

The Feasibility of a Resource Recovery Park in Northamptonshire

For Northamptonshire Enterprise Ltd



Report Produced for:

Northamptonshire Enterprise Limited
Enterprise House
30 Billing Road
NORTHAMPTON
NN1 5DQ

Contact:

James Cushing

Report written by:

Fiona Ellwood, James Horne, Glyn Jones, Peter Scholes (Project Manager), Anna Thornton

Q.C. Checked by:

Glyn Jones

Additional information:

Published November 2007

Executive Summary

This report details the work carried out by Urban Mines Ltd, contracted by Northamptonshire Enterprise Ltd, into the feasibility of developing a Resource Recovery Park (RRP) in Northamptonshire. Throughout, the RRP is defined as given in the original tender, that is *“a business park populated with companies that either provides a service that promotes the use of waste as a resource, or operates in a particularly environmentally friendly way with the main tenants proposed as recycling / reprocessing companies”*.

This work looked at a number of factors including refinement of the concept, drivers, the availability of resources and gaps, the fit with local and regional strategies, and the potential from added value from areas such as education and skills, and sector based research. Stakeholders locally and regionally were also interviewed and their views collated, from both the public and private sectors. Practical issues were also examined including planning and licensing, and transport options, and potentials sites around the County were identified and reviewed, along with the development of cost models. Finally the market was surveyed for potential market interest. The results of this work plus the conclusions and recommendations developed, are the basis of this report.

This report is very detailed in nature and has been designed with a number of potential stakeholders in mind, some waste industry based and some not. Therefore, we would expect individual readers to be interested in individual sections in the report.

In particular we examined the opportunities and barriers to RRP development, and the conclusions from this work can be summarised as follows:

1. Opportunities:

1.1 There are a number of drivers that are motivating growth in the sustainable waste management and recycling sector, that will ensure that the market will continue to grow into the foreseeable future.

The growth in the waste and recycling sector is primarily driven by a raft of legislation designed to help the UK meet European landfill targets, to address issues of resource use and climate change impact. In particular, a number incorporate financial mechanisms which represent significant increases in income potential for waste recycling and treatment operators, whilst becoming an increasing disincentive to waste producers to use traditional methods of waste disposal. These include:

Landfill Tax – which is increasing significantly year on year. On a Northants basis, landfill tax will have taken the cost of landfilling from a typical gate fee of £16-19 per tonne to a fee plus tax total of £64-67 by 2010/11. At today's volume of material going to landfill from all sources in Northamptonshire, this could amount to a total cost to waste producers of up to £100m per annum by 2010/11.

LATS – an additional disincentive to landfill on local authorities, which could result in £150/tonne fines for those exceeding their landfill allowances for biodegradable waste set by the government. If Northants landfill requirement did not increase from the base year (2001) figure of 216,850 tonnes, this fine could amount to £10.5m by 2010, £17.8 m by 2013, on top of the cost of landfilling itself.

Producer Responsibility Legislation – requires manufacturers to take responsibility for the disposal or recycling of their products at end of life (including packaging, waste electronics, end of life vehicles and batteries). The opportunities related to these new legislative initiatives have not been quantified on a County wide basis.

Renewable Obligations Certificates – currently at £33.24 per 1MWh of electricity, for the recovery of energy from biomass or selected waste using a Combined Heat and Power facility.

1.2 There is demand for new waste and reprocessing facilities within the County, and from this significant new business and inward investment opportunities

Research has shown that the County's waste production amounts to some 3,882,623 tonnes annually, of which 371,189 tonnes is generated from households, and 1,064,852 from commercial and industrial companies. How this production relates to recycling and treatment capacity was not easy to access, although figures from a recent WRAP report suggest that the County is short of, for instance, some 512,000 tpa of recycling and composting capacity. Particular material opportunities appear to exist for organics (eg. in-vessel composting), glass, paper, plastics and wood, with other identified opportunities including tyres. Demand for new facilities is reflected in:

