

Scottish Materials Brokerage Service

Update | May 2016

- **Residual workstream:** The PQQ deadline was extended, on the request of bidders, until 3rd May. These are now being assessed. The Invitation to Tender documents are being prepared and the first draft of these is being reviewed by the Programme Team. These are expected to be issued to the User Intelligence Group to be reviewed once Councils have signed up to the Agency Agreements. The deadline for Councils to sign the Agency Agreements is 16th May.
- **Glass workstream:** The programme team are currently visiting all councils to encourage participation with the Brokerage and identify any requirements. A final 3 Councils are being visited throughout May. The Procurement Strategy is well advanced and final changes to the draft will be made once the series of Council visits have been completed to make sure all issues have been considered. Many Councils have indicated that they are likely to require elected member committee approval to endorse the strategy and sign the Agency Agreements. The aim is to make the August cycle of committees for this.

I also attach a publication on sales of materials. This provides further background to the discussions behind held on this.

- **Mixed recyclates workstream:** The Programme team are still preparing the early draft of the strategy for mixed recyclates and are gathering data and intelligence on the specifications currently in use. A large amount of data has been entered into a model and this model is being finalised by the end of May to further inform the procurement strategy. Upon completing an initial draft strategy, this will be issued to the User Intelligence Group for review. The PQQ documents are being prepared.

Approaches to Material Sales

A guide for local authorities



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Written by: WRAP and Eunomia Research & Consulting Ltd.

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Local authorities:

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| ■ Hertfordshire Waste Partnership | ■ Suffolk Recycling Consortium |
| ■ Devon Waste Partnership | ■ London Borough of Lewisham |
| ■ Cheshire West and Chester Council | ■ London Borough of Brent |
| ■ Hampshire County Council / Project Integra | ■ Melton Borough Council |
| ■ Chelmsford Borough Council | ■ North West Leicestershire District Council |
| ■ Colchester Borough Council | ■ Oadby & Wigston Borough Council |
| ■ Norfolk County Council / Norse | ■ Hyndburn Borough Council |
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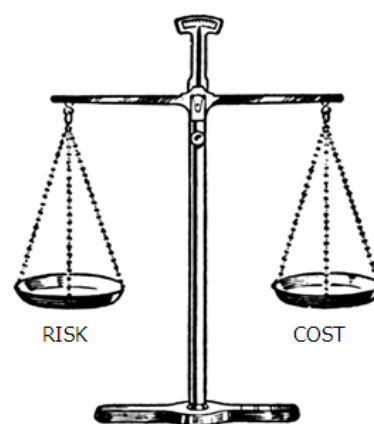
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Executive Summary

This guidance is intended to help local authorities maximise the benefit that they obtain for the dry recyclables collected as part of their provision of waste services. The guidance is designed to equip local authority officers with the knowledge required to select the right materials sales strategy for their circumstances, exploring key commercial considerations such as the pricing mechanism to be used, material quality and operational requirements. It includes a number of example contract clauses in relation to the mechanisms described.

The income that can be obtained by a local authority for its recyclable materials will be dependent on the approach the authority takes to selling its materials. Several influencing factors are out of an authority's control, including the market conditions at the time the authority is selling its materials as well as what has happened to the commodity risk profile in recent times. However, there are also a number of factors which will influence the value obtained and which are within the local authority's control; these are:

- Determining how much risk you, as a local authority, are willing to take; does the authority's financial situation require a fixed budget line for materials income? Alternatively, is the authority willing to take greater risk, with the potential for significantly greater benefit)?;
- Selecting the most suitable price setting mechanism for your authority, depending on the level of risk you are prepared to take, and how flexible your budget can be;
- Understanding whether your contract is simply for the sale of materials, or the extent to which it includes a services element. This affects whether EU procurement rules apply to the contract, or if it can be let on the basis of demonstrating best value;
- Considering the quality of the material that the authority is able to make available and the likely impact this will have on prices. This links into the wider consideration of collection system design that underpins the quality that is obtained;
- Thinking about how best to market each material individually; for example, the market views a fixed price arrangement as being feasible for some materials, but not others. In the case of variable price mechanisms, different indices might be applied for different materials;
- Designing operational arrangements so that all loads leaving the local authority's depot are full, are baled as required and can be collected in load sizes that will be attractive to the market and minimise transport cost;
- Making the right choice with regards to the role of collection contractors; and
- Deciding whether to market the materials as an individual local authority, via a waste management contractor, in a consortium or through a broker. Key questions a local authority will need to ask in order to inform this decision will include:
 - Do we have the capability and capacity to work effectively with the market?
 - Is there appetite to do this and how is it viewed – as an income stream or a problem to be solved?



All of these issues are addressed within this guidance, with key concepts explained clearly. Practical advice is provided, based on the experience of local authorities, waste management companies and reprocessors.

1.0 About this guidance

This guidance is intended to help local authorities maximise the benefit that they obtain for the dry recyclables collected as part of their provision of waste services. The guidance is designed to equip local authority officers with the knowledge required to select the right material sales strategy for their circumstances.

The information and guidance presented in this document is based on knowledge obtained from interviews with local authorities, material reprocessors and waste management companies, in addition to secondary research. Illustrative examples can be found throughout the document to demonstrate how some of the key principles for materials marketing have been put into practice.

The guidance is primarily focused on the sale of separate materials from kerbside collections, household waste recycling centres (HWRCs) and bring sites. However, many of the principles described will also apply to mixes of materials. The gate fee for a Materials Recovery Facility (MRF) incorporates a number of components: the costs of storage, handling, transport and sorting dry recyclables and the disposal of rejected material, which are offset by the value that is subsequently obtained for the recyclable materials. Therefore, material values and the approach to their sale will have a significant influence on the overall gate fee charged (or rebate paid) by MRFs. Section 12.0 at the end of the document provides some specific guidance on marketing co-mingled materials.

The guidance within this document is not intended to be prescriptive. Potential options for the sale of materials will be influenced by timing and individual local circumstances. However, this document aims to provide a guide to the key issues that should be considered and the options that are available to local authorities, either individually or as a partnership.

The approach taken throughout this guidance uses different presentation techniques to highlight key messages. Each section begins with a paragraph in bold, which summarises the salient points within that section. A glossary of terms has been included to help readers understand the phrases and terms used within the industry. Flow diagrams and graphs have been used to visually represent concepts and principles discussed within the text. Illustrative examples are included in blue text boxes to demonstrate how and where the theory described in the text has been put into practice.

The guidance deals with the topics described below.

Section 2.0:	Why may local authorities need material sales guidance?	This section describes the key target audience for this guidance. This guidance will be of use to most authorities. The extent to which each section is applicable depends on the nature of an authority's current material sales arrangements.
Section 3.0:	Why can agreeing fixed prices for materials be problematic?	This section presents historic data relating to materials pricing to illustrate the varying impacts of fixing prices for materials at any point in time.
Section 4.0:	The term 'risk'	The term 'Risk' is used throughout the document. At this point the guidance pauses to explain exactly what this means and highlights data sources for those who wish to explore this subject further.

Section 5.0:	What are the factors influencing the price of materials?	In short, risk is present because of the uncertainty around materials pricing. This section sets out exactly what factors influence the changing prices of materials.
Section 6.0	Risk apportionment within the supply chain	The previous sections have explored the risks that the supply chain is exposed to and stated that the supply chain in its entirety cannot escape these risks. However, the individual components of the supply chain can mitigate risks and do apportion risks between them – this section explains how.
Section 7.0:	Allocation of risk in collection contracts	It is important for the local authority to carefully consider the amount of risk that it will bear compared to the Waste Management Company (WMC). This section explores the advantages and disadvantages of the options.
Section 8.0	Consortia and partnerships	Before entering a consortium or partnership with other local authorities, the perspectives of both local authority partners and the market should be considered. Each of these perspectives is described in this section.
Section 9.0	How to approach selling materials?	Many local authorities take the view that despite the fact that material is being sold (as opposed to being bought), it should follow the standard procurement procedures used when purchasing goods or services. This section explains why this is not always the case, and various approaches to selling.
Section 10.0:	Price setting mechanisms	Price setting mechanisms fall into two main categories: fixed and variable. Information and key questions to ask have been set out in this section to help local authorities decide which price setting mechanism is most appropriate for their circumstances.
Section 11.0	Material specific considerations	The best approach to marketing one material may not be the best (or even a viable option) for another material. Authorities need to recognise the importance of each material within the overall 'basket' of materials being marketed and to maximise the value from each in turn.
Section 12.0	Co-mingled materials	The gate fee that a MRF operator offers in effect incorporates a number of components, including the costs of storage, handling, transport and sorting and the disposal of rejected material. These costs are offset by the value that is obtained from the sale of recyclable materials; so the risks affecting the trading of separately collected materials still apply to co-mingled materials.
Appendices	Example contract clauses	Example clauses for collection contracts.

Key terms used in this guidance:

- **Brokers:** intermediary organisations between sellers and buyers. They facilitate trading by finding a buyer for material generated by a seller, but generally don't assume ownership of the material at any point in the process.
- **Buyers:** merchants, exporters, reprocessors and manufacturers with a demand for secondary commodities. For reprocessors and manufacturers, the extent to which the commodity risk they are exposed to impacts on their business depends in part on the proportion of production costs accounted for by raw material costs.
- **Downside Risk:** the risk that the return on an investment or transaction will be less than anticipated when the decision to go ahead was made.
- **Exporters:** organisations that buy commodities in one country to sell in another. They often face risks such as prices changing during the time lag between order and receipt from sales due to long transportation periods as well as changing political and regulatory environments.
- **Fixed price:** a fixed price contract for materials is one in which the unit price paid is fixed for the duration of the contract and so doesn't 'track' the market price for that material. Longer fixed price deals are likely to be indexed to a general inflation index such as the retail prices index (RPI).
- **Merchant:** an intermediary buyer between collectors of material (e.g. local authorities) and reprocessors. Distinct from brokers in that merchants do assume ownership of the material and generally physically handle the material (e.g. carrying out bulking and transportation of the material).
- **MPR:** WRAP's Materials Pricing Report.
- **MRF:** Materials recovery facility.
- **Primary commodity:** virgin raw material extracted or harvested, often following initial industrial processing. Examples might include virgin paper pulp, mineral ores, agricultural products, oil.
- **Sellers:** are the organisations providing the material to the market. In the first instance, this is the organisation that collects the recyclables (i.e. a local authority or its contractor).
- **Reprocessor:** means a business that reprocesses recyclables into marketable products or secondary raw materials.
- **Secondary commodity:** material which has previously been used for one purpose and which can subsequently be reprocessed into a product or secondary raw material for further use. Examples: used beverage cans, waste paper, and glass cullet.
- **Spot Market:** a market where materials are traded based on the market price at the point in time that the batch of material is available for immediate delivery.
- **Upside risk:** the risk that the return on an investment or transaction will be less than anticipated when the decision to go ahead was made.
- **WMC:** Waste Management Company.

2.0 Why may local authorities need material sales guidance?

This guidance is designed for almost all authorities, with the exception being those authorities with very long-term contracts that outsource ownership of recyclables with no provision for the value obtained to impact on the contract cost. However, the nature of an authority's current material sales arrangements will affect the extent to which each section is applicable. In order to simplify the range of local authority circumstances, authorities can be considered to fall somewhere on the spectrum between:

- **Those who take a risk-averse approach in order to ensure budget certainty and stability; and**
- **Those who seek to maximise income despite the impact this can have on budget certainty and exposure to downside risk.**

2.1.1 Authorities who take a risk-averse approach

Whilst this section acknowledges the benefits of budget certainty, it highlights the opportunities that taking a more flexible approach to local authority finance can bring. However, taking advantage of the potential for greater income from material sales may require a degree of change in attitude and will entail continuous monitoring and evaluation of markets and commercial risks.

For many local authorities, receiving income from the sale of dry recyclables that is in line with an annual budget and maintaining a stable budget from year to year are important factors, allowing the funding of services to be planned for more easily. Clearly no budget holder likes to report that there is a shortfall in income in relation to budget. In some cases, 'too much' income in a given year can also present an issue if in budget setting in subsequent years it becomes an expectation.

Achieving income stability is therefore an understandable objective for all local authorities. However, this section sets out the issues associated with requiring stability in material income within a budget. Obtaining fixed prices may result in the authority losing a significant opportunity for income generation, for example, when fixing prices before a period of increase in material values. When confidence in markets is low, contractors will reflect this by pricing against the risk of a downturn in a fixed price contract, so in practice that downside risk is simply priced in and paid whatever the market actually does.

Many local authorities have to grapple with unpredictable budget/income lines in other service areas. Demand for front line services can fluctuate considerably (driven for example by changes in economic conditions or even winter weather conditions) and can be as unpredictable as market values for dry recyclables, if not more so. Yet local authorities are often more risk averse when it comes to material sales than they are in other fundamentally uncertain parts of their budget. Authorities accept that some services, such as winter gritting, are going to be susceptible to unpredictable cost variations due to a changing demand for the service. Arguably the same view should be applied to materials trading, because taking the fixed price approach often leads to less overall income in the longer term. By considering material sales revenue in the context of a local authority's overall treasury management strategy, it may be possible for more commercial risk to be taken, to the long-term benefit of the authority.

Some local authorities employ strategies to deal with significant fluctuations in material incomes from year to year, as well as some years where income does not match the set annual budget. Prior to determining the basis for selling materials, officers should engage

senior finance team colleagues to ascertain the extent to which some fluctuation can be accommodated if it is felt that this will enable the best overall value to be obtained.

Suffolk Recycling Consortium and Surrey Waste Partnership both hedged against a downturn in the market by holding back some income in reserve so there is always a 'buffer' when market conditions are poor. In Suffolk, if market prices are good at the end of their existing MRF contract there may be a bonus to share between the partner authorities.

2.1.2 Authorities who are prepared to take more risk

Those authorities already prepared to be exposed to risk in their materials trading strategies may obtain ideas from the guidance that helps to improve their approach to material sales.

In times of austerity, budget savings are at the forefront of priorities for officers and elected members. In the past many authorities adopted a more risk-averse approach however, approaches to commercial risk (and opportunities for reward) are increasingly being reassessed. Many authorities no longer have the option of being as risk-averse, as the scale of financial savings required mean significant change and accompanying risks across the board.

In an ideal world authorities would always be able to ensure they receive the best prices that the market has to offer. However, the point in time at which you agree the sale of recyclable materials will have a significant bearing on any fixed price you can get (this is further described in Section 3.0), as market prices fluctuate over time, driven by supply and demand in the marketplace. As much as you may try to forecast future prices, there is always an element of luck involved in securing a fixed price that turns out to represent good value for the duration of the contract.

Authorities therefore need to recognise that there is a trade-off between budget stability and access to the best possible prices over a given period of time. The right trade-off for a particular authority should be based on an understanding of how much risk they are willing to accept (the concept of risk is described further in Section 4.0). This varies between authorities and may also vary over time, based on changing financial needs and budget pressures.

The approach that was taken the last time a sale was made may not remain the best way to obtain the best value for your authority in the future. Sales strategies should be reviewed on a regular basis to ensure that the authority is successfully adapting to changing market conditions within the constraints of an acceptable risk profile.

Part of this on-going evaluation should seek to understand current attitudes of key players in the market. For example, during the consultation process undertaken to develop this guidance, collection contractors indicated some significant recent changes in attitudes to risk (see Section 7.0 for details).

