An Bord Pleanála

Inspector's Report

ABP-311149

Development	Biomass processing and storage area. Construction of: Gasification and Methanation Plant for production of biofuels, a Gasification and Combined Heat Power Plant for production of electricity and heating, Battery Storage Facility, Thermal Energy recover and storage facility for district heating distribution, new 38kV substation. Creation of new access road off L-3169-0 and ancillary development, parking, landscaping and drainage. The application is accompanied by an NIS.
Location	Stonehall, Newmarket on Fergus, Co. Clare.
Planning Authority	Clare County Council
PA Reg. Ref.	20705
Applicant(s)	Carbon Sole Group Limited.
Type of Application	Permission
PA Decision	Grant with conditions
Type of Appeal	Third Party vs. Grant
Appellant(s)	1) Eoin & Helen McInerney and 2) Clean Air Shannon
Observer(s)	1) Biofuelwatch - Almuth Ernsting
Site Inspection Dates	14th January + 2nd April 2022
Inspector	Suzanne Kehely

Contents

1.0 Site Location and Description

1.1. The site is located in a rural low-lying area on the outskirts of Shannon to the north of Shannon Airport and a number of extensive industrial/business parks. The Lufthansa Aircraft Maintenance premises lies c. 250m to the South West. Stonehall Business Park is a small development c.250m north of the site. It is located c. 1km off the N19 via the R472 to the east. It is a corner site fronting road L-3169-0 to the south and a local road to Stonehall to the east.

1.2. The site extends to a stated area of 3.5 hectares and is of a flat terrain and an irregular shape and comprises fields with a mix of grass /scrubland and hedgerows. A drain traverses the site in a north south direction.

1.3. The site is outlined in red and includes the road margin to the front. The boundary of the site is mainly hedges with intermittent field entrances. The applicant's landholding is outlined in blue and includes the adjoining land to the north and east

1.4. The nearest dwelling is within c. 100m on the opposite side of the road. Another nearby dwelling is set back off the road in lands to the north. There are several 'one-off' houses further north along the Stonehall road and also along a local road to the west of the site.

1.5. The Shannon Estuary is within 1.5km of the western site boundary.

1.6. The old 6 inch ordnance survey map shows that the site overlaps part of the former grounds of a former castle - Stonehall House - the curtilage of which is c 230m hundred metres north of the site boundary. The western boundary of the site aligns with part of its former avenue. The road to the south of the site reflects a northwards realignment traversing the former grounds and entrance avenues.

1.7. The former Stonehall House is the site of some National Monuments (CL051-124001) and the site is included in The Castles and Tower-House of Co.Clare. It is described as a 16th Century Castle which was later incorporated into a mansion but in ruins by late 19th Century. It was apparently 'blown up around 1950 to remove danger for low flying aircraft.' The only remains are described as a raised grassy platform on which the castle stood, a rubble stone wall containing the gable of a building and a built-up gateway to the north. The former garden to the east contains

a filled up well and vestiges of stone walls (walled garden) are also close by. Other monuments include:

Monument identifier CL08560 - a Bawn site north of the Caste/Tower House stie
Monument Identifier CL05565 - an Enclosure west of the Stonehall House – 200m northwest of the site
Monument Identifier CL05562 - an Enclosure 600m to the west of the site.
Monument Identifier CL05570 - an Enclosure 170m to the east
Monument Identifier CL05571 - an Enclosure 220m to the east
Monuments identifiers CL05569 (FIBO) CL05566 (BUIL) CL05564 (RATH) are located respectively c. 170, 70m and 220m to the south of the site on the opposite side of the road.

There is an additional clustering of monuments particularly to the east within a range of c 0.5-1km of the site.

2.0 Proposed Development

2.1. The proposal involves the development of a Hybrid Energy Park described as a renewable energy development on a 3.5 hectare site north of Shannon Airport.

2.2. The development comprises construction of c. 730 sqm of floor area to provide the following components:

- Biomass processing and storage area utilising forestry products,
- Gasification and Methanation Plant for the production of advanced biofuels.
- Gasification and Combined Heat Power Plant for production of electricity and heating.
- Battery Storage Facility (20MW).
- Thermal Energy recovery and storage facility for district heating distribution.
- On-site 38kV substation.
- Ancillary development including the creation of a new access road from the L-3169-0, the provision of a site office, car parking, internal access roads, perimeter landscaping, fencing, lighting, and on site drainage.

2.3. The **site layout plan** shows the layout of proposed access, structures, utilities, storage tanks, parking and hardstanding and identifies 32 components each of which is set out in detailed drawings. The main construction components are set out below:

Item(s)	Description	Detailed drawing
1A &1B 2	Wet and Dry Biomass area Biomass Dryer	Drawing no. JOD-XX-DR-C-200-016 shows the layout for the Biomass area (denoted 1A 1B and 2) and its linkage channel to the gasification island (3). Drawing no. JOD-XX-DR-C-200-016-01 shows the elevations. The area consists of a partially enclosed store with hoist and drying area. It is a shed like mono pitched structure 10m in height and with a footprint of area 45m x 15m excluding the drying and transport areas. It is positioned along the eastern boundary at a setback of 4.1m and set back from the road by up to 61m.
3	Gasification Island Phase 1	This is about 80m from the road. Drawing no. JOD-XX-DR-C-200-009 shows the gasification island (methanation) layout, elevations and sections. It is an open grid structure with a total height of 20.11m and has a footprint of 16.7 x 9.8m. It contains a tank and pipe network with 5 levels of access decks.
4, 5, 6	The following uses are alongside building 3: Process Air Area(Methanation and CHP) /DAF Island and RO	these three uses in a single building set back c.70m from the road. The details of each process area are shown in 3 drawings for 4/4', 5,/5' and 6/6'. Drawing no JOD-XX-DR-C-200-012 shows the Process Air Area (denoted 4 and 4') layout and elevations . It consists of plant in an open side

	Area (Methanation and CHP)/Pneumatic Transport Area	roofed canopy of 3m in height and in an area 7.5m x 7.3m. Drawing JOD-XX-DR-C-200-011 shows the DAF island and reverse osmosis area (5 and 5') in an enclosed flat roof structure 5m in height and with a footprint of 12.25m x 7.5m. Th plant layout is shown and the structure has blank elevations with two stand doors and a large roller type door (no details)
4', 5', 6'	The above uses are also alongside building 14:	
7A &7A'	Nitrogen Islands	These are to the south of the gasification islands. Drawing JOD-XX-DR-C-200-013 shows the plan and elevation f these storage tanks of 4.34m in height and within a compound of 4.7m x 6.3m.
7B &7B'	O2 Tanks	These are adjacent to Nitrogen Islands and Drawing JOD-XX-DR-C-200-013 applies.
8 &8'	Gasification Plant Storage areas (Meth ad CHP)	These are labelled gasification islands in the site layout plan and consist of multiple tanks for water treatment and wastewater storage which range in height from 2m to 8.4m in an area 27m x 5.6m. Drawing JOD-XX-DR-C-200-014 refers to 8 and Drawing JOD-XX-DR-C-200-014-01 shows 8' plan and elevations. They appear the same.
9&9'	Cooling Islands (Meth & CHP)	These are to the rear of the gasification islands. Drawing JOD-XX-DR-C-200-015 shows the cooling island layout, and elevations. It is an open area plant to a height of 2.66m with a footprint of 6.2m x 16.8m.

10	Boiler Room	To the front of item 4 Drawing JOD-XX-DR-C-200-020 shows a structure with footprint of 6 x6m and a height of 6.5m. No external elevations are shown.
11 and 12	Methanation Island & Upgrading Area	This is large structure to the rear of the site. Drawing JOD-xx-DR-C-200-022 shows a structure with footprint of up to 17m x30m and a height of 12m with tanks and access steps. No external elevations are shown.
12		This is adjacent to 11.
13	Gas filling set down area	This is separate area a few metres from item 12. Drawing JOD-xx-DR-C-200-023 shows a roofed structure with footprint of 25 x 22m and a height of 10m (6.5m eaves.) The external elevations are not entirely clear. The layout shows 6 filling/set down areas.
14	Gasification Island (CHP) (Phase 2)	This is about 55m from the road. Drawing JOD-XX-DR-C-200-009-01 shows the gasification island (CHP) layout, elevations and sections. It is an open grid structure with a total height of 20.11m and has a footprint of 20.9 x 12.25m. It contains a tank and pipe network with 5 levels of access decks.
15	Gas Engine Area (CHP)	This is about 55m from the road. Drawing no JOD-XX-DR-C-200-017 shows the Gas Engine Area which consist of stepped enclosed structure with a overall height of 11.18m and footprint of approx. 20m x 21.8m. It is not quite square and the layout shows large engine room and smaller ancillary rooms . It is also has three flues each 17.67m high. The elevations show the engine room as enclosed

