South East Capacity Review
Stage 6: Spatial Planning

Scoping Review Of Recycling & Reprocessing Infrastructure In South East England

Prepared for

SEEDA
SOUTH EAST ENGLAND DEVELOPMENT AGENCY
Working for England's World Class Region

FINAL REPORT

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Beyond Waste
www.beyond-waste.com

South East Capacity Review
Stage 6: Spatial Planning

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- Kate Aulman SEERA
- Chris Marshall Independent
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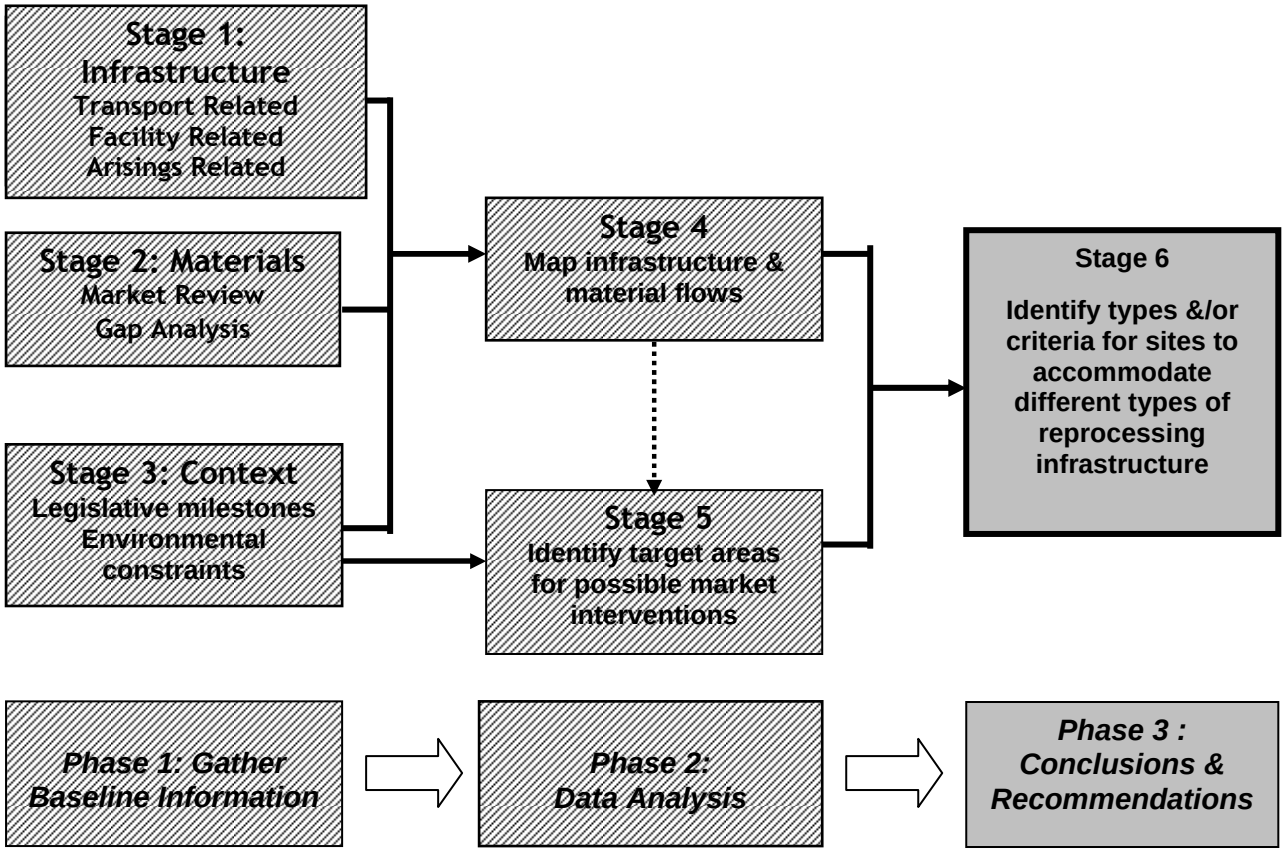
Introduction

The South East England Regional Development Agency commissioned Beyond Waste to undertake a scoping review of recycling and reprocessing capacity and associated infrastructure within the region.

Project Structure



Having identified:

1. The transport infrastructure that might sustain flows of target materials within and beyond the region (Stage 1)
2. Existing recycling and reprocessing capacity to manage target materials (Stage 2)
3. Opportunities to develop capacity within the region to meet these needs (Stage 2)
4. Flows of materials to and from this capacity (Stage 4)
5. Future regional needs for capacity to manage target material (Stage 5). These are largely targeted on collection and pre-processing.

This report summarises the findings of our work on Stage 6 of the project focussed on the spatial planning output of the project. This draws on GIS work undertaken by SEERA guided by Beyond Waste. It also draws on a telephone survey of waste planning authorities.

1. Indicative Locations for Optimal Logistics

The Maps presented in the Stage 1 report indicate the state of transport infrastructure and the location of main arisings of some of the target materials. However as the Stage 4 summary stresses the region itself subdivides into three/four each having relationships with adjacent regions. Hence the north western portion (Bucks, Milton Keynes and Oxfordshire) links to the Midlands. The Thames Valley (Berkshire) links to London. The south eastern portion (Kent and Sussex and Surrey) links to London and East of England and the south western portion (Hampshire and W Sussex) links to the South West region. For some materials (e.g. tyres) the catchment area extends across the region for reprocessing outside. These linkages are dictated as much by price offered by outlets as transport costs at present and unless road transport costs rise significantly this is likely to continue.

2. Match Facility Types to Material Streams

Facility Footprint

Table 1 provides indicative site hectarage required for pre-processing facilities for the handling of indicative tonnage.

Facility[1]	Size	Annual Tonnage
Materials Recovery Facility (MRF)	0.8	25,000
Materials Recovery Facility (MRF)	1.2	50,000
WEEE reprocessing (MBA)	1.6ha	40,000
Glass as aggregate	0.8ha	50,000
Plastic plant	1.5ha	35,000
High grade paper recycling	0.4ha	5,000

Table 1: Indicative footprint of recycling and reprocessing facilities
Source: 'Meeting the Challenge: A Guide to Waste Planning in London', November 2004

This suggests that individual facilities can be accommodated on sites of 2 hectares and below[2]. If facilities were to be located on the same sites a front end sorting facility with smaller pre-processing facilities might require sites of up to 5 hectares. As the Stage 1 maps show the size of site has a large influence on the number and location of sites that might be available. Having identified potential sites through our search of the National Land Use Database further consideration is given to site identification in the next section.

