

PLANNING STATEMENT IN SUPPORT OF THE PLANNING APPLICATION FOR THE REDCAR ENERGY CENTRE (REC)

Redcar Bulk Terminal, South Tees Area



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EXECUTIVE SUMMARY

This planning application seeks full planning permission for the proposed Redcar Energy Centre (REC) which comprises of three operational components:

- a Material Recovery Facility (MRF) incorporating a Bulk Storage Facility;
- an Energy Recovery Facility (ERF); and,
- an Incinerator Bottom Ash (IBA) Recycling Facility.

The proposed MRF would recycle material from up to 200,000 tpa of MSW and/or C&I waste sourced locally, regionally or nationally.

The principle purpose of the proposed ERF is to generate dispatchable, renewable, sustainable and low carbon energy for which there is an urgent national need. It would be capable of generating up to 49.9 MW(e) of electricity from up to approximately 450,000 tonnes per annum of fuel; be it residual MSW, and/ or C&I waste, or RDF sourced locally, regionally or nationally. In doing so it would also provide a sustainable waste management solution.

It is also proposed to be CHP Ready so that it could provide thermal energy for export to the planned energy intensive users within the South Tees Development Corporation area in which it is located including advanced manufacturing and engineering developments. In addition, it could also provide electricity directly to them by private wire agreement. Both aspects are of course subject to acceptable commercial arrangements.

The proposed IBA Recycling facility would recycle IBA Aggregate from up to 105,000 tpa of IBA sourced directly from the ERF but could also import IBA from elsewhere.

Where feasible and commercially viable, waste may also be brought to the Application Site utilising the existing rail and port infrastructure available.

The source of the fuel and waste managed by the proposed REC would be subject to securing contracts from the MSW, C&I, and RDF markets.

Depending on the contracts secured the proposed REC may provide the modern new facility sought by the draft Joint Tees Valley Waste Management Strategy. It will provide a sustainable waste management solution for diverting C&I waste from landfill and RDF from export or landfill and further up the waste hierarchy. Transportation costs are likely to ensure that C&I waste or RDF is managed at one of the nearest appropriate facilities.

The national need identified for additional energy recovery facilities in the UK is demonstrated by the evidence of the long term export of RDF which is predicted to continue at significant scale. The benefits of facilities such as the proposed ERF in providing capacity in the UK include:

- Diverting waste from landfill, and up the waste hierarchy, leading to less carbon emissions in the UK and the EU
- Increased self-sufficiency for the UK in both waste recovery and fuel supply for power generation
- Generation of a secure and supply of dispatchable renewable, sustainable and low carbon energy within the UK

Each of the elements of the proposed REC is in conformity with the strategic policies of the statutory development plan.

The Application Site is located within the South Tees Development Corporation area which is recognised as the largest employment site in the UK. The Redcar and Cleveland Local Plan through policies LS4 identifies policy support for the regeneration of the area and ED6 which allocates the area for employment and seeks

its redevelopment with employment and employment-related sui generis uses, including energy generation and waste management uses, as proposed by the REC.

Similarly, the South Tees Area SPD (adopted concurrently with the RCLP to guide the implementation of its policies for the area) identifies the area in which the Application Site is located as the Northern Industrial Zone. This is where power generation is encouraged in order to provide power to the planned energy intensive uses including advanced manufacturing and engineering uses.

RCLP policy SD6 provides strategic in principle policy support for renewable and low carbon energy developments, such as that provided, by the proposed REC subject to its impacts being acceptable.

The proposed REC would also:

- Provide sufficient waste management capacity to allow increased recycling, and recovery of value from MSW and C&I waste arising in the Tees Valley, driving it up the waste hierarchy (policy MWC6);
- Meet the identified requirements of the Tees Valley for the development of waste management facilities for the recovery of value from MSW and C&I waste (policy MWCS7);
- be located where proposals for large waste management facilities should be located (policy MWC8); and
- provide facilities to meet capacity to deal with waste imported outside the Tees Valley for which there is an established need (policy MWC8).

The supporting information submitted with the application, including the Environmental Statement, Habitat Regulations Assessment Report and Water Framework Directive Assessment, has comprehensively assessed the potential impacts of the proposed development.

No significant adverse effects or unacceptable impacts have been identified. The proposed REC is in conformity with the detailed policies of the statutory development.

Of particular note, notwithstanding the nature and scale of the proposed REC (including that of the proposed ERF element) there would be no significant landscape or visual effects given the highly industrial setting in which it is located.

Nor would there be:

- any adverse effects on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar Site, alone or in combination with the other plans or projects; or on any other European Site;
- any harm to designated or un-designated heritage assets, and as such, it is not necessary to perform a 'heritage balance'; or
- any harm to any other material considerations which would provide a clear reason for refusal alone or in combination.

There are, however, a number of significant benefits which provide substantial weight in favour of the proposed REC:

- the proposed REC, through the proposed ERF, will generate renewable, sustainable and low carbon energy including 49.9MWe which would potentially be available to the planned development in the South Tees area by private wire in addition to the Grid. It is estimated that this would generate enough energy to supply up to the equivalent of 100,000 homes which is greater than the demand combined demand from all the residential properties in Middlesbrough.
- the ERF would also be CHP Ready which would enable it potentially to supply nearby business with heat and steam.
- the delivery of the proposed ERF with its dispatchable, secure and reliable energy supply will act as an important catalyst for the redevelopment of the South Tees Area required to maximise its

redevelopment through attracting the advanced manufacturing that is so important to the overall strategy for the area and the regeneration of the wider area

- The proposed MRF would also be available to receive and recycle waste from construction and operation of the future planned development in the South Tees Area whilst the IBA recycling facility will provide a facility to ensure that aggregate could be produced on site with the potential to be used in the development of the planned adjacent development.
- It makes an efficient use of a brownfield site, on a suitable site located in an appropriate area which is recognised as such by the development plan and is well served by sustainable transport infrastructure.
- Overall the proposed REC would create provide around 450 jobs in the construction phase and around 80 – 100 permanent full time equivalent (FTE) jobs during the construction phase. This employment provision would also lead to the creation of further employment during the operational phase through indirect of induced expenditure. These jobs would provide much needed local employment and the creation of apprenticeships.
- In addition, it would lead to an inward capital investment of circa. £250 million which is likely to act as a stimulus for development in the local area and in particular in the South Tees Development Corporation area.
- In combination, the development's contribution to the GVA of the local economy is likely to be significant and its importance to the strategic objectives of the development plan should be clear, especially having regard to the economic uncertainty resulting from the COVID19 pandemic, and the uncertainty and opportunities arising from the UK's exit from the European Union.

Overall Conclusion

The proposed REC would essentially provide a cluster of co-located sustainable waste management facilities on brownfield land, located in area recognised to be the largest employment site in the country and potentially able to provide a secure source of renewable, sustainable and low carbon energy to the complementary planned energy intensive uses potentially served by non-road transport facilities. The facility could therefore become one of the most sustainable of its type, providing an exemplar for future developments.

In summary, therefore:

- the proposed REC is in conformity with the provisions of the statutory development plan and with the policies most important for determining the application taken as a whole which are up to date,
- it is also in conformity with the provisions of national planning policy;
- there are no material considerations alone or in combination which would outweigh its conformity with the statutory development plan; and
- there are significant benefits which weigh substantially in its favour.

Accordingly, for all the above reasons we conclude that the planning balance is overwhelmingly in favour of the proposed REC. We respectfully submit, therefore, that the case in favour of granting permission is compelling, and invite the planning authority to grant planning permission for this sustainable development.

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1 INTRODUCTION

1.1 The Redcar Energy Centre

1.1.1 This Planning Statement has been prepared on behalf of the applicant, Redcar Holdings Limited, in support of the application seeking full planning permission for The Redcar Energy Centre (REC) project at land at Redcar Bulk Terminal.

1.1.2 The South Tees Development Corporation area, within which the Application Site is located, comprises the single largest employment opportunity in the UK. It is identified for regeneration through strategic employment opportunities, including advanced manufacturing and other engineering, industrial and energy intensive uses - as well as specialist uses including energy generation and waste management.

1.2 The Applicant

1.2.1 The Applicant is Redcar Holdings Limited, which is a joint venture between PMAC Energy (a waste management company specialising in the supply of waste) and Low Carbon W2E Limited which is an experienced investor and developer of waste to energy facilities in the UK.

1.3 The Assessment Team

1.3.1 RPS Consulting UK& Ireland has prepared and managed the planning application and EIA, and the architectural drawings, taking into account information provided by the Applicant and design team. The planning application includes the application drawings and is accompanied by an Environmental Statement which has been prepared in accordance with the Scoping Opinion adopted by the local planning authority, Redcar and Cleveland Borough Council (RCBC), on 28 May 2020.

1.3.2 The application has been prepared and managed by senior members of RPS specialist Infrastructure Planning and Environmental Assessment teams, with its in-house Design team providing the architectural and engineering services that have prepared the proposed layout and elevations.

1.3.3 RPS is a registrant of the Institute of Environmental Management and Assessment (IEMA) Quality Mark. All authors of this ES are senior members of RPS, and a statement setting out how the authors have sufficient expertise to ensure the completeness and quality of the ES is provided in ES Appendix 1.2.

1.4 The Planning Application

1.4.1 The application seeks full planning permission for the erection and operation of the Redcar Energy Centre which comprises of three key operational components:

- A Material Recovery Facility (MRF) incorporating a Bulk Storage Facility;
- An Energy Recovery Facility (ERF); and,
- An Incinerator Bottom Ash (IBA) Recycling Facility

1.4.2 The REC application is supported by a comprehensive package, the scope of which was agreed at pre-application stage with RCBC. The planning application comprises of the following documentation:

- Completed planning application forms, certificates, and notices;
- Planning application drawings:
 - 19216-RPS-SI-XX-DR-A-5309-P02 - Site Location Plan;
 - 19216-RPS-SI-XX-DR-A-5002-P05 - Proposed Site Plan;
 - 19216-RPS-EW-XX-DR-A-5200-P01 - Proposed Section 1;
 - 19216-RPS-EW-XX-DR-A-5300-P01 - Proposed REC East Elevations;
 - 19216-RPS-EW-XX-DR-A-5301-P01 - Proposed REC South Elevations;
 - 19216-RPS-EW-XX-DR-A-5302-P01 - Proposed REC West Elevations;
 - 19216-RPS-EW-XX-DR-A-5303-P01 - Proposed REC North Elevations;
 - 19216-RPS-EW-XX-DR-A-5304-P01 - Proposed REC ACC Elevations;
 - 19216-RPS-IB-XX-DR-A-5380-P01 – Proposed IBA Elevations;
 - 19216-RPS-MF-XX-DR-A-5350 – PO1 - Proposed North & East Elevation;
 - 19216-RPS-MF-XX-DR-A-5351- PO1 - Proposed South & West Elevations; and
 - 19216-RPS-MF-XX-DR-A-5352-P02 – Proposed Office Elevations.

1.4.3 The planning application is supported by the following details:

- Application covering letter prepared by RPS Consulting UK & Ireland;
- This Planning Statement prepared by RPS Consulting UK & Ireland;
- Environmental Statement prepared and managed by RPS Consulting UK & Ireland comprising:
 - Environmental Statement Volume 1 – Written Statement;
 - Environmental Statement Volume 2 – Figures;
 - Environmental Statement Volume 3 – Appendices; and
 - Environmental Statement: Non-Technical Statement
- Habitat Regulations Assessment Report (ES Appendix 7.3) prepared by RPS Consulting UK & Ireland; and,
- Statement of Community Engagement (SoCE) prepared by Castellum Consulting;

1.4.4 ES Volume 3 includes and number of supporting surveys and assessments which informed the EIA including the following:

- Appendix 6.2: Redcar and Cleveland Landscape Character Assessment
- Appendix 7.1: Ornithology
- Appendix 7.2: Preliminary Ecological Appraisal
- Appendix 8.1: Flood Risk Assessment
- Appendix 8.2: Outline Drainage Strategy

- Appendix 8.3: WFD Assessment
- Appendix 9.1: Phase 1 Preliminary Environmental Risk Assessment
- Appendix 10.1: Transport Assessment
- Appendix 11.2: Air Quality Detailed Baseline Assessment
- Appendix 11.3: Detailed Construction Phase Dust Assessment Methodology
- Appendix 11.4: Detailed Stack Height Determination
- Appendix 11.5: Air Quality Impacts on Designated Habitat Sites
- Appendix 13.1: Archaeological Desk-Based Assessment

1.4.5 A Design and Access Statement is not required to support applications for waste management development, and it was agreed at the pre-application meetings that one would not be required.

1.5 Development Overview

1.5.1 The key operational components of the REC are proposed to operate as either a single facility or as standalone projects independent of each other with some or no inter-relationship. The ERF may, therefore, receive residual waste directly from the MRF and / or from elsewhere. The IBA Recycling Facility is intended to receive IBA directly from the ERF but could also import IBA from elsewhere.

1.5.2 In addition to being well served by road, all three operational components have the potential to bring waste and materials into and out of the site using the rail and port infrastructure in the wider area should that be commercially viable.

The Materials Recovery Facility (MRF)

1.5.3 The proposed MRF would be a specialist facility which would receive up to approximately 200,000 tonnes per annum (tpa) of MSW and/ or C&I waste, and would separate, recover and store the waste, sorting it into recyclable and non-recyclable materials i.e. residual waste.

1.5.4 The recyclable material would be reprocessed into products, materials or substances for their original purposes or new ones as part of the circular economy i.e. re-used or recycled.

1.5.5 The residual non-recyclable materials left behind would be processed into a waste fuel or Refuse Derived Fuel (RDF) from which energy would be recovered either in the adjacent ERF, where it has the capacity, or elsewhere in the wider economy.

The Energy Recovery Facility (ERF)

1.5.6 The proposed ERF would recover energy from residual waste comprising of mixed C&I waste, MSW and / or RDF using a two-line process, and would be capable of generating up to 49.9 MW(e) of electricity from up to approximately 450,000 tonnes per annum of waste, depending on calorific value.

1.5.7 The precise sources of treated waste fuel have yet to be determined as they would be subject to securing commercial contracts. It is, however, envisaged that the majority of the throughput would be made up of RDF or C&I waste sourced regionally and nationally. MSW would also be sourced where contracts are available, but would not be relied upon.

1.5.8 The electricity generated by the ERF would be provided:

- initially to satisfy the on-site parasitic load
- directly to the National Grid; and / or,
- directly by private wire agreement to existing and future planned business in the wider South Tees Development Corporation area including energy intensive users such as advanced manufacturing.

1.5.9 In addition, the proposed ERF would be a Combined Heat and Power (CHP) Ready facility to ensure that where feasible and commercially viable, it would be capable of exporting heat energy to end users, as hot water or steam, with minimal modification, should existing and future planned users in the wider area be willing and able to use the thermal energy produced by the ERF. These features may be attractive to certain types of investor and thus attract further investment and development in the area.

The Incinerator Bottom Ash (IBA) Recycling Facility Recycling Facility.

1.5.10 The proposed IBA Recycling facility would receive up to 105,000tpa of IBA from the ERF facility and/or from external sources. The material would be recycled into an aggregate product (known as Incinerator Bottom Ash Aggregate (IBAA)) for use in the construction industry. The facility would also extract ferrous and non-ferrous metals from the IBA for further processing and reuse.

1.6 Pre-application, Stakeholder and Community Consultation

1.6.1 An initial pre-application meeting took place with officers of the local planning authority on 17 September 2019 at which the principles of the development, the acceptability of the layout and elevations at that time, and the scope of applications was discussed and agreed.

1.6.2 A second pre-application meeting took place virtually using video conferencing software on 19 March 2020. The revised layout and elevations were discussed along with the environmental constraints and the acceptability of the principles and details of the development were reaffirmed, as was the scope of the submission documentation. It was also confirmed that the community consultation could take place utilising social media and virtual means.

1.6.3 In addition, a virtual meeting took place using video conferencing software with Natural England on 29 April 2020, using their Discretionary Advice Service, to discuss the key ecological issues and the scope of the ES Ecology Chapter and Habitat Regulations Assessment (HRA) Report. A further such meeting took place on 16 July 2020 in order to discuss feedback on the draft ES Ecology Chapter and draft Habitat Regulations Assessment (HRA) Report.

1.6.4 A virtual meeting using video conferencing software also took place with the South Tees Development Corporation on 23 June 2020 to discuss the planning and environmental context, details of the project and its design evolution, the approach to assessment and the outcomes anticipated at that time, the stakeholder discussions to date, and the STDC scoping response to the LPA.

1.7 Scope and Structure of Planning Statement

1.7.1 The purpose of the Planning Statement is to set out through a reasoned justification the merits of the scheme and its conformity with strategic and detailed provisions of the development plan and

any other material considerations, and to set out the reasons why planning permission be granted by undertaking the 'planning balance' exercise required by statute. It therefore sets out the context of the scheme as well as details of the scheme itself and the relevant development plan, and national planning policy considerations.

- 1.7.2 It is one of a suite of documents, as outlined above, which accompany the application including an Environmental Statement (the 'ES'), and the associated surveys and assessment work, and should be read alongside the documents which comprise the application.
- 1.7.3 The Planning Statement is informed by those documents and will where appropriate summarise them along with the provisions and requirements of the relevant national planning policy and other important and relevant considerations. It is structured as follows:
- Introduction;
 - The Application Site and its Surroundings;
 - The Proposed Development;
 - Planning Assessment: Strategic Planning Considerations including Needs Assessment;
 - Planning Assessment: Detailed Planning Considerations; and,
 - The Planning Balance & Overall Conclusion.

2 APPLICATION SITE CONTEXT

2.1 The Application Site and the Surrounding Area

- 2.1.1 The Application Site is located approximately 4.5 km west of Redcar town centre and 8.5km north east of Middlesbrough city centre (see Figure 2.1– Site Location Plan).
- 2.1.2 Access to the Application Site is via a series of internal access roads which serve the industrial area. The internal road merges with the A1085 Trunk Road as a single road via a roundabout approximately 2.7km to the south east of the Application Site. The A1085 provides a strategic access to Middlesbrough and beyond to the north and south via the A19.

2.2 Site Description

- 2.2.1 The Application Site forms part of the demise of Redcar Bulk Terminal and occupies an area of approximately 10.1 hectares of what was heavily industrialised land. Redcar Bulk Terminal is a port used for the transshipment of coal and coke and other bulk goods, and for many years was the import dock for iron ore.
- 2.2.2 The Application Site is open in character with a small area used for the storage of bulk materials such as coal scrapings. In addition, there are a number of small corrugated metal buildings located on the eastern part of the Application Site.
- 2.2.3 The eastern boundary of the Application Site is formed by coke ovens associated with the former Teesside Steel Works; a further area of the Steel Works is located to the south east of the Application Site. An internal access road, providing access to the docks forms the southern boundary to the development site beyond which an area associated with the storage for the Redcar Bulk Terminal is located.
- 2.2.4 The north and north eastern boundaries to the Application Site are formed by a 2 to 3 metre high earth bund. Beyond this is an area of sand dunes associated with Bran Sands, situated at the mouth of the Tees Estuary and Coatham Sands facing onto the North Sea, with the reclaimed land and breakwater of South Gare separating them.
- 2.2.5 The western boundary to the site is not enclosed or marked; a further area of storage area of the Redcar Bulk Terminal and the Tees Estuary being located beyond it.

2.3 Surrounding Land Uses

- 2.3.1 The surrounding landscape to the south, east and west is heavily dominated by industrial, distribution and storage activities. Major facilities and infrastructure in close proximity to the Application Site include:
- The docks associated with the Redcar Bulk Terminal approximately 950 metres to the west;
 - PD Ports Teesport and associated areas of storage, a major deep sea complex handling 28 million tonnes per year approximately 2.5km to the south;
 - Tesco Distribution Teesport approximately 1.8km to the south of the Application Site which acts as a distribution warehouse to Tesco stores;
 - BOC gas plant for the production of industrial gas approximately 2.5km to the south east of the Application Site;

- The biomass fuelled Teesport Renewable Energy Plant, which is due to be commissioned in 2020, approximately 3km to the south west of the Application Site and the Tata steel works 3km to the south east;
- A large water treatment works, Bran Sands, operated by Northumbria Water approximately 1.8km to the south east of the Application Site.
- Able Port - this facility is used for shipbreaking and decommissioning of oil rigs - is located approximately 3.5km to the west of the Application Site, on the opposite side of the Tees Estuary.
- Hartlepool Nuclear power station directly adjacent to Able Port on the opposite side of the Tees Estuary from the Application Site.
- The Teesside Refinery approximately 1.6km to the south west of the Application Site, the refinery was both an oil refinery and chemical plant. Refining was suspended in 2009, however, the site continues to operate as a terminal and storage facility.

2.4 Nearest Receptors & Designations

- 2.4.1 The Application Site is directly adjacent to the Teesmouth and Cleveland Coast Site of Special Scientific Interest (SSSI) which borders the site to the north. The Teesmouth and Cleveland Coast Special Protection Area (SPA) and Ramsar is located approximately 80 metres from the site boundary.
- 2.4.2 The closest nature reserve to the Application Site is Saltholme Nature Reserve on Bran Sands approximately 109 metres to the north. Seaton Dunes and Common Local Nature Reserve is located 2.7km to the north west of the site on the opposite side of the Tees Estuary. The Teesmouth National Nature Reserve is approximately 1.5km to the west of the Application Site again, on the opposite side of the Tees Estuary.
- 2.4.3 Further afield the Northumbria Coast SPA and SSSI is approximately 15km to the north west of the development site and the North York Moors SPA, Special Area of Conservation (SAC), SSSI and National Park is approximately 14km to the south.
- 2.4.4 The nearest residential receptor is an isolated dwelling located approximately 2.3km to the east of the Application Site at Marsh Farm on the western edge of Warrenby. The closest more densely populated areas to the project are located approximately 3km to the south east of the Application Site on Broadway West, Dormanstown and 3km to the east of the Application Site along York Road, Coatham.
- 2.4.5 The Teesdale Way/England Coastal Path runs through the sand dunes along the beach/coast to the north, up to Bran Sands and the South Gare Breakwater, from Marsh Farm/Dormanstown to the west.
- 2.4.6 The nearest heritage receptor is the Grade II listed South Gare Lighthouse (UID: 1140391) approximately 2.2km to the north of the Application Site. There are also three Grade II buildings located 2.3km to the east of the development site at Marsh Farm, these being Marsh farmhouse and farm cottage (UID: 1160308); the barn and stable (UID: 1139620); and the garden wall (UID: 1139619).

2.5 Planning History

- 2.5.1 A planning history search undertaken for the Application Site identified the following application:

- R/2001/0936 Corus Steel Works Redcar, TS105QW. Construction of a wind farm comprising 19 no. turbines and new site roads. Decision: Withdrawn 16/07/2002.

2.5.2 The transport corridors relating to the Teesside Cluster Carbon Capture and Usage Project (reference R/2019/0124/DCO) encroach onto the Application Site, however the main facility is located some distance away.

3 THE PROPOSED DEVELOPMENT

3.1 Key Operational Components

3.1.1 The proposed development includes the following key operational components:

- a Material Recovery Facility incorporating a Bulk Storage Facility;
- an Energy Recovery Facility; and,
- an Incinerator Bottom Ash Recycling Facility.

3.1.2 The key operational components of which the REC is comprised may operate as a single facility or as standalone projects independent of each other with some or no inter-relationship. The ERF may receive residual waste directly from the MRF and from elsewhere. The IBA Recycling Facility is intended to receive IBA directly from the ERF but could also import IBA from elsewhere.

3.1.3 In addition to being well served by road, all three operational components have the potential to bring waste and materials into and out of the Application Site using the rail and port infrastructure in the wider area.

Site Layout

3.1.4 The Application Site would be served by an access road which provides two lane ingress and two lane egress incorporating an 'In' and 'Out' weighbridge with a Gatehouse located to the west of the access road. The Application Site is broadly rectangular in shape with the exception of the access road and the northern part of the site, which is defined by the existing shape of the coastline. The three operational components split the Application Site into three distinct areas: the MRF to the west, the ERF occupying the area to the east, and the IBA Recycling Facility to the north.

3.1.5 The Application Site layout provides one-way circulation around the site with direct access to each of the distinct operational components. Parking facilities would be provided at the MRF and ERF facility.

3.1.6 A layout plan for the Application Site is provided in Figure 2.2 and a summary of the building dimensions that form the basis of this assessment is provided in Table 2.1 below. A full suite of elevations is provided at Appendix 2.1.

Table 2.1: Schedule of dimensions Structure	Length (metres)	Width (metres)	Height (metres)
Gatehouse	12.6	4.3	5.6
MRF Offices	21	21	6
Sprinkler Tanks (MRF)	8 (diameter)		10
MRF Building	168.	121	17.5
IBA Building	43	26	17.5
Conveyor	172	5.5	7.5
Stacks			90
Flue Gas Treatment	42	52	30
ACC Unit	74	30	24.9
ERF Offices	15	37	24
Turbine Hall	51	26	25
Boiler Hall	66	40	49
Bunker	65	37	38
Tipping Hall	63	34	24
Sprinkler Tanks (ERF)	8 (diameter)		10
Substation	11	5.5	6
Transformer	7.5	25	6.3

The Material Recovery Facility (MRF) incorporating Bulk Storage Facility

- 3.1.7 The Materials Recovery Facility (MRF) would receive up to approximately 200,000 tonnes per annum (tpa) of MSW and/ or C&I waste. The specialist facility would separate, recover and store the waste, sorting it into recyclable and non-recyclable materials i.e. residual waste.
- 3.1.8 The recyclable material would be reprocessed into products, materials or substances for their original purposes or new ones as part of the circular economy i.e. re-used or recycled.
- 3.1.9 The residual non-recyclable materials left behind would be processed into a waste fuel or Refuse Derived Fuel (RDF) from which energy would be recovered either in the adjacent ERF, where it has the capacity, or elsewhere in the wider economy.
- 3.1.10 The process equipment would be wholly enclosed within the MRF building. Elevations which show the location of the main components of the plant within the MRF building are set out within Appendix 2.1. The side and roof panels would be clad in profiled steel sheeting in a muted colour palette sympathetic to the surrounding area utilising dark grey horizontally laid cladding along the base of the building with horizontally laid light grey cladding broken up by horizontally laid dark blue cladding.