		structure with internal and external doorways and partially open ancillary area. The elevations appear to be of metal cladding but no detail of materials and finishes are indicated.
16	DHS Plant Rom (District Heating Room)	This is partially to the rear of 15. Drawing JOD-xx-DR-C-200-031 shows a roofed structure with footprint of 7m x 10.25m and a height of 6.11m (5m eaves.) The external elevations are not stated but appear to metal cladding. The layout shows 6 heat exchangers and 6 pimps.
17	Heat recovery area	This is to the rear of 15
18	Thermal Heat Storage Tank	Drawing JOD-xx-DR-C-200-018 shows a circular structure with footprint diameter of 8.6m m and a domed height of 5m.
19	LV Room/Electrical and I&C Cabinets	This behind the Gasification Island (14). Drawing JOD-xx-DR-C-200-027 shows a flat roofed structure with footprint of 12m x18m and a height of 3. external elevations indicate two doors and blank walls.
20	Enclosed Flare	This is the rear of the site. Drawing JOD-xx-DR-C-200-026 shows a cylindrical structure with footprint diameter of 91.2m and a height of 10m in fenced compound 14.4m square.
21 & 22	Water Tanks (Fire water and Raw Water)	These are to the rear of the site beside the flare. Drawing JOD-xx-DR-C-200-024 shows a cylindrical structure for raw water with footprint diameter of 9m and a height of 5m in fenced compound. Drawing JOD-xx-DR-C-200-025 shows a cylindrical structure for fire water with footprint

		diameter of 10.4m and a height of 5m in fenced compound.
23	Pipe rack adjacent to water tanks	
24 & 25	Office building and control building	These are at the site entrance . Drawing JOD-xx-DR-C-200-029 shows item 24 as a structure with footprint of 4m x 7m and a height of 3m. It is a windowless structure with two doors and blank elevations. Internal layout to be confirmed. Drawing JOD-xx-DR-C-200-028 shows item 25 as a similar structure with footprint of 12m x 9m and a height of 3m. It is a windowless structure with two doors and blank elevations Internal layout to be confirmed. No materials or finishes specified
26	Car Park	This is adjacent to the office/control buildings
27 x 2	ESB Substations	These are at the east end about 40-49m from the road. Drawing JOD-xx-DR-C-200-021 shows a structure with footprint of 19m x 5.5m and a height of 3m. and blank elevations with two doors. Internal layout to be confirmed.
28, 29, 30 , 31 x6 and 32 x6	Auxiliary transformer cabinet, Switch gear Cabinet, Primary meeting cabinet, Batteries and Inverters and Transformers	This the most eastern point of the development set back c. 45m- 60m from the road in a fenced compound. It is 60m from the eastern boundary and 1.4m from the northern boundary. Drawing JOD-xx-DR-C-200-030 shows layout and elevations. . heights range from 2.4m to 2.91m.

Fencing & Boundary	2.6m high security palisade fencing.	The entire site is proposed to be fenced off. Additional internal fencing is also proposed. entire road frontage (south and east) is proposed to be planted in addition to existing hedging to be maintained. Drawing JOD-xx-DR-C-200-028 shows detail of gates (rising to 2.6m), cameras (mounted on 3m poles) and lights (3.98m high). Drawing JOD-xx-DR-C-200-037 shows palisade fencing detail
Access	New entrance.	An entrance is proposed at the western end of the site. Drawing JOD-xx-DR-C-200-005 shows the layout and provision of 2 x 160m sightlines in a visibility splay set back 2.4m from road edge. Other access is to be blocked up. One is marked as proposed to be blocked up and a second is shown with fencing crossing it.
Drainage	Culverting of drain and attenuation	Drawing JOD-xx-DR-C-200-006 shows foul and stormwater layout. The existing open channel is to be diverted and piped through the site. The existing drain is in the vicinity of items 32, 27 and 15 whereas the proposed route partially aligns with internal road and open space. Three attenuation tanks are proposed of varying sizes. Attenuation tanking is shown schematically in Drawing JOD-xx-DR-C-200-036. It is designed with occasional loading capacity of up to 44000kg GVW loading among other protective measures.

		On site effluent treatment proposed but revised to tankering off site and (conditioned to connect to foul sewer).
Hard surface		All items 1-32 surrounded by a hardstanding area . the bulk of the structures are encircled by an access road with turning areas and otherwise hardstanding comprising compacted stone.
Water		Drawing JOD-XX-XX-DR-C-200-007 shows watermain layout which includes 12 fire hydrants. Drawings JOD-XX-XX-DR-C-200-033/034/035 also indicate details. (further details addressed I nFire Safety and Irish Water requiring on -site storage, connection and compliance with CFO for Fire Safety Cert.

2.4. **A Screening Report for Appropriate Assessment** and a **Natura Impact Statement (NIS)** (September 2020) have been prepared and accompany the application. These were revised in further information with associated revised public notices and then subsequently in the response to the grounds of appeal. Details of revised notices on 8th October were submitted to the Board on 11th October 2021.

2.5. The following documents are also included in the application:

- A letter of consent from Shannon Airport Authority to the planning application in the townland of Stonehall.
- **Planning and Environmental Report:** lodged 30/9/20. In this document the policy framework is set out and the biomass facility is described as a low-carbon renewable energy source through its use of forestry by-products. A total of 71,000 tonnes of dry biomass woodchip fuel will generate up to 31MW of Green energy per annum and will comprise 13 MW of Advanced Biofuels/Biomethane, 14 MW heating [Note: stated to be 12.8MW in FI page 22 of EIA screening report] and 5 MW electricity. The report refers to site inspections and assessment of:
    - Soils geology and water

- Biodiversity
- Noise
- Landscape and visual impact
- Air and Emissions
- Cultural heritage (desk top study on Archaeological heritage)
- Transport and access.

- Each aspect highlights impacts and includes a range of construction and operational mitigation measures. Notably, in addition to further information, the applicant's appeal response includes updated Air Quality Reports and an Archaeological Report (updated in appeal response.)

- **An EIA screening report** prepared in accordance with schedule 7A of the PDR 2001 as amended (Appendix A of Further Information)

- **A Civil Works Design report** Sep 2020

  - Foul Drainage Design : It is proposed to tanker off foul waste generated by up to 20 persons. PE equivalent of 9 (8 +1) (gravity connection to network in Shannon Airport is not feasible.)

  - Storm Water Design: There is no public sewer. It is therefore proposed to discharge the outfall of stormwater to the existing stream (actually a drainage channel) the storm drainage has been designed in accordance with the recommendations of the Greater Dublin Strategic Drainage Study and details of flows are appended. It has been designed to prevent flood risk . The allowable flow into the culvert will be restricted to greenfield run off rate. Due to impermeable surfaces an attenuation tank system is proposed and based on a restricted outflow rate of 5l/sec. Prior to outfall all hydrocarbon pollutants will be removed. It is also proposed to install full retention silt and oil separators prior to outfall to the tanks.

  - Flood Risk: There are no noted major flooding events in and around the proposed site.

  - Water Supply: Connection to public watermain is proposed in the road L-3169-0. Water requirements are set out in Appendix E. The system is a closed circuit. Initial circuit fill is projected at $74m^3$ for both process and cooling water for the gasification and methanation system. A refill of 3.5

m^3/year is then projected each of these water systems. The same volumes are estimated for the CHP Gasification Plant.

This report was updated in FI.

- **Sweep Path Analysis** Drawing no 6266 JOD-XX-XX-DR-C-200-004 (submitted as FI)
- **Navaids Assessment and Aeronautical Assessment** (Appendix E of FI)
- Construction Management Plan
- **Aerial view photomontages** (not date stamped but acknowledged receipt to applicant on 27th October 2020)
- The **Planning and Environmental Report** describe the process and development in more detail. see Table 2.2 of the report. (pages 17-18), figure 2.7 and Table 2.3 (pages 21-23) followed by a description of the processes.)

2.6. Biomass processing and storage area in includes a weighbridge, delivery staging , low temperature dryer and dried biomass storage. The process takes in equivalent to 133000 wet/green tonnes and after drying has about 70000 dry tonnes (per annum) for processing to energy. This volumes will involve 24 trucks of woodchip per day on average.

3.0 Planning Authority Decision

3.1. Decision

3.1.1. Following the response to a request for further information, Clare County Council by order dated 26th July 2021 issued notification of a decision to grant permission subject to 13 conditions.

- Condition 2 requires a) adherence to mitigation measures in the revised NIS and their incorporation into a CEMP and b) supervision of works by an ecologist
- Condition 3 requires a) submission of a finalised CEMP for agreement and b) a record of daily checks

- Condition 4 requires submission and agreement for traffic management arrangements during construction
- Condition 5 refers to Irish Water/connection for public water main sand public foul mains.
- Condition 6 refers to surface water drainge, process wastewater/sludge disposal, storage of hazardous chemicals and emergency response to spillage.
- Condition 7 specifies noise limits and noise control measures.
- Condition 8 requires a Stage 1/1 Road Safety Audit.
- Condition 9 requires archaeological test excavations and mitigation and recording where needed.
- Condition 10 requires landscaping
- Condition 11 requires specific street lighting
- Condition 12 requires containment and eradication of Invasive Species (Japanese Knotweed.
- Condition 13 requires a s.48 contribution of €14,040.00.