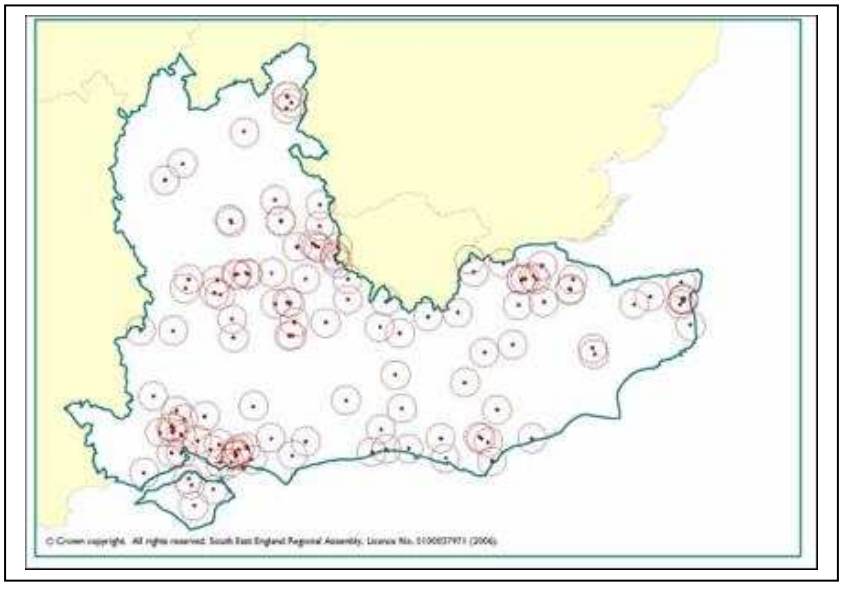
[1] All include car parking/storage and some form of visitors centre/meeting room
[2] Our survey of facilities operating in the region indicates some facilities fit on smaller sites.

Multiple use Locations & Clusters

There are number of locations where waste management activities are taking place on or in close proximity to each other. For example often landfill sites host waste processing activities such as C&D screeners operating within landfill tax free zones. Map 1 shows larger licensed waste management sites identified through an initial sift of data as being in identical or contiguous locations. This yielded 34 locations with the region.

Map 1: Multiple Activity Waste Management Locations

Developing this approach further the GIS was used to identify licensed sites located within 500 metres of each other. Map 2 shows the outputs.



Map 2: Clusters of Waste Management Locations

An example of a cluster location is Machine Bottom Pit near Lewes East Sussex. As shown in Figure 1 where existing waste recycling site, fridge processing and scrapyard uses are located in an old chalk pit while the adjacent Cliffe Industrial Estate hosts a CRT splitting facility and skip waste transfer. All but one of these facilities has been developed by a single company MDJ Light Brothers. An adjacent chalk pit (Southerham Pit) that was subject of failed landfill application in past is vacant. Access to the A27 dual carriageway, which forms part of the principal south coast road, is just to the south of the estate. This connects to the trunk road to Newhaven port less than 10 miles away. It also has a possible railway access and historical wharfage. The principal site (Machine Bottom) is 4 ha with current use occupying 1.8 ha, and is recognised in WLP as existing but is not allocated. There is a geological SSSI sites on the quarry face and the South Downs AONB envelopes the quarry. Units on the Industrial estate generally hold B1 and B8 Use Classes Order but the owners Morley Pensions are willing to consider alternative uses for the units. Lewes District Council has no policy to safeguard industrial units. WLP Inspector Report identified adjacent Southerham Pit (8ha) as a large site that had potential for waste management.

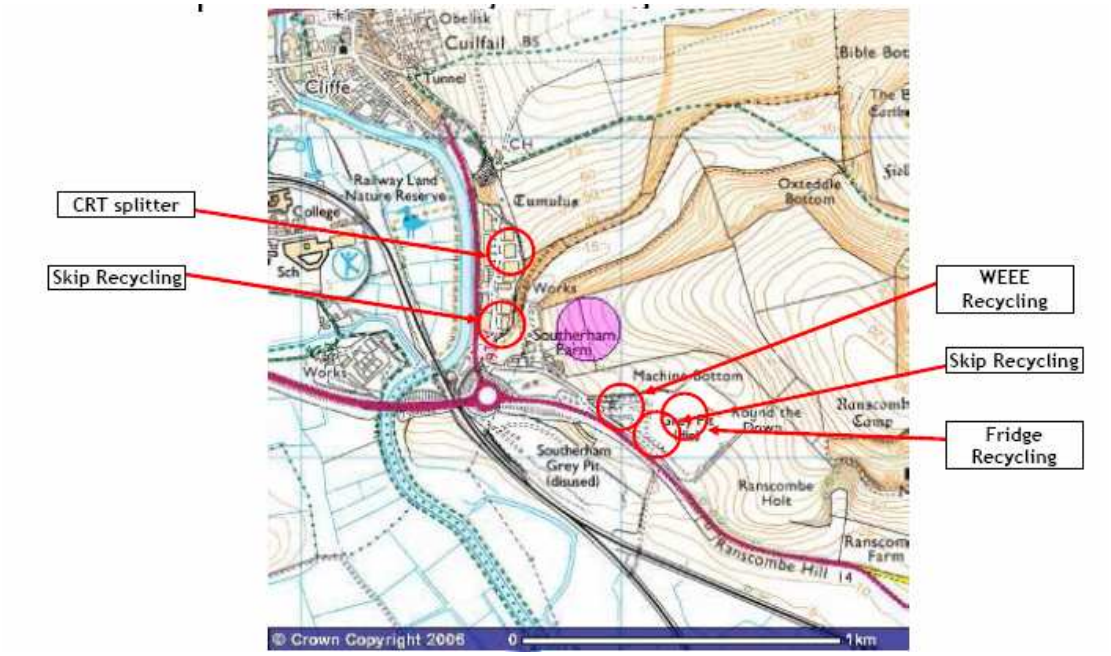
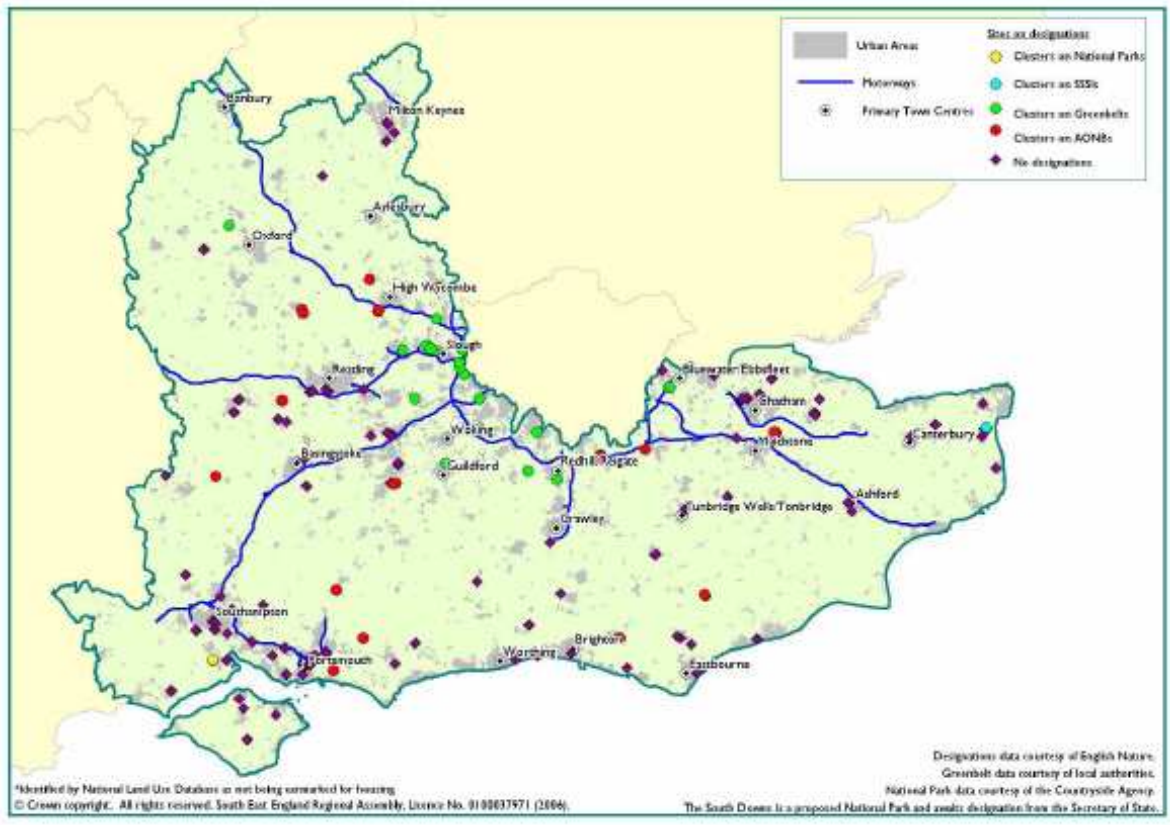