3.0 Why can agreeing fixed prices for materials be problematic?

This section presents historic data relating to materials pricing to illustrate the varying impacts of fixing prices for materials at any point in time. Scenarios are used to illustrate potential impacts of fixed pricing. In Scenario 1 the example authority receive approximately £209,000 per year less than the actual market value during the period in question. In Scenario 2 the example authority receive approximately £403,000 a year more than the actual market value.

An authority selling recyclables will need to decide:

- How the price paid for its materials will be set; and
- The extent to which this will reflect changes in market prices over time.

There are three broad options that can be used:

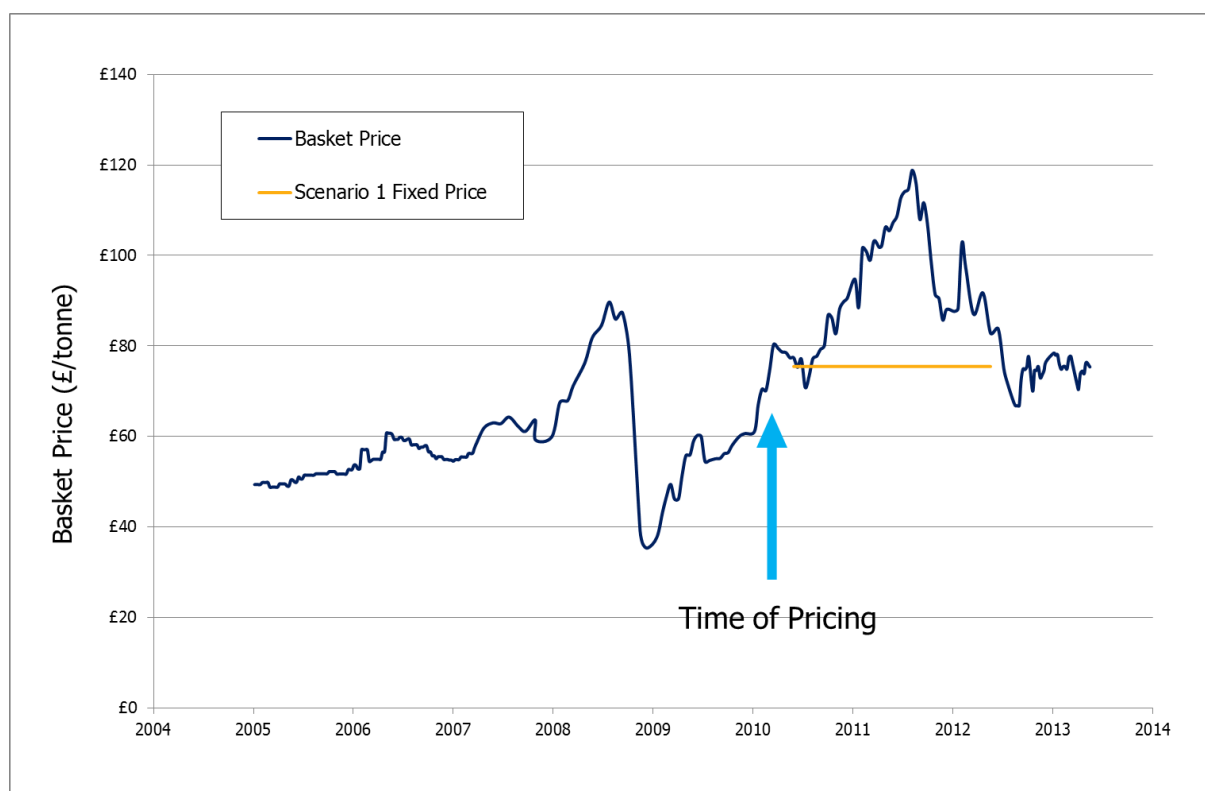
1. Agree a fixed price¹, where the authority is paid a set price per unit regardless of where the market price moves;
2. Sell at prices throughout the period that reflect market fluctuations (with or without a minimum price); or
3. Agree a mechanism whereby the market price fluctuation from a given point is shared.

The following scenarios² are based on an example local authority of 45,000 households with 10,000 tonnes of recyclables for sale per year. The scenarios shown in **Figure 1** and **Figure 2** show the variation in market prices for a typical mix of materials. This is based on a typical one tonne 'basket' of dry recyclables representing the average composition of material that might be collected at the kerbside by a local authority. This illustrates the price that this basket of materials would have commanded between 2005 and 2013. The figures are based on the price of the various materials according to WRAP's Materials Pricing Report (MPR).

¹ If not part of a collection contract, it is difficult to arrange fixed prices for some commodities for any significant period of time; this is explored in more depth in Section 14

² The two scenarios are designed to demonstrate the concepts described in Section 3.0. Whilst not based on any particular authority, they do reflect the experiences of many real authorities.

Figure 1: Demonstrating the impact of time of pricing on fixed price contracts: Scenario 1



Notes:

1. The basket of materials includes news & pams, cardboard, mixed glass, plastic bottles, steel cans and aluminium cans with a typical composition in terms of the proportion of each material represented
2. The basket price is calculated based on the mid-point of the price ranges for each material in the MPR

The Scenario 1 in Figure 1 illustrates the impact if an authority obtained a two year deal that commenced May 2010. In this scenario the authority required the buyer to pay a fixed price throughout the arrangement. The bidders pricing this deal would have had to take a view on the risks of this arrangement and set their prices in February 2010. As can be seen in Figure 1, the authority was asking for prices at a time when the net basket value was close to the average market price for the previous five years; a year after a sharp price collapse but with steady growth for the previous 12 months. The winning bidder assumed further growth of materials prices throughout the arrangement, and so bid a fixed price of £5 per tonne above the February 2010 market value.

This resulted in the authority acquiring a deal where they were paid £75.30 per tonne from May 2010 to May 2012. Compared to the prices that the authority had previously received for material sales, the deal looked like good value so the fixed price was agreed. However, market prices continued to rise, and even though there were periods of declining value the average market value over the period was higher than that received by the authority, by an average of £18.11 per tonne. This means that the example authority received approximately £181,148 per year **less** than the actual market value.

Figure 2: Demonstrating the impact of time of pricing on fixed price contracts: Scenario 2



Notes:

1. The basket of materials includes news & pams, cardboard, mixed glass, plastic bottles, steel cans and aluminium cans with a typical composition in terms of the proportion of each material represented
2. The basket price is calculated based on the mid-point of the price ranges for each material in the MPR

Scenario 2 is similar to Scenario 1, except that the timing is different. In Figure 2, the same authority obtained a two year fixed-price deal which commenced in May 2011 and ended in May 2013. The bidders pricing this deal would have had to take a view on the risks of this arrangement and set their prices in February 2011. As can be seen in Figure 2, the authority was asking for prices at a time when the net basket value was close to an all-time high and had been on an upward trend for some time. The winning bidder anticipated further growth of materials prices throughout the arrangement, resulting in the fixed price being £5 per tonne above the market value in February 2011.

This resulted in the authority acquiring a deal where they were paid £106.27 per tonne from May 2011 to May 2013. Shortly after the deal was agreed, market prices dropped considerably and never reached the value that the buyer agreed. The average market value over the period was lower than that received by the authority by an average of £18.65 per tonne. This means that the example authority received approximately £186,492 a year **more** than the actual market value.

The two scenarios illustrate several important points:

- The pros and cons of the arrangements depend on the **timing of the deal** and on **where the markets subsequently go**;
- By **fixing prices** you are not only **removing the downside risk** of material prices, you are also **removing the upside risk**;
- Before determining the arrangements for selling material do the **best assessment of market** conditions that is possible;

- Even with a reasonable assessment, **uncertainty will remain**; and
- Historically many 'good deals' have been down to **good luck in relation to timing**.

North West Leicestershire conceded that it had been lucky in securing a competitive fixed price due to good timing. If it had been looking at deals when market prices were low, it would probably have sold on the spot market until the markets picked up again so that a better value contract could be secured.

4.0 The term 'risk'

Ahead of finding out why prices fluctuate, a key term to understand is 'risk'. This section provides a short summary of the concept of commodity risk.

'Commodity risk' refers to the uncertainties of future market values and of the size of future income caused by fluctuations in the price and availability of commodities.³ In commodity risk theory, the types of commodity risk to which an organisation may be exposed can be grouped into four categories:

1. **Price risk** arises from an adverse movement in the price of a commodity, as determined by forces outside the control of the organisation (e.g. rise in energy costs);
2. **Quantity risk** arises from changes in the supply of commodities (e.g. change in waste arisings or composition);
3. **Cost (input) risk** arises when the cost of extracting materials (e.g. the cost of collection) increases; and
4. **Political risk** arises from compliance or regulation impacts on price or supply of commodities (e.g. change in policy relating to exports).⁴

For a local authority or collection contractor, these risks can be highly inter-related. For example, risk of change in composition, where the make-up of a basket of dry recyclables changes over time, can have implications for both the quality of different materials in the 'basket' and the cost of collection, as the bulk density of the mix of materials alters.

4.1 The supply chain's exposure to risk

This section emphasises that whilst it is important to recognise your own position within the supply chain, it is fundamental to understand the key groups within the whole supply chain and the risks to which each of these key groups are also exposed.

The whole supply chain is exposed to risk; the arrangements between each link determine how the risk is distributed between them. There are four key groups to consider when discussing risk within the supply chain: collectors, buyers, exporters and brokers. There is overlap between these groups and an organisation may fall into more than one category.

The four key groups are here described in greater detail:

1. **Collectors** are the organisations initially providing the material to the market. For municipal waste this would be the organisation that operates the collection service (either a local authority or their waste collection contractor);
2. **Buyers** include those that consume commodities (materials) in their production processes, such as reprocessors and packaging manufacturers, as well as merchants and MRF operators who buy materials and then sell them on to reprocessors. The

³ International Monetary Fund and The World Bank (2005) *Financial Sector Assessment: A Handbook*. Washington DC.

⁴ CPA Australia (2012) Guide to Managing Commodity Risk, October 2012. <http://www.cpaaustralia.com.au/cps/rde/xbcr/cpa-site/guide-managing-commodity-risk.pdf>

extent to which a buyer's business is exposed to commodity risk depends in part on the proportion of production costs accounted for by raw material costs;

3. **Exporters** are the organisations (generally merchants) that export a commodity over international boundaries. They can face a cash flow and price risk from the time lag between order and receipt from sales due to long transportation periods. Political risk may also exist overseas where compliance, regulation or availability can adversely impact sales price.
4. **Brokers** act as intermediary organisations between collectors and buyers or exporters. They facilitate contact between these entities by finding a buyer for material generated by a collector.

The Chinese market is a significant global buyer of secondary commodities that many exporters deal with. The implementation of 'Operation Green Fence' in February 2013 resulted in a crackdown on poor quality secondary commodity shipments by enforcing strict quality standards for grades of paper and plastics. This policy, influenced by a decline in demand for imported secondary commodities from the Chinese economy, significantly affected the market by reducing global demand for lower quality material streams, and therefore causing prices for paper and plastics in particular to drop. With the end destination of many dry recyclables enforcing stricter requirements, the issues of material quality and low material prices were passed on to all links in the supply chain, and ultimately to local authorities providing the material at the beginning of the chain.

It is important to note that the ultimate user of the material is exposed to commodity risks in the sale of the final manufactured goods. In a competitive market, no manufacturer will survive for long if their raw material costs mean that the selling price of their finished goods is either:

- Higher than a competitor's price for like-for-like goods; or
- Higher than the market is willing to pay.

The supply chain in its entirety therefore cannot avoid market risks related to:

- The cost of production of recyclates (including collection and sorting costs);
- The cost of alternative substitutes to the recyclates (e.g. primary commodities); or
- The price that the manufacturer can achieve from the goods that were derived from the recyclates.

4.1.1 Primary vs. secondary commodities

The overall cost of obtaining recycle through collection services is more stable and predictable for most materials than the fluctuations that can occur through exposure to the full force of primary commodity markets. For example, the cost of a council collecting and preparing plastics for a reprocessor is relatively easy to forecast and does not fluctuate much from month to month. Some of the fluctuation that does occur will be a result of exposure to primary commodity price risk, for example through the use of fuel and electricity.

However, the cost of making virgin polymers fluctuates considerably as it is heavily influenced by the rise and fall in oil prices. As recycled polymers can often be substituted with and are therefore often in direct competition with the much larger market for virgin polymers, the fluctuation in virgin polymer prices is a major driver of the price a local authority may receive for secondary plastics.

5.0 What are the factors influencing the price of materials?

The issues associated with fluctuation in incomes and prices over time were illustrated in Sections 2.0 and 3.0. This section goes on to describe *why* the fluctuations occur. It focuses on four key influencing factors:

- **Quantity of material captured for recycling** (Section 5.1)
- **Quality of material captured for recycling** (Section 5.2)
- **Fluctuating unit values according to market conditions** (Section 5.3)
- **Longevity of pricing arrangements** (Section 5.4)

A local authority selling materials and others in the supply chain involved will all be exposed to financial risks relating to these factors to a greater or lesser degree.

5.1 Quantity of material

As a general trend, capture rates and incomes from material sales have increased over time however, projecting waste arisings (and the availability of recyclate) in the future is difficult, as there are several influencing factors to consider.

Whilst recycling rates have increased in recent years,⁵ overall waste arisings across the UK have been decreasing⁶. Predicting yields of dry recyclables into future years is challenging, relating to wider factors such as the economy, local priorities, household behaviour, and technology/lifestyle changes. Therefore, any medium to longer-term forecasts of material revenue need to consider the risk around projecting the amount of material available for sale.

The fluctuation in price over time for a constant basket of dry recyclable materials was demonstrated in **Figure 1** and **Figure 2** (Section 3.0). However, in reality, alongside projecting price fluctuations into the future and changes to waste arisings, variations over time in the composition of the basket of dry recyclables that is collected would also influence future revenues. An increase in aluminium would, for example, be beneficial to the price obtained, given its high value relative to other materials. On the other hand, as has been seen in recent years, the decline in news and pams collected in comparison to, for example, cardboard, would result in a lower overall basket value.⁷ This could have quite a significant impact, as news and pams contributes a significant proportion of the basket's overall value. Predicting changes in waste composition in the future thus also poses a challenge when considering future budgets and longer-term contracts.

The compounded effect of uncertain future trends in market prices, dry recyclable arisings and material composition demonstrates the need for careful consideration as to how risk is shared between local authorities, waste management companies and buyers of material.

⁵ Defra (2013) *Forecasting 2020 waste arisings and treatment capacity*, February 2013.
<https://www.gov.uk/government/publications/forecasting-2020-waste-arising-and-treatment-capacity>

⁶ Defra (2013) *Waste and recycling statistics*, published 9 May 2013.
<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/waste-and-recycling-statistics>

⁷ Reasons cited for a decline in news and pams include changes in technology, with activities that used to be dependent on the use of paper now increasingly electronically based. Increases in cardboard on the other hand have been attributed to increases in online shopping and home deliveries.

5.2 Material quality and grades

To ascertain what a material is worth and what the price fluctuation risk may be it is important to understand:

- Which category or grade the material falls into according to the reprocessing industry;
- The specification of that grade according to various reprocessors; and
- Within that specification, where the material sits on the quality spectrum.

