

## Material Recovery Facilities in England

### Material Recovery Facilities: the Future Solution to Higher Recycling Rates for Dry Fractions?

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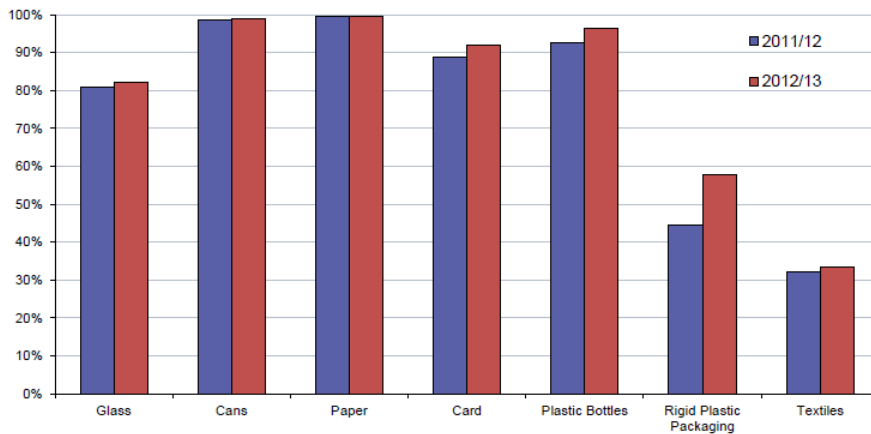


## Eunomia

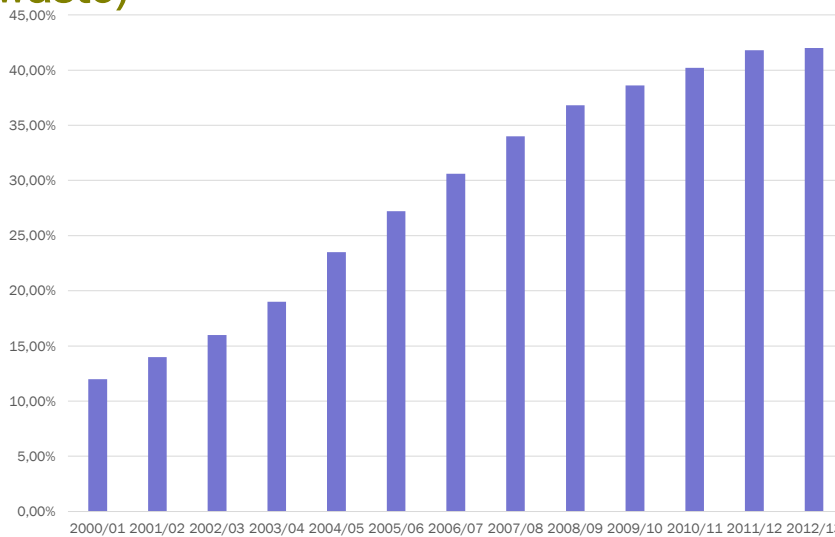
- Established 2001
- Offices in Bristol and London (UK)
- 47 staff
- European waste policy
- UK based work
  - Options appraisal (roughly 1/3 UK local authority collected waste)
  - Procurement
  - Efficiency in service delivery (LA spending cuts)
- Work closely with WRAP

