consistently in recent years, this Briefing Report assumes that in 2019 20% of all food was consumed outside the home.

With the closure of all hospitality venues, this food will be eaten in the home. Assuming the same level of waste as that generated by home current food preparation and consumption, modelling suggests that a 25% increase in Food Waste in the Household Waste stream is likely. This is the equivalent, on an annualised basis, to an additional 1.1Mt of Food Waste.

A corresponding increase in the associated packaging waste – glass, tins and plastics etc has been assumed – estimated to be the equivalent of a further 0.9Mt of waste.

Meanwhile the Chartered Institute of Logistics and Transport has suggested that online retail sales could double from current circa 20% in the UK to 40%. This could lead to a modest increase in cardboard and packaging entering UK homes. However reductions in wider consumer purchasing habits as a result of financial uncertainty are likely to lead to reductions in other wastes generated and so the net effect is assumed to be zero.

With time spent in the house, anecdotal evidence suggests that there will be an increased in DIY, general decluttering and gardening. Estimating the effects of these on total Household Waste arisings is difficult but a figure of a 10% increase has been nominally assumed for garden waste and waste which would typically be taken to a Household Waste Recycling Centre (“HWRC”) for disposal. The consequential impact of HWRC closures is discussed in further detail below.

The net effect is a potential increase of around 12.6% in Household Waste arisings in England from 23.0Mt to 26.0Mt.

Waste type, Mt	2018 Arisings (Figure 5)	COVID-19 Impacts			Revised Arisings
		Additional Food	Shopping Trends	Declutter, DIY & Garden	
Food Waste	4.2	1.1			5.3
Dry Recyclables – Paper, card, metal etc	10.0	0.9	0.1	0.1	11.2
Garden Waste - Kerbside	4.1			0.4	4.5
Other Generally Residual	0.5		(0.1)	0.1	0.5
Kerbside Total	18.9	2.0	0.0	0.6	21.5
HWRCs	4.2			0.4	4.6
TOTAL	23.0	2.0	0.0	1.0	26.0

Figure 6: Potential Impact of COVID-19 on Household Waste Arisings Source: Tolvik

1.4.2. Waste Collection

However, whilst COVID-19 persists, a two critical factors for the sector will be :

- ◆ the **capacity to collect** Household Waste tonnages in the light of staff illness and absence as a result of self-isolation. In such cases local authorities and their contractors will need to prioritise Household Waste collection – with the focus likely to be on Residual Waste and, to a less extent and where applicable, food waste. This means that for the duration of the COVID-19 pandemic collections of dry recyclables

and, where provided, bulky waste are likely be restricted from time to time as they are dependent on staff availability;

- ◆ the **capacity to process and store** separately collected dry recyclables. Sorting recyclables at the kerbside can be labour intensive (and so subject to risk of employee absence) whilst operations at a Materials Recycling Facility (“MRF”) may require staff to work closely alongside each other potentially in breach of Government guidelines. Furthermore any protracted impact on the recyclable supply chain will result in insufficient capacity to store recyclables and to maintain quality thresholds.

There have already been reports of green waste collections being stopped (or not going to restart for the summer) and on 24 March Chilton District Council announced that recycling collections would be stopped as a result of driver and loader shortages. Other local authorities are already offering a reduced frequency service for the collection of dry recyclables – although those local authorities with extensive commercial waste collections could redeploy staff to collect recyclables and others hire in commercial waste operators to support their collection capability.

As COVID-19 develops there will be further disruption to waste collection services. Whilst residents may store recyclables for a 2 week (or maximum 4 week) cycle, it is likely that in time that where recycling collections are interrupted a significant portion of recyclables will end up in the Residual Waste stream.

A further challenge is the closure, since the Government announcement on 23rd March, of almost all HWRCs in England. In 2018/19 it is estimated that total Household Waste inputs to these sites was around 4.2Mtpa – about 17.5% of all Household Waste. For smaller items, residents are likely to present the waste at the kerbside alongside general Household Waste. However this will not be possible for larger items needing to be disposed.

Restricted access to HWRCs will mean that an increasing tonnage of Garden Waste is likely to be home composted or burnt on bonfires, whilst some householders are likely to store waste until HWRC sites re-open. Nevertheless there is a very real risk of increased fly tipping and in some parts of the country where kerbside collection is reduced there may be a need to re-open HWRCs – even if it is just to accept a very limited range of materials. The Briefing Report assumes that, on an annualised basis the equivalent of around 10% (0.5Mtpa) of HWRC Residual Waste would either appear in kerbside collected tonnages or at partially re-opened HWRC sites.