Understanding the grades of a specific material is not always straightforward. For instance, material that is often called cardboard could be classified as several different grades. If the material is mostly corrugated cardboard it could be classified as OCC (Old Corrugated Cardboard). On the other hand, if the material contains higher levels of grey and white boards (such as cereal packets) then the grade will probably not be OCC, but rather the material may be classified as a hard mix of papers. Typically there will be a written specification for each grade which will define the maximum concentrations of certain materials and contaminants that are permitted. Finally, the material in question may be of significantly better quality than the minimum acceptance criteria defined by the grade specification and therefore able to command a higher price. These specifications are not always the same for each reprocessor and enforcement of them does, in practice, vary somewhat according to market conditions and over time.

Before altering a collection system or developing a strategy for selling recyclate it is important to ascertain the current grades and qualities of material that you have or could have. To do this it is necessary to engage with buyers and recognise their views on these matters. Buyers will explain the current differences in grades and will tell you their specifications and acceptance criteria.

To understand the specific quality of the material that you have is not always straightforward. Sampling and sorting exercises could be conducted, but they can be expensive. The existing buyer may be able to inform you and provide quantitative measurements relating to quality. When offering materials to new buyers it is highly advisable to provide buyers with access to the material for viewing and potentially for them to obtain trial loads, so they can ascertain the quality for themselves.

Why is it important to understand quality? To a large extent, quality influences the value of the material. When demand for material is high, it is relatively easy to find buyers for poorer quality material. However when demand declines interest typically drops disproportionately further for the poorer quality material, resulting in good prices (or even any buyer at all) being more difficult to find. This means that **the quality of material also affects the risk profile**. When considering the risk of price fluctuation, it is useful to understand where on the quality spectrum your materials are likely to be.

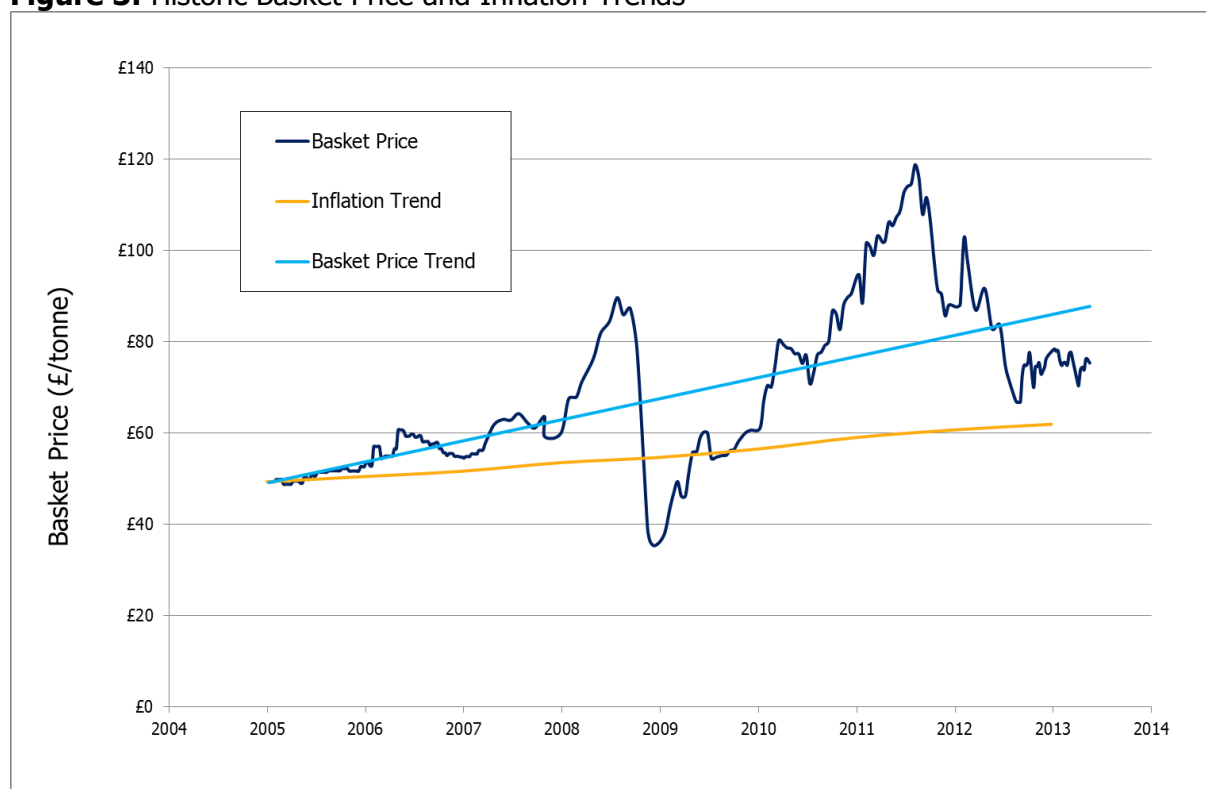
Furthermore, when designing a contract it is also important to consider the distribution of risk regarding quality. It is not uncommon to see local authority contracts that attempt to transfer quality risk to buyers. This is because the contract does not always take buyers' acceptance criteria into account, or what the quality of supply is likely to be. An unreasonable approach to this risk can deter buyers, leading to less competition and lower prices being obtained. If the material is likely to be of good quality then an unreasonable transfer of risk could reduce the value of the contract unnecessarily.

When Hyndburn Borough Council went out to tender, it wanted to clearly establish what materials the reprocessors would accept. The Council sent out a document with tick box options for all the different grades of materials to get an accurate idea of what each reprocessor handled, rather than just a vague response of 'plastics' or 'metals'.

5.3 Historic price fluctuation

In summary, prices fluctuate over time, driven by supply and demand in the marketplace. Recovered material prices are closely linked to primary commodity markets with recovered materials seen as close substitutes for primary commodities. The degree to which recovered materials can compete directly with primary commodities is dependent on their stability of supply, differences in quality compared with primary commodities and the cost of recovering and processing the material. The value of Packaging Recovery Notes (PRNs) and other policy instruments may also affect the price of recovered materials.

Figure 3: Historic Basket Price and Inflation Trends



Notes:

1. The basket of materials includes news & pams, cardboard, mixed glass, plastic bottles, steel cans and aluminium cans with a typical composition in terms of the proportion of each material represented
2. The basket price is calculated based on the mid-point of the price ranges for each material in the MPR
3. The rate of inflation is based on the Consumer Prices Index (CPI)⁸

Recovered material prices are closely linked to primary commodity markets with recovered materials seen as close substitutes for primary commodities. The degree to which recovered materials can compete directly with primary commodities is dependent on their stability of

⁸ONS (2013) Table 6a in Retail Prices Index - Consumer Price Inflation Time Series dataset, June 2013.
<http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/june-2013/cpi-time-series-data.html>

supply, differences in quality compared with primary commodities and the cost of recovering and processing the material. The value of Packaging Recovery Notes (PRNs) and other policy instruments may also affect the price of recovered materials.

Figure 3 shows that in recent history the prices paid for dry recyclables have been relatively volatile, with sustained periods of sharp growth that have been well above inflation, followed by periods of sharp decline.

It should be noted that on average, dry recycle value growth has outstripped inflation over the past 10 years. Although there have been peaks and troughs in market prices over this period, cumulative inflation has been less than 25%, whereas average material prices over the whole period have grown by around 34%. This shows that an authority who indexed their material contracts to secondary commodity markets over the period would have been significantly better off on average (and at most points in time) compared to an authority who indexed their contracts to inflation in the economy as a whole. However, an authority indexing to market prices would have had a less predictable income compared to an authority that indexed prices to general inflation.

Of course historic data only tells us what has happened in the past; it is only relevant to the future if the causal factors behind the prices can be applied to a predictive model. For the purposes of this guidance we need to be clear that the old adage:

...Past performance is no guarantee of future results...

5.4 Longevity of arrangements and the relationship to risk

A key component of risk in relation to the sale of the recycle is the longevity of arrangements, with one party generally being unable to amend or cease the arrangements without the agreement of the other. Risk relating to a change in circumstances increases over time, because the further ahead in time one looks, the less foreseeable that change is.

When considering the strategy for selling material the following should be taken into account:

- The **length of the arrangement** is influenced by the mechanism used to apportion risk. Many buyers will not be comfortable agreeing to fixed prices for longer than three or four years (and in some cases will be reluctant to contract for more than a year) due to the inherent long term uncertainty of material prices;
- Variable **mechanisms** that follow indexed prices may be agreed for a longer period than fixed mechanisms. However, when considering contracts over the medium to longer-term (5-10 years) there will also be greater risk associated with the potential change in amount of dry recyclables and material composition;
- If longer-term contracts are required, again, depending on how risk is apportioned, it may be important to build a **review mechanism** into the pricing mechanism to avoid running into a potentially unsustainable contract;
- At the other extreme, some local authorities may wish to sell material on the spot market in order to maximise revenues (whilst at the same time being exposed to the widest fluctuations). To do this will require adequate resource, in terms of both **time and expertise**; and
- The spot market should (all else being equal) offer the best return in the long term, but also exposes the seller to the full range of **volatility** and up and downside risks that the market has to offer. At the worst points in the market cycle, it may be impossible to sell some grades of material on the spot market; whereas those

authorities with a supply contract with a reprocessor will at least be assured of being able to recycle the material that is collected (provided of course that the contract is honoured).

Devon Partnership

After extending their paper contract for a further 10 years, the Devon Partnership revealed that in hindsight a shorter term contract may have been better; aside from other factors, it would enable prices to better reflect changes in technology.

Norfolk County Council

The Council has a long standing contract with Norse, which is wholly owned by the Council. Each contract let by Norse for each material is reviewed periodically i.e. annual reviews with a maximum contract length of 3 years.

Oadby & Wigston Borough Council

The Council sells plastic, textiles, steel cans, aluminium cans/foil and glass from its MRF on the spot market. The Council believes that playing the spot market is relatively simple to do, and involves much less administration than obtaining and managing longer term contracts.

6.0 Risk apportionment within the supply chain

The previous sections have explored the risks that the supply chain is exposed to and established that the supply chain as a whole cannot escape these risks. However, the individual components of the supply chain can and do apportion risks between them. How these risks are allocated is a key part of a material sales strategy.

This Section (6.0) focuses on risk pricing, which generally relates to the perception that things might get worse than expected. However this is not the only scenario that is possible, and an exploration of upside and downside risks is illustrated in Section 7.0.

In simple terms, each entity within a supply chain will have an attitude as to how much risk it is willing to be exposed to for a given level of reward, and over a certain period of time.

Two contrasting approaches of authorities allocating risks are illustrated in Table 1 below.

Table 1: Examples of Different Approaches to Risk Apportionment

Approach	Scenario	Risk
Variable Price	An authority sold their material directly to a reprocessor. The authority received the actual market value at any given point during the arrangement.	Higher up and downside risk, greater price fluctuation
Fixed Price	An authority included the ownership of the recyclables within their eight year collection contract, with no mechanism to reflect market fluctuations. The collection contractor initially estimated the amount of material that would be collected and the value of that material and included for that within the price submitted for the collection contract. The contractor marketed the material to the reprocessors at current market values throughout the eight years.	Lower up and downside risk, minimal price fluctuation

In this simple portrayal it is easy to assume that decreasing the risk to the council is a good thing. One might ask 'why consider having unpredictable income if you don't have to?' The answer to this is provided by another important and fundamental principle:

Passing risk to another party in the supply chain will have a cost associated with it.

If a buyer is required to take on risks by a seller, then they may well seek to pass on the costs associated with the risk in the price they pay to the seller. This is referred to as "risk pricing". The price of this risk will vary according to:

- **The scale of the perceived risk in comparison to the potential benefits of the deal;**
- **How predictable the buyer perceives a risk to be:** the more unpredictable a risk is perceived to be the more costly it can be to manage;
- **The buyer's appetite for risk for a specific deal:** different buyers will have different approaches to risk, which will also vary according to how strategically important a specific deal is perceived to be;
- **The level of competition for that material (or in the case of a collection contract, the competition within that market place):** where competition is perceived by bidders to be fierce then they are likely to minimise risk pricing;
- **The longevity of the risk:** the further into the future the prediction has to be made, the greater the uncertainty and therefore the higher the potential risk pricing;
- **Recent trends in the materials market:** decision makers often remember recent history in their assessment of future risk; and
- **Whether the apparent scale of risk is perceived to reduce competition:** in some cases, a risk profile may be too large for some bidders to consider; therefore the remaining competitors may consequently adjust pricing accordingly, as they anticipate that competition has been reduced. The number of tenders received may be an indication of how the market has perceived the balance of risk.

Two key questions that an authority should seek to answer in assessing where to allocate risk is therefore: **how much risk pricing may be incurred and are you willing to pay that price for increased stability of income?** It can be difficult to form an accurate picture of how risky the market will perceive your contract to be. By understanding the market at the time and appreciating the issues that your potential trading partners have with your proposed approach can provide some insight into the potential for risk to be priced into bids.

7.0 Allocation of risk in collection contracts

If you are a local authority with a waste collections service, household waste recycling centre service and/or bring bank service that is contracted out to a waste management company (WMC), one of the key decisions will be whether to include or exclude the ownership of dry recyclables in the contract with the WMC. This section addresses the question of whether a local authority should sell material directly, or via their WMC.

When contracting out waste collection services, it is important for the local authority to carefully consider the amount of risk that it will bear compared to the WMC. Where ownership of the collected material passes to the contractor at the point of collection and its value is simply 'netted off' against the costs of operating the service by the WMC, the WMC is effectively being asked to assume the up and downside risk in relation to price, quantity and quality.

If the price review mechanism for the collection contract is based on a standard inflation index such as the consumer price index (CPI), then the WMCs bidding for the contract will have to take a view at the point of bidding as to the likely performance of the basket of materials collected versus the inflation index used for the whole life of the contract. In periods where there has been a high degree of competition in the collection market and commodity prices have been rising strongly, this has led to relatively optimistic assumptions being made by WMCs on material incomes. When competition is less fierce and there is less confidence that material prices will continue to rise relative to inflation, more conservative assumptions will be made. However, over the longer term, in either case the local authority may do less well if it passes all risk to the contractor, due to the long-term trend of growing global demand for raw materials.

In the last decade, the most common method for selling recyclates where there is a contracted out collection service has been to assign the ownership of the recyclates to the collection contractor for the duration of the contract. Under these circumstances, the contractor is therefore responsible for selling the materials and receives the income from the sale. In most cases the council is compensated for the material, as at the time of bidding the contractor is in a competitive situation and must take a view on the overall value of the recyclates and discount a competitive amount of this value from the service costs that they are bidding. In these situations, the contractor is being asked to take quite a significant risk:

- The contractor is often taking the full risk for material price fluctuation, changes in material quality and the amount of specific materials that they will receive; and
- Collection contracts need to have relatively long contract duration for the service provider to efficiently recoup the cost of capital investments, in addition to other bidding and investment costs. Typically they are set to book depreciation periods for vehicles, which are 7 to 8 years. This is a long period for a contractor to take the recycle income risks.

The following sections consider the options for trading materials when collection services are contracted out and how risk can be allocated within these.