3.2. **Planning Authority Reports**

3.2.1. Planning Report - Further information was sought (23th November 2020) in respect of :

- The scope of the impacts having regard to 1)The grid connection and associated impacts and assessment of such as part of the overall development and 2) the extent of process of chipping drying and processing of woodchip input. This relates to the adequacy of the scope of the NIS and the environmental impacts and screening for an EIAR.
- The AA
- Inconsistencies in mapping
- Aviation safety- Navaids Assessment and aeronautical assessment together with full emissions abatement and mitigation measures regarding plume required.
- Sweep path analysis
- Local catchment of sustainable supply of biomass

- Water supply details including Connection to public water main which is 2300m away.
- Wastewater management
- Description of dangerous substances and their management and disposal
- Air emissions: Impact of dust, odour and emissions
  Noise impact at construction and operational and decommissioning stages
- Surface/storm water management
- Japanese Knotweed

3.3.1. Following submission of the further information the planning authority considered these details to be substantially acceptable having regard to the technical reports. The need for an EIA and submission for an EIAR was screened out. The principle was considered acceptable having particular regard to local policies in the LAP and the Clare Renewable Strategy of the CDP and both supporting the nature and location of the proposed energy development.

3.3.2. Other Technical Reports

- Roads:

  9th November 2020 - Further information required regarding access, drainage. mobility management, parking, hard surface area, turning, construction traffic management, Road Safety Audit, traffic, swept path analysis, waste/construction waste management plan

  16th June 2021- Satisfied with swept paths. CEMP to be agreed. Turning bay in drawing in response to 5 shall not be used as a HGV turning bay as t would result in reversing onto road.

- Chief Fire Officer:
  29th October 2020 - Further information sought regarding escape and water supplies for firefighting.
  4th June 2021. Issues not addressed
- Mid West Regional Road Design Office: no observation in context of N19 Shannon Airport Access Road Improvement Scheme.
- Environment Section:

17th November - Further information required in relation to details of proposal – its nature, scope, inputs and outputs, alternative wastewater management, impacts on air (pollutants, noise odours) . In a sperate report (20th November) Further Information also required re AA screening , NIS and EIA screening.
22nd July – no objection subject to conditions for water emissions, noise, air, waste and emergency response.

3.3 **Prescribed/Other Bodies**

3.3.3. Irish Aviation Authority:

- 20th October 2020 - advises on engagement with Shannon Airport regarding cranes at construction stage and impact of operation phases on the airport activities and equipment.
- 22nd October 2020 - a Navaids Assessment is requested in accordance with specific criteria.

3.3.4. Shannon Airport:

- 20th October 2020 - In its role of safeguarding the aerodrome and ensuring the safety of aircraft and occupants by controlling potentially hazardous development, further information is sought. A full aeronautical assessment should be requested in order to assess the possible impact on airspace. Reference is made to the gasification infrastructure at 26m in height and the proposed flues and smokestack. Issues of disturbance and contamination of engines are also raised and full emissions abatement and mitigation measures are sought. Details of plumes and invisible emissions are also sought. Further observations are made regarding the culvert and protection of downstream waters and inaccuracies in the NIS.
- 11th June 2021 - Report notes the assessment. There is a requirement for the applicant to notify the SAA 30 days in advance of crane erection with specified standards.

3.3.5. Dept. of Tourism, Culture Arts, Gaeltacht, Sprot and Media:

- 3rd November 2020 -Report on Nature Conservation recommends conditions for measures for protection against run-off and siltation of watercourses to include

but not limited to buffer zones along watercourses, silt traps. Hydrocarbon interceptors and bunded refuelling areas. The presence of Japanese Knotwood is noted and needs treatment and to not be removed. Supplementary planting and control of light pollution are also recommended.

- 13th November 2020 - Report on built heritage refers to high density of archaeological monuments within a 1km catchment and more particularly to the location of the development in the landscaped grounds (possibly c 17th century) of Stonehall House and the overlap with the tree lined avenue as visible in aerial photography. Test excavation should be carried out as information submitted contains inaccuracies and is insufficient to form an assessment. Further information is therefore requested as specified in the report.
- 5th July 2021 - The submitted archaeological report is inaccurate and insufficient for an informed recommendation.
    - The applicant is required to engage the services of a suitably qualified archaeologist to carry out a programme of archaeological test excavation across the proposed development site. This shall include investigations of subsurface remains of the former tree lined avenue associated with the recorded monument tCL051-124 Stonehall House. The test excavation shall be licenced under the National Monuments Act 1930-1994 having consulted the site drawings.
    - Having completed the work the arachnologist should submit a written report to the planning Authority and the Department of Housing, Local Government and Heritage in advance of the planning decision . where archaeological material /features are shown to be present, preservation in site, preservation by record (excavation) or monitoring may be required.

3.3.6. Irish Water

- 20th Oct 2020 - No objections – watermain abutting is not public. Mains connection would be via an extension of 2300m.
- 2nd June 2021 – as previously stated mains connection would be via an extension of 2300m and fire flow requirements would not be available at this location.

3.3.7. HSE:

- 18th November 2020 - no objections subject to conditions.
- 17th June 2021 - Satisfied applicant has made commitment to address issues in respect of construction management, air emissions, noise control and waste management.

3.3.8. HSA:

- 19th October - FI required to give technical guidance under the Chemicals Act (Control of Major Accidents Hazards /involving Dangerous Substances) Regs2015.
- 16th July 2021 - Since proposal appears to be outside scope of Regulations, the authority has no observations. [Not a SEVESO site]

3.4. **Third Party Observations**

3.3.9. The Planning Authority recorded a total of 37 submissions some of which are appended with multiple petitions. The submissions object to the industrial nature of the proposal and make extensive reference to the unsuitable greenfield location which lacks infrastructure and the industrialisation of the area which would impact on the local community which includes a national school. The substantive issues are largely consistent with those raised in the grounds of appeal.

4.0 Planning History

4.1.1. There is no recent planning history relating to the subject site.

4.1.2. PA ref 14/503 refers to a lapsed permission for demolition of a derelict house and construction of replacement dwelling nearby.

4.1.3. An Bord Pleanala ref 303162 (Order attached in box file) refers to a refusal of permission in 2019 for continued operation of West Offaly Power station and associated ash disposal facility and the phased transition from peat to biomass as a source of fuel. The station at that time had a nominal total electrical rating of 150megawatts and a floor area of 27,073sq.m. .

In its decision the Board's order refers to the context of strategic energy management and pursuing optimal sustainable utilisation of renewable energy and

positive contribution to the environment and in such context also refers to siting in appropriate location with accessibility to a supply network of the intended fuel source. It had regard to EU renewable energy Directives, national policy and notable the

inadequacy of the indigenous biomass supply in the State to serve the proposed development, and the proposed high dependence on imported biomass which is contrary to European Union and national policy,

the siting of the existing power plant in the Midlands, away from coastal ports, and its significant dependence on the importation of biomass from global markets, which will result in unsustainably high volumes of Heavy Goods Vehicle (HGV) movements across the State to serve the development. It is had regard to the nature and scale of the development and the switch from rail delivered peat to road delivered biomass and distribution of end product, deficiency in road network and among other consideration in considering the proposal to give rise to unsustainable transportation movements and endangerment of public safety by reason of traffic hazard.

5.0 Policy Context

5.1. National and Regional Policy

5.1.1. **Programme for Government *:*** The current programme for government (Our Shared Future) states a commitment to an average 7 percent reduction in greenhouse gas (GHG) emissions per annum over the 2021-2030 period. As part of moving to a low-carbon future there is commitment to direct any relevant funding under the European Green Deal towards decarbonising projects such as renewable energy, retrofits, ecosystem resilience and regeneration, clean research and development spending, and reskilling... This will be an important element of our National Economic Plan.

5.1.2. **Climate Action Plan 2021**: This recognises the critical nature of the climate change challenge and sets out a roadmap for taking decisive action to halve GHG emissions by 2030 and reach net zero by 2050 in accordance with the European Green Deal, The Paris Agreement, and the Climate Action and Low Carbon Development (Amendment) Act 2021. It acknowledges that agriculture, transport and energy industries consistently have the largest shares of emissions, and that key drivers of

recent reductions in emissions include reduced use of peat and increased renewable power generation in the electricity sector. The Plan lists the actions needed to deliver on our climate targets and sets indicative ranges of emissions reductions for each sector of the economy.

Page 164 refers to biomass as an electricity source …We will double the indigenous biomass supply as a fossil fuel substitution to generate heat and electricity. The felling of trees is regulated by the Forestry Act 2014 which ensures that harvested areas are managed sustainably, and environmental requirements apply. The doubling of biomass supply will mainly come from commercial forests planted since the 1980s.

Action 320 - Double the biomass supply as a fossil fuel substitution to contribute to the decarbonisation of the energy system.

Action 377 - Support the mobilisation of timber for use in the processing and biomass sector

A range actions support the research and development of district heating(Action 188) and its implementation in a structured way (Action 189).

5.1.3. **Project Ireland 2040 - National Planning Framework :** The plan contains a number of National Strategic Outcomes (NSOs) such as:

- **NSO 8** - Transition to a low carbon and climate resilient society. This is recognised as requiring the diversification of our energy production systems away from fossil fuels and towards green energy such as wind, wave, solar and biomass, together with smart energy systems and the conversion of the built environment into both generator/consumer of energy and the electrification of transport fleets will require the progressive and strategic development of a different form of energy grid. It includes an aim to deliver 40% of electricity needs from renewable sources by 2020, with further increases through to 2030 and beyond in accordance with EU/National policy.
- **NPO 21** Enhance the competitiveness of rural areas by supporting innovation and diversification of the rural economy into new sectors and services, including those addressing climate change and sustainability.

