

# Materials Recovery Code

**Naomi Ross, Waste Specialist**

**Scottish Environment Protection Agency**

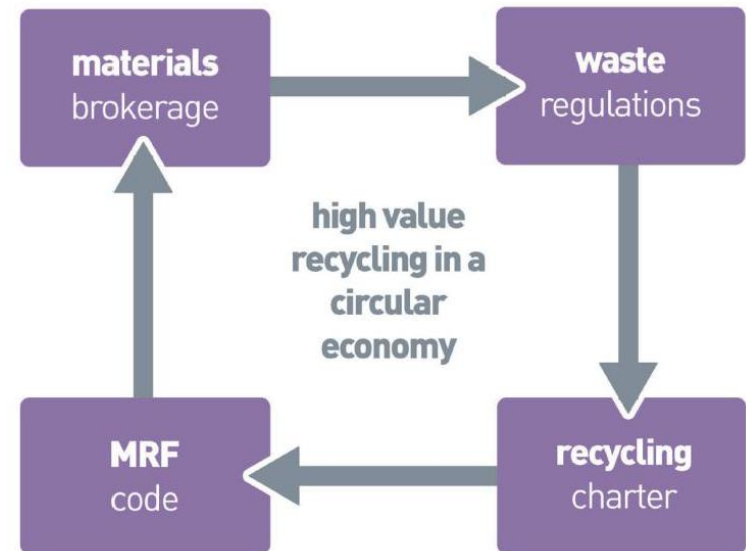
**APSE Waste Advisory Group  
15<sup>th</sup> September 2017**

# Overview

- Materials Recovery Code Benefits
- SEPA's Approach
- 'In Scope' Facilities
- Sampling Results & Compliance
- Key Audit Findings
- Next Steps

# Material Recovery Code Benefits

- Greater transparency in the market place
- More information for contractors
- Stimulates market for sale & reprocessing of quality recyclate
- Improves public understanding of the way their recyclable waste is managed



# SEPA's Approach – Use of Data



# SEPA's Approach

- First site visits May-Aug 2016
  - Assist with understanding of obligations
  - Develop SEPA staff understanding of sites
  - Address any SEPA sampling logistical issues
- First formal compliance audits from Nov 2016
- Data specialists attending site visits
- Workshop October 2016
- Data publication event June 2017
- Analysis tool & report published July 2017
- Second round compliance visits from July 2017
- Freerider work ongoing

# 'In Scope' Facilities

**Table A: Sites currently in scope (March 2017)**

Biffa Waste Services Limited, Broxburn (WML-E-0020002)
Falkirk Council Recycling Centre, Bonnybridge (WML-E-0020112)
Glasgow City Council, Blochairn Road (WML-W-0020181)
Green Circle Recycling Limited, Grangemouth (WML-E-0120034)
J&M Murdoch & Sons Limited, Darnley (WML-W-0022002)
Saica Natur UK Limited, Croy (WML-W-0220257)
SITA UK Limited, Glenfarg, Perth (WML-L-1106191)
Viridor Enviroscot Limited, Bargeddie (WML-L-1028820)
Viridor Waste Management Limited, Newhouse (WML-L-1117120)
William Munro Construction (Highland) Limited, Evanton (WML-N-0220249)
William Tracey Limited, Linwood (WML-W-0020110)
Biffa Waste Services Limited, Glasgow (WML-W-0000026)
SITA UK Limited, Altens East Ind. Est., Aberdeen (WML-L-1137739)

Sampling info is based on 11 of the 13 sites. Excludes:

1. SITA UK Limited
2. Biffa Waste Services Limited, Glasgow

# Sampling Results & Compliance

- Caveats
- Supplier Rankings
- Material Inputs & Outputs
- SEPA Sampling & Compliance Results
- Non-Recyclables in SEPA Output Samples

# Caveats

- Data lifted directly from operator returns (minor amendments enable more efficient analysis)
- Some waste collected under dry recyclable contracts diverted to secondary sort or residual waste facilities. So input results may not reflect true scale of contamination
- Variation in facility operations & reporting terminology impact the results. E.g.
  - Technology & picking processes used
  - Type of waste accepted/targeted
  - Classification of materials



