

R4 Limited - AI Financial Statement Analysis**Income statement**

		Actual Results			Increase / (Decrease)	
		2016	2015	2014	2016	2015
		£000	£000	£000		
Revenue	- Mixed waste (recycled)	18,786	13,856	12,975	35.6%	6.8%
	- General waste (non-recycled)	32,212	28,311	27,453	13.8%	3.1%
		50,998	42,167	40,428	20.9%	4.3%
COS	- Mixed waste	-14,233	-11,377	-10,761	25.1%	5.7%
	- General waste	-28,719	-25,112	-24,774	14.4%	1.4%
		-42,952	-36,489	-35,535	17.7%	2.7%
GP	- Mixed waste	4,553	2,479	2,214	83.7%	12.0%
	- General waste	3,493	3,199	2,679	9.2%	19.4%
		8,046	5,678	4,893	41.7%	16.0%
<i>GP%</i>	- Mixed waste	24.2%	17.9%	17.1%		
	- General waste	10.8%	11.3%	9.8%		
		15.8%	13.5%	12.1%		
Operating costs		-6,356	-4,919	-4,492	29.2%	9.5%
OP		1,690	759	401	122.7%	89.3%
<i>OP%</i>		3.3%	1.8%	1.0%		
Finance charges		-879	-562	-269	56.4%	108.9%
PBT		811	197	132		
<i>PBT%</i>		1.6%	0.5%	0.3%		
Taxation		-162	-40	-27		
PAT		649	157	105		
<i>PAT%</i>		1.3%	0.4%	0.3%		

KPIs

Mixed waste / total waste recycling tonnage %	Actual 2016	39.4%
	Target 2017	40.0%
	Target +1% pa to 2022	45.0%
Target MRF Mixed waste GP%: 25%	Actual 2016	24.2%

Other key numbers

MRF capacity (tonnes pa)	Maximum	120,000	
	Actual 2016	81,041	67.5%
SEWCO waste: 75% deemed mixed	Actual 2016	75.0%	

		Actual Results			Increase / (Decrease)	
		2016	2015	2014	2016	2015
Revenue						
<u>Mixed waste</u>						
I&C	Mixed waste fees	5,265				
	Recyclate fees	2,438				
		<u>7,703</u>				
SEWCO	Fees	3,328				
	Recyclate sales	3,385				
		<u>6,713</u>				
3rd party	Gate fees	825				
	Recyclate sales	3,545				
		<u>4,370</u>				
Total mixed waste		<u>18,786</u>	<u>13,856</u>	<u>12,975</u>	35.6%	6.8%
<u>General waste</u>						
I&C	general waste	31,103				
SEWCO	general waste	1,109				
Total general waste		<u>32,212</u>	<u>28,311</u>	<u>27,453</u>	13.8%	3.1%
		<u>50,998</u>	<u>42,167</u>	<u>40,428</u>	20.9%	4.3%
Revenue mix						
<u>Mixed waste</u>						
I&C	Mixed waste fees	10.3%				
	Recyclate fees	4.8%				
		<u>15.1%</u>				
SEWCO	Fees	6.5%				
	Recyclate sales	6.6%				
		<u>13.2%</u>				
3rd party	Gate fees	1.6%				
	Recyclate sales	7.0%				
		<u>8.6%</u>				
Total mixed waste		<u>36.8%</u>	<u>32.9%</u>	<u>32.1%</u>		
<u>General waste</u>						
I&C	general waste	61.0%				
SEWCO	general waste	2.2%				
Total general waste		<u>63.2%</u>	<u>67.1%</u>	<u>67.9%</u>		
		<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>		

	Actual Results			Increase / (Decrease)	
	2016 £000	2015 £000	2014 £000	2016 £000	2015 £000
Cost of Sales					
<u>Mixed waste</u>					
I&C operations	6,225				
SEWCO	4,257				
3rd party	3,751				
	<u>14,233</u>	<u>11,377</u>	<u>10,761</u>	<u>25.1%</u>	<u>5.7%</u>
<u>General waste</u>					
I&C general waste	27,648				
SEWCO general waste	1,071				
	<u>28,719</u>	<u>25,112</u>	<u>24,774</u>	<u>14.4%</u>	<u>1.4%</u>
	<u>42,952</u>	<u>36,489</u>	<u>35,535</u>	<u>17.7%</u>	<u>2.7%</u>
GP analysis					
<u>Mixed waste</u>					
I&C operations	1,478				
SEWCO	2,456				
3rd party	619				
	<u>4,553</u>	<u>2,479</u>	<u>2,214</u>	<u>83.7%</u>	<u>12.0%</u>
<u>General waste</u>					
I&C general waste	3,455				
SEWCO general waste	38				
	<u>3,493</u>	<u>3,199</u>	<u>2,679</u>	<u>9.2%</u>	<u>19.4%</u>
	<u>8,046</u>	<u>5,678</u>	<u>4,893</u>	<u>41.7%</u>	<u>16.0%</u>
GP% analysis					
<u>Mixed waste</u>					
I&C operations	19.2%				
SEWCO	36.6%				
3rd party	14.2%				
	<u>24.2%</u>	<u>17.9%</u>	<u>17.1%</u>		
<u>General waste</u>					
I&C general waste	11.1%				
SEWCO general waste	3.4%				
	<u>10.8%</u>	<u>11.3%</u>	<u>9.8%</u>		
	<u>15.8%</u>	<u>13.5%</u>	<u>12.1%</u>		

Analysis by revenue stream 2016

	Revenue		Revenue volume			Cost £/tonne	GP			
	£000	% mix	Tonnes	% mix	£/tonne		£000	% mix	£/tonne	GP%
MRF Mixed waste										
- I&C contracts	7,703	15.1%	28,350	13.8%	272	220	1,478	18.4%	52	19.2%
- SEWCO contracts	6,713	13.2%	11,475	5.6%	585	371	2,456	30.5%	214	36.6%
- 3rd party use of MRF	4,370	8.6%	41,216	20.0%	106	91	619	7.7%	15	14.2%
	18,786	36.8%	81,041	39.4%	232	176	4,553	56.6%	56	24.2%
General waste (non-recyclable)										
- I&C contracts	31,103	61.0%	120,960	58.8%	257	229	3,455	42.9%	29	11.1%
- SEWCO contracts	1,109	2.2%	3,825	1.9%	290	280	38	0.5%	10	3.4%
	32,212	63.2%	124,785	60.6%	258	230	3,493	43.4%	28	10.8%
	50,998	100.0%	205,826	100.0%	248	209	8,046	100.0%	39	15.8%

Analysis by business activity 2016 (see AI p13)

MRF										
- I&C	2,438	4.8%	28,350	13.8%	86	91	-142	-1.8%	-5	-5.8%
- SEWCO	3,385	6.6%	11,475	5.6%	295	91	2,341	29.1%	204	69.2%
- 3rd party	3,545	7.0%	41,216	20.0%	86	91	-206	-2.5%	-5	-5.8%
	9,368	18.4%	81,041	39.4%	116	91	1,993	24.8%	25	21.3%
Collection, transportation & gate fees										
- I&C (70kg lift revenue £13 , cost £9)	5,265	10.3%	28,350	13.8%	186	129	1,620	20.1%	57	30.8%
- SEWCO	3,328	6.6%	11,475	5.6%	290	280	115	1.4%	10	3.4%
- 3rd party gate fees	825	1.6%	41,216	20.0%	20	-	825	10.3%	20	100.0%
	9,418	18.5%	81,041	39.4%	116	85	2,560	31.8%	32	27.2%
General waste										
- I&C (70kg lift revenue £18 , cost £16)	31,103	61.0%	120,960	58.8%	257	229	3,455	42.9%	28	11.1%
- SEWCO	1,109	2.2%	3,825	1.9%	290	280	38	0.5%	10	3.4%
	32,212	63.2%	124,785	60.6%	258	230	3,493	43.4%	28	10.8%
	50,998	100.0%	205,826	100.0%	248		8,046	100.0%	39	15.8%

