# Scoping Review of Recycling & Reprocessing Infrastructure in the South East

The Changing Shape of Our Recycling Infrastructure


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# Our Purpose

**To consider the opportunities and infrastructure needs presented by the challenging recycling targets contained in the Regional Waste Management Strategy for the South East.**

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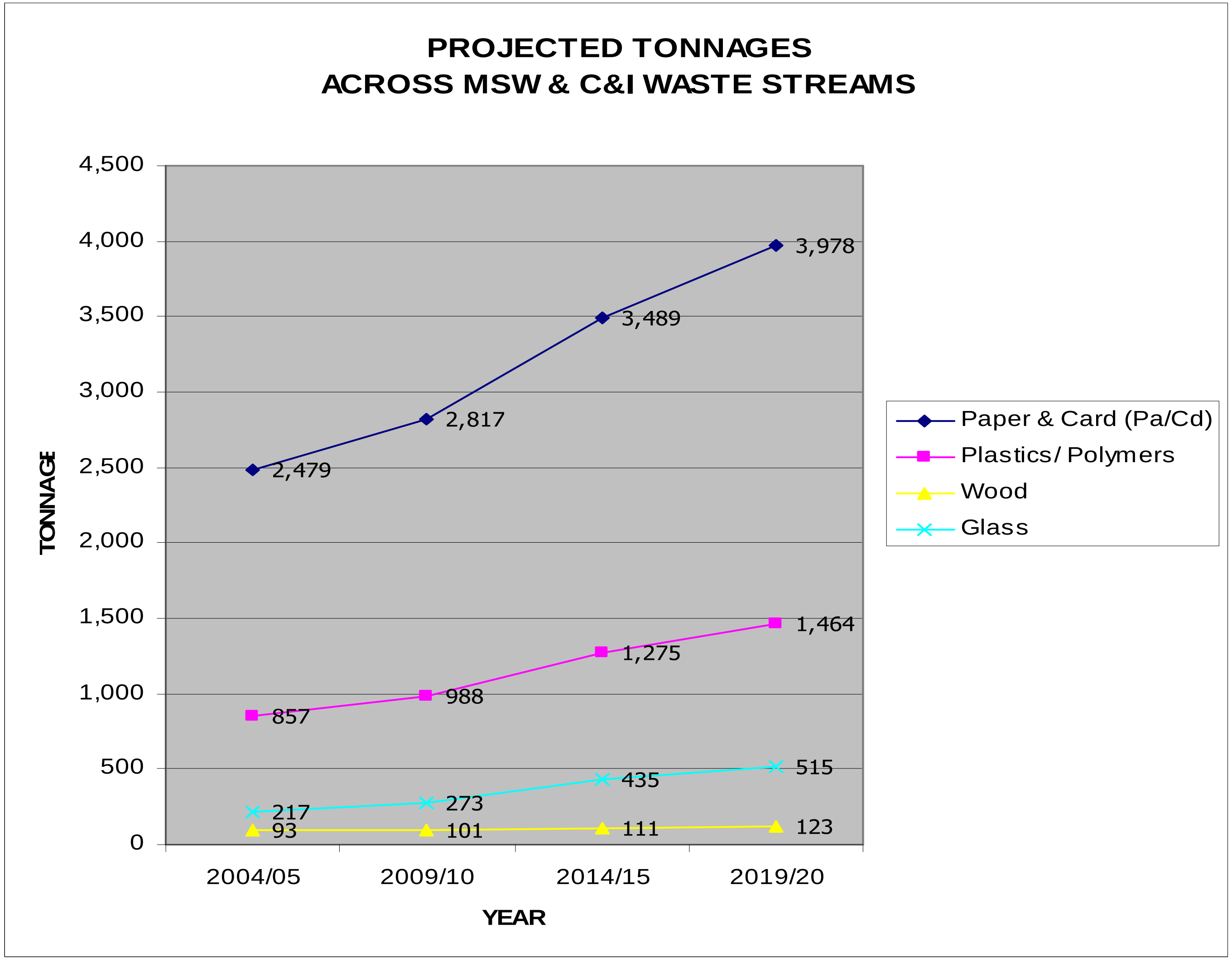
# The Regional Recycling Targets

## Policy W6: Recycling and Composting Targets

The following targets for recycling and composting should be achieved in the region:

| Year | MSW | | C&I | | C&D | | All Waste | |
|---|---|---|---|---|---|---|---|---|
| | Mt/yr | % | Mt/yr | % | Mt/yr | % | Mt/yr | % |
| 2002 | 0.9 | 19 | 3.0 | 35 | 5.2 | 40 | 9.1 | 35 |
| 2005 | 1.4 | 30 | 3.5 | 40 | 5.8 | 45 | 10.7 | 40 |
| 2010 | 2.2 | 40 | 4.9 | 50 | 6.4 | 50 | 13.5 | 50 |
| 2015 | 3.0 | 50 | 5.9 | 55 | 6.4 | 50 | 15.3 | 55 |
| 2020 | 3.5 | 55 | 6.9 | 60 | 7.7 | 60 | 18.1 | 60 |
| 2025 | 4.2 | 60 | 7.8 | 65 | 7.7 | 60 | 19.7 | 65 |

Waste authorities should adopt policies and proposals to assist delivery of these targets and waste management companies should take them into account in their commercial decisions.