- **NPO 53** Support the circular and bio economy including greater use of renewable resources.
- **NPO 55** Promote renewable energy use and generation at appropriate locations.
- **NPO 56** Promotes the sustainable management of waste, investment in different types of waste treatment, and circular economy principles.

5.1.4. **National Energy Security Framework (Government of Ireland, April 2022):** This Framework provides a single overarching and initial response to address Ireland's energy security needs in the context of the war in Ukraine. It coordinates work connected to energy security across the electricity, gas and oil sectors and sets out a 'whole-of-Government' response to the challenges posed to energy security and energy affordability. The development of this Framework has taken account of the need to decarbonise our society and economy as set out in recent reports by the Intergovernmental Panel on Climate Change and Ireland's targets to reduce emissions by 51% over the decade to 2030 and reach net zero emissions by 2050 as set out in the Climate Action Plan.

5.1.5. **Bioenergy Action Plan For Ireland- Teagasc – (undated)** this explains the potential contribution of wood - biomass - quantified by the EPA as having an equivalent energy value of 256million litres of home heating oil - quarter of oil consumption in 2004. Transport and processing could diminish this displacement potential and this is why proximity of supply and demand is important when assessing the overall potential for wood energy. It further identifies that the private sector is the most likely supply source.

5.1.6. **Draft Bioenergy Plan** (2014) sets out the broader context for the development of Ireland's bioenergy sector, and the current status with regard to the range of policy areas that must be coordinated in order to create the conditions necessary to support the development of this sector. A Bioenergy Steering Group has been established in order to oversee the finalisation and implementation of the Bioenergy Plan.

5.1.7. It refers to the market support and sustainability measure as part of the action plan such as Taxation Policy, sustainable Forest Material , industry led development of standards related to wood fuels, cross governance , addressing Air quality risks with Biomass Combustion

5.1.8. **National Policy Statement on the Bioeconomy** 2018: This sets out a vision, common principles, strategic objectives, and a framework for implementation to deliver on this vision for the bioeconomy in Ireland.

5.1.9. Government white paper 'Delivering a Sustainable future for Ireland: The energy Policy Framework 2007-2020' sets out the governments energy policy within the framework of the European Union Directive 2009/28/EC on the Promotion of the Use of Energy from Renewable sources and sets targets:
RES-E renewable contribution to gross electricity consumption of 40% by 2020
RES-T Renewable energy contribution target of 10% in transport
RES-H Renewable contribution to heat of 12% by 2020.

Government Strategy for Renewable Energy 2016-2020 (May 2012) and the government white paper on 'Energy Policy in Ireland 2015-203 Irelands Transition to a Low Carbon Energy Future 2015-2030' further advance energy changes and focus on renewable energy sector.

5.1.10. **Waste Action Plan for a Circular Economy – National Waste Policy 2020-2025** (the Department of Environment, Climate and Communications) reflects the commitment to transitioning to a circular economy and application of a strategy across many sectors including forestry and bioenergy. It highlights the role of by-products as maximising the productive life of resources. It also acknowledges the need for research and innovation and the shift to prioritising decarbonising the energy system comprises a new roadmap for waste planning and management. It looks to move away from waste disposal and looks instead to how resources can be preserved by creating a circular economy and climate change targets realised.

(The legislation governing by-product determination in Ireland is the European Communities (Waste Directive) Regulations 2011, (S.I. 126 of 2011). Regulation 27 of this Statutory Instrument transposes Article 5 of the 2008 Waste Framework Directive (Directive 2008/98/ EU) and sets out the circumstances in which a material can be considered a by-product and not a waste.)

5.2. Regional Policy

5.2.1. The Regional and Spatial Economic Strategy (RSES) for the Southern Regional Assembly provides a high-level development framework for the region that supports the implementation of the NPF and the relevant economic policies and objectives of the Government. A key element of the strategy is to drive transition to a low carbon and climate resilient society. RPO 56 recognises the urgency of promoting a low carbon economy. Chapter 5 sets out the measures to implement this strategy. Section 8 refers specifically to sustainable energy utilities. RPO 105 supports district heating systems.

5.2.2. Section 8.4.1 sets out key priorities for the Shannon Free Zone (a 243-hectare area with 7000 employees and 100 companies) among which include

- Investment in the sustainable development of the CAV sector in Shannon including the development of a testbed for this transformative technology which can be a key enabler for decarbonising our transport sector; • Cross-agency cooperation in the promotion and development of the IASC cluster; • Investment in the utilities infrastructure is necessary to ensure the continued regeneration of the SFZ. Much of the utilities date back to the 1950's and requires upgrading. Upgrades to the electricity network, the water and wastewater network is necessary to ensure that the economic potential of the SFZ can be achieved

5.3. Local Policy - Clare County Development Plan 2017-2023:

5.3.1. Shannon is a linked gateway settlement and identified in this capacity as the 2nd largest heat demand centre in the county – Money point is the largest. This is reflected in the following objectives:

- CDP6.19 To support the development of low carbon and green tech businesses and industries throughout the County.
- CDP10.10 To encourage the development of bioenergy opportunities, facilities and associated rural enterprises in the countryside in appropriate locations where such developments do not have a significant negative impact on the environment
- CDP10.11 To facilitate the development of renewable energy developments in rural areas in accordance with the adopted Clare Wind Energy Strategy and

Renewable Energy Strategy and the associated SEA and NIR (and any subsequent strategies)

Table 18.1 sets out Renewable energy resource targets for the county for 2020 – Biomass CHP targets. Forest wood fuel and wood-process by-products are significant accessible renewable energy resources.

Section 18.5.2 Heat Energy Distribution: Heat distribution infrastructure such as district heating has potential in the County, particularly in the Shannon Free Zone. The creation of efficient district heating systems would facilitate the development of the indigenous biomass industry, maximise and encourage agricultural diversification and reduce the CO2 emissions associated with heating buildings

CDP18.5 to support and encourage the development of Distributed (District) Heating, in compliance with the objectives set out in Chapter 14, as a means of facilitating:

a) the increased use of heat generated from indigenous, low carbon, renewable resources (bioenergy, solar, geothermal etc.);

b) the utilisation and distribution of useful waste heat from large thermal processes;

c) the utilisation and distribution of useful heat from a combined heat and power (CHP) plant, where such a plant's primary energy is met by indigenous, low carbon, renewable resources (bio energy, solar, geothermal etc.)

Volume 6 of the CDP sets out the Clare Renewable Energy Strategy 2017-2023. Table 3.5 of the submitted Planning and Environmental cites the relevant sections. Notably , Par. 1.1 states the strategic aim to support national targets and commitments to renewable energy. Section 6.3 refers to the forestry resources in the county in the context of biomass potential. Section 6.4.1 refers to the benefits of Combined heat and power (CHP) and District heating in capturing potential het waste. Maps 2 is based on evidence of heat demand and energy use , environmental consideration and proper planning and sustainable development, indicative locations for potential CHP are identified in the county. Map 6.1 shows 5 zones of high heat demand with possible potential for CHP which includes the Shannon zone and acknowledges the green energy site/potential CHP site in the LAP.

The site is in an landscape area defined as Working Lands Landscape.

5.4. **Shannon and Environs Local Area Plan 2012-2018 as amended**

5.4.1. This is the latest Local Area Plan and provides a framework for the future growth and development of Shannon. The subject site is at the periphery of the development area and is part of a tract of lands zoned 'enterprise' (Map A) and is outside the proposed Outer Public Safety Zone' (within which there are two levels of proposed Inner Public Safety Zones (Map B). The site is subject of development and sectoral policies and objectives in both the 'Employment, Economy and Enterprise' and 'Low Carbon Strategy' Chapters.

Low Carbon Strategy

Shannon is identified as being ideally placed for establishing a centre for low carbon commerce and community.

As part of the Low Carbon Strategy the LAP objective 8.3 relates to the subject site and seeks : To facilitate the development of this accessible, strategically located site (E3) for appropriate renewable / green energy development, including generation, research and collaboration.

Chapter 8 sets out a low carbon strategy which aims to promote the county as being low carbon in order to attract inward investment in the county and mid-west region and to facilitate the development of energy sources which achieve low carbon outputs. All of the strategies have identified the need to:-

- Improve the energy efficiency of all activities
- Reduce the carbon intensity of all activities
- Establish a low carbon source(s) of electricity from indigenous local resources
- Establish a low carbon source(s) of heat from indigenous local resources
- Establish efficient means of electrical and thermal energy generation, storage and distribution
- Promotion and certification of the low carbon credentials

Successfully establishing Shannon as a centre for low carbon commerce and community will greatly assist in underpinning the presence of existing activities and attracting future investment.

LAP objection 8.2 To facilitate and actively promote the development of energy infrastructure such as:-

- Smart meters for electricity, gas and thermal energy
- Smart Grid development for micro electricity Generation
- District Heating and Cooling Networks
- Gas and Electric Infrastructure for vehicles

that will facilitate increased energy efficiency in buildings, the use of indigenous low carbon electric and thermal energy resources and assist in establishing low carbon commerce and communities.