- Northamptonshire County Council's development of a long term waste services procurement, to deliver facilities such as materials recovery facilities and organics reprocessing, as well as residual waste treatment. Demand will grow significantly as the growth agenda in the County delivers new housing, up to potentially 500-650,000 tonnes (NCC estimate).
- Interest from a number of waste management and recycling companies in the development of such a Resource Recovery Park (via a "Pre-marketing" exercise) and the number of companies currently looking for sites in the County. This has included significantly sized companies such as Community Waste Ltd, De-Pack, Linpac Plastics, Sterecycle (autoclave operator) and TEG (in-vessel composting operator)

Because of the volumes concerned, it has been shown that there is opportunity to benefit from scale economies with the development of significant facilities within the County.

1.3 There is considerable link with and additionality to, emerging projects such as the Technology Realm and the i-Net

The i-Net has environment as one of its 4 priority areas and is particularly supported by the RRP concept in relation to knowledge exchange, support for business, creating the environment for innovation, and enabling emerging technologies. Similarly the Technology Realm focuses on the development of appropriate high quality premises and business support services and therefore has a close tie-in with RRP development, particularly related to job creation.

1.4 There are a number of additional strengths and opportunities within the County which makes Northamptonshire a favourable location for a focus on this sector.

There are a number of nationally recognised organisations and institutions in Northamptonshire related to the sustainable waste and recycling sectors, which can add strength and value to a development focussed on these sectors. The sector training expertise of WAMITAB (Waste Management Industry Training and Advisory Board) and CIWM (Chartered Institution of Waste Management) are based within the County, as is the University of Northampton which has an international reputation in this field, and extensive waste management library. Also, the impact of the growth agenda in the County, related to the delivery of new homes by 2020, gives unique opportunities in terms of sustainable construction, integrating waste collection into new developments, and a heat user for CHP operations.

1.5 There is considerable fit between RRP development and local strategic aims, and public sector stakeholders are supportive

This is demonstrated at both regional and county level, via key strategies such as the Regional Spatial Strategy, the Regional Waste Strategy and the Regional Economic Strategy. This has also been reflected in the responses from Regional and Local stakeholders. The potential development of Resource Recovery Parks is mentioned by name in regional and sub-regional waste planning strategies.

The growth in housing highlighted by the Regional Spatial Strategy (with delivery of 78,775 new homes in the County by 2021) shows that the recycling and waste treatment capacity gap is likely to increase with time, certainly related to municipal waste, and that an RRP development can contribute both to new jobs and to the development of sustainable communities.

Within the Region's and County's waste management strategies, the RRP strongly supports the key principles, including self sufficiency, the "proximity principle" (ie dealing with waste as close a possible to where it is produced) and the sustainability principle.

2. Risks & Barriers:

2.1 There are no examples of fully developed RRP's elsewhere

There is an inherent uncertainty in the development of clusters of this type, in that there are no significant examples in operation, in the UK. However, there are similar projects abroad, and there is a great deal of interest in the concept, with projects developing in various parts of the UK, from both public bodies and private developers.

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Notable is the Ince Marshes RRP in Cheshire, a large cluster development which is being developed by Peel Properties, and is wholly private sector driven.

As such, the economics and market demand of such developments has not been completely proved, and it is likely that such benefits are context dependent, and comfort cannot be gained from “at least it has been done before”

2.2 Potentially there are Planning and Development issues

A number of potential planning pitfalls have been identified, but most are connected with public perception and the logistical need to get material on site and products off site. Planning is *the* major issue in the waste and recycling sectors, with companies in the sector saying it is their main barrier to growth. Multi-modal transport opportunities (such as rail, waterways) do show significant advantage, but only when associated with a significantly sized facility like a RRP.

There should be no significant health or environmental impacts for such a development, and visual impact can be given a wholly positive slant through intelligent and imaginative design of facilities, as demonstrated elsewhere in the UK:



Energy from Waste, Isle of Man



Energy From Waste, Stockton-on-Tees



HWRC & Transfer Station, Shrewsbury



Materials Recovery Facility, Rainham, Essex



Materials Recovery Facility, Norfolk



Marchwood EfW plant, Hampshire

The County has overall planning responsibility for new waste facilities within the County, with WNDC taking responsibility for larger facilities within the West Northants

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area. For business developments within the North Northants area, the local authorities have overall planning authority.

