Environmental Risk Assessment

Energy Ventures No1 Ltd

Selby Energy Recovery Plant

14th August 2025

Project No.: SOL_24_P076_ERA

…consulting sustainability

sol environment

Document Details	
Document Title	Environmental Risk Assessment
Document Subtitle	Selby Energy Recovery Plant
Project No.	SOL_24_P076_ERA
Date	14th August 2025
Version	QMS_7.5.38_TEM – Template – Report Long Form – New Style (Perm) v5
Author	Charlie Holmes
Client Name	Energy Ventures No1 Ltd

Document History				
Version	Comments	Date	Author Initials	Reviewer Initials
I1	First Issue to the Environment Agency	14/08/2025	CH	SR

Signature Page

14th August 2025

Environmental Risk Assessment

Selby Energy Recovery Plant

Charlie Holmes
Environmental Consultant

Sophie Rainey
Senior Environmental Permitting Manager

This report has been prepared by Sol Environment with all reasonable skill, care, and diligence, and taking account of the Services and the Terms agreed between Sol Environment Ltd and the Client. This report is confidential to the client, and Sol Environment accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Sol Environment Ltd beforehand. Any such party relies upon the report at their own risk.

Sol Environment disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the Services

Registered office: 10 The Lees, Malvern, Worcestershire, WR14 3HT

Company Registered in England no. 7068933

Sol is ISO 9001:2015 certified by British Assessment Bureau Limited, a UKAS Accredited Certification Body number 8289 for the scope of Environmental Consultancy providing a range of services to companies in the UK and Europe. Certificate number: 259774.

1. INTRODUCTION

As part of an application for an environmental permit Operators must assess the risk to the environment and human health from the activities they seek to permit. This Environmental Risk Assessment has been undertaken to support a Bespoke Installation permit application in accordance with the Environment Agency Guidance for undertaking environmental risk assessments.

Environmental risks relevant to the site activities are:

- Emissions to Air;
- Emissions to Water;
- Emissions to Land;
- Odour;
- Noise;
- Litter;
- Pests;
- Vandalism;
- Fire; and
- Incompatible Feedstock.

For each of the above environmental criteria the approach to the assessment has followed the following four stage process:

- Identify the risks;
- Assess the risks (assuming those control measures proposed are in place);
- Choose appropriate further measures to control these (if required); and
- Present the assessment.

Environmental Risk Assessment						
Hazard	Receptor	Pathway	Risk Management Techniques	Probability of Exposure	Consequence	Overall Risk (following Mitigation)
Point Source / Emissions to Air	Atmosphere	Airborne	• The facility will only process non-hazardous refuse derived fuel and mixed municipal waste feedstocks. • The facility will consist of a single 50m stack comprising of a single flue (A1), the chimney shall be designed in accordance with relevant standards. • All emission concentrations from the combustion plant will be in line with those ELV's specified in Chapter IV of the Industrial Emissions Directive (IED) and the Waste Incineration BREF. • An air quality assessment of emissions to atmosphere from the proposed development has been carried out and provided within *Annex D – Air Quality Assessment and HHRA*. • The air quality impact assessment considered the air impact to all identified residential, sensitive habitat and ecological receptors. • The report concludes that the predicted maximum off-site concentrations are well below the relevant air quality standards for all pollutants considered and that the predicted process contributions are negligible compared with the critical levels for airborne NOx, SO_2, NH_3 and HF and critical loads for nutrient nitrogen deposition and acidification at nearby sensitive habitat sites. • The plant will be operated with a CEMS unit which will be linked into the controls system. In the unlikely event of CEMS failure, a full	Low: Due to distance of closest receptors	Air Pollution	VERY LOW due to the mitigation in place and the distance of the closest receptor

			replacement back-up CEMS will be available on site. • All CEMS equipment and associated platforms and sampling ports installed on site will meet the requirements of BS EN 15259 Air quality – Measurement of Stationary Source Emissions and Environment Agency Technical Guidance Note M2. All CEMS equipment shall be MCERTS approved. • Flue gas cleaning and pollution control consists of Selective Non-Catalytic Reduction (SNCR) through ammonia injection, a dry scrubbing system incorporating sodium bicarbonate injection for acid gas neutralisation, activated carbon powder injection for absorption and removal of heavy metals, dioxins, VOCs and other harmful substances and a fabric filter for particulates removal. • The design of the plant will ensure that the emission limits are in line with those set out in the Environment Permit.			
Emissions to Water	Groundwater / Geology / Surface Water	Waterborne	• There will be no process emissions to controlled waters. • Uncontaminated clean surface water runoff captured from roof drainage and external roadways / car parking areas will be discharged to the existing surface water drainage system (W1). • Any effluent arising from the process plant will be collected in an effluent collection tank and discharged via sewer (S1). All domestic foul effluent arisings will also be discharged via sewer. • All emissions to sewer will be monitored in line with the sites effluent discharge consent once granted. • In the event of a significant site fire, the facility has been designed to fully contain any	LOW: all runoff is controlled on site, therefore the probability of exposure is low.	Contamination	VERY LOW due to the proposed management techniques and drainage arrangements