Analysis by client type 2016

I&C contracts										
- Mixed waste	7,703	15.1%	28,350	13.8%	272		1,478	18.4%	52	19.2%
- General waste	31,103	61.0%	120,960	58.8%	257		3,455	42.9%	29	11.1%
	38,806	76.1%	149,310	72.5%	260		4,933	61.3%	33	12.7%
SEWCO contracts										
- Mixed waste	6,713	13.2%	11,475	5.6%	585		2,456	30.5%	214	36.6%
- General waste	1,109	2.2%	3,825	1.9%	290		38	0.5%	10	3.4%
	7,822	15.3%	15,300	7.4%	511		2,494	31.0%	163	31.9%
3rd party use of MRF	4,370	8.6%	41,216	20.0%	106		619	7.7%	15	14.2%
	50,998	100.0%	205,826	100.0%	248		8,046	100.0%	39	15.8%

Completing the analysis by revenue stream table (AI p21)

	Notes	Revenue £000	Quantity Tonnes	Cost £000	GP £000
Mixed waste					
I&C contracts					
I&C mixed waste fees	2	5,265		3,645	1,620
I&C recyclate sales	2, 4	2,438		2,580	-142
		<u>7,703</u>	<u>28,350</u>	<u>6,225</u>	<u>1,478</u>
SWECO					
SEWCO fees	2	3,328		3,213	115
SEWCO recyclate sales	2, 4	3,385		1,044	2,341
		<u>6,713</u>	<u>11,475</u>	<u>4,257</u>	<u>2,456</u>
3rd party waste collectors					
3rd party gate fees	1	825		0	825
3rd party recyclate sales	2, 3	3,545		3,751	-206
		<u>4,370</u>	<u>41,216</u>	<u>3,751</u>	<u>619</u>
Total mixed waste		<u>18,786</u>	<u>81,041</u>	<u>14,233</u>	<u>4,553</u>
General waste					
I&C general waste		31,103	120,960	27,648	3,455
SEWCO general waste		1,109	3,825	1,071	38
Total general waste		<u>32,212</u>	<u>124,785</u>	<u>28,719</u>	<u>3,493</u>
Overall total		<u>50,998</u>	<u>205,826</u>	<u>42,952</u>	<u>8,046</u>

Notes

1. No costs allocated to gate fees (none in AI, although there will be some costs in reality)
2. **Balancing figures**
3. 3rd party recyclate sales: $\text{Cost per tonne} = \text{£}3,751\text{k} / 41,216 = \text{£}91$
4. I&C and SEWCO recyclate sales: $\text{Cost} = \text{tonnage} \times \text{£}91$

R4 Limited - AI Financial Statement Analysis**Materials Recovery Facility (MRF) - Industrial & Commercial (I&C) operations**

Mixed waste fees (collection & transportation)	£/70kg lift	Tonnes	£000	% revenue
Revenue (£13 x 1000 / 70 x 28,350)	13.00	28,350	5,265	
Costs				
Fuel	1.20			9.2%
Manpower	3.30			25.4%
Vehicles costs	1.50			11.5%
Overheads (inc depreciation)	3.00			23.1%
	<u>9.00</u>		<u>3,645</u>	<u>69.2%</u>
GP / GP%	<u>4.00</u>		<u>1,620</u>	<u>30.8%</u>

Recyclate sales	£/tonne			
Revenue (see below)	86		2,438	
MRF costs (see below)	-91		-2,580	
GP / GP%	<u>-5</u>		<u>-142</u>	<u>-5.8%</u>

Total I&C				
Revenue	272		7,703	
Costs	-220		-6,225	
GP / GP%	<u>52</u>		<u>1,478</u>	<u>19.2%</u>

Recyclate sales	% per tonne	£/tonne	Revenue	Mix
Paper	20%	80	16	16.7%
Cardboard	30%	100	30	31.3%
Steel	8%	150	12	12.5%
Aluminium	2%	500	10	10.4%
Hard plastics	10%	200	20	20.8%
Plastic film	5%	100	5	5.2%
Glass	15%	20	3	3.1%
Recyclable waste	<u>90%</u>		<u>96</u>	<u>100.0%</u>
Non-recyclable waste (see General waste)	<u>10%</u>	<u>-100</u>	<u>-10</u>	
	<u>100%</u>		<u>86</u>	

MRF costs		
Wages		40
Repairs & Maintenance		16
Electricity		12
Baling wire		6
MRF overheads inc depreciation		17
		<u>91</u>

R4 Limited - AI Financial Statement Analysis
Materials Recovery Facility (MRF) - Special Event Waste Contract Operations (SEWCO)

	£/tonne	Tonnes	£000	GP%
Revenue				
- SEWCO Fees	290	11,475	3,328	
- SEWCO Recyclate sales	295		3,385	
	585		6,713	
SEWCO costs				
- Collecting, crushing, transporting	-280		-3,213	
- MRF costs (see I&C)	-91		-1,044	
	-371		-4,257	
GP / GP%	214		2,456	36.6%
Analysis by activity				
SEWCO fees				
Revenue	290	11,475	3,328	
Collecting, crushing, transporting	-280		-3,213	
GP / GP%	10		115	3.4%
SEWCO Recyclate sales				
Revenue	295		3,385	
MRF costs (see I&C)	-91		-1,044	
GP / GP%	204		2,341	69.2%
Total				
Revenue	585		6,713	
Costs	-371		-4,257	
GP / GP%	214		2,456	36.6%

Example SEWCO contract

	£/tonne	Tonnes	£000	GP%
SEWCO fees				
Revenue	260	2,000	520	
Collecting, crushing, transporting	-250		-500	
GP / GP%	10		20	3.8%

SEWCO Recyclate sales (say 60%)

Revenue	299	1,200	359	
MRF costs (see I&C)	-91		-109	
GP / GP%	208		250	69.6%

Total contract

Revenue			879	
Costs			-609	
GP / GP%			270	30.7%

Example Recyclate sales

	% per tonne	£/tonne	Revenue	
			£	Mix
Paper & cardboard	10%	90	9	3.0%
Steel	20%	150	30	10.0%
Hard plastics	30%	200	60	20.1%
Aluminium	40%	500	200	66.9%
Recyclate sales	100%		299	100.0%

R4 Limited - AI Financial Statement Analysis
Materials Recovery Facility (MRF) - 3rd party waste

	£/tonne	Tonnes	£000	Mix
Revenue				
Gate fees	20		825	18.9%
Recyclate sales (see I&C)	86		3,545	81.1%
	106	41,216	4,370	100.0%
MRF costs (see I&C)	-91		-3,751	
GP / GP%	15		619	14.2%

Example: ZQ contract

Revenue			
Gate fees	20		
Recyclate sales	90		
	110		
MRF costs	-91		
GP / GP%	19	17.3%	

	% per tonne	£/tonne	Revenue	
			£	Mix
Paper	50%	80	40	44.4%
Cardboard	50%	100	50	55.6%
Recyclate sales	100%		90	100.0%

R4 Limited - AI Financial Statement Analysis
General waste (non-recyclable)

	£/70kg lift	Tonnes	£000	% revenue
I&C General waste				
Revenue (£18 x 1000 / 70 x 120,960 / 1000)	18.00	120,960	31,103	
Costs				
Waste disposal				
- Gate fee	1.40		2,419	7.8%
- Landfill tax	5.60		9,677	31.1%
Total £7/lift = £100/tonne (1000 / 70 x 7)	7.00		12,096	38.9%
Fuel	1.20		2,074	6.7%
Manpower	3.30		5,702	18.3%
Vehicles costs	1.50		2,592	8.3%
Overheads (inc depreciation)	3.00		5,184	16.7%
	16.00		27,648	88.9%
GP / GP%	2.00		3,455	11.1%
£/tonne				
SEWCO General waste				
Revenue	290	3,825	1,109	
Costs	-280		-1,071	
GP / GP%	10		38	3.4%