There are also restrictions on the storage of waste, and all waste or reprocessing facilities will need to be licensed with the Environment Agency.

2.3 The Opportunity may be lost as the market makes it's own arrangements

The search for potential sites for an RRP has demonstrated that the availability of land for waste facilities is at a premium, and any land use for such facilities has to compete with housing and other, more traditional industrial users, such as logistics operations. The County Council is in the early stages of a significant long term waste services procurement and there are a number of examples of waste and recycling companies looking to establish new facilities on land which they have acquired themselves on the open market.

3. Added Value

There are potentially a number of “added value” opportunities identified from clustering environmental businesses on a single high profile site:

3.1 There are a myriad of Education and Skill Enhancement Opportunities

It has been demonstrated in detail that the sector as whole, combined with the local strengths exhibited by the University of Northampton, CIWM and WAMITAB, has a significant overlap with the aims and aspirations at all levels of education and training, and represent a significant local opportunity. This includes:

- Links with and additionality to School Programmes including “Sustainable Schools” “Every Child Matters” and other local schemes.
- Supports topics within schools such as Education for Sustainable Development, Science, Engineering and Technology (SET), Climate Change and Sustainability (KS3&4) and Enterprise Learning
- Adult Learning, with potential links with Aim Higher programmes and the new Specialist Diplomas
- Further and Higher Education with links with the University courses and other HEIs

There are also identified skill shortages and opportunities within the County, particularly in the North and particularly pertaining to recycling, wastes handling, management and the application of new technologies. This is related to the skill requirements of the “Certificate of Technical Competence” awarded by WAMITAB, the waste industry technical board, to which a co-located cluster of waste and recycling businesses and technologies presents a particularly significant opportunity.

3.2 There are Opportunities to Stimulate Waste and Recycling related Research

This includes technology and innovation opportunities and collaborative research, potentially supported by organisations such as the Knowledge Transfer Networks, the Research Councils and the East Midlands University Association. Coupled with the University of Northampton’s aspiration to work in other parts of the County, a presence on a RRP development could present significant benefit and opportunity.

3.3 Material exchange on an RRP site will reduce environmental impact and improve business viability

As mentioned above, it has been demonstrated that there is sufficient waste generated in Northamptonshire and not currently processed or recycled locally, to support an RRP development, and that there are opportunities for materials exchange on an RRP site which would reduce environmental impact and costs, particularly through reduced transport requirements.

3.4 There are opportunities for Sustainable Construction and other aspects of layout and design to develop an iconic development

Options are developed and discussed in this report.

4. Delivery of the Property Product:

4.1 Cost and Outcome Models

This work has developed a number of Delivery Models for RRP delivery in the County as in the table below, and identified potential capital costs, at least in terms of “order of magnitude”:

Option	Description	Modelled Features/Outcomes			
		Land Take	Material Capacity	Capital Costs	Jobs Created
A	Support Centre (stand alone facility)	2.5 acres, 1 ha	0	£3-4m	3-5
B	Recyclers Cluster (to 15 acres, 6 ha)	15 acres, 6 ha	60-80,000tpa	£20-25m	92
C	Med RRP (to 20 acres, 8ha)	20 acres, 8 ha	>100,000t	£25-30m	122
D	Strategic RRP (to 40 acres, 16 ha)	40 acres, 16 ha	>200,000t	£50-55m	230

Therefore, depending upon the scope of the project, the degree of investment and intervention, RRP development could deliver considerable investment and jobs to the County.