Figure 1: Example Cluster Site - Cliffe Complex nr Lewes

This shows that clusters may offer potential for organic growth. This example involves a site with potential for expansion adjacent to an industrial estate with general B2 or B8 uses in a location with good connectivity to waste sources (the South Coast) and a port for seaborne outlets for materials.

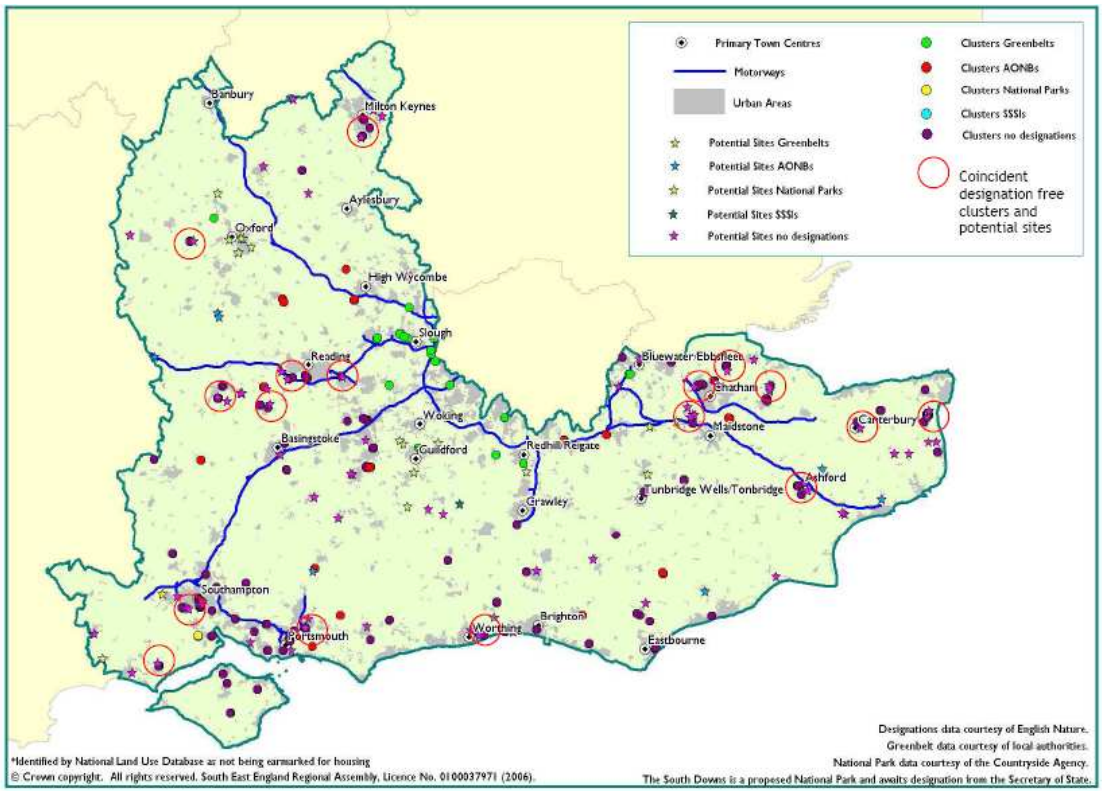
To determine if each cluster location identified actually has capacity for expansion it would be necessary to make site specific inquiries which the resources of this project did not permit. However we have mapped the clusters against the environmental designations to determine if there are apparent constraints on development in the immediate locations. Map 3 shows the outputs of this exercise. This reduces the number of clusters that might be considered further to less than 70.



Map 3: Clusters of Waste Management Locations mapped against Environmental Designations

As stated in the Stage 3 report, the presence of environmental designations rarely act as a complete brake on development and hence this may in reality be an overcautious approach. However if we are looking at potential expansion from facilities meeting specific local needs then following the guidance given by SEERA it would appear to be reasonable to exclude sites in both AONBs and Green Belt.

Mapping cluster sites with potential sites identified through the search of the NLUD sites with environmental designations produces Map 4. Designation free potential sites that coincide with cluster sites are identified with a red ring. 17 such sites are apparent from the mapping exercise.



Map 4: Cluster sites and potential sites mapped against Environmental Designations

Resource Recovery Parks

It has been contended that in order *'to achieve a balance between economies of scale in facility provision, the proximity principle and maximising sustainable transport modes'*,[3] it makes sense to cluster industries capable of converting waste to end products together. This promotes the concept of development of Resource Recovery Parks (RR Parks).[4]

We have conducted a survey of waste planning authorities within the region. It is apparent from this that the understanding of what a resource recovery park (RR Parks) may be, is unclear. Generally it is assumed to be a site where waste management activities are co-located – what might be called an integrated waste management facility.[5] See Appendix 1 for further discussion of definitional issues.