7.1 Collection contractors selling materials

If we look back to a contract let in the early to mid-2000s, in cases where all material trading risk was to be passed to the collection contractor, bidders would have been likely to assume at the point that they submitted a bid that materials markets would remain broadly stable in

real terms. In practice, income received for materials during these older contracts actually outstripped inflation considerably, meaning that these arrangements were generally quite lucrative for the contractor, particularly in later years of contracts. If we move to contracts let in more recent times, this has not generally been the case to the same extent.

It is also important to consider the proportion of income derived by a contractor from the material sales element of the contract, compared with the proportion of income derived from service payments by the authority. This has changed over the years, with the income from material sales growing substantially due to increased recycle tonnages and increased (above inflation) growth in material values. This is important, because on older contracts the perceived high risks of the smaller recycle element were mitigated to a degree by the planned profits on the relatively predictable income from the service provision element.

7.1.1 Advantages of contractors selling materials

The majority of companies bidding for collection contracts are already trading significant tonnages of materials. In general, bidders are interested in a higher turnover both because it increases the size of the order book and therefore presents immediate positive news for shareholders and because it would be hoped that a profit can be made from that turnover. Therefore, from the WMC's perspective, being responsible for the sale of material is generally seen to be beneficial.

In the case of many WMCs, including material sales within the wider waste contract offers added value through access to the company's own dedicated, skilled materials sales team (especially where this dedicated resource is not available in the local authority itself) or greater market power to maximise the material prices that can be obtained.

Furthermore, given the link between material quality and value (see Section 5.2), the ability of the WMC to influence material quality through the service they provide and thus to maximise the prices they can obtain is also an important factor.

There is also an additional potential benefit in enabling WMCs to market a local authority's materials. If a reprocessor becomes unavailable for a certain period of time, a WMC may offer increased stability as it is able to use contracts with other processors, as well as access to established relationships with brokers or the spot market and so avoid operational issues such as lack of storage space for material at the depot.

There are several further advantages that have often been gained by local authorities selling materials through their collection contracts. Transferring some or all risk associated with trading recyclables provides an incentive for the contractor to:

- Capture more dry recyclates because they receive the income;
- Safeguard the material quality because it is worth more; and
- Actively seek to maximise the onward sale value of the material at all times in the market cycle.

7.2 Local authority selling materials

Just because the collection service is contracted out does not mean that materials have to be traded through the WMC. A well organised authority committing suitably experienced and capable resources to materials trading could certainly carry out this activity in-house. Indeed, many processors would argue that local authorities should deal with them directly, to reduce the loss of potential value through additional supply chain interactions (in this case,

the profit margin, perhaps a risk premium and sometimes additional operational cost being applied by the WMC). Operationally, it generally makes sense for whoever is responsible for bulking and storing material to also be responsible for day-to-day management of the relationship with hauliers and reprocessors. Where this activity falls to the WMC, the authority can still assume responsibility for the commercial relationships with material buyers.

Some key contractual issues need to be resolved clearly where material collected by a WMC is traded directly by the local authority. Where a local authority decides to sell the materials itself, but is not able to directly influence the material quality, it will need to consider how material quality risk is allocated between itself and the WMC in the collection contract. Ownership of material also has to be clearly established at all times and this can be complicated where, for example, the contractor owns the collection fleet and operates the depot and bulking facility, as liability issues need to be clearly dealt with where the waste collected remains in the ownership of the authority but in the possession of the WMC.

7.3 Allocating risk

Placing the majority of the risk on the WMC may seem like the safest option from the local authority's perspective, but it may lead to a higher contract price or even, in some cases, a lack of bidders if the compounded risks are seen as too high. Take the following example:

An authority decides:

- To pass the waste composition and waste arisings risk to the contractor across the life of the contract; and
- To request a gain-share mechanism whereby only the upside is shared i.e. extra income above a certain threshold.

This effectively leads to the compounding of a number of risks: that the waste composition will change throughout the contract (a particular problem for paper given the high value of this material within the overall basket), that total waste arisings will also change, and that material prices will fluctuate both up and down. If a contractor was still willing to bid for the contract given the risk profile, the risk to be factored into the overall contract price would be likely to be significant.

The scope of the contract can also be an important factor. Where the contract covers a wide range of services, the third party revenue from materials sales will make up a relatively small part of the overall contract relative to the more fixed income received for providing services to the authority. Where the contract is for the collection of dry recyclables only, a large proportion of the total income generated may be from material sales, meaning that if the contractor is asked to assume all of this risk, the uncertainty of income may make the contract unattractive and lead to a high level of risk pricing and a lack of competition.

One solution to the problems associated with concentrating a high proportion of risk with one part of the supply chain or another (be that the authority or the WMC) can be to share risk between the two parties. This might be as simple as splitting the material income equally between the local authority and the contractor, to more sophisticated gain share mechanisms where only the upside risk is shared between the parties or where risk is shared within clearly defined boundaries (for example using a 'floor' and 'ceiling' and/or a 'tracker' mechanism – see Section 10.2). Alternatively, an 'excess profit share' mechanism can be used, whereby only overall profit on the contract over and above an agreed threshold is shared.

Some additional issues can occur when collection contractors are responsible for material sales and a majority or all material income risk is allocated to them and these can be particularly relevant in times of downturn in materials markets. Where the collections and sale of materials are contracted out, the local authority tends to keep control of the communications in most cases. This represents an added risk for the contractor, in that they have little control over the potential impact of communications in increasing the quality of materials collected. Furthermore, where a contractor is forced to deliver a loss-making service due to over-estimating material revenues, there are substantial risks for the client authority with regard to achieving public satisfaction, performance, effective contract management and minimisation of contract dispute. In the most extreme cases, contracts can become economically unsustainable and substantial renegotiation (with associated procurement challenge risks) or early termination can become the two unpalatable options.

Example contract clauses in relation to risk allocation in collection contracts can be found [here](#).

8.0 Consortia and partnerships

Before entering a consortium or partnership with other local authorities, the perspectives of both local authority partners and the market should be considered. As a local authority, you will need to take a view as to whether this approach truly delivers better value or 'economies of scale' for your individual circumstances.

8.1 Partnership viewpoint

From the viewpoint of local authorities, entering a consortium or partnership for marketing materials can deliver savings on procurement costs, requiring one process and set of resources rather than duplicated activity across each authority. It may also be a way of tapping into and sharing dedicated skilled resource from within a particular local authority in order to maximise the prices obtained.

There is a common belief that partnerships will achieve good value for their materials due to economies of scale achieved from placing larger amounts of material on the market. However, as discussed below, this is not always a viewpoint that is shared by the market, with reprocessors happy to take smaller tonnages so long as they can achieve economically viable loads for transport.

Determining how to achieve the appropriate distribution of income between partners where material quality varies can be a difficult task. As well as needing to vary this in the agreement that is established between the local authorities, this can also depend on the bulking arrangements within the partnership. Where the materials being collected by the various members of a consortium is bulked up separately for delivery to reprocessors, it is relatively straightforward to reflect variations in quality between authorities in the price payable. The reprocessors themselves will be able to sample input loads from each authority to determine variations in quality between each partner. However, where materials are bulked together prior to delivery, the task of unravelling the quality of different local authority streams becomes much more difficult. In this case, it may be necessary to have a sampling-based approach prior to mixing the materials from the different authorities together, to ensure that quality variations can be reflected on an authority-by-authority basis.

8.2 Market viewpoint

Some British reprocessors have cast a cautionary note on some of the perceived benefits of consortia approaches. Probably the most important point relates to perceptions of economies of scale. **For the materials that have the higher overall value to an authority, such as paper, a typical district council will be likely to have access to a quantity of material where economies of scale have already been reached, and there will be little additional value in adding more tonnage. For materials with smaller overall values (due to lower tonnages) such as textiles, then the opposite is probably true and economies of scale may well be achieved by partnering with others.** At the more extreme end of the spectrum, too much tonnage may be perceived as more risky, with a "too many eggs in one basket" problem being faced by a buyer.

London Borough of Lewisham

Lewisham is the lead authority for a textiles consortium consisting of 11 London authorities. Each authority within the consortium can set up a single provider agreement with the contractor, LM Barry, to deal with their textiles. As textiles collections generate a relatively low tonnage from each authority, joining forces to provide a greater tonnage to one contractor means that the authorities can achieve a higher price for their textiles. Other authorities can join the consortium, calling off on the agreement when they choose to, with the agreement lasting for up to 4 years (the duration of the consortium). The time and effort spent by Lewisham in setting up this agreement has saved other authorities the resources in setting up their own agreement.

Buyers want to know who they are going to be dealing with and if a partnership is not well organised and presented then the buyer may have concerns surrounding the level of commitment from constituent authorities and how the buyer will be able to engage with the constituent authorities regarding issues surrounding the logistics, material quality and administration of the contract.

As would be expected, framework arrangements where districts can opt in or out of supplying material at various points within the contract are also not considered favourably by reprocessors, as this introduces uncertainty for the reprocessor with regards to the amount of material they are required to deal with at any one time. This option is beneficial for local authorities, allowing them to choose what they want to do at a timing that suits them. However, the reprocessor has to allow for multiple eventualities with regards to what tonnage they will be expected to receive and when, and will factor this restriction into the prices obtained. Where local authority uptake is optional, this can result in the bidders basing their bids on the worst case scenario, which will not offer favourable conditions to the authorities concerned.

Many of the bigger buyers of material in the UK are specifically interested in one material stream and less interested in others. Putting different materials together under one contract is likely to reduce competition and be less attractive to the market. Consortia tenders for specific materials, or offering separate lots for each material, could be beneficial.

There is also a perception amongst market players that local authority partnerships may be more risky to deal with due to possible tensions between authorities, more complicated procurement processes required to cover each partner's individual needs, and the potential lack of control on the material quality that is supplied. Reprocessors prefer to manage and influence the quality of their material supply, which can be assisted by reasonably dynamic feedback to the collector of the material. These risks can be mitigated, by keeping it simple and providing contract management arrangements that give reprocessors confidence that they will be able to influence material quality.

Overall, partnerships or consortia between local authorities can be beneficial, as long as they are effectively managed. The use of such partnerships may be a good option for some local authorities in order to make savings on the cost of putting contracts in place, particularly if the authorities do not have materials trading expertise in-house and/or are struggling to commit the required officer resource. It may be particularly beneficial for smaller groups, or for two or three authorities with similar collection systems, to pool their resources in this way. Nonetheless, consideration should also be given as to how the market will perceive this supply of materials, with a key factor being the need to avoid too much uncertainty in what tonnage, and the quality of that tonnage, will be delivered and when.

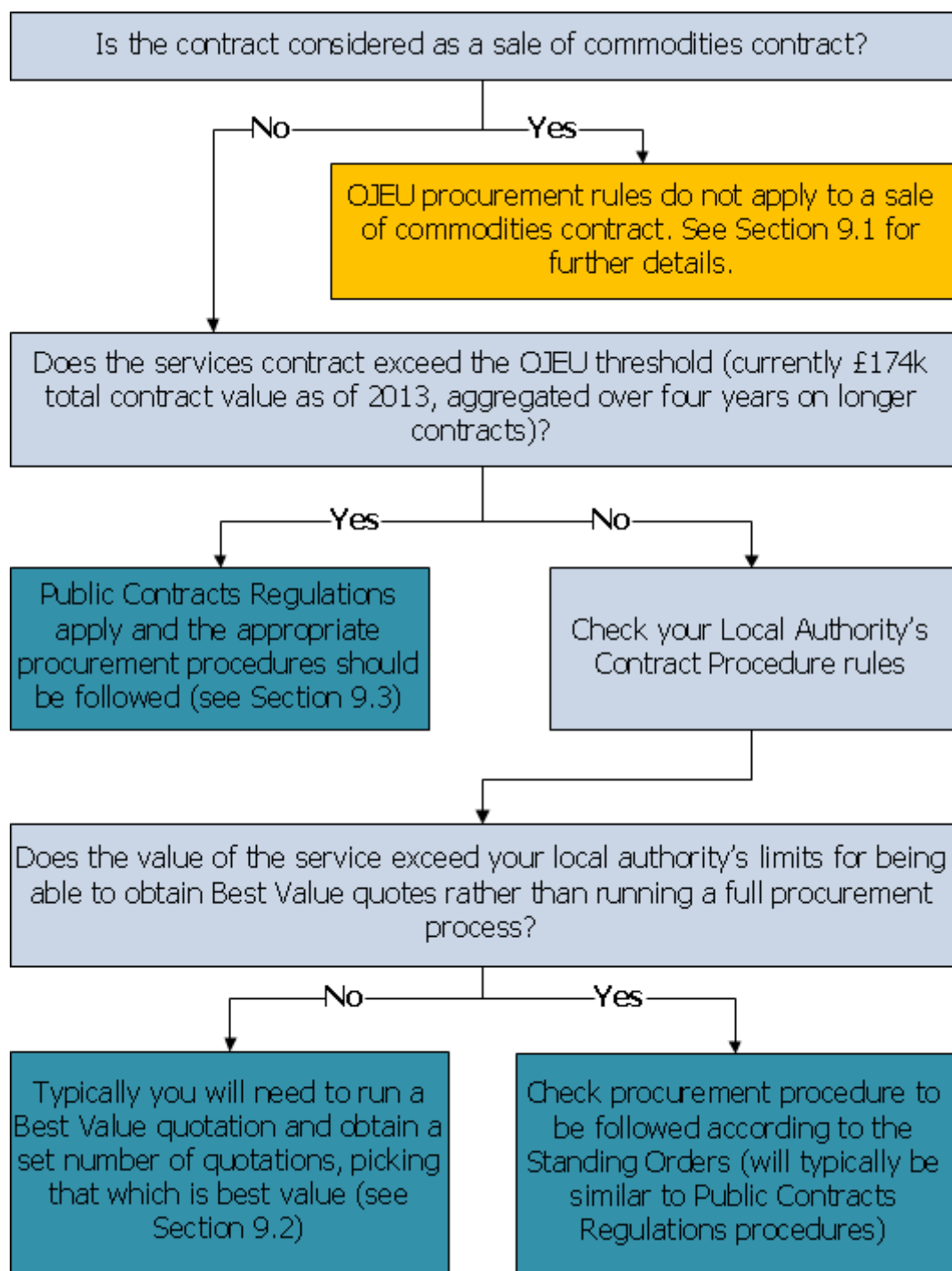
9.0 How to approach selling materials?

Many local authorities take the view that despite the fact that material is being sold (as opposed to being bought), it should follow the standard procurement procedures used when purchasing the supply of goods or services. However, in most circumstances where a local authority is engaged in the trading of material outside a collections service contract, the contract can be viewed as a 'sale of materials contract' rather than 'service contract', and therefore fall outside the OJEU procurement rules established through the European procurement directives and Public Contract Regulations 2006.

Many local authorities have followed the full OJEU procurement procedures not because they are obliged to by procurement law, but because they provide a clear process for engaging the market and demonstrating best value for what may well be a high-value contract. However, this has led to the misconception on the part of some authorities that public procurement law applies to the sale of recyclable materials, which is often not the case.

Figure 4 sets out a decision tree for determining the correct route for procuring either a service supplier or material purchaser.