Employment, Economy and Enterprise

The site is designated E3 (section 3.4.6) [Planning report refers to 3.5.6] and is described as: This large site is located at Stonehall, north of Shannon Aerospace, and is zoned to facilitate the development of a large scale green / renewable energy development. The site has excellent road access off the N19 via the Ballymurtagh roundabout and the existing road serving Shannon Aerospace. The site also has a strategic location in close proximity to the Airport lands and Shannon Free Zone. Securing a renewable energy / green user for this site would reinforce the overall objective for Shannon as a low carbon zone and could stimulate further investment in the area. An example of a development which would be appropriate for this site is a high efficiency combined heat and power plant, running on biomass / timber. Such a facility would have the potential to produce, in a highly efficient process, green electricity, thermal heat and cooling, which could be distributed throughout Shannon through a District Heating and Cooling Network, in turn attracting a dynamic mix of other related uses, such as green energy development, industry / green energy generation, Research and Development, biorefining etc. thereby creating a vibrant green / renewable energy cluster. This further economic development potential has informed the size of the zoned lands at the subject location. The development of the

subject site shall be subject to satisfactorily addressing all environmental and amenity considerations.

LAP 3.11 sets out the specific objective for site E3- **To support and facilitate the development of site (E3) for a large scale strategic Green Energy development and distribution network , where appropriate to assist in the delivery of a low carbon industrial, commercial and business environment meeting the existing energy requirements of the town and business and enhancing the capacity to attract further industry /employment to the town.**

5.5. **Other legislative provisions**

Renewable Energy

5.5.1. Renewable Energy Directive (RED II): Directive (EU) 2018/2001 (recast) on the promotion of the use of energy from renewable sources. Current consolidated text: 21/12/2018

5.5.2. On 14 July 2021, the European Commission proposed the revision of the RED II under the “Fit for 55” package of legislative proposals, in view to achieve climate neutrality in the EU by 2050, including the intermediate target of an at least 55% net reduction in greenhouse gas emissions by 2030.

Water

5.5.3. The EU Water Framework Directive aims to improve water quality and applies to all water bodies. The Directive runs in six-year cycles and is currently in its third cycle 2022 to 2027. Member States are required to achieve ‘good’ status in all waters and must ensure that status does not deteriorate. The Directive has been given effect by the Surface Water and Groundwater Regulations.

Medium Combustion Plant Directive and Regulations:

5.5.4. The burning of fuels in medium combustion plant (boilers, turbines, and engines) and in which fuels are burned to make use of the heat generated gives rise to emissions of various pollutants into the air, which can include particulates (dust), nitrogen and sulphur oxides, and carbon monoxide. The purpose of the Medium Combustion Plant Regulations is to limit these emissions in order to help improve air quality to the

benefit of the environment and human health. The regulations require registration of medium combustion plant with the EPA except where it is already included on a site holding an Industrial Emissions Licence (IEL) or an Integrated Pollution Control (IPC) licence. More detail on the legislation is given below.

5.5.5. The European Union (Medium Combustion Plant) Regulations 2017 were signed into law in December 2017. Their purpose is to limit emissions to the atmosphere from boilers and other stationary combustion plants in the 1-50 MWTH (thermal input) range. It covers all fuel types. The Regulations transpose the Medium Combustion Plant (MCP) Directive (EU 2015/2193) which was adopted in 2015.

5.5.6. The regulations limit the level of emissions allowable from Medium Combustion Plants (MCP). New MCP are required to comply with specified Emission Limit Values (ELVs) or limits on annual hours of operation, from 20th December 2018, while operators of existing MCPs will not be required to comply with these limits until 2025 at the earliest. This will assist in limiting the impact on human health, vegetation and biodiversity which can be caused by air pollution. The regulations also specify additional requirements such as monitoring and reporting of emissions to the EPA.

5.5.7. The MCPD regulates emissions of SO_2, NO_X and dust to air. It aims to reduce those emissions and the resultant risks to human health and the environment. It also requires monitoring of carbon monoxide (CO) emissions. The emission limit values set in the MCPD apply from 20 December 2018 for new plants and 2025 or 2030 for existing plants, depending on their size. The flexibility provisions for district heating plants and biomass firing ensure that climate and air quality policies are consistent and their synergies are maximised.

5.5.8. MCP Registration system: Under the MCP Regulations, the EPA is required to establish and maintain a register of all MCP that come within the scope of the Regulations, unless the MCP is located on an installation controlled by an IED or IPC licence from the EPA. MCP which are not located on an IED or IPC licensed installation will need to be registered in accordance with the dates specified in the Regulations. The requirements of the regulations are administered by the EPA through the registration system, or through the relevant IED/IPC licences.

5.6. **Natural Heritage Designations**

5.6.1. The nearest Natura 2000 sites are Lower River Shannon SAC (Site Code 002165) and River Shannon and River Fergus Estuaries SPA (Site Code 004077) which are just over 1km to the west and almost 2km to the south. Lough Gash Turlough SAC (Site Code 000051) is 4.5m to the north. There are several other Natura 2000 sites within a surrounding 15km radius of the site.

6.0 The Appeal

6.1. **Grounds of appeal – Eoin and Helen McInerney**

- Inaccuracies and errors in Appropriate Assessment/NIS: This is based on the site delineation differing from that in the planning application drawings.
- Watercourses on site – appears to be disregarded.
- Report unaware of outfall point to SAC and therefore impacts cannot be appropriately assessed.
- Lack of detail regarding impact on groundwater.
- Inadequate assessment of impact on River Shannon and River Fergus Estuaries SPA- e.g. deficient bird survey methodology having regard to proximity of c. 1km.
- The development needs an EIAR as some aspects of the project listed in Annex I and II of the Directive.
- Water supply connection requires assessment of impact of a number of watercourses which flow into the proximate Lower River Shannon.
- Insufficient information on effluent recycling in FI (appendix L)
- Insufficient detail in EIA Screening Report by reference to potential extraction locations and also the direct culverted connection from the site the River Shannon and comment in section 4.4.1 of the screening report (Aug 2020) - no cushion of comfort if pollution occurred
- Absence of adequate community consultation and such absence unclear how a district heating network could advance. The reference to a 2012 consultation relating to a different proposal is not relevant.

- The extent of inaccuracies and generally substandard nature of application should have resulted in an refusal of permission from the start.
- The various components of the overall project cannot be viewed in isolation. The approach is project splitting.
- The proposal is not consistent with proper planning and sustainable development of the area

6.2. **Grounds of Appeal Clean Air Shannon**

6.2.1. Clean Air Shannon is a local community group and their grounds of appeal are based on the premise that the development would be contrary to the proper planning and development of the area. The main issues can be summarised as follows:

- Impact on Archaeological heritage: It is submitted that the development would have an unacceptable impact on the architectural heritage of the site and in this way conflicts with development plan policy. This is based on the existing recorded monuments, an archaeological report on behalf of the appellant and the comments of the Department Culture Heritage and the Gaeltacht. More specifically:
    - Concerns about inaccuracies referred to be DAU and need for further investigation prior to decision. This is supported in the latter of the submissions by the Department of Tourism Culture Arts Gaeltacht Sport and Media (13th Nov). An appended letter from Dr. Rynne Archaeologist in UCC states that the recommendation of the DAU are in line with international best practice (and Section 3.6 of Frameworks and Principles for the Protection of the Areological heritage and should be adhered to in the absence of reasoned archaeological grounds by the planning authority for rejecting the recommendation doubt is raised about the absence of impact and the potential for 'significant long term and possible irreversible impacts upon the curtilages of two important recorded monuments (CL051-124 and CL051-124001 Stonehall House and its associated garden landscape and adjacent later-medieval tower house. The planning authority is considered not to have had due regard to the archaeological landscape with some 15 monuments and has not stipulated mitigation measures. While mitigation by monitoring is not wholly rejected, it is poor

professional practice. The absence of pre-testing denies the opportunity for evaluation by the statutory consultees. (DCH&G)

- The reference to the potential for misunderstanding due to the inclusion of lands outlined in blue as part of the development site and that the development is actually outside the zone of influence is dismissed by reference to the Office of Planning Regulator leaflet 13 – Archaeology in the Planning Process and the reference to such zones not being definitive and other factors can also be relevant. It is submitted that in this case other factors are relevant.
- The EIA Screening Report is contradictory in its statement that there are no known archaeological features on site and that that national monuments are not publicly accessible in context of the statement in the planning report that the site lies within an area of archaeological potential and the also in the context of the DAU report.
- Direct impact on tree lined avenue
- Location of high density of archaeological monuments and other sub surface remains

- Viability of District Heating system- There is no system in place for Shannon Town or its environs and there is no infrastructure in situ or envisaged – an issue raised in the pre-application stage.
- The generation of heat is the most beneficial aspect of bioenergy in the White Paper on Irelands Transition to a Low Carbon Energy Future 2015-2030 as indicated in the paper's conclusions. 'Irelands limited biomass resource would be more efficiently deployed in the heating sector.
- The available supply of timber is vague and falls short of the quantity needed. The catchment of 75-100km is also unclear and delivery is road based having regard to lack of rail or port facilities.
- There is reference to use of pulpwood in letters of supply (Appendix Q) roundwood will result in significant carbon debt.
- In view of the uncertainty of supply in terms of location availability and nature and the absence of heating network the proposal is unsustainable.
- The proposed grid connection is a considerable distance from the site of the proposed development.

6.3. **Planning Authority Response**

6.3.1. In correspondence dated 7th September 2021 the planning authority states that the planning and technical reports on file address all issues raised in the appeal in respect of the NIS and EIA screening. The NIS was considered to be satisfactory an EIA was not required and that this matter is addressed in the planning report.