			firewater run-off. In the event of a fire within the bunker, any water from the suppression system will be contained within the bunker. The external baled area will be protected by a sealed drainage system and secondary containment which has also been designed to contain any firewater runoff. The firewater collected will be tankered off site for disposal.			
Emissions to Land	Groundwater / Geology	Spills / Leaks	• There will be no emissions to land arising from the proposed facility. • The only external storage activities relate to the baled storage area which will be protected by a sealed drainage system and secondary containment which has also been designed to contain any firewater runoff. • Spill kits will be strategically located around site. • Minor spills will be cleaned up immediately, using spill kits. Resultant materials to be placed in container for off-site disposal to appropriate facility, if necessary. • Immediate action to be taken in event of any major spills. Spillage to be cleared immediately and placed in containers for offsite disposal. EA to be informed	LOW: spills / leaks could potentially contaminate the ground / groundwater underneath the site.	Contamination	**VERY LOW** due to the proposed risk management techniques
Noise	Local Residents	Airborne	• All potentially noisy plant will be acoustically enclosed and / or fitted with attenuation. • Vehicle deliveries will only take place during daytime. • Appropriate preventative maintenance will be provided for the various elements of the installation. This will ensure no deterioration of plant or equipment that would give rise to increases in noise. • The processing plant and associated equipment has been designed in accordance with best practice and to ensure that internal noise does not present an issue to the	MEDIUM: due to the nature of the activities, noise emissions from the plant are inevitable and could cause offsite receptor impacts	Nuisance	**LOW** due to the proposed risk management techniques

			employees at the site under the Control of Noise at Work Regulations and to ensure that noise breakout does not lead to noise nuisance at the identified sensitive receptors. • The facility will not give rise to reasonable cause for annoyance. In the unlikely event that complaints are received measures described in the integrated management system will be put in place. • A noise impact assessment has been carried out to assess the noise impacts from the proposed development and is included within *Annex E – Noise Impact Assessment*. • The report concludes that the rating levels are calculated to fall below the background sound levels. BS 4142 indicates that where there is no excess of the rating over the background sound level there is a low likelihood of adverse impact.			
Odour	Local Residents	Airborne	• Due to the design of the building structure and the fully enclosed processing activities, there is very little potential for offsite odour emissions and impacts to arise from the site. • Any internal waste unloading and storage within the Fuel Reception Hall takes place under controlled conditions. The only external storage activities relate to the storage of baled RDF waste. The potential for odour emissions arising from the external storage of baled wastes is limited due to the strict control measures in place. No odorous wastes will be accepted on site in accordance with the sites waste acceptance procedures, all bales are required to be well wrapped and a site inspection is undertaken twice daily. Any damaged, poorly wrapped or odorous bales are immediately removed and placed internally for processing.	MEDIUM: The occurrence of odour emissions from the site is possible	Nuisance	**LOW** due to the proposed risk management techniques

			• Entry to the Fuel Reception Hall is via fast acting electrically controlled roller shutter doors to minimise fugitive emissions. All vehicles are required to reverse into the hall and discharge directly into the reception bunker. The discharge of fuel will only take place once the roller shutter doors are closed. • To avoid any odour emissions, the building will be kept at slight negative pressure. An air extraction system will be in place resulting in odorous air within the building being thermally destroyed by the combustion system. • During periods where the plant is in shut down, such as for maintenance on equipment related to the air extraction system, the site has a backup ventilation and odour treatment facility, comprising a ventilation unit with activated carbon filter media will be in place. • No malodorous waste feedstocks will be accepted onto site and therefore the potential for offsite odour impacts is considered negligible. • An Odour Management Plan has been produced which will form part of the sites Environmental Management System which is provided in *Annex J – Odour Management Plan*.			
Dust	Local Residents	Airborne	• Vehicle speeds will not exceed 5mph on site which is a recognised method of controlling dust. • All plant will be regularly maintained, inspected and kept clean to avoid a build-up of material, which may lead to dust emissions. • Vehicles delivering to the site will be covered. • Site drainage, containment systems and associated infrastructure will be regularly cleared and maintained as required to ensure they are working correctly.	LOW: the occurrence of dust emissions migrating offsite is low.	Nuisance	VERY LOW due to the proposed risk management techniques