- 3.1.11 The MRF office building would be a three-storey flat roof building located adjacent to the car parking area dedicated to the MRF operation. The walls are proposed to be dark blue horizontally cladding matching the base of the MRF building elevations, broken up by a glazed atrium at the entrance extending to each floor.
- 3.1.12 The MRF Building provides access and egress from its south (west) side and one-way access from its north side, allowing HGVs access into and through the building via roller shutter doors to import waste and export materials.
- 3.1.13 The processing building would have a series of internal push bay walls and storage containers for any recyclables that were recovered through the processing of the materials. The floor of the MRF buildings would be concrete and include grated drains to collect any runoff from the incoming waste. The runoff would be stored in a sealed drainage system, reused on site where possible, and exported via tanker or sewer connection for offsite treatment where necessary.
- 3.1.14 In addition, the proposed MRF building will also incorporate a dedicated Bulk Storage Facility where both unprocessed and processed recyclable materials, and residual waste and RDF can be stored and/ or bulked up for onward transportation off site.

Operation of the MRF

- 3.1.15 The MRF operation will comprise of two primary operations: waste reception and mechanical processing.
- 3.1.16 On receipt of the waste (which may have already undergone a degree of processing depending on the source) it will be deposited into a waste reception hall which will include a storage area for pre-treated feedstock.
- 3.1.17 The MRF has been designed to allow vehicles to drive into it and tip their feedstock onto the floor where it will be manually inspected, and a degree of manual 'picking' may take place on conveyors. Each bay within the MRF will be clearly labelled in order to make sure that drivers can identify which bay into which the waste load should be tipped. Any odorous material received in the MRF will be transferred to the ERF.
- 3.1.18 The MRF would use manual and mechanical processes which use high-tech equipment to maximise the amount of waste that can be recycled (an improved value commodity) separating the waste stream received into:
- glass, ferrous and non-ferrous metals,
 - paper and card,
 - solid/dense plastics and packaging, and
 - any inert material recoverable from the waste stream such as gravel, concrete, rubble and ceramic waste; as well as
 - the non-recyclable material including organic material, and any fabric, and other plastics and card, etc., which cannot be removed or is not recyclable.
- 3.1.19 The mechanical equipment (which would separate the recyclable waste from the waste stream) would include processes which separate and recover the waste materials by their physical and chemical properties; shape, size, weight, magnetism, and using optical scanning and wind sifting. Using both primary screening and secondary separation waste would be passed through a series of equipment using conveyors and overhead cranes including a combination of trommels, shredders, magnets, eddy current, flip-flop screens, hard particle separators and air boxes.

The Energy Recovery Facility (ERF)

- 3.1.20 The proposed ERF would recover energy from residual waste¹ comprising of mixed C&I waste, MSW and / or RDF² using a two-line process.
- 3.1.21 The proposed ERF would be capable of generating up to 49.9 MW(e) of electricity from up to approximately 450,000 tonnes per annum of waste, depending on calorific value. The mixed waste stream would have a predicted average net calorific value³ of 9.2 MJ/kg but will vary, typically in the range 7.5-11 MJ/kg. Throughput is therefore variable, rather than constant, as the plant would be designed to operate at constant steam conditions.
- 3.1.22 The precise sources of treated waste fuel have yet to be determined as they would be subject to the securing of commercial contracts. It is, however, envisaged that the majority of the throughput would be made up of RDF or C&I waste sourced regionally and nationally. MSW would also be sourced where contracts are available, but would not be relied upon.
- 3.1.23 The electricity generated by the ERF would be provided:
- initially to satisfy the on-site parasitic load
 - directly to the National Grid; and / or,
 - directly by private wire agreement to existing and future planned business in the wider South Tees Development Corporation area including energy intensive users such as advanced manufacturing.
- 3.1.24 In addition, the proposed ERF would be a Combined Heat and Power (CHP) Ready facility to ensure that where feasible and commercially viable, it would be capable of exporting heat energy, as hot water or steam, to end users with minimal modification should existing and future planned users in the wider area be willing and able to use the thermal energy produced by the ERF. These features may be attractive to certain types of investor and thus attract further investment and development in the area.
- 3.1.25 It is likely that waste would be brought to the REC along the existing strategic highway network and highway infrastructure by heavy goods vehicles (HGVs) with a minimum load of 6 tonnes, and in bulk delivery with a typical load of 20-22.5 tonnes. In addition, where feasible and viable, waste may also be brought to the site utilising the existing rail and port infrastructure available.
- 3.1.26 The process equipment would be wholly enclosed within a building. The building would be divided into a number of distinct operational areas all of which relate to functions of the overall energy plant process. Elevations which show the location of the main components of the plant within the ERF building are set out within Appendix 2.1. The side and roof panels would be clad in profiled steel sheeting in a muted colour palette sympathetic to the surrounding area utilising dark grey

¹ Residual wastes being those materials that remain after the process of waste recycling has taken place and that are not able to be recycled, re-used or composted.

² Refuse derived fuel (RDF) consists of residual waste that complies with the specifications in a written contract between the producer of the RDF and a permitted end-user for the thermal treatment of the waste in an energy from waste facility or a facility undertaking co-incineration such as cement and lime kilns. The written contract must include the end-user's technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.

³ The calorific value of a waste fuel is a measure of how much energy is available per tonne of the fuel.

horizontally laid cladding along the base of the building with horizontally laid light blue cladding broken up by translucent vertically laid dark blue cladding and louvres to the Boiler Hall.

- 3.1.27 The facility would utilise proven technology, which is designed to treat residual C&I and MSW waste that would otherwise go to landfill or require some other form of treatment, and RDF.

Overview of the ERF Process

- 3.1.28 The stages of the ERF process are described in the following sections. A schematic of the ERF process is provided below at Plate 2.1.

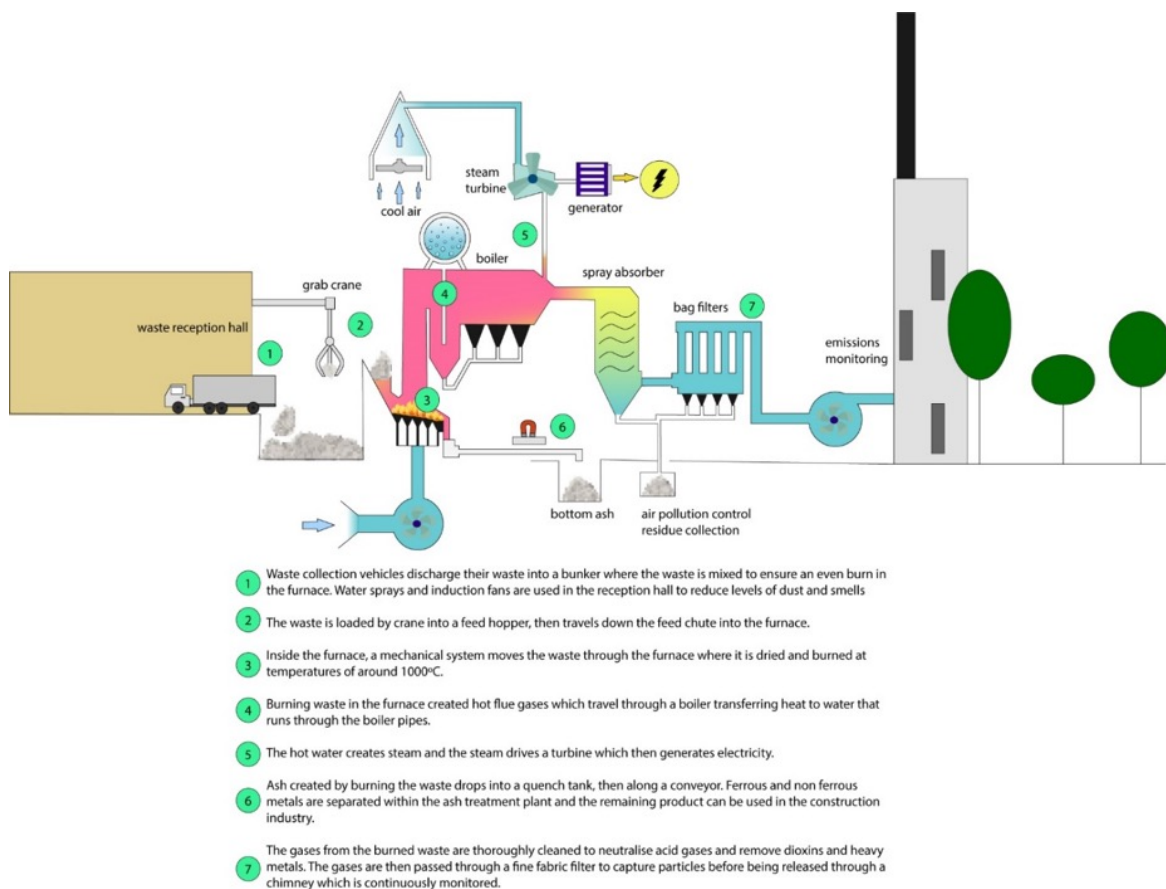


Plate 3.1 – Schematic of an energy recovery process

Operation of the ERF

- 3.1.29 The main ERF building has been divided into a number of operational areas, relating to different functions of the plant process.

Waste Reception and Storage

Acceptance of Waste

- 3.1.30 The plant would be capable of processing up to 450,000 tonnes of residual waste each year. Waste would be delivered to the plant by HGVs and weighed upon entry. The residual waste would arrive at the ERF either directly or via the adjacent MRF.
- 3.1.31 On entering the Application Site, waste vehicles accessing the ERF directly would follow the access road within the site to stop on the inbound weighbridge and be weighed. Once weighed they would go to the tipping hall within the ERF to unload waste into the bunker. After leaving the tipping hall, the waste vehicles would travel via the outbound weighbridge to the REC exit. The Application Site layout has been designed to operate as a one-way system for all HGV traffic, which is segregated from staff and visitor vehicular access.
- 3.1.32 It is likely that the weighbridge would use automatic number plate recognition to identify delivery vehicles. Each waste vehicle driver would also have a card or PIN number that when inputted automatically identifies the driver and allows the weighbridge control system to calculate the tonnage of waste delivered. The details of the weight of incoming waste would be printed, to provide a record for the waste carrier.
- 3.1.33 The location of the tipping hall on the Application Site allows space to accommodate waste vehicles queuing on site. An HGV queuing zone would be located in the central reserve between the Application Site entrance and the weighbridges for vehicles entering the site, to prevent any traffic queuing on external roads. There is the capacity to accommodate seven of the largest HGVs at the weighbridge without interrupting other accesses, but the site is not likely to be a nuisance in this regard in any event as it is remote from other road users.

Reception Hall and Waste Bunker

- 3.1.34 The unloading of waste would be within an enclosed reception hall, accessed through fast closing roller shutter doors, which would only open and close when vehicles are entering and leaving. Waste delivery vehicles would drive directly into the tipping hall area of the building and reverse into one of the allocated delivery bays to discharge their contents into the waste bunker. This fast-acting door system would be designed to minimise the noise of vehicles reversing inside the building and avoid odours being released. The waste reception area would also be kept under a slight negative pressure in order to prevent air escaping from the building when the doors are open. The extracted air (creating the slight negative pressure) would be drawn through the thermal treatment process to remove residual odour.
- 3.1.35 The tipping hall would have eight delivery bays to allow multiple vehicles to unload at any one time. One bay may be occupied by a mobile shredder. The waste bunker would take the form of a rectangular concrete pit set into the tipping hall. It would have a floor level below the level of the tipping hall, sized to store approximately 12,500 tonnes of waste (approximately seven days of storage capacity) to ensure continuous feeding of the facility across periods when deliveries are suspended, such as Christmas and Easter when public holiday combine with weekend.
- 3.1.36 The input waste can vary widely in moisture content and calorific value, therefore, waste within the bunker would be regularly mixed by gantry cranes located above the waste bunker. This would ensure there is a homogeneous mix of waste to provide a consistent quality of waste as fuel. Operators would monitor the waste flow and composition of the waste within the bunker.

Combustion of Waste

- 3.1.37 Overhead cranes would transfer the waste from the bunker and into a feed hopper above the furnace chamber. Waste would be fed into the furnace from the feed hopper using a mechanical pusher (ram) to ensure a consistent feed rate. At the bottom of the furnace chamber there would be a moving grate that would slowly move and mix the waste through the combustion process. The waste would then pass slowly through the furnace where it would burn under carefully controlled conditions to ensure efficient combustion. The combustion process would be controlled such that the flue gases maintain a minimum temperature of 850°C for two seconds after the last injection of combustion air, therefore ensuring complete combustion. In normal operation this temperature would be maintained without the need for supplementary fuel.
- 3.1.38 Primary combustion air extracted from the reception hall would be injected beneath the grate into the furnace to promote good combustion. Secondary air extracted from the boiler hall, would be injected at high velocity through nozzles positioned in the walls of the combustion chamber above the level of the waste. This would create turbulence to promote mixing and help achieve complete combustion of any volatilised gases. The volume of both primary and secondary air would be regulated by an automatic combustion control system to ensure optimum combustion in the furnace.
- 3.1.39 Non-combustible items such as metals, glass and other inert materials pass along the grate and fall off the end as incinerator bottom ash. At the end of the grate, the hot IBA would be deposited into an ash extractor, which is filled with water ('quenching'), to reduce its temperature. The quenched bottom ash passes through vibrating fingers that are designed to separate out oversize materials (around 300mm in size). The residual bottom ash would be transferred along a conveyor system to the bottom ash reception bunker located at the adjacent IBA Facility.

Energy Recovery

- 3.1.40 The main feature of the steam water cycle is a refractory lined water tube boiler that encases the furnace chamber. Heat is transferred from the hot combustion gases generated from thermal treatment of the waste into the water in the boiler producing steam. This steam is further conditioned to produce a dry, superheated steam by convective heat transfer in the later stages of the boiler. This also cools the combustion gases further as they pass through the boiler, so they are at the optimum temperature for the chemical reactions in the flue gas cleaning process. The high temperature, high pressure, steam is used to drive a steam turbine and generator that produce electricity. This electricity is used to provide the power for the REC with the excess electricity exported to the local electricity grid.
- 3.1.41 Steam at different pressures can be extracted at different points in the turbine. This low-pressure steam could be exported for use as process steam or heat (in the form of hot water) to third party heat users should a customer be secured.
- 3.1.42 The REC would generate up to 49.9MWe (gross) per hour of electricity. The electrical energy would be generated in the synchronous generator at a voltage of 11kV. Step down transformers would supply the REC's 600V and 415V networks, which in turn supply electrical power to the plant itself. Electricity exported from the REC is fed to the local distribution network via a step-up transformer which is anticipated to operate at 33kV or higher (but would be dependent on the exact point of connection to the local distribution network). The REC has the capability to produce up to approximately 100 MWth per hour of heat for external use dependent on customer demand and internal steam consumption to operate the steam / water cycle.

- 3.1.43 The proposed EfW facility would have the capacity to export approximately 44.5 MWe (net) to the grid accounting for approx. 5.5MWe that is required to power the facility itself (known as parasitic load).
- 3.1.44 Electrical power exported from the facility would be fed to the local grid via a substation located in the southern part of the Application Site as indicated on Figure 2.2. The final connection voltage would depend on the local distribution network operator but is likely to be 66kV.
- 3.1.45 The proposed facility offers the possibility of supplying steam or hot water to local users, depending on demand, location and supply conditions. Whilst there would be a modest reduction in the amount of electricity generated should the facility operate in CHP mode, the overall efficiency of the facility could be significantly increased, assuming appropriate customers are secured.
- 3.1.46 Space for heat offtake pipework to the Application Site boundary has been included within the layout design.

Table 2.2: Summary of REC Performance

Elements	Units	Total
Maximum electricity generation capacity of the facility	MWe	Up to 49.9
Expected net electrical output (assuming 5.5MWe parasitic load and no heat export)	MWe	Circa 44.5
Potential maximum heat export	MWth	Circa 100
Expected net electrical efficiency (range depending upon heat offtake)	%	Circa 28-30%
Assumed annual average waste net calorific value (NCV)	MJ/Kg	9.2-9.9
Expected annual availability	%	Circa 91.3
Expected annual exported electricity to grid	GWh	356
Waste throughput based on NCV of 9.2 MJ/kg and annual availability	Tonnes/annum	420,000

Emissions Clean Up

Air Cooled Condenser

- 3.1.47 The purpose of the air-cooled condenser (ACC) is to condense the steam exhausted from the turbine (i.e. once all useful energy has been extracted) back to water so it can be recirculated back to the boiler for re-use within the EfW process. The ACC at the facility would likely comprise six cells and be situated in the open space to the east of the main REC building.

Flue Gas Treatment and Exhaust

- 3.1.48 Combustion gases would be cleaned before they are released to the atmosphere via the stacks to achieve the stringent limits set under the EU Industrial Emissions Directive (IED) (Council Directive 2010/75/EU). The first stage is the reduction of nitrogen oxides (NOx) produced during combustion into nitrogen and steam. A dry flue gas treatment system using hydrated lime for the neutralisation of acid gases is proposed for this facility, and is well proven for this type of application.

- 3.1.49 The abatement of nitrogen oxides (NO_x) in the flue gases would be achieved using selective non-catalytic reduction (SNCR). SNCR chemically reduces the NO_x to nitrogen and water through the injection of a reducing reagent⁴. The reducing agent (urea or ammonia solution) reacts with nitrogen dioxide in the flue gases within a temperature range of 850°C and 950°C.
- 3.1.50 The flue gases would pass from the boiler to the flue gas cleaning equipment. Dry hydrated lime is injected into the flue gases, which reacts with and neutralises the acidic gases. The lime injection rate would be regulated to optimise the efficiency of gas scrubbing and lime usage by measurement of the hydrogen chloride (HCl) concentration in the flue gas. Activated carbon would be injected into the flue gases to adsorb trace dioxins, other volatile organic compounds (VOCs), mercury and other trace metals. Activated carbon removes these pollutants from the flue gas and retain these within the fine matrix of cavities in the activated carbon powder.
- 3.1.51 Following injection of the reagents, the flue gas passes through a filter system. This would consist of a large number of long 'sock' type filter bags in a metal casing. Excess reagent, the salts of acid gas neutralisation, activated carbon powder and any dust particles collect on the outside of the filters while the clean gas passes through. At regular intervals a pulse of compressed air would be used to knock off the excess dust build up, which falls down into hoppers at the base of the filter housing.
- 3.1.52 A proportion of air pollution control residues (APCr) captured by these filters would be recirculated to help improve acid gas capture and reduce excess lime consumption. The APCr not recirculated is conveyed to the residue storage silos. The complete system is sealed to prevent any dust escape.
- 3.1.53 Clean exhaust gases would be drawn to the stack by an induced draught fan. An exhaust silencer would control noise emissions at the stack outlet if required.
- 3.1.54 The flue gas treatment system will be subject to the assessment of Best Available Techniques, which is a requirement of the Environmental Permitting Regulations process.
- 3.1.55 A continuous emissions monitoring system would analyse the flue gases as they pass through the stack. The recorded information would be used to fine tune the flue gas cleaning process as well as fulfilling the reporting requirements under the Environmental Permit.

Stacks

- 3.1.56 Two process lines are proposed, and each line would be served by a stack. These are located close together, reaching a height of up to 90 metres, located to the north of the ERF building. The height of the stacks has been determined through dispersion modelling of emissions taking account of emission rates, pollutant concentrations, local topography and meteorology to ensure acceptable ground level concentrations of pollutants, under all operating conditions.
- 3.1.57 The air quality and plume dispersion modelling used to identify the stack height necessary for appropriate dispersion is described in detail in Chapter 11: Air Quality and Appendix 11.5.

The Incinerator Bottom Ash Recycling Facility

- 3.1.58 The IBA Recycling Facility would be located in the north eastern corner of the Application Site. It would process IBA from the ERF facility and may also accept IBA from external sources. The

⁴ The reducing agent typically employed in SNCR systems is ammonia or urea solution

material would be recycled into an aggregate product (known as Incinerator Bottom Ash Aggregate (IBAA)) for use in the construction industry. The facility would also extract ferrous and non-ferrous metals from the IBA for further processing and reuse.

- 3.1.59 The facility would primarily comprise a large concrete-based storage yard with a building and a conveyor on the western boundary. The facility would be surrounded by a 5 metre high concrete wall which would serve as a push wall for the operation of the facility and a screen for the adjacent land uses.

Operation of the IBA Facility

- 3.1.60 The IBA from the ERF process would be transferred along an inclined conveyor system to the bottom ash reception bunker where it is stored prior to being transferred to the process building. If materials are brought to the REC from other sources for processing, these will be delivered by road and placed in the same bunker, having been weighed and recorded as with any other incoming materials.
- 3.1.61 The IBA would be transferred by conveyor from the bottom ash reception bunker to the process building where it would be fed into a hopper for processing using a variety of mechanical processes, including vibrating screens, magnetic and eddy current separation. The process screens, separates and sizes the IBA and extracts the ferrous and non-ferrous metals.
- 3.1.62 The processed IBAA material would be moved from the process building by front-end bucket loader into temporary stockpiles in the dedicated external storage yard, where it would be stored for a period for pH stabilisation. The stockpiles would be open to the elements and rainwater runoff may contain contaminants. The runoff would be collected by a sealed drainage system underneath the concrete pad and temporarily stored in a wastewater pit before being re-used on site for ash drenching in the ERF or damping down of the stockpiles. Any excess water would either be treated. Via an on-site Liquids Treatment Plant within the building, or taken offsite to a specialist facility for cleanup.
- 3.1.63 The IBA material would be removed from the facility by vehicles for onward delivery. The recovered ferrous and non-ferrous metals would be stored separately in containers pending their removal from the IBA Recycling Facility for recycling.
- 3.1.64 The IBA which is delivered to the IBA Recycling Facility may contain material which is not completely combusted and thus suitable for reprocessing at the energy from waste facility. Such will be separated, stored, loaded to vehicles and returned to the ERF.
- 3.1.65 All IBAA leaving the Application Site would be sheeted. All materials would leave the Application Site via the internal access roads and ultimately join the A1085 Trunk Road.

Main Project Wide Elements

Hours of Operation

- 3.1.66 The REC would operate 24 hours a day, 7 days a week throughout the year except during shutdown periods for maintenance and repair.
- 3.1.67 It is assumed that each line would achieve approximately 91% availability as a result of planned and unplanned downtime. A two-line plant provides operational flexibility during periods of maintenance, enabling one line to be shut down whilst the second continues to operate. Planned maintenance activities would be for approximately three weeks per line per year. Procedures for waste acceptance during plant shutdown periods are discussed later in this chapter.

Site Staff

- 3.1.68 The REC would employ up to 100 full time equivalent employees comprising operation and maintenance staff, clerical and administrative staff and plant management. The ERF plant operations and maintenance staff would be employed within up to five shift teams. In addition, approximately 100 additional contractors will be temporarily employed during the planned annual shutdowns.
- 3.1.69 All staff would be suitably trained, qualified and experienced and a structured training and development programme will be provided.

Traffic

- 3.1.70 Traffic access and movement around the Application Site has been designed to ensure efficiency and to maximise vehicle and pedestrian safety. All vehicles delivering waste, IBA, process reagents or removing process residues or products, along with maintenance vehicles, will follow the designated internal access routes. All routes are to be hard surfaced.
- 3.1.71 Staff and visitor traffic would be segregated from HGV traffic on site. A separate car park with 41 car parking spaces would be provided in front of the MRF facility, giving pedestrian access to the MRF office building. 50 car parking spaces are provided to the side of the ERF facility giving direct pedestrian access to the office element incorporated into the ERF building. Cycle parking would also be provided for both staff and visitors comprising of 12 cycle spaces, with more to be made available on demand.

Use of Natural Resources

- 3.1.72 The main natural resource to be used in the process would be water.
- 3.1.73 The Redcar EFW process has been designed to minimise water consumption and maximise water re-use where possible. In order to limit the plant's reliance on mains water, roof water from the proposed facility will be collected and stored in a rainwater tank with a capacity of approximately 100m³. A by-pass from the rainwater tank will be in place to ensure roof water enters the main surface water drainage system in the event that the tank is full. This tank would feed the following systems:
- Top up of the process washing systems; and
 - Feeding the demineralised water plant which includes water for boiler blowdown.
- 3.1.74 The ERF plant would be connected to the mains water system. Approximately 21,600m³ per year (~2.7m³/hour, based on 8,000 hours operation) of mains water would be used in addition to rainwater, as make up to the process water system and for domestic usage for the staff and visitors on site. Water will be treated (demineralised) prior to being used in the boiler. The steam system comprising the boiler, turbine, condensers and associated pipe work would be a closed system, which will require topping up only to make up for relatively small losses.
- 3.1.75 Wastewater from boiler blow-down and the demineralisation process would be utilised to quench bottom ash. There would be no water discharge from the ash quench because water would either be re-circulated, absorbed by the ash or evaporated.
- 3.1.76 Other resources that would be used at the REC include urea or ammonia, lime, activated carbon and diesel fuel. There are also small quantities of other chemicals used on site for example the chemicals for boiler water treatment. These resources are listed in the table below together with the estimated quantity used during an average year.

Table 2.3: Natural Resources

Natural Resources	Units	Quantity
Lime	Tonnes /year	5,040
Carbon	Tonnes /year	840
Fuel Oils	Litres/year	168,000

Waste

- 3.1.77 IBA is the inert or incombustible material from the combustion process. This would be equivalent to approximately 25% by weight of the waste treated which would equate to up to approximately 105,000 tonnes per annum of IBA.
- 3.1.78 IBA would be transferred from the site to the adjacent IBA Recycling Facility where metals would be recovered, and the remaining ash converted into secondary aggregate for use within the construction industry.

Residues and Emissions

- 3.1.79 It is anticipated that approximately 20,000 tonnes of APCr would be produced per annum. These residues would be handled within a fully enclosed system. The residues would be stored in sealed silos and discharged via sealed connections into fully contained disposal vehicles. These measures will avoid the release of dust from handling and transfer of this material. All transfers would be regulated under the Environmental Permit, duty of care and the receiving facility Environmental Permit or other licensing requirements. The APCr will be transported to a suitably Permitted treatment facility.
- 3.1.80 A new foul water drainage system is required to serve the new site office and any associated catering facilities on the Redcar EFW site. It is proposed that the any new foul drainage from the facility will be connected to the existing pumped sewerage system known locally as the 'Redcar Flygt' System.