Hampshire NRI has undertaken research into the concept of resource recovery parks (see Appendix 1). They defined the goal of RR Parks as being to create "an arena for businesses with a set of unified goals aimed towards minimising the impact on the environment. Components of this approach include green design of the infrastructure, construction using recycled materials, clean operations, pollution prevention, energy efficiency; inter business partnering and by-product exchange." From this it is apparent that the envisaged objective is far wider than just addressing the waste/resource agenda and is more about developing industrial ecology.

Taking this approach the key issue is to identify the critical factors influencing the operation of industry in the South East today and where the associated impacts might be reduced by developing synergy. Through our survey energy costs – the sharp rise in natural gas prices in particular – has been cited on numerous occasions as determinants in survival of industrial operators. Waste disposal costs appear to be relatively low priority even if combined with savings from opportunities offered by material substitution. This suggests that opportunities around energy might be the best target area to develop synergies in the first instance.

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[3] From Waste to Resource Management: a discussion paper. B Lisney, K Riley & C Banks. September 2003.

[4] The contention about proximity principle and sustainable transport does not necessarily sustain an argument that all facilities should be co-located. The proximity principle only strictly applies to the disposal of waste while for sustainable transport to be maximised and presumably by inference road transport to be minimised the whole supply chain needs to be considered. It may be more important for the fabrication of the product to take place nearer to the end market for the fabricated products if for example the product has a high volume low weight ratio. For example movement of card for considerable distances once baled may not be problematic but movement of cardboard boxes manufactured from the card is.

[5] The use of the term does avoid the stigma of referring to proposals as waste related although they are determined as county matters.

Survey Findings

The concept of coalescing waste management with more general economic development seems to encounter a cultural resistance on the ground. This may be partly due to the fact that waste planning is address by county authorities while District and Boroughs undertake general planning. In some cases where unitary authorities exist there appear to be a greater degree of joined up thinking although some authorities merely said that the tensions between District and Counties had been internalised. However the Berkshire situation is an exception to this with the Strategic Waste Unit giving waste planning advice at county level but local plans/development frameworks being drawn up by individual authorities.

Hampshire via their Natural Resource Initiative ran an invitation for expression of interest from commercial developers in August 2004 to develop and manage a resource recovery park on a Hampshire County Council supplied site. This yielded a limited number of responses none of which actually came to fruition. The principal barrier cited was that commercial developers were not prepared to be bound to the terms of covenants restricting the development potential of sites to resource related uses only. The county is now reviewing its position and is favouring an approach that relies on organic growth around existing clusters of activity.

For urban areas the competition between waste uses and employment uses was often sited as problematic and the concept of merging these demands through RR Parks was not seen as a way of resolving these apparently competing needs.

There is also a strong feeling that sub regional sites distributed around the region building on existing infrastructure and clusters may work more effectively than a small number of regional sites. Small scale RR Parks focussing on attracting appropriate size reuse, recycling and composting businesses that meet local needs may work just as effectively and may gain greater acceptability and integration into the local community and economy. This links with the deliverability of such parks. Where there is an incumbent company with pre existing interests in waste management this is more likely to generate an appetite for developing and strengthening supply chain relationships.[6] This suggests that supply chain relationships need to be established between businesses so that the benefits of synergies are clearly demonstrated before they might be prepared to co-locate.

[6] This is reinforced by comments attributed to Peter Laybourn the creator of NISP who is reported as saying. "I don't think physical eco-parks can work," he said. "Anything can happen on the market, and, if one of the links fails, it impacts on everyone else in the chain. But we do think virtual eco-parks with a more natural, organic and flexible structure will work." The ENDS Report June 2006

Site Selection Criteria

The following criteria suggest themselves for the identification of suitable sites:

1. Existing Activities taking place onsite. This will influence the type of development attracted. Ideally looking for a combination of waste and employment/light industrial uses or sites that are low value and vacant e.g. Degraded, contaminated or derelict land or worked out quarries;
2. Proximity/Connectivity to sources and outlets – markets and disposal points for residues. For recyclable materials this is likely to involve inter regional flows so existence of railheads and scope for expansion and water borne opportunities may be influential although direct access to 'A' roads and major junctions is more crucial to supply and distribution of materials.
3. Plan status: If sites have already been allocated in adopted plans then they have already undergone and survived the screening process.
4. Potential: In terms of site size/configuration and commercial interest. The presence of an incumbent company with waste management interests can be a critical factor in determining market appetite.
5. Landowner interest: Is the site being actively promoted for compatible uses?
6. District Council Position: Solutions more likely to develop where authorities are working together with economic development and waste/resource management agenda aligned. Not applicable where unitary authority.
7. Statutory designations – as sites are pre existing the restrictions imposed by designations should not be insurmountable to utilisation.

From our conversations with each WPA we have identified sites that might make a significant contribution to a regional network of facilities and that have potential synergies with other industrial uses. Information has been gleaned through a combination of review of existing Waste Local Plans, local information and personal contact.

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Sub region	Location	Existing Activities	Connectivity	Plan Status	Potential	Landowner	DC Position
Berkshire	Smallmead	Sewage Treatment Works, CA site (to be upgraded) landfill	Junction 11 M4 Kennet & Avon Canal Southcote rail Junction	Identified as preferred area in WLP.	Limited – most land has now been utilised for other purposes		
	Colnbrook	New EfW, MRF Landfill	M4/M25 Colnbrook bypass Staines W Drayton Branch Line Immediately south of Richings Park inter modal facility	Identified as preferred area in WLP for recycling facilities. Safeguarded rail depot in mineral plan for rail aggregates depot	Site to north subject to major redevelopment.		
	Knott Lane Beenham	MRF, Industrial Use with some recycling, CA site/MRF, scrap yard	Junction 12 M4 improvement to A4/A340 junction Railway Kennet & Avon Canal	Identified as preferred area in WLP for specialist recycling and special waste handling.	1 ha identified north of existing MRF. Small industrial park being developed by Grundon 6 units B2/B8 to S with covenant for 2 units to have waste related use. Possible glass recycling operation.	Grundon	W Berks Unitary
	Colthrop	Former closed Board Mill and open storage now redeveloped to Business Park B2/B8 use and consented wt stn.	New access road to A4. Kennet and Avon Canal. Private railway level crossing	Identified as preferred area in WLP. For range of facilities including EfW (supplying board mill), RDF and paper recovery plant (synergy with existing mill)	Limited – possible scope for synergy between business park and t stn.	Claude Fenton Group (haulage)	Protected employment land in Newbury Local Plan but redevelopment subject to criteria W Berks Unitary
	Padworth Sidings	Coal depot and rail linked depot	South of A4 Bath Road Paddington to Exeter line runs to north Kennet and Avon Canal runs to South	Identified as preferred area in WLP for major recycling facilities. Safeguarded rail depot in mineral plan for rail aggregates depot	9 ha. The site is large enough to accommodate a number of waste uses and offers road to rail transfer. Preferred site for W Berks WDA contract facility.	Strategic Rail Authority	Designated as open countryside but extant consent for rail depot use to north east in 1992 W Berks Unitary
	Green ham	Partially vacant alongside B1/B2/B8 uses.		Identified as preferred area in WLP for major recycling facilities.	Possible 3 ha available for development of integrated wm facility.		W Berks Unitary

