

Schedule 1 Listed Activity	Description of Listed Activity	Waste types (currently permitted)	Waste types (proposed changes in line with Appendix B of the Anaerobic Digestion Quality Protocol.¹)
S5.4 Part A(1)(b)(i)	<p>Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 100 tonnes per day involving biological treatment.</p> <p>Pre-digestion of wastes in a Raw Waste Buffer Tank.</p> <p>Anaerobic digestion of waste in 3 No. Primary Digesters and 1 No. Post Digester followed by upgrade of biogas and burning of biogas produced from the process.</p> <p>Waste types that may be used as feedstocks are detailed in the subsequent two columns of this table.</p>	<p>02 WASTES FROM AGRICULTURE, HORTICULTURE, HUNTING, FISHING AND AQUACULTURE PRIMARY PRODUCTION, FOOD PREPARATION AND PROCESSING</p> <p>02 01 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing</p> <p><i>02 01 01 - Sludges from washing and cleaning - food processing waste, food washing waste</i></p> <p><i>02 01 02 - Animal tissue waste including blood, animal flesh, fish processing waste, poultry waste</i></p> <p><i>02 01 03 - Plant tissue waste including husks, cereal dust, waste animal feeds, off-cuts from vegetable and fruit and other vegetation waste.</i></p> <p><i>02 01 06 - Animal faeces, urine and manure (including spoiled straw)</i></p> <p><i>02 01 07 - Wastes from forestry</i></p> <p><i>02 01 99 – Residues from commercial mushroom cultivation</i></p> <p>02 02 Wastes from preparation and processing of meat, fish and other foods of animal origin</p> <p><i>02 02 01 - Sludges from washing and cleaning, process water, food washing waste</i></p> <p><i>02 02 02 - Animal tissue waste including blood, animal flesh, fish processing waste, fish carcasses, poultry waste</i></p> <p><i>02 02 03 - Materials unsuitable for consumption or processing</i></p> <p><i>02 02 04 - Sludges from on-site effluent treatment</i></p> <p><i>02 02 99 - Sludges from gelatine production, animal gut contents</i></p> <p>02 03 Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production, yeast and yeast extract production,</p>	

¹ Anaerobic Digestate Quality Protocol, WRAP, January 2014

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		<p>molasses preparation and fermentation <i>02 03 01 - Sludges from washing, cleaning, peeling, centrifuging and separation</i> <i>02 03 04 – Materials unsuitable for consumption or processing</i> <i>02 03 05 - Sludges from on-site effluent treatment</i> <i>02 03 99 - Sludge from production of edible fats and oils to include seasoning residues, molasses residues, residues from production of potato, corn or rice starch</i></p> <p>02 04 Wastes from sugar processing <i>02 04 03 - Sludges from on-site effluent treatment – biological sludge</i> <i>02 04 99 -Other wastes</i></p> <p>02 05 Wastes from dairy products industry <i>02 05 01 – Materials unsuitable for consumption or processing including solid and liquid dairy products, milk, food processing wastes, yoghurt, whey.</i> <i>02 05 02 - Sludges from on-site effluent treatment</i></p> <p>02 06 Wastes from the baking and confectionary industry <i>02 06 01 –Materials unsuitable for consumption or processing including condemned food, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes.</i> <i>02 06 03 - Sludges from on-site effluent treatment</i></p> <p>02 07 Wastes from production of alcoholic and non-alcoholic beverages (except tea, coffee and cocoa) <i>02 07 01 - Wastes from washing, cleaning and mechanical reduction of raw materials Including brewing</i></p>	<p><i>Remove – 02 07 05- sludges from on-site effluent treatment</i></p>

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		<p>waste, food processing waste, fermentation waste 02 07 02 Wastes from spirits distillation including spent grains, fruit and potato pulp, sludges from distilleries 02 07 04 - Materials unsuitable for consumption or processing (other than those containing dangerous substances) - brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks and fruit juice 02 07 05- sludges from on-site effluent treatment 02 07 99 - Spent grains, hops and whisky filter sheets/cloths, yeast and yeast like residues, sludge from production process</p>	
S5.4 Part A(1)(b)(i)	As above	<p>03 WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PAPER, CARDBOARD, PULP, PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD 03 03 Wastes from pump, paper and cardboard production and processing 03 03 02 – green liquor sludge 03 03 08 – paper and cardboard – not allowed if any non biodegradable coating or preserving substance present 03 03 10 - Fibre rejects and sludges – paper pulp (deinked only), paper fibre</p>	<p>Remove - 03 03 02 – green liquor sludge Remove - 03 03 08 – paper and cardboard – not allowed if any non biodegradable coating or preserving substance present Add – 03 03 11- Sludges from on-site effluent treatment other than those mentioned in 03 03 10 Restriction: Only allowed if not mixed with, or does not contain, de-inking sludge</p>
S5.4 Part A(1)(b)(i)	As above	<p>04 WASTES FROM LEATHER, FUR AND TEXTILE INDUSTRY 04 01 Wastes from the leather and fur industry 04 01 01 - Fleshings and lime split wastes 04 01 05 – Tanning liquor free of chromium 04 01 07 – Sludges not containing chromium</p> <p>04 02 Wastes from the textile industry</p>	<p>Remove - 04 01 05 – Tanning liquor free of chromium Remove - 04 01 07 – Sludges not containing chromium</p>