R4 Limited - AI Financial Statement Analysis

Balance sheet

	Actual			Increase / (Decrease)	
	2016	2015	2014	2016	2015
	£000	£000	£000	£000	£000
Non current assets					
Tangible assets	15,724	16,677	4,743	-11,934	953
Current assets					
Trade receivables	7,157	4,779	4,569	2,378	210
<i>Trade receivable Days (7,157x365/50,998)</i>	<i>51</i>	<i>41</i>	<i>41</i>	<i>10</i>	<i>0</i>
Prepayments & sundry	715	656	611	59	45
	7,872	5,435	5,180	2,437	255
Total assets	23,596	22,112	9,923	1,484	12,189
Equity					
Share capital	1,500	1,500	500		1,000
Retained earnings	2,119	1,470	1,313	649	157
	3,619	2,970	1,813	649	1,157
Non-current liabilities					
Initial loan	3,000	3,000	3,000		
Additional loan	9,000	9,000			9,000
	12,000	12,000	3,000	0	9,000
Current liabilities					
Trade payables	5,617	4,987	4,153	630	834
<i>Trade payable Days (5,617x365/42,952)</i>	<i>48</i>	<i>50</i>	<i>43</i>	<i>-2</i>	<i>7</i>
Other payables	974	729	594	245	135
	6,591	5,716	4,747	875	969
Bank overdraft	1,386	1,426	363	-40	1,063
	7,977	7,142	5,110	835	2,032
	23,596	22,112	9,923	1,484	12,189

Non-current assets	Leasehold £000	IT & P&M £000	Vehicles £000	Total £000
Cost				
At 1 October 2013	824	5,112	4,855	10,791
Additions		124	678	802
Disposals		-68	-538	-606
At 30 September 2014	824	5,168	4,995	10,987
Depreciation				
At 1 October 2013	440	2,055	3,150	5,645
Disposals		-39	-397	-436
Charge for the year	49	538	448	1,035
At 30 September 2014	489	2,554	3,201	6,244
Carrying amount at 30 September 2014	335	2,614	1,794	4,743
Cost				
At 1 October 2014	824	5,168	4,995	10,987
Additions	246	14,548	752	15,546
Disposals		-4,240	-620	-4,860
At 30 September 2015	1,070	15,476	5,127	21,673
Depreciation				
At 1 October 2014	489	2,554	3,201	6,244
Disposals		-2,032	-458	-2,490
Charge for the year	83	703	456	1,242
At 30 September 2015	572	1,225	3,199	4,996
Carrying amount at 30 September 2015	498	14,251	1,928	16,677
Cost				
At 1 October 2015	1,070	15,476	5,127	21,673
Additions		166	824	990
Disposals		-44	-474	-518
At 30 September 2016	1,070	15,598	5,477	22,145
Depreciation				
At 1 October 2015	572	1,225	3,199	4,996
Disposals		-30	-395	-425
Charge for the year	83	1,264	503	1,850
At 30 September 2016	655	2,459	3,307	6,421
Carrying amount at 30 September 2016	415	13,139	2,170	15,724

Depreciation rates

Leasehold improvements: remaining life of lease

MRF: tonnes processed as % of lifetime tonnage

P&M, IT: 5-25%pa reducing balance

Vehicles: 15-25% pa reducing balance

	Actual Results		
	2016	2015	2014
Reserves			
Brought forward	1,470	1,313	1,208
Profit for the year	649	157	105
Carried forward	<u>2,119</u>	<u>1,470</u>	<u>1,313</u>

Liquidity

Current ratio (7,872 / 7,977)

1.0 0.8 1.0

Quick ratio (7,872 / 7,977)

1.0 0.8 1.0

Gearing

332% 404% 165%

Borrowing

£3m 6% 10 year interest only loan, repayable April 2019

£9m 6% 10 year interest only loan, repayable April 2025, secured with fixed & floating charge

£1.5m overdraft facility

R4 Limited - AI Financial Statement Analysis

Cash flow statement

	Actual			Working capital days	
	2016	2015	2014	2016	2015
	£000	£000	£000		
Profit before tax	811	197	132		
Depreciation & loss on disposals					
Depreciation	1,850	1,242	1,035		
Loss on disposals					
IT, P&M	10	1,858	23		
Vehicles	54	77	93		
	1,914	3,177	1,151		
Finance charges	879	562	269		
Free cash	3,604	3,936	1,552		
Change in working capital					
Receivables	-2,437	-255	-949	10	0
Payables	753	956	256	2	-7
	-1,684	701	-693	12	-7
Cash generated from operations	1,920	4,637	859		
Tax paid	-40	-27	-9		
Finance charges	-879	-562	-269		
Net cash from operating activities	1,001	4,048	581		
Investing activities					
Purchase of tangible assets					
Property		-246			
IT, P&M	-166	-14,548	-124		
Vehicles	-824	-752	-678		
	-990	-15,546	-802		
Proceeds from disposals	29	435	54		
	-961	-15,111	-748		
Financing activities					
Issue of new shares		1,000			
Bank loan		9,000			
	0	10,000	0		
Net change in overdraft	40	-1,063	-167		
Opening balance	-1,426	-363	-196		
Closing balance	-1,386	-1,426	-363		

Notes

- 2016 loss on disposal of vehicles: older trucks inefficient or no longer appropriate
- 2016 increase in working capital: new larger clients with longer credit terms
- Purchase of tangible assets
 - 2015: MRF property & plant, operating May 2015, useful life 1.2m tonnes
 - 2016: logistics controls, replacement trucks
- Overdraft nearly exceeded before year end

R4 AI NOTES

Exh 1 – You and your employer

- Nick Harris, BAS Boyle Downer in Sheffield, reporting to Shan Patel
- R4, industrial and commercial waste and recycling
 - Barnsley, 20km from Sheffield
- work experience analysing financial statements
 - assessing markets to identify trends, opportunities and threats
 - financial data calculations and analysis
 - assessing financial and non-financial information
 - clear opinions and reasoned judgements
 - drafting reports

Sample material pack

Exh 2 – UK waste collection and recycling industry

UK waste collection and recycling industry

- comprises
 - commercial collection of waste & reprocessing (segregation, transformation into reusable products (recyclates))
 - final disposal of non-recyclates as fuel or landfill
- types of waste
 - general office waste
 - confidential paper waste
 - food waste
 - farm waste
 - construction and demolition waste
- industry is fragmented and competitive
 - network-based, organisations work together to share major facilities and expertise
 - also involved in initiatives to reduce waste (e.g. packaging)
- targets set by EU, government, local authorities
- financial incentives and penalties
- larger organisations: Viridor, Veolia, Suez Environment, Biffa, FCC Environment
- UK industry 15.3 billion in 2015
 - compound annual growth rate 4.9% 2016 to 2020
 - price and volume

Waste collection and recycling operations (**R4 operations**)

- waste collection
 - municipal household waste
 - **industrial and commercial (I&C) waste**
 - construction and demolition waste
- waste products
 - **general waste (non-recyclable)**
 - **mixed recyclable waste**
 - organic waste
 - specialist recycling
- waste processing operations
 - **materials recovery facility (MRF)**
 - **recyclate recovery**

Waste processing operations

- general waste
 - can be used in incineration, gasification, fuel
 - WDFs only available in very large recycling companies
 - final disposal mostly to landfill sites
 - last resort, high charges to discourage use
- mixed recyclable waste
 - processed through MRF
 - recyclates sold
 - non-reusable general waste disposed through WDF

Revenue generation

- charging clients for general and mixed waste collection
 - contracts for waste collection
- gate fee for use of MRF
- sale of end products
 - products
 - recyclates
 - heat and power
 - gas
 - soil and compost (from organic waste)
 - aggregates (from construction and demolition)
 - customers
 - commercial organisations (UK, International (China))

Sample material pack

Exh 3 – R4 history and overview

3 business lines

- third party use of MRF, including recycling network arrangements
- industrial and commercial contracts
- SEWCO contracts

R4 facilities

- based at Fairleigh in Barnsley, near M1 between Sheffield and Leeds
 - location important for logistical organisation
- 2009 invested in small MRF
 - local authority approval conditional on job creation scheme
 - assist local authority in meeting its recycling targets
 - employment and training plan for school leavers and unemployed
 - aim to train them as mechanics, engineers or truck drivers