			• The facility will not give rise to reasonable cause for annoyance. In the unlikely event of any complaints, these will be dealt with in accordance with the sites complaints procedures. • No inherently dusty material is accepted onto site, therefore the potential for dust emissions is very low.			
Litter	Local Residents	Airborne	• The only external storage consists of of baled waste which will be sufficiently wrapped to prevent litter issues . • All incoming and exporting waste vehicles will be covered. • The site access and site services shall be swept as necessary. • The site shall be inspected daily by the site manager and any litter or accumulated debris shall be dealt with immediately. • The site will have robust housekeeping measures in place.	LOW: the occurrence of litter on site is unlikely therefore the probability of exposure is very low.	Nuisance	LOW due to the proposed risk management techniques
Pests	Local Residents	Airborne and migration	• Pests are not likely to become a problem on site. • However, if a problem does develop, reasonable measures will be taken to use commercially available products and services to control pests. • If a particular waste is determined to be the cause of a problem it shall be removed from site at the earliest available opportunity and consideration given to mitigation measures that may be implemented before any more waste from that source is accepted on site. • The short storage times of waste reduces the risk of pests.	LOW: the occurrence of pests on site is highly unlikely.	Nuisance	VERY LOW due to the proposed risk management techniques
Vandalism	Operator	The site could be subject to intentional	• The site has CCTV monitoring and is manned 24/7. • The site is well lit and secured by a perimeter fence.	LOW: the occurrence of vandalism taking	Nuisance, Damage or Fire	VERY LOW due to the proposed risk

		vandalism and damage by intruders / trespassers who could cause damage or harm to the site or cause fires.	• Fencing is maintained and repaired to ensure its continued integrity. If damage is sustained, repair will be made within the same working day. If this is not possible, suitable measures will be taken to prevent unauthorised access to the site and permanent repairs will be affected as soon as is practicable. • All visitors to the site are required to register in the visitor's book and sign out again on exit, thereby minimising the risk of unauthorised visitors on the site.	place on site is highly unlikely.		management techniques
Fire on site	Operator / Residential Properties	Windborne	• Arson by intruders will be controlled via CCTV monitoring and site being manned 24/7. • The site is well lit and secured by a perimeter fence. • The Fuel Reception Hall is equipped with a fire detection and suppression system which will immediately identify any hotspots within the storage piles. • All proposed storage duration times are well within the EA's Fire Prevention Plan Guidance. • The site will have a regular inspection and maintenance programme which will identify any electrical or mechanical machinery faults which could result in a machinery fire. • Machinery will be regularly cleaned to remove any dust, etc. • All relevant equipment on site will be equipped with dedicated fire suppression. • A number of fire extinguishers will be placed at strategic locations around the plant. • The potential for sparks will be regularly monitored by site staff. • The risk of damaged or exposed electrical cables will be controlled via the regular inspection and maintenance programme. • Staff and visitors will only be permitted to smoke within the designated smoking area.	LOW: the occurrence of a fire taking place on site is highly unlikely.	Fire	VERY LOW due to the proposed risk management techniques

			• There will be no smoking permitted within the operational area of the site. • The site has a detailed Fire Prevention Plan.			
Incompatible Feedstock	Operator / Residential Properties	If incorrect waste is accepted on site it could result in adverse emissions	The following methods will be implemented to ensure that incompatible feedstocks do not compromise the safe operation of the site: • All waste will be subjected to 'pre-acceptance' in accordance to established waste acceptance procedures; • Any non-conforming waste will be removed prior to acceptance in accordance with established waste acceptance procedures. • Waste that has been off-loaded and cannot be reloaded will be stored in the designated quarantine area. Records of incidents involving incompatible waste will be kept on site together with a summary of the remedial action taken.	LOW: off-site receptor impacts.	Nuisance / Adverse Emissions	VERY LOW due to the proposed risk management techniques
Climate Change Factors including: • Rising River Levels and Site Flooding; • Increased temperature / fire risk; • Extreme Cold Weather; and • Increase odour / vermin.	Controlled Waters	Site is located in a Flood Zone 1 and is therefore at a low risk of flooding. Increased rainfall and flash flood runoff due to climate change have the potential to impact the site causing flooding and potential contamination of surrounding green landscapes.	• The site is considered to be at low risk of climate change factors due to the site being within a Flood Zone 1 and the sites current EMS. • The sites EMS will remain responsive and adaptive to the evolving risks posed by climate change and will prioritise mitigation measures should there be increased risks to the site or surrounding area. • Given that all the nature of the wastes on site and the mitigation measures in place, the risk of odour, fire and dust as result of Climate Change is considered negligible.	LOW: The control of runoff during a flood event is difficult. Any water that enters buildings and waste storage areas has the potential to mobilise waste and/or contaminate the water. Safe access of the site personnel is considered paramount.	Controlled Water Personnel	LOW due to the proposed risk management techniques