Environmental Permit

- 3.1.81 The operation of the REC would be regulated by an Environmental Permit issued by the Environment Agency prior to commencing operation. In issuing a permit to operate, the Environment Agency must be satisfied that the facility would not give rise to significant effects on the environment or human health and that the proposals will utilise Best Available Techniques (BAT) to prevent, or where this is not possible, control effects. The permit would include conditions aimed at ensuring this is achieved throughout the life of the facility.
- 3.1.82 For any waste to energy process, the key issues controlled within the Environmental Permit are as follows:
- Types of wastes which can be accepted
 - Waste treatment/storage capacity
 - Tight limits on emissions to air
 - Monitoring requirements for releases from the plant
 - Conditions to promote energy efficiency and waste minimisation

- Conditions controlling noise and odour
- General management and operational requirements, including specific measures to ensure compliance with the Industrial Emissions Directive
- Regular reporting of environmental and operational performance, including performance relative to emission limits

Emissions Monitoring

- 3.1.83 A dedicated emissions monitoring system would be installed. This would continuously monitor emissions from the stacks for a range of substances as dictated by the Environment Agency, which will be set out in the Environmental Permit issued for the operation of the plant. Typically, this would include particulate matter, CO, SO₂, NO_x, HCl and VOCs.

Drainage

- 3.1.84 An outline drainage scheme is provided at Appendix 8.2. It provides for foul water connection to existing services, and surface water drainage managed within the Application Site. Roof runoff would be collected and used in the process. Other clean surface runoff would be managed through a discharge into the River Tees. Runoff would be directed to the attenuation pond in the north west of the Application Site, and through oil interceptors prior to discharging from the south of site near the access road.

Landscape Strategy

- 3.1.85 A scheme of landscaping comprising strengthening of the northern boundary and habitat improvements forms part of the application. Amenity planting on site will be low maintenance and resilient to climate change.
- 3.1.86 Areas of landscaping would be provided at the entrance to the site from the access road to the south of the MRF and ERF buildings, around and between the car parks and office entrances; and with a landscaping buffer planting belt along the site northern boundary to the IBA Recycling Facility and to the attenuation and firewater retention pond to the north of the MRF building, intended to act as a natural biodiversity buffer in this area and to provide a stand off from the mound that separates the site from the beach and dune area to the north. This buffer area would be protected from activity on site, with a 5m concrete wall along the edge of the IBA to retain ash within the IBA complex.

Lighting

- 3.1.87 The plant would operate on a 24-hour continuous basis. External site lighting would be selected and positioned at low level in order to minimise light pollution, visual impact on the local environment and energy use but also to ensure good working conditions and safety for personnel and security.
- 3.1.88 The lighting will incorporate measures which would:
- Minimise the potential for sky glow by reducing the potential for upward reflected light.
 - Minimise light spread through directional lighting.
 - Use shielding to prevent glare.

- 3.1.89 Lighting installed along internal roads and walkways would be provided in accordance with appropriate standards to provide illumination for safe access and operational tasks.

Fencing and Security

- 3.1.90 A site perimeter fence would be constructed for security. Additional security would be provided by CCTV cameras.

Sustainability

- 3.1.91 The proposed facility is designed to generate electricity from unrecyclable wastes close to the point of need in a more sustainable way than landfill, in accordance with the waste hierarchy. Use of natural resources and the generation of wastes are described below.

Vulnerability to Accidents and Disasters

- 3.1.92 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 require that this description of development include, where relevant, the risk of major accidents and/or disasters. This is interpreted here to refer to manmade events 'accidents' and naturally caused events 'disasters' including those caused by climate change. This environmental statement includes an assessment of the likely significant effects arising from the vulnerability of the proposed development to major accidents or disasters that are relevant to the REC. Individual topic chapters contain, where relevant, such an assessment for example, flood risk, traffic accidents, emissions releases and fire.
- 3.1.93 Good sustainable design proactively considers resilience, requiring the integration of hazard identification, risk evaluation and risk management into the design process. Furthermore, if risk is significant, it is likely to have a major consequence and is therefore covered by specific legislation e.g. regulations on the control of major accident hazards or regulations on the secondary containment of pollutants such as the oil storage regulations.
- 3.1.94 Energy from waste facilities can present fire hazards and associated toxic gas release. These areas of the plant/process are well-understood, and the design of the facility will incorporate measures to remove or significantly reduce such risks in accordance with the applicable legislation and standards. The operation of energy plants is subject to a number of regulatory regimes and monitored on a continuous basis.
- 3.1.95 If an incident occurs that could endanger life, the facility or the environment, an emergency shutdown procedure would be implemented. The emergency shutdown would stop waste feed, shut off combustion air fans and the burner, essentially shutting down the operation of the plant.
- 3.1.96 Fire water runoff from the sprinkler discharge would be managed principally by containment within the REC. Proposed levels for the new development would be set such that all firefighting water runoff would be fully contained inside the building and bunker, thus removing the risk of uncontrolled contaminated runoff entering the surface water network. The attenuation pond in the north west corner would be used for the receipt of firefighting water where required and the fire water would be tankered off site.
- 3.1.97 A manual penstock/valve would be located immediately downstream of the attenuation pond and in the penultimate chamber before leaving the site as a minimum to allow containment of firefighting water.

3.1.98 Fire water contained in such an event would be classed as contaminated runoff and hence require off-site disposal by tanker

Plant Maintenance and Shutdown

3.1.99 During periods when one or both of the EFW process lines are offline, waste would continue to be accepted at the facility. The waste bunker would have a storage capacity of up to seven days. The amount of waste stored within the bunker would be reduced prior to planned maintenance periods, which would be one line at a time.

Construction

Construction Programme

3.1.100 The timing of the project would be dependent on securing planning permission and the discharge of planning conditions. The indicative construction programme envisages approximately 32 months from start on site to end of commissioning.

3.1.101 Assuming that planning permission is granted for the facility in winter 2019 the following development timescales are anticipated:

- Notice to Proceed to Contractor: 1st Quarter 2021.
- Clearance and Demolition: 2nd Quarter 2021.
- Commencement of Construction: 3rd Quarter 2021.
- Commissioning: 1st Quarter 2024.
- Commercial Operation: 2nd Quarter 2024.

Indicative Construction Phasing

3.1.102 It is assumed that the construction is likely to be phased in order to efficiently manage the interdependent but separate disciplines of civil engineering and process engineering. The first stage in construction works would be the clearance and demolition of existing buildings on the Application Site. A brief overview of potential activities is provided below in Table 2.4.

Table 2.4: Indicative Construction Phase Activities

Stage	Discipline	Activity
Phase 1	Civils	Site clearance, site set up, ground works (piling, cut and fill etc).
	Process	Detailed design and engineering.
Phase 2	Civils	Waste bunker excavation, concrete works (floor slabs, walls, columns etc).
	Process	Manufacturing.
Phase 3	Civils	Continue the concrete works.
	Process	Furness and boiler installation.

Stage	Discipline	Activity
Phase 4	Civils	Building structural steelwork installation.
	Process	FGT, Stack, Turbine installation. Continue boiler and pipework installation.
Phase 5	Civils	Cladding installation.
	Process	Continue installation in all areas. Boiler pressure tests.
Phase 6	Civils	Building services installation. Cladding installation.
	Process	Cabling installation, complete pipework and instrumentation installation.
Phase 7	Civils	External works, admin building fit out.
	Process	Cold commissioning.
Phase 8		Hot commissioning and testing

Construction Working Hours

- 3.1.103 Construction operations likely to give rise to disturbance would generally take place between the following hours:
- Monday – Saturday 07:00 – 19:00 hours;
 - Sunday and Bank Holidays – No intrusive working.
- 3.1.104 It is envisaged that non-intrusive activities and internal works (such as electrical installations, plumbing and similar activities) would be undertaken outside of these hours in order to minimise overall construction time. HGV movements associated with such activities would be insignificant.
- 3.1.105 Commissioning activities would be conducted on a 24 hour, 7 days a week basis, most of which would take place inside the buildings.

Access and Traffic

- 3.1.106 Site access during construction would be via the existing site entrance.

Construction Plant

- 3.1.107 Plant to be used during the construction phase would typically involve a variety of machinery including:
- tracked excavators (excavation and loading);
 - water pumps;
 - articulated dump trucks;
 - concrete pump;

- wheeled back hoe loaders;
- generators;
- wagons;
- cement mixer truck;
- telescopic handlers;
- cranes;
- rollers; and
- piling rig(s).

Construction Activities

- 3.1.108 The proposed development is anticipated to utilise standard construction methodologies (including piling) for infrastructure and buildings.
- 3.1.109 The broad sequence of construction activities is likely to be:
- creation of the barrier wall between the Application Site and the adjacent Teesmouth and Cleveland Coast SSSI;
 - demolition, site clearance and enabling works;
 - infrastructure works, including construction of internal roads and drainage works;
 - construction of substructures;
 - erection of superstructures;
 - installation of process equipment;
 - completion of superstructures and building finishes;
 - commissioning; and
 - planting in accordance with the landscape strategy.
- 3.1.110 The Application Site would also be temporarily fenced during construction.

Demolition, Site Clearance and Enabling Works

- 3.1.111 The construction areas would be cleared of below ground infrastructure and foundations. Any topsoil and hardcore materials would be reused on the Application Site where possible. Office and welfare facilities for the construction phase would be established.
- 3.1.112 The site would be levelled to achieve a cut and fill balance, unless any contaminants are identified where in situ remediation is not possible.
- 3.1.113 Due to the industrial history of the site, it is envisaged that there is a possibility of contaminated materials being encountered. If on site remediation is not possible, any contaminated material will stay on site until exported for disposal via an appropriately licensed contractor (see Chapter 10: Geology, Hydrogeology and Ground Conditions for more details).

Civil Works

- 3.1.114 Some levelling of the site would be undertaken, and there would be excavations for some of the foundations, including the waste bunker. A cut and fill exercise would be carried out to reduce the removal of surplus material. Structures on the site would require appropriate foundation design and substantial piling to support the key items of process equipment. A key element of the civil works construction phase would be the construction of the reinforced concrete bunker. It is likely that the bunker would be of slip-form construction which would involve continuous pouring of concrete over a period of 18-26 days until construction of the bunker is complete.

Plant Erection

- 3.1.115 The key element within this phase would be the erection of the boiler plant. As far as practicable, the boilers would be brought to site in large modules and erected using either fixed or mobile cranes. Other main plant items include the waste feeding system, flue gas treatment system, stacks, steam turbine and air-cooled condensers. These items would also be modularised as far as possible to reduce the amount of work on the site. Following the erection of the main plant items, connecting pipework, conveyors and cabling would be installed, followed by the control systems.

Environmental Management during Construction

- 3.1.116 Construction would be undertaken in accordance with the CoCP that would be prepared post consent. The CoCP sets out the key management measures that contractors would be required to adopt and implement. These measures have been developed based on those identified during the EIA process and set out in the topic chapters of this ES. They include strategies and control measures for managing the potential environmental effects of construction and limiting disturbance from construction activities as far as reasonably practicable.
- 3.1.117 This CoCP would form the basis of more detailed plans and method statements, to be prepared during the pre-construction period once a Principal Contractor has been appointed.

Construction Working Areas

- 3.1.118 It is anticipated that the construction works would be fully accommodated within the red line boundary and therefore no other temporary land has been identified for construction use.
- 3.1.119 Within the Application Site, a number of temporary facilities would be required during construction including:
- temporary offices and welfare facilities;
 - storage area for materials, fuels, plant and equipment;
 - waste management areas; and
 - car parking facilities.
- 3.1.120 As far as possible, storage areas would be bunded to mitigate any spillages of potential contaminants and would avoid being located in areas of vegetation or habitat to be retained.

Construction Access and Logistics

- 3.1.121 The entrance to the Application Site would be used for all construction traffic. Construction heavy goods vehicle (HGV) movements are expected to be substantially fewer than the operational phase and so have not been separately assessed. Although it is not expected that the proposed development would generate any abnormal loads, if this was required, the routing and nature of such loads would be agreed with the highway authority as required.
- 3.1.122 It is anticipated that the peak periods for traffic movements associated with the construction phase would be 07.00-08.00 and 15.00-16.00. Further details of predicted traffic flows associated with the project are provided in Chapter 10: Traffic and Transport of this ES.

Construction Drainage

- 3.1.123 The construction phase would incorporate pollution prevention and flood response measures to ensure that the potential for any temporary effects on water quality or flood risk are reduced as far as practicable. These measures are listed in Table 2.5 and would be included within the CoCP.

Construction Waste

- 3.1.124 The principal types of construction waste (by volume) arising from the project would be materials excavated for the waste bunker and building foundations. Inert materials would, where possible, be reused on site and other demolition wastes will be recycled where possible. Other general construction wastes, and wastes generated by the construction office and mess facilities will be recycled as far as possible.
- 3.1.125 A SWMP will be developed prior to the commencement of construction setting targets for waste of each type.

Use of Natural Resources

- 3.1.126 The CoCP requires the contractor to identify the main types and quantities of materials required for the project in order to assess potential for sourcing materials in an environmentally responsible way. The construction specification would place preference, when options are available, on the use of materials with a high recycled content.
- 3.1.127 The Considerate Contractors Scheme includes measures relating to the use of resources, including categories in relation to minimising the use of water. All timbers used as primary structural elements would be required to be Forest Stewardship Council (FSC) certified.
- 3.1.128 The construction process would take into account the principles of good practice in soil handling and restoration set out in the following documents, wherever possible, to reduce the possibility of damage to soil materials during the construction process:
- Ministry for Agriculture Fisheries and Food (MAFF) (2000) Soil Handling Guide (MAFF, 2000); and
 - Department for Food and Rural Affairs (Defra) (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (including the Toolbox Talks) (Defra, 2009).

Vulnerability to Accidents and Disasters (during construction)

- 3.1.129 The CoCP would include a plan for preventing and responding to construction hazards such as fire and natural hazards. The site is not vulnerable to flooding and so the hazard response plan is likely to focus on the mitigation of fire and the consequences of spills.

Measures Adopted as Part of the Project

- 3.1.130 In order to avoid or reduce the environmental effects, a number of measures have been designed into the project. Details of these can be found within ES Chapter 2 in Tables 2.5 and 2.6, and within each ES topic chapter of the ES.

Decommissioning

- 3.1.131 On cessation of the activities the site would be closed and decommissioned in a manner that avoids any pollution from decommissioning activities and ensures the site is returned to a satisfactory state.

4 PLANNING POLICY CONTEXT

4.1 Introduction

4.1.1 This section of the Planning Statement provides a summary of the relevant national and local planning policy against which this proposal will be determined. The proposed REC has been prepared to be compliant with the provisions of:

- section 70 (2) of the Town and Country Planning Act 1990 which requires that in determining applications for planning permission the local planning authority shall regard to the provisions of the development plan, so far as material to the application and, inter alia, to any other material considerations; and,
- section 38(6) of the Planning and Compulsory Purchase Act 2004 which requires the determination of planning applications to be made in accordance with the development plan, unless material considerations indicate otherwise.

4.1.2 It is not, however, intended to identify each and every aspect of policy and guidance relevant to the determination of the application within this planning statement, only those key matters which are most relevant and important to the determination of the application.

4.2 Relevant Development Plan Policy

4.2.1 In accordance with s38(3) of the Planning and Compulsory Purchase Act 2004 the relevant statutory development plan comprises of:

- The Redcar & Cleveland Local Plan – Adopted May 2018
- The Joint Tees Valley Minerals and Waste Core Strategy DPD– Adopted September 2011
- The Joint Tees Valley Minerals and Waste Policies and Sites DPD – Adopted September 2011

The Redcar and Cleveland Local Plan

4.2.2 The Redcar and Cleveland Local Plan was adopted in 2018 and has a strategic focus on economic growth and regeneration for the South Tees area. The Application Site is located within the identified Development Limits, a Protected Employment Area, the South Tees Development Corporation area; and adjacent to the SPA and SSSI. The key policies of relevance to the determination of the proposed REC include:

- ED6 Promoting Economic Growth: provides strategic policy support for the applications site's development for employment uses including specialist uses, including suitable employment related sui generis users and general employment uses, subject to a number of criteria and regard to the South Tees Area Supplementary Planning Document (SPD). Such employment related employment uses would include waste management facilities such as the proposed REC.
- LS4 South Tees Spatial Strategy: provides support for, amongst other things, delivering significant economic growth and job opportunities the South Tees Development Corporation; the regeneration of the South Tees Development Corporation area through implementing the South Tees Area SPD; growth of the environmental and recycling sector; clean and more energy efficient industry in the South Tees area to help reduce carbon dioxide emissions and the risk of environmental pollution; decontamination and redevelopment of potentially

contaminated land, protect European sites and safeguard and improve sites of biodiversity interests particularly along the River Tees and the estuary and encourage habitat creation and management.

- SD6 Renewable and Low Carbon Energy: provides support and encouragement for renewable and low carbon energy schemes where their impact is, or can be made, acceptable. In determining applications for such development, it sets out that the following issues will be considered:
 - a. impact on residential amenity;
 - b. environmental impacts;
 - c. sensitivity and capacity of the landscape, as detailed in the Renewable and Low Carbon Study;
 - d. impact on heritage assets and their settings;
 - e. impact on recreation;
 - f. scale of proposal;
 - g. local topography and siting of proposal to minimise harm, including through reasonable mitigation;
 - h. aeronautical and other military considerations;
 - i. operational and other relevant constraints;
 - j. impact on the North York Moors National Park and its setting; and
 - k. cumulative impacts of proposals.

4.2.3 Detailed policies of relevance include:

- SD4 General Development Principles;
- SD7 Flood and Water Management;
- N1 Landscape;
- N4 Biodiversity and Geological Conservation;
- HE1 Conservation Areas;
- HE2 Heritage Assets;
- TA1 Transport and New Development.

4.2.4 The provisions of these policies and the proposed RECs conformity with them is demonstrated in the sections of this Planning Statement that follow.

The Joint Tees Valley Minerals and Waste Core Strategy DPD

4.2.5 The JTMWCS provides the long term spatial vision and the strategic policies needed to achieve the key objectives for minerals and waste in the Tees Valley in the plan period up to 2026. The key policies of relevance to the determination of the proposed REC are as follows:

- MWC6 Waste Strategy: sets out that subject to the demonstration of no adverse impact on the integrity of the Teesmouth and Cleveland Coast Special Protection Area and Ramsar Site, and other European sites, the sustainable waste management of waste arisings in the Tees Valley will be delivered through, amongst other things:

- a) making provision for sufficient annual waste management capacity to allow:
 - 40% of household waste from the Tees Valley to be recycled or composted from 2010, rising to 46% from 2016;
 - to recover value from 53% of municipal solid waste for the Tees Valley from 2010, rising to 72% from 2016; and
 - to increase the recovery of value from C&I waste from the Tees Valley to 73% from 2016;
- b) promoting facilities and development that drives waste management up the waste hierarchy;
- c) the distribution of waste management sites across the Tees Valley so that facilities are well related to the sources of waste arisings, related industries and markets for any products created
- d) safeguarding the necessary infrastructure to enable the sustainable transport of waste, in particular the use of the existing rail and port facilities in the Tees Valley
- MWC7 Waste Management Requirements: sets out that, amongst other things, land will be provided for the development of waste management facilities to meet the identified requirements of the Tees Valley; and that proposals for facilities to deal with waste imported from outside the Tees Valley must be supported by evidence of the need for these facilities and justification for their location within the Tees Valley.
- MWC8 General Locations for Waste Management Sites: sets out that:
 - sustainable waste management will be delivered through a combination of large sites which include clusters of waste management and processing facilities, and small sites for individual waste facilities;
 - Allocations and proposals for large waste management facilities should be located in general areas, including to the south of the River Tees – the land located around Teesport, Smiths Dock Road and the eastern end of Dockside Road.
 - In determining the suitability of a site within these areas consideration will be given to the potential impact of the protected Teesmouth and Cleveland Coast SPA and Ramsar Site and any functional land required to support them. Where adverse impacts are identified, avoidance or mitigation measures may be required.
 - Allocations and proposals will be directed away from areas at risk of flooding following a sequential approach.

4.2.6 The provisions of these policies and the proposed RECs conformity with them is demonstrated in the sections of this Planning Statement that follow.

The Joint Tees Valley Minerals and Waste Policies & Sites DPD

4.2.7 The JTVMWPS was prepared and adopted concurrently with the JTVMWCS and identifies specific sites for minerals and waste development, and sets out the policies which will be used to assess planning applications for development on the sites identified.

4.2.8 The Application Site itself whilst located within an area where the JTVMWCS is supportive of proposals for large scale waste management proposals is not a specific site identified for waste in the JTVMWPS. It is none the less acceptable for large scale waste management facilities in accordance with JTVMWCS policy MWC8.

4.3 Relevant Non-Development Plan Policy

South Tees Area – Supplementary Policy Document (Adopted May 2018)

- 4.3.1 Although the SPD does not form part of the statutory development plan, it provides further explanation and detail to the policies set out within the Redcar and Cleveland Local Plan, and in particular it provides guidance to assist with implementation of RCLP policy LS4 requires its requirements to be implemented in the regeneration of the area, and policy ED6 which requires proposals to have regard to it.
- 4.3.2 The SPD supports the economic and physical regeneration of the STDC area, setting out the strategic vision and core objectives applicable to it and providing greater detail on how the adopted Redcar and Cleveland Local Plan policies will be interpreted. Its purpose includes providing a degree of certainty as to the potential opportunities and acceptable forms of development in the STDC area through establishing a series of strategic scale solutions; and informing a comprehensive and coherent development strategy.
- 4.3.3 The SPD adopts a series of strategic development principles and site-specific development principles which fulfil these objectives. Key principles of relevance to the determination of the proposed REC include:
- STDC1 Regeneration Priorities
 - STDC6 Energy Innovation
 - STDC10 Utilities
 - STDC11 Northern Industrial Zone
- 4.3.4 Other relevant principles include:
- STDC5 Transport Infrastructure
 - STDC7 Natural Environmental Protection and Enhancement
 - STDC8 Preserving Heritage Assets
 - STDC9 Site Remediation
- 4.3.5 The provisions of these strategic and site-specific principles and the proposed RECs conformity with them is demonstrated in the sections of this Planning Statement that follow.

4.4 Relevant National Planning Policy

- 4.4.1 Apposite material considerations may include national planning policy including that provided by the National Planning Policy Framework (NPPF), National Planning Policy for Waste (NPPW) and National Policy Statements (NPSs).

National Planning Policy Framework

- 4.4.2 The National Planning Policy Framework (NPPF) published in February 2019 (Ministry of Housing, Communities and Local Government, 2019) sets out the Government's planning policies for England and how these are expected to be applied (paragraph 1) and that it is a material consideration in planning decisions (paragraph 2). Of particular relevance to the proposed REC are the topic specific provisions in the following sections:

- Section 6: Building a strong, competitive economy;
- Section 9: Promoting sustainable transport;
- Section 11: Making effective use of land;
- Section 12: Achieving well designed places
- Section 14: Meeting the challenge of climate change, flooding and coastal change;
- Section 15: Conserving and enhancing the natural environment; and
- Section 16: Conserving and enhancing the historic environment;

- 4.4.3 Paragraph 7 of the NPPF highlights that the purpose of the planning system is to contribute to the achievement of sustainable development. Paragraph 8 sets out that achieving sustainable development has three overarching objectives - economic, social, and environmental, which are interdependent and need to be pursued in mutually supportive ways.
- 4.4.4 Section 6 sets out the national planning policy in respect of the economic development and employment in its widest sense not just industrial development. Paragraph 80 sets out that planning policies and decisions:
- should help create the conditions in which businesses can invest, expand and adapt;
 - that significant weight should be placed on the need to support economic growth and productivity taking into account both local business needs and wider opportunities for development;
 - the approach taken should allow each area to build on its strengths, counter weaknesses and address the challenges for the future.
- 4.4.5 Paragraph 82 sets out that the planning policies and decisions should recognise and address the specific locational requirements of different sectors including making provision for clusters or networks of knowledge and data driven, creative or high technology industries, and for storage and distribution operations at a variety of scales and in suitably accessible locations.
- 4.4.6 The proposed REC is located within the South Tees area which is recognised as the single largest employment opportunity in the UK and is supported by the South Tees Development Corporation. The area is identified through the strategic policies of the local plan, which conform with the provisions of the NPPF, for significant regeneration and strategic employment opportunities. These include advanced manufacturing and other engineering, industrial and energy intensive uses, as well as specialist uses including energy generation and waste management. As such it is a significant area for the national, regional, and local economy.
- 4.4.7 The proposed REC would generate 49.9MWe of renewable, sustainable and low carbon energy through the operation of the proposed ERF. This explicitly meets the strategic objectives planned for the area, providing the wider economy and more specifically the planned energy intensive users in the South Tees area, with a sustainable and secure energy supply with the potential through private wire in addition to the Grid. As it would be CHP Ready it would be able to supply planned development within the area with heat and/or steam. Similarly, the proposed MRF and IBA Recycling facility will along with the proposed ERF provide sustainable waste management.
- 4.4.8 Of great significance the delivery of the proposed ERF, with its dispatchable, secure and reliable energy supply, and the confidence in the area that a capital investment of that scale demonstrates, has the potential to act as a significant catalyst to further economic development, by attracting the planned advanced manufacturing and engineering that is so important to the overall strategy for the area.

- 4.4.9 Overall the proposed REC itself would create provide around 450 jobs in the construction phase and around 80 – 100 permanent full time equivalent (FTE) jobs during the construction phase. This would also be likely to lead to the creation of further employment during the operational phase through indirect and induced expenditure. These jobs would potentially provide much needed local employment and the creation of apprenticeships.
- 4.4.10 The proposed REC would lead to a substantial investment into the local economy in accordance with local plan objectives in complete conformity with the economic provisions of the NPPF, and would undoubtedly lead to a significant increase in the GVA of the local economy both directly and indirectly. It is therefore in complete conformity with the economic provisions of the NPPF itself, and this should be ascribed substantial weight in the planning balance.
- 4.4.11 Section 9 sets out the Government's policy for promoting sustainable transport. It sets out that transport issues should be considered from the earliest stages of development proposals, so that, inter alia, the environmental impacts of traffic can be identified and taken into account including appropriate opportunities for avoiding or mitigating impacts or for net environmental gains (Paragraph 102); that significant development should be focused on locations that are sustainable through amongst other things, limiting the need to travel (paragraph 103).
- 4.4.12 Paragraph 108 sets out that in assessing applications, amongst other matters, it should be ensured that opportunities to promote sustainable transport have been taken given the type of development and its location. It requires that safe and suitable access to the site can be achieved for all users, and any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be effectively mitigated to an acceptable degree. Paragraph 109 is clear that development should only be refused on highway grounds if there would an unacceptable impact on highway safety, or the residual cumulative impacts on road network would be severe.
- 4.4.13 The proposed REC would not lead to unacceptable impacts on highway safety. In addition, the planning application has been accompanied by a Travel Plan to highlight and encourage sustainable modes of transport. Moreover, should it be viable to do so the proposed REC would potentially be able to make use of the rail and port infrastructure which is available to it in the vicinity of the Application Site. Together with the generation of renewable and low carbon energy with the potential to supply the planned energy intensive users via private wire and CHP, and sustainable waste management operations, the potential to use non-road transport for its waste fuel would make the proposed REC one of the most environmentally and economically sustainable developments of its type.
- 4.4.14 On that basis, it is therefore in conformity with the provisions of the NPPF relating to the promotion of sustainable transport.
- 4.4.15 Section 11 sets out the Government's policy for Making effective use of land. It sets out that planning decisions should promote an effective use of land in meeting the need for homes and other uses (paragraph 117), and should, amongst other things, give substantial weight to the value of using suitable brownfield land within settlements for housing and other identified needs, support appropriate opportunities to remediate contaminated land, and promote and support the development of under-utilised land, which this proposal does. Paragraph 122 provides that planning decisions should support development that makes efficient use of land, taking into account the desirability of managing the prevailing character and setting of an area or of promoting regeneration and change, and the importance of securing well designed, attractive and healthy places.
- 4.4.16 Section 12 sets out the Government's policy for Achieving well-designed places. It recognises that the creation of high-quality buildings and places is fundamental to what the planning and

development process should achieve, and that good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities (paragraph 124).