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# Other Material Targets

| | 2006 | 2007 | 2008 | | 2015 |
|---|---|---|---|---|---|
| Tyres Landfill Ban | Shredded | | | | |
| ELV Recycling Target | | | 80% | | 90% |
| WEEE Recycling Target | | 50-75% | | | |

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# The Project

**Stage1 Infrastructure**

Transport Related
Facility Related
Arisings Related

**Stage 2 Materials**

Market review

Gap Analysis

**Stage 3 Context**

Legislative milestones
Environmental constraints

**Stage 4**

Map infrastructure & material flows

**Stage 5** Develop Programme of Actions & Interventions

**Stage 6** Identify types &/or criteria for sites to accommodate different types of reprocessing infrastructure

**Phase1:Gather Background Information**

**Phase 2: Data Analysis**

**Recommendations**

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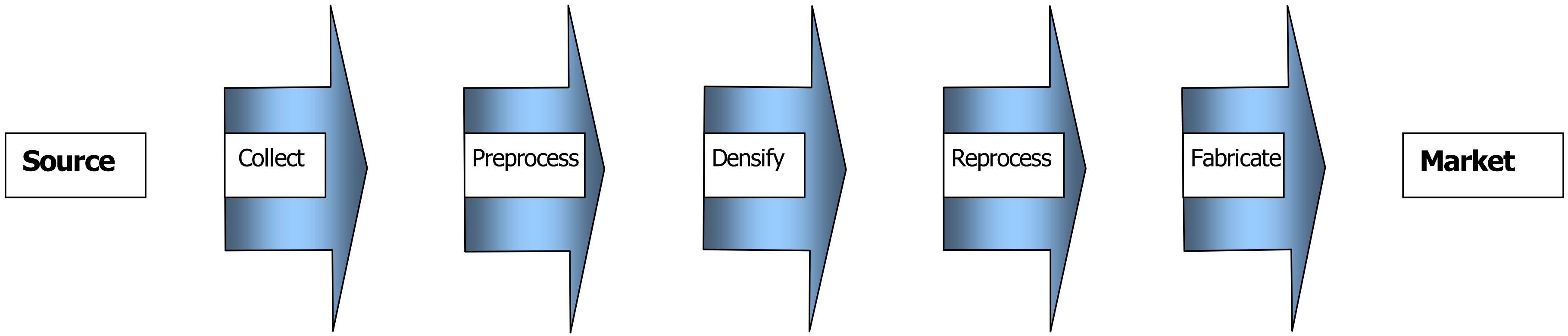
# The Conceptual Model




| | | | | |
|---|---|---|---|---|
| **Collect** | **Sort/segregate** | **Volume/Size Reduction** | **Convert into Raw Material** | **Produce Product** |

**Analytical Framework**
A 5 stage model has been developed for the recycling chain as detailed above. This structure has been applied to each priority material to establish the size and distribution of capacity at each point in the chain. It is recognised that some routes combine steps in the chain. For example newspaper recycling to newsprint may go direct from Collection to Reprocessing & Fabrication.

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# Material Sector Profiles

7 material streams

1. Paper/Card
2. Glass
3. Plastic
4. Wood
5. WEEE
6. ELV
7. Tyres

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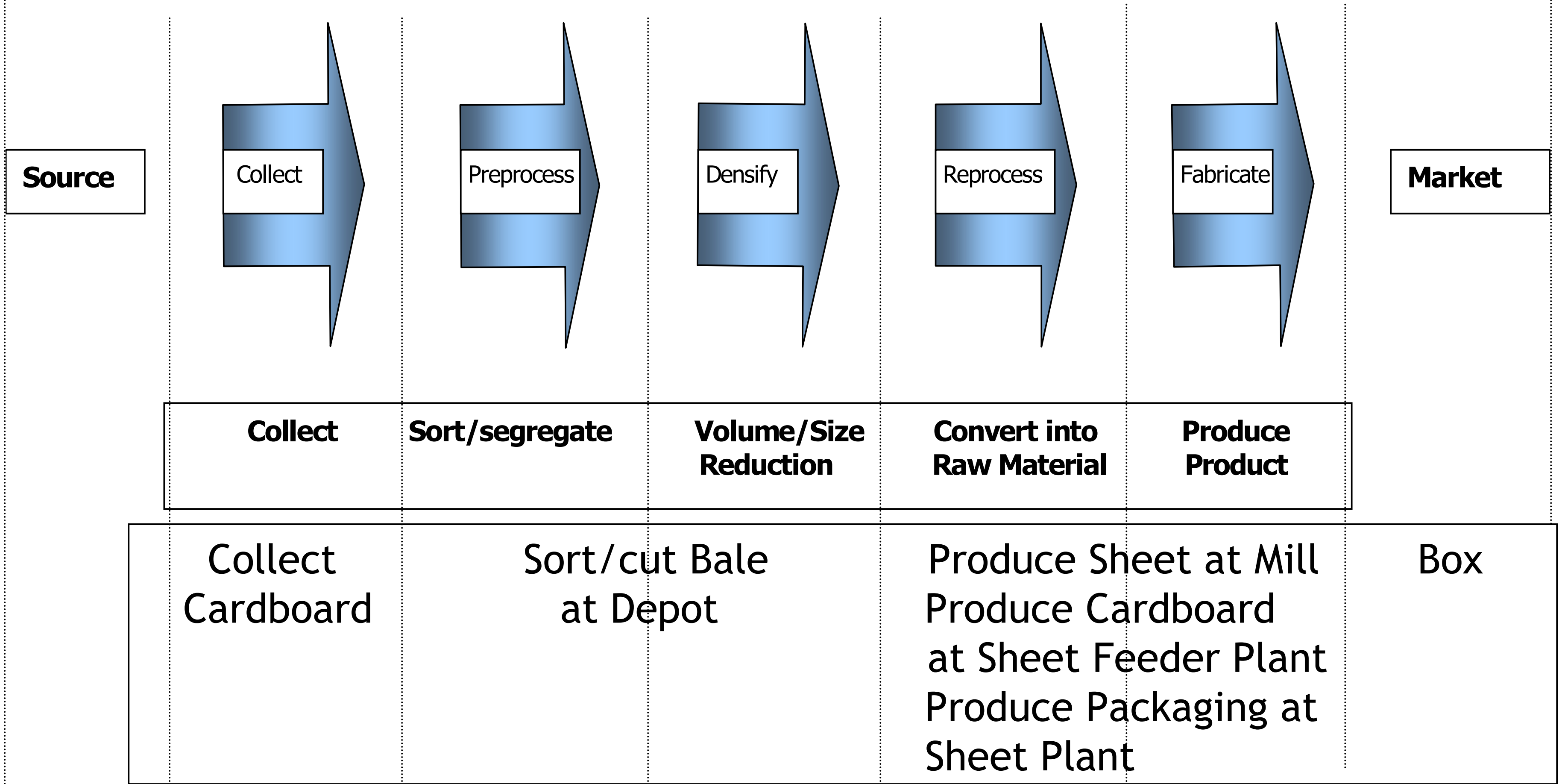
# Paper/Card