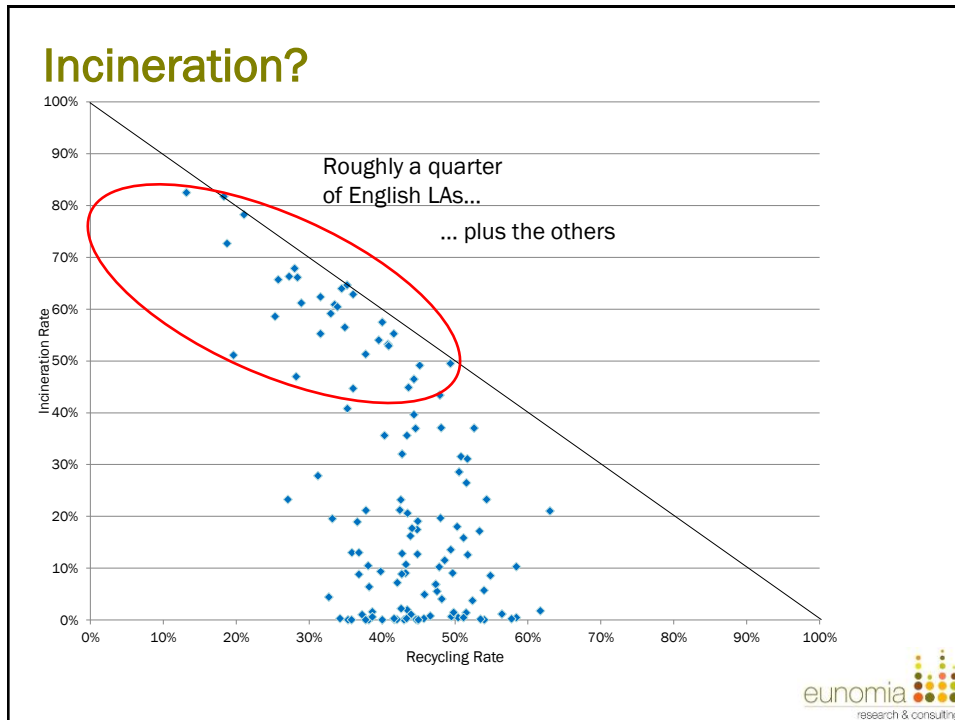


## Background – UK LAs Kerbside Collection



## Background – England Recycling Rate (hhld waste)





## History

- Early days of recycling
  - No MRFs
  - Single streams of material
    - Paper collection
    - Glass collection
  - Several not-for-profit groups
  - High quality materials

## History (2)

### ➤ Early MRFs

- **Local authorities become involved in recycling**
  - Local authority companies seek something 'similar to' refuse collection
  - Some 'design and build', some 'design build and operate' MRFs
  - Often, poor results – poorly run / operated / maintained
- **MRFs for commercial waste**
  - Several early ones collapsed
  - No demand for them
  - Segregated streams (office paper, card, cans, glass)

## History (3)

### ➤ Early MRFs

- **Local authority 'integrated waste management' contracts**
  - Procurement for all services other than collection
  - Principle rationale was big ticket items such as incinerators
  - MRFs lumped in with other infrastructure
  - Examples – Project Integra (Hampshire), West Berkshire, Surrey, Brighton and East Sussex, West Sussex, Greater Manchester
  - Note – Problem of tail wagging the dog

## History (4)

- **More recently**
  - **Private companies with (multiple) collection contracts**
  - **Policy drivers clear in respect of 'more recycling'**
    - **Relatively low quantum of capital expenditure**
    - **Reduced risk that capacity will be taken up**
    - **Companies happier dealing with refuse style services**
    - **Collection rounds matched when refuse and recycling services are alternated (NB - not necessarily efficient)**

## History (5)

- **More recently**
  - **Some joint ventures**
    - **Norfolk, Suffolk**
    - **Owned by local authority, operated by contractor**
    - **Balancing of risks**
      - **Low cost finance from local authority**
      - **Service provided by contractor**
  - **Relatively low quantum of capital expenditure helps**
  - **Local authorities not always 'cash rich' but able to borrow under certain conditions**

## Some Issues

- English experience – split of responsibility for collection and treatment
  - MRF often procured by upper tier (County)
  - Collection undertaken by lower tier (Districts)
  - Districts used to be incentivised by recycling credits
  - County allowed Districts to access MRFs in lieu of sacrificing recycling credits
  - But District collections often did not need MRFs
  - Either County or MRF contractor making large profits
- Lessons
  - Make sure nature of collection is understood (match the two)
  - Make sure incentives are the right ones for all parties (those recycling benefit from avoided residual waste treatment costs)

## Some Issues

- Local authorities used to be uninterested in material revenue
  - Main interest was budgetary certainty
  - Fixed gate fee / unitary charge payments over contract life
- Last 10+ years, excepting two 'blips'
  - Many contractors benefiting from many years of upside in material prices
- Situation changing as material value increases and local authority budgets tighten
  - LAs not good at renegotiation
- Lessons:
  - Don't externalise all risk (poor value)
  - Share pain and gain on revenue

## Some Issues

- **Where PPP (PFI) MRFs do well:**
  - MRF element is a focus (not a sideshow)
  - Contractor incentivised to operate well – minimise rejects and maximise quality
  - BUT – municipalities must also be incentivised to deliver better quality materials
  - This requires frequent sampling (so quality can be checked)
  - It gets to be more expensive
  - Fine if the financing is under a larger procurement supported by Government credits (PFI)
- **Lessons**
  - Guarantees of quality output / low rejects likely to depend on decent input – need to get collection right

## Some Issues

- **Quality**
  - Glass is a problem in comingled collections
  - Very difficult to get out once it's in the mix
  - Affects the quality, and marketability, of the major materials, notably paper and card
  - UK is reliant on export markets – Chinese Green Fence has had a major impact
  - Waste crime (fires?)
  - More difficult for low quality material to stay in UK
  - Cost of disposal of contaminants post-sorting approaching €20 per tonne
- **Lessons**
  - Quality is an issue – links to the collection system