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4.2 There are a number of locations which appear suitable for RRP development

A site search has identified sites in a number of areas, which could accommodate the development of an RRP, depending upon the model adopted. The site selection criteria specified in the Northamptonshire Waste Local Plan was used to identify suitable sites. Likely locations include Corby, Daventry and Wellingborough and include:

Report Site Ref	Site Name	Location	Size	Notes
2	Great Billing Wastewater Treatment Works	Between Northampton and Wellingborough, south of the A45, ca 8 miles from Northampton town centre	22 ha 55 acres	Anglian Water owned, ex water works
6	Mitchell Road, Corby	NE of Corby, adjacent to power station and close to Rockingham circuit. Town centre ca 2 miles away	9.4 ha 23.2 acres	
7	Corby Waste Treatment Works	South of steel works in Corby, next to Anglian Water sewage works on A42. 2 miles from town centre	8.8 ha 21 acres	Anglian Water owned, ex water works
8	Gretton Park	North of Mitchell Road site, close to power station, Rockingham circuit	8.5 ha (up to) 19 acres	
20	Phoenix Parkway (Centrix)	Close to Rockingham Raceway	40 acres	Developers on site
21	Wellingborough East	To north of town, east of railway line, north of A5128	20 ha 35 acres plus 16 acres	Rail link potential
23	The Marshes			Identified by Daventry BC
24	Area to north east of "North Area" in masterplan			Identified by Daventry BC, waterway potential

However, there are competing uses for these sites, and the situation is changing quickly. There does appear to be a reasonable bank of land available if none of these sites are deemed suitable.

4.3 There is interest from private developers, land owners and potential investors, in RRP development

Interviews carried out with local and regional developers, have shown considerable interest in a RRP development. There is high degree of awareness regarding sustainability and waste issues, particularly related to new house build.

4.4 A Pre-Marketing exercise has shown that there is interest from the Recycling Sector too

A mailing and follow up calls to significant organisations in the sector, regionally and nationally, has initiated some interest, despite there being no firm “product” at this stage. Interested parties include:

Company	Current Location	Nature of Business	Nature of Interest in RRP
Arna Trading Ltd	Wembley & Huntingdon	Plastics recycling.	Possibly premises but certainly materials.
Black Country Metals Ltd	Lye	Interested in developing tyre recycling	Wants to be kept updated on developments.
Choice Waste Management*	Biggleswade, Beds.	Trades in materials. & waste assistance.	Interested in materials reprocessed on Park and possible location.
Community Waste Ltd*	London and have MRF near to Milton Keynes	Process mixed dry recyclables.	Locating on an RRP.
De-Pack	Loughborough	Recycling of aerosol containers but will perform de-packing of any items.	Wishing to expand in the medium term and requiring new premises.
Hyder Consulting*	Aston	Consultancy	Locating 5-6 people in an office.
ISL	Netwonabbey, N. Ireland	C&I waste that they export to China.	Partnering with the Park.
Kingsbury Pallets Ltd	Minworth	Pallet reclamation.	Further updates.
LINPAC Plastics	Castleford	Plastics Recycling	To have a sorting facility for HDPE & PET. Would need 30-35,000te/a.
Smurfit Kappa	Tamworth	Recycle paper and card and manufacture packaging.	
Sterecycle	London/ West Midlands	Construct and operate MBT plants.	Locating on an RRP.
TEG Environmental	Nationwide	In-vessel composting.	Locating on an RRP.
Waste Cycle	Nottingham	Complete recycling and waste management service.	Potential for premises but also providing services through an RRP.

Interest was also expressed in the development was waste management companies WRG (headquartered in Northampton) and Sita, who in particular are seeking local partners for a combined heat and power (CHP) and anaerobic digestion (AD) based development.

Recommendations

1. A Model for Northamptonshire

Based upon the work carried out in the delivery of this report, we have developed the following recommendations and proposals related to the key questions asked in section 2.1 Application of the Concept, and those asked in the original tender.

RRP or no RRP?

This report has demonstrated that this is a sector that is growing rapidly throughout the EU. The County has its own requirements in terms of capacity gaps, skills shortages, inward investment and job opportunities. The County also has inherent strengths in the form of the University of Northampton, CIWM and WAMITAB, and a unique opportunity through the impacts of the significant growth in housing. Climate change and the environment are issues increasing in political importance.