The key determinant on the total tonnage of Household Residual Waste will be local authorities’ ability to maintain recycling services. Government modelling early in the pandemic suggested that up to 20% of the workforce could be off work at any one time at the peak of COVID-19. This is significant increase in the historic reported absence rate of 4-5% for the industry as a whole. Given the priority to maintain Residual Waste collection services as normal, an overall 20% staff absence could readily result in a shortfall in staff available recycling collections of 40%.

Faced with such staff non-availability levels it is unlikely that a local authority (or its contractor) would be unable to maintain a full recycling service unless it has access to an extensive pool of suitably trained temporary labour.

Three scenarios have therefore been developed:

- ◆ **High Recycling** – local authorities in total maintain 85% of dry recyclable and food waste collections;
- ◆ **Central Recycling** – local authorities in total maintain 60% of dry recyclable and food waste collections;

- ◆ **Low Recycling** – local authorities in total maintain 35% of dry recyclable and food waste collections.

In each case the analysis assumes Residual Waste collection is unaltered and that garden waste collections are reduced to half the level of the other two recyclable streams.

Waste Type, Mt	Revised Arisings (Figure 6)	2018 Recycling	Recycled - pre COVID-19 Impact	Reduced Recycling - COVID-19 Impact	Recycled – post COVID-19 Impact	Revised Kerbside Residual
Food Waste	5.3	10%	0.5	6%	0.3	5.0
Dry Recyclables	11.2	48%	5.4	26%	3.5	7.7
Garden Kerbside	3.6	67%	2.4	18%	0.8	2.8
Other Generally Residual	1.4	11%	0.2	0%	0.0	1.4
Kerbside Total	21.5	39%	8.5		4.6	16.8

Mt	Revised Arisings (Figure 6)	Recycling - COVID-19 Impact	HWRC Residual	HWRC Home Compost	HWRC not Presented	HWRC Residual to Kerbside
HWRC Tonnages	4.6	0%	4.6	0.7	3.4	0.5
Total	26.0					17.3

Figure 7: Potential Impact of COVID-19 on Residual Household Waste – Central (60%) Recycling Source: Tolvik

The net effect is that, in the Central Recycling scenario, on an annualised basis the tonnage of Household Residual Waste is modelled to increase by 4.3Mtpa when compared with 2018.

1.5. Overall Annualised Impact – Household, Commercial and Industrial

It is therefore possible to estimate the annualised baseline impact of COVID-19 on Residual Waste in England under the three different scenarios for the collection of Household Waste recyclables. It must be stressed that the projections are extremely unlikely to apply for a whole year – rather the analysis forms the basis of the quarterly projections in Section 2.

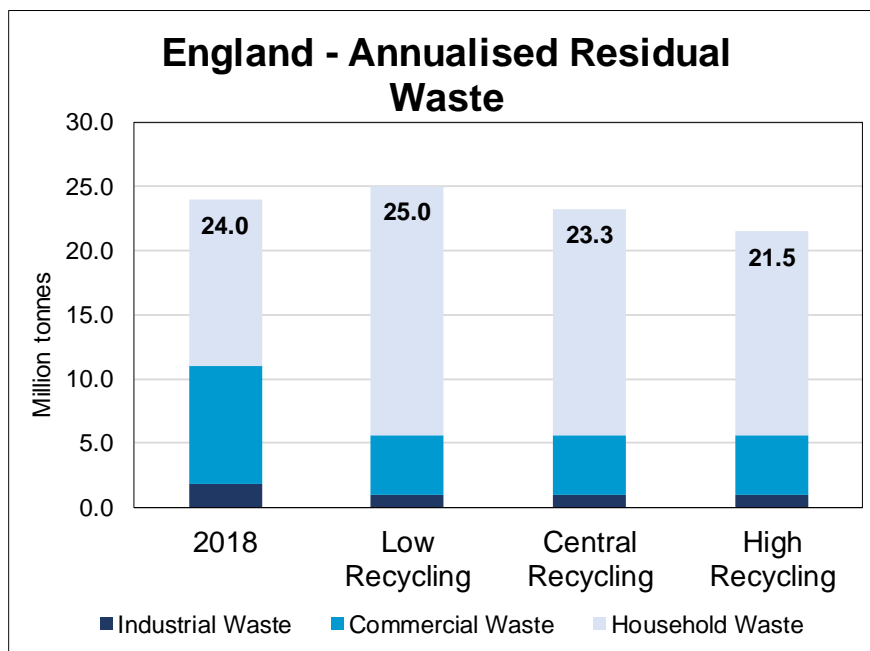


Figure 8: Annualised Impact of COVID-19 on Residual Waste in England Source: Tolvik