Bucks CC	Land north of Richings Park and west of the Bison Industrial Area	None	M4/Great Western Line/ Grand Union Canal	Safeguarded in WLP	Multi modal facility		Need a new road link to the junction of Sutton Lane and North Park/Richings Way to the south, which should also service the Bison industrial estate
East Sussex CC inc B&H CC	Newhaven	Site is part disused but mainly industrial/ business uses, including marine aggregate wharfs, port-related uses and existing inert waste recycling and scrap metal uses.	Accessed by water and rail subject to the rail link being reopened and/or the site selected having access to the wharf. Improved access arrangements onto A26 primary road may need consideration	. Allocated for EfW and MRF in WLP	18 hectare site allocated.		Local Objection. Policies exist to safeguard port-related uses and marine aggregate wharfs (ESCC and B&HCC Minerals Local Plan 1999, policy 9) and Lewes District Local Plan policy NH24. Any development which prejudiced these objectives is required to demonstrate why no suitable alternative location was practicable.
	Pebsham	WDF plant with planning permission. The adjoining land is former landfill, now grassed over and used as part of recreation grounds facility. The existing landfill to the north is due to close by about 2008, and is to be restored as part of the proposed countryside park.	Any increase in vehicle movements along the A259 would be unacceptable until the strategic road network in the area has been improved.	Allocated for MRF in WLP	6.2 hectares		Local plan policy objective is a countryside park covering the restored adjoining landfill site. Any development proposals will need to be co-ordinated with plans for the Pebsham Countryside Park, and will be expected to assist in reducing its visual impact.[7]

[7] This site has been reported as being subject to a £23m National Lottery bid for a scheme centred around a "bio-enterprise business cluster focused on waste and renewable energy" *RRF news England - £23m bid for scheme to rival the Eden Project 25 April 2006*

Hampshire CC inc Portsmouth and Soton	Marchwood Industrial Estate Normandy Way, Marchwood	EfW/ waste treatment/ t stn/ sand and gravel buildings on the western and south western sides are in business/industrial use.	Existing road access Wharf on R Test could enable waste to be brought in by barge.	Preferred site for an integrated waste processing plant. Developed for EfW.	Further 120 acre with a unit of 16,900 sq ft (£6.50 - 7.25 psf). Further land available for development as well as open storage sites to let and industrial unit of 5,000 sq ft.	Oceanic Estates	The Deposited New Forest District Local Plan (1995) allocates this land for industrial/office/business use and/or storage and distribution facilities and/or a power station.
	Harts Farm Way, Broadmarsh Havant	C&D processing, t stn, sewage treatment, fridge reprocessing, aggregates wharf, former Havant Borough Council Depot. Site of former incinerator which ceased operation at the end of November 1996.	Short sea access potential The site is situated in a prominent location on the south side of the A27 at Broadmarsh, Havant. Access to the A27/M27/A3 (M) is within 0.25 miles. The site is within an industrial area with good access from the strategic lorry route network	Preferred site for an integrated waste processing plant other than an incinerator to serve south east Hampshire.	Site area approx 2 ha. forming part of a 4.05 ha. site forms part of SEEDA's Broadmarsh Strategy and has potential for up to 15,500 sq m (160,000 sq ft) of high quality industrial and business units	The site is owned freehold by SEEDA, (Site Four) Development proposals invited in autumn 2004.	Employment land
	Portsmouth Eastern Road A2030	EfW, TStn, S yards, SCA recycling, C&I recycling for SMEs	Between the railway line and A2030 Eastern Road, south of the A27/M27. The A2030 Eastern Road and the M275 provide strategic access for north south movements	Preferred site for an integrated waste processing plant. Developed for EfW & MRF	Within an industrial and business area. WEEE processing facility exists.		Part of the site to the north allocated in the City Local Plan for industrial and storage/distribution uses.

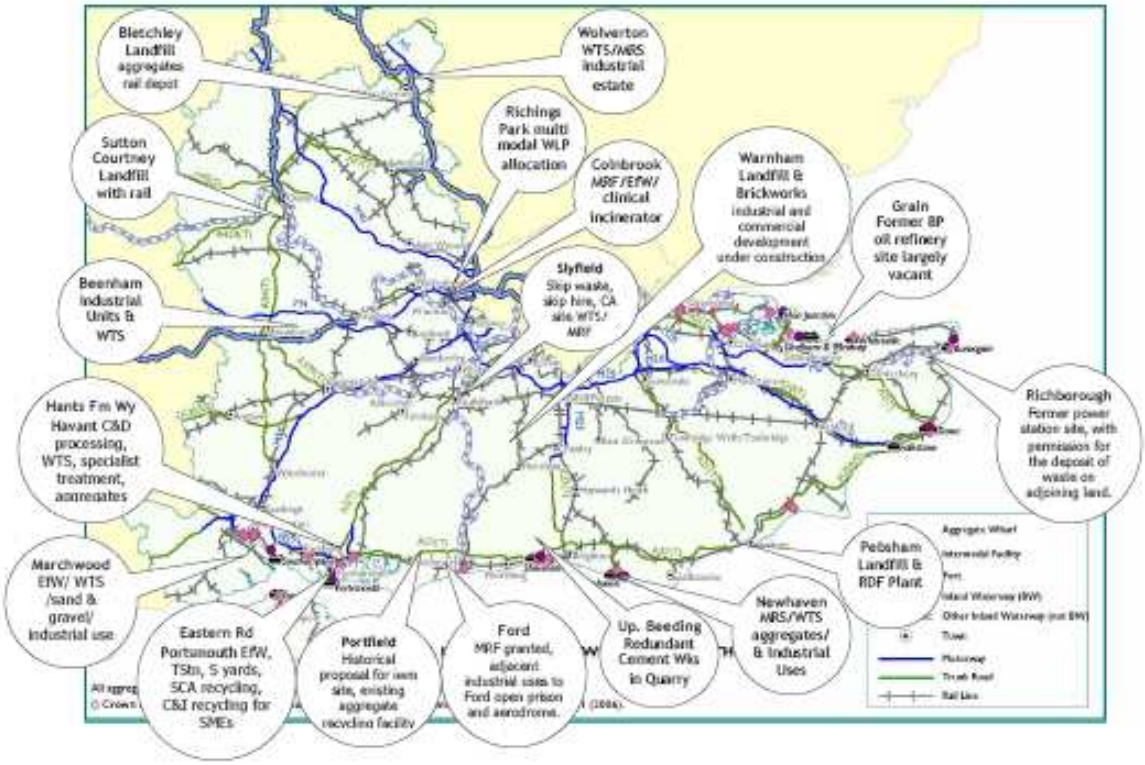
Kent CC	Richborough Power Station and land to the south and west	Former power station site, with permission for the deposit of waste on adjoining land.	• Re-alignment of the A256 • Upgrading of Thanet Way • Improvement of Rail infrastructure	Identified in the Kent Waste Local Plan Deposit Draft as a suitable location for a waste to energy plant, as well as associated waste processing	Part of the 'Sandwich Corridor' project a critical mass of opportunity in East Kent which makes it strategically important on a regional and national scale SEEDA is a project partner		EfW site supported by Dover & Thanet District Councils
Medway Council	Isle of Grain	The former BP oil refinery site is largely vacant but includes Thamesport, the third largest container port in the UK and fastest growing container port in the South East.	Has a deep water frontage to the Medway Estuary and rail access. Contributions will be needed towards road and rail improvements. Improvements to the rail infrastructure are needed to encourage the maximum use of rail for the movement of freight. Improvements to the A228 are essential to realise the site's full potential.	The Thames Gateway Planning Framework identifies the Isle of Grain as an important opportunity for industrial development and further port expansion. In the local plan, the land is allocated for general industrial use (B2) and warehousing (B8), subject to improvements in the local road system.	A 385 hectare site is available for employment uses. Medway Council, partner organisations and other stakeholders are investigating the best ways to continue regeneration of this area.	The principal landowners are Lattice Property Holdings and Thamesport (Hutchinson Port Holdings).	Unitary