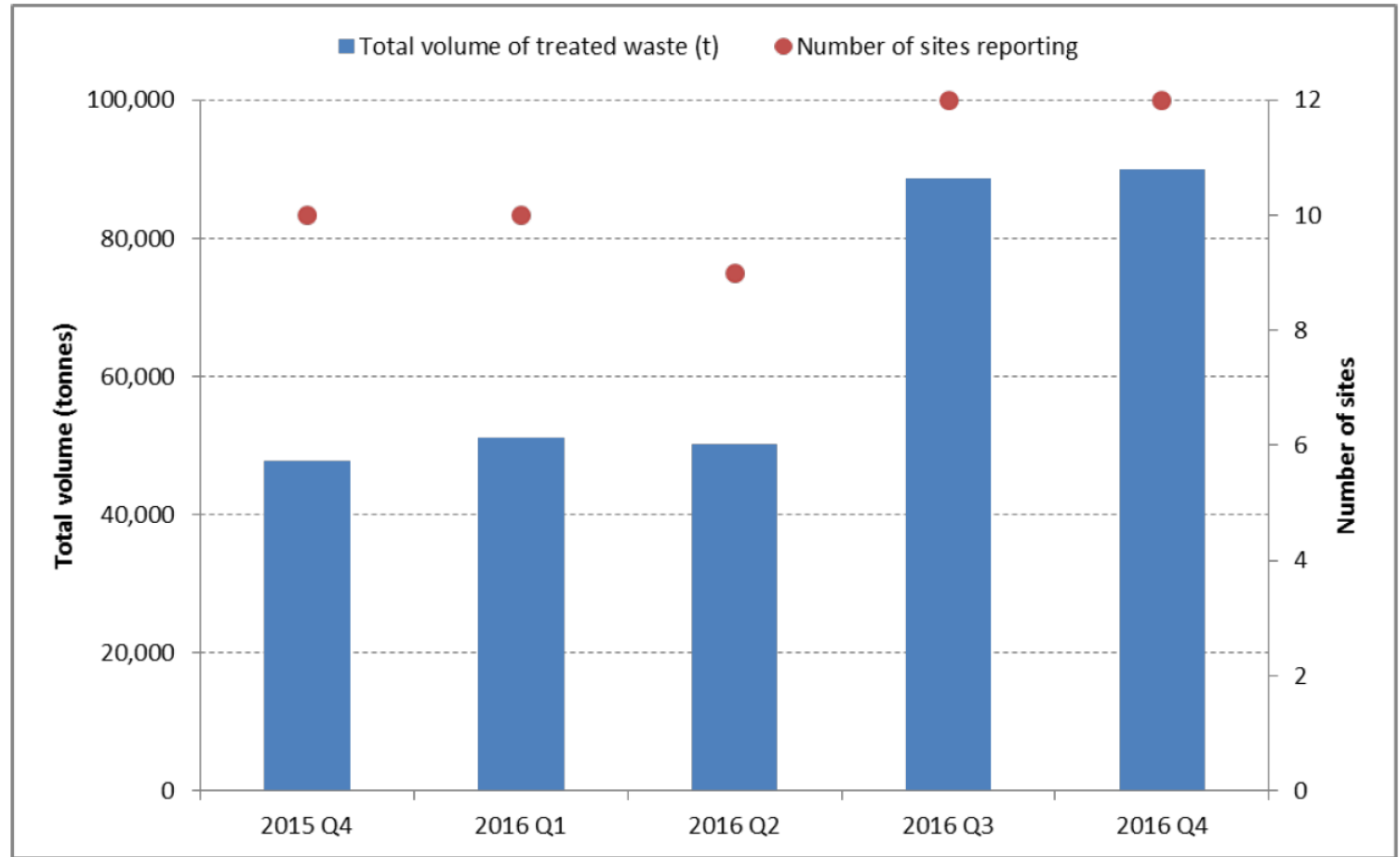
# Supplier Rankings

Clear ranking of  
supplier input  
contamination rates  
not currently  
possible from the  
data returns, due to  
the way supplier  
information is  
reported.