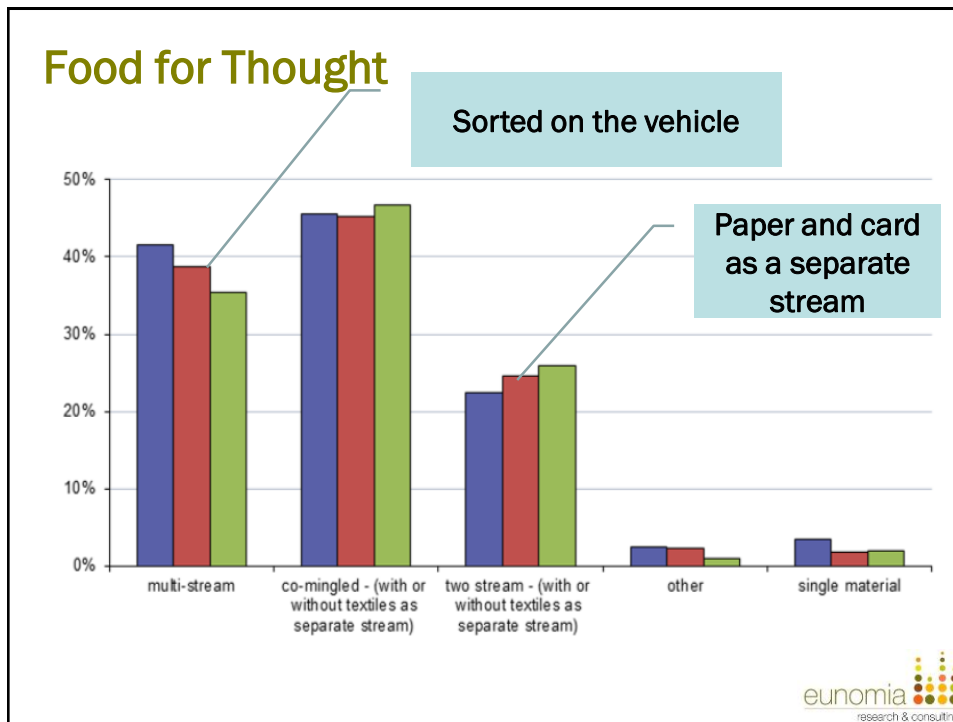
## Some Issues

- **MRFs for different waste streams**
  - There was a view that MRFs could be established to deal with both waste from households and from commerce
  - That has changed
  - Either separate MRFs or separate lines within the same facility are becoming more common
  - Composition is different
  - Nature of contamination is different
- **Lessons**
  - Don't imagine any MRF can deal with all wastes
  - Quality remains an issue

## Food for Thought

- **UK recycling does not rely on MRFs**
  - Around 50% of dry recycling from local authorities does not require MRF sorting
  - On vehicle sorting still common
  - Twin-stream (fibres, and containers) collection gaining importance
  - Some with dedicated glass collections
- **Suggestions**
  - Don't allow your strategy to be dictated by a sorting facility that you might never need
  - Good recycling systems have, at their heart, good collection systems
  - Don't imagine that a MRF, however modern, will sort all your problems (let alone, all your waste)





## Food for Thought

- **How much do you plan / specify?**
  - Who do you want to take what risks?
  - How will you plan the match between collection and sorting?
  - Do you specify MRF technologies
  - What does 'economy of scale' mean if collection / haulage costs are not considered?
  - MRF costs are one element of the system costs
- **Suggestions**
  - Need to consider what you want...
  - ... and how you are going to get it
  - Service configuration and procurement strategy (and financing approach) need to be considered together

## In Conclusion

- There is a very healthy debate regarding whether MRFs are necessary
  - 50% or so of all local authority dry recyclables do not pass through a MRF
  - WFD requirement for 'separate collection' influences this
- Even large scale MRFs imply capital expenditure at the lower end of what is generally considered justifiable for project finance
  - Transaction costs
- There have been issues associated with the match between collection and treatment
- Quality not always especially high
  - Glass a key issue (NB non-beverage glass)

## In Conclusion

- Rationale for project finance is to shift risk to the contractor
  - But risk sharing on materials is desirable (for both parties)
  - Payments linked to price indices
  - Why tell the contractor what to do?
- Merchant facilities more likely where waste policy makes clear that more will be recycled
- Commercial and local authority wastes not well suited to being treated in the same lines
  - Composition of recyclables and nature of impurities are both different
  - Note that DK deposit system might influence this



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