England, Mt	2018	COVID-19 Residual		
		Low (35%) Household Recycling	Central (60%) Household Recycling	High (85%) Household Recycling
Industrial Waste	1.8	1.0	1.0	1.0
Commercial Waste	9.3	4.7	4.7	4.7
Household Waste	13.0	19.4	17.7	15.9
Total Residual Waste	24.0	25.0	23.3	21.5

Figure 9: Annualised Impact of COVID-19 on Residual Waste in England Source: Tolvik

1.6. Regional Considerations

The analysis in Section 1 applies to England as a whole. Clearly the circumstances in each region will vary and will be dependent on a number of specific local factors including:

- ◆ **The impact of COVID-19 restrictions on the local economy** – e.g. the impact on Residual Waste streams is likely to be greater in the vicinity of those large manufacturers which have ceased operations;
- ◆ **The level of commercial activity**; COVID-19 will have a greater impact on Residual Waste tonnages in those markets (e.g. London) where Commercial Waste tonnages are a proportionately more significant element of the Residual Waste stream;
- ◆ **Distribution of COVID-19**; in those areas where the effects of COVID-19 on staff availability are less significant, the disruption in Household Waste recycling collection may be lower.

Such detail is beyond the scope of this Briefing Report.

2. QUARTERLY PROJECTIONS

2.1. Approach

Unless, as seems extremely unlikely, that the current restrictions are in place for a whole year, the projections in Section 1 will not apply for a full 12 months.

This Briefing Report therefore considers the potential impact of COVID-19 on Residual Waste in England on a quarter-by-quarter basis under three scenarios. In each case it is assumed that, as seems likely, current restrictions or something similar, remain in place for the second quarter of 2020 (“Q2 2020”) and that there are ongoing impacts of some kind at least until Q3 2020 and probably through to the latter part of Q4 2020. For simplicity, the analysis excludes the usual modest seasonal variations in Residual Waste and instead focusses on the COVID-19 impacts.

The three scenarios which have been developed are:

- ◆ **Higher Impact** - in which the disruption to the collection of Household Waste recyclables is at its greatest for the longest period and the longer term impact of COVID-19 (see Section 3) on tonnages of Residual C&I Waste is at its greatest;
- ◆ **Central Impact** - a scenario between High and Low impact;
- ◆ **Lower Impact** - in which the disruption to the collection of Household Waste recyclables is at its least for the shortest period and the longer term impact of COVID-19 (see Section 3) on tonnages of Residual C&I Waste is at its least.

2.2. Residual Waste Projections

Figure 10 shows the projected quarterly tonnage of Residual Waste in England under the three scenarios, with the greatest volatility under the Higher Impact scenario. In this scenario, disruptions to the collection of Household Waste recyclables result in the most significant and sustained increase in Residual Waste. Thereafter tonnages fall rapidly as recycling collections are re-introduced but the C&I Waste market is slowest to move towards something nearing normality. Taken over 2020 as a whole, in this scenario total Residual Waste tonnages are only modestly below estimated 2019 levels.