Recycling activity and waste disposal

- fleet of collection vehicles
- contracts specify whether mixed waste (90% recyclable) or general waste
 - lower collection fee charged for mixed waste
- initially just collected waste, processed in other organisations WDF's
- from 2009 processed mixed waste in MRF
- recyclate is sold through a number of major organisations throughout the UK
 - Commercial Plastic Products Ltd (CPP) uses recycled plastic for plastic milk bottles
 - collects recyclate plastic R4 on a daily basis
 - Metal Rebound Ltd (steel)
- R4 holds no inventory of recyclates
- factors to be balanced
 - UK public attitude – worthwhile but actions do not match ideals
 - R4 must not appear too sanctimonious
 - recycling is not a clean activity
 - avoid generating local opposition
 - hazardous industry, health and safety a major priority, poor image
 - R4 has exemplary record
 - R4 involvement in local matters of concern
 - schools' education programmes
 - sponsoring local events
 - promotion of high ethical standards

R4 board

- Tam Dooley MD (20% shareholder)
- Jackie Tong MRF Ops (20%)
- Mina Singh I&C Waste Ops (20%)
- Ali Mann SWECO (20%)
- Rickie Caper Logistic & Maintenance (20%)
- Freda Tusk FD
- Shen Ling IT

Exh 4 – Financial performance 2014 & 2015

Prior to October 2013

- formed in 2002, steady expansion of operations and revenue
- April 2009 investment of £3.8 million in small MRF
 - funded by 10-year 6% £3 million bank loan (interest £180k pa)
 - interest only, repayable April 2019
- I&C mixed waste increased steadily
- increase in general waste to be processed at other organisations locations
 - the expansion of fleet of trucks (7 tonnes, standard)

2014

- expanded on-site processing of 3rd party mixed waste
 - reached MRF capacity
- continued replacement with upgraded vehicles
- increased collection of general waste to maximise I&C general waste collection
 - using a larger fleet
 - better route planning
 - 2 collections per day
- continued to use local WDF's process general waste

2015

- £14 million investment in larger MRF
 - lifetime capacity 1.2 million tonnes (120,000 tonnes pa)
 - original MRF disposed (economically obsolete)
- new 6% loan £9 million repayable April 2025
 - both loans secured on non-current and current assets
 - existing 5 shareholders invested an additional £1 million in ordinary shares
 - no dividends to be paid for 5 years
- I&C operations and processing of mixed waste increased from May 2015
- increase in third-party processing of mixed waste from May 2015
- review of operations
 - divested some older no longer profitable contracts to obtain new larger I&C waste contracts
 - increased workforce to manage change and increase in activity
 - increase in cost of sales
 - due to losses on disposal of old MRF
 - higher depreciation on new MRF
- overdraft increased to £1.5 million for working capital
 - working capital deteriorated
 - overdraft limit almost breached shortly before the year end

Exh 6 – Review of 2016

Commentary

- investment in new MRF has allowed a substantial increase in R4 mixed waste operations
- processed significantly more own and third-party mixed waste
 - total processed 81,000 tonnes
 - well below annual capacity 120,000 tonnes
- GP margin target for mixed recycling 25% (actual 24.2%)
 - variations in the mixed waste categories (I&C, SEWCO, 3rd party)
- ratio of mixed waste to general waste 40:60 (local authority requirement Exhibit 13)
 - general waste collection volume (125,000 tonnes) but lower margin (10.8%)
- continuing expenditure on replacement trucks
 - appropriate number
 - appropriate specification for type of work
 - older trucks (inefficient, no longer appropriate) were disposed of (loss £54k)
- additional investment in IT and P&M to control logistics more efficiently
- increase in operational activity from winning work from larger clients
 - longer credit terms
 - increase in the year end receivables
- close to but did not exceed £1.5 million overdraft

Exh 7 – MRF operations (I&C, SEWCO, 3rd party)

Investment

- new MRF functional by May 2015
- investment £14 million
- useful life 1.2 million tonnes
 - maximum capacity 120,000 tonnes pa
- funded by
 - £9 million bank loan, 10 years, 6% interest
 - new equity investment of £1 million
 - balance from operations
- loan secured with fixed charge on MRF and floating charge on current assets

Operations

- segregates mixed waste into recycling more efficiently
 - speedier process
 - less waste
 - 10% final general waste
 - disposal fee £100 per tonne
- seven days a week, labour intensive
 - collections Monday to Friday, some weekend contracts
 - trucks weighed on weighbridge on entry and exit
 - difference is the weight to be processed
 - exit weight used to agree gate fees for 3rd parties
 - tipped loads inspected as appropriate for processing
 - rejected loads
 - inappropriate substances
 - large percentage of non-recyclable general waste
 - too wet and therefore weight cannot be agreed
 - immediately reloaded by R4 or subject to higher charges
- non-recyclable material in R4 mixed waste loads
 - identify the client involved
 - raise with the client
 - prevent further problems
 - discuss appropriate fees to be charged
 - vast majority simple mistakes
 - wrong type of waste in the wrong bin
 - been left open and rainwater
 - aim to change client activity
- increasing incidents of fly tipping
 - client bins accessible to passers-by
 - increased security by R4 clients
- impossible to identify all instances of inappropriate material or general waste
 - on average 10% of mixed waste is not recyclable
 - subject to general waste disposal fee of £100 per tonne

Maintenance

- expensive and complex piece of heavy machinery
 - requires continuous maintenance
 - overnight where possible
 - during less busy times at weekends
- breakdowns are disruptive and expensive in terms of lost revenue
- carried out by R4 engineers
- vehicles also maintained by R4

Sample material pack

Exh 8 – I&C

History

- specialised I&C waste collection and recycling since inception
 - founder members knew this type of operation variance
 - other recycling markets deemed inappropriate
 - municipal household waste collection and recycling much larger operation
 - different collection and recycling process
 - construction and demolition waste
 - very large contractors
 - much smaller niche operators, based heavily on personal contacts
- successfully bid for work
- develop long-term relationships with major commercial organisations
 - based on service which is
 - economic
 - efficient
 - effective

Collection services

- collection truck visits each I&C client location
 - collects waste from large bins
 - 1100 litres, average 70 kg
 - compressed in truck
- logistics planners include collection service as part of a collection route (“round”)
 - crucial for
 - client satisfaction
 - for efficiency and profitability of I&C service
 - large clients: daily collection service from multiple locations
 - other clients: weekly collection service from a single location
 - additional collections to meet seasonal or other factors
 - part of original bid, same price as other collections
 - extra service, rate may be increased
- clients are charged on the basis of the number of bins for each category of waste
 - mixed waste (£13.00 per lift, £186 per tonne)
 - general waste (£18.00 per lift, £257 per tonne)
 - general waste processed through third-party WDF’s
 - no direct R4 costs or processes involved (apart from collection)
 - waste disposal costs £7 per lift (£100 per tonne: £20 gate fee, £80 landfill tax)
- in-house fleet of collection trucks
 - 7 tonnes of waste (100 bins)
 - average 100 lifts per day
 - operate 225 days per year (7 x 225 = 1,575 tonnes pa)
 - separate vehicles for mixed and general waste

Exh 9 – SEWCO

Special events

- types of events
 - music festivals
 - sports tournaments
 - Royal commemorations
 - horse racing meetings
 - riding events
 - Road races
 - flower shows
- last 1 day to 2 weeks
- seasonal – April to September

Customer requirements

- return site to its former pristine condition as quickly as possible
- waste contractors commissioned to remove all waste with the maximum speed
 - a major cost of running events
 - fee for site clearance based on expected tonnage
 - negotiated and fixed in advance
- R4 has become a SEWCO specialist
 - good base of customers
 - use services on a repeat basis
- collection work
 - starts once the event ends
 - specialist trucks with crushing equipment
 - teams of experienced personnel
 - 1100 litre bins on site
 - waste generally overwhelms provision
 - compacting a big problem
 - initial segregation into mixed and general waste
 - mechanical lifters, specialist crushers and compactors on site
 - trucks transport compacted waste off-site
 - general waste taken to nearest WDF
 - segregated mixed waste transported back to Fairleigh for processing
 - initial segregation of waste key to that success of operation
 - higher percentage of mixed waste, greater profit for R4
 - skill and experience crucial to operation
- winning SEWCO work
 - make the initial bid as low as possible
 - achieve maximum additional recycling revenue
 - success requires
 - sensible bidding
 - prior knowledge to assess
 - those attending an event
 - particular rules or regulations
 - experience skilful segregation of waste on site

- appropriate processing
- good luck
- weather can increase or decrease the number of visitors
- bad weather
 - causes problems of collection
 - increases weight of recyclates
 - affects prices (e.g. wet paper and cardboard have lower value)