	Kingsnorth	The Thames Gateway Planning Framework recognises the potential of Kingsnorth for industrial uses less suited to urban areas. A new power station has recently been built and through a Section 106 agreement, has contributed to improvements to the A228, maintenance of nature conservation areas and a landscape study.	The site has access to the river and rail transport. Considerable infrastructure improvements to the A228 as development of the site proceeds and traffic levels increase. Opportunity to develop rail freight.	The site is identified for strategic development, encouraging the location of specialist energy-related industries, general industrial development and bad-neighbour uses relocating from the urban area. Allocated in the draft local plan for B1, B2, B8 and special uses.	This is a 153 acre site alongside Kingsnorth Power Station on the Hoo Peninsula.	The land is owned by Zimmer Holdings and managed by MED Management Ltd.	Unitary
Milton Keynes Council	Bletchley	Landfill, aggregates rail depot	Railhead, possible Grand Union Link	Lower quality industrial estate			Unitary
	Colts Holm Road Industrial Estate Wolverton	MRF, waste transfer station, industrial use, aggregates rail depot	Railhead	Identified as a location where bad neighbour development will be directed			Unitary
Oxfordshire CC	Sutton Courtney	Landfill, CA site	Link to A34, Rail link to West London		Adjacent to Didcot Power Stn		
Surrey CC	Slyfield Industrial Estate	Skip waste recycling, skip hire, CA site and MSW transfer station. The site of EfW refused planning permission in 2001; and an old landfill site owned by Guildford BC.	accessed off the A320 Guildford-Woking road	1 of 2 preferred sites identified for recycling, storage, transfer, materials recovery and processing (excluding thermal treatment) of waste in draft WLP are The old landfill termed 'land to the north-east, is considered best for waste development, being of a substantial	14.52 hectares. The site does present a significant opportunity to provide for a substantial range of integrated waste management processes, including the relocation of the existing civic amenity site / waste transfer station. The only urban employment site identified as available	Guildford Borough Council & Thames Waste Management	Currently allocated for employment use, with an indication that waste development may be appropriate. Surrey County Council and Guildford Borough Council preparing the Slyfield Area Action Plan (SAAP) seeking to incorporate waste uses with other development. The SAAP is unlikely to

				size, most closely related to the existing industrial units and furthest from housing.	for waste development, this is a particularly important site. The County Council does not agree that the site should be allocated for thermal treatment.		support the allocation of more than one site for waste use.
West Sussex CC	Warnham and Wealden Brickworks, Horsham	Landfill, industrial and commercial development under construction	Adjacent to the railway from which access is feasible and it is accessible to the Strategic Road Network (A264) via the local road network. Development should provide any necessary transport and infrastructure improvements,	Site identified for built wm development in draft WLP	Land amounting to around 23 hectares proposed for a comprehensive redevelopment mixed use scheme to include: a. retention of the brick factory; b. provision of a new waste management facility; c. provision of employment floorspace, including B2 (Industrial) and B8 (Storage) uses	Wienerberger UK Ltd	An integrated waste management facility as part of wider, comprehensive proposals may, be the most appropriate way forward.(LDF)
	Portfield Chichester	Historical proposal for integrated waste management site, existing aggregate recycling facility	It does not have rail access, but it does have good road access, being located on the Strategic Road Network (A27).	Site identified for built wm development in draft WLP	Previously-used land (11.3 hectares) outside the built-up area boundary. Due to its size, it could accommodate a range of waste management facilities	First City strongly oppose development of the Site for waste facilities and are committed to promoting the site for housing, employment uses and open space.	

	Shoreham Cement Works Upper Beeding		The lack of rail access and its location within the AONB are disadvantages which are set against its good access to the main road network and its closeness to waste sources (i.e. the coastal towns)situated on the A283 redevelopment will require infrastructure improvements.	Site identified for built wm development in draft WLP.	The overall site area is around 48 hectares. The Core Strategy refers to the development for employment use as part of a regeneration and restoration package		The site should include development for major employment use, leisure and/or tourism (LDF) Waste use could form part of a comprehensive mixed-use scheme, particularly if such facilities provide heating or power for other uses.
	Ford	MRF just granted, adjacent industrial uses to Ford open prison and aerodrome. Site currently in agricultural use.		The site is allocated in the revised WLP for *"a permanent built waste management collection, sorting, transfer, treatment or recovery facility, potentially linking with nearby waste management uses (transfer station and recycling operations and wastewater treatment works)".*	The total site area is approximately 4.1ha	Mixed ownership	The site is not allocated for development in the adopted Arun Local Plan, nor is it subject to any landscape designations.

The sites listed have been mapped in Map 5. These present the possibility of developing a regional network of sub regional facilities backed with a central multi modal transfer facility in Buckinghamshire.