Within the South East there are 3 major vertically integrated operators:

- SCA Recycling
- Smurfit Townsend
- Severnside

These companies all operate collection systems, depots and mills. In addition Smurfit and Severnside operate cardboard box fabrication units within the region. Thus the chain from source to market is entirely self contained within the region.

**Figure 1: Conceptual Supply Chain**



# Glass

Within the South East we found 9 operators:

| | |
|---|---|
| Lewis & Towers Limited | Glass bottle manufacture |
| Tarmac Limited | Glass as aggregate |
| Recresco Limited | Glass cullet for export & for bottles and aggregate |
| Jackson Civil Engineering | User of glass (IBA) |
| RMC Materials Limited (Cemex) | Glass as aggregate |
| Berryman | Glass Collection |
| Industrial Reclamation | Glass Collection & supply to smelters |
| British Glass Recycling Company | Glass Collection |

# Plastic

Within the South East we found :

6 Collectors: Materials Recovery Ltd; Bestway Recycling; bpi recycled products; Save A Cup Recycling; Regenthill; Recovinyl.

5 Preprocessors: Associated Polymer Resources; Baylis Recycling; G.H. Services – Recycling; Rubber And Plastic Collection Services; MDJ Lights

2 Reprocessors: Vencel Resil; Hampshire Insulation Products

4 Fabricators: Vencel Resil; Hampshire Insulation Products; Earth Anchors Ltd; PlasCan Limited

# Wood

Within the South East we found:

? Collectors:

9 Preprocessors:H&M Glover Recycling; Clembins;Lift & Shift; Basingstoke Skip Hire; Land Network; J.James Ltd; Shorts Services; The Woodhorn Group

2 Reprocessors:Slough Heat & Power; Didcot Pwr Stn

4 Fabricators: County Crest; NI Pallets; Kingswood pallets; Portswood pallets

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# WEEE

Within the South East we found:

Collectors: 100 Dedicated Collection Points (CA Sites)

104 Metal Recycling Sites

Reprocessors:

| | |
|---|---|
| White Goods | 4 sites |
| Small WEEE | 3 sites |
| Fridges | 1 site |
| CRT/TV | 1 site |
| Lamps | 1 site |

Fabricators: >1 Refurbishment

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# ELV

Within the South East we found:

Collectors: 140 Collection Points (MRS Sites)

Preprocessors: 99 Authorised Treatment Facilities

Reprocessors: 3 Shredders

# Tyres

Within the South East we found:

Collectors: 140 Collection Points (MRS Sites)

182 Tyre Dealers

Preprocessors: 99 Authorised Treatment Facilities

Reprocessors: 3 Chippers

Fabricator: 1 Retreader

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# Capacity Overview

## (figures subject to revision)

| | Reprocessing | Fabrication |
|---|---|---|
| Paper | 5 | 6 |
| Glass | 4 | 5 |
| Plastic | 2 | 4 |
| Wood | 2 | 4 |
| WEEE | 14 | 14 (updated) |
| ELV | 3 | |
| Tyres | 3 | 1 |