Sample material pack

Exh 10 – 3rd party recycling networks

Recycling network

- high cost of running specialised operations (landfill, specialised equipment)
- financial reach of only a small number of large organisations
 - need to achieve economies of scale
 - networks with smaller enterprises established
- location of facilities and processing capacity important for efficient operations
- liaise with each other match location and customer demand

Recycling for 3rd party collectors of I&C mixed waste

- R4 processes mixed waste collected by 3rd party contractors
- ZQ recycling Ltd
 - has a series of specific mixed waste contracts
 - confidential paper waste and cardboard
 - no residual general waste
 - R4 GP £19 per tonne
- other contracts may have different margins caused by
 - varied mixed waste proportions
 - higher residual general waste

R4's use of other companies' WDF

- R4 makes extensive use of other WDF's to deal with the general waste it collects
- all UK major recycling companies have numerous WDF's located throughout the UK
- WDF's include
 - waste incineration
 - anaerobic processes
 - mechanical and bio treatment plants
 - landfill sites
- R4 uses WDF's to process
 - general waste from I&C clients or SEWCO
 - residual waste from MRF mixed waste processing
- main criterion for choice geographical
 - near to client locations or SEWCO events
 - uses landfill sites as final resort
- landfill sites
 - higher gate fees
 - landfill tax
 - incentive to persuade companies to sort waste between mixed and general
 - penalty for dumping all waste into landfill sites
- major cost of vehicle fleet
 - fuel
 - insurance
 - maintenance
 - vehicle depreciation
 - drivers' and operatives' wages
- minimise costs by careful route planning

Exh 11 – 3rd party mixed waste collections organisations

3rd party mixed waste collectors

- organisations making regular use of R4 MRF
- large number of occasional collectors
- regular users all have contracts (1-3 years)
 - tend to match duration of contracts with their waste collection clients
 - main terms
 - use MRF as and when required
 - invoice for tonnage based on entry and exit weights
 - mixed waste is within acceptable range of composition

Lindon Waste Contractors Ltd (LWC)

- largest 3rd party customer
- located 20 km north of R4
- contract since June 2015
- increased tonnages processed through R4
- 2016
 - gate fees £300,000
 - 15,000 tonnes of mixed waste (36.6% 3rd party)
- excellent long-term customer
 - pays promptly

ZQ Recycling Ltd (ZQ)

- typical 3rd party mixed waste collector
- 2016
 - 2,000 tonnes (one truck per day: 7 x 365 = 2,550 tonnes) (5% 3rd party)
- mixed waste consistently of an appropriate quality
 - good range of small business clients
 - excellent working relationship
 - changes to waste processing requirements at short notice without additional charge

Other 3rd party recycling organisations

- some large well-established organisations use R4 as nearest MRF on occasional basis
- recycling contractors who have collected mixed waste
- R4 constantly seeking to grow its business
 - policy: 24 hours' notice of intention to use MRF
 - must provide licensing details for vehicles
 - licensing approval for collecting mixed waste
 - identification of mixed waste origination

Exh 12 – Board briefing (November 2016)

2016 financial statements

- investment in MRF good decision
 - increased capacity
 - enabled R4 to obtain and process more I and C mixed waste business
- 2015 adversely impacted by
 - loss on disposal of
 - transitional operational changes
- discussion about the impact of new loan interest payments (£540k) on profit and cash flow
- non-accounting board members not confident about how income statement balance sheet link together

Corporate responsibility

- R4 integral to the supply of sustainable solutions for its stakeholders
 - clients
 - suppliers
 - purchasers of its recyclates
 - workforce
 - local community
- acting responsibly will enhance
 - financial performance
 - create sustainable value for stakeholders
- corporate responsibility framework
 - staff
 - health safety and well-being of its community
 - marketplace
 - relationship with customers, suppliers and other parties
- commitment to business trust, ethics and high standards of conduct
 - aims to lead the way in developing sustainable solutions
 - cooperating with like-minded organisations
 - help to educate and inform others

Commercial risks

- pricing contracts for I&C operations
- future major increase in landfill tax
- fluctuations in recycling commodity prices
- increases in power fuel and other costs
- increased customer churn due to increased competition
- acquisition strategy of large competitors
- cyber security
- health and safety liabilities
- regulatory change and industry responses
- consumer behaviour and attitudes concerning recycling
- dependent on senior personnel
- network arrangements for operational success

Exh 13 – 2016 MRF issues

- Staff training and operational experience; staff familiar with MRF
- good regular maintenance, no major unforeseen stoppages
 - good team of engineers and mechanics
 - able to cope with all standard maintenance and replacement issues
- processed mixed waste volumes
 - almost 40,000 tonnes of I&C and SEWCO
 - more than 40,000 tonnes of 3rd party
 - close to local authority recycling of 40% (39.4%)
- target agreed as part of planning agreement for MRF and new road layout
 - must be achieved by April 2017
 - increase to 45% (1% pa) by April 2022
 - failure to achieve targets results in restrictions on general recycling tonnages
- new road layout working well
 - mixed waste trucks take most direct route onto site
 - adequate parking lanes on site to avoid any disruptive parking
 - no excessive vehicle exhaust pollution on local roads
 - route away from the site also well designed and managed
 - minimal disruption to neighbours
- reduced vehicle activity at weekends (apart from essential SEWCO work)
 - no complaints re noise or pollution
- **main concern: MRF needs to be operating closer to full capacity every week**
 - trying to win new mixed waste recycling business
 - trying to ensure local contract winners use R4 MRF

Exh 14 – News articles

14a Household recycling rates in the UK drop for first time in 2015 (National News, 3/17)

- year ended 31 December 2015
- overall recycling rates in the UK fallen first time
- Suez calls for tax on packaging to drive up recycling rates again
- EU target 50% by 2020 almost certain to be missed
 - steady increase for more than a decade
 - flatlined for 3 years rates vary considerably in different parts of the UK
- Waste and Resources Action Programme (WRAP)
 - recycling primarily the responsibility of local authorities
 - underlying economic reasons for the decline in terms of funding
 - fall in the value of commodities
 - clear communication with householders re value and benefits an important factor
- total amount of waste generated by households down slightly in 2015 (22 million tonnes, 407 kg per adult)
 - householders still confused about recycling
 - split between mixed recycling and general waste
- UK recycling 4 times as much as in 2000, but
 - households not being as diligent about segregation
 - not disciplined or careful at work or in leisure areas

14b The need to recycle (Recycle News, 4/17)

- the need to recycle more is urgent but fraught with contradictions and conflicts
- effective recycling not universally accepted activity
- accumulation of waste caused by
 - carelessness
 - negligence
 - wilful indifference
 - criminal actions
- fly tipping in parts of UK reached industrial proportions
 - targets for recycling subject to disagreement and dispute
 - target setting meant to reward success
 - punishment for failure results in actions against the intended goal
 - high landfill tax for general waste is to encourage sorting and recycling
 - unintended consequence
 - high charge becomes a deterrent
 - fly tipping saving £100 per tonne
- central government and local authorities have no immediate solution
 - enforcement unrealistic
 - depends on a change of attitude

14c The storm in the (disposable) coffee cup (City News, 5/17)

- every day in the UK 7 million takeaway coffee cups thrown away (2.5 billion a year)
- many placed in recycling bins
 - only about 0.25% are recycled
- can coffee cups be recycled?
 - Yes, but not alongside standard household or paper recycling
 - cardboard sleeve only
 - cups almost impossible to recycle
 - film lining to be waterproof
 - cannot be separated in standard recycling
- only 2 highly specialised recycling facilities in the UK
 - one
 - shred whole cup
 - process into a resin
 - resin mixed with recycled plastic to create a new plastic material
 - manufactured into various products
 - two
 - separates paper and plastic
 - recovered paper used to make tubes for various products
 - both processes expensive
- possible change to increase use of specialist recycling services
 - production of a wider range of commercial products
 - education programme to motivate workers to support
 - accompanied by specialist recycling bins
 - enforcement of more stringent recycling rules
 - financial incentives by recycling companies
 - change may require a fee for each non-recyclable cup used
- currently coffee cup recycling is too difficult and too expensive
 - no acceptable commodity price for these items
 - waste management companies incur heavy transport charges to use specialist facilities
 - majority of cups collected treated as general waste
- storm brewing in the coffee cup waste disposal activity