Operator	Supplier Details
<b>Biffa Broxburn (WML/E/0020002)</b>	<b>Biffa Waste Edinburgh</b>
	<b>Biffa Waste Glasgow</b>
	<b>City Of Edinburgh Council</b>
	<b>Environmental Waste C...</b>
	<b>Glasgow City Council</b>
	<b>Greenlight Environment...</b>
	<b>Scotwaste</b>
	<b>Suez Recycling (West L...</b>
	<b>Veolia</b>
<b>Biffa Glasgow (WML/W/0000026)</b>	<b>Biffa - Broxburn</b>
	<b>Biffa Glasgow Transport...</b>
	<b>Biffa Glasgow Transport...</b>
	<b>Biffa Granton Transfer S...</b>
	<b>East Dumbartonshire Co...</b>
<b>Binn Skips (WML/E/...</b>	<b>Binn Skips Ltd</b>
<b>Falkirk Council (WML/E/0020112)</b>	<b>Falkirk Council</b>
<b>Glasgow City Council (WML/W/0020181)</b>	<b>Glasgow City Council</b>

# Material Inputs

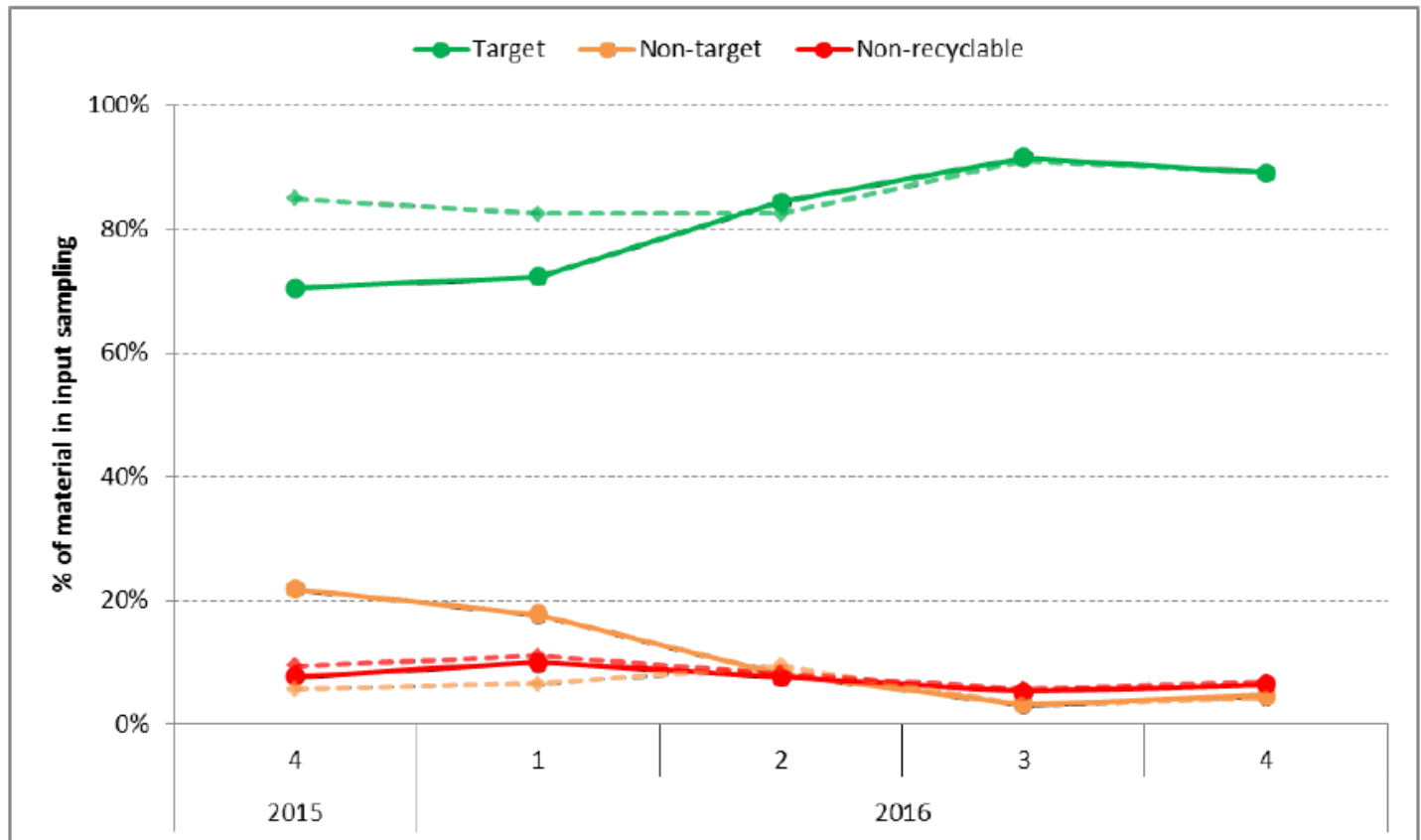
327,760T processed since Oct 2015 from ~100 “suppliers”