6.3.2. With respect to archaeological issues, the planning authority is of the view that the site is outside the zone of influence and that in any event, pre-development conditions for testing have been included as part of the grant of permission.

6.3.3. It is highlighted there is significant policy support in both the Development Plan and the Shannon LAP (specific objective under section 3.11) 'to support and facilitate the development of the site E3 for a large scale, strategic, Green Energy Development and distribution network, where appropriate to assist in the delivery of a low carbon industrial, commercial and business environment, meeting the existing energy requirements of the town and business and enhancing the capacity to attract further industry /employment in the town.

6.3.4. It is considered the proposed fulfils this objective and is consistent with national and regional policy for the development of renewable energy resources and proper planning and sustainable development of the area.

6.4. **Observations on appeal lodged 20th August 2021**

6.4.1. Biofuelwatch c/o Almuth Ernsting: This party supports the appeal by Clean Air Shannon and in so doing, makes the following points:

- Failure to demonstrate sufficient source of biomass that is both sustainable and low-carbon. It is further submitted that the letters from the prospective timber suppliers indicate that the stated supply of pulpwood is in fact moist timber. The use of mature timber is not sustainable by reference to the SEI guidance.
- It is further calculated that the suppliers can only provide 117,500 tonnes of woodchip which is short of the 133000 required by the applicant. It is further estimated that only 39000 tonnes of forestry residue and by-products can be supplied by the intended suppliers. The insufficient evidence of a sustainable supply is likened to the inadequacies of the proposed West Offaly Peat powered

station for biomass. Permission for this was refused by the Board and in its decision it was stated that 'given the lack of information regarding the source of the biomass to be used as fuel the Board concluded that it cannot reasonably be determined that the main direct and indirect effects of the proposed development on the environment would be mitigated.

- It has not been demonstrated that the development complies with government policy on promoting efficient biomass heat and combined heat and energy generation.
- There is no infrastructure in place to support this.
- The information is deficient in determining the net efficiency of either the electricity generating unit or the Bion-SNG. Use of waste heat for drying woodchips pre-gasification does not improve net efficiency.
- Electricity generation without heat simultaneous delivery is not supported by government policy by reference to the White paper: Ireland Transition to a Low Carbon Energy Future 2015-2030 in which biomass should be used for effect heat generation ad to the aligned aims of the Climate Action Plan.
- No evidence that the applicant's claims about local impact (especially from air and noise emissions) for the plant are based on any real world data.
- Impact depends on actual emissions from the biomass dryer, biomass gasification and electricity generating plant and the sample performance reports are appended for waste wood fuelled Bio plants as required under Industrial Emissions Directive article 55(2) requirements. One processes 43,601 tonnes of waste-wood and has no issues whereas one can process 176,500 tonnes and raises non-compliance with NOX levels with some recommendations for improvement of conditions. This relates to particulate size distribution PM10 and PM2.5 and also calibration.

6.5. **Applicant's Response**

6.5.1. A response to both grounds of appeal was received on 14th September 2021. It includes an amended NIS in Appendix C. (as advertised *October* 2021on request by the Board)

6.5.2. General: By way of background the experience of the applicant company and team is outlined together with legislative and policy provisions supporting the nature of the proposal. This includes reference to: 1) the site specific LAP objective E3 regarding renewable energy and potential to produce electricity to heat Shannon through a District Heating and Cooling network and to, 2) Clare Renewable Energy Strategy– notably par 6.4.3 which refers to the significant woodland resources and quality of transportation. This biomass product serving any future CHP in Shannon for example would be transported quickly.

6.5.3. Response to Issues by Mr and Mrs McInerney

- Site delineation : this site boundary in the AA documentation has been amended to and is stated to broadly align. The examination of the impact to European sites is not undermined by this minor discrepancy =, The finding so the screening report and the NIS is based on the identification of pathways connecting the European Sites, the potential for these pathways to function as impact pathways and the conservation objectives for the site and their qualifying interest from emission of potentially polluting or environmental perturbations via such pathways
- There is no material change to the findings of the NIS as amended to include the revised area.
- Existing Watercourse and Grid Connection
- There is no natural stream water course flowing through the site. there is a only a drainge ditch which is recognised as a hydrological pathway to the Lower River Shannon SAC and this was central to the screening conclusions in so far as the project had potential to result in likely significant effects via this pathway. (Section 5.1 specifically details the negative impacts to the water quality in this ditch. Section 5.2 examines the impact of the grid connection works on other channel but as they are culverted there is an absence of interactions. . There will be no perturbations to the water quality of these watercourses and as such the element of the project that relates to the off-site grid connection route was screened out.
- The errors in the mapping of the SAC is corrected in the NIS and it remains that the 12 sites within the 15km catchment were listed in the March 2021 version and the author has a thorough knowledge of these sites in preparation of the

reports. It is clarified that the errors were rectified in the March 2021 and this claim is not applicable in the Sep 21 version.

- Water course and grid connection route: The issues in this regard are addressed it the AA as referred to. A detailed examination of the potential impact posed by the activities on the drain is addressed in Section 4.1 of the NIA. The activities include the provision of the initial section of the grid route prior existing the project site and continuing along the route to the substation. This route was examined in section 5.2 of the Screening Report.
- Proposed surface water outfall route- it is clarified that the pathway to the Shannon Estuary is shown in figure 1.5 of the NIS in Appendix C and previous assumed location and confirmed locations are mapped for comparison. The receptors at the confirmed outfall location were included and examined in the NIS March 2021 version . The marine community types occurring in the vicinity of the confirmed outfall are Intertidal sand to mixed sediment with polychaetes, molluscs and crustaceans community complex. The examination in section 4.1 is equally relevant to the confirmed location. The bord roosts near the confirmed outfall location were included section 3 of the NIS has been further updated.
- Insufficient Detail in AA screening in respect of groundwater flow paths: Surface water permeability is low as evident in the vegetation (Irises) that grows in poorly drained soil and GSI characterisation, Groundwater is not expected to have the function as an effective pathway. The risk of pollution in the absence of mitigation is negligible at construction due to the underlying limestone and also to the traditional construction (using strip foundations and pads) and during operational phase as the process will produce simple hydrocarbons and. Notwithstanding, the reports have been updated and the precautionary principle and an abundance of caution informs this. Further mitigation is also included in the NIS**.**
- Inadequacy of impact assessment to river Shannon and River Fergus Estuaries SPA. The NIS has been update – section 3 and assesses potential impacts to the bird species and water birds of special conservation interest.
- EIAR requirement – the screening has been carried out in the correct manner.

- A mandatory EIA is not required and is significantly below the threshold in case of either Class 2 (a) of Part 1 Schedule 5 'Thermal power station or other combustion installation with a heat output of 300 megawatts of 300megawatts or more' or Class 3 (a) of part 2 Schedule 5 'Industrial installations for the production of electricity, steam and hot water not included in Part 1 of this schedule with a heat output of 300 megawatts or more.' The development does not meet this level of heat output
- Furthermore, battery energy storage facility is not of a type included in Schedule 5 of the PDR 2001 as amended and it does not relate to any of the criteria set out in schedule 7. The PA screening reinforces this interpretation.
- Effluent Recycling: Lack of information and assessment. This is disputed by reference to a report in Appendix D which is updated to reflect concerns, this sets out the main effluents for the process and waste disposal method and destination for each effluent.
- Community Consultation: Covid restricted public meetings. A website and webinar were used to provided details and address concerns
- Flawed application: this is disputed having regard to the specialist input and submission of further information as part of rigorous assessment in a legitimate process.
- Project splitting: This is only an issue where EIA is required and this is not the case. The grid connection does not need to be considered. The screening assessment included an assessment of the grid connection to the Drumline substation.

6.5.4. Response to Appeal by Clean Air Shannon:

- Archaeology: An assessment was carried out by Through Time Ltd and contained in Appendix E. This report is cognisant of the Airport associated structures 200m south west and no visible surface trace . the report recommends predevelopment testing which should be undertaken under licence
- Sustainability: the arguments against the project are flawed as they fail to consider the totality of the proposal.

- Emission: The contention that the information is misleading is responded to by Irwin Carr Consulting.
- In the Air Quality chapter we present the emission concentrations based on measured emissions associated with the engine in operation on existing sites (expected levels Table 5) These levels are significantly lower than the emission limits provide in the industrial directive guidelines.
- The volume flow of air is based on the specific engines proposed: - We applied higher concentration for the directives to the specific flow rate from the proposed engines. This was specifically carried out as a conservative measure to ensure the worst case scenario was reflected.
- In addition, as per the EPA guidance a further assessment was carried out based on a 75% flow rate with the result presented as required.
- The AQ chapter provides a conservative assessment of the emission that will be associated with the operation of the actual equipment on the site and the concentration of the pollutants emitted per cubic meter of air have been increased to ensure a conservative result.
- This will contribute to the supply of renewable energy in the context of a climate emergency . It is an urgent national priority that must be given significant weight . Consent is imperative.
- Proposed surface water outfall into the Lower River Shannon SAC: the pathway for this has been confirmed with Shannon Airport and is shown in Figure 1.5 of the NIS in Appendix C (a comparison is shown with the NIS March 2021) in this regard and

This response was circulated to the parties for response by 11th October 2021

6.6. **Appellant's response to applicant's response to grounds of appeal**

6.6.1. Brian McInerney and Mary Quinlivan on behalf Clean Air Shannon

Archaeological Impact

- The direct impact on the former Avenue to the House is identified in the applicant's archaeological report and is new information not previously considered by the PA. The site is of significance as identified by the DAU and merits further investigation. Notwithstanding other legislation the Board is not absolved from the requirement to have due regard to protecting heritage.
- The applicant's archaeological assessment report in the response includes a number of recommendations including pre-testing in advance of development but notably defers to the Department in its statement that such recommendations are subject to approval of the national monuments services who may issue alternative requirements. These requirements involve pre-testing in advance of a decision. As is clears in the DAU reports.