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# Mapping Outputs

*Flows*

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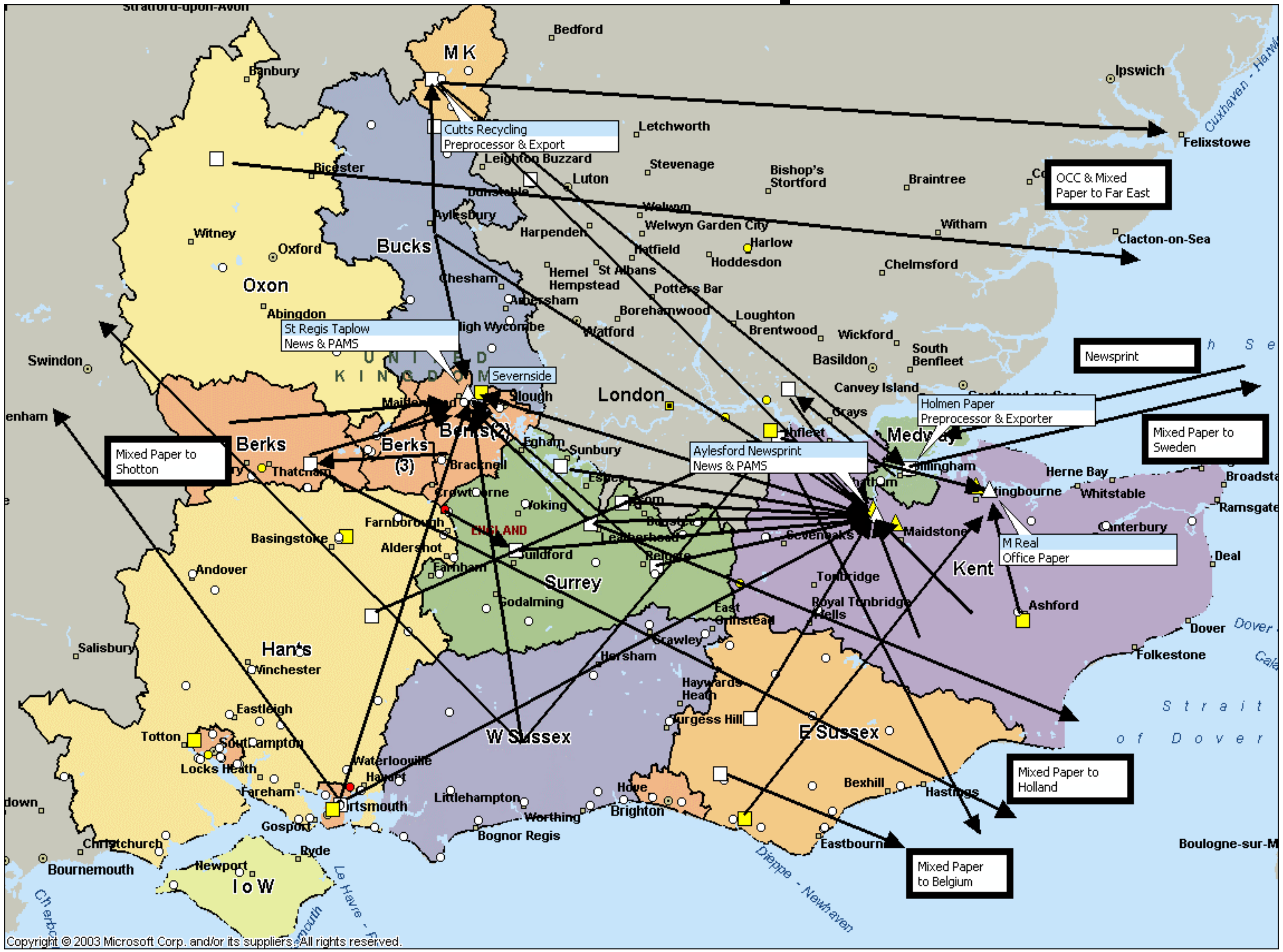
# MSW Sourced Paper Flows