There are basically 3 approaches:

1. Do Nothing – let the market decide

This is a no cost, no intervention option, based upon the fact that there is a demonstrable gap in local waste and recycling capacity, and the market will react to fill it. The main risks here are:

- The capacity (and hence inward investment and jobs) could be delivered outside of the County or the Region.
- Control would be lost and reflected in multiple planning applications and the scramble for waste zoned land, and possibly an inefficient use of land for single facilities
- Synergies such as transport, materials could be lost
- Added value opportunities such as education, skills, improving public perception and engagement etc are less likely to be realised.

2. Give support to attract companies to the County

Providing business, planning and licensing support, either via a physical support centre or a “virtual” RRP using existing provision within the County, could be more successful at attracting investment to the County to fill capacity gaps, but is also less likely in our opinion, to deliver synergies and added value benefits possible through company co-location. This would be a cheaper and less complex option though.

3. Develop the Themed Business Park RRP

We have demonstrated that there is a need for new capacity in the County and that there is sufficient waste material to support a development of this type. We have demonstrated the advantages of co-location and the potential for economies of scale, both which support the development of RRP. We have also scoped the potential advantages of intermodal transport, materials exchange and land take efficiency, which could not be delivered without a physical co-

location of facilities. We have also identified the added value through impacts on the environment, educations, skills, and the community through visitor and education facilities on an RRP.

Through stakeholder interview we have also identified a strong interest and support for the concept in local public and private sector organisations, and a degree of demand to locate on such a park. Site searches have shown that there are suitable sites in the County, and that such a development fits well and contributes to local and regional strategies.

We therefore conclude that the development of a Resource Recovery Park in Northamptonshire is worth pursuing.

Which Delivery Model should be developed further?

We have assessed 2 possible ways of delivering an RRP in the County:

1. One “Strategic” 40 acre site, probably located centrally in the Northampton/Wellingborough area.
2. Two Geographically located smaller 20 acre developments, possibly in Daventry and Corby, serving the two halves of the County.

In the end, politics, market demand and site availability are likely to decide which is the more favourable option.

Two sites would reduce the amount of road miles travelled by waste to reach the processing facilities, although a larger single site could use transfer stations to mitigate this. Transport modelling being undertaken by Northamptonshire CC in their waste PFI development may assist in making this decision. Delivering two sites would be more complex, but “one at a time” reduces risk. We therefore suggest that coupled with need, regeneration opportunity and local authority interest, this is the model most likely to succeed at this time.

A single site would give greater efficiency in land use and economies of scale, but probably fewer jobs through better efficiency.

What type of companies should be attracted to an RRP?

We have detailed the drivers behind growth in the sustainable waste and recycling sectors, and the energy generation associated with it, and propose that this is the primary target sector for companies locating on a Resource Recovery Park. Of course, restricting targets for tenancy in this way increases the risk of getting insufficient market demand, so we proposed that the specification is widened to environmental businesses generally, then businesses with a positive environmental impact, at later stages if tenant recruitment delivers insufficient occupancy of the park. If sustainable energy options are included, then heat and energy users will also need identifying and attracting. The key, particularly in terms of environmental and visual impact, is focussing on companies willing to process indoors and maintain clean and well managed facilities.

What “added value” facilities should be progressed?

This report has detailed the opportunities available through education and skills, business support and visitor facilities, as well as opportunities for research and development. We suggest all these are taken forward by an appropriately represented stakeholder project group, with focus on funding and deliverability.

2. The Way Forward

We propose that the following is enacted to move this project forward

1. **Deliver a Stakeholder Conference** – There clearly is significant stakeholder interest and support for a development of this type in the region and in the County, and significant appetite for a seminar or conference to discuss the opportunity and develop an action plan to take this forward. We recommend that Northamptonshire Enterprise arrange such an event, inviting representatives from Regional and local public bodies, plus the private sector.