Compliance with national policy and sustainability

- As part of assessing compliance with the Climate Action Plan, it is necessary to be aware of the type of forestry by product (type or source) being used and this is unclear. It is highlighted that pulp wood is referred to by the applicant and if this is a form of mature trees then a high carbon debt arises. It is also highlighted that a supplier (Finsa) ceased operations and so there is no alternative for the use of harvested wood. (Inspector's note: the implication being that with a use for harvested wood there can be no by-product on which the proposal is reliant. And therefore a possibility of using unsustainable feed)
- It is clarified that the 'appeal in relation to sustainability is based on the fact that the sole feedstock to be used is wood product on the basis that the other elements of the proposed development are derived from wood product and are and should be subsidiary to the generation(and of necessity the delivery) of heat to end users and are therefore by definition less sustainable than the generation of heat.'
- The feedstock to be used should be assessed against the carbon debt generated by the production of same and the sustainability of the output.
- It is reiterated that No District System exists and should not be considered as part of the development. If it is considered, then the issue of prematurity arises.
- The Climate Action Bill cannot be relied upon as it is not adopted law.

6.6.2. Eoin and Helen McInerney (6th October 2021)

- Continued Disconnect with community as reflected in accurate description of surroundings.
- Policy adherence must also give weight to biodiversity in surrounding habitats
- The NIS (Sep 21) is confusing and not minor
- Watercourse issue remain outstanding – Grid connection will cross existing water course outside red line and this section has not been considered in the NIS. This is in addition to 5 other culvert crossings outside site. Robustness of screening is question in context of reliance on 'dry conditions' for works and - Insufficient details of culvert elves to assume lack of impact. Kelly v An Bord Pleanala [2014] is referenced in support of a submitted flawed approach.
- Remaining discrepancies regarding outfall location and the confirmation by SAA of pathway of watercourse to outfall to River Shannen has not been adequately verified
- Notwithstanding the 2km discrepancy in supposed and actual outfall the nearest point of 500m to any reef habitat form the outfall remains the same. The adequacy of the Assemsent of impacts on QI is accordingly questioned.
- Insufficient foundations in order to assess impact on aquifer and groundwater/flow paths near European sites.
- Insufficient surveying of Annex 1 Bird Species
- Halston Consultants Report referred to by the PA is not available on file and this restriction of access to fundamental information could be seen a depriving rights to participate as provided for the Aarhaus Directive.
- Decision in flawed due to failure to assess effluent recycling in the context of Irish and European Law and impacts assessment perspective.
- Community consultation has not been addressed – the last being in 2012 for different project and it remains the case that there has been a complete lack of this notwithstanding the Clare renewable Energy strategy which refers to community acceptance and the need for community consultation at early stage for a balanced consideration of energy projects.
- The webinar was in fact scripted non-publicised video.
- The application details as amended in a 3rd iteration has caused significant confusion and the applicant's dismissal of this confusion is surprising having regard to the inconsistencies.

- The proposed development needs to be subject of an EIA due to scale complexity and extent.
- 400 residents who have raised concerns have been denied the right to review and comment on the updated screening report and NIS.
- Water and sewer connections outside the site raise issue of compliance with 2001 Regulations and AA issues having regard to extent of watercourses feeding into the river proximate to the Lower River Shannon SAC.
- Concern about impact on Stonehall National School and Pre-school not adequately addressed
- The economic benefits in fact relate to completed final future phased scheme and are not commensurate to the proposed development by itself. The assessment of the new economic benefit should be proportionate, transparent and evidence based
- In summary:
    - No jurisdiction to grant permission in context of obligations under the Habitats Directive.
    - Inadequate screening and assessment by applicant
    - Deficiencies and material errors in NIS
    - Inappropriate approach to EIAR requirement and project splitting

6.7. **Planning Authority's response to applicant's response**

6.7.1. In correspondence dates 4th October the planning makes the following observations on the applicants submission using the same headings as Jennings O'Donavan consultants. Most comment refer to McInerny appeal/comments. The last point refers to Clean Air Shannon appeal.

- Discrepancies between fig 1.2 of the screening report, NIS and drawing xx-xx-DR C-200 01 was raised in FI and is not considered of any consequence.
- Site area: also raised in FI and satisfactorily addressed.
- Watercourse and grid connection: the watercourse has been assessed under source pathway receptor model as a conduit carrying pollutants from site to SAC/SPA for adverse impacts in water quality. Watercourses outside site on the

route to the substation are understood to be culverted as part of road works around Shannon

- Drawing discrepancy and validity of NIS conclusion: the minor mapping area does change substantive assessment. Conclusion remains.
- Lack of understanding of European site: satisfied zone of influence was fully considered and remaining focus on the SAC/SPA was appropriate.
- Surface water outfall: the actual location of this was included in the revised NIS.
- Insufficient detail regarding groundwater impacts in AA screening: Not considered a high risk due to soil low permeably and s.w.is more the likely a potential pollutant path which was the focus.
- No further comments on watercourses/grid route and inadequacy of assessment on European sites.
- EIAR screen/ project splitting already addressed in planner's report.
- By reference to ArcGIS there is no recorded monument within the site outlined in red. Some recorded monuments relating to a Bawn and Tower House and 17th Century House lie outside the site but the zone of influence is partially within land within the applicant's land holding interests. Given the size of the site nd extent of archaeological heritage in the vicinity, archaeological monitoring was conditioned.
- The planning authority notes the Irwin Consulting report regarding emissions and has no further comments and requests the Board to uphold its decision.

6.8. **Observations on applicant response to appeal.**

6.8.1. Biofuelwatch (received 11th October 2021): having considered the new information the following comments area made:

- The applicant has failed to demonstrate they will be able to source sufficient biomass considered sustainable and low carbon under government policies. They have not explained if the expected wood supplies are surplus to existing demand by the forest product industry or other customers including supplies of woodchips or pellets for domestic boilers and information is submitted to not addressing the issue of actual biomass availability for this development. It is also pointed out that

wood from coniferous plantation can be classed as pulpwood associated with a high carbon debt.

- The applicant does not demonstrate that the development concurs with Government Policy on promoting efficient biomass heat and combined heat and energy generation. The Climate action plan does not support electricity from biomass except as part of combined heat and power development. The Clare Renewable Energy strategy 2017-2023 supports national policy (Delivering a sustainable Energy Future for Ireland 2007020 and Bio-energy Action Plan for Ireland both only support electricity from biomass if combined with of heating scheme.)
- The project cannot be considered a combined heat and power plant as it lacks the piped network. It remains that there is no application/approval for heat pipelines required to supply heat to any potential customers. In the absence of any such heat pipe network it cannot be considered as a combined heat and power plant and its description as such is misleading. It is a bio-SNG plant that is a technology never demonstrated with wood on a commercial scale. It is essentially a electricity only plant not supported by national policy.
- No evidence that the applicant's claim about expected local impacts (especially air emissions and noise) form the plant are based on any real world data.
- The emissions concentration set out in tables 5 of the applicant submission are questioned on the basis of unspecified engines and existing sites . The statement that they want to burn syngas for wood gasification in internal combustion engines is not enough as air emissions depend on type of engines and fuel and in this case the purity of the syngas. The veracity of data is question in the absence of any EQTEC gasification plant using wood as a feedstock successfully in the world.
- A manufacturer of syngas is quoted as saying 'the composition of syngas is highly dependent upon the inputs to the gasifier. A number of components of syngas cause challenges which must be addressed at the outset including tars, hydrogen levels and moisture..' therefore data from a gasification plant using a feedstock other than virgin wood will not be directly applicable to this proposal .

- There is no detail on the basis for the syngas flare emission.
- The claimed higher concentrations from the directives are disputed.
- The applicant's claim that 'we applied the higher concentration from the directives ' is disputed as the proposed total fuel input to the plant is below 50MW and so it falls under the Medium Combustion Plant Directive (MCPD) . It is submitted that the limits in this are breached in the data provided in Table 2 Engine flue gas emission: expected levels and limits as contained in original Air Quality assessment.

6.9. **Prescribed Bodies**

6.4.1. No further consultation with Prescribed bodies has been sought. While consultation is required with the Environmental Protection Agency in the case of subthreshold EIA determination where an IPCC Licence or Waste Licence application (new or renewal) is sought, such circumstances are not it would appear, applicable in this instance.

7.0 EIA Screening

7.1. **General**

7.1.1. Section 172 of the Planning and Development Act provides for the requirement of an EIA of a proposed development being either of a mandatory class (Part 1 of schedule 5) or of a class in Part 2 of Schedule 5 and which is determined that it would be likely to have significant effects on the environment. An Environmental Impact Assessment Screening report was submitted to the planning authority and this was updated in response to a request for further information . The conclusions of this report, with reference to the Planning authority's assessment, were reaffirmed by the applicant in the response to the grounds of appeal. (section 3.12).