Figure 4: Decision tree for the process to be followed



In instances where a procurement process is required (for instance for collection contracts and contracts including other services) a number of key strategic, commercial and operational issues should be considered during planning and preparation for this process. Relevant questions include:

- Which procurement process should you use?;
- How are you going to describe the quality of the material that you are supplying? (see Section 5.2);
- What should the contract duration be (Section 5.4) and what type of pricing mechanism do you want to use? (Section 10.0); and

- Does the price (and thus the specification) need to include collection of the relevant material stream from the depot or waste transfer station and transport to the reprocessing facility, or will you deliver it to the facility yourself (or via a contractor)? What bulking arrangements will be in place (Section 11.2)?

9.1 Sale of materials or purchase of services: what are the boundaries?

In determining whether a material marketing contract is for the provision of a service, or for the sale of materials, and therefore whether public procurement law does apply, the first step is to consider the scope and phrasing of the contract. Where the terminology used within the contract clearly implies the intention for materials to be recycled but there is no enforceable means by which an authority can control what is done with the material, the contract is probably not for the provision of a service and instead can be viewed as a 'sale of materials contract'. If so, it would not be subject to full OJEU procurement procedures.

For the contract to be considered a 'service contract' for the provision of a recycling service, it would be expected that some consideration other than the supply of recyclable material would move from the local authority to the buyer (e.g. some form of payment). In many instances this is not the case and therefore such contracts may be considered to be for the sale of materials rather than the provision of a service and not subject to public procurement law. However, in instances where the value of the recyclable material is less or only a little more than the reprocessing costs and the material is provided to the reprocessor/buyer for free or together with some form of payment, it may be considered that the reprocessor/buyer is providing a recycling service to the authority. The contract may therefore be regarded as a service contract and subject to full procurement procedures. In these instances, authorities are advised to seek their own legal advice as to whether OJEU procurement procedures apply.

Where a contract includes an obligation for the provision of haulage of materials being sold, this does not necessarily imply that the contract is for the provision of a service, as in effect, the authority may simply be establishing its own depot as the geographic point of sale. So again, the contract may still be viewed as a materials sales contract.

In cases where a reprocessor/buyer contributes towards the costs of supplying and/or delivering equipment used to improve the quantity or quality of materials captured as part of a materials marketing contract (e.g. containers), the contract may still be classed as a sale of materials contract, so long as the reprocessor/buyer merely pays money towards the cost of the new equipment. This is viewed as simply a form of pre-payment and can be used as a way for a reprocessor/buyer to reduce the amount paid to the authority for materials overall.

The position becomes more difficult where it is envisaged that the reprocessor/buyer would itself perform some of the functions in relation to collection or sorting of materials. In this case, depending on the extent of the buyer's role in 'service provision', the buyer could be viewed as carrying out services that fall within 'refuse disposal' and hence a Part A service for the purposes of the 2006 Public Contract Regulations. Full OJEU procurement processes would therefore apply. Again, authorities are advised to seek their own legal advice as to whether OJEU procurement procedures apply.

9.2 Determining best value

Even where an authority classes its contract as a sale of materials contract, it must still demonstrate best value in obtaining income for its materials. This can be achieved by using variations on the concept of obtaining a 'best value quotation'.

Although referred to by many different terms, this route exists in all authorities to provide a proportionate means of procurement for smaller contracts below the OJEU threshold. Essentially, it provides for a more flexible, less prescriptive process for procurement for smaller contracts. Although the public procurement rules don't apply to material sales contracts (irrespective of size), this route can be readily adapted to use for demonstrating best value in the sale of materials. Details on how your authority procures smaller contracts will be contained in the Contract Procedure Rules within the council's constitution. In effect, this route entails obtaining multiple quotes from suppliers to enable you to demonstrate best value. In materials markets, it may be that a degree of negotiation (face to face or by phone or email) will result in a better deal than simply seeking written quotations and this may require some adaptation of your authority's standard 'best value quotation' process. On agreeing a price with a particular reprocessor you would still put in place a contract detailing the agreed arrangement and ideally you would receive quotes against the terms of a draft contract, although again these can be subject to negotiation during the process in order to maximise value to the authority. Seeking best value quotations is a lot quicker and simpler than a 'full procurement' process, is more flexible and suited to negotiation with key market players, but also provides a means of clearly demonstrating best value.

It should be noted that **the complexity of the contract is a separate issue to the complexity of the process for finding your trading partner;** thus you may still require a contract with more complex contract clauses for, for example, a tracker-based payment mechanism even if you've only undertaken a best value quotation. In contrast, although the procurement process will be more complex where the Public Contracts Regulations apply, the contract itself may be relatively straightforward if it comprises the transfer of ownership of materials to the contractor as part of a fixed-price service contract.

Should I aim to encourage direct bids from reprocessors?

The simple answer to this question is 'yes'. Like any supply chain, in theory the fewer the stages within it, the less the total value is likely to be eroded between the beginning and the end of the chain. In addition, dealing directly with the reprocessor that is going to use the material being supplied, it will be easier to understand the quality required and to work with the reprocessor to ensure this is achieved, thereby obtaining the best possible price for the material.

However, that is not to say that 'middle men' such as materials merchants or brokers do not also potentially have a role to play in the sales of materials. A key advantage of using a merchant is that a single merchant can be used in order to sell several (or even all) of a local authority's different material streams, rather than the authority needing to set up contracts with a number of individual reprocessors. This may be more achievable within the resource constraints of the local authority, and thus be worth the added premium applied by the merchant. In addition, merchants may have some of their own sorting equipment and ability to improve the quality of the material that the authority supplies, generating a higher overall price, some of which might be passed back to the authority in the prices quoted.

9.3 Full procurement procedure

Where a local authority is purchasing a service which exceeds the OJEU threshold and it is not classed as a sale of materials contract, the Public Contracts Regulations will apply and the appropriate procurement procedures should be followed.

There are two key types of procurement procedures that might apply to such a service contract: the open procedure and the restricted procedure. In the majority of cases, the open procedure is likely to be the most appropriate procedure to be used for simple material processing service contracts. The open procedure is the simplest of the Public Contracts Regulations procurement processes, going straight from placing the Contract Notice, to the Invitation to Tender (ITT) stage, and then through to evaluation and contract award. Anyone expressing interest is entitled to bid, so it can generate a large number of bids to be evaluated. The restricted procedure adds a further stage within the procurement process: the pre-qualification questionnaire stage. This enables a local authority to restrict the number of participants that are subsequently invited to tender, should this be envisaged to be a potential issue. Your authority's procurement officers will be able to advise you as to the most appropriate procedure to use in the event that the full public procurement rules apply.

9.4 E-auctions

Electronic auctions are on-line auctions whereby the selected bidders compete in 'real time', submitting their price offers electronically against a specification.

E-auctions are not widely used for material sales, though they have been used by some (for example, Hertfordshire Waste Partnership). The main benefit of this approach is in providing potential suppliers with multiple opportunities to bid, which can serve to drive up the prices obtained. It can be a particularly useful process when there is a high level of market competition (more than four suppliers would normally be considered a healthy level) and where the material is of a clear and consistent quality.

It should be noted however that the same contractual documents will still be required as in any other contracting process and the same strategic decisions will be required at the start of the process to ensure that the specification against which bidders enter the auction is fully developed; thus the same resource will be required to develop the documentation. The use of e-auctions may also result in extra costs for the local authority if they need to first set up an agreement with an e-auction provider to deliver the required technology and services.

It is also important to look at the process from the perspective of the bidders: if the contract you wish to obtain is a simple single authority and single material stream short-term fixed price contract, then a bidder should relatively easily be able to re-configure its pricing and bid in 'real time' using such a process. However, as soon as complexity is added in, bidding in this manner becomes more challenging, and a more traditional approach might be more likely to encourage competition than the use of e-auctions.

10.0 Price setting mechanisms

Price setting mechanisms fall into two main categories: fixed and variable. A fixed price mechanism is a straightforward concept which typically results in a relatively stable budget that can be forecast. Variable mechanisms have an element of variable pricing per unit bought. This tends to result in budgets that are harder to predict, as they are subject to fluctuations in market prices. Information and key questions to ask have been set out in this section to help local authorities decide which price setting mechanism is most appropriate for their circumstances.

Up to this point the guidance has discussed the allocation of price risk between parties in the supply chain on the assumption that this will sit with one party or another. The reality is that through the use of numerous mechanisms that apportion the risks between two parties to varying degrees, it is possible to allocate price risks between parties and not solely with one or another.

Selecting the most appropriate mechanism cannot follow a prescriptive approach, and ultimately depends on how much risk the authority is willing to accept. This may be at the expense of losing a proportion of potential income through passing some risk to the reprocessor or merchant. Choice of the most suitable mechanism will also be affected by the cyclical nature of the market (i.e. the rise and fall of market prices as shown in Recovered material prices are closely linked to primary commodity markets with recovered materials seen as close substitutes for primary commodities. The degree to which recovered materials can compete directly with primary commodities is dependent on their stability of supply, differences in quality compared with primary commodities and the cost of recovering and processing the material. The value of Packaging Recovery Notes (PRNs) and other policy instruments may also affect the price of recovered materials.

Figure 3, Section 5.3) in that the prices bid will be influenced by recent historical trends and so the timing of the decision being made may influence what the 'best' option is.

10.1 Fixed price mechanisms

Setting a fixed price mechanism is in theory a relatively simple and straightforward concept, where the collector and the buyer agree on a fixed price for a specific material or mix of materials, for a certain length of time. The price agreed is what the collector can contractually expect to receive.

Fixed price mechanisms have already been discussed in this guidance document in Section 3.0, where two scenarios of fixing material prices were demonstrated in Figure 1 and Figure 2.

10.1.1 Allocation of risk between parties - fixed price mechanisms

In terms of risk, the risk in price fluctuation (both upside and downside) would sit with the buyer in this situation. Fixed prices only mitigate downside risk for a local authority if market prices drop to lower than that anticipated by the buyer, and the buyer is able and willing to cover the shortfall they experience. Although a contract may state that a local authority is eligible for a certain level of payment, there have been examples in severe market downturns where buyers have not honoured the arrangement. This could potentially happen in two ways:

1. Either the buyer refuses to pay, which may leave the local authority in a difficult position as the rest of the market is poor; or

2. The buyer uses another means to make the contract difficult, such as reducing reliability of collection arrangements to an unacceptable level, resulting in the depot becoming unmanageable.

The buyer may take either of these actions, perhaps based on a perception that the local authority would be unlikely to take legal action to enforce the contract. The resultant impact on service continuity could be highly problematic for the local authority and the buyer may perceive this as an opportunity to force the council to the table to renegotiate the price.

Ultimately, it is important to understand whether a fixed price mechanism will be worth the price risk and upside commodity risk costs. **When considering a fixed price mechanism, a key question to ask is 'will a fixed price mechanism deliver when times are hard?'**

As commodity price risk is apportioned to the buyer and fixed, the duration of these arrangements tends to be relatively short, to avoid incurring excessive risk pricing due to the difficulties of forecasting market prices far into the future. Not all material streams can obtain fixed prices; further discussion on this is provided in Section 11.0, which addresses considerations for specific materials.

For any fixed price contract lasting more than a year, the arrangement should include an adjustment for inflation, otherwise real terms material incomes are likely to be eroded over time by the effect of inflation. **A fixed price mechanism results in a relatively stable budget that can be forecast throughout the contract.** As noted in Section 5.3, due to the potential fluctuation in market prices it is difficult to know whether the agreed fixed price will be considered 'good value' in the future compared to the market, as the rise or fall of prices on the market cannot be predicted accurately.

Example contract clauses in relation to the above can be found [here](#).

10.2 "Variable price" market price mechanisms

All other pricing mechanisms that are not fixed have an element of variable pricing per unit bought. In effect this means that the price paid will vary from time to time.

Table 2 identifies key questions in determining the extent of risk apportionment in variable price mechanisms. The answers to the questions posed in Table 2 must be achieved in contractual terms by defining the relevant mechanism that will be used. The relevant mechanisms are dealt with in the following sections (10.2.2 to 10.2.4).

Table 2: Key questions to determine the risk apportionment in variable price mechanisms

Question	Key advice
How is the price paid related to the market price?	Mechanisms can either be based on the income or benefit that the buyer states in an 'open book' arrangement, or they can use a relevant industry index.
How often are market prices and their translation to price paid reviewed?	Longer review times cut down administration costs, but introduce a lag in price paid response to market conditions.
How much of the market fluctuation risk is allocated to each party?	Mechanisms can apportion a % of the movement in price between either party.
Is the price paid movement restricted within bounds?	Mechanisms can set 'floor' and/or 'ceiling' prices.

Discussing the answers to these questions within your authority will be essential in determining the overall distribution of risk and whether the best value has been achieved.

Example contract clauses in relation to the above can be found [here](#).

10.2.1 Determining how the price paid is related to market prices

The most common mechanisms can be divided into two groups:

1. Where the benefit accruing to the buyer from acquiring the material is used to calculate what the payment to the seller should be; or
2. Where the price paid is indexed to a published source of market price information.

Mechanisms based on buyer's benefit

These types of mechanism typically rely on initially agreeing a benchmark price and a proportion of benefit share between the seller and the buyer. A review process takes place where the buyer states the income or benefit they have received over a given period. The difference between the buyer's income and the agreed benchmark is then shared between the buyer and the seller according to the agreed proportion.

For instance, if the buyer states at the start of the contract that they expect to receive £70 per tonne income for a period and they actually receive or benefit by £80 per tonne, then the £10 difference is shared according to the prescribed percentage share between the buyer and the seller. This process relies on there being a mechanism in place to ensure there is transparency on the buyer's income or benefit; this is one of the potentially problematic issues with this type of mechanism. Open book accounting is one possibility, but this relies on local authority resources to unpick buyer's accounts, which can be complex.

These mechanisms also transfer an element of risk that is not purely associated with overall market fluctuation. They transfer the risks associated with the specific buyer's ability to translate the purchase into income or benefit. For example, if the buyer is a broker then they should be able to attain at least the average market price. However, if they fail in this then the seller is underwriting this risk. This type of mechanism sometimes covers the amount of

material captured. In these cases they are based on overall income rather than income per tonne. If this is the case, then this is a further area of risk that has been allocated to the seller rather than the buyer.

Mechanisms based on indexation

These mechanisms use a market index where a published price for a material is considered representative of the market value for a unit of that material at a point in time (see Section 11.1 for more details). The buyer agrees to purchase the material at the indexed price plus or minus an amount that the buyer defines at the beginning of the contract. For example, a local authority selling news and pams might wish to set a price based on indexing to the MPR index for news and pams (high value). Bidders would then bid back an adjustment price, for example if the winning bidder bids back +£10 per tonne, the seller would then receive whatever the index value is for the period in question +£10 per tonne.

It is important that these mechanisms are relatively transparent as the price the seller (local authority) gets is not linked directly to what the buyer actually achieves in income or benefit. Instead, they are linked to the average market value at a period of time and what the seller, at the time of pricing, believes their income or benefit in relation to market price will be. Indexation mechanisms may include a minimum price, and this is discussed in Section 10.2.4.

Example contract clauses using variable pricing can be found [here](#).

10.2.2 Determining the frequency of review

Where there is a variable price a decision has to be made on the frequency with which the price paid is reviewed. Typically the most frequent reviews are monthly, to correspond with monthly invoicing. They can also occur on an annual, bi-annual or quarterly basis.