Map 5: Sites Identified through WPA/Waste Local Plan Survey

Recommendations[8]

SEEDA could support the development of a RR Park through the following actions:

1. Foster local networks and resource exchanges to get the concept of industrial ecology started. From the success of such networks, participating businesses may see the value of cooperating on a larger scale as part of a co-located RR Park. The support of NISP, funding of egeneration waste exchange site and the SECBE C&D waste exchange review project are important first steps.

[8] Acknowledgement to US Environmental Protection Agency website

2. Identify inter relationships that are evolving as a natural clustering and convergence of business interests. These present the opportunity for RR Parks to be created through organic growth and strengthening of supply chains rather than attempting to graft major new facilities onto a local economy. SEEDA could explore with the owners and occupiers of multi sites if they are interested in developing a RR Park with other related businesses.
3. Alternatively, SEEDA could acquire control of a preferred site, or promote a site that is open to being developed in this way. The Medway sites identified are already being actively marketed and SEEDA already has an interest in at least two of the sites identified. Assist in financing site acquisition, identifying and filling gaps in infrastructure, providing shared services and/ or individual companies locating there as other RDAs are doing.
4. Create a RR Park Task Force to develop the concept to feasibility stage picking up on the work that Hampshire NRI has already undertaken. The funding of feasibility studies would address the following:
   - Identify priority materials and understand the value chain. Estimate throughputs and economics for proposed businesses.
   - Explore interest of businesses in participating in a RR Park. This should extend beyond the waste management sector into the sector contact groups established through this study.
   - Identify other types of businesses that may be attracted to a RR Park to utilise materials and resources (including energy).
   - Develop policies and processes to support potential players to respond to proposals to participate in the project (via Envirobusiness SE).
   - Explore how hosting communities might receive direct benefit.
   - Identify administrative structure, next steps to implement project, public and private roles, budget and timeline to accomplish.

5. Work with local authorities through SEERA to develop planning policies that steer suitable businesses towards clustering of operations with the RR Park as the key designated area for these types of businesses in the community through the WDF/LDF process. Develop a masterplan and work towards the concept of outline planning consents for waste related uses.
6. Develop a master environmental review document for the types of businesses anticipated to assist in the planning and permitting processes.
7. SEEDA should be mindful of backing development of regionally significant infrastructure at the expense of more local organic growth. Support to locally focussed smaller scale initiatives should continue.

Appendix 1

Resource Recovery Park Definition & Case Studies

Source: As attributed

What is a Resource Recovery Park?

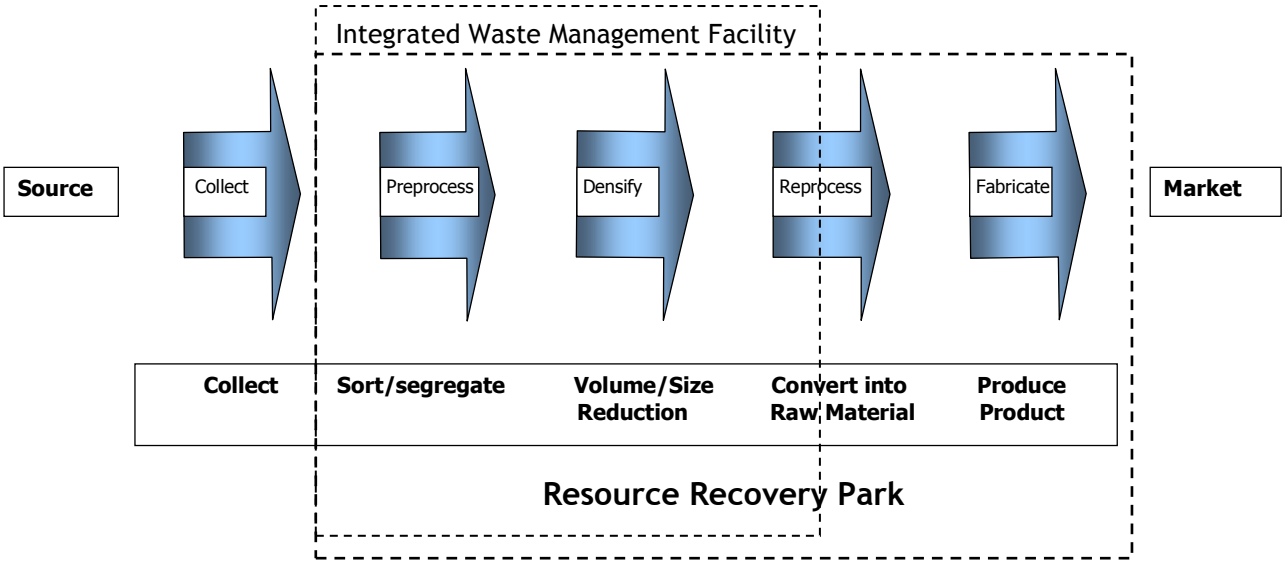
Hampshire NRI research covers a range of facilities from collections of activities within the 'eco park' context e.g. water usage, energy usage and waste/resource usage (USA) through to industrial symbiosis where industries have collocated because they have identified synergies between inputs and outputs (Denmark). This type of park focuses on efficient operation of industrial units with the management and processing of waste materials arising onsite being part of it. Such Parks are promoted as enabling participating businesses to share wider resources such as: space and facilities; operating equipment; technical, administrative and professional services; promotions and advertising; communications equipment and services; staff recruitment and training; and educational facilities and services. In truth such exchanges are not contingent on the 'eco friendly' nature of the businesses (although greater business to business cooperation might be engendered where businesses share similar higher level goals). The inception of the National Symbiosis Programme at a regional level offers the opportunity for such resource exchanges to occur across the region on a 'virtual' basis.

The concept of Resource Recovery Parks originated in the United States. The President's Council on Sustainable Development (PCSD) defines an Eco-Industrial Park (EcoPark) as: "A group of businesses that work together and with the community to efficiently share resources (materials, water, energy, infrastructure, natural habitat and information), enhance economic prosperity and improve the environment." [9] This is reflected in the Hampshire NRI definition of a RR Park.

In contrast the Resource Recovery Park concept (RR Park) is defined as the "co-location of reuse, recycling and composting processing, manufacturing and retail businesses in a central facility to which the public can bring all their wastes and recoverable materials". Hence this appears to be an integrated waste management facility collocated with businesses that have supply chain relationships with the central activity in particular adding value to incoming waste materials.

Applying these definitions to our conceptual model:

[9] Eco-Industrial Parks *By Gary Liss, Gary Liss & Associates, Loomis, California*
http://www.icnet.ic.gc.ca/base/bioeconomy/eco/concepts/%7BLiss%7D-EIParks-primer.pdf



Essentially this definition of RRP accommodates activities at all points in the chain with value being added as one moves along the chain. The objective is to accommodate activities that will transform the incoming waste materials into products that effectively substitute for primary materials. At it crudest the reprocessing and fabrication stages may be occupied by onsite generation plant or a composting facility. It is this working definition that we have taken to be applicable to this work.[10] There follows three examples currently being promoted in the UK.