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		<i>04 02 10 - Organic and natural products, e.g. grease, wax</i>	
S5.4 Part A(1)(b)(i)	As above	07 WASTE FROM ORGANIC CHEMICAL PROCESSES 07 01 Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals <i>07 01 08 - Glycerol</i>	<i>Add Restriction to 07 01 08-: Glycerol residue from biodiesel manufacture from nonwasted vegetable oils only</i>
S5.4 Part A(1)(b)(i)	As above	15 WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED 15 01 Waste packaging, absorbents, filter materials, wiping cloths and protective clothing <i>15 01 01 - Paper and cardboard packaging - not allowed if any non biodegradable coating or preserving substance present (excludes laminates such as Tetrapaks)</i> <i>15 01 02 –Biodegradable plastic packaging – must be independently certified to BS EN 13432</i> <i>15 01 03 – untreated wooden packaging – not allowed if any non biodegradable coating or preserving substance present</i> <i>15 01 05 – composite packaging – must conform to BS EN 13432 and not allowed if any non biodegradable coating or preserving substance present</i>	<i>Remove - 15 01 02 – Biodegradable plastic packaging – must be independently certified to BS EN 13432</i>
S5.4 Part A(1)(b)(i)	As above	No waste currently permitted under this chapter.	Add: 16 WASTES NOT OTHERWISE SPECIFIED IN THE LIST 16 01 Aqueous liquid wastes destined for off-site treatment <i>16 10 02 Aqueous liquid wastes other than those mentioned in 16 10 01</i>

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			<i>Restriction: Allowed only if digestate from an aerobic digestion process that accepts only the waste input types allowed by the Anaerobic Digestion Quality Protocol.</i>
S5.4 Part A(1)(b)(i)		<p>19 WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE</p> <p>19 02 Wastes from physiochemical treatments of waste</p> <p><i>19 02 03 - Waste types listed within this table, that have been mixed together only</i></p> <p><i>19 02 06 – sludge types from waste listed within this table, that have been heat treated only</i></p> <p><i>19 02 10 - glycerol not designated as hazardous i.e. excludes EWC code 19 02 08</i></p> <p>19 05 - Wastes from the aerobic treatments of solid wastes</p> <p><i>19 05 01 – Non-composted fraction of municipal and similar wastes</i></p> <p><i>19 05 02 - Non-composted fraction of animal and vegetable waste</i></p> <p><i>19 05 03 - Off-specification compost from source segregated biodegradable waste</i></p> <p><i>19 05 99 – Composting liquors</i></p> <p>19 06 - Wastes from the anaerobic treatment of waste</p> <p><i>19 06 03 - Liquor from anaerobic treatment of municipal waste</i></p> <p><i>19 06 04 - Digestate from anaerobic treatment of municipal waste</i></p> <p><i>19 06 05 - Liquor from anaerobic treatment of animal and vegetable waste</i></p>	

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		<p><i>19 06 06 - Digestate from anaerobic treatment of animal and vegetable waste</i></p> <p>19 08 Wastes from waste water treatment plants <i>19 08 09 - Grease and oil mixture containing only edible oils and fats</i> <i>19 08 12 - Sludges from industrial biological treatment</i></p> <p>19 12 Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified <i>19 12 12 – Waste types listed within this table, that have been subjected to mechanical treatment only</i></p>	
S5.4 Part A(1)(b)(i)		<p>20 MUNICIPAL WASTES AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES INCLUDING SEPARATELY COLLECTED FRACTIONS</p> <p>20 01 municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions <i>20 01 01 - Paper and cardboard – not allowed if any non biodegradable coating or preserving substance present (excludes laminates such as Tetrapaks)</i> <i>20 01 08 - Kitchen and canteen waste</i> <i>20 01 25 - Edible oil and fat</i> <i>20 01 38 - Untreated wood where no non-biodegradable coating or preserving substance present</i></p> <p>20 02 Garden and park wastes (including cemetery waste) <i>20 02 01 - Biodegradable waste</i></p> <p>20 03 Other municipal wastes <i>20 03 01 - Mixed municipal waste – separately collected biowastes</i></p>	