- 4.4.17 Paragraph 127 provides that planning decisions should ensure that developments will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development. The paragraph continues to set out several criteria for good design. The most relevant considerations include:
- requiring that buildings are visually attractive as a result of good architecture, layout and appropriate and effective landscaping; and
 - are sympathetic to the local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovations or change.
- 4.4.18 Furthermore, in determining applications great weight should be given to outstanding or innovative designs which promote high levels of sustainability or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings (paragraph 131).
- 4.4.19 The ES Needs and Alternatives Chapter submitted with the planning application highlights the process that has been undertaken to realise a high-quality design for the proposed REC. This includes a design approach which has kept the scale of the proposed development to a minimum whilst following a form of development and neutral colour palette that break up the mass of the buildings, in particular for the proposed ERF building by the use of translucent panelling and horizontal treatment. This creates a family of buildings on the Application Site that relate well to each other visually and spatially and which respond to and fit well within the existing and proposed industrial and wider landscape whilst creating a visually attractive development in the locality.
- 4.4.20 The proposed REC would also make more efficient use of a previously developed site which will deliver a significant infrastructure project of high-quality appearance, designed to sit well with the character of the locality and within the setting of the site, which will lead to regeneration benefits in the locality. The proposed layout also includes areas of landscaping including a net increase in biodiversity and SUDS whilst achieving an efficient operation of the site's proposed operational components.
- 4.4.21 On this basis, the proposed REC is in conformity with the provisions of the NPPF in relation to achieving well designed place and making effective use of land.
- 4.4.22 Section 14 sets out the Government's policy in respect of meeting the challenge of climate change, flooding and coastal change.
- 4.4.23 In respect of climate change, it requires that the planning system should support the transition to a low carbon economy by helping to shape places in ways that contribute to radical reductions in greenhouse gas emissions, encourage the re-use of resources including the conversion of existing buildings, and support low carbon energy (paragraph 148).
- 4.4.24 Paragraph 151 sets out, amongst other matters, that to increase the use and supply of renewable energy and heat, development plans should provide a positive strategy for energy from those sources that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts); and identify opportunities to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

- 4.4.25 When determining planning applications for renewable and low carbon development it establishes that planning authorities should not require applicants to demonstrate a need for renewable and low carbon energy and should recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions, and approve the application if its impacts are or can be made acceptable (paragraph 154).
- 4.4.26 The proposed REC would generate a combination of up to 49.9MWe of low carbon, sustainable and renewable⁵ energy from the biodegradable fraction of the residual waste, enough to power approximately 100,000 homes. It has the potential to supply further energy to the planned energy intensive users via its potential for CHP in the form of steam or heat which could provide a significant attraction to new and existing employers. The applicant will keep such opportunities under ongoing review, working closely with the local economic development arm of the authority and the South Tees Development Corporation in particular. There is, therefore, no requirement to demonstrate a need for the proposed REC as there is a presumption in favour of permission being granted, and the development is in conformity with the provisions of the NPPF in these respects. Significant weight should be ascribed in the planning balance given the scale of the energy which could be generated and the urgent national need and specific requirements in the South Tees Development Corporation area.
- 4.4.27 In respect of flood risk when determining planning applications, paragraph 163 requires local planning authorities to ensure that flood risk is not increased elsewhere and states that where appropriate, planning applications should be accompanied by a Flood Risk Assessment (FRA).
- 4.4.28 An FRA has been prepared and submitted as part of the planning application. This sets out that the site is at low risk of flooding being entirely within Flood Zone 1 and appropriately sited in accordance with the NPPF. In addition, surface water (including a 40% allowance for climate change) not used within the industrial processes of the proposed REC, will be controlled and contained within the site, prior to controlled discharge into the River Tees to ensure that there is no increase in flood risk elsewhere.
- 4.4.29 It is therefore in conformity with the provisions of the NPPF in respect of meeting the challenge of climate change and flooding.
- 4.4.30 Section 15 provides the Government's policy on Conserving and Enhancing the Natural Environment.
- 4.4.31 Paragraph 170 outlines how planning decisions should enhance the natural and local environment by, among other things:
- a. protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b. minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - c. preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental

⁵ Where reference to the generation of renewable energy by the proposed REC is made in this Planning Statement the reference is only to the element of the energy generated from the biomass fraction of the waste.

conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

- d. remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

4.4.32 In respect of Habitats and biodiversity, paragraph 175 sets out that in determining planning applications the following principles should be applied:

- a. if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b. development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c. development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d. development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

4.4.33 The proposed REC has been designed, and mitigation measures have been incorporated into the project, to minimise impacts on species and would not lead to residual significant adverse effects on ecological species, on or off site, nor the nature conservation designations in close proximity to it including the Teesmouth and Cleveland Coast SPAs, Ramsar and SSSI designations.

4.4.34 In respect of ground conditions and pollution paragraph 178 sets out that planning decisions should ensure:

- a. a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation);
- b. after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and
- c. adequate site investigation information, prepared by a competent person, is available to inform these assessments.

4.4.35 The proposed REC would not lead to any significant residual adverse effects on ground conditions, or ground water quality with the implementation of remediation measures.

4.4.36 In addition, paragraph 180 sets out that planning decisions should ensure that new development is appropriate for its location taking account the likely effects (including cumulative effects) of pollution on health, living conditions, and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a. mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- b. identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
- c. limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

- 4.4.37 In addition, notwithstanding the inherent built scale of the proposed REC and the nature of its operations, the ES demonstrates that it would not lead to significant adverse effects to landscape and visual receptors, nor noise sensitive and air quality receptors.
- 4.4.38 On this basis, it is therefore in conformity with the provisions of the NPPF in respect of conserving and enhancing the natural environment.
- 4.4.39 Section 16 concerns the Government's policy on Conserving and Enhancing the Historic Environment.
- 4.4.40 It sets out that in determining applications, local planning authorities should require an applicant to describe the significance of the any heritage assets affected, including any contribution made by their setting (paragraph 189).
- 4.4.41 In considering potential impacts to designated heritage assets it requires that great weight should be given to a designated heritage assets conservation (and the more important the asset the greater the weight should be) irrespective of whether any potential harm amounts to substantial harm, total loss, or less than substantial harm to its significance (paragraph 193).
- 4.4.42 Furthermore, any harm to, or loss of, the significance of designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification, and substantial harm to or loss of grade II listed buildings, or grade II registered parks and gardens should be exceptional, and to assets of the highest significance including scheduled monuments, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens and World Heritage Sites should be wholly exceptional (paragraph 194).
- 4.4.43 Paragraph 195 sets out that where a proposal would lead to substantial harm to (or the total loss of significance of) a designated heritage asset planning permission should be refused, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm of loss, or all of the following apply:
- a. the nature of the heritage asset prevents all reasonable uses of the site; and
 - b. no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
 - c. conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
 - d. the harm or loss is outweighed by the benefit of bringing the site back into use.
- 4.4.44 Paragraph 196 provides that where a proposal would lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimal viable use.
- 4.4.45 Paragraph 197 requires harm to non-designated heritage assets is taken into account in determining applications taking a balanced judgment having regard to the scale of any harm and the significance of the asset.

- 4.4.46 The desk based assessment submitted with the application, confirms that there are no designated heritage assets within the Application Site and that the proposed REC will not adversely affect any designated heritage assets in the surrounding area. In addition, it confirms that the Application Site and the surrounding area is considered to have negligible potential for archaeological assets given the ground levels were raised through land reclamation and industrial development throughout the 20th Century.
- 4.4.47 On that basis, there is no harm (neither less than substantial nor substantial) to heritage assets (designated or not). There is therefore no reason to undertake a ‘heritage balance’ weighing the harms against the public benefits; the proposed REC is in conformity with the provisions of the NPPF and is acceptable.
- 4.4.48 The NPPF does not make detailed policy provisions in respect of waste management as national waste policy is published separately in the National Planning Policy for Waste.

National Planning Policy for Waste (NPPW), 2014

- 4.4.49 The National Planning Policy for Waste (NPPW) was adopted in 2014 (DCLG, 2014b), setting out detailed waste planning policy which seeks to deliver the Government’s aims and the objectives of the Waste Management Plan for England (WMPE) (December 2013) (Defra, 2013). It sets out that its policies should be read in conjunction with the NPPF and that planning authorities should have regard to its policies in discharging their functions to the extent that they are appropriate to waste management (paragraph 1).
- 4.4.50 It recites that the Waste Management Plan for England (WMPE) sets out the Government’s ambition to move towards a more sustainable and efficient approach to resource use and management; and that positive planning plays a pivotal role in delivering England’s waste ambitions. This should be delivered through, amongst other things, the delivery of sustainable development and resource efficiency, including the provision of modern infrastructure, local employment opportunities and wide climate change benefits by driving waste management up the waste hierarchy. It also provides a framework in which communities and businesses are engaged with and take more responsibility for their own waste in line with the proximity principle (paragraph 1).
- 4.4.51 In identifying need for waste management facilities, paragraph 3 provides that in preparing Local Plans waste planning authorities should, amongst other things:
- drive waste up the waste hierarchy
 - consider the need for additional waste management capacity of more than local significance and reflect any requirement for waste management facilities identified nationally;
 - consider the extent to which the capacity of existing operational facilities would satisfy any identified need
- 4.4.52 In identifying suitable sites and areas for new or enhanced waste management facilities in appropriate locations, paragraph 4 sets out that when preparing plans waste planning authorities should, amongst other things:
- plan for the disposal of waste and the recovery of mixed municipal waste in line with the proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant;
 - consider a broad range of locations including industrial sites, looking for opportunities to co-locate waste management facilities together and with complementary activities. Where a low carbon energy recovery facility is considered as an appropriate type of development, waste

planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers;

- give priority to the re-use of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.

4.4.53 Paragraph 5 sets out that when assessing the sites for new or enhanced waste management facilities it provides that they should be assessed against each of the following criteria:

- The extent to which the site or area will support the other policies set out in this document.
- Physical and environmental constraints on development, including existing and proposed neighbouring land uses, and having regard to the factors in Appendix B to the appropriate level of detail needed to prepare the Local Plan.
- The capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport.
- The cumulative impact of existing and proposed waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential.

4.4.54 Paragraph 7 confirms that “*when determining planning applications, authorities should only expect applicants to demonstrate quantitative or market need for new facilities where the proposals are not consistent with an up-to-date local plan*”.

4.4.55 It also advises, at para 7 that, in determining planning applications waste planning authorities should;

- recognise that proposals for waste management facilities, such as incinerators, that cut across up-to-date Local Plans reflecting the vision and aspiration of local communities can give rise to justifiable frustration, and expect applicants to demonstrate that waste disposal facilities not in line with the Local Plan, will not undermine the objectives of the Local Plan through prejudicing movement up the waste hierarchy;
- consider the likely impact on the local environment and on amenity against the criteria set out in appendix B and the locational implications of any advice on health from the relevant health bodies;
- ensure that waste management facilities in themselves are well designed, so that they contribute positively to the character and amenity of the area in which they are located; and
- concern themselves with implementing the planning strategy in the Local Plan and not with the control of processes which are a matter for the pollution control authorities. Waste planning authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced.

4.4.56 The proposed REC is compliant with the provisions of NPPW. It will meet the need to divert residual waste arisings from landfill up the waste hierarchy. This enables the UK, the local community and businesses to take responsibility for their own waste in one of the nearest appropriate facilities.

4.4.57 In particular, the following sections of the Planning Statement confirm that, having regard to the provisions of the NPPW, the proposed REC is in conformity with the policy provisions of the JTVWMCS in respect of its strategy for managing waste arising in the Tees Valley, and the need to justify the need for managing waste arising outside the Tees Valley. The proposed REC would

potentially be capable of meeting the needs of the Tees Valley to manage MSW and C&I waste and those regionally or potentially those of the UK in preference to the export of RDF. This would be on a brownfield site allocated for industrial and employment development including waste management and located within area identified as been appropriate for the proposed development having regard to the criteria in NPPW Appendix B, and which would enable the co-location of a cluster of waste management facilities with complementary energy intensive uses.

4.4.58 In addition, the proposal will allow renewable, sustainable and low carbon energy to be recovered from the residual waste, potentially providing power and heat in the form of CHP to local business, and thus reducing the reliance of fossil fuels to meet the urgent national need for renewable and sustainable energy, and dispatchable energy in particular.

4.4.59 Appendix B of the NPPW sets out criteria for selecting a suitable site for a waste facility in the preparation of Local Plans and in the determining of planning applications. The criteria include:

“a. protection of water quality and resources and flood management... ”

b. land instability... ”

c. landscape and visual impacts... ”

d. nature conservation... ”

e. conserving the historic environment... ”

f. traffic and access... ”

g. air emission, including dust... ”

h. odours... ”

i. vermin and birds... ”

j. noise, light and vibration... ”

k. litter... ”

l. potential land use conflict... ”

4.4.60 The Application Site has been assessed against the above criteria through the preparation of the development plan (i.e. the JTVWMCS) which identifies the general area in which it is located as being an area which is suitable for a large-scale-built waste management facilities. For the reasons set out in Section 6 of the Planning Statement, the proposed REC is in conformity with provisions of the development plan, including in relation to its provisions in covering considerations.

Overarching National Policy Statement for Energy EN-1 (NPS EN-1)

4.4.61 Whilst National Planning Statements (NPSs) are at the heart of the planning regime for Nationally Significant Infrastructure Projects, they are recognised as a material consideration in decisions in the determinations of planning applications, as outlined at both para 5 of the NPPF and within NSP EN1 itself (paragraph 1.2.1) which states:

“...In England and Wales this NPS is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended). Whether, and to what extent, this NPS is a material consideration will be judged on a case by case basis”

- 4.4.62 The Policy Context to and the National Need for Energy itself as set out in the front end of the NPS EN-1 are set out and considered in detail in the next sections of the Planning Statement.
- 4.4.63 The ‘Other Matters’ set out in NPS EN-1, so far as they are relevant to the proposed REC, are set out below.
- 4.4.64 Section 5.2 of NPS EN1 sets out the policy in respect of the consideration of impacts from Air Quality and Emissions resulting from large scale energy infrastructure development.
- 4.4.65 It sets out that CO₂ emissions are a significant adverse impact from some types of energy infrastructure which cannot be totally avoided, but that the Government has determined that CO₂ emissions are not reasons to prohibit the consenting of projects which use these technologies or to impose more restrictions on them in the planning policy framework than are set out in the energy NPSs (paragraph 5.2.2). In addition, there does not need be any assessment of individual projects in terms of carbon emissions against carbon budgets (paragraph 5.2.2).
- 4.4.66 Section 5.9 of the NPS EN1, discusses the generic landscape and visual impacts that might result from energy infrastructure. The NPS recognises that the impacts will vary, depending on the type, location and context of the development (paragraph 5.9.1).
- 4.4.67 Paragraph 5.9.2 notes that cooling towers, exhaust stacks and the associated steam plumes have the most obvious impact on the landscape. The aim of development is to minimise harm of the development on landscape and visual resources (paragraph 5.9.8) and in this case there are no cooling towers and minimal water vapour plumes. Moreover, the stack height has been optimised using dispersion modelling techniques.
- 4.4.68 Paragraph 5.9.15 recognises that the scale of such projects means that they are often visible within many miles of the location. The judgement to be made is “whether any adverse impact on the landscape would be so damaging that is not offset by the benefits (including need) of the project.” The NPS explains that the project should be designed carefully, taking into account the effects on landscape and taking into operational and other relevant constraints and should “minimise harm to the landscape, including by reasonable mitigation” (paragraph 5.9.17).
- 4.4.69 Different types of mitigation are explored in paragraphs 5.9.21 to 5.9.23. These include reducing scale, appropriate siting, design (including colours and materials) and landscaping schemes where possible. Offsite planting may be appropriate to mitigate long distance views.
- 4.4.70 The provisions of NPS EN-1 in respect of landscape and visual impact, design, and waste management are material considerations in relation to the proposed REC given its scale and nature and are addressed in the following sections of the Planning Statement.
- 4.4.71 Consideration of carbon/GHG emissions are set out in relation to the provisions of NPS EN-3 below.

National Policy Statement for Renewable Energy Infrastructure EN-3 (NPS EN3)

- 4.4.72 Together with NPA EN-1, NPS EN-3 provides the primary basis decisions relating to nationally significant renewable energy infrastructure projects (paragraph 1.2.1) which include EFW generating more than 50MW (paragraph 1.8.1). Paragraph 1.2.3 confirms that NPS EN-3 is likely to be a material consideration in decision making on relevant applications that fall under the Town and Country Planning Act 1990.

- 4.4.73 Section 2.5 of NPS EN3 (DECC, 2011b) sets out the national policy in relation to renewable energy projects using biomass and waste combustion, including waste and residue management. It explains that the recovery of energy from the combustion of waste, where it is in accordance with the Waste Hierarchy, will play an increasingly important role in meeting the UK's energy needs and that where the waste burned is deemed renewable, this can also contribute to meeting renewable energy targets (para. 2.5.2).
- 4.4.74 Waste combustion plans are unlike other electricity generating power station in that they have two roles: the treatment of waste and the recovery of energy (para. 2.5.18).
- 4.4.75 Specific considerations for EfW facilities are that *“the proposed generating station is of appropriate quality and minimises adverse effects on the landscape character and quality”* (paragraph 2.5.47). Paragraph 2.5.50 notes that good design, including materials, will go some way to mitigating adverse landscape and/or visual effects. Paragraph 2.5.51 notes that *“mitigation is primarily achieved through aesthetic aspects of site layout and building design including size and external finish and colour of the landscape to minimise intrusive appearance in the landscape as far as engineering requirements permit.”*
- 4.4.76 NPS EN3 is clear that with reference to the generic provisions of Section 5.2 of NPS EN1, CO₂ emissions may be a significant adverse impact of biomass/waste combustion plant and that policies in Section 2.2 of NPS EN1 will apply; and that there therefore does not need to be an assessment of individual applications in terms of carbon emissions against carbon budgets (paragraph 2.5.38).
- 4.4.77 During the operational phase the long-term impacts of GHG impacts from operating the proposed REC without CHP and with no change in the biogenic composition of the residual waste would lead to an adverse effect which is likely to be of some significance.
- 4.4.78 These effects, however, are inevitable for any combustion process and can be mitigated by CHP and/or offsetting. There is nothing unique or materially different about this location or this technology selection that makes these GHG emissions any more significant than another location or another EfW technology. They are simply an inevitable function of residual waste management. In addition, continuing to dispose of the residual waste by landfill would also produce significant adverse effects from GHG emissions, as well as other adverse environmental effects, in contradiction of the international, national and local policy in respect of the waste hierarchy.
- 4.4.79 Notwithstanding this assessment, national planning policy (NPS EN1 paragraph 5.2.2 and NPS EN3 paragraphs 2.5.37 and 2.5.38) in relation to energy Nationally Significant Infrastructure Projects recognises that CO₂ emissions may be a significant adverse impact from EFw facilities which may not be totally avoided, but that in light of the urgent national need for energy such emissions are not a reason to refuse such projects. Indeed, for that reason, it provides that it is not necessary to assess individual applications in terms of CO₂ emissions.
- 4.4.80 Whilst the proposed REC is not by definition an energy NSIP, it is only below the relevant threshold by the smallest of margins and its benefits to the meeting the urgent national need for such energy must carry the same significance. The provisions of this national policy must as such be applicable, and the proposal must therefore be acceptable in this regard.
- 4.4.81 In any respect, given the Application Site's location within the South Tees Area and the need for energy from planned energy intensive uses it is highly likely that the proposed REC which is CHP ready would operate in CHP mode in due course. This would significantly reduce its GHG emissions.
- 4.4.82 With regards to landscape treatment applicants should seek to visually enclose facilities *“at low level as seen from the surrounding external viewpoints. This makes the scale of the generating*

station less apparent, and helps conceal its lower level, smaller scale features. Earth bunds and mounds, tree planting or both may be used for softening the visual intrusion...” (paragraph 2.5.52).

- 4.4.83 The provisions of NPS EN-3 in respect of landscape and visual impact, design, and waste management are material considerations in relation to the proposed REC given its scale and nature and are addressed in the following sections of the Planning Statement.

4.5 Other Relevant Legislation and Policy Provisions

- 4.5.1 The following non-planning policy documents provide policy requirements relevant to the merits of the proposed REC, have informed the relevant national and local plan policy documents above and/ or are particularly relevant material considerations in its determination.

EU Waste Framework Directive 2008/98/EC

- 4.5.2 Article 1 of Directive 2008/98/EC lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste by reducing the overall impacts of resource use and improving the efficiency of use by adopting some objectives at the (EU) Community level, as set out in a number of Articles.
- 4.5.3 Article 4 adopts a waste hierarchy which shall apply a priority order in waste prevention and management legislation and policy, as follows:
- ↓ Prevention
 - ↓ Preparing for re-use
 - ↓ Recycling
 - ↓ Other recovery, e.g. energy recovery; and
 - ↓ Disposal
- 4.5.4 Article 10 requires that Member States shall take the necessary measures to ensure that waste undergoes recovery operations, in accordance with Articles 4 (Waste Hierarchy) and 13 (Protection of Human Health and the environment).
- 4.5.5 Article 11 requires that Member States shall take measures, as appropriate, to promote the re-use of products and preparing for re-use including by encouraging the establishment and support of re-use and repair networks. It also requires that Member States shall take measures to promote high quality recycling, and take the necessary measures to achieve the following targets:
- By 2020, the preparing for reuse and recycling of waste materials from households and other origins similar waste to households to a minimum of 50% by weight;
 - By 2020, the preparing for re-use, recycling and other recovery of construction and demolition waste to a minimum of 70%
- 4.5.6 Article 13 requires that Member States shall take the necessary measures to ensure that waste management is carried out without endangering human health and the environment and in particular:
- Without risk to water, air, soil, plants and animals;
 - Without causing nuisance through noise or odours; and
 - Without adversely affecting the countryside or places of special interest.

- 4.5.7 Articles 16 requires that Member States shall take appropriate measures to establish an integrated and adequate network of waste disposal installations and installations for the recovery of mixed municipal waste collected from private households. This includes where such collections also cover such waste from other producers in order to enable the Community as a whole to become self-sufficient in such installations, and to enable such waste to be disposed of or recovered in one of the nearest appropriate facilities.
- 4.5.8 Article 28 requires that Member States ensure competent authorities establish, in accordance with Articles 1, 4, 13, and 16, one or more waste management plans which shall set out an analysis of the current waste management situation in the geographical entity concerned; as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the Directive.

Waste (England and Wales) Regulations 2011

- 4.5.9 Part 6 (18) of the Regulations require that a planning authority must have regard to the following provisions of the Waste Framework Directive when exercising its planning functions to the extent that those functions relate to waste management—
- (a) Article 13;
 - (b) the first paragraph of Article 16(1), ignoring the words “in cooperation with other Member States where this is necessary or advisable” and “taking into account best available techniques”;
 - (c) Article 16(2) and (3).

Waste Management Plan for England 2013

- 4.5.10 The Waste Management Plan for England is a high-level document which is non-site specific. Together with local authorities’ local waste management plans, the WMPE fulfils the mandatory requirements in Article 28 of the revised Waste Framework Directive (WFD) requiring Member States to establish one or more waste management plans.
- 4.5.11 The key aim of the waste management plan for England is to set out working towards a zero waste economy in which material resources are reused, recycled or recovered wherever possible and only disposed of as the option of last resort. This means using the “waste hierarchy” as a guide to sustainable waste management. The Plan recognises that the objectives of the Directive cannot be delivered by Government alone. It requires action by businesses, consumers, householders and local authorities.
- 4.5.12 In England, the waste hierarchy is both a guide to sustainable waste management and a legal requirement, enshrined in law through the Waste (England and Wales) Regulations 2011. The hierarchy gives top priority to waste prevention, followed by preparing for reuse, then recycling, other types of recovery (including energy recovery), and last of all disposal (e.g. landfill).

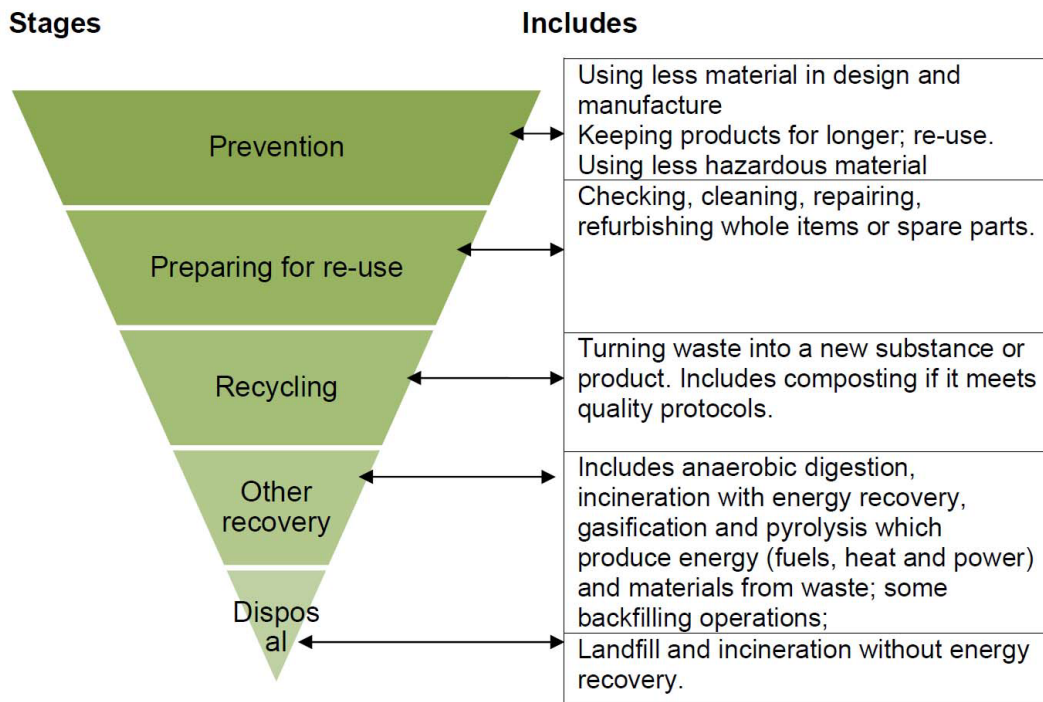


Plate 3.1 The Waste Hierarchy

- 4.5.13 The dividends of applying the waste hierarchy will not just be environmental. We can save money by making products with fewer natural resources, and we can reduce the costs of waste treatment and disposal.
- 4.5.14 As set out in the plan, the Government supports efficient energy recovery from residual waste – of materials which cannot be reused or recycled - to deliver environmental benefits, reduce carbon impact and provide economic opportunities.