14d Rome rubbish powers Austrian homes (International Times, 6/17)

- twice a week, 700 tonnes of compressed waste transported by train from Rome to Austria (70,000 tonnes a year)
 - EVN waste-to-energy plant near Vienna
 - waste incinerated and turned into hot flue gas
 - Power for 200,000 homes in Austria
 - plant operating at full capacity
- part of efforts in the EU to make cities reduce waste in landfills
 - Rome landfills full
 - big environmental problem
 - need to be closed
 - create methane emissions and CO₂

14e Cleaning up the beaches – plan for using plastics waste (Technology Gazette, 6/17)

- initiative by Proctor and Gamble (P&G)
 - limited run of shampoo bottles (170,000)
 - made partly from plastic waste collected on French beaches
 - collaboration with TerraCycle and Suez
 - biggest deployment of marine and beach plastic ever
- Adidas
 - 7000 pairs of trainers made from marine plastics
- Farrell Williams
 - clothing line for G-Star RAW with denim containing ocean plastic
- potential knock-on effects for recycling of challenging materials
 - innovation in all areas of waste recycling
 - future economies of scale may be achieved

Sample material pack

R4 SWOT, PESTLE, PORTER'S

Strengths

- started in 2002, well established
- Barnsley location (near M1) for logistics
- experienced management team (15 years)
- specialised in I&C waste collection and recycling since inception
- employment and training plan for school leavers and unemployed
- holds no inventory of recyclates
- exemplary health & safety record
- involvement in local matters of concern
- new MRF May 2015 more efficient, speedier, less waste
- good regular MRF maintenance, no major unforeseen stoppages
- good team engineers & mechanics
- growth in mixed & general waste collection
- no complaints re noise or pollution from vehicle activity
- good GP% on I&C collections (30.8%)
- good GP% on SEWCO recyclates (69.2%)
- customer loyalty based on service: economic, efficient, effective
- SEWCO specialist, used on repeat basis
- SEWCO experience in assessing mixed waste composition
- Contract since 6/15 with LWC

Weaknesses

- currently low profit business (PBT 1.6%)
- MRF under-utilisation, I&C loss -5.8%
- MRF labour intensive
- low margin on SEWCO collections (3.4%)
- unpredictability of SEWCO recycle %
- SEWCO "luck"
- SEWCO collection fees based on expected tonnage
- large number of occasional 3rd party collectors
- reliance on LWC (36.6% of 3rd party)
- 2016 AR +£2,378k, +10 days
- near overdraft limit
- lack of cash

Opportunities

- using MRF surplus capacity
- increased fly-tipping (enforcement contracts)
- becoming part of additional 3rd party recycling networks
- joining additional WDF networks for specialist waste, improving GP%
- minimise use of landfill
- increased commodity prices
- reducing 10% un-recyclables in mixed waste
- develop long-term relationships with major commercial organisations
- forecast growth 4.9% pa to 2020
- “recyclable” coffee cups
- link with specialist manufacturer (eg plastics)
- link with WDF organisation
- agreement with bulk collection company

Threats

- 1/17 UK public attitude – recycling worthwhile but actions do not match ideals
- hazardous industry, health and safety a major priority, not clean activity, poor image
- processing of inappropriate substances
- non-recyclables in mixed waste
- fall in commodity prices
- insufficient recyclables in SEWCO waste
- being under-bid for SEWCO contracts (loss leaders)
- increased fly-tipping (loss of revenue)
- MRF disruption, financial costs, damage to reputation
- miss 2017 local authority mixed waste target 40% (2016 39.4%), 2018-2022 +1% pa
- disruption to logistics; crucial for customer satisfaction & profitability
- increase in WDF gate fees & landfill tax
- SEWCO seasonality can impact on I&C; MRF inefficiency
- competition: 5 large nationals, international subs new entrants
- decline in recycling, social trend, slowing economy
- Brexit uncertainty
- regulatory change
- disruption to network arrangements
- loss of senior personnel
- breach of overdraft facility
- non-repayment of £3m loan in 4/19

R4 PESTLE

Political

- Brexit terms, commodity trade tariffs
- central government and local authorities have no immediate solution to fly-tipping
- changes in school leaver employment & training plans

Economic

- uncertainty from Brexit, fall in £ (10/16-9/17)
- consumer spending
 - wages 2017 Q1 +2.1%, Q2 +1.8%, Q3 +2.1% (real wages -0.7% (ONS))
 - inflation September 2017 2.8% (ONS)
- GDP 2016 Q4 +0.7%, 2017 Q1 +0.2%, Q2 +0.3%, Q3 +0.4%(ONS)
 - 2017 Q1 -1.4%, Q2 +1.5%, Q3 +0.6% (ONS)
- Bank of England interest rate was lifted from 0.25% to 0.5% on 2 November 2017, the first increase since July 2007.
- globalisation, international companies more influential in UK market
- UK recycling industry 15.3 billion in 2015
 - annual growth rate 4.9% 2016 to 2020, price and volume
- changes in recycling economics impact 3rd party networks
- UK industry fragmented and competitive
- increase in landfill tax

Social

- local opposition to recycling
- effective recycling not universally accepted activity
- fly tipping in parts of UK reached industrial proportions
- recyclable coffee cups
- R4 integral to the supply of sustainable solutions for its stakeholders
- acting responsibly will enhance financial performance, sustainable value
- corporate responsibility framework
- commitment to business trust, ethics and high standards of conduct
- popularity of Special Events
- changes in consumption of food & drink at Special Events
- changes in school leaver employment & training plans

Technological

- coffee cups almost impossible to recycle
 - currently recycling too difficult and too expensive
 - increase use of specialist recycling services
- EVN waste-to-energy plant, turns compressed waste into hot flue gas
- P&G 170k shampoo bottles, Adidas trainers, Farrell Williams clothing
- lead the way in developing sustainable solutions
- investment in improved MRF efficiency
- MRF currently labour intensive; automation
- continuing investment in updated vehicles
- increased vehicle fuel efficiency
- improved logistics planning

Legal & regulatory

- healthy and safe working environment
- changes in local, UK, EU regulations
- changes to meet EU / world targets
- changes to vehicle emissions
- restrictions on use of diesel trucks in urban areas
-

Environmental

- landfill as last resort
- waste incineration
- changes to vehicle emissions
- mixed waste sorting
- residual general waste in mixed waste

R4 PORTER'S 5 FORCES

Bargaining power of customers

- All
 - Mitigation
 - Competitive pricing
 - Value for money
 - 24/7 service
 - Clear recycling criteria
 - Building networks
- I&C (major commercial organisations, daily or weekly collections)
 - High power due to low MRF utilisation
 - Mitigation
 - Account managers
 - Monitor changes in client contacts
 - Regular reviews / feedback
 - Meet collection schedules
 - Contracts
 - Tender for more large contracts to diversify risk
- SEWCO (project based specialist work, low bid price)
 - High power due to high profitability
 - Mitigation
 - Build relationships to develop repeat business
 - Contracts with clear allocation of responsibilities and performance standards
 - Specialist teams
 - Meet collection schedules
- 3rd parties
 - LWC & ZQ – high power due to low MRF utilisation
 - Large number of occasional collectors – low power
 - Mitigation
 - Build relationships to ensure appropriate quality of waste
 - Flexible approach to waste processing requirements for LWC & ZQ

Bargaining power of suppliers

- MRF equipment, vehicles – high power (specialist market)
- IT – low power (multiple source)
- WDF – medium power (multiple source but suitable geographical location)
 - Mitigation
 - Manage supplier relationships
 - Service level agreements
 - Active project management
 - Dual sources
 - Health & Safety compliance

Threat of substitute products

- Fly tipping
 - Low threat
 - Mitigation
 - Work with industry and local authority to raise awareness through education
 - Co-operation with local authority so as not to raise inadvertent barriers (eg gate fees)
- Incineration
 - Low threat
 - Mitigation
 - Part of the solution not the problem
 - Increasing political / social awareness of alternative energy producer
 - Network R4 recycling with incineration as alternative WDF for general waste
- Other technologies
 - Low /medium threat
 - Compostable v recyclable materials
 - Mitigation
 - Be aware of technological shifts
 - Develop strategic alliances