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		<i>20 03 02 - Waste from markets - allowed only if source segregated biodegradable fractions e.g. plant material, fruit and vegetables</i>	

Name of Directly Associated Activity (DAA)	Description of DAA (all serve S5.4 Part A(1)(b)(i))
Storage of waste pending recovery or disposal	<p>Storage of solid waste on an impermeable surface with sealed drainage (inside the Waste Reception Building with odour abatement via a biofilter).</p> <p>The maximum tonnage of solid wastes pending treatment shall not exceed 315 tonnes at any one time.</p> <p>The maximum residence storage time for solid waste in the Waste Reception Building shall not exceed 3 days.</p> <p>Storage of liquid wastes pending treatment in the Raw Waste Buffer Tanks within the secondary containment (up to 452 tonnes at any one time).</p> <p>Storage of residual wastes from pre-treatment of packaged waste within the Waste Reception Building pending dispatch off-site for recovery (up to 30 tonnes at any one time).</p>
Physical treatment for the purpose of recycling	<p>Pre-treatment of waste within the Waste Reception Building (with odour abatement via a biofilter) including shredding, sorting, screening, compaction, baling, mixing, blending, maceration and depackaging.</p> <p>Treatment of waste; within depackaging unit (shredder, drum washer, screw press) to separate packaging material from organic waste suitable for anaerobic digestion.</p> <p>Chemical addition for desulphurisation and trace element supplementation, as required.</p> <p>Maceration and separation of digestate via a 12mm screen of prior to heat treatment in the pasteuriser (greater than 70°C for 1 hour).</p> <p>Treatment of digestate to include screening to remove plastic residues and separation.</p> <p>Compression of biomethane for storage and transportation off-site.</p> <p>Compression of carbon dioxide for storage and transportation off-site.</p>
Steam and electrical power supply	<p>Combustion of biogas in two 1,200kW_e combined heat and power (CHP) engines. Each CHP has a thermal input of 2,850kW_{th}. (5.7 MW_{th} aggregated thermal input) to produce heat and electricity. Electricity use on site and export to grid. Heat to AD plant. Under normal operations only one CHP will operate, with the second engine acting as a standby</p> <p>Combustion of diesel in one emergency generator (414kW_e) with a thermal input of 1.2 MW_{th}. Electricity to AD Plant.</p>
Gas upgrading	<p>Carbon dioxide (CO₂) treatment in the CO₂ capture unit via compression, molecular sieve dryer, fine filter and liquefaction.</p> <p>Upgrading of biogas to biomethane (including the removal of moisture and other substances such as carbon dioxide, hydrogen sulphide and Volatile organic compounds) and compression for injection into the National Grid (via virtual pipeline).</p> <p>Gas cleaning by adsorption, biological or chemical scrubbing.</p>

Name of Directly Associated Activity (DAA)	Description of DAA (all serve S5.4 Part A(1)(b)(i))
Emergency flare operation	Use of two auxiliary flares (1,000Nm ³ /h & 500Nm ³ /h) required only during periods of breakdown or maintenance of the CHP engine(s) and biogas upgrading plant.
Gas storage	Storage of biogas above the Raw Waste Buffer Tank and the 4 No. digesters. Storage of biomethane produced from the upgrading plant in compressed biomethane storage modules. Storage of carbon dioxide produced from carbon dioxide recovery plant.
Digestate storage	Storage of digestate liquor in 2. No covered lagoons with treatment of off-gas. Storage of digestate fibre in a dedicated bay with an impermeable surface and sealed drainage.
Raw material storage	Storage of raw materials including ferric hydroxide, oil, diesel and additives for the anaerobic digestion process.
Surface water collection and storage	Collection of rainwater from building rooves, external concrete areas and the secondary containment area and storage in lined surface water storage lagoon.
Dirty water collection and storage	Collection and storage of dirty water from silage clamps, secondary containment area, digestate separator and fibre area and inside Waste Reception Building and which is pumped to storage tanks pending for reuse in the AD process.
Air treatment	Collection of air from the Waste Reception Building and treatment within a biofilter. Collection of off-gas from digestate storage lagoons and treatment via carbon filters before venting.