Our Waste, Our Resources: A Strategy for England (2018)

- 4.5.15 This document sets out a strategy to preserve the stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy. It seeks to minimise the damage caused to our natural environment by reducing and managing waste safely and carefully.
- 4.5.16 Section 3.2 of the strategy highlights that currently England generates around 29 million tonnes of municipal residual waste per annum and that this is largely managed in three ways:
 - sending it for energy recovery,
 - exporting it as a refuse-derived fuel (RDF); and
 - landfilling it.
- 4.5.17 Furthermore, Section 3.2 states that Landfill is the least preferred option given its environmental impact and long-lasting nature and states that the government continues to welcome further market investment in residual waste treatment infrastructure.
- 4.5.18 It further seeks to drive greater efficiency of Energy from Waste (EfW) plants by encouraging use of the heat the plants produce and encouraging the companies that run EfW plants to use the heat

produced to improve their efficiency, and to help industry make the right decisions over infrastructure investment.

- 4.5.19 Government is striving to make non Combined Heat and Power plants more efficient, by assessing and removing barriers to making use of heat produced when incinerating waste. The Department for Business, Energy and Industrial Strategy (BEIS) has a Heat Networks Investment Project, with a £320m capital fund, and working to ensure that this helps to utilise EfW plants as a source of heat for district heat networks where possible.
- 4.5.20 As part of the review of the Waste Management Plan for England in 2019, Defra has stated that they will work with the Ministry of Housing, Communities and Local Government (MHCLG) to ensure that the Waste Management Plan for England and the National Planning Policy for Waste and its supporting planning practice guidance reflects the policies set out in this Strategy. This will consider how to ensure, where appropriate, future plants are situated near potential heat customers.
- 4.5.21 In addition, they will work closely with industry to secure a substantial increase in the number of EfW plants that are formally recognised as achieving recovery status, and will ensure that all future EfW plants achieve recovery status.
- 4.5.22 The proposed REC is in conformity with these non-planning policy documents for the reasons set out in this Planning Statement in respect of the development plan and national policy documents which they inform. In particular, the proposed REC will:
- Divert waste away from landfill and disposal without energy recovery;
 - Move waste up the waste hierarchy through recycling and energy recovery;
 - Manage waste in accordance with the proximity principle self-sufficiency so far as required by legislation and planning policy; and,
 - Will not endanger human health or the environment

5 PLANNING APPRAISAL: STRATEGIC PLANNING CONSIDERATIONS

5.1 Introduction

5.1.1 This section of the Planning Statement considers whether the proposed development is in conformity with the strategic policies of the development plan and other material considerations relevant to establishing in principle the acceptability of the development, including whether there is a strategic need for the development.

5.1.2 The proposed REC has been prepared to be compliant with the provisions of:

- section 70 (2) of the Town and Country Planning Act 1990 which requires that in determining applications for planning permission the local planning authority shall regard to the provisions of the development plan, so far as material to the application and, inter alia, to any other material considerations; and,
- section 38(6) of the Planning and Compulsory Purchase Act 2004 which requires the determination of planning applications to be made in accordance with the development plan, unless material considerations indicate otherwise.

5.1.3 In accordance with s38(3) the statutory development plan comprises of:

- The Redcar & Cleveland Local Plan – Adopted May 2018
- The Joint Tees Valley Minerals and Waste Core Strategy DPD– Adopted September 2011
- The Joint Tees Valley Minerals and Waste Policies and Sites DPD – Adopted September 2011

5.1.4 Apposite material considerations may include national planning policy including that provided by the National Planning Policy Framework (NPPF), National Planning Policy for Waste (NPPW) and National Policy Statements (NPSs) as well as Planning Practice Guidance and emerging development plan documents.

5.1.5 The NPPF (paragraph 11) adopts a presumption in favour of sustainable development and its application for decision making, as follows:

“...For decision taking this means...:

c) Approving development proposals that accord with an up-to-date development plan without delay; or

d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

i) the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed;

ii) any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”

- 5.1.6 The presumption in favour of sustainable development does not, however, change the position of the development plan as the starting point in the consideration of applications or its primacy in determining applications where it is up to date.

5.2 Strategic Policy

- 5.2.1 In summary, in line with the presumption in favour of sustainable development, the NPPF requires strategic policies to:
- Be included in development plans to address priorities for development and use of land in the plan area (para16);
 - set out an overall strategy for the pattern, scale and quality of development and make sufficient provision for, amongst other things, waste management (para 20);
 - look ahead over a minimum 15 year period from adoption, to anticipate and respond to long term requirements and opportunities (para 22);
 - Indicate the broad locations for development on a key diagram and identify land use designations and allocations on a proposals map. Provide a clear strategy for bringing forward sufficient land at a sufficient rate to address objectively assessed needs over the plan period in line with presumption in favour of sustainable development. This should include planning for and allocating sufficient strategic sites to deliver the strategic priorities of the area. (para 23);

Redcar and Cleveland Local Plan

- 5.2.2 The strategic vision and objectives of the RCLP are, amongst other things, to strengthen the economy through growth and diversification, regenerate the area, ensure the majority of development takes place in sustainable location within urban area, and to maximise the re-use of brownfield development. Policy SD2 and SD3 seek to direct development to the most sustainable locations in the Borough and within the development the defined development limits, respectively.
- 5.2.3 Informed by this vision, objectives, and policies, policy LS4 sets out a specific strategy for the South Tees area in which the site is located which includes, amongst other things, a) the delivery of significant economic growth and job opportunities through the South Tees Development Corporation, b) support for the regeneration of the STDC are through the implementation of the South Tees SPD, c) growth of the environmental and recycling sector.
- 5.2.4 Policy ED6 seeks to deliver on the strategic vision and objectives through a strategic policy which seeks to promote economic growth through, amongst other things, being permissive of employment uses including specialist uses and suitable sui generis uses which would include those generating energy and sustainably managing waste. In particular, policy ED6 requires proposals within the South Tees area to have regard to the South Tees SPD and explicitly provides support for proposals which contribute towards growth and regeneration.
- 5.2.5 The South Tees Area SPD was adopted concurrently with the adoption of the RCLP and provides the detailed strategy and principles for implementing RCLP strategic policy requirements for the South Tees Area provided by RCLP policies LS4 and ED6 in particular. It confirms that the specialist uses supported by the RCLP include, amongst other uses, waste and energy development (paragraph 3.18).

- 5.2.6 In conformity with the RCLP own strategic vision, objectives and policies, the SPD sets out its own more detailed strategic vision, core objectives, and strategic and site specific development principles guiding the development of the area.
- 5.2.7 Development Principle 6 – Energy Innovation provides support for the development of new energy generation projects including renewable energy, especially where they contribute to the energy needs of the STDC area.
- 5.2.8 Development Principle 10 – Utilities commits to ensuring that the STDC area and new development within it is supported in terms of utilities and any necessary infrastructure which including renewable and conventional energy generation.
- 5.2.9 Development Principle 11 – Northern Industrial Zone sets out the strategic development principles for the zone in within the STDC area which the proposed site is located. It encourages development proposals relating to, amongst other things, port related industrial development, large scale manufacturing, major space users and power generation i.e. conventional and renewable energy. The explanatory text explains the strategy for this zone is to provide an opportunity to locate advanced manufacturing and manufacturing clusters adjacent to the deep water port; and that such developments are intensive users of energy and the provision of sufficient secure, cheap and potentially sustainable energy sources critical to the to the successful redevelopment of the South Tees Area.
- 5.2.10 As set out above, the proposed REC through the proposed ERF will generate renewable, sustainable and low carbon energy including 49.9MWe would potentially be available to the planned development in the area by private wire in addition to the Grid. It is estimated that this would generate enough energy to supply up to the equivalent of 100,000 homes which is more equivalent demand than that from all the properties in Middlesbrough combined.
- 5.2.11 In addition, the ERF would be also be CHP Ready which would enable it potentially to supply nearby business with heat and steam.
- 5.2.12 Importantly, it will act as a catalyst for the redevelopment of the South Tees Area by providing the secure and sustainable energy supply required to maximise its redevelopment through attracting the advanced manufacturing that is so important to the overall strategy for the area and the regeneration of the wider area whilst making an efficient use of a brownfield site.
- 5.2.13 The proposed MRF would also be available to receive and recycle waste from construction and operation of the future planned development in the South Tees Area whilst the IBA recycling facility will provide a facility to ensure that aggregate could be produced on site with the potential to be used in the development of the planned adjacent development.
- 5.2.14 Overall the proposed REC would create provide around 450 jobs in the construction phase and around 80 – 100 permanent full time equivalent (FTE) jobs during the construction phase. This is employment provision would also lead to the creation of further employment during the operational phase through indirect of induced expenditure. These jobs would potentially provide much needed local employment and the creation of apprenticeships.
- 5.2.15 In addition, it would lead to an inward capital investment of circa. £250million which is likely to act as a stimulus for development in the local area and in particular in the South Tees Development Corporation area.
- 5.2.16 In combination, the developments contribution to the GVA of the local area is likely to be significant, and its importance to the strategic objectives of the RCLP should be clear, especially having regard to the economic uncertainty resulting from the COVID19 pandemic and the uncertainty and opportunities arising from the UKs exit from the European Union.

- 5.2.17 On this basis, the proposed REC is clearly in conformity with the strategic vision, objectives and policies of the RCLP including policies SD2, SD3, LS4, and ED6 as well as the development principles of the SPD prepared to guide the implementation of those policies in the South Tees Area.

Joint Minerals and Waste Core Strategy

- 5.2.18 The strategic objectives of the JMWCS is informed by a spatial vision that sets out that by 2026 (the end of the plan period) *'...the specialist industries which re-use, recycle, and recover value from waste are thriving. By taking advantage of the specific locational advantages of the Tees Valley and the opportunities for symbiotic relationships with relationships with petrochemical, steel and environmental industries, the waste management industry in the Tees Valley forms a centre of excellence; and local communities, industries and local authorities can identify and access the waste management facilities they require...'*
- 5.2.19 To achieve the vision, strategic objectives have been defined to guide the direction of policy. These include:
- *To support the implementation of the Tees Valley Joint Waste Management Strategy in particular in seeking to minimise waste production*
 - *To promote the re-use, recycling and recovery of value from waste;*
 - *To promote the development of resource recovery parks where symbiotic relationships between industries can flourish;*
 - *To promote the management of waste close to the point of production whilst recognising the role and future potential of the Tees Valley in specialist waste management.*
- 5.2.20 Policy MWC6 sets out the waste strategy which seeks to deliver the sustainable management of waste arising through, amongst other things:
- a) *making provision for sufficient annual waste management capacity to allow:*
 - a. *40% of household waste for the Tees Valley to be recycled or composted from 2010 rising to 46% from 2016;*
 - b. *To recover value from 53% of MSW from the Tees Valley from 2010 rising to 72% from 2016; and*
 - c. *To increase the recovery of value from C&I waste from the Tees Valley from 2016*
 - b) *Promoting facilities and development that drives waste management up the waste hierarchy;*
 - c) *The distribution of waste management sites across the Tees Valley so that facilities are well related to the sources of waste arisings, related industries or markets of any products created*
- 5.2.21 Policy MWC7 provides minimum waste management requirements for provision of land for recycling and recovery capacity to manage waste arising in the Tees Valley up to 2021 for MSW and C&I; and provides that proposals for waste management facilities to manage waste from outside the Tees Valley must be supported by evidence of need and justification for their location within the Tees Valley.
- 5.2.22 Policy MWC7 sets out that land should be provided for the development of waste management facilities to meet the identified needs of the Tees Valley and that at least 103,000 tonnes of additional capacity will be required for the recovery of value from MSW and C&I arisings. This was however based on 'existing capacity' provided by the planning permission granted in 2008 for the South Tees Eco Park which permitted a 300,000tpa autoclave development and a 100,000tpa

community recycling facility; and a 50,000tpa outline permission for biofuel production, plastics pyrolysis, power generation and the recycling of plastics.⁶ In total the strategy included 450,000tpa of 'existing capacity' which would have been provided by the permissions which have now lapsed and which are unlikely to come forward. This leaves significant capacity gap in the land required to meet the identified requirements of the Tees Valley in respect of recovering value from MSW and C&I waste as required by policy MWC7.

- 5.2.23 Policy MWC8 sets out the strategic spatial distribution of waste management facilities and provides that allocations and proposals for large waste management facilities should be located in a number of areas which are identified on the key diagram including land to the south of the River Tees.
- 5.2.24 As set out above, the proposed REC would recover energy from residual waste through the proposed ERF from 450,00 tonnes per annum of residual waste derived from MSW, C&I and / or RDF, the proposed MRF could receive 200,000 tonnes per annum of MSW and / or C&I waste for recycling and bulk storage, and the IBA Recycling Facility would receive approximately 105,000 tonnes per annum of IBA from which it will recover aggregate for use in industry.
- 5.2.25 The proposed REC is located within the area identified by policy MWC7 where proposals for large scale waste management should be located, and whilst the proposed ERF would principally be a 'merchant plant' which would most likely source waste contracts to utilise RDF or residual C&I waste from the regional and national market, it would be capable of utilising the MSW, C&I and RDF waste arising within the Tees Valley and the wider region if such contracts are available and secured. In so doing, it would ensure that the waste was sustainably managed by maximising the waste recycled and recovered through modern facilities and thus moving waste up the waste hierarchy within the broad area in which they arose; and importantly, would meet the strategic policy requirements of the JMWCS as expressed through policies MWC6, MWC7, and MWC8.
- 5.2.26 Similarly, the proposed MRF has the capacity to recycle 200,000 tonnes per annum of MSW and C&I waste, enabling it to make a significant contribution to recycling from waste arising in the Tees Valley.
- 5.2.27 The need for the proposal to provide capacity for waste arising from outside the Tees Valley is provided in the next section.
- 5.2.28 On that basis, the proposed REC is conformity with the strategic vision, objectives and policy of the JMWCS including policies MWC6, MWC7 and MWC8.
- 5.2.29 The JMWCS through policy MWC3 also provides support for the development of facilities to process materials which can be used as alternatives to primary aggregates resources at existing waste management sites and those where the materials are being produced.
- 5.2.30 The proposed IBA Recycling Facility will not only be a waste management facility itself it will be located adjacent to the proposed ERF which is expected to produce up to 105,000 tonnes per annum of IBA as waste by product. The IBA Recycling facility will have the potential, therefore, not only to recycle that waste diverting from landfill and up the waste hierarchy but also in close proximity to where its arises, whilst at the same time negating the need to extract virgin minerals to be used as aggregate. It is also anticipated that the IBA Aggregate produced will most likely be used in the redevelopment of the South Tees area and wider Tees Valley Area.

⁶ Tees Valley Joint Minerals and Waste Development Plan Documents: Waste Background Paper 2009, Entec.

- 5.2.31 On that basis, the proposed IBA Recycling Facility is in conformity with JWMCS policy MWC3, and enhances the environmental and economic sustainability credentials of the proposed REC and its place at the heart of the circular economy of the South Tees area.

5.3 Need for the Development

- 5.3.1 It has been established above that the proposed development is in conformity with the strategic objectives and policies of the development plan. The proposed development should therefore be determined in accordance with the provisions of the development plan where it is up to date.
- 5.3.2 It is not, ordinarily, necessary therefore to establish a need for the development in order to establish the acceptability of the development in principle unless the development plan is considered to be out of date. Where a development plan is not up to date the existence of a strategic need for the development is a capable of being a material consideration which can provide significant weight in favour of the proposed development, and which may outweigh the provisions of the development plan itself.
- 5.3.3 The proposed REC forms three main elements; the principal function of the which is the generation of renewable, sustainable and low carbon energy through the combustion of fuel in the form of residual waste including Refuse Derived Fuel (RDF) through the proposed ERF element.
- 5.3.4 In so doing, it also performs the function of sustainable waste management. That function is, however, an ancillary function to the primary function of the ERF which is generating energy. The only commercial reason for the proposed ERF to be developed is to perform its primary energy generating function; and utilisation of waste is simply as a fuel. And whilst there are some commercial advantages associated with its ancillary sustainable waste management function, the proposed ERF element would be delivered irrespective of them. Whereas the commercial benefits associated with the sustainable waste management are unlikely to be sufficient on their own to bring about its delivery, it is, nonetheless, important to ensure that the use of waste as a fuel does not unjustifiably hinder the management of waste in accordance with waste hierarchy and the proximity principle.⁷
- 5.3.5 Notwithstanding this, in addition to the ERF operation, the proposed REC also incorporates other operational elements including the proposed IBA Recycling Facility which recycles IBA into an aggregate. And the proposed MRF which would recycle waste and produce residual waste which may be used as fuel in the adjacent Energy Recovery Facility or such a facility elsewhere, as an alternative to landfill.
- 5.3.6 Whilst the MRF and IBA Recycling Facility may be used in association with the proposed ERF, each of the three elements may operate as standalone facilities with no inter-relationship between them.
- 5.3.7 Need for the different operational elements of the proposed REC may therefore be derived from both the need for the energy in the case of the proposed ERF and from the need for sustainable waste management, and in the case of the MRF and the IBA Recycling facility from the need for sustainable waste management.

⁷ Paragraph 2.5.70 of NPS EN-3 sets out that the IPC should be satisfied, with reference to the relevant waste strategies and plans, that the proposed waste combustions generating stations is in accordance with the waste hierarchy and of an appropriate type and scale so as not to prejudice the achievement of local or national waste management targets.

The Need for Renewable, Sustainable and Low Carbon Energy

- 5.3.8 The need for the proposed ERF is principally derived from the need for energy including the renewable, sustainable and low carbon energy which it generates.
- 5.3.9 The urgent national need for the generation of energy from new development and from renewable, sustainable and low carbon sources including energy from waste facilities is well established through a number of sources. The most apposite of these for planning purposes⁸ is the need case established in Parts 2 and 3 of the Overarching National Policy Statement for Energy EN-1 (NPS EN-1).
- 5.3.10 Part 2 provides the policy context for the development of nationally significant energy infrastructure. It sets out that energy is vital to economic prosperity and social well-being and as such, it is important that the UK has secure and affordable energy (paragraph 2.1.2).
- 5.3.11 Section 2.2 sets out the policy context in respect of ‘The road to 2050’ given the commitment to meeting the legally binding target to cut greenhouse gas emissions by at least 80% by 2050, as compared to 1990 levels (paragraph 2.2.1), subsequently increased to 100%.
- 5.3.12 It sets out that the UK economy is reliant on fossil fuels and they are likely to play a significant role for some time to come (paragraph 2.2.5); but as part of the transition to a low carbon economy, *‘the UK will need to wean itself off such a high carbon energy mix: to reduce greenhouse gas emissions, and to improve the security, availability and affordability of energy through diversification’* (paragraph 2.2.6).
- 5.3.13 In addition, it confirms that about a quarter of the UK’s generating capacity is due to close by 2018 and that new low carbon generation is required which is reliable, secure and affordable.
- 5.3.14 It sets out that the UK must reduce over time its dependence on fossil fuels, particularly unabated combustion, and that the Government plans to do this by, amongst other things, pursuing its objectives for renewables (at paragraph 2.2.23).
- 5.3.15 Part 3 establishes a policy need for all types of energy infrastructure including renewable, sustainable and low carbon energy, in order to achieve energy security and reducing carbon emissions (para. 3.1.1). It also sets out that without significant amounts of new large-scale energy the Government’s energy and climate change objectives cannot be fulfilled (para. 3.2.3).
- 5.3.16 In particular it sets out that as electricity meets a significant proportion of overall energy needs and reliance upon it is likely to increase in the period leading up to 2050, together with the UK Government’s legal obligation to reduce the UK’s greenhouse gas emissions by at least 80% (now 100%, from 1990 levels), an urgent need for new electricity NSIPs has been established for a number of reasons (paragraph 3.3.1).
- 5.3.17 There is a need to meet the energy security and carbon reduction objectives. In respect of energy security, it identifies that there needs to be sufficient electricity generating capacity to meet maximum peak demand whilst allowing for a safety margin to accommodate unexpectedly high demand or unexpected plant closure or extreme weather events (paragraph 3.3.2). This objective also helps to protect businesses and consumers from rising and volatile prices (paragraph 3.3.3).

⁸ Paragraph 1.2.1 confirms that NPS EN-1 is likely to be a material consideration for applications determined under the Town and Country Planning Act 1990.

There are also benefits of having a diverse mix of all types of power generation to reduce dependency and so ensure a security of supply (paragraph 3.3.4).

- 5.3.18 There are also likely to be advantages in maintaining a diverse range of energy resources to avoid over reliance on any one type of technology, and as such Government policy is to bring forward new low carbon developments within the next 10 to 15 years to meet the challenge of meeting climate change obligations whilst achieving energy security (paragraph 3.3.5).
- 5.3.19 There is also a need to replace closing electricity generating capacity as at least 22GW of existing electricity capacity will need to be replaced (about a quarter of the UKs electricity generating capacity (paragraph 3.3.7). The reduction on current generating capacity will need to be replaced in order to ensure security of supply is maintained.
- 5.3.20 The UK is identified as needing to diversify and decarbonise electricity generation, and the Government is committed to increasing dramatically the amount of renewable generation capacity. It is recognised that in the short to medium term this new capacity is likely to be increasingly include plant powered by the combustion of biomass and waste (paragraph 3.3.10)
- 5.3.21 It is also expected that the demand for electricity is likely to increase for industrial sectors of the economy and for heating and surface transport as there is a move away from primary use of fossil fuels to electricity in order to meet the 2050 legal obligations to reduce carbon emissions (paragraph 3.3.13). This could lead to the potential for total electricity consumption to double by 2050 and therefore the total capacity of electricity generation may need to more than double perhaps even triple, to be robust accounting for all weather condition (paragraph 3.3.14).
- 5.3.22 NPS EN-1 therefore concludes that there is an urgent need for new (and particularly renewable, sustainable and low carbon) energy NSIPs to be brought forward as soon as possible and certainly in the next 10-15 years given the crucial role of electricity in decarbonising the UKs energy sector (paragraph 3.3.15).
- 5.3.23 Furthermore, in order to meet the 2050 carbon reduction requirement, targets are set for the period leading up to 2025 with at least 113GW of total electricity capacity being required (compared to 85 GW currently) of which in order to minimise the risks to energy security and resilience the Government considers it to be prudent plan for a minimum need 59GW of new electricity capacity by 2025, including approximately 33GW needed of new renewable capacity (paragraphs 3.3.22 and 3.3.23).
- 5.3.24 In terms of renewable electricity generation, although the Government does not consider it appropriate for planning policy to set targets for, or limits on, different technologies (paragraph 3.1.2), the UK Renewable Energy Strategy commits to sourcing 15% of the UKs total energy from renewable sources by 2020 (paragraph 3.4.1), and the large scale deployment of renewables will help the UK to reduce its emissions of carbon dioxide by over 750million tonnes by 2020 (paragraph 3.4.2) with energy from waste identified a means to reduce the amount of waste going to landfill in accordance with the Waste Hierarchy and to recover energy from that waste as electricity or heat (paragraph 3.4.3).
- 5.3.25 It is recognised that as more intermittent renewable electricity comes onto the UK grid, the ability of energy from waste to deliver predictable, controllable electricity is increasingly important in ensuring the security of UK supplies (paragraph 3.4.4).
- 5.3.26 All applications seeking development consent for energy NSIPs should be assessed on the basis that the Government has demonstrated a need for those types of infrastructure and that the scale and urgency of that need is as established in NPS EN1 (paragraph 3.1.3). Furthermore, substantial weight should be given to the contribution which projects would make towards satisfying that need (paragraph 3.1.4).

- 5.3.27 Given the level and urgency of need for the energy infrastructure covered by NPS EN1, the starting point in determining applications should be a presumption in favour of granting consent to applications for energy NSIPs unless any more specific and relevant policies set out in the relevant NPSs clearly indicates that consent should be refused (paragraph 4.1.2).
- 5.3.28 There can, therefore, be no doubt that there is an urgent national need for energy including the energy derived from dispatchable sources such as the generation of energy from waste. That is matter which is settled by national policy. Although the proposed REC is not an NSIP, the urgent national need is a material consideration which applies to the determination of the application, and the energy it generates should be ascribed substantial weight in the planning balance given that the scale of energy which would be generated is only marginally less than the NSIP threshold.
- 5.3.29 In the context of meeting the challenges of climate change the NPPF sets out that the planning system should *‘support the transition to a low carbon future in a changing climate, encourage the reuse of existing resources; and support renewable and low carbon energy and associated infrastructure’* (para 148).
- 5.3.30 In this respect, Planning Practice Guidance explains that the provision of renewable and low carbon energy is important because increasing the amount of such energy will help to make sure that the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and business (PPG: paragraph 001 Ref ID 5-001-20014036 Rev Date 06032014).
- 5.3.31 As such, the NPPF provides that when determining planning applications for renewable, sustainable and low carbon development local authorities should not require applicants to demonstrate the overall need for renewable, sustainable or low carbon energy, and recognise that even small scale projects provide a valuable contribution to cutting greenhouse gas emissions (para 154).
- 5.3.32 It is clear therefore that the urgent national need for energy is established and that there is no national planning policy provision which requires applications for renewable and low carbon development of whatever scale to demonstrate need, especially where the energy which would be generated would be of a significant scale as proposed by the ERF.
- 5.3.33 Consistent with these provisions RCLP policy SD6 is permissive of renewable, sustainable and low carbon schemes and encourages them without a requirement to demonstrate need. Furthermore, it is clear that the RCLP through its policies and through the accompanying SPD supports the need for and actively encourages the development of renewable and low carbon development in the South Tees Valley Development Corporation area in which the site is located as part of its strategic aims for the area.
- 5.3.34 On that basis, not only is there a demonstrable need for renewable, sustainable and low carbon energy development; the need is undeniable and settled for planning policy purposes, such that the delivery of the proposed REC is not only in conformity with the provisions of the RCLP and national planning policy, moreover, it is fundamental to the delivery of its strategic aims for the Borough and the South Tees Development Corporation area.