7.1.2. Mandatory requirement: Schedule 5 of the Planning and Development Regulations 2001 (as amended) provides that mandatory EIA is required for "A thermal power station or other combustion installation with a heat output of 300megawatts or more.' (Class 2 (a) of Part1 Schedule 5). " In this case the projected output is considerably below this level of heat output and therefore a mandatory EIAR is not required.

7.1.3. Subthreshold classes: The applicable category in Schedule 5 is within class 3 (a) Part 2 'Industrial installations for the production of electricity, steam and hot water not included in Part 1 of this Schedule with a heat output of 300 megawatts or more.'

7.1.4. I consider the proposed development for the production of electricity qualifies the proposed development to be of a class – Class 3 (a) requiring an EIAR. As the energy output includes 5MW of electricity out of a total green energy output of 31MW, the output is considerably below the 300 megawatts and is subthreshold, there is a requirement to screen the proposal for the need for EIAR.

7.1.5. I also have considered the relevance of class 3 (c) "Installations for surface storage of natural gas, where the storage capacity would exceed 200 tonnes," and as the gas is not naturally occurring and does not exceed 200 tonnes this does not apply. Nor does the battery energy storage facility come within a class in Schedule 5.

7.2. **Schedule 7A information :**

7.2.1. The planning authority sought further details to determine the need for an EIAR. This is contained in Appendix A of the Further Information which includes an EIAR screening report dated August 2020. This sets out details under the headings of Schedule 7A. Having regard to this information the Planning authority determined that the proposed development did not require an EIAR. The screening report (pre-dating the application) refers to a number of assessments to be undertaken at application stage which have been appended in the FI together with the screening report and I have noted these.

7.2.2. I conclude that as the information submitted is as set out under schedule 7A that the need for EIA cannot be subject to a preliminary assessment and that the proposal needs to be subject of a screening determination.

7.2.3. In consideration of this matter I further note that:

- The application has been accompanied by both an AA screening report and an NIS as amended (Sep. 2021) and submitted in grounds of appeal.
- The applicant has stated that the IED/IPC or Waste Licence (or review of licence) is not required form the EPA. (There is reference in Appendix O of the FI to the emissions being regulated under EU Directive)

- With respect to other assessments, the site is located in zoned lands as part of the Shannon Town and Environs Local Area Plan 2012-2018 which was subject to SEA. Clare County Development Plan 2017-2023 (as varied) is the parent plan and was also subject to SEA in accordance with the Planning and Development Amendment Act 2021 having regard to European Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment ("SEA Directive")

SCREENING DETERMINATION

7.3. **Assessment under Criteria as set out in Schedule 7 of the Regulations / Annex III of the EIA Directive.**

7.3.1. The headings as set out in Schedule 7 of the Planning and Development Regulations, 2001 (as amended) are generally consistent with those given at Annex III of the 2014 EIA Directive (2014/52/EU). The following sections assess the proposed development against the criteria listed in the Directive and Planning and Development Regulations under the following general headings:

- Characteristics of proposed development
- Location of proposed development, and
- Types and Characteristics of potential impacts

7.4. **Description of Physical characteristics of development**

7.4.1. It is proposed to construct an energy facility comprising 750 sqm. of buildings on a site of 3.5 hectares outside the business district of Shannon. Section 2.1 of the Screening Report describes the size and design of the whole development on site and with reference to inputs and outputs.

7.4.2. Works include a new vehicular entrance, culverting of an open drain and installation of attenuation tanks together with a SUDs stormwater system to maintain current greenfield run off rates entering the drain.

7.4.3. Table 2.1 of the Planning and Environment report (Sep '20) sets out a detailed Inventory of the Site Plant and equipment and I have taken account of this together

with the drawings in a full description of the layout as set out in section 2.3 of this report.

7.4.4. The proposal can be summarised into the following elements related to the process.

- Biomass processing area which includes a weighbridge, delivery staging area, low temperature dryer and dried biomass storage. This process will generate 24 trucks of woodchip per day on average.
- A 20MW Gasification and Methanation Plant which produces 13MW of advanced biofuel as Renewable. (I note an error in the output in section 4.3.4 of the screening report but is otherwise extensively clarified in the documentation.) Natural Gas for injection into the Gas Networks or Liquid Natural Gas for transport off site and 7MW of heat for district heating per hour. This process utilises 40000 dry tonnes p.a. (equivalent to 76,000 wet tonnes)
- A 15MW Gasification Plant and Combined Heat and Power Plant with a capacity to provide 5MW electricity and 7MW of heat for district heating per hour. This requires 30,000 dry tonnes p.a. (equivalent to 57,000 wet tonnes p.a.)
- The thermal plant consists of a building size of 74sq.m. which houses heat exchangers and heat pumps. External to the building is hot water storage vessel. From this thermal plant and equipment hot water will be distributed to a District Heating Network. Routes have been designed and heat loads of Shannon are mapped showing it as an area with second highest level of demand for heat which currently is primarily met with fossil fuel.
- Battery Storage facility for electricity – 20MW to meet peak demand in Shannon
- Electricity Substation 38kv and underground grid connection to Drumline substation (substantially external to application site)
- The proposed development involves construction of large-scale plant to provide two independent energy processes and what I would describe as ancillary elements
    - The syngas from the first gasification plant is piped to an upgrading process and then onto methanation to produce green clean biosyngas for injection into the gas grid or can be trucked off site as produced.
    - The biogas from the second gasification plant is proposed to be piped directly to the Biogas CHP adjacent Plant whereby it is used to produce electricity and heating

- Other elements include a battery energy storage area(BESS), substation and storage and processing facility for wet biomass and grid connection (to Drumline substation 4.9km to north east) which is substantially outside the site. The BESS includes 6 self-contained battery container units with heating, ventilation and air conditioning, Power Conversion Systems , transformers , controls/electrical components and cabling/ducting.

- The total volume of biomass processed is 71000 tonnes of dry biomass (forestry by-product amounting to 133000 tonnes) to generate 32MW of green energy per year. This will comprise 13 MW of Advance Biofuels/Biomethane, 14MW Heating and 5MW Electricity. (Planning and env report Sep 2020) I would class this as a medium sized enterprise.
- The processes use low volumes of water and will generate ash and sludge . Wastewater will be generated from the process in addition to foul effluent associated with the staff facilities. The developer intends to supply water by a water bowser during construction and then by connection 2km away. While the effluent was initially proposed to be tankered off-site, the planning authority has conditioned a foul sewer connection and this has not been appealed and has to be considered as part of the development.
- The air emissions will be from the syngas flare and stacks. The process will also generate some odour, dust and noise.
- It is not classed as a hazardous activity and risk associated with stack height and emission/plumes and also construction cranes and impact on airport and its flight safety zones has been addressed in specialist reports and through design measures and controls to the satisfaction of the aviation authority.
- The traffic generation is substantially associated with HGV and daily Woodchip delivery with 24-26 Vehicle s over 8 hours during the day. Occasional HGV traffic is associated with Oxygen, Nitrogen, Ash and Water/sludge and Biogas is set out in Table 1 of Appendix B of FI. Smaller trucks and Vans will also contribute very low levels of traffic assocatied with DAF chemicals, filtration and Spent Catalyst . This ranges from once a week to once every 5 years. In the order of up to 18 persons are expected during daytime with a rotating night time staff of 8 (breakdown of staff is In Table 2 Appendix B of FI) with associated car traffic of up to 18 in 1 shift and 6-8 car over 3 shifts.

- The construction associated with the proposed development is estimated at 15 months and (although I note reference to a 4-5 months in the August screening report) will involve a temporary site compound, a 1.2m diameter culvert for 'stream' watercourse and stripping topsoil and vegetation from with excavated material to be stockpiled/re-used or removed on completion, , access roads and drainage with interception and attenuation measure. At this stage foundation pads with ducting will commence prior to construction of steel frame and block work building . The next stage involves installation of electrical and mechanical equipment following by completion of roads, landscaping and lighting and tidying up of site. Grid connection and commissioning of the bioenergy plant can then commence. The traffic assocatied is mainly related to the delivery of concrete and this is to be in consultation with the planning authority.
- I consider this to be a fairly typical industrial type construction and does not require any atypical foundation work and is generally of a type in keeping with the industrial and airport associated development in the wider industrial zoned area.
- The proposed development shell is medium to large sized industrial type development within lands zoned for such development and is I consider consistent with the character as envisaged in the Development plan for the area.
- While I note a residential dwelling on the opposite side of the road to the east it is segregated from the core activity by the substation which is also set back from the boundary along which landscaping is proposed. Accordingly I consider the development to be well contained within the site.

7.5. **A description of the location of the development with particular regard to the environmental sensitivity of geographical areas likely to be affected.**

7.5.1. The site is in a greenfield site within the development boundary of Shannon Town and Environs. It is 5km north of Shannon Airport and in its immediate context it is predominantly agricultural. However on the opposite side of the road to the south, the Lufthansa hanger is close and is part of the Shannon Industrial Area which buffers the site from the town centre and urban residential population. Stonehall industrial