**Figure 2: Total volume of treated material and number of sites reporting during that quarter**

# Material Inputs

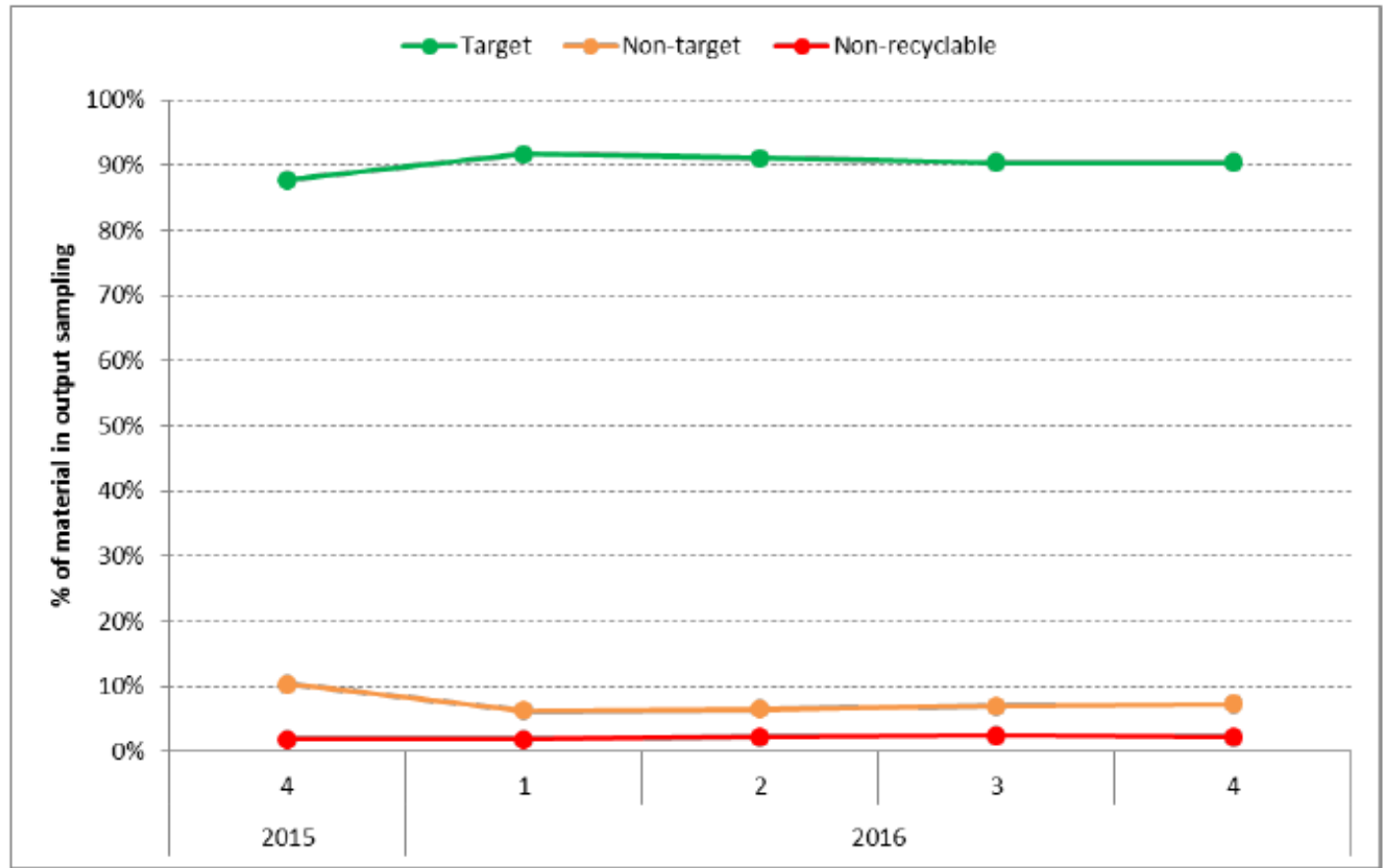
- Avg. national input contamination rate: 16.9% (incl. non-target)