The Need for Sustainable Waste Management

- 5.3.35 National Planning Policy for Waste is clear that when determining planning applications, the applicant should only be expected to demonstrate the quantitative or market need for new or enhanced waste management facilities where proposals are not consistent with an up to date Local Plan (paragraph 7). It is therefore plain that in circumstances where proposals are in accordance with an up to date development plan there is no requirement at all to demonstrate any

need for the proposal. NPPW paragraph 7 is equally clear that such need should be considered in terms of the extent to which the capacity of existing operational facilities (rather than consented or planned) would satisfy identified need.

- 5.3.36 It has been established above that the proposed REC is in conformity with the strategic provisions of the JMWCS which identifies the need for and how the sustainable management of waste arisings in the Tees Valley will be delivered. On that basis, it would not ordinarily be necessary to consider further whether a need for sustainable waste management.
- 5.3.37 Notwithstanding this, however, it may be argued that the JWMCS is out of date for a number of reasons. Firstly, its strategy seeks to address the objectively assessed needs based on an assessment undertaken in 2009⁹ which are arguably out of date having regard to actual waste arisings, and recycling rates which have materialised in the interim period, together with the applicable growth rate having regard to the adoption of a number development plans¹⁰ by the local planning authorities and there plans for housing and employment growth.
- 5.3.38 Secondly, the JWMCS itself identifies the need for its requirements in the period after 2021 to be reviewed as part of a review of the JWMCS because its requirements are based on predictions up to 2021 whereas its plan period extends to 2026 (paragraph 5.2.2).
- 5.3.39 It may also be argued that the JWMCS is out of date on the basis that it is inconsistent with the provisions of National Planning for Waste (paragraph 3, final bullet), because its strategy is based upon meeting a capacity gap which is calculated on a basis which includes planned capacity in addition to existing operational capacity.
- 5.3.40 It is therefore prudent to establish a need for development in the event that it is considered that the JWMCS is out of date.
- 5.3.41 Furthermore, JWMCS policy MWC7 provides that proposals for waste management facilities to manage waste from outside the Tees Valley must be supported by evidence of need and justification for their location within the Tees Valley. This conforms with the provisions of paragraph 3 of NPPW which in preparing local plans requires planning authorities to consider the need for additional waste management capacity of more than local significance and to reflect the requirements of facilities identified nationally.
- 5.3.42 It is therefore necessary to demonstrate a need for the proposed REC given that whilst it is capable of managing MSW, C&I or RDF arising from within the Tees Valley, the contracts for that waste may not be available or secured; and as such, the proposed REC is primarily predicated on the basis of its utilisation of waste fuel from the national and regional market for RDF and C&I markets.

National & Regional Need

RDF

- 5.3.43 Refuse Derived Fuel (RDF) consists of residual waste that complies with the specifications in a written contract between the producer of the RDF and a permitted end-user for the thermal

⁹ Tees Valley Joint Minerals and Waste Development Plan Documents: Waste Background Paper 2009, Entec.

¹⁰ Hartlepool, Middlesbrough (Housing Local Plan), Redcar & Cleveland, and Stockton on Tees have all adopted development plans since the adoption of the JTMWCS.

treatment of the waste in an energy from waste facility or a facility undertaking co-incineration such as cement and lime kilns. The written contract must include the end-user’s technical specifications relating as a minimum to the calorific value, the moisture content, the form and quantity of the RDF.¹¹

- 5.3.44 By definition it is residual waste and is therefore compliant with the waste hierarchy has it has been through a process that has removed re-usable, recyclable, or compostable material extracted from it. In accordance with the waste hierarchy energy is then recovered from the RDF. As a fuel, although it technically remains waste, it has a value and is traded as a commodity.
- 5.3.45 According to a number of sources the UK exports considerable amount of RDF each year for energy recovery principally as a consequence of a lack of energy recovery facilities and the comparative price of landfill with export following the rising costs of landfill due to the landfill tax escalator. If the RDF currently exported is not exported or used as a fuel in the UK, it would have to be disposed of either through landfill or incineration without energy recovery given a lack of sufficient energy recovery facilities in the UK.
- 5.3.46 In the Digest of Waste and Resource Statistics published by DEFRA in May 2018 Table 6.2 shows that in 2017 3.2million tonnes per annum of RDF was exported from England and that the amount exported had grown considerably and consistently from 2010.

Thousand tonnes

	2010	2011	2012	2013	2014	2015	2016	2017
Export of refused - derived fuel	9	250	961	1,799	2,374	2,819	3,213	3,201

- 5.3.47 Table 6.3 of that report shows that in 2017 the majority of RDF exported from England was sent to The Netherlands (48%), Germany (20%) and Sweden (16.5%).

Country	Percentage of England’s RDF export received
The Netherlands	48.1%
Germany	20.0%
Sweden	16.5%

- 5.3.48 In addition, a report¹² prepared by consultancy Tolvik for the Environmental Services Association published in November 2017 sets out that in 2016 the amount of RDF exported from the UK as whole was 3.6million tonnes per annum.

¹¹ Definition adopted by DEFRA and the Environment Agency on 16 February 2017.

¹² UK Residual Waste: 2030 Market Review, Tolvik Consulting, November 2017

- 5.3.49 Successive reports from Tolvik show that the amount of RDF exported from the UK declined by around 8% in 2018 compared with 2017¹³, and by around 16% in 2019 when compared with 2018.¹⁴
- 5.3.50 The reason for the decline is not, however, as a consequence of increased energy recovery capacity in the UK as the total level of operational capacity only rose from 12,263,000tpa¹⁵ in 2017 to 12,405,000tpa in 2018¹⁶ an increase in capacity of just over 142,000tpa.
- 5.3.51 A report¹⁷ prepared by the Environment Agency in 2015 suggests that the reason may in part be a consequence of the removal of the landfill tax escalator which had originally pushed up the cost of landfill relative to RDF export.
- 5.3.52 Whereas going forward changes in tax regimes in a number of countries in the EU such as The Netherlands (32€/tonne) which came into effect in January 2020, and Sweden (75Kr/tonne or £6/tonne) came into effect in April 2020, together with uncertainty linked to Brexit and the fall in the value of sterling and increased recycling rates in the EU suggest that the decline in exports is expected to continue. Tolvik¹⁸ estimates that by 2030 RDF exports will have fallen to 2.5million tonnes per annum.
- 5.3.53 The reduction in the amount of exported RDF if not met with an increase in UK energy recovery capacity would be likely to result in an increase in the amount of waste landfilled. This would be in addition to the estimated 12.2 million tonnes of residual waste landfilled in the UK in 2016¹⁹ which could have been used in energy recovery facilities such as the proposed ERF.
- 5.3.54 This is clearly contrary to the waste hierarchy and a less sustainable management of waste in comparison with energy recovery. Whereas the sustainable management of this residual waste in form of energy recovery in the UK would not only move the management of the waste up the waste hierarchy, it would enable the UK to improve its self-sufficiency in line with the proximity principle, whilst benefiting from the generation of a secure and dispatchable source of renewable sustainable and low carbon energy which would otherwise be generated outside the UK. This is an issue identified by DEFRA in a publication in 2014.²⁰

“In recent years there has been an increase in exports. Our domestic capacity for dealing with SRF and RDF has not matched the expansion in material going through MBT, and the overcapacity of energy recovery infrastructure in some EU countries has created a competitive market for this material to be exported. In 2012 963,944 tonnes of RDF was exported. While such exports are permissible, the energy recovered from the waste does not contribute to UK renewable energy targets and is effectively a lost resource to the UK. The Government is keen to support domestic RDF and SRF markets, where they can provide better environmental outcomes, to ensure that the UK benefits from the energy generated from UK waste”. (RPS emphasis)

¹³ UK Energy from Waste Statistics – 2018, Tolvik Consulting, June 2019

¹⁴ UK Energy from Waste Statistics – 2019, Tolvik Consulting, May 2020

¹⁵ UK Energy from Waste Statistics – 2017, Tolvik Consulting, June 2018

¹⁶ UK Energy from Waste Statistics – 2018, Tolvik Consulting, June 2019

¹⁷ Evidence: Reasons for Trends in English refuse derived fuel exports since 2010, Environment Agency, July 2015

¹⁸ UK Residual Waste: 2030 Market Review, Tolvik Consulting, November 2017

¹⁹ UK Residual Waste: 2030 Market Review, Tolvik Consulting, November 2017

²⁰ Energy from waste A guide to the debate, February 2014 (revised edition), DEFRA

- 5.3.55 Furthermore, the consequence of landfilling RDF instead of exporting it is increased greenhouse gas emissions including carbon dioxide. It has been estimated that the Dutch waste import tax would have resulted in an additional 370,000 tonnes of CO_{2e} in 2018 if the tax had been in place, as a consequence of the RDF being landfilled.²¹ The recovery of energy would lead to less GHG emissions when compared with landfill, especially where energy recovery facilities are combined with operational CHP and allowing for transportation.
- 5.3.56 In summary, therefore, the national need for additional energy recovery facilities in the UK is demonstrated by the evidence of the long term export of RDF which is predicted to continue at significant scale despite a recent decline. In addition, the benefits of facilities such as the proposed ERF include:
- Diverting waste from landfill, and up the waste hierarchy leading to less carbon emissions in the UK and the EU
 - Increased self-sufficiency for the UK
 - Generation of a secure and reliable supply of dispatchable renewable, sustainable and low carbon energy within the UK
- 5.3.57 The proposed ERF will ensure that the secure supply of dispatchable renewable, sustainable and low carbon energy is available to the energy intensive uses planned within the South Tees Development Corporation to the benefit of the local economy.

Commercial & Industrial (C&I) Waste

- 5.3.58 It is widely acknowledged that estimating C&I arisings is notoriously difficult to identify reliably owing to the nature of sector.²² However, the latest estimate from DEFRA is that in England 33.1million tonnes of C&I waste was generated in 2016, rising to 36.1 million tonnes in 2017, and 37.2 million tonnes in 2018²³. The latest figures for the UK as a whole are from 2016 when 41.1 million tonnes were generated compared with the 33.1 million tonnes in England alone; a difference of circa. 20% which, if extrapolated to the 2018 figure for C&I arisings in England, would suggest that around 44.6 million tonnes of C&I waste may have arisen in the UK as a whole in 2018.
- 5.3.59 According to the Waste Management Plan for England, in 2010 the recycling rate for C&I waste was 52%²⁴. If that figure were to be applied to the 44.6million tonnes of C&I waste generated in the UK in 2018, that would mean there was around at least 21 million tonnes of residual C&I waste available for energy recovery. Alternatively, in 2018 there would have been at least 17.9 million tonnes of residual C&I waste available for energy recovery in England.
- 5.3.60 Should the recycling rate be raised to 65% as per The EU Circular Economy Package (CEP) minimum target by 2035, albeit a target for municipal waste (rather than C&I waste), there would be approximately 13.02 million tonnes of residual waste available for energy recovery.

²¹ Impacts of the Proposed Dutch Waste Import Tax, RDF Industry Group, August 2019.

²² UK Statistics on Waste, DEFRA, March 2019. And; Our waste, our resources: A Strategy for England, DEFRA, 2018

²³ UK Statistics on Waste, DEFRA, March 2019

- 5.3.61 However, based upon information provided by the *Wastedataflow/APRs* Tolvik²⁵ reported that in 2018 residual C&I made up just 17.6% of the 12.4 million tonnes of operational EFW capacity in 2018 i.e. 2.18 million tonnes.
- 5.3.62 It is therefore established that there is between approximately 10.84 and 15.72 million tonnes of residual C&I waste in England available for additional energy recovery capacity. On that basis, the proposed ERF would be able to move a significant proportion of that waste further up the waste hierarchy, and bring about a much needed secure and dispatchable source of renewable, sustainable and low carbon energy which is not currently being generated.

Local Need

- 5.3.63 The draft Joint Tees Valley Waste Management Strategy (2019) is prepared to set out the joint approach to the sustainable management of waste within the Tees Valley and priorities actions for the next fifteen years i.e. from 2020 to 2035. And provides a framework for how the councils will work towards reducing the amount of waste produced, to recycle as much material (i.e. MSW) as possible, and find the most sustainable solution to deal with nay waste that remains. It is informed by National and European policies and their targets for recycling, limits on landfill and encouraging activity around waste prevention.
- 5.3.64 It identifies that only 34% of the Tees Valley's household waste is recycled, but adopts the CEP recycling targets for its strategy i.e. 55% of municipal waste by 2025, 60% by 2030, 65% by 2035; and 10% limit on landfilling by 2035.
- 5.3.65 It also identifies that in 2016/17 just over 350,000 tpa of MSW was produced in the Tees Valley and acknowledges, that a significant amount of C&I waste is also produced but does not quantify it or provide strategy to manage it. The Options Appraisal that accompanies the JWMS considers 5 scenarios for forecasting waste arisings over the 15 year period, but adopts a modest growth rate of a small increase of 0.25% per annum in household waste per household from 2016/17 to take into consideration the economic regeneration planned by the Tees Valley Combined Authority along with an increase in population and housing; rather than a scenario seeks to reflect an increase in the UK economy from growth in manufacturing within the UK, as a result of the UK's decision to leave the European Union owing to a degree of uncertainty over how the UK economy will change as a result of Brexit. As such it forecasts that between 392,000 to 420,000 tonnes of waste will need to be planned for.
- 5.3.66 The overall strategy adopted aims to deliver a high quality, accessible and affordable waste management service that contributes to:
- economic regeneration, including employment and a more circular economy;
 - the protection of the environment and natural resources; and
 - reducing the carbon impact of waste management.
- and:
- delivers customer satisfaction;
 - reduces the amount of waste generated by householders and the Councils;

²⁵ UK Energy from Waste Statistics – 2018, Tolvik Consulting, June 2019

- increases reuse and recycling;
- then maximises recovery of waste, and;
- works towards zero waste to landfill.

5.3.67 In reaching a preferred option for waste treatment the following options were given consideration:

- Further contract extension (beyond 2025) for the existing EfW contract
- New build energy recovery facility
- New build refuse derived fuel facility (RDF)
- Utilise third party energy recovery facility capacity

5.3.68 Ultimately, the Options Appraisal identified the following preferred option:

- adoption of prevention, reuse and recycling initiatives;
- the introduction of high recycling collections including separate food waste collections; and
- a new energy recovery facility with the ability to utilise the heat produced, through the development of Combined Heat and Power (CHP).

5.3.69 The preferred option was adopted to:

- Contribute to reducing the amount of waste generated compared to the baseline forecast;
- Increase the recycling and composting rate by 13-14% by the midpoint of the Strategy period (2027) to bring the overall recycling and composting rate to between 45-50%. This is a significant improvement on the current performance and reflects the challenges faced in an urban industrial setting;
- Further increase the recovery of waste by 3-4%;
- Further reduce the waste sent to landfill;
- Reduce the carbon impact of waste management; and
- Create/secure employment within Tees Valley.

5.3.70 It is therefore clear that the proposed strategy for sustainable waste management for the next 15 years would not extend either the existing contracts for the existing EfW at Billingham or the MRF at Aycliffe Quarry which currently managed Tees Valley's waste. These facilities would be replaced with a new energy recovery facility with the ability to use CHP facility.

5.3.71 It is clear, therefore, that the proposed REC would deliver all the aims that the strategy requires from the new facility. The proposed REC would provide modern state of the art facilities, that would maximise the recovery of renewable, sustainable and low carbon energy, be located in the Northern Industrial Zone of the STDC masterplan; and would therefore provide an exciting opportunity to deliver decentralised energy through both CHP and private wire electricity to the planned advanced manufacturing and engineering developments which would create significant jobs directly and indirectly and also maximise the prospects of the planned development coming forward by providing the secure energy the intensive energy uses require.

5.3.72 Should it be considered that the adopted JWMCS is out of date, the councils themselves have identified a need for a new modern energy recovery facility with a capacity of up to 420,000 tpa.

5.3.73 Furthermore, it is also noted that there is further waste capacity required in the north east region and that in particular the planning authority has recently resolved to grant planning permission for

a 450,000 tpa facility which seeks to provide a solution for the Tees Valley's needs plus those of Durham and Newcastle.

- 5.3.74 In so doing, the planning authority recognises the need for a new modern facility to meet the needs of the Tees Valley, Newcastle and Durham for new energy recovery capacity to sustainably manage the future MSW arisings, and that to do so is in accordance with the waste hierarchy and the relevant waste strategies.
- 5.3.75 In this respect, we note that in these circumstances national planning policy requires the decisions to consider:
- the extent to which existing operational capacity satisfies identified need and not consented or planned capacity (NPPW paragraph 7, first bullet); and
 - with reference to the relevant waste strategies and plans whether the proposal is in accordance with the waste hierarchy, and of an appropriate type and scales so as not to prejudice local or national waste management targets (NS EN-3 paragraph 2.5.70)
- 5.3.76 The proposed REC would therefore clearly be able to meet the recognised need for a modern energy recovery facility with CHP potential as established by the draft Joint Tees Valley Waste Management Strategy for the 15 year period up to 2035, and would be in complete conformity with it.
- 5.3.77 Furthermore, the proposed MRF would provide capacity to move up to 200,000 tonnes per annum of MSW up the waste hierarchy enabling the Tees Valley to meet the ambitious proposed recycling rates identified in the draft Joint Tees Valley Waste Management Strategy. And in so doing has the potential to provide residual waste for energy recovery at the adjacent proposed REC or for other facilities.

5.4 Other Material Considerations

National Policy

- 5.4.1 For the reasons set out in the previous section, the proposed REC is in conformity with the strategic policy objectives of national policy by co-locating a generating station which would recover secure, dispatchable, renewable, sustainable and low carbon energy for which there is an urgent national need from waste fuel with complimentary sustainable waste management development which would divert waste from landfill by moving it up the waste hierarchy, on a brownfield site allocated for employment and providing the potential for decentralised energy provision to complimentary energy users in the form of private wire and CHP.

5.5 Summary & Conclusion

- 5.5.1 In summary, therefore, the proposed REC is in conformity the strategic policies of the development so far as is material, and accords with any other policy considerations relevant to the principle of the development including those of national planning policy and the South Tees Area SPD.
- 5.5.2 Furthermore, the principal purpose of the ERF is to generate energy, the need for which is established by national planning policy.
- 5.5.3 Moreover, to the extent that the JTVMWCS may be perceived to be out of date, a local need for the proposed REC is established through the up to date waste strategy for the next 15 years set out in the draft JTVWS.

- 5.5.4 It has also been established that there is a need for the proposed REC in terms of the recovery of energy from RDF and residual C&I waste available at the national and regional level, and to do so would divert such waste from export and landfill up the waste hierarchy. The proposed MRF would also be capable of ensuring the C&I is diverted away from landfill in accordance with the waste hierarchy. The provision of facilities to meet more than local needs is explicitly set out in JTVMWCS policy MWC7 which is itself in conformity with the provisions of NPPW paragraph 3 (fourth bullet).
- 5.5.5 The proposed site is allocated for both energy and waste development in the RCLP, and within an area which large waste management facilities should be located within in accordance with JTVMWCS policy MWC8.
- 5.5.6 Furthermore, the site is a suitable site for waste in accordance with the provisions of NPPW which informed the preparation of the development plan given that it is a brownfield site, allocated for employment, and would co-locate waste management facilities, would co-locate with complimentary activities in the form of planned energy intensive industrial uses who could benefit from the CHP which would potentially be available to them and from the renewable, sustainable and low carbon energy in the form of private wire electricity.
- 5.5.7 For all the reasons set and summarised above, it has, therefore, been established that the site will enable waste for which there is either a local, regional or national need to be sustainably managed, on a suitable site, in an appropriate location, that accords with the strategic policies of the development plan so far as material and the relevant provisions of national policy.

The acceptability of the development in principle has, therefore, been established.

6 PLANNING APPRAISAL: DETAILED PLANNING CONSIDERATIONS

6.1 Introduction

- 6.1.1 Having established the principle of the development is acceptable in the previous section, this section of the planning statement will further advance the case in support of the proposed REC by establishing its conformity with the detailed policies of development plan and its acceptability with regard to other material considerations. This includes reference to national planning policy and other appropriate material considerations.
- 6.1.2 Through the extensive pre-application engagement undertaken with the local planning department and stakeholders, the EIA Scoping exercise, and the review of the planning policy context it is established that the main detailed material planning considerations relevant to the proposed REC are its:
- Effects on Ecology and Nature Conservation;
 - Effects on Landscape and Visual receptors;
 - Effects on the significance of Heritage assets;
 - Effects on Sustainable Transportation;
 - Effects on Air Quality
 - Effects on Noise sensitive receptors;
 - Effects on Hydrology and Flood Risk; and,
 - Effects on Ground Conditions and Hydrogeology.
- 6.1.3 The following assessment of the proposed REC's conformity with the provisions of the development plan is informed by the Environmental Statement (ES) which has been prepared in conformity with the Scoping Opinion adopted by the planning authority, the Habitat Regulations Assessment (HRA) Report, the Waste Framework Directive (WFD) Assessment and other assessments of the proposed development submitted with the application.
- 6.1.4 The assessment will also refer to the main effects identified for each topic and their significance, including where relevant the mitigation measures which ensure conformity with policy (or other relevant considerations).

6.2 Effects of Ecology and Nature Conservation

Relevant Development Plan Policy

- 6.2.1 The support for the regeneration and growth of the economy and jobs in the South Tees area which provides the strategic policy support for the proposed REC through RCLP policies SD2, SD4, LS4, and ED6 is conditional upon conformity with requirements of the Habitat Regulations in respect of the Teesmouth and Cleveland SPA and Ramsar site, or other European sites, and is provided with policy requirements which are consistent with and sometimes expressly referring to RCLP policy N4.
- 6.2.2 Similarly, the support provided by RCLP policy SD6 for Renewable and Low Carbon Energy, is conditional upon their impacts being, or being capable of being made, acceptable. And that the

determination of applications for such proposals also requires consideration of environmental impacts and cumulative impacts. In addition, it adopts a presumption against renewable energy developments where they are likely to have an adverse effect (alone or in combination with other plans or projects) on designated ecological sites or on priority species, unless they meet the exceptions in policy N4.

- 6.2.3 RCLP policy N4 - Biodiversity and Geological Conservation itself adopts a sequential approach to adverse effects on biodiversity consistent with the provisions of national planning policy including the NPPF with the preference being for avoidance of adverse effects, but where avoidance is not possible that these effects should be mitigated, and lastly if avoidance and mitigation cannot eliminate impacts that these should be compensated for. These projects should be considered in accordance with status of sites within the hierarchy. In this respect, it requires that:

“Internationally important sites

Priority will be given to protecting our internationally important sites, including the Teesmouth and Cleveland Coast Special Protection Area/Ramsar and European Marine Site, and the North York Moors Special Protection Area and Special Area of Conservation. Development that is not directly related to the management of the site, but which is likely to have a significant effect on any internationally designated site, irrespective of its location and when considered both alone and in combination with other plans and projects, will be subject to an Appropriate Assessment.

Development requiring Appropriate Assessment will only be allowed where:

a. it can be determined through Appropriate Assessment at the design stage that, taking into account mitigation, the proposal would not result in adverse effects on the site’s integrity, either alone or in combination with other plans or projects.

Within 6km of the Teesmouth and Cleveland Coast SPA and Ramsar Site, as illustrated on the Policies Map, proposals that would result in a net increase in residential units, or other development that would lead to increased recreational disturbance of the site’s interest features, will be expected to contribute towards strategic mitigation measures identified in the Recreation

Management Plan. This is to ensure that adverse effects on the site’s integrity can be avoided. Any alternative suitable mitigation would need to be proven effective and agreed with the Council, in consultation with relevant statutory consultees or

b. as a last resort, Appropriate Assessment proves that there are no alternatives and that the development is of overriding public interest and appropriate compensatory measures are provided.

Nationally important sites

Development that is likely to have an adverse impact on nationally important SSSI sites, including broader impacts on the national network and combined effects with other development, will not normally be allowed. Where an adverse effect on the site’s notified interest features is likely, an exception will only be made where:

c. the benefits of the development, at this site, clearly outweigh both any adverse impact on the features of the site that makes it of special scientific interest, and any broader impacts on the network of SSSIs;

d. no reasonable alternatives are available; and

e. mitigation, or where necessary compensation, is provided for the impact.”

- 6.2.4 Similarly, conformity with both JTVMWCS policies MWCS6 – Waste Strategy, and MWCS8 – General Locations for Waste Management Sites which provide the strategic policy support for the proposed REC, is subject to requirements in respect of the Teesmouth and Cleveland SPA and

Ramsar site, or other European sites which are consistent with the policy requirements set out above in the RCLP.

Assessment

6.2.5 The Habitats Regulation Assessment Report (HRAR) sets out that (through engagement with Natural England) it was identified that there are two impact pathways with which the proposed REC could affect the adjacent Teesmouth and Cleveland Coast SPA:

- The potential impact of disturbance caused by noise on designated bird species will require a thorough assessment of both the construction and operational phase with particular attention to Bran Sands and Coatham Sands, and during winter months; and
- Potential impacts from emissions from the Proposed Development on the habitats of South Gare Dunes in terms of NO_x deposition in particular requires a thorough assessment.

6.2.6 Taking into account the Zones of Influence for both air emissions (10km) and noise emissions (1km), the European Sites which have the potential to be affected within the study area are:

- Teesmouth and Cleveland Coast SPA and Ramsar Site;
- Northumbria Coast SPA and Ramsar Site; and
- North York Moors SPA and SAC.

6.2.7 The following table provides a summary of Impact Pathways Scoped In and Out the HRA for each of these European Sites.

Species	Ground/Water Pollution	Air Pollution	Land Take	Visual Disturbance	Noise Disturbance
Teesmouth and Cleveland Coast SPA/Ramsar	Screen in (construction and operation)	Screen in (construction and operation)	Screened out	Screen in (construction)	Screen in (construction and operation)
Northumbria Coast SPA/Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out
North York Moors SPA	Screened out	Screened out	Screened out	Screened out	Screened out

6.2.8 Accordingly, the findings of the Screening for Appropriate Assessment identified that likely significant effects could be excluded from all European Sites except the Teesmouth and Cleveland Coast SPA and Ramsar Site.