Where monthly reviews are in place, the unit price paid for any given amount of material sold within a month tends to be that of the indexed amount published for the month in which the invoice is set. For review frequencies less than monthly, the period used to derive the unit payment must be decided, as must be whether the derived amount will be applied to tonnage shipped between the current review and the previous review, or the current review and the next review.

If invoices are made monthly but the review frequency is less than monthly, then applying the derived amount on historic tonnages is slightly more complicated as there will already have been invoices drawn up on some of that historic tonnage. Using a derived unit payment for future tonnage will mean that throughout the period the unit payment is outdated and market conditions may have moved from that unit payment figure. This is important if the frequency of review is relatively long (for instance, longer than 3 months), as the risk to both parties of a disparity from market values increases. Adjustment mechanisms can be used to reflect historic changes in future invoices.

With reference to mechanisms based on indexation, it should be noted that indexation figures will always be to some extent historic at the time of publication, reflecting market conditions at the time at which the data used for the generation of the figures was gathered.

The disadvantage of more frequent periods of review is the administration associated with determining the unit payment (and in some cases agreeing the unit payment between both parties). Where the method of determining the price paid uses an indexed method, monthly

reviews are not particularly onerous. Quarterly reviews may suffice, although it would be advisable to assess prices between reviews.

Methods based on the buyer's income/benefit may be more difficult to audit and agree. Therefore, it would be suitable to discuss these methods at, most frequently, quarterly reviews, or more typically at annual or bi-annual reviews.

Example contract clauses using variable pricing can be found [here](#).

10.2.3 Allocation of risk between parties - variable price mechanisms

Should a local authority choose to include a risk-share mechanism when outsourcing the marketing of dry recyclables within a wider WMC contract, the following should be considered:

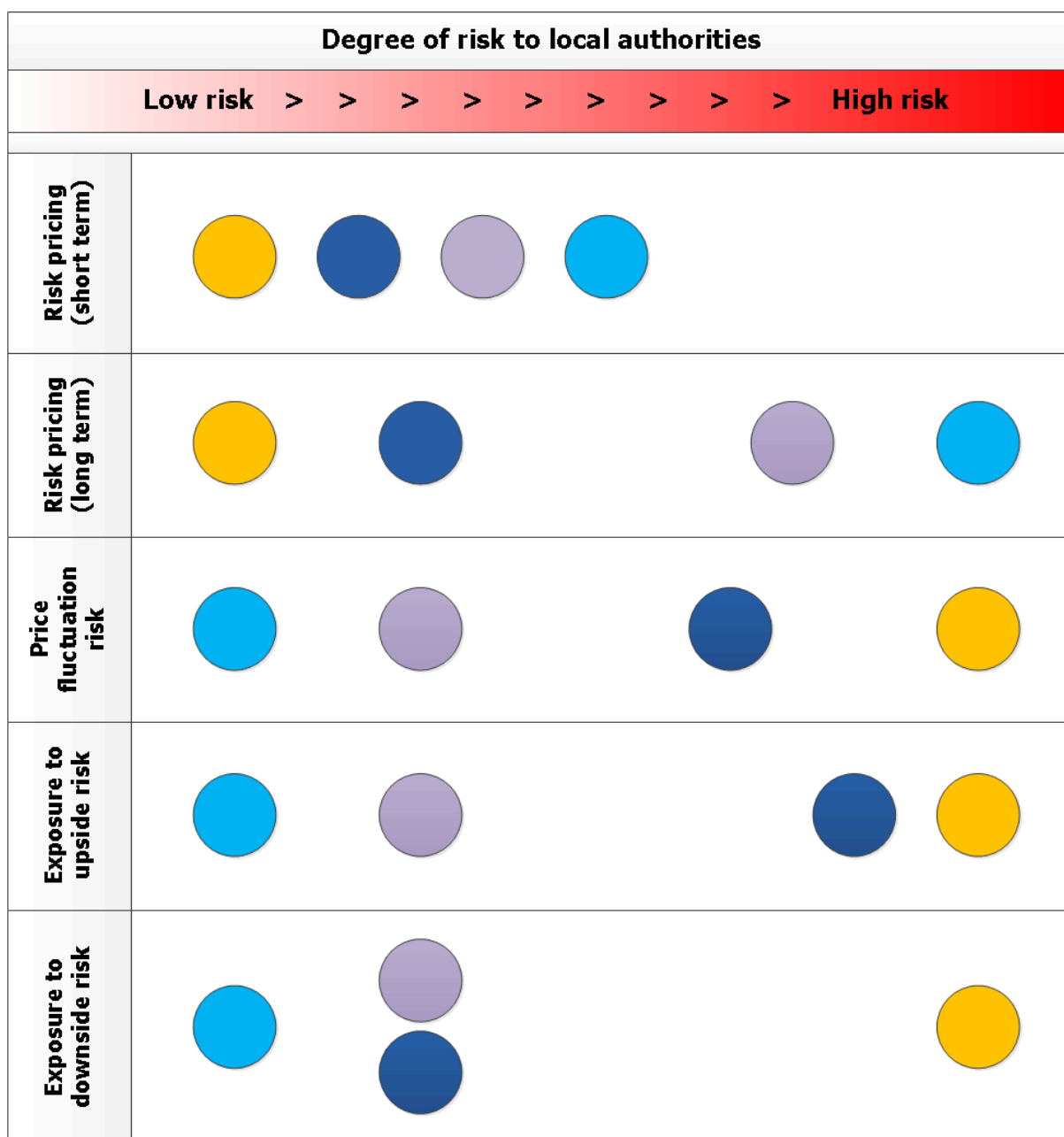
- Provision of a clear and mechanistic payment mechanism which cannot subsequently be manipulated by either party to the detriment of the other;
- Use of a risk-share mechanism between the local authority and the WMC in relation to materials income. The most common mechanism used is a 50/50 gain-share above a certain income threshold, though gain-shares of 75/25 in favour of the local authority are not unheard of. The downside risk in relation to materials prices can be shared between parties, though this is rarer than the upside risk being shared;
- How to extend transparency to transactions between companies within the contractor's group and ideally all the way through the supply chain to the ultimate reprocessor, to provide clarity on end destination and certainty that potential income is not being lost within intra-group trading.





Variable pricing is often thought of as following market prices, with the seller (local authority) taking the market fluctuation risk. This does not necessarily need to be so: it is possible to use a mechanism that shares the material price fluctuation risk between both the seller and buyer.

For instance, a mechanism that allocates risk between two parties could use a base price (for example the market value at the time of pricing) and then share the actual variation from this price calculated at each review time between the parties. The risk share could be 50% of the fluctuation to each party, or whatever share is determined to be appropriate. However, it is important to note that the more the risk is placed on the buyer the more it approaches the risk profile of a fixed price and so the more that risk pricing comes into play. This means that the possible upside risk of growth in value is not being fully obtained by the seller.

Figure 5 indicates where various mechanisms are perceived to lie on a scale of risk apportionment, for different types of risk to local authorities. The mechanisms considered include selling on the spot market, a fixed price, a tracker with a floor price and a tracker with risk sharing. Each mechanism is represented by a coloured circle and placed on a scale of low to high risk. The different types of risk have been listed separately, as they have different impacts on the scale of risk for different mechanisms. The types of risk shown in the diagram are risk pricing on a short term, risk pricing on a long term, price fluctuation risk, exposure to upside risk and exposure to downside risk. As described by Sections 10.1 and 10.2, there are a wide variety of different mechanisms that cannot all be considered within this diagram, which simply shows the basic mechanism variations.

Figure 5: Example of differing approaches to risk apportionment



Key	
	Spot market
	Fixed price
	Tracker with floor price
	Tracker with risk share

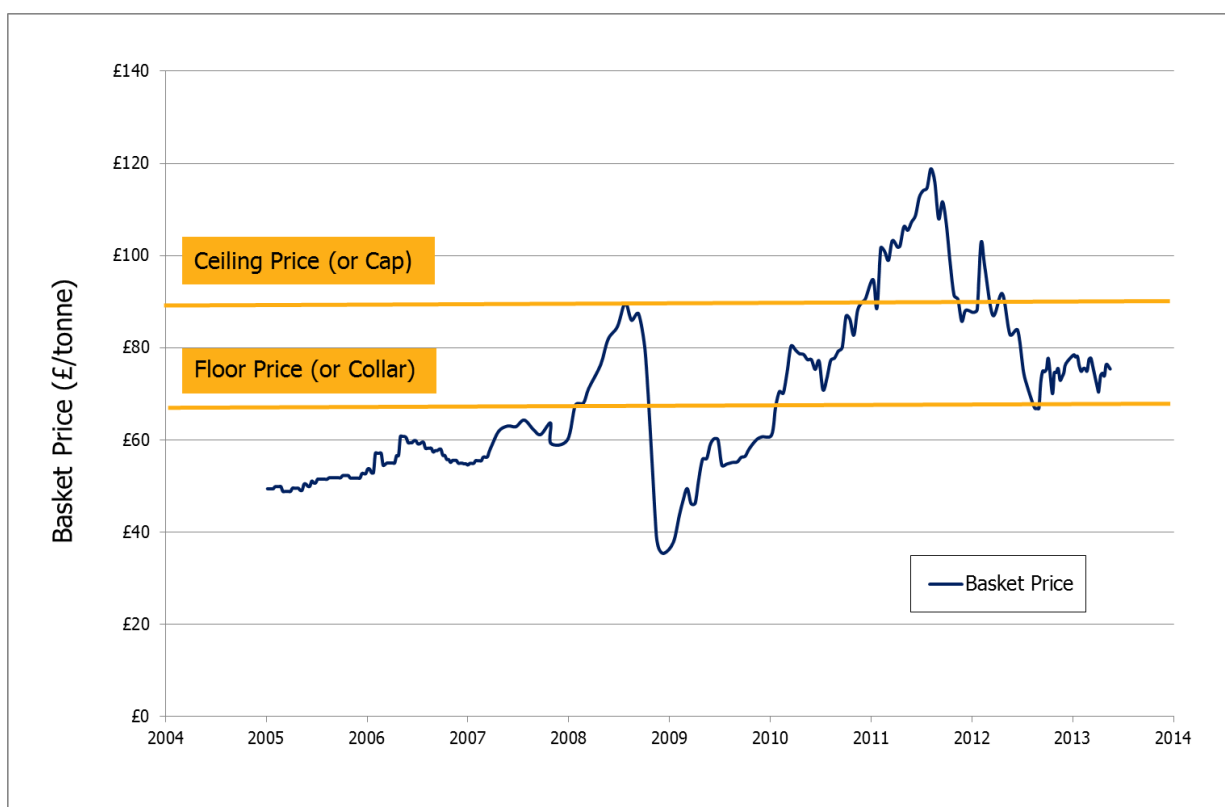
Example contract clauses using variable pricing can be found [here](#).

10.2.4 Restricting the movement of price paid within set boundaries

It is relatively common in a variable priced mechanism to agree a range of prices above or below which the price will not fluctuate. These are typically referred to as ceiling and floor prices, or caps and collars. It is important to remember that both floor and ceiling mechanisms are transferring risks between parties. If that transfer becomes more one sided then the potential downside risks increase for one party, and in extreme cases the process to find a buyer may fail, as buyers may deem the risk too great.

In the example shown in Figure 6 an authority has arranged a deal with a ceiling at £90 and a floor at £67 per tonne. They would receive the market price whilst this stayed within the ceiling and floor boundaries, but later in 2008 when the market price dropped below £67 per tonne the seller would have continued to receive £67 per tonne (the floor price). Throughout most of 2010 the market recovered, with the seller receiving market price until late in the year, when after the market price exceeded £90 per tonne the seller would no longer have received market value above the ceiling price.

Figure 6: Demonstration of floor and ceiling prices



Notes:

1. The basket of materials includes news & pams, cardboard, mixed glass, plastic bottles, steel cans and aluminium cans with a typical composition in terms of the proportion of each material represented
2. The basket price is calculated based on the mid-point of the price ranges for each material in the MPR

Ideally the process of setting either ceiling or floor prices should be competitive, with the seller asking various buyers what they are prepared to offer and the seller evaluating the offers accordingly. The evaluation of the offers in quantitative terms can be problematic, as the process should consider issues regarding likelihood and magnitude of impact of floor prices, without necessarily knowing the actual offers or what the market is going to do in the future. Keeping evaluation methods relatively simple is therefore advisable.

A local authority may wish to set a floor price to safeguard a current budget. Where a local authority has been receiving a relatively low income and market conditions are buoyant, this may well be possible and potential buyers could be asked to price on the basis that a seller-defined floor will apply. Clearly, this approach must be used with caution because it is possible to over value the agreement, which could result in a lack of competition or at worst there being no offers at all.

The concept of floor and ceiling prices go together and quite often both appear in the same mechanism, but it is not obligatory that both are used. When considering entering an agreement, a seller should consider the likelihood and magnitude of getting a good deal when a floor is in play and countering that risk with the likelihood and magnitude of getting a poor deal when only a ceiling price is in play. Theoretically these opposing risks may cancel each other out; therefore the price that is payable within the ceiling and floor prices would have little or no risk price attached to it. It is not that uncommon for a seller to only require a floor price. In this case, a buyer must consider the risks of the floor coming into play, and if there is a perceived risk will need to transfer the risk pricing to the price payable above the floor.

Example contract clauses using variable pricing can be found [here](#).

11.0 Material specific considerations

The best approach to marketing one material may not be the best (or even a viable option) for another material. Authorities need to recognise the importance of each material within the overall 'basket' of materials being marketed and to maximise the value from each in turn.

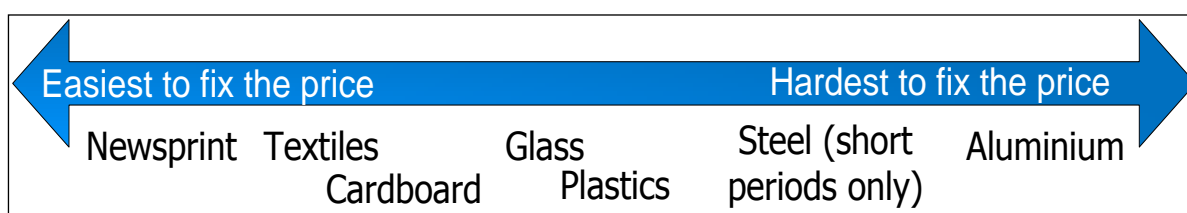
Allocations of risk and different contractual approaches may need to be taken for different materials. Reprocessors are, for example, happier to fix prices for some materials than for others, as demonstrated in Figure 7 below. For instance, when dealing directly with metal reprocessors, it is unlikely that fixed prices (particularly for aluminium) could be agreed. However, when included within a collection contract, a fixed price for metals may be agreed whereby the contractor takes the market fluctuation risk. There are some exceptions to the rule, but most merchants and reprocessors will only consider fixing prices for newsprint, textiles, and possibly cardboard. Even with these materials, fixing the price will in effect generally result in the authority paying a premium for passing the risk onto the merchant or reprocessor.

Norfolk County Council

On behalf of the Council, Norse managed to renegotiate a three year fixed price contract for aluminium with a metals reprocessor, at a time when the market value was particularly high (2010).

It is also important to re-iterate that quality is key when determining material value. Merchants or reprocessors may agree to a certain pricing mechanism, depending on the quality and consistency of the material (as discussed in Section 5.0). Reprocessors may accept a certain material from an authority at a specific price for a short time period, and renegotiate the price having seen the quality of the material first hand.