In terms of key stakeholders, we recommend that NEL:

2. **Engage with Northamptonshire County Council** - The procurement of long term waste services and facilities for the County by Northamptonshire County Council, will represent a step change in waste treatment and recycling capacity, a considerable investment in new facilities, and a sizable source of recycle and treated waste material. This is a unique opportunity for the County to add value to this procurement through attracting companies to a wider waste development, developing a local market for the materials it produces (hence additional local employment, investment and wealth creation) and education and skilling opportunities.

The development of a Resource Recovery Park is not being considered in NCCs plans at this time, and we recommend Northamptonshire Enterprise and the County Council work together in this procurement process as early as possible to ensure that RRP development is included and this opportunity is not missed.

3. **Engage with Private Developers and Landowners** - There is interest in the private development and regeneration sector, in a development of this type, and potential to tie in with the growth agenda and the build of significant housing in the next few years. As this sector has influence over the use of existing development sites and sits on a considerable land bank, and any development of an RRP will need to complete with housing and logistics for any sites identified for development, we recommend that Northamptonshire engages with the private development sector, with the support of NNDC and WNDC, as soon as possible.
4. **Engage with EMDA regarding Gap Funding** – There is likely to be a funding requirement with for the development itself or for the added value facilities to be developed with it. Therefore, it is important to engage with likely funding partners early on.
5. **Engage with the Waste & Recycling Sectors** – later in the development of the concept locally, it will be important to engage with the sector who represent

likely tenants. This is more realistically achieved when a site has been identified and a proposal of likely facilities and/or anchor tenants.

- 6. Better understand local waste arisings and capacity gaps** – There is clearly an information gap regarding, in particular, waste arisings in the County, which means that gap analysis is difficult. We propose that these numbers need firming in sufficient detail to allow local gap assessments to be carried out, both for planning issues generally and for RRP location and planning issues in particular.

Urban Mines has carried out this type of detailed survey in the past eg. for the NW RTAB, survey of 1,000 commercial & industrial companies, and have developed detailed prediction and modelling systems for waste growth, capacity and gap analysis, for instance for Greater Manchester GMU.

- 7. Develop the Business Plan for a Visitor/Research/Innovation Centre**
The “added value” facilities associated with an RRP development need scoping in more detail, partners and stakeholders firming and funding developed in more detail. Design options and materials of construction can also be developed. We therefore suggest that this is taken to the next stage and a business plan for this facility alone, is developed.
- 8. Start Community Engagement** – past work has shown how communities perceive waste facilities of any type, and how this can impinge on planning outcomes and deadlines, and other examples (eg Hampshire) have shown that community engagement needs to be started early, before key decisions are made, to promote understanding and ownership. We therefore recommend that Community Engagement is started early in the process.



Peter Scholes
Project Director

QUALITY ASSURANCE

Report Title: The Feasibility of a Resource Recovery Park in Northamptonshire
Authors: Fiona Ellwood, James Horne, Glyn Jones, Peter Scholes (Project Manager), Anna Thornton
Date: First Draft 27th July 2007, Final Draft 18th September 2007, Final Report 14th November, 2007
File Reference: T:\Consultancy\Northampton RRP\REPORT\FINAL REPORT\Northants RRP Final Report.doc
Prepared For: Northamptonshire Enterprise
Contact(s): James Cushing
Funded by: NEL & EMDA
Reference: Tender Reference No RRP1 – 11/01/2007
Report Status: Final Report

COMMERCIAL IN CONFIDENCE

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Quality Approvals

	Name	Signature
Project Director	Peter Scholes	
Quality Reviewer	Glyn Jones	
Quality Review	Date	12th November, 2007

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Urban Mines Ltd

The Cobbett Centre for Environmental Enterprise
Village Street, Norwood Green, Halifax, HX3 8QG

Tel: 01274 699400 **Fax:** 01274 699410

Email: info@urbanmines.org.uk **Web:** www.urbanmines.org.uk

Midlands Office:

The iBIC, Holt Court South, Jennen's Road,
Aston Science Park, Birmingham B7 4EJ

Tel : 01212503830 **Fax:** 01212503829