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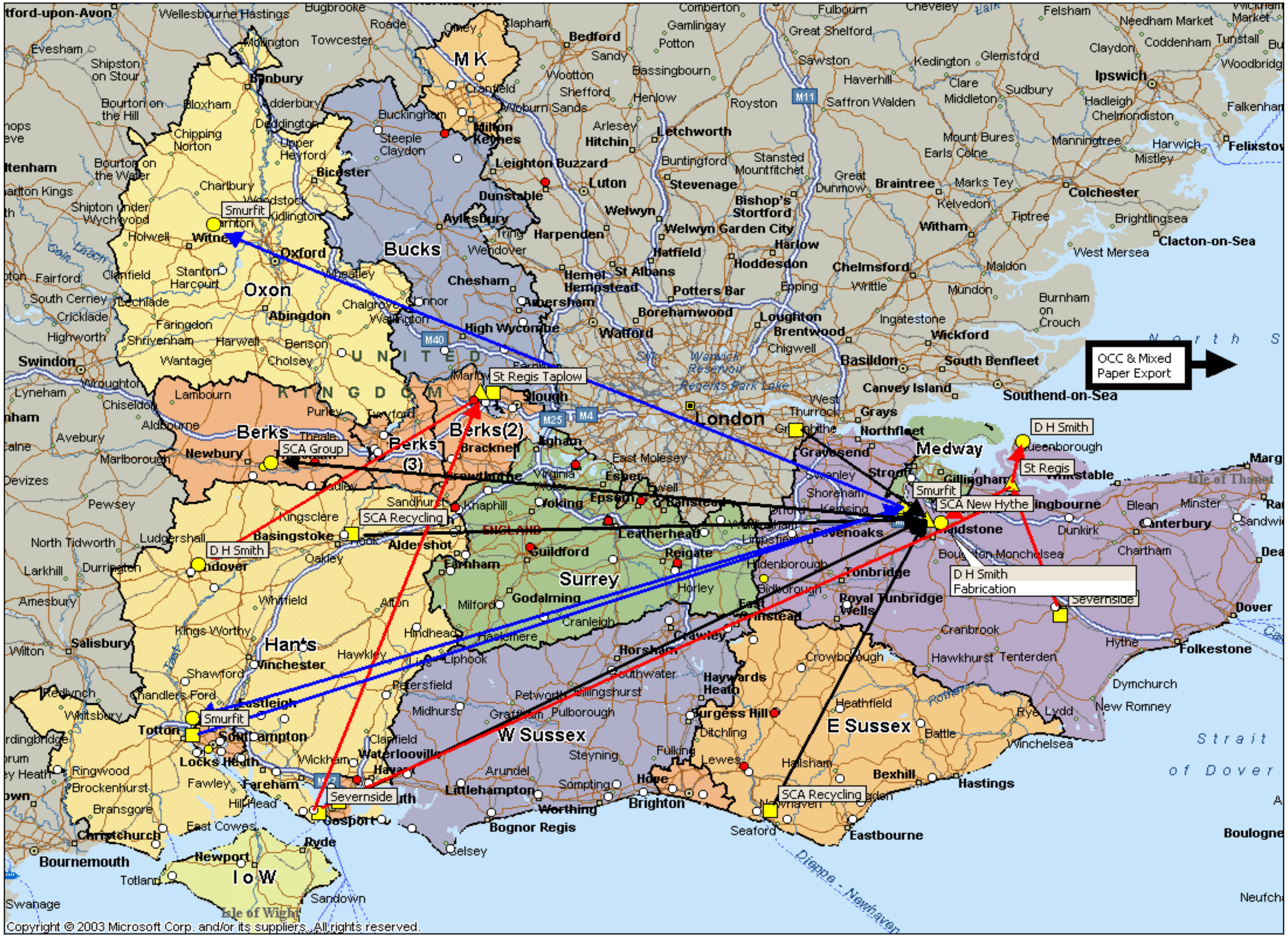
# Notional Cardboard Flows

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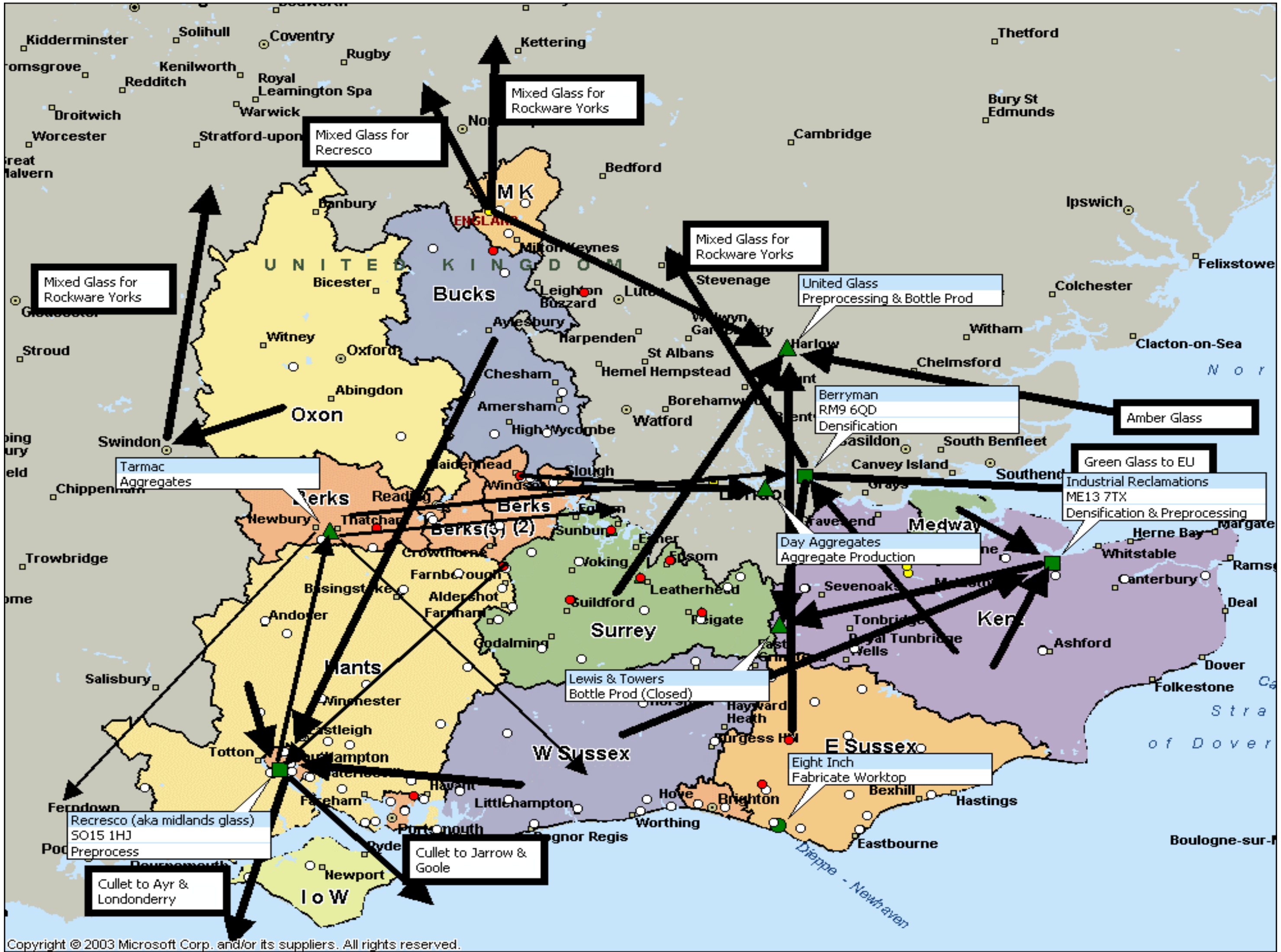
# MSW Sourced Glass Flows