Threat of new entrants

- UK operations of international companies
 - Medium threat
 - Mitigation
 - High barriers to entry – set-up costs (capital investment, logistics)
 - Strong client relationships
 - Strong supplier relationships
 - Value for money, ease of use of MRF
 - Long term contracts
 - Retention of key staff
 - Competitive pricing
 - 24/7 service
 - Building R4 brand

Competitive rivalry

- All business lines
 - Highly competitive
 - Mitigation
 - Strong client relationships
 - Value for money
 - Retention of key staff: high skills (engineering, estimating, SEWCO sorting)
 - Strong supplier relationships
 - Competitive pricing
 - Product quality
 - Brand reputation
 - Creating a culture of quality

R4 BUSINESS ISSUES

Company

- formed in 2002, waste collection & recycling
- Fairleigh (Barnsley), near M1 between Sheffield and Leeds
- location important for logistical organisation
- specialised in I&C waste collection and recycling since inception
 - founder members knew this type of operation variance
 - other recycling markets deemed inappropriate
 - municipal household waste collection and recycling much larger operation
 - different collection and recycling process
 - construction and demolition waste
 - very large contractors
 - much smaller niche operators, based heavily on personal contacts
- 2009 local authority approval for MRF conditional on job creation scheme
- assist local authority in meeting its recycling targets
- employment and training plan for school leavers and unemployed
 - mechanics, engineers or truck drivers
- R4 holds no inventory of recyclates
- business factors to be balanced
 - UK public attitude – worthwhile but actions do not match ideals
 - R4 must not appear too sanctimonious
 - recycling is not a clean activity
 - avoid generating local opposition
 - hazardous industry, health and safety a major priority, poor image
 - R4 has exemplary record
 - R4 involvement in local matters of concern
 - schools' education programmes
 - sponsoring local events
 - promotion of high ethical standards

R4 board

- Tam Dooley MD (20% shareholder)
- Jackie Tong MRF Ops (20%)
- Mina Singh I&C Waste Ops (20%)
- Ali Mann SWECO (20%)
- Rickie Caper Logistic & Maintenance (20%)
- Freda Tusk FD
- Shen Ling IT

Industry (UK industry; R4 processes, services and suppliers)

UK waste collection and recycling industry

- waste: general office, confidential paper, food, farm, construction and demolition
- collection of waste & reprocessing (segregation, transformation into recyclates)
- final disposal of non-recyclates as fuel or landfill
- industry is fragmented and competitive
 - network-based, organisations work together to share major facilities and expertise
 - involved in initiatives to reduce waste (e.g. packaging)
- targets set by EU, government, local authorities (financial incentives, penalties)

Waste processing operations

- general waste (non-recyclable)
 - incineration, gasification, fuel
 - WDFs only available in very large recycling companies
 - final disposal mostly to landfill sites, last resort, high charges to discourage use
- mixed recyclable waste processed through MRF
 - recyclates sold, non-reusable general waste disposed through WDF

Waste collection and recycling operations (**R4 operations**)

- waste collection
 - municipal household waste
 - **industrial and commercial (I&C) waste**
 - construction and demolition waste
- waste products
 - **general waste (non-recyclable)**
 - **mixed recyclable waste**
 - organic waste
 - specialist recycling
- waste processing operations
 - **materials recovery facility (MRF)**
 - **recyclate recovery**

R4 services & process

- initially just collected waste, processed in other organisations WDF's
- from 2009 processed mixed waste in MRF
- new MRF May 2015, useful life 1.2 million tonnes, maximum capacity 120,000 tonnes pa
 - more efficient, speedier, less waste (10% final general waste, disposal £100/tonne)
- 24/7, labour intensive
- trucks weighed entry & exit, difference processed, exit weight for 3rd party gate fees
- tipped loads inspected as appropriate for processing
- rejected loads: inappropriate substances, large % non-recyclable, too wet for weighing; immediately reloaded by R4 or subject to higher charges
- non-recyclable material in mixed waste loads
 - identify client, raise with the client (prevent further problems, fees)
 - vast majority simple mistakes, aim to change client activity
 - increasing fly tipping, bins accessible to passers-by, increased security by R4 clients

2016 MRF issues

- Staff training and operational experience; staff familiar with MRF
- good regular maintenance, no major unforeseen stoppages
 - expensive and complex piece of heavy machinery
 - requires continuous maintenance, overnight, less busy times at weekends
 - breakdowns are disruptive and expensive in terms of lost revenue
 - good team engineers & mechanics, all standard maintenance and replacement
- processed mixed waste volumes
 - 28,350 tonnes I&C, 11,475 SEWCO (total 39,825), 41,216 3rd party
 - local authority recycling target 40% (2016 39.4%), part of planning agreement
 - must be achieved by April 2017, increase to 45% (1% pa) by April 2022
 - failure to achieve targets results in restrictions on general recycling tonnages
- no complaints re noise or pollution from vehicle activity
 - direct route onto site, adequate parking, no excessive vehicle pollution
 - route away well designed and managed, minimal disruption to neighbours
 - reduced vehicle activity at weekends (except essential SEWCO work)

Collection services

- I&C
 - collection truck visits each I&C client location, waste compressed in truck
 - in-house fleet of collection trucks vehicles maintained by R4
 - 7 tonnes of waste (bins 1,100 litres, average 70 kg, average 100 lifts per day)
 - operate 225 days per year (7 x 225 = 1,575 tonnes pa)
 - 105 vehicles ((205,826 - 41,216) / 1,575), separate mixed (25) & general (80)
 - major costs: fuel, insurance, maintenance, depreciation, wages
 - logistics planners include collection service as part of a collection route (“round”)
 - crucial for client satisfaction, efficiency, minimise costs, I&C profitability
 - large clients: daily collection service from multiple locations
 - other clients: weekly collection service from a single location
 - additional collections (seasonal, other factors), original bid price, extra service,
- SEWCO
 - starts once the event ends, specialist trucks, skill and experience crucial
 - waste generally overwhelms provision, compacting a big problem
 - initial segregation key to process, mechanical lifters, specialist crushers and compactors on site, compacted waste transported off-site
 - general to nearest WDF, segregated mixed to MRF, higher % mixed, greater profit
- 3rd party recycling network
 - high cost of specialised operations, only small number of large organisations
 - economies of scale, networks established, match location & customer demand
 - location of facilities and processing capacity important for efficient operations
 - R4 processes mixed waste collected by 3rd party contractors
- R4’s use of other companies’ WDF for general waste (I&C, SEWCO, MRF residual)
 - all UK major recycling companies have numerous WDF’s located throughout the UK
 - WDF’s: incineration, anaerobic processes, mechanical and bio treatment, landfill
 - choice geographical, near to client locations or SEWCO events
 - landfill sites final resort: higher gate fees, landfill tax (incentive to sort waste, penalty)

Markets (UK market, R4 customers and competitors)

UK market: Revenue generation

- charging clients for general and mixed waste collection
- gate fee for use of MRF
- sale of end products
 - products: recyclates, heat and power, gas, soil and compost (organic waste), aggregates (construction & demolition)
 - customers: commercial organisations (UK, International (China))

R4

- 3 business lines
 - industrial and commercial (I&C) collection contracts (mixed & general)
 - SEWCO contracts (mixed & general)
 - 3rd party use of MRF, including recycling network arrangements (mixed only)
- revenue
 - collection contracts
 - specify whether mixed (90% recyclable) or general
 - develop long-term relationships with major commercial organisations
 - based on service: economic, efficient, effective
 - recycle sales
 - customers: major organisations throughout the UK
 - CPP collects recycle plastic daily, used for plastic milk bottles
 - Metal Rebound Ltd (steel)

I&C collection

- charged on the basis of the number of bins for each category of waste
 - mixed waste (£13.00 per lift, £186 per tonne)
 - general waste (£18.00 per lift, £257 per tonne)
 - general waste processed through third-party WDM's
 - no direct R4 costs or processes involved (apart from collection)
 - waste disposal costs £7 per lift (£100 per tonne: £20 gate fee, £80 landfill tax)