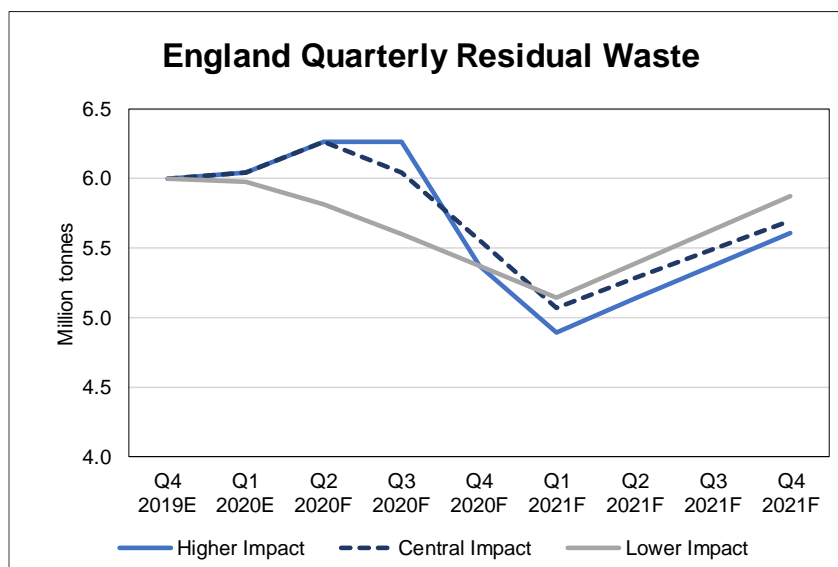


Figure 10: Projected Quarterly Residual Waste Source: Tolvik analysis

Scenario, Mt	Q4 2019E	Q2 2020F	Q4 2020F	Q2 2021F	Q4 2021F
Higher Impact	6.00	6.26	5.37	5.13	5.61
Central Impact	6.00	6.26	5.56	5.28	5.70
Lower Impact	6.00	5.82	5.37	5.39	5.87

Figure 11: Projected Quarterly Residual Waste Source: Tolvik analysis

In the Lower Impact scenario, where recycling is less disrupted the effects of the recession are felt sooner and Residual Waste tonnages in 2020 fall by just over 5% when compared with 2019.

The modelling suggests that overall, by the end of 2021, as a result of the expected post COVID-19 recession, Residual Waste tonnages in England will be between 0.5Mtpa and 1.6Mtpa lower than in estimated for 2019.

2.3. Observation

In January 2020, largely as a result of the new tax in the Netherlands, RDF exports from the England were just 60% of the average seen in January in the previous two years.

If this trend were to continue, then RDF exports from England in 2020 would fall by around 1.0Mtpa when compared with 2019. Clearly, therefore, in terms of the tonnage of Residual Waste available for treatment in England, the changing pattern of RDF exports has the potential to limit the impact of COVID-19 on the Residual Waste market.

3. LONGER TERM PROJECTIONS

3.1. GDP Projections

For some years now, in the absence of Gross Value Added forecasts, Tolvik has used GDP Growth for Services as the principle driver for C&I Waste arisings.

Judging at this point in time just how far GDP (hence C&I Waste arisings) will fall amid the virus outbreak is still largely guesswork. Unsurprisingly, Tolvik has been unable to find specific projections that forecasts COVID-19’s economic impact on the UK.

For those brave enough to forecast significant ranges are being suggested as the long term outcome will of course reflect the effectiveness and duration of virus containment efforts, the impact of various Government stimulus packages and post COVID-19 changes by consumers and businesses.

One of the most detailed and recent reports on the UK economy (released in late March) is that authored by KPMG⁽⁴⁾. Its assessment of economic outcomes identifies a potential downside GDP growth of -5.4% in 2020 and -1.4% in 2021 and includes quarterly GDP projections. This would point to a recession “slightly more severe than the downturn experienced in 2008-09.”

Deutsche Bank similarly suggested a 5.5% fall in GDP in the UK in 2021, whilst of the most recent GDP projections for the UK, the worse case scenario is of a 7.9% fall in 2021.

Other reports from large institutions and think tanks have suggested quarterly GDP impacts across various developed economies for Q1 2020 of between -1 and -15%, and Q2 2020 of -3 to -30%. Clearly there will be a degree of rebound from such reductions once the bulk of the COVID-19 restrictions have passed.