[10] The network of facilities associated with the material supply chain of the vertically integrated companies in the paper sector embody this Resource Recovery Park concept on a virtual basis.

Case Studies

Resource Recovery Parks in Hampshire Invitation to Express Interest

Hampshire County Council wish to develop Resource Recovery Parks (RRPs) through Private Sector financing and are keen to identify businesses interested in developing or occupying an RRP, possibly in partnership with the County Council or other partners. In this connection, it is unlikely that the Council would be in a position to provide any substantial finance. However, it may be possible for the site to attract preferential Council rates.

As part of the Natural Resources Initiative original vision, Hampshire County Council is keen to promote and facilitate the concept of RRPs which could potentially co-locate a range of waste / resource handling, recycling and recovery (including de-manufacturing and reprocessing) activities. This concept is relatively new in the UK and could offer a means of facilitating the provision of an infrastructure to assist in ensuring compliance with a range of new legislative requirements, whilst at the same time maximising the potential economic development benefits arising from the need to stimulate new markets to support an expansion of recycling. This is not simply a mechanism for recycling, but more a change towards sustainable development and operations.

An outline concept for RRPs has been developed during the past 18 months, and consideration is being given to a number of possible sites, (subject to planning consent and other approvals). In this respect, the County Council is in principle willing to make suitable land in its ownership available on commercial terms, to pump-prime the RRP concept. Potential sites start at 1.1 hectares and are located in rural and urban settings. It will be necessary for the nature of the proposed developments to reflect the adjacent environment and community. It is possible that other sites may emerge as part of the Material Resource Strategy (MRS). In addition, some elements of the Council's waste stream (e.g. electrical goods) are available as a resource for the proposed Resource Recovery Park.

These Parks could be a sole occupier, but equally could be a collection of businesses, large and small, seeking enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues. The key criterion is that the businesses must be linked to reuse, recycling or recovery of wastes/resources, or other natural resources activities. Moreover, it would be advantageous if the businesses were interrelated such that the output from one organisation could, in part, be the feedstock for another.

The goal of RRPs is to create an arena for businesses with a set of unified goals aimed towards minimising the impact on the environment. Components of this approach include green design of the infrastructure, construction using recycled materials, clean operations, pollution prevention, energy efficiency; inter business partnering and by-product exchange.

In the event of sites being located in a rural setting, the developer would be expected to manage the Park, and its surroundings, and provide benefits to neighbouring communities.

Source: ***http://www.hnri.co.uk/News%20Archive/Sept04/HampshireRRPs.html***

Ince Resource Recovery Park (RRP)

Approximately 50 hectares of the 100-hectare site will be developed, the remainder of which will be used for landscape and ecological mitigation works. The land comprises low-lying reclaimed land, with the Manchester Ship Canal and Mersey Estuary to the north. The land is allocated for expansion of the chemical sector that has a historical presence in the area.

Current access to the site is from the main highway network from Junction 14 of the M56 Motorway and the A5117.

The proposed Resource Recovery Park (RRP) is an integrated development comprising the following elements:

- A Refuse Derived Fuel (RDF) Power Plant
- An Integrated Waste Management Facility (IWMF) to serve the north Cheshire area;
- An Environmental Technologies Complex (ETC) comprising of:
    - a series of development plots for specialist resource recovery companies;
    - further development sites for linked companies producing new commodities from the recovered material;
    - sites for research and development organisations who are closely allied with the specialist recovery and reprocessing companies;
- construction of an internal rail network to serve each of the different planned activities, establishment of a container depot for unitised freight and a new berth constructed on the site of an existing (partly redundant) bulk liquids berth;
- the necessary infrastructure to serve the development including distributor roads, electricity sub stations and waste water treatment facilities; and
- a comprehensive landscape improvement and nature conservation scheme, complementing and improving the landscape fabric of the area and providing an enhanced ecological habitat.

Based on market drivers, anticipated demand and overall need, it is anticipated that a range of reprocessors and material flows have the potential to be comprised within the RRP. Examples are:

- Biodiesel and Ethanol Manufacture
- Soil Treatment
- Plastics
- Wood/Timber
- Glass
- Waste Electrical and Electronics Equipment

To achieve a critical mass and as a catalyst to further development, it is envisaged the RRP will be anchored around the Refuse Derived Fuel (RDF) Power Plant. This site is adjacent to the Quinn Glass Processing site that received substantial financial support for the North West RDA.

Source: http://incerrp.co.uk/recoverypark.html

Sustainable Growth Park ™ Castleford, West Yorkshire

The development of a Sustainable Growth Park ™ (SGP) is being planned on former colliery land at Wheldale, Castleford. The site covers some 35 acres and is located just to the east of Castleford- 3.5 km from junction 32 of the M62.

The SGP will be a clean, modern industrial park dedicated to recycling and environmental activities. The concept is designed to provide an engine for economic development, urban renewal and job creation, all within an environmentally sustainable and financially self-supporting framework. The SGP comprises three zones on one single site:

1. **Materials Handling Zone**

- Materials Recycling Facilities
- Product Storage Buildings
- Composting Facility
- Offices, Education and Welfare Centre
- Weighbridge and Office
- Community Recycling Facility

2. Reprocessing Zone

Light industrial units for SMEs that provide facilities for the manufacturing of new products made from recyclate.

a. **Re-use & Repair Centre**

For the refurbishment of discarded manufactured products including domestic appliances, computers and furniture. Creating jobs and training opportunities and providing low cost household goods for disadvantaged sections of the community.

b. Manufacturing Units

The units will be used for reprocessing a range of different materials. They will take resources that would otherwise have been wasted to produce exciting and valuable products and provide extra jobs and wealth for the area.

3. Business Innovation and Incubation Centre

A regional centre for technology and research in recycling, the environment and sustainability. Through this centre the Sustainable Growth Park and its businesses will be networked to important national and international organisations giving valuable advice and information. A research and development zone designed to accommodate:

- Offices and Workshops
- Incubation and new start-up businesses
- Meeting room and education facilities
- Interactive Visitors Centre

A planning application for the scheme will be submitted in early August 2006.

The SGP scheme is a partnership between: Urban Mines Ltd, Cleanaway Ltd, Commercial Development Projects Ltd (subsidiary of the Marshall Holdings Group of companies, based in Elland, West Yorkshire),First Wakefield, the development agency for Wakefield district. Yorkshire Forward is actively supporting this proposal with substantial funding.
Source: http://www.resourcerevolution.com/