SEWCO collection

- R4 SEWCO specialist, good base of customers, use services on a repeat basis
- events
 - music, sports, Royal, horse racing & riding, road races, flower shows
 - last 1 day to 2 weeks
 - seasonal – April to September
- fee for site clearance based on expected tonnage, fixed in advance
- winning SEWCO work
 - initial bid low, maximum additional recycling revenue
 - success: sensible bidding, prior knowledge (attendance, rules or regulations), skilful segregation, appropriate processing,
 - luck (weather: visitors, collection, weights, value)

3rd party mixed waste collectors

- organisations making regular use of R4 MRF,
 - contracts (1-3 years), match duration of contracts with their waste collection clients
 - use MRF as and when required
 - invoice for tonnage based on entry and exit weights
 - mixed waste is within acceptable range of composition
- other 3rd party recycling organisations
 - large well-established organisations use R4 as nearest MRF on occasional basis
 - large number of occasional collectors
 - R4 constantly seeking to grow its business
 - policy: 24 hours' notice of intention to use MRF, vehicle licensing details, licensing approval for collecting mixed waste, identification of mixed waste origination

3rd party customers

- Lindon Waste Contractors Ltd (LWC)
 - largest 3rd party customer, located 20km north of R4
 - contract since June 2015, increased tonnages processed through R4
 - 2016: gate fees £300k, 15,000 tonnes of mixed waste (36.6% 3rd party)
 - excellent long-term customer, pays promptly
- ZQ Recycling Ltd (ZQ)
 - typical 3rd party mixed waste collector
 - good range of small business clients
 - mixed waste contracts, confidential paper & cardboard, no residual general waste
 - mixed waste consistently of an appropriate quality
 - excellent relationship, changes to requirements at short notice, no charge
 - 2016: 2,000 tonnes (1 truck/day: 7 x 365 = 2,550 tonnes) (4.9% 3rd party), GP £19/ tonne
- other contracts may have different margins caused by
 - varied mixed waste proportions
 - higher residual general waste

Larger organisations: Viridor, Veolia, Suez Environment, Biffa, FCC Environment

Main concern: MRF needs to be operating closer to full capacity every week

- win new mixed waste recycling business
- ensure local contract winners use R4 MRF

Economy

UK recycling industry 15.3 billion in 2015

- compound annual growth rate 4.9% 2016 to 2020, price and volume

UK economy

- uncertainty from Brexit, fall in £ (10/16-9/17)
- consumer spending
 - wages 2017 Q1 +2.1%, real wages -0.2%; Q2 ??? (ONS)
 - inflation ??? (ONS)
- GDP 2016 Q3 +0.5%, Q4 +0.7%, 2017 Q1 +0.2% Q2 ??? (ONS)
 - 2017 Q1 fall in retail, slowing household expenditure, Q2 ?????
- globalisation, international companies more influential in UK

Sample material pack

News articles

14a Household recycling rates in the UK drop for first time in 2015 (National News, 3/17)

- Miss EU target 50% by 2020, increase for decade, flatlined 3 years, fallen 12/15
 - rates vary considerably in UK
- Suez: tax on packaging to drive up recycling rates again
- Waste and Resources Action Programme (WRAP)
 - responsibility of local authorities, decline in funding, fall in commodities
 - clear communication re value and benefits an important factor, confusion
 - not as diligent about segregation, not disciplined at work or in leisure areas

14b The need to recycle (Recycle News, 4/17)

- the need to recycle more is urgent but fraught with contradictions and conflicts
- effective recycling not universally accepted activity
- accumulation of waste caused by carelessness, negligence, indifference, criminal acts
- fly tipping in parts of UK reached industrial proportions
 - targets for recycling subject to disagreement and dispute
 - target setting meant to reward success
 - punishment for failure results in actions against the intended goal
 - high landfill tax for general waste is to encourage sorting and recycling
 - becomes deterrent, fly tipping saving £100 per tonne
- central government and local authorities have no immediate solution

14c The storm in the (disposable) coffee cup (City News, 5/17)

- UK 7 million coffee cups thrown away per day (2.5 billion a year)
- in bins but only 0.25% recycled, not with household or paper recycling (sleeve only)
- cups almost impossible to recycle (waterproof lining cannot be separated)
- only 2 highly specialised recycling facilities in the UK (both expensive)
 - shred whole cup, process into resin, create a new plastic material
 - separate paper and plastic, recovered paper used to make tubes
- increase use of specialist recycling services
 - more products, education programme, specialist bins, enforcement, financial incentives, fee for non-recyclable cup
- currently recycling too difficult and too expensive
 - no acceptable commodity price, heavy transport charges to use specialist facilities, majority collected treated as general waste

14d Rome rubbish powers Austrian homes (International Times, 6/17)

- compressed waste transported from Rome to Austria (70,000 tonnes a year)
- EVN waste-to-energy plant, turned into hot flue gas, power for 200,000 homes
- part of efforts in the EU to make cities reduce waste in landfills

14e Cleaning up the beaches – plan for using plastics waste (Technology Gazette, 6/17)

- P&G 170k shampoo bottles made partly from plastic waste collected on French beaches
- collaboration with TerraCycle and Suez
- Adidas 7,000 trainers, Farrell Williams clothing line for G-Star RAW plastic
- potential knock-on effects for recycling of challenging materials

Board briefing (November 2016)

Non-accounting board members not confident how IS, BS, CF link together

Corporate responsibility

- R4 integral to the supply of sustainable solutions for its stakeholders
 - Clients, suppliers, purchasers of recyclates, workforce, local community
- acting responsibly will enhance financial performance, sustainable value
- corporate responsibility framework
 - staff,
 - health, safety and well-being of community
 - relationship with customers, suppliers and other parties
- commitment to business trust, ethics and high standards of conduct
 - lead the way in developing sustainable solutions
 - cooperating with like-minded organisations
 - help to educate and inform others

Commercial risks

- pricing contracts for I&C operations
- future major increase in landfill tax
- fluctuations in recycling commodity prices
- increases in power fuel and other costs
- increased customer churn due to increased competition
- acquisition strategy of large competitors
- cyber security
- health and safety liabilities
- regulatory change and industry responses
- consumer behaviour and attitudes concerning recycling
- dependent on senior personnel
- network arrangements for operational success

Financial review

Prior to October 2013

- April 2009 investment of £3.8 million in small MRF
 - 10-year 6% £3 million loan, interest only £180k pa, repayable 4/19
- I&C mixed waste increased steadily
- increase in general waste, the expansion of truck fleet

2014

- expanded on-site processing of 3rd party mixed waste, reached MRF capacity
- increased collection of general waste to maximise I&C general waste collection
 - better route planning, 2 collections per day
- larger fleet and upgraded vehicles
- continued to use local WDF's process general waste

2015

- original MRF disposed (economically obsolete), £14 million investment in larger MRF
 - lifetime capacity 1.2 million tonnes (120,000 tonnes pa)
 - £9 million 6% loan, interest £540k pa, repayable 4/25, secured on NCA & CA
 - shareholders additional £1 million equity, no dividends for 5 years
 - useful life 1.2 million tonnes, maximum capacity 120,000 tonnes pa
- I&C operations, processing of mixed waste, 3rd party mixed waste increased
- review of operations
 - divested older non-profitable contracts to obtain new larger I&C contracts
 - increased workforce to manage change and increase in activity
 - increase CoS: losses on disposal of old MRF, depreciation on new MRF
- £1.5 million overdraft for working capital, almost breached shortly before year end

2016

- new MRF, substantial increase in own and 3rd party mixed waste
 - total processed 81,000 tonnes (capacity 120,000 tonnes), 67.5%
 - mixed waste 39.4%
- GP% target for mixed recycling 25% (actual 24.2%)
 - variations in the mixed waste categories (I&C, SEWCO, 3rd party)
 - general waste collection volume (125,000 tonnes) but lower margin (10.8%)
- continuing expenditure on replacement trucks
 - appropriate number & specification
 - older trucks (inefficient, no longer appropriate) disposed (loss £54k)
- additional investment in IT and P&M to control logistics more efficiently
- increase in operational activity from winning work from larger clients
 - longer credit terms, increase in the year end receivables (+10 AR days)
- close to but did not exceed £1.5 million overdraft