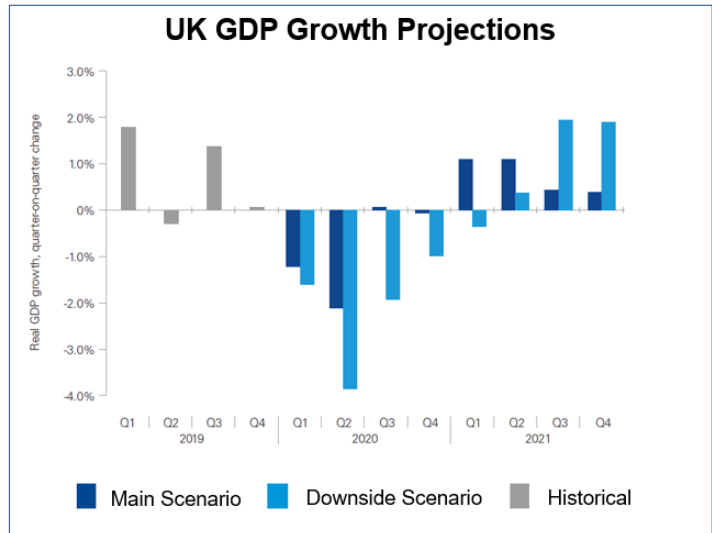
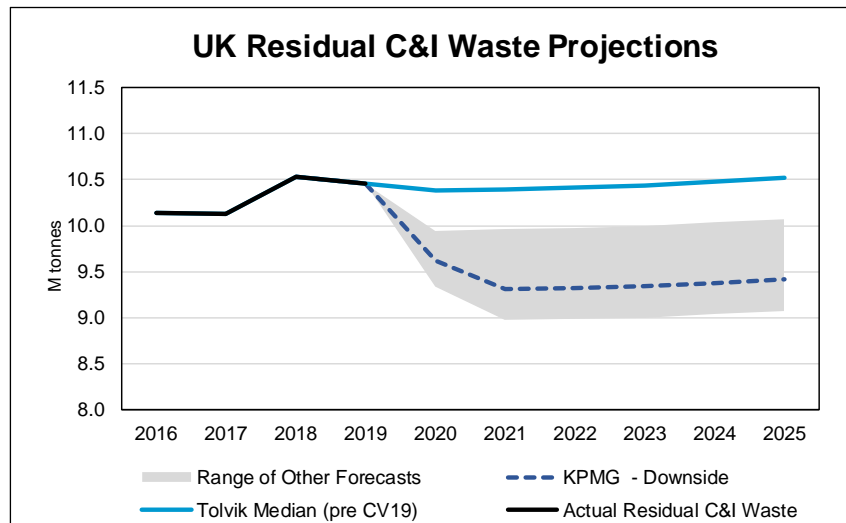


Figure 12: GDP Growth Projections - March 2020 Source: KPMG

3.2. Impact on Residual C&I Waste in the UK

Figure 13 shows the impact of various GDP forecasts on the projected tonnages of Residual C&I Waste in the UK under various scenarios and this has been compared against Tolvik’s median projection immediately prior to COVID-19 outbreak.

This modelling assumes that recycling rates will not be affected by COVID-19 and the recession – although there is the potential that recycling could become more difficult – at least in the short to medium term.



Mt	2019	2021	2023	2025
Tolvik Median Projection (pre CV19)	10.45	10.40	10.43	10.52
KPMG - Downside		9.31	9.34	9.41
Upper Range of Other Forecasts		9.96	9.99	10.07
Lower Range of Other Forecasts		8.97	9.00	9.07

Figure 13: UK Residual C&I Waste Projections

These projections point to a fall in Residual C&I Waste in the UK by 2021 of between 5% and 14%.

Ultimately though, the extent to which GDP declines and the corresponding impact on Residual C&I Waste tonnages will be determined by the longevity of the Government restrictions, the rate at which they are unwound and the ability of businesses to remobilise their activities once restrictions have been lifted.

The extent to which some aspects of containment (and reduced business activity) become semi-permanent in order to limit a second outbreak has not been not considered in the analysis. This will be considered in any future updates.

In summary, based upon recent and emerging GDP forecasts, future Residual C&I Waste tonnages are likely to be lower than recent years, the question is by how much. Tolvik will update these projections when more robust economic forecasts become available.

SOURCES

- (1) DEFRA: UK Statistics on waste data – March 2020
- (2) WRAP: National Municipal Waste Composition, England 2017 – January 2020
- (3) Food Standards Agency: 2014 Food and You Survey
- (4) KPMG: Global Pandemic – UK Economic Outlook – March 2020

GLOSSARY

C&I Waste	Commercial and Industrial Waste
GDP	Gross Domestic Product
HWRC	Household Waste Recycling Centre
Mt	Million tonnes
ONS	Office of National Statistics
SIC	Standard Industry Classification



Adrian Judge



Chris Jonas



Sally Freshwater



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MARKET ANALYSIS



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Our clients include the UK's leading waste companies, project finance investors, developers and equity investors.

This report has been written by Tolvik Consulting Ltd on an independent basis using our knowledge of the current UK waste market and with reference inter alia to various published reports and studies and to our own in-house analysis.

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Tolvik Consulting Limited, The Old Vicarage, Fairmead, Cam, Dursley,
Gloucestershire GL11 5JR

Tel: +44 (0)1453 519048 Email: info@tolvik.com

www.tolvik.com