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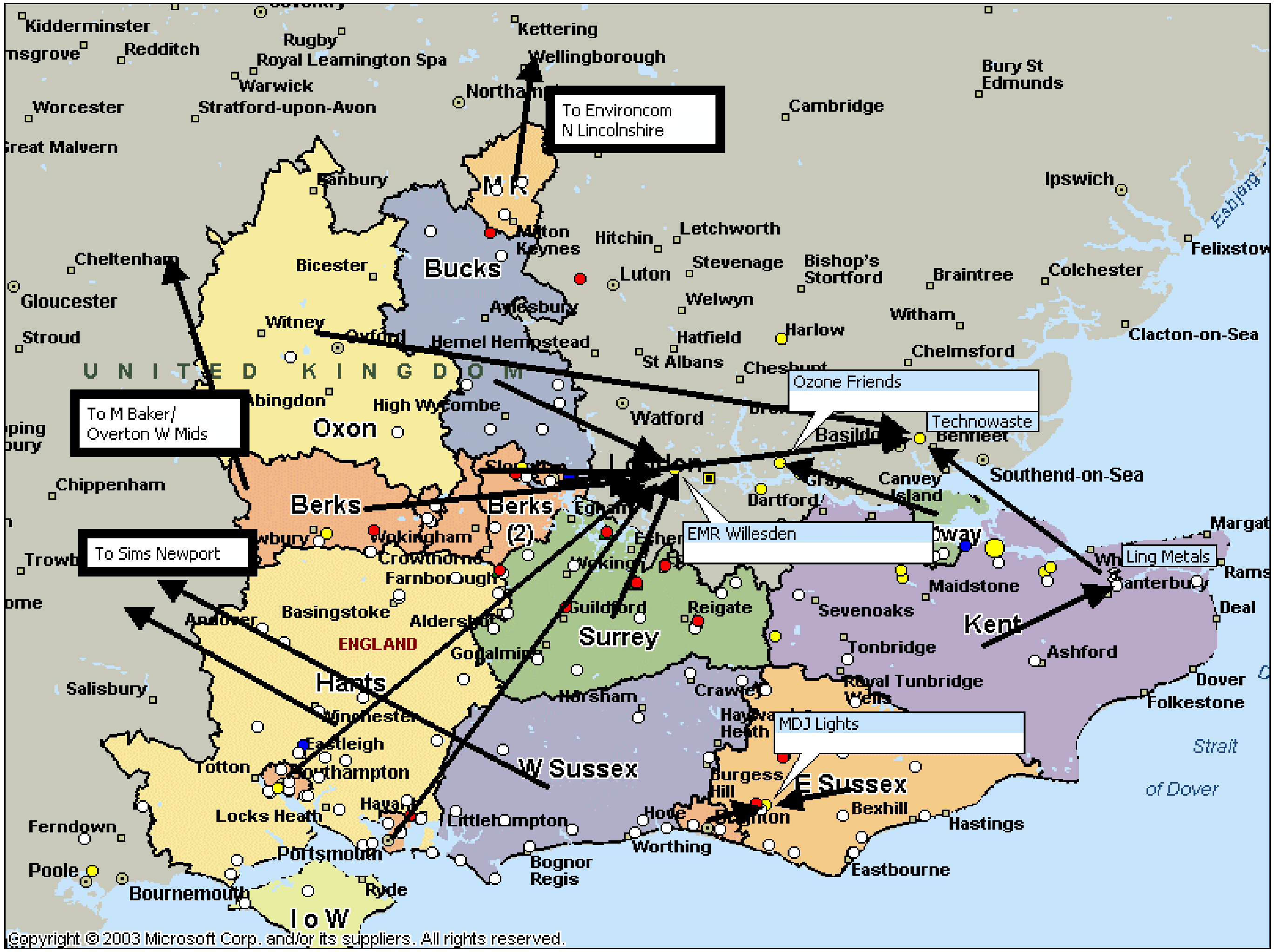
# Flows & Fate of Fridges from MSW Stream