Figure 7: Ability of local authorities to fix prices with reprocessors for specific materials



With the exception of selling the material through a collection contractor (which is dealt with in Section 7.1), it is not possible or advisable to fix prices for some materials. **Table 3** provides further detail on this for specific material streams.

Table 3: Typical maximum term of arrangements for specific materials on a fixed price term

Material	Maximum term length	Additional notes
News and pams	3-4 years	There are examples of longer fixed price deals, but these are likely to have a relatively high risk cost associated with them.
OCC / hard paper mixes	2 years	-
Plastics	3 months	It is possible to fix prices for plastics when market prices are very low.
Glass	3-4 years	-
Steel cans	3 months	-
Aluminium cans	Generally not possible	-

11.1 Indices – tracker mechanisms

The key component of a variable price or tracker mechanism is to track the material price according to a published index, thus allowing prices paid to reflect variation that occurs in the wider market place. There are a number of potential indices that can be used to track materials prices; some of the key examples are:

- **MPR (WRAP's Materials Pricing Report):** UK focused, covers all the main material streams, providing a low to high price range per tonne. The prices are obtained from UK local authorities, reprocessors, brokers and waste management companies in exchange for receiving the monthly consolidated report. The report is free to subscribers, see <http://www.wrap.org.uk/content/materials-pricing-report>;
- **LetsRecycle.com:** UK focused, covers all the main material streams, providing a low to high price range per tonne. The prices are obtained by asking UK reprocessors for their current prices. Published free online, see <http://www.letsrecycle.com/prices>;
- **London Metals Exchange:** global benchmark focused on metals trading only. Prices are obtained from actual traded prices through the exchange. Subscription fee payable, see <http://www.lme.com/>;
- **EUWID (Europäischer Wirtschaftsdienst GmbH):** European figures, covers paper and cardboard, wood, glass packaging and plastics. Prices are obtained by asking European buyers and sellers, merchants and end users for prices. In the price reporting, EUWID does not take into account spot prices or long-term contracts. Subscription fee payable, see <http://www.euwid.com/>;
- **Platts:** global benchmark focused on metals trading and also on oil and petrochemicals. Prices are obtained from actual traded prices through the exchange. Subscription fee payable, see <http://www.platts.com/product-list/all/all/priceindices>;
- **Scrap-ex:** global market prices covering metals, paper and plastics. Based on real traded prices supported by research from teams based in the UK, US and China. For real time data a subscription fee is payable. High level summary available for free, but doesn't include all potentially relevant grades (e.g. mixed plastics not listed), see http://www.scrap-ex.com/scm_intelligence/; and

- **Plasticker:** European coverage for plastics streams. Prices are obtained from offers and requests made through the exchange. Access is free though subscription is required, see <http://plasticker.de/>.

When deciding on which index to base a tracker mechanism, it is important to consider the following:

- **Reprocessors tend to prefer the index to be specific to the material in question and related to traded prices.** For example, for aluminium you might consider using the London Metals Exchange or Platts, whereas for plastics it might be worth using Plasticker. EUWID might be a happy medium, providing data on more than one material that is wider in scope than the UK and based on sources from both sides of the market, i.e. buyers and sellers. Indeed, in its recent joint procurement of materials marketing, the Devon partnership has based its tracker mechanism on this index.
- However, this needs to be balanced against **the cost to the local authority** of accessing the different indices and, where more than one material outlet is to be included in a single procurement (e.g. for co-mingled mixes), the simplicity of a single index against which prices can be tracked.
- Several of the indices listed above are published in US Dollars or Euros rather than in pounds sterling. If an authority is going to use one of these indices, it will be important to **consider currency fluctuation risk** and how the contract's exchange rate mechanism is drafted. This can again be fixed (with for example an agreed 'pounds to Euros' rate set at the start of the contract) or variable, tracking an agreed published source of exchange rate information.

11.2 Practical considerations for accessing the market

As well as determining the pricing mechanism to use for a materials marketing contract, it is also important to consider how to present the material to the reprocessor in order to obtain maximum value for it.

Some local authorities might be concerned that they are too far away from a reprocessor to make their material attractive to buy, or that they do not have enough material to be an attractive proposition. However, in reality, as long as there is sufficient material to reasonably regularly fill a single bulk trailer, whether a reprocessor wants to take the material is far more likely to be related to its quality than to where a local authority is located. The location will simply determine the costs of hauling the material to a facility, which a local authority would have to pay whether it was doing this itself to direct deliver to a reprocessor, or as part of an overall ex-works price. In either case, there are several key considerations with regards to how the material is to be stored and presented:

- Having **sufficient storage space** for the various dry recycling material streams at the depot or waste transfer station to enable full bulk loads of material to be hauled to the reprocessor;
- **Ensuring that a bulk trailer can access the site** at which the material is stored and that it can be easily loaded. If the site is not large enough to accommodate a bulk trailer the costs of hauling the material will increase significantly. In a recent procurement where prices were asked for both bulk trailer and hook-lift skip haulage, the overall ex-works price differential quoted from bidders was between 34% and 72% higher for skip compared to bulk haulage;

- **Determining whether to supply the material loose or baled.** Plastics and cardboard should definitely be baled for transport; for other materials it may depend on the space you have for baling equipment and the preferences of the reprocessor; and
- **Making sure that the material is baled appropriately;** there are bale standards that need to be met as part of reproprocessors' acceptance criteria which, if met, will ensure the best possible price. If in doubt, speak to reproprocessors about their preferences.

As discussed in Section 5.2, the quality of material is likely to be an important factor in the material price obtained, and should be considered in any service change and in how the material is offered up for subsequent reprocessing.

12.0 Co-mingled Materials

If you are a local authority sending co-mingled recyclables to a Materials Recovery Facility (MRF), it is important to have an understanding of the economics of MRF operations. The gate fee that a MRF operator offers in effect incorporates a number of components, including the costs of storage, handling, transport and sorting and the disposal of rejected material. These costs are offset by the value that is obtained from the sale of recyclable materials; so the risks affecting the trading of separately collected materials still apply to co-mingled materials.

The risks associated with waste composition, quantity, and market fluctuation in prices discussed throughout this guidance document and particularly in Section 4.0, fundamentally remain the same for local authorities operating a co-mingled collection of materials. An important difference is that MRF economics are driven by more relatively fixed elements of cost, in particular the cost of sorting the materials. However, even the sorting cost is subject to fluctuation. For instance, the quantity and quality risks associated with the unknown composition of incoming mixed materials impacts on the sorting costs. More contaminated loads cost more to sort, through increased processing requirements, reduced throughput, maintenance and disposal costs. Also, a changing mix of material in terms of bulk density and precise composition may have a marginal impact on throughput and therefore processing cost per tonne.

The separated materials produced by a MRF can be of a lower quality than materials separated by kerbside sort collection systems. Consequently the materials could have a lower value per tonne and may be more exposed to a downturn in the market, where lower quality materials become increasingly difficult to sell. Whether the materials will be of a lower quality (and potentially therefore have a lower value) will depend on the input and the MRF.

The current lack of robust and consistent information on quality represents a market failure as it undermines the ability of reprocessors to confidently identify MRFs that meet their quality specifications, and means the price paid for material does not necessarily reflect its quality. Feedback of information on quality through the supply chain and back to collectors and local authorities has historically often been inhibited by the fact that material from multiple sources is often processed at the same MRF, and this limits incentives to improve quality of feedstock. The Materials Facility Regulations (MF Regulations), as explained in 12.1 below, are designed to help overcome this.

The above factors are worth taking into account if a local authority is considering establishing a quality-based payment mechanism in a contract with a MRF operator. The different perspectives and risks faced by both the local authority and the MRF operator are outlined in the sections below.

12.1 Local Authority Perspective

There are a number of different service options available to an authority that provides a co-mingled collection service, including:

- Both the collection service and the MRF facility are provided by the collection contractor;
- The collection service is undertaken by a collection contractor but the MRF operation is subcontracted to a third party MRF;

- Both the collection service and the MRF operation are undertaken in-house; or
- The collection service is undertaken in-house but the MRF operation is contracted to a third party MRF.

Historically MRF contracts with local authorities have tended to be based on a fixed price. The vulnerability of MRF products to downturns in material values has often resulted in MRF operators seeking to renegotiate fixed price contracts during a period of decline in market prices. Therefore it is becoming increasingly common for MRF operators to establish contracts with local authorities that employ a variable price mechanism using a tracker, as this type of mechanism incorporates a degree of consideration for material values and potentially composition risk (see Section 10.2 for further information).

It is not uncommon for MRF operators to mix waste from multiple local authority contracts (and potentially non-local authority sources) to input into their facility. The MF Regulations which came into force on 5th March 2014 (and will come into effect on 1st October 2014) as part of amended Environmental Permitting Regulations in England and Wales require the mandatory sampling and composition testing of materials from individual authorities before they are processed in the MRF, as shown in **Table 4**. This will enable MRF operators to better differentiate the quality standards of materials received from different authorities.

The regulations provide a routine sampling mechanism for local authority input composition to be determined by the MRF every quarter. Taking average results from a number of quarters should provide material composition information that is accurate enough to be used in contracts. If the local authority has any concerns with the composition split then they would need to discuss further sampling arrangements with the facility.

Table 4: MF Regulations - sampling frequencies and weights

	Sample Weight (kg)	Sample Frequency (1 Sample per Throughput (tonnes))	
		INITIALLY	AFTER 2 YRS
Input	60	160	125
Paper	50	80	60
Glass	10	50	50
Metal	10	20	20
Plastic	20	20	15

12.2 MRF Operator Perspective

A key risk for MRF operators is contract duration, as the length of the contract determines the length of time the contractor has to absorb certain risks. Where a local authority is looking for a longer contract, of around five to ten years, the authority will most likely have to be prepared to have a larger share of the risk, as the MRF contractor will be unwilling to absorb all of the risks associated with material quality, composition, quantity and market price fluctuation. Whereas if the local authority is searching for a shorter contract, of around 1 year, the MRF operator is more willing to accept these risks due to the short and finite timescale.

13.0 Appendix 1: Example Contract Clauses

The example clauses included in this Appendix are intended to be used as a guide to those drafting collection contracts for dry recyclables and are not meant to be simply copied and pasted into a draft contract. They provide applied expression of the concepts described in the main body of the Guidance, but are by necessity generic and simplified to allow authorities in a wide range of circumstances to make use of them. As such, they may provide a useful starting point to some authorities, but will require significant editing in most cases.

In particular, it should be noted that the clauses are intended to be incorporated into a wider payment mechanism that is likely to include a number of additional features in relation to matters such as invoicing, VAT, wider indexation and price review and mechanisms to facilitate deductions for performance failure by the contractor. Some of these elements are referred to within the example clauses simply to assist with integrating the example drafting into your own contract. However, in using the examples, it is imperative that the context provided by the rest of the contract is taken into consideration as this is likely to have a fundamental impact on the legal meaning of these clauses.

This drafting is intended to do no more than provide a useful source of ideas, and authorities should take their own legal advice to establish the appropriateness of this example drafting to the authority's circumstances and to adapt it as necessary.

Relevant definitions are provided at the start of each example and these are followed by the clause drafting itself, where these defined terms are capitalised. Definitions are not comprehensive and some capitalised terms are included that do not have definitions to go with them, where these are terms that one would expect to be included in a contract but are not material to the mechanics of the clause.

Square brackets denote elements of the drafting that could be amended on a case-by-case basis or gaps or missing cross-references that would have to be completed in the context of the rest of the contract.

13.1 *Contractor owns and takes all risk on materials clause*

This clause is intended to be used in circumstances where the collection contractor will own and be responsible for trading all recyclables collected under the contract. The contractor keeps the proceeds of all material sales, but also takes the risk on all market fluctuation and change in composition and yield of recyclables. The contractor's material revenue assumptions will have been incorporated into the price submitted at the tender stage for the collection contract. This drafting provides the authority with comfort as to the end destination of material collected by the contractor and ensures a high degree of transparency on the part of the contractor in reporting the fate of material collected and the value obtained for it. Importantly, it also provides the authority with the option of taking over the contractor's material trading contracts in the event of termination of the contract.

Definitions:

"Affiliate" means in relation to any person, any holding company or subsidiary of that person or any subsidiary of such holding company, and "holding company" and "subsidiary" shall have the meaning given to them in section 1159 of the Companies Act 2006, save that for the purposes of determining whether one entity is an Affiliate of another any transfer of shares by way of security or to a nominee of the transferor shall be disregarded;

"Collected Recycling" means Waste collected by the Contractor in accordance with the Specification for Recycling as further detailed in the Method Statement and includes any Contrary Items that the Contractor has collected from the Collection Containers;

"Contrary Items" means Waste items that are presented with or mixed within Collected Recycling but are not specified as Recyclable Materials within the Specification or the Method Statement;

"Process Loss" means any material(s) shipped for Recycling which is then rejected at either the intermediate processing or reprocessing stage as contrary material and is sent for residual waste treatment and/or disposal;

"Recyclable Materials" means the Waste collected by the Contractor in accordance with the Specification for Recycling as further detailed in the Method Statement but excluding Contrary Items;

Clause:

1. The Contractor shall not enter into any contract in respect of Collected Recycling under this Contract ("Third Party Contract") unless such contract:
 - a. is on reasonable arm's length terms including, for the avoidance of doubt, as regards the payment of income to the Contractor; and
 - b. includes a right on the part of the Contractor to assign, at the request of the Authority, free of charge, the Contractor's rights, title and interest in and to the relevant contract to the Authority (or any person nominated by the Authority) on any early termination of this Contract;
 - c. contains provisions whereby the breakage costs and the Losses in circumstances where they could be passed to the Authority are limited to those that a commercially prudent contractor would accept in an arm's length contract for the relevant contract and further are limited to Direct Losses.
2. The Contractor shall, before entering into any Third Party Contract with an Affiliate, confirm to the Authority that the requirements of this clause [] shall be met (together with such evidence as the Authority may reasonably require) and the Authority has confirmed in writing (not to be unreasonably withheld or delayed) that it is satisfied that such contract(s) shall meet such requirements.
3. The Contractor shall be entitled to all of the income from the sale of all Recyclable Materials during the Contract Period.
4. The Contractor shall maintain records (copies to be provided upon request to the Authority) throughout the Contract Period detailing for each month:
 - a. the total weight of Collected Recycling;
 - b. the end destinations of all Collected Recycling;
 - c. the total sum received from purchasers or amounts paid by the Contractor in respect of Collected Recycling;

- d. the identity of the purchasers of all Recyclable Materials;
- e. all information relating to Process Loss; and
- f. any other information which the Authority may reasonably require from time to time.

13.2 Tracker clause

Under this clause, the income received from the sale of recyclable materials is deducted from the amount paid to the contractor. As such, the contractor is responsible for marketing the recyclables, but the authority in effect receives the income from their sale as a discount from the service price. The MPR is used as a means of indexing this discount to fluctuations materials markets. In effect, the authority takes the risk on the material value, volume and composition, apart from an element that the contractor prices at the point of tendering (the "MPR Adjustment Value") which reflects the contractor's view as to the difference between the market value of the material collected under the contract and the value as published in the MPR. Note that the mechanism as drafted only relates to mixed paper (news and pams and cardboard) but could easily be extended to cover a wider 'basket' of recyclables.