6.2.9 However, for the Teesmouth and Cleveland Coast SPA and Ramsar Site a subset of the potential impact pathways could not be screened out, and an Appropriate Assessment has therefore been undertaken to examine the following in more detail:

Construction Phase:

- Ground / water pollution;
- Visual disturbance; and
- Airborne noise disturbance.

Operational Phase:

- Air pollution.

6.2.10 The assessment undertaken for each of these potential impact pathways for the Teesmouth and Cleveland Coast SPA and Ramsar Site concluded as follows:

The Extent and Distribution of the Habitats of Qualifying Features

- 6.2.11 The Proposed Development will not result in the loss of habitat directly from with the SPA or any habitats that can be considered functionally linked. Therefore, the Proposed Development will not result in a reduction in extent or distribution of habitats used by qualifying features of the SPA and consequently it is concluded that this conservation objective will be maintained.

The Structure and Function of Habitats of Qualifying Features

- 6.2.12 No impact pathways considered in this assessment, in particular air quality, will alter the structure or function of habitats of the qualifying features connected with the Teesmouth and Cleveland Coast SPA (or Ramsar) during construction or operation. Consequently, it is concluded that this conservation objective will be maintained.

The Supporting Processes on which the Habitats of Qualifying Features Rely

- 6.2.13 No impact pathways considered above will alter the supporting processes of the habitats of the qualifying features associated with the Teesmouth and Cleveland Coast SPA (or Ramsar) during the construction or operation of the proposed project. This conservation objective would be maintained.

Population of Each of the Qualifying Features

- 6.2.14 Whilst small changes in the distribution of some species associated with the Teesmouth and Cleveland Coast SPA and Ramsar are possible as a result of visual and/or noise disturbance during the construction phase, these will be temporary and are not predicted to result in the mortality of any qualifying species.
- 6.2.15 Based on the available data and the nature and limited extent of habitat which may be affected by construction phase disturbance, it is predicted that this will only affect small, insignificant numbers of birds. Moreover, there is considered to be an abundance of suitable alternative habitat in the nearby surrounding area to which birds may be temporarily displaced. As only small numbers of birds are anticipated to be temporarily affected this is not expected to result in increased competition between birds in the areas to which birds are displaced. As such, this conservation objective would be maintained.

The Distribution of Qualifying Features within the Site

- 6.2.16 While small changes in the distribution of some species associated with the Teesmouth and Cleveland Coast SPA and Ramsar Site is possible as a result of visual and/or noise disturbance, any effects are expected to be negligible and temporary. At worst, this might cause the short-term displacement of any qualifying species which may occur in the immediate vicinity of the Proposed Development. Based on the available data and the nature and small area of habitat which may be affected, it is predicted that this will only affect small, insignificant numbers of birds.
- 6.2.17 Even if this were to occur, there is considered to be an abundance of suitable alternative habitat in the nearby surrounding area to which birds may be displaced. Moreover, it is expected that birds will rapidly become habituated to the low-level noise generated by the operational facility, such that any displaced birds are anticipated to return to the parts of the SPA which are closest to the proposed facility within a relatively short period of time. Consequently, it is expected that this conservation objective would be maintained.

- 6.2.18 Furthermore, the HRAR undertakes an assessment of in-combination effects with the other projects considered to have potential cumulative air quality impacts on ecological receptors.
- 6.2.19 These projects are:
- Tees Renewable Energy Plant (REP);
 - Teesside Combined Cycle Power Plant (CCPP); and
 - Grangetown Prairie Energy Recovery Facility.
- 6.2.20 The HRAR concludes that, on the basis of the principles applied by the Secretary of State in granting development consent for the Teesmouth CCPP, the cumulative impact on air quality from the Proposed REC in combination with other developments is not significant.
- 6.2.21 Similarly, the ES concludes that there are no significant effects on other nature conservation designations and associated named features such as dunes; or water bird assemblage species:
- during construction from temporary noise disturbance during piling, temporary visual disturbance, ground/water pollution, or land take; nor
 - during operation from noise disturbance, visual disturbance or air quality
- 6.2.22 On this basis, it is established that the proposed REC is in conformity with RCLP policies SD2, SD4, SD6, LS4, ED6, and N4; and JTVMWCS policies MWCS6 and MWCS8.

6.3 Effects on Landscape and Visual receptors

Landscape Receptors

Relevant Development Plan Policy

- 6.3.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, it will not result in the unacceptable loss or significant adverse impact on important environmental assets which are considered important to the quality of the local environment. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to:
- where necessary make the most effective and efficient use of available land including where appropriate incorporation of green space and landscaping as part of development;
 - Respect or enhance the landscape that contribute positively to the site and the surrounding area.
- 6.3.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, sensitivity and capacity of the landscape.
- 6.3.3 RCLP policy N1 aims to protect and enhance the Borough's landscapes by, amongst other things:
- adopting a presumption against development which would lead to the loss of features important to the character of the landscape, its quality and distinctiveness, unless the benefits of development clearly outweigh landscape considerations. Such cases are required to appropriate mitigation will be required.
 - in Sensitive Landscape Area retaining the elements that make up the landscape character and in many cases with little intervention to change this character.

- Wherever possible, requiring all developments to include measures to enhance, restore or create special features of the landscape with priority given to the creation of habitats to support local biodiversity priorities and the planting of new hedgerows, trees and woodlands.

6.3.4 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC is conditional upon *‘All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.’*

Assessment

- 6.3.5 The ES identifies that the proposed REC would introduce a large-scale energy generating station within an area of land immediately adjoining the former Teesside Steel Works and existing Redcar Bulk Terminal within Redcar. The ES also confirms that a landscape strategy has been developed with an Illustrative Landscape Masterplan including the use of native shrubs and grassland which would help provide a link with the existing perimeter coastal environment and help to maintain a buffer between the adjacent Teessmouth and Cleveland Coast SSSI. The low-level planting would provide softening and limited screening to the lower levels of the building and walls within views from the local area once established. External spaces around the car parking and office spaces would be of good quality landscape design in terms of types of native specimen trees and ornamental planting, and the use of hard landscaping materials.
- 6.3.6 The Application Site sits within an existing industrial location with existing stacks and buildings of comparable scale within the local areas (2 km radius). Given this existing industrial local character, the ES does not anticipate significant effects upon the local landscape character due to the development of the proposed REC itself.
- 6.3.7 The ES assesses the effects of the proposed REC during the in the construction phase to be no more than minor adverse on the Application Site and its immediate surrounding local area, with effects on the townscape to be no more than negligible.
- 6.3.8 During the operational phase, notwithstanding the scale of the proposed building and infrastructure, and taking into consideration the localised improvements offered by the clearance of the neglected areas and restricted areas of new landscape, the effects on the site and the local surroundings are assessed to be negligible adverse during winter year 1 of the operation.
- 6.3.9 By summer year 15, the new planting proposals associated with the proposed development would have matured to provide the intended ecological, amenity and restricted screening value and offer some isolated beneficial effects. However, due to the large scale of the industrial buildings and infrastructure present within the site, the overall significance of effect upon the Application Site character would remain as negligible.
- 6.3.10 In terms of the effects on the townscape, during the operational phase the effects are assessed to be negligible given the dominant industrial nature of this townscape being considered to be of negligible sensitivity to the type and scale of development where is it able to accommodate the proposed development without the loss or alteration to its key characteristics. As with the construction effects, the proposed development would introduce a new stack and buildings of considerable scale into this townscape. The addition of this element would not compromise the inherent characteristics of this industrial townscape tract, though there would be a slight loss of brownfield land which is presently partially open, between the Redcar Bulk Terminal and the former Teesside Steel Works.

- 6.3.11 Overall, it concludes that the Application Site sits within an existing industrial location with existing stacks and buildings of comparable scale within the local areas (2 km radius). Given this existing industrial local character, the ES does not anticipate significant effects upon the local landscape character due to the development of the proposed REC itself.
- 6.3.12 On this basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, and N1; and JTVMWCS policies MWCS6 and MWCS8.

Visual Receptors

Relevant Development Plan Policy

- 6.3.13 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, it will not result have a significant adverse impact on the amenities of occupiers of existing or proposed nearby land and buildings. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to:
- where necessary make the most effective and efficient use of available land including where appropriate incorporation of green space and landscaping as part of development;
 - respect or enhance the character of the site and its surroundings in terms of its proportion, form, massing, density, height, size, scale, materials and detailed design features;
 - take opportunities available to improve the character and quality of the surrounding area and the way it functions by establishing a strong sense of place, responding to local character and history and using streetscapes and buildings to create attractive places to live, work and visit;
- 6.3.14 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, impact on residential amenity, environmental and cumulative impacts, and the scale of proposal.
- 6.3.15 RCLP policy N1 aims to protect and enhance the Borough's landscapes by, amongst other things:
- Providing high importance to protecting the setting, scenic beauty and special qualities of the North York Moors National Park by encouraging new development not to harm these interests
- 6.3.16 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC requires that, 'All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration."
- 6.3.17 The support for Alternative Materials for Aggregate Use provided by JTVMWCS policy MWCS3 is subject to the minimisation of impacts arising from operational issues including the visual effect of stockpiles.

Assessment

- 6.3.18 In terms of views, it is anticipated that a building of this scale would cause some localised obstruction to near views but given the existing baseline industrial context to the view, this would not be considered significant. However, the nature of views, beyond the immediate vicinity, would be highly industrial in nature given the existing neighbouring land-use of the land around the estuary. Views are often interrupted by vertical elements of chimneys, pylons and turbines.

- 6.3.19 Although the proposed stack height of 80-90 metres (as shown on the ZTV) may theoretically be visible over greater distances, in periods of excellent visibility, it is considered that the potential effects upon these longer distance views would not be significant due to the existing industrial elements and context to the baseline views.
- 6.3.20 The ES sets out that from most viewpoint locations, the existing industrial buildings within the adjacent former Teesside Steel Works are prominent or visible within the baseline views towards the site. As such, the introduction of further built development of a similar 'industrial nature', although relatively large scale, would not be uncharacteristic or at odds with the adjoining townscape or components of the available views within the study area. In many instances, therefore, the proposed development would appear in-keeping with the existing Redcar industrial area along the southern banks of the River Tees. Therefore, although the scale of the proposed development is large, the overall perceived level of change is considered to be relatively low, due to the existing industrial and urbanised context into which the proposed energy centre building and stacks would be located.
- 6.3.21 The ES considers the effects on views from the 16 identified representative viewpoint locations with respective photomontages. Potential effects upon the visual resource during the operational phase of the proposed development includes an assessment at winter year 1 (a worst case) and at summer year 15, when proposed planting would have achieved its design and mitigation functions. However, given the local environment, substantial screening vegetation is not deemed appropriate for the Application Site's setting and so there would be limited change between winter year 1 and summer year 15 during operation.
- 6.3.22 In terms of close range views, the two close range views featured are from the Teesdale Way and from within Saltholme Nature Reserve/Bran Sands. Both are within the England Coast Path Coastal Margin. Given the proximity to the proposed development to these receptors and the scale of the proposed buildings, any change experienced due to the proposed development would be most prominent from these receptors. Although proposals would introduce a modern large-scale, industrial building into these close-range views, there is a prominent existing industrial nature, features and setting to the pre-development view. The ES assesses the short term and long term effects at both these representative viewpoints as moderate adverse which is not significant adverse or unacceptable.
- 6.3.23 In terms of medium range views, the existing industrial nature of the Application Site location is apparent within all medium range representative views selected for this assessment. Within the local area, where views towards the Application Site are available, the existing industrial context on both sides of the River Tees features. As such, the nature of these views is inherently industrialised by the scale of the existing land-use along the banks of the River Tees. Taking this into account, the magnitude of impact reduces at greater distances to the Application Site because, although there would still be some minor obstruction to the views and the introduction of a new element may be noticed, the overall composition of the views would be similar to the pre-change circumstances or would only represent a very slight change to the baseline. The ES assesses the short term and long terms effects at these representative viewpoints as ranging between no change in effect, and minor adverse. As such, the assessed effects are not significant adverse or unacceptable.
- 6.3.24 Long range views have been included as part of this assessment due to the height of the proposed stack at 80-90 metres Above Ground Level. However, even the furthest reaching views within the 25km study area still experience the industrial context of the Tees Estuary. Between 5 – 10km, there would be a negligible magnitude of impact due to the very slight change in baseline, whereby change would be barely distinguishable from the surroundings, and composition of the view would remain substantially unaltered. However, beyond 10km from the Application Site, the ability to

distinguish the proposed development within this industrial context becomes more difficult and as such the magnitude of impact reduces to no change, with the proposed development going unnoticed within the longest reaching views. In particular, the effects on the viewpoints considered within the North York Moor National Park are assessed to result in no change.

- 6.3.25 In terms of effects on views from residential receptors, the ES considers that in all cases of available residential views towards the proposed REC, the new built elements would be seen within the existing Teesside industrial setting. The potential effects upon any available residential views towards the proposed development would not be considered significant.
- 6.3.26 In terms of effects on views from Public Rights of Way (PRoW), the ES acknowledges that at that the nearest points of the PRoW to the proposed development on the Teesdale Way and England Coast Path, there would be some obstruction to available views when travelling along these footpaths, and that there would be a maximum significance of **moderate adverse** within the nearest location to the proposals where the obstruction would be its most noticeable. However, elsewhere along these two paths, the proposed development would be barely noticeable, and in overall keeping within the industrial pre-development view. Accordingly, as the potential effects on PRoWs within the study area are no more than moderate adverse, they not considered significant or unacceptable and would be localised.
- 6.3.27 Overall, the quality and character of the landscape/townscape and visual resources would be maintained, each having have the capacity to accommodate the proposed development without significant effects. Potential cumulative effects would be relatively small in the context of an existing industrial urban area, and it is not considered that the proposed development would contribute to any significant adverse cumulative effect.
- 6.3.28 On this basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, and N1; and JTVMWCS policies MWCS3, MWCS6 and MWCS8.
- 6.3.29 Furthermore, it is recognised in national policy that large scale thermal generating stations, including Energy from Waste (EfW) facilities, due to their inherent scale, may lead to significant effects on visual receptors. The absence of such effects on any visual receptors, therefore, reinforces the Application Site's suitability as an appropriate location for the proposed REC and this must be afforded substantial weight in its favour in the balance of considerations.

6.4 Effects on the Significance of Heritage Assets

Relevant Development Plan Policy

- 6.4.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, it will not result in the unacceptable loss or significant adverse impact on heritage assets which are considered important to the quality of the local environment. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to:
- where necessary make the most effective and efficient use of available land including where appropriate incorporation of green space and landscaping as part of development;
 - respect or enhance the character of the site and its surroundings in terms of its proportion, form, massing, density, height, size, scale, materials and detailed design features;
 - take opportunities available to improve the character and quality of the surrounding area and the way it functions by establishing a strong sense of place, responding to local character and history and using streetscapes and buildings to create attractive places to live, work and visit;

- respect or enhance the historic environment and both designated and no-designated heritage designations that contribute positively to the site and the surrounding area;

6.4.2 The support for the regeneration and growth of the economy and jobs in the South Tees area which provides the strategic policy support for the proposed REC through RCLP policy LS4 which, amongst other things, sets out that the council and its partners will aim to ‘safeguard and enhance the significance of buildings, sites, settings and areas of heritage and cultural importance...’

6.4.3 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, and impact on heritage assets and their settings.

6.4.4 RCLP policy HE2 relates to Heritage Assets sets out, amongst other things, that:

“Setting of a Designated Heritage Asset

Any development affecting the setting of a designated heritage asset will only be permitted if the proposal:

- e) preserves or enhances its significance as a designated heritage asset;*
- f) protects its immediate setting including the space(s) around the building and the historically significant hard and soft landscaping, including trees, hedges, walls, fences and surfacing; and*
- g) retains historic plot boundaries and layouts.*

Substantial harm or total loss of a Designated Heritage Asset

Where a development will lead to substantial harm or total loss of a designated heritage asset, permission will not be granted unless it can be demonstrated that the harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss and that cannot be met in any other way, or all of the following apply:

- h) the nature of the designated heritage asset prevents all reasonable uses of the site;*
- i) no viable use of the designated heritage asset can be found in the medium term that will enable its conversion;*
- j) conservation by grant funding, or some form of charitable or public funding, is demonstrably not possible; and*
- k) the harm or loss is outweighed by the benefit of bringing the site back into use.*

Other harm to a Designated Heritage Asset

Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, it will only be permitted where that harm is outweighed by the public benefits of the proposal, including securing its optimum viable use.

Non-designated Heritage Assets

Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments will be considered subject to the policies for designated heritage assets.

In determining applications that would result in substantial harm to, or the total loss of, a non-designated heritage asset or its setting, the applicant will be required to demonstrate that the benefits of the development would outweigh any harm or loss of the heritage asset, based on its significance.”

- 6.4.5 In addition, similar provisions relate more specifically to the setting of Conservation Areas through RCLP policy HE1, and to archaeology through RCLP policy HE3.
- 6.4.6 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC, requires that, *‘All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.’*

Assessment

- 6.4.7 There are no Designated Heritage Assets within the Application Site. The closest Designated Heritage Asset is South Gare Lighthouse (NHLE 1140391), a Grade II Listed Building located on the northern tip of South Gare breakwater, around 2.2km north of Application Site.
- 6.4.8 Given this baseline context, the Scoping Opinion adopted by the planning authority excluded heritage assets from the scope of the ES on the basis that the proposed REC was not likely to lead to significant effects upon such assets. Nonetheless, the effect of the proposed REC upon the significance of designated and non-designated heritage assets has been undertaken in a desk based assessment in order to comply with the provisions of statute and planning policy. The desk based assessment can be found as an Appendix to ES Chapter 13.
- 6.4.9 The desk based assessment assesses that because the inter-visibility between the proposed REC and the closest designated heritage asset is to the minimal extent; and the proposed REC’s appearance within the distant industrial landscape and against the background of the former Teesside Steel Works, it will not affect the setting of the Grade II listed building. It will not, therefore, be harmful to its significance.
- 6.4.10 Furthermore, given that the ground levels within the Application Site and surrounding area have also been raised through land reclamation and industrial development throughout the 20th century, and most particularly for development of the Teesside Works in the 1970s, the Application Site is considered to have no potential for significant archaeological features of Modern date. The Application Site is considered to have only negligible potential for Prehistoric and Roman, Early Medieval, Medieval or Post-Medieval archaeological remains archaeological remains.
- 6.4.11 As such, in the absence of any harm being identified to designated or non-designated heritage assets in it not necessary to undertake a ‘heritage balance’ against public benefits; and the proposed REC is acceptable.
- 6.4.12 On this basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, LS4, HE1, HE2, and HE3; and JTVMWCS policies MWCS6 and MWCS8.

6.5 Effects on Sustainable Transport

Relevant Development Plan Policy

- 6.5.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, it will have access to adequate infrastructure, services and community facilities to serve the development. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to provide suitable and safe vehicular access and parking suitable for its use and location.
- 6.5.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, and other operational and other relevant constraints.
- 6.5.3 RCLP policy TA1 Transport and New Development:
- “The Council and its partners will ensure that the transport requirements of new development, commensurate to the scale and type of development, are taken into account and seek to promote sustainable travel to minimise environmental impacts and support residents' health and wellbeing.*
- Accessibility will be improved, and transport choice widened, by ensuring that all new development is served by sustainable transport modes including public transport, footways and cycle routes. Applicants will need to demonstrate that existing or proposed public transport services can accommodate development proposals, or, where appropriate, demonstrate how public transport improvements will be delivered. Connections will be integrated into existing networks with opportunities to improve connectivity identified. In order to support the Redcar and Cleveland Local Transport Plan (and any relevant successor strategies), proposals will be supported that:*
- a. improve transport choice and encourage travel to work and school by public transport, cycling and walking;*
 - b. minimise the distance people need to travel;*
 - c. where appropriate, contribute positively to wider demand management measures to address congestion, environmental and safety issues; and*
 - d. have regard to the number of cycle and car parking spaces as set out within the Tees Valley Design Guide and Specification for Residential and Industrial Estates.*
- Future transport provision should take into account traffic forecasts. This should reflect existing demand and take account of other developments as well as trip reductions predicted as a result of the implementation of demand management measures identified in the LTP.*
- The Council will support the preparation and implementation of travel plans, travel assessments and other mechanisms to encourage the use of sustainable transport modes.”*
- 6.5.4 JTVMWCS policy MWCS10 Sustainable Transport requires proposals for waste development to prioritise the use of non-road transport for the movement of waste resources, and where transportation cannot be provided by non-road means it requires evidence to be provided that the proposed traffic movements can be accommodated on the strategic road network and that the site can be accessed in a safe manner.

- 6.5.5 Similarly, JTVMWCS policy MWC11 Safeguarding of Port and Rail Facilities is permissive of development on or in the vicinity of Tees Dock or the existing rail infrastructure in the Tees Valley where it would not prejudice the transportation of waste materials by water and rail.

Assessment

- 6.5.6 The TA which informs the ES assesses the transport implications of the proposed REC, setting out the existing transportation situation and assesses the impact of the proposals against the local and national policy requirements. It confirms that the site is accessible by a range of modes of travel including:
- Pedestrian access: with footways along all the adjacent roads, generally with street lighting which provide links to the whole of the surrounding urban and residential areas. Walking distances of up to 2 miles to a place of work is not uncommon and such a distance includes the northernmost residential areas to the north of Redcar;
 - Cycle access: the A1085 Trunk Road has a combined foot/cycle way along its length, which provides cycle access to Redcar to the northeast, and the eastern sections of Middlesbrough to the south west. Much of the surrounding road network, including the A1053 towards the A66 has a network of combined foot / cycleways which can be utilised by staff and visitors at REC. Cycling distances of up to 5 miles to a place of work is not uncommon; such a distance includes Redcar, and Middlesbrough urban areas and there are recognised cycle routes upon which to do so.
 - Bus services: there are bus stops located on West Coatham Lane, approximately 150m to the east of the Application Site Access / A1085 Trunk Road junction. Services 62, 62A and 64 operate from these bus stops, routeing between Middlesbrough, Redcar and New Marske with approximately three services per direction every hour. All of these services provide further public transport services to origins and destinations further afield.
 - Redcar Railway Station is located approximately 3.2km from the Application Site and is accessed on foot or by cycle via the A1085 Trunk Road. It is located on the Tees Valley Line with services to Darlington, Saltburn, Bishop Auckland and Manchester Airport.
- 6.5.7 In order to provide a robust assessment, it assesses a worst case scenario in which all the fuel is delivered to the site by road, and none is transported by rail or water infrastructure. It predicts the 2024 baseline traffic flows when the proposed REC is programmed to become operational by adding growth rates to the observed 2018 traffic flows and adding traffic flows from committed developments which have consent but have not yet become operational.
- 6.5.8 It also calculates that there will be a total of up to 53 staff on site per day and therefore up to 106 two-way staff vehicle movements. And in addition, the development proposals would generate approximately 247 two-way HGV movements per day.
- 6.5.9 It then determines the number and spread of vehicle movements associated with staff and HGV movements during the operational phase and predicts the resultant 2024 baseline plus development annual and daily traffic flows along the links.
- 6.5.10 The TA predicts the percentage cumulative traffic flows along the highway in the AM and PM peak hours, and in the 12 hr (7am to 7pm) and 24hr time periods, and compares it with the 2024 Baseline. It demonstrates that the increase in traffic along the highway is less than a maximum of 2.20%, and as such it concludes the increases are negligible, and within the day to variances which may be expected.

- 6.5.11 The TA also concludes that there is nothing to suggest the operational HGV movements would create a road safety issue. During the periods when REC staff would arrive and depart on site, the footways, cycleways, bus services and train services in the vicinity of the site generally have available capacity, and the REC staff numbers are not predicted to be at a level that will impact upon the capacity of these modes of transport. It concludes that the proposed development would not impact upon sustainable modes of transport.
- 6.5.12 Accordingly, in summary the TA demonstrates that:
- The REC generated traffic flows would not result in any noticeable increases along the local road network and would not create or materially impact upon any congestion that may occur during the day.
 - the link assessments confirm that the impacts of REC are negligible during the AM and PM peak hours.
 - The site is accessible by a range of sustainable modes of transport modes and accords with relevant transport related policies.
- 6.5.13 Overall, it concludes that REC traffic flows would not result in a severe impact along the local road network or an unacceptable impact on highway safety. As such there are no transport or highways related reasons not to approve the application. Further, there is no basis upon which to justify a planning condition restricting the development in any way (including the hours of delivery or export of fuel/IBAA), or to seek improvements to highway infrastructure improvements or public transport provision.
- 6.5.14 Should it prove possible to negotiate access to the existing rail and port infrastructure in the vicinity of the site to transport fuel to the site and potentially IBAA from the site (if that was practically feasible, sustainable and commercially viable) the proposed REC would not in any way adversely affect that infrastructure.
- 6.5.15 On that basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, TA1; and JTVMWCS policies MWCS10 and MWCS11.

6.6 Effects on Air Quality

Relevant Development Plan Policy

- 6.6.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development which, amongst other things, will not have a significant adverse impact on the amenities of occupiers or proposed developments, or nearby land and buildings, and avoids locations that would put the environment or human health or safety at unacceptable risk. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to minimise pollution levels to meet or exceeded acceptable limits.
- 6.6.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy project, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, impact on residential amenity and other operational and other relevant constraints.
- 6.6.3 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC is conditional upon *All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental,*

historic or cultural assets from their design, operations, management and, if relevant, restoration.'

- 6.6.4 The support for Alternative Materials for Aggregate Use provided by JTVMWCS policy MWCS3 is subject to the minimisation of impacts arising from operational issues including dust.