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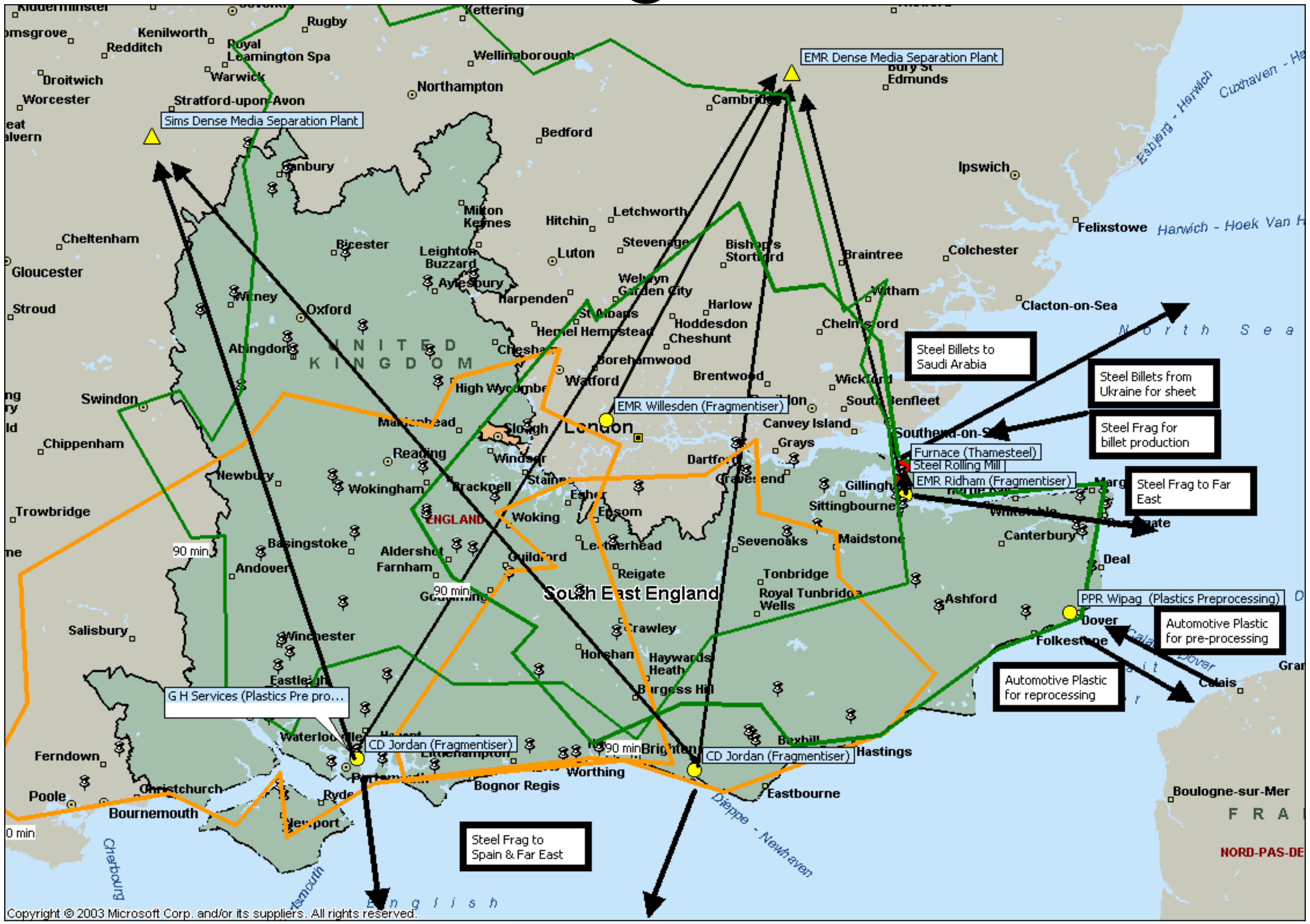
# Flows of Materials Associated with ELV Management