Definitions:

"Mixed Paper Revenue Deduction" means the deduction from the Service Payment relating to the tonnage of material received by the Contractor from the Mixed Paper Stream and calculated in accordance with clause [4];

"Mixed Paper Service Charge" means the monthly charge for the provision of the Mixed Paper Collection Service;⁹

"Mixed Paper Stream" means a mixture of News and Pams, Cardboard and contraries;¹⁰

"Mixed Paper Stream Contractor's MPR Adjustment Value" means the nominal adjustment value relating to one tonne of material from the Mixed Paper Stream calculated in accordance with the following formula:

$$(A \times 80\%) + (B \times 20\%)$$

Where:

A is the value tendered by the Contractor against item [] "News and Pams" in the Schedule of Rates; and

B is the value tendered by the Contractor against item [] "Cardboard" in the Schedule of Rates;¹¹

⁹ This is the price for providing all of the services under the contract, so in practice could be significantly more complex than is described here.

¹⁰ The inclusion of 'contraries' in this definition makes clear that there will be some non-target material in the Mixed Paper Stream collected from households.

¹¹ These adjustment values would have been bid back by the contractor at the time of tendering, to reflect the contractor's view as to the likely value of material collected under the contract relative to the MPR grades and values. This might reflect a perception that the material is in fact of a higher (or lower) than average quality, or that the MPR does not reflect the 'real' market that the contractor has access to.

"Mixed Paper Stream MPR Published Price" means the nominal market value of one tonne of material from the Mixed Paper Stream calculated in accordance with the following formula:

$$(A \times 80\%) + (B \times 20\%)$$

Where:

A is the highest MPR value for "News and Pams" published in the first Materials Recycling Weekly published in the Payment Month; and

B is the highest MPR value for "OCC" published in the first Materials Recycling Weekly published in the Payment Month;

"Mixed Paper Transportation Rate" means the value tendered by the Contractor against item [] in the Schedule of Rates;

"Mixed Paper Transport Charge" means the charge made as part of the Service Payment relating to the tonnage of material received by the Contractor from the Mixed Paper Stream and calculated in accordance with clause [];

"MPR" means the Material Pricing Report commissioned by the Waste and Resources Action Programme and published by Materials Recycling Week (or any substitute publication) or failing such publication or in the event of a fundamental change to the report, such other source of relevant data as the parties may agree, or, in the event that no such agreement is reached, as may be determined in accordance with the Dispute Resolution Procedure;

Clause:

13.2.1

Payment

1. Within ten days following the end of each month, the Contractor shall compile and submit to the Authority a statement (the "Service Statement") for the month most recently ended, which shall comprise the following:-
 - a. the tonnes of material collected from the Mixed Paper Stream multiplied by the Mixed Paper Transportation Rate (the "Mixed Paper Transport Charge");
 - b. the Mixed Paper Service Charge;
 - c. the Mixed Paper Revenue Deduction;
 - d. the total payment amount (being the sum of (a) - (c) above minus the total Service Default Deductions for the relevant month as notified by the Authority during such month pursuant to clause []),

in each case together with all relevant calculations.

2. The Authority shall within five Business Days following receipt of any Service Statement confirm receipt and:¹²

¹² This drafting addresses the possibility that the value of the material traded and any other deductions made may exceed the contractor's price for providing the service, resulting in a 'negative' overall price for the month. Where it is considered that there is no risk of this occurring (perhaps because the basket of materials targeted by the contract includes a significant proportion of low value materials) then this drafting could be excluded.

- a. where the sum of the Mixed Paper Transport Charge and Mixed Paper Service Charge exceeds the sum of the Mixed Paper Revenue Deductions and Service Default Deductions, confirm such amount (and the Contractor shall be entitled to invoice the Authority accordingly in such amount); or,
- b. where the sum of the Mixed Paper Revenue Deductions and Service Default Deductions exceeds the sum of the Mixed Paper Transport Charge and Mixed Paper Service Charge, issue an invoice in such amount to the Contractor (to be paid in full by the Contractor [within [] Business Days] *or* [in accordance with clause []]).

13.2.2

Deduction for Material Sales

3. In any Payment Month the Mixed Paper Revenue Deduction shall be deducted from the Service Payment for that Payment Month in accordance with clause [].
4. The value of the Mixed Paper Revenue Deduction in any Payment Month shall be calculated according to the following formula:-

$$(V + A) \times T$$

Where:

V is the Mixed Paper Stream MPR Published Price;

A is the Mixed Paper Stream Contractor's MPR Adjustment Value; and

T is the tonnage material from the Mixed Paper Stream collected by the Contractor during the Payment Month.

This clause provides a different approach to sharing risk with the contractor. Here, the contractor is allowed to keep all overall profit under the contract up to a certain level, but above that level, this 'excess profit' would be shared with the authority. Such excess profit could derive in part from above-forecast material revenues and as such the authority can share in the upside risk on material values. However, the authority is not exposed to downside risk, as the contractor has to absorb the impact of profits that are below the agreed excess profit threshold. This can still be an attractive mechanism from the contractor's perspective, as fluctuations in material values are incorporated into an overall gain share mechanism rather than being treated outside of the overall financial performance of the contract. This provides a degree of protection to the contractor, in that higher than forecast material revenues can be used to offset higher than anticipated costs in other parts of the service before having to be shared with the authority.

Definitions:

"Contract Revenues" means income received by the Contractor from third parties for the sale of goods or services relating directly to the Services, including but not limited to the sale of Recyclable Materials;

"Direct Local Costs" means the direct costs incurred by the Contractor in respect of the provision of the Services during any Contract Year including (but not limited to) wages and salaries, employers national insurance contributions, pension contributions, other staff benefits, car allowances, other employment costs, on-going training costs, travel costs, other staff costs, vehicle costs (fuel and non-fuel), machinery and equipment, administration and office costs, depreciation on vehicles and equipment, materials, sub-contractors, consumables and interest charges on leases (provided these can be demonstrably directly attributed to the cost of providing the Services), but excluding all regional, divisional and corporate overheads and recharges;

"Excess Profit" means the Net Profit above a Net Profit Margin of [] per cent ([]%) in any Contract Year;¹³

"Excess Profit Share" means the mechanism by which profits generated by this Contract above the agreed threshold are shared between the Contractor and the Authority in accordance with clause [];

"Excess Profit Share Deduction" means the deduction in relation to any Excess Profit Share as described in clause [];

"Net Profit" means the Total Contract Income less the Net Service Cost in any Contract Year;

"Net Profit Margin" means the Net Profit as a percentage of the Total Contract Income in any Contract Year;

"Net Service Cost" means the Direct Local Costs less all Contract Revenues in any Contract Year;

¹³ This value could either be specified by the authority or more commonly bid back by the contractor at the tender stage.

"Total Contract Income" means the total amount paid by the Authority to the Contractor under this Contract in any Contract Year, net of any deduction made in respect of Performance Deductions or Other Deductions.

Clause:

13.3.1 Excess Profit Share Deductions

1. The Authority acknowledges that in providing the Services to the standards set out in the Contract the Contractor is entitled to make a fair profit. The Parties acknowledge that the Contractor is entitled to make up to [] per cent ([]%) Net Profit Margin in any Contract Year.
2. The Contractor shall bear all risk of any shortfall in Net Profit Margin below [] per cent ([]%). Any Excess Profit shall be shared between the Authority and the Contractor. The Authority shall be entitled to receive [] per cent ([]%) of the Excess Profit through the Excess Profit Share Deduction.¹⁴
3. Within twenty (20) Business Days following the end of a Contract Year the Contractor shall submit a written statement to the Authority identifying the Net Profit Margin attained in that Contract Year and, where requested by the Authority, a Certificate of Costs in support of such statement within twenty (20) Business Days following the submission of the statement.
4. The Excess Profit Share Deduction shall be deducted from the first Service Payment in the Contract Year following the Contract Year upon which the calculation of the Excess Profit Share was based.

13.4 Risk sharing clause with floor price and composition risk share

These clauses incorporate a number the mechanisms that have been discussed in the Guidance. Material value fluctuation risk is shared between the authority and contractor, using the MPR as a benchmark for market price change. The risk of fluctuation in composition is also shared. As a backstop for the authority, a floor value is used to ensure that downside risk to the authority relating to the materials markets is limited. Note that the mechanism as drafted only relates to mixed paper (news and pams and cardboard) but could easily be extended to cover a wider 'basket' of recyclables.

¹⁴ The value of the profit share percentage could either be specified by the authority or bid back by the contractor at the tender stage. A 50/50 split is commonly used.

Definitions:

"Cardboard Composition" means the concentration of cardboard in the Mixed Paper Stream which on the Service Commencement Date shall be 20% but which shall be subject to change in accordance with clause [].¹⁵

"Commodity Floor Rate" means the agreed minimum value per tonne for the Mixed Paper Stream, calculated in accordance with the following formula:

$$(A \times Y) + (B \times Z)$$

Where:

A is the value tendered by the Contractor against item [] "News and Pams Floor Rate" in the Schedule of Rates;

B is the value tendered by the Contractor against item [] "Cardboard Floor Rate" in the Schedule of Rates;

Y is the New and Pams Composition; and

Z is the Cardboard Composition.¹⁶

"Mixed Paper Current Value" means the amount calculated in accordance with clause 5;

"Mixed Paper Floor Value" means the amount calculated in accordance with clause 6;

"Mixed Paper Revenue Deduction" means the deduction from the Service Payment relating to the tonnage of material received by the Contractor from the Mixed Paper Stream and calculated in accordance with clause 13.4.2;

"Mixed Paper Service Charge" means the monthly charge for the provision of the Mixed Paper Collection Service;

"Mixed Paper Stream" means a mixture of News and Pams, Cardboard and contraries;

"Mixed Paper Stream Contractor's Day One Price" means the nominal basket value relating to one tonne of material from the Mixed Paper Stream calculated in accordance with the following formula:

$$(A \times Y) + (B \times Z)$$

Where:

A is the value tendered by the Contractor against item [] "News and Pams" in the Schedule of Rates;

B is the value tendered by the Contractor against item [] "Cardboard" in the Schedule of Rates;

Y is the New and Pams Composition; and

Z is the Cardboard Composition;

¹⁵ This clause cross-refers to a clause that is not included in the drafting under which the composition used to calculate the material value deduction would be varied over time to reflect the actual composition. This could be done monthly, quarterly or annually and the change in composition risk could also be shared, by only applying a percentage of the fluctuation into the mechanism.

¹⁶ In the current drafting, these floor rates are assumed to have been bid back by the contractor. In practice these could be specified by the authority, although this would have to be based on reasonable market knowledge and would run the risk of significant risk pricing against a floor that was perceived as having been set too low.

"Mixed Paper Stream MPR Adjustment Rate" means the nominal change in the basket value of one tonne of material from the Mixed Paper Stream calculated in accordance with the following formula:

$$((A-B) \times Y) + ((C-D) \times Z)$$

Where:

A is the highest MPR value for "News and Pams" published in the first Materials Recycling Weekly published in the relevant Payment Month;

B is the highest MPR value for "News and Pams" published in the first Materials Recycling Weekly published in the previous Payment Month;

C is the highest MPR value for "OCC" published in the first Materials Recycling Weekly published in the relevant Payment Month;

D is the highest MPR value for "OCC" published in the first Materials Recycling Weekly published in the previous Payment Month;

Y is the News and Pams Composition; and

Z is the Cardboard Composition;

"MPR" means the Material Pricing Report commissioned by the Waste and Resources Action Programme and published by Materials Recycling Week (or any substitute publication) or failing such publication or in the event of a fundamental change to the report, such other source of relevant data as the parties may agree, or, in the event that no such agreement is reached, as may be determined in accordance with the Dispute Resolution Procedure;

"News and Pams Composition" means the concentration of news and pams in the Mixed Paper Stream which on the Service Commencement Date shall be 80% but which shall be subject to change in accordance with clause [].

Clause:

13.4.1

Payment

1. Within ten days following the end of each month, the Contractor shall compile and submit to the Authority a statement (the "Service Statement") for the month most recently ended, which shall comprise the following:-
 - a. the Mixed Paper Service Charge;
 - b. the Mixed Paper Revenue Deduction;
 - c. the total payment amount (being the sum of (a) and (b) above minus the total Service Default Deductions for the relevant month as notified by the Authority during such month pursuant to clause []),in each case together with all relevant calculations.
2. The Authority shall within five Business Days following receipt of any Service Statement confirm receipt and:
 - a. where the sum of the Mixed Paper Service Charge exceeds the sum of the Mixed Paper Revenue Deductions and Service Default Deductions, confirm such amount (and the Contractor shall be entitled to invoice the Authority accordingly in such amount); or

- b. where the sum of the Mixed Paper Revenue Deductions and Service Default Deductions exceeds the sum of the Mixed Paper Service Charge, issue an invoice in such amount to the Contractor (to be paid in full by the Contractor [within [] Business Days] *or* [in accordance with clause []]).

13.4.2

Deduction for Material Sales

3. In any Payment Month the Mixed Paper Revenue Deduction shall be deducted from the Service Payment for that Payment Month in accordance with clause 13.4.2.
4. The Mixed Paper Revenue Deduction for the month shall be the lower of the Mixed Paper Current Value and the Mixed Paper Floor Value.
5. The value of the Mixed Paper Current Value in any Payment Month shall be calculated according to the following formula:-

$$(V \times [50\%]) + A) \times T^{17}$$

Where:

V is the Mixed Paper Stream MPR Adjustment Rate;

A is the Mixed Paper Stream Current Value that applied during the preceding Payment Month; and

T is the tonnage material from the Mixed Paper Stream collected by the Contractor during the Payment Month.

6. The value of the Mixed Paper Floor Value in any Payment Month shall be calculated according to the following formula:-

$$F \times T$$

Where:

V is the Commodity Floor Rate;

T is the tonnage material from the Mixed Paper Stream collected by the Contractor during the Payment Month.

7. Within ten days following the end of the last month in a Contract Year, the Contractor shall compile a statement (the "Annual Service Statement") which shall comprise the following:-
 - a. the Monthly Statement for the last month of the Contract Year (calculated in accordance with clause 1);
 - b. the "Annualised Mixed Paper Current Value" which shall be the sum of the Mixed Paper Current Value calculated for each Payment Month in the Contract Year;
 - c. the "Annualised Mixed Paper Floor Value" which shall be the sum of all of the Mixed Paper Floor Values calculated for each Payment Month in the Contract Year,

¹⁷ As currently drafted, this clause allocates 50% of the material value fluctuation risk to the authority. This could be increased or decreased to reflect the authority's appetite for risk (both upside and downside).

and where the Annualised Mixed Paper Current Value is lower than the Annualised Mixed Paper Floor Value, the difference shall be the “Annual Reconciliation Payment” and where an Annual Reconciliation Payment is due, the Contractor shall refer to this in the Annual Service Statement and shall be entitled to invoice the Authority the relevant amount as part of the invoice for the last Payment Month in the relevant Contract Year.¹⁸

¹⁸ This clause allows the application of the floor price to be reconciled annually, meaning that each year where the floor price had applied during some Payment Months but not others, the contractor would be protected somewhat by the average position over the year as a whole being applied through an adjustment payment.

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