Assessment

- 6.6.5 ES Chapter 11 provides an assessment of the likely significant air quality effects associated with the proposed development in relation to:
- construction effects – potential dust effects from construction activities and emissions from on-site construction plant; and
 - operational effects (from the REC) – potential air quality effects from the thermal treatment stack; potential fugitive emissions and dust.
- 6.6.6 The study area for construction phase dust impacts is up to 350 metres from the Application Site boundary and roads up to 500 metres from the site entrance. For stack emissions during operation, the study area is up to 10 km for ecological receptors and 3 km for human-health receptors.
- 6.6.7 The effect of odour impacts from the operation of the proposed REC is not considered significant and an assessment has been scoped out. Similarly, an assessment of emissions from construction and operational traffic has also been scoped out.
- 6.6.8 It concludes that during the construction phase with mitigation measures the residual dust effects on human health, dust soiling, and ecology during demolition, earth works, construction and trackout are not significant.
- 6.6.9 During the operational phase, the assessment shows that the predicted maximum process contribution at short term IED emission limit values is below 10% of the relevant environmental assessment level (EAL) for all pollutants except for SO₂ and NO₂. The impacts at short terms emission limits are potentially significant. However, when the 15minute, 1 hour, and 24 hour mean SO₂ is added to the ambient concentration specified within the relevant EAL, the effects are not significant. Similarly, when the 1 hour mean NO₂ is added to the ambient concentration specified within the relevant EAL, the effects are not significant.
- 6.6.10 During the operational phase, the assessment shows that the predicted maximum process contribution at long term IED emission limit values is below 10% of the relevant short-term EAL and below 1% of the long-term EAL for all pollutants, except for annual-mean SO₂, NO₂, Cd (cadmium), As (arsenic), Co (cobalt), Pb (lead), Mn (manganese), Ni (nickel) and PAHs. Further, it finds that the predicted environmental concentrations at long term emission limit values is below the EAL for SO₂, NO₂, Cd, Co, Pb, Mn and Ni, and the impacts are therefore not considered significant.
- 6.6.11 The predicted process contribution for As remains more than 1% above the EAL; however, the predicted environmental concentration for As is below the EAL. At long-term emission limits, the Asimpacts are therefore not considered significant.
- 6.6.12 For PAHs, the PEC is 100% of the EAL, therefore the long-term PAH impact, based on modelling across the grid, would be considered to be potentially significant if public exposure was possible. In this case, however, the maximum impact is predicted to occur immediately north of the Application Site where people would not be present for long periods. Furthermore, at the nearest

sensitive receptors, the maximum predicted process contribution is less than 1% of the EAL and the long-term PAH impacts are considered to be insignificant.

- 6.6.1 For hexavalent chromium (CrVI), the measured concentrations in the Environment Agency document '*Releases from waste incinerators – Guidance on assessing group 3 metal stack emissions from incinerators*' version 4 (undated), varies from 0.0005% to 0.03% of the IED emission concentration limit. The process contribution at the upper end of the range is above 1% of the EAL; however, at the nearest sensitive receptors, the maximum predicted process contribution for CrVI is less than 1% of the EAL and the long-term CrVI impacts are considered to be insignificant.
- 6.6.13 In summary, therefore, it is concluded that the air quality effects relating to emissions from the operation of the proposed ERF are not significant.
- 6.6.14 The ES identifies that the key activities likely to generate dust during the operation of the proposed REC are delivery of waste, handling of waste on site, handling of combustion residues and transport of those residues off-site. However, the Application Site is surrounded by heavily industrialised land and the nearest residential receptors are over 2km away such the risk of dust is considered to be very low.
- 6.6.15 The Teesside and Cleveland Coast SSSI is located directly north of the Application Site and has the potential to be affected by dust emissions. The northern part of the Application Site would include the IBA recycling facility, which has the potential to generate dust. Several measures to ensure that fugitive dust emissions are kept to a minimum have been incorporated into the design. Most of the processing would be within buildings which would contain the dust. Once processed, the Incinerator Bottom Ash Aggregate (IBAA) would be stored for pH stabilisation in stockpiles. The stockpiles of processed IBAA would be open to the elements and rainwater runoff would be re-used on site for damping down of the stockpiles. Based on the above, the magnitude of the source of dust emissions is considered to be small.
- 6.6.16 The overall risk of dust impacts from the process is considered to be very low, with no significant effects anticipated.
- 6.6.17 In summary, the ES has undertaken a detailed air quality assessment predicting the potential effects of emissions generated during the construction and operation of the proposed REC. It concludes that the air quality effects of the proposed development, both separately and cumulatively, are not considered to be significant.
- 6.6.18 On that basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, and JTVMWCS policies MWCS3 and MWCS6.

6.7 Effects on Noise sensitive receptors

Relevant Development Plan Policy

- 6.7.1 CLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, there will not be a significant adverse impact on the amenities of occupiers, or proposed or nearby land and buildings, and which avoids locations that would put the environment or human health or safety at unacceptable risk. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to minimise pollution levels including noise to meet or exceeded acceptable limits.

- 6.7.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, impact on residential amenity and other operational and other relevant constraints.
- 6.7.3 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC is conditional upon *‘All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.’*
- 6.7.4 The support for Alternative Materials for Aggregate Use provided by JTVMWCS policy MWCS3 is subject to the minimisation of impacts arising from operational issues including noise and vibration.

Assessment

- 6.7.5 ES Chapter 12 provides an assessment of the likely significant noise and vibration effects associated with the proposed REC during the construction, operation and decommissioning on surrounding noise and vibration sensitive receptors (NVSRS).
- 6.7.6 The Scoping Opinion adopted by the planning authority scopes out effects on residential receptors on the basis that such effects are not likely to be significant. The reason for this is that the nearest residential NVSRs to the Application Site are located approximately 2.3 km to the south-east (Marsh Farm). Due to attenuation effects, noise and vibration levels received at these NSRs, during both the construction and operational phases of the REC, would very likely be negligible and effectively result in no change to the baseline acoustic environment. As such, noise and vibration effects would very likely be below the lowest observed adverse effect level (LOAEL) and potentially below the no observed effect level (NOEL) at the closest NVSRs.
- 6.7.7 Nonetheless, for completeness, it does assess the effects of operational traffic noise, and the operation itself, on residential NVSRs.
- 6.7.1 In terms of operational traffic noise, it identifies that for a potentially significant adverse noise effect to result due operational road traffic movements at residential NSRs, a noise change of at least +5 dB would need to occur in the long term, i.e. a medium impact at a medium sensitivity NSR resulting in a moderate adverse effect.
- 6.7.2 And for road traffic noise levels to increase by at least 5 dB requires over a 300% increase in road traffic moments compared to the baseline traffic movements.
- 6.7.3 However, as operational traffic would be routed via trunk roads (A1085 Trunk Road), baseline traffic flows would be relatively high such that operational traffic movements of up to 10 per hour from the REC would be negligible in comparison.
- 6.7.4 Accordingly, operational road traffic movements from the proposed REC would not increase baseline noise levels and therefore it assesses the significance of effect would be no change.
- 6.7.8 In terms of operational noise from the proposed REC itself, the noise model predicts that the specific sound level at the nearest residential NSR, Marsh Farm, is calculated to be 30 dB $L_{Aeq,T}$. This is a relatively low level and would not be likely to be audible/discernible above the residual acoustic environment.
- 6.7.1 As such, given the context of the Application Site a rating level of 30 dB $L_{A,Tr}$ is considered to be a very low level, and would not be likely to be audible/discernible above the residual acoustic environment external to NSRs, or internally within dwellings.

- 6.7.2 Consequently, noise effects associated with the operation of the REC at residential NSRs would very likely be below the lowest observed adverse effect level (LOAEL) and potentially below the no observed effect level (NOEL).
- 6.7.9 On that basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, and JTVMWCS policies MWCS3 and MWCS6.

6.8 Effects on Hydrology and Flood Risk

Relevant Development Plan Policy

- 6.8.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, it will not increase flood risk either on site or downstream of the development.
- 6.8.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, and other operational and other relevant constraints.
- 6.8.3 RCLP policy SD7 Flood Risk and Water Management sets out, amongst other things, that as follows:

“Flood risk will be taken into account at all stages in the planning process to avoid inappropriate development in areas at current or future risk.

Development in areas at risk of flooding, as identified by the Environment Agency flood risk maps, will only be granted where all of the following criteria are met:

- a. the proposal meets the sequential and exception tests (where required) in relation to the National Planning Policy Framework;*
- b. a site specific flood risk assessment demonstrates that the development will be safe, including the access and egress, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall; and*
- c. new site drainage systems are well designed, taking account of events that exceed the normal design standard (e.g. consideration of flood flow routing and utilising temporary storage areas).*

All development proposals will be expected to be designed to mitigate and adapt to climate change, taking account of flood risk by:

- d. ensuring opportunities to contribute to the mitigation of flooding elsewhere are taken;*
- e. prioritising the use of sustainable drainage systems (SuDs);*
- f. ensuring the full separation of foul and surface water flows; and*
- g. ensuring development is in accordance with the Redcar and Cleveland Strategic Flood Risk Assessment.”*

- 6.8.4 In addition, it adopts the following approach to surface water runoff:

“Surface water runoff not collected for use must be discharged to one or more of the following, listed in order of priority:

- o. discharge into the ground (infiltration); or where not reasonably practicable*
- p. discharge to a surface water body; or where not reasonably practicable*
- q. discharge to a surface water sewer, highway drain, or another drainage system; or where not reasonably practicable*
- r. discharge to a combined sewer.”*

6.8.5 Conformity with JTVMWCS policy MWCS6 – Waste Strategy, which provides strategic policy support for the proposed REC, requires that ‘All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.’

Assessment

- 6.8.6 ES Chapter 8 ‘Hydrology and Flood Risk’ provides an assessment of the likely significant effects of the proposed development on flood hydrology, surface water drainage, and flooding.
- 6.8.7 It states that the proposed development would discharge clean surface water at an uncontrolled discharge rate into the River Tees. The on-site drainage system would include an on-site attenuation pond, which would be designed to accommodate the 1 in 30 year critical rainfall event, with safe flooding of designated areas in the 1 in 100 year storm, including a +20% allowance for climate change. Therefore, any increase in surface water runoff (flooding) would be appropriately managed in line with the LLFA design criteria outlined within Policy SD7 of the Local Plan.
- 6.8.1 As the proposed development would direct flows into the River Tees, no requirement for a reduction of existing runoff rates is required. However, sufficient attenuation storage would be provided taking into account UKCP18 and LLFA guidance.
- 6.8.2 It assesses that the impact of the proposed REC during the operational phase on flood risk is therefore considered to be negligible, and as such, the level of effect is assessed as minor adverse, which is not significant.
- 6.8.3 A new surface water drainage network would be created as part of the proposed development, which would incorporate a combination of proprietary pollution interceptors, filter drains and permeable paving. No process or ‘dirty’ water would be discharged into the River Tees. The Environmental Permit would incorporate a number of emergency procedures covering the facility’s operational phase which would be used in the case of accidental spillage.
- 6.8.4 As such the ES assesses the effects of the impact of the proposed REC during the operational phase on surface water as not significant adverse.
- 6.8.5 A WFD Assessment has been prepared to inform the ES. This compliance assessment has been undertaken to demonstrate the potential impact on WFD receptors caused by the different activities associated with the proposed REC Application Site, in the context of the environmental objectives of any affected WFD surface water bodies.
- 6.8.6 Its overall conclusion is there will be no risk of deterioration in status, or prevention of the achievement of the objectives for the relevant surface water bodies, nor will the protected area objectives be compromised.
- 6.8.8 The ES is also underpinned by a site specific FRA which assesses the potential for the Application Site to be impacted by flooding, the potential impacts of the development on flooding, both onsite and in the vicinity, and the proposed measures which can be incorporated into the development to mitigate the identified risks.

- 6.8.9 The Redcar and Cleveland SFRA indicates that the risk of fluvial flooding within the borough is minimal.
- 6.8.10 The Application Site is located within Flood Zone 1, at low risk of flooding from tidal flooding. Tidal flood defences are present along the coastline approximately 850 metres to the north of the Application Site. The Environment Agency have indicated that no flood defence infrastructure operated by the Agency is present within the vicinity of the Application Site.
- 6.8.11 The Environment Agency provided modelled flood data (extracted from the 2011 Tidal Tees Integrated Flood Risk Modelling Study and 2015 Tidal Tees Integrated Flood Risk Modelling Study). Modelled flood extents for a 1 in 1,000 year event plus climate change (undefined allowance) indicate the Application Site is predicted to be unaffected during such an event.
- 6.8.12 The undefended modelled flood water level at the node closest to the Application Site indicates a flood water level of 4.11 m AOD. Digital Terrain Model data at the Application Site indicates that the average topography is approximately 7.1 m AOD. Therefore, the site is approximately 2.99 metres above the 1 in 200 year flood level and 1.84 metres above the 1 in 1000 year plus climate change level.
- 6.8.13 The majority of the Application Site is at very low risk of flooding from surface water. Localised areas within the Application Site are at low risk of flooding from surface water. No other significant risk of flooding was identified.
- 6.8.14 An outline surface water drainage strategy has been prepared for the proposed REC which, informed by the Tees Valley SuDs Design Guide and Local Standards, adequately manages water quality, water quantity, surface water flood risk and promotes amenity and biodiversity. It has been prepared to mitigate against any increase in surface water runoff caused by the increase in impermeable area. The proposed strategy has included an allowance for any increases in rainfall intensity arising from climate change, as outlined within the NPPF and UKCP18.
- 6.8.15 It provides for foul water connection to existing services and surface water drainage managed within the Application Site. Roof runoff would be collected and used in the process. Other clean surface runoff would be managed through a discharge into the River Tees. Runoff would be directed to the attenuation pond in the north west of the Application Site and through oil interceptors prior to discharging from the south of site near the access road.
- 6.8.16 All process water would be recycled for use within the waste to energy process. No process effluent or boiler water is to be discharged to the surface water system. Any excess process water produced in planned outages would be directed to an onsite wastewater tank before any surplus is tankered off site and disposed of in accordance with relevant waste regulations.
- 6.8.17 The proposed development has been sequentially assessed as required by the NPPF. As the Application Site is located within Flood Zone 1, application of the Exception Test is not required.
- 6.8.18 The FRA demonstrates that the development would be safe, without increasing flood risk elsewhere.
- 6.8.19 On that basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, SD7, and JTVMWCS policy MWCS6.

6.9 Effects on Ground Conditions and Ground Water

Relevant Development Plan Policy

- 6.9.1 RCLP policy SD4 provides the General Development Principles required for assessing the suitability of sites. It is permissive of development where, amongst other things, there will be no resultant unacceptable loss or significant adverse impact upon environmental assets which are considered important to the quality of the local environment; and avoids locations that would put the environment or human health or safety at unacceptable risk. In addition, it requires all development to be designed to a high standard; and amongst other things, all development is expected to minimise pollution levels to meet or exceed acceptable limits.
- 6.9.2 The support provided by RCLP policy SD6 for Renewable and Low Carbon Energy projects, is conditional that their impacts are, or can be made, acceptable. In addition, in determining applications for such proposals consideration is required of, amongst other things, environmental and cumulative impacts, and other operational and other relevant constraints.
- 6.9.3 Conformity with JTVMWCS policy MWCS6 – Waste Strategy which provides strategic policy support for the proposed REC requires that *'All waste developments must be compatible with their setting and not result in unacceptable impacts on public amenity, environmental, historic or cultural assets from their design, operations, management and, if relevant, restoration.*'

Assessment

- 6.9.4 ES Chapter 9 presents the assessment of the potential effects on geology, hydrogeology and ground conditions with consideration of the contamination status of the Application Site with regard to key receptors i.e. human health and controlled waters.
- 6.9.5 It identifies that the Application Site is underlain by Made Ground to a depth of approximately 6 metres associated with reclamation of the site and surrounding area of the Tees Estuary. The superficial geology is indicated to comprise of Tidal Flat Deposits which are classified as a Secondary Undifferentiated Aquifer. The underlying bedrock consists of the Mercia Mudstone group which extends to considerable thickness and is classified as a Secondary B Aquifer.
- 6.9.6 The Teesmouth and Cleveland Coast SSSI which is designated due to its geological and biological importance is located adjacent to the site.
- 6.9.7 The Application Site has been subject to a Phase 1 Preliminary Risk Assessment (PRA) (Appendix 9.1). This identified the potential for soil and groundwater contamination to be present on the Application Site as a result of past uses, including reclamation of land from the Tees Estuary by raising land levels using imported materials and spoil tipping. The Phase 1 PRA also identified the potential for ground gas to impact the Application Site.
- 6.9.8 A site investigation would be undertaken post consent to inform the foundation design and to investigate potential contaminants as identified by the Phase 1 PRA. Should the results of the investigation require it, a remediation strategy would be prepared. The scope of the investigation and the remediation strategy would be agreed with the Environment Agency and/or Redcar & Cleveland Borough Council. On completion of the remediation, a validation report would be prepared to confirm that the remediation/mitigation measures had been implemented.
- 6.9.9 A CoCP would be developed post consent and implemented during the construction phase to mitigate the potential impacts to identified receptors during the construction phases.

- 6.9.10 The ES recognises that some foundation works, piling works and deep earthworks have the potential to generate preferential pathways for the vertical and lateral migration of any contaminants that may be present within the shallow soils or any shallow groundwater. However, with the implementation of pre-construction phase mitigation measures, in particular site investigation and remediation (where required) to manage the risk to controlled waters receptors, the magnitude of any impact would be reduced to low. Groundwater within the Tidal Flat Deposits and Mercia Mudstone Group is considered to have limited sensitivity based on the aquifer classifications, poor quality, and absence of sensitive abstractions. The site is not located in a Groundwater Source Protection Zone and is in an area of currently poor chemical groundwater quality. The groundwater on site is therefore considered to be of low sensitivity, and the magnitude of impact is considered to be low. And as such the effects of the impacts of the proposed REC on groundwater during construction are assessed to be minor adverse, and thus not significant.
- 6.9.11 The ES also recognises that the Teesmouth and Cleveland Coast SPA, Ramsar and SSSI is located adjacent to the Application Site's northern boundary and that this is considered to be a highly sensitive receptor. However, the impact on it as a result of run-off and increased surface infiltration / through flow of shallow groundwater during construction would be preventable, short-term, and of local spatial extent. And with the implementation of the mitigation measures, in particular the site investigation and remediation (where required), and measures included within the CoCP to prevent surface water run-off during construction, the magnitude of impact would be negligible. Furthermore, the level of effect is considered to be minor adverse, which is not significant.
- 6.9.12 At the end of the construction phase, the effects upon future site users as a result of the implementation of any remediation / mitigation required and the addition of hardstanding/building cover would be up to moderate beneficial, depending on the degree of existing contamination and the nature of the remediation / mitigation incorporated into the development. The effect on off-site users and groundwater would be up to minor beneficial.
- 6.9.13 During the operational phase, the site would be regulated by an Environmental Permit issued by the Environment Agency. Appropriate measures would be implemented and audited through the Permit and the significance of the effect to future site users, groundwater and the adjacent SSSI would be negligible to minor adverse, which is not significant.
- 6.9.14 On that basis, it is established that the proposed REC is in conformity with RCLP policies SD4, SD6, and JTVMWCS policy MWCS6.

6.10 Summary & Conclusion

- 6.10.1 In summary, therefore, the proposed REC is in conformity with the provisions of all the detailed policies of the development plan, so far as they are material.
- 6.10.2 In addition, the proposed REC is also in conformity with the provisions of the strategic development plan policies, which are contingent upon compliance with detail planning policy considerations, or compliance with the provisions of detailed planning policies.
- 6.10.3 It is therefore concluded that the proposed REC is compliance with the provisions of the development plan both in detail and when taken as a whole.

7 THE PLANNING BALANCE & OVERALL CONCLUSION

- 7.1.1 This planning application seeks full planning permission for the proposed Redcar Energy Centre (REC) which comprises of three operational components:
- a Material Recovery Facility (MRF) incorporating a Bulk Storage Facility;
 - an Energy Recovery Facility (ERF); and,
 - an Incinerator Bottom Ash (IBA) Recycling Facility.
- 7.1.2 The proposed MRF would recycle material from up to 200,000 tpa of MSW and/or C&I waste sourced locally, regionally or nationally.
- 7.1.3 The principle purpose of the proposed ERF is to generate dispatchable, renewable, sustainable, and low carbon energy, for which there is an urgent national need. It would be capable of generating up to 49.9 MW(e) of electricity from up to approximately 450,000 tonnes per annum of fuels, composed of residual MSW, and/ or C&I waste, or RDF sourced locally, regionally or nationally. In doing so it would also provide a sustainable waste management solution.
- 7.1.4 It is also proposed that the facility be CHP Ready so that it could provide thermal energy for export. This would be likely to be used by planned energy intensive users within the South Tees Development Corporation area (within which the proposed facility is located); these could include advanced manufacturing and engineering developments. In addition, it could also provide electricity directly to them by private wire agreement where commercially viable.
- 7.1.5 The proposed IBA Recycling facility would recycle IBA Aggregate from up to 105,000 tpa of IBA sourced directly from the ERF but could also import IBA from elsewhere.
- 7.1.6 Where feasible and commercially viable, waste may also be brought to the Application Site utilising the existing rail and port infrastructure available.
- 7.1.7 The source of the fuel and waste managed by the proposed REC would be subject to securing contracts from the MSW, C&I, and RDF markets.
- 7.1.8 Depending on the contracts secured, the proposed REC may provide the modern new facility sought by the draft Joint Tees Valley Waste Management Strategy. It may also provide a sustainable waste management solution for diverting C&I waste from landfill and RDF from export or landfill further up the waste hierarchy. Transportation costs are likely to ensure that C&I waste or RDF is managed at one of the nearest appropriate facilities.
- 7.1.9 The national need identified for additional energy recovery facilities in the UK is demonstrated by the evidence of the long term export of RDF which is predicted to continue at significant scale. The benefits of facilities such as the proposed ERF in providing capacity in the UK include:
- Diverting waste from landfill, and up the waste hierarchy leading to less carbon emissions in the UK and the EU.
 - Increased self-sufficiency for the UK.
 - Generation of a secure and supply of dispatchable renewable, sustainable and low carbon energy within the UK
- 7.1.10 Each of the elements of the proposed REC is in conformity with the strategic policies of the statutory development plan.

- 7.1.11 The Application Site is located within the South Tees Development Corporation area which is recognised as the largest employment site in the UK. The Redcar and Cleveland Local Plan through policies LS4 identifies policy support for the regeneration of the area and ED6 which allocates the area for employment and seeks its redevelopment with employment and employment-related sui generis uses, including energy generation and waste management uses, as proposed by the REC.
- 7.1.12 Similarly, the South Tees Area SPD adopted concurrently with the RCLP, which guides the implementation of its policies for the area, identifies the area in which the Application Site is located as the 'Northern Industrial Zone' where power generation is encouraged in order to provide power to the planned energy intensive uses including advanced manufacturing and engineering uses.
- 7.1.13 RCLP policy SD6 provides strategic 'in principle' policy support for renewable, sustainable and low carbon energy developments, such as the proposed REC, subject to their impacts being acceptable.
- 7.1.14 The proposed REC would also:
- Provide sufficient waste management capacity to allow increased recycling, and recovery of value from MSW and C&I waste arising in the Tees Valley, driving it up the waste hierarchy (policy MWC6);
 - Meet the identified requirements of the Tees Valley for the development of waste management facilities for the recovery of value from MSW and C&I waste (policy MWCS7);
 - be located within an area where proposals for large waste management facilities should be located (policy MWC8); and
 - provide facilities to meet capacity to deal with waste imported outside the Tees Valley for which there is an established need (policy MWC8).
- 7.1.15 The supporting information submitted with the application, including the Environmental Statement, Habitat Regulations Assessment Report and Water Framework Directive Assessment, has comprehensively assessed the potential impacts of the proposed development.
- 7.1.16 No significant adverse effects or unacceptable impacts have been identified. The proposed REC is in conformity with the detailed policies of the statutory development.
- 7.1.17 Of particular note, notwithstanding the nature and scale of the proposed REC (including that of the proposed ERF element) there would be no significant landscape or visual effects given the highly industrial setting in which it is located.
- 7.1.18 Nor would there be:
- any adverse effects on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar Site, alone or in combination with the other plans or projects; or on any other European Site;
 - any harm to designated or un-designated heritage assets (and as such, it is not necessary to perform a 'heritage balance'); or
 - any harm to any other material considerations which would provide a clear reason for refusal alone or in combination.
- 7.1.19 There are, however, a number of significant benefits which provide substantial weight in favour of the proposed REC:
- the proposed REC, through the proposed ERF, will generate renewable, sustainable and low carbon energy including 49.9MWe which would potentially be available to the planned development in the South Tees area either by private wire, or directly to the local distribution

Grid. It is estimated that this would generate enough energy to supply up to the equivalent of the energy demand of 100,000 homes which is more than the equivalent demand from all the residential properties in Middlesbrough.

- the ERF would also be CHP Ready which would enable it potentially to supply nearby business with heat and steam.
- the delivery of the proposed ERF with its dispatchable, secure and reliable energy supply will act as an important catalyst for the redevelopment of the South Tees Area required to maximise its redevelopment through attracting the advanced manufacturing that is so important to the overall strategy for the area and the regeneration of the wider area
- The proposed MRF would also be available to receive and recycle waste from construction and operation of the future planned development in the South Tees Area whilst the IBA recycling facility will provide a facility to ensure that aggregate could be produced on site with the potential to be used in the development of the planned adjacent development.
- It makes an efficient use of a brownfield site, on a suitable site located in an appropriate area which is recognised as such by the development plan and is well served by sustainable transport infrastructure.
- Overall the proposed REC would create provide around 450 jobs in the construction phase and around 80 – 100 permanent full time equivalent (FTE) jobs during the construction phase. This employment provision would also lead to the creation of further employment during the operational phase through indirect of induced expenditure. These jobs would provide much needed local employment and the creation of apprenticeships.
- In addition, it would lead to an inward capital investment of circa. £250million which is likely to act as a stimulus for development in the local area and in particular in the South Tees Development Corporation area.
- In combination, the development's contribution of Gross Value Added to the local economy is likely to be significant, and its importance to the strategic objectives of the development plan should be clear, especially having regard to the economic uncertainty resulting from the COVID19 pandemic, and the uncertainty and opportunities arising from the UK's exit from the European Union.

7.2 Overall Conclusion

7.2.1 The proposed REC would essentially provide a cluster of co-located sustainable waste management facilities on brownfield land, located in an area recognised to be the largest employment site in the country. It would provide a secure source of renewable, sustainable, and low carbon energy to the complementary planned energy-intensive uses potentially served by non-road transport facilities; and could therefore become one of the most sustainable facilities of its type providing an exemplar for future developments.

7.2.2 In summary, therefore:

- the proposed REC is in conformity with the provisions of the statutory development plan so far as they are material, and with those policies most important for determining the application which taken as a whole are up to date;
- it is also in conformity with the provisions of national planning policy;
- there are no material considerations alone or in combination which would outweigh its conformity with the statutory development plan; and

- there are significant beneficial material considerations which weigh substantially in its favour.

7.2.3 Accordingly, for all the above reasons we conclude that the planning balance is overwhelmingly in favour of the proposed REC. We respectfully submit, therefore, that the case in favour of granting permission is compelling and invite the planning authority to grant planning permission for this sustainable development.