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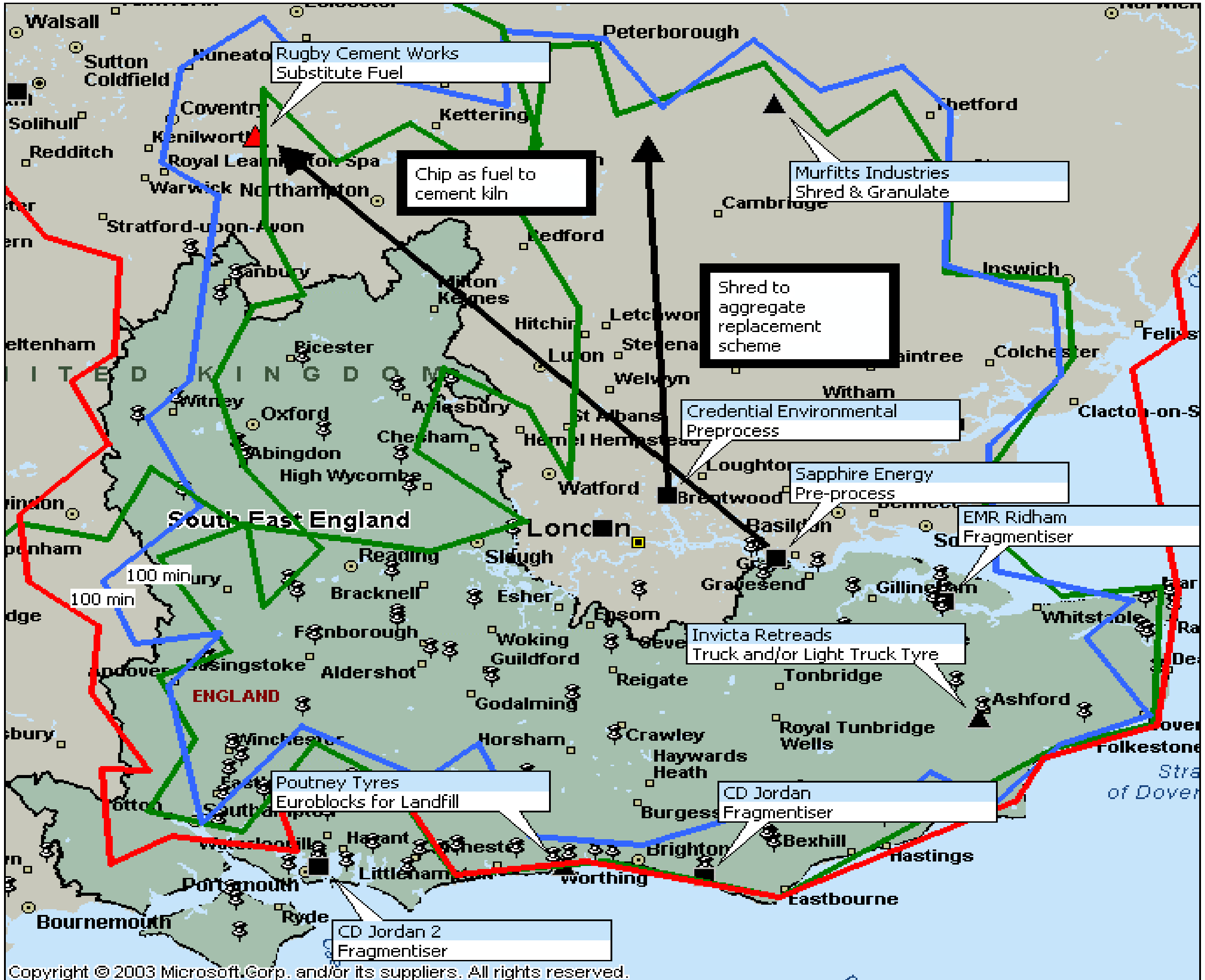
# Principal Flows & Catchments for Tyres

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# Materials Gap Analysis

## *Key Messages*

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1. Distinct communities dealing with different materials. Operators do not see themselves as a discrete sector.
2. Markets in different state of maturity.
3. Mature materials are vertically integrated from collection to reprocessing/fabrication. Paper/card/glass/ELV/Tyres.
4. Emergent markets are fragmented e.g. plastic/WEEE/wood
5. A number of voluntary producer responsibility initiatives identified for emergent specific materials e.g. Recovinyl
6. Capacity requirements vary according to material source and method of collection.

# Key Messages by Material Sector

# Paper/Card

Paper is different to card.

Paper still has aspirations to expand reprocessing capacity to supply UK newsprint market. This is contingent on securing sufficient supply of quality material. Concern about quality implications of co-mingled collection.

Card is contracting capacity but wishes to expand capture of materials.

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# Glass

Only remelt reprocessor has now closed

General perception of aggregate applications as only being suited to low grade material – pre processing rejects.

Contrasting views on way forward – bottle producers favour collection and pre process prior to out of region reprocessing while others favour development of alternative markets.e.g. use as sand/ foam glass.

1.Contrasting views on co-mingled collection & colour sorting

Higher value bulk applications being supported.

Niche applications such as decorative glass stalled.

Additional pre processing capacity dependant on long term contracts.

Future action might best evolve around:

· capture amber and flint glass for out of region reprocessing; and

· developing other operations in region that offer higher value markets for crushed or powdered green or mixed glass.

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# Plastic

Although there is a lot of plastic waste being generated in the South East very little of it is being recycled in the South East.

Most of the plastics reprocessing capacity within the UK is currently north of Birmingham

Most plastic waste that is collected is exported rather than processed within the UK.

General focus on expansion of collection & pre processing capacity

Pre processors keen to spread outlets for granulate

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# Wood

General focus on expansion of chipping capacity on existing sites

Potential to expand Slough CHP capacity given incentive – possible link with LA on use of heat in schools.

Potential conflict between refurbishment and chipping of pallets.

# WEEE

Rapid expansion in treatment capacity

Shortfall in CRT glass outlets

Concern that small WEEE will not materialise

Concern about CA sites as DCPs

# ELV

Sector is largely self sufficient

Manual dismantling is not economic

Support needed to improve recycling rate by technological solution

# Tyres

Sector is largely self sufficient

Difference between truck and car tyre applications

Need landfill ban to be properly enforced

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# State of Health of Capacity

| | Indigenous | Export | Alternatives |
|---|---|---|---|
| Paper | Mature/Expanding | Bouyant | Limited |
| Card | Mature/ Stagnant | Bouyant | Limited |
| Glass | Stable | Stable | Emergent |
| Plastic | Emergent | Bouyant | Emergent |
| Wood | Emergent | Limited | Limited |
| ELV | Stable | Stable | Gap |
| Tyres | Emergent | Limited | Diversify? |
| WEEE | Emergent | Limited | Gap |

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# Scoping Review of Recycling & Reprocessing Infrastructure in the South East

**Full set of reports available to view at**

http://www.seeda.co.uk/Work_in_the_Region/Sustainable_Developments/Waste/

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