**Figure 3: National Fluctuations in Input Stream Samples (note, the dashed lines represent the data with one operator's data removed). This is sample weighted average data.**

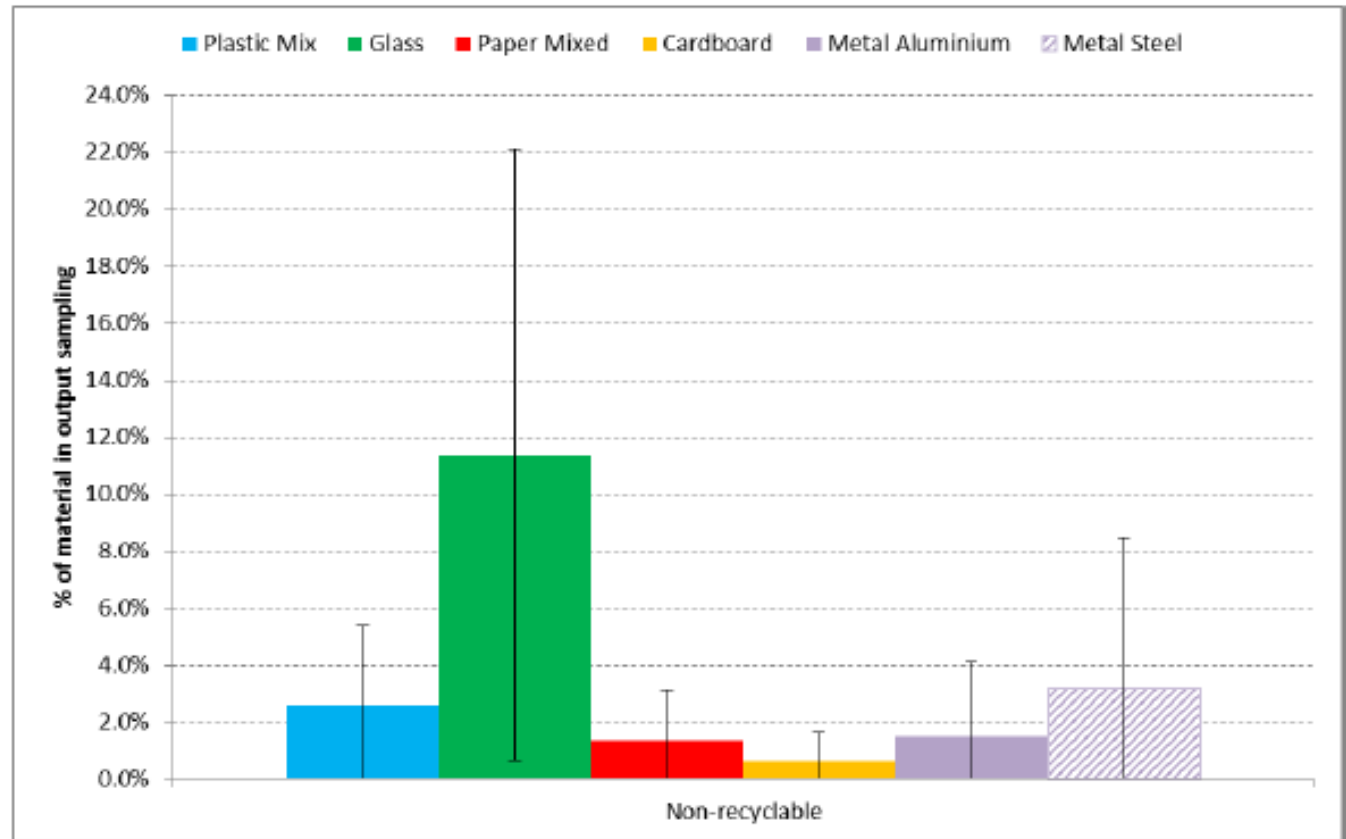
# Material Outputs

237,427T recycle extracted since Oct 2015



**Figure 5: National Fluctuations in Output Stream Samples. This is sample weighted averaged data.**

# Material Outputs



**Figure 6: Proportion of non-recyclable materials within different material grades during output sampling across all operators. Bars represent average of raw sampling data with standard deviation displayed. Material grades presented are grouped for simplification.**

# Material Outputs – Factors Impacting Data

- Target fragments lost through process
- Contamination during sorting changes material from target to non-target or non-recyclable
- Predominantly liquid/food from plastics/metals absorbed by paper/card
- Even if clean, will change (plastic bottle is target at input, but non-target if found in output paper)
- Tolerance levels with suppliers varies, sometimes impacting apparent efficiency of site (contractual fears drive this)

# SEPA Sampling & Compliance Results

- SEPA output sampling broadly as expected. Exceptions:
  - William Tracey (results for both paper & plastic more contaminated than operator reported)
  - William Munro (results for both paper & plastic more contaminated than operator reported, though a small margin for paper)
  - Saica Natur & Biffa Broxburn (one sample each more contaminated than operator reported)
- All were compliant except William Tracey & Wm Munro

# Non-Recyclables in SEPA Output Samples

- Offensive & hazardous waste in 8 of 22 samples. Some were likely to be exported. Included:
  - Animal excrement
  - Soiled nappies & other hygiene products
  - Batteries & WEEE
- Most common non-recyclables found:
  - Baby wipes
  - Heavily contaminated recyclables
  - Low grade plastic films
  - Crisp packets & sweet wrappers









# Key Audit Findings

- Recyclate Sent to Downstream Facilities
- Confusion Over Identification of Recyclables
- Supply Chain Engagement
- Waste Exports from Materials Recovery Facilities
- Duty of Care

# Recyclate Sent to Downstream Facilities

- Recyclables are finding their way into sorting residues. Fate seems to most frequently be RDF or landfill, with or without further sorting
- SEPA will be doing more work to estimate the overall volumes & fates as well as what can be done to avoid this
- A recent report by Valpak looks at recyclate losses from Scottish MRFs and reproprocessors (available on their website)

# Confusion Over Identification of Recyclables

- Not all sampling staff understood material grades
- Operator & SEPA sampling staff often struggled to identify material grades due to:
  - Labels being too small/faint
  - Labels in hard to reach places
  - Variation in providing information (words, symbols, numbers etc.)
  - Absence of recycling information
- Emphasised difficulty faced by public

# Supply Chain Engagement

- Effective supply chain communication key to improved quality!
- Tolerance variation
- Sampling feedback & penalties varied
- Small number of operators actively engaged with local authorities to improve households
- A minority of local authorities completely disengaged
- Contract variation (long term to spot sales)

# Adaptation Example





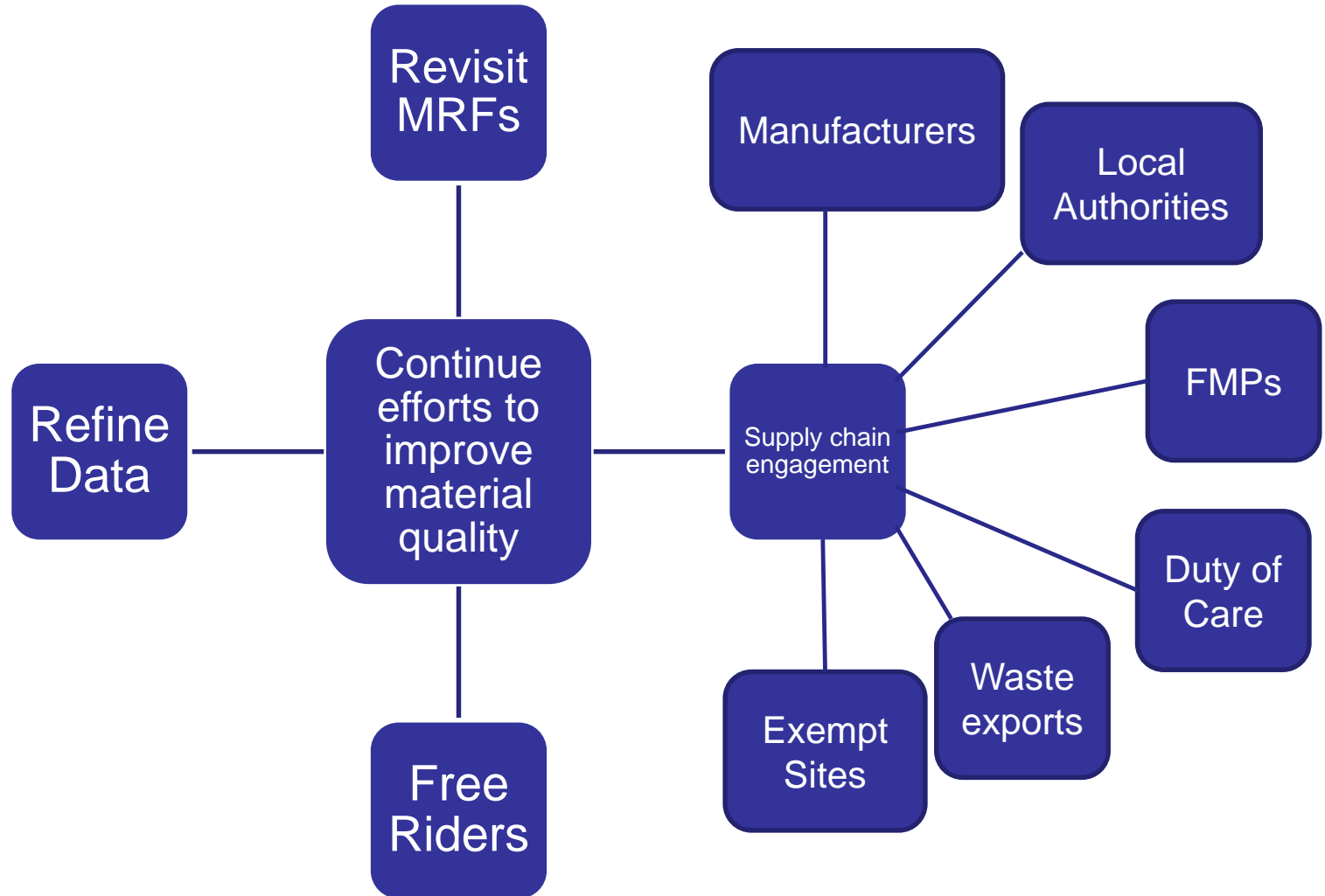
# Waste Exports from MRFs

- Export compliance risk is evident
- Average 2% non-recyclables & 7% non-target – many outputs not fit for export
- +60 containers involved in repatriations, with others intercepted before export, across several of these MRFs
- Use of negative picks
- Failure to remove fragments
- SEPA intervention so far reserved for worst scenarios where offensive/hazardous waste found

# Duty of Care

- Common compliance issues WRT misclassification & unknown final fate
- Many operators report final destination as domestic, yet majority of material is exported
- SEPA stepping up work in this area in conjunction with other UK agencies & Ireland
- Mandatory e-DoC is critical

# Next Steps



**<http://www.environment.scotland.gov.uk/get-interactive/data/recyclate-quality>**

**[mrfregs@sepa.org.uk](mailto:mrfregs@sepa.org.uk)**

**Supply chain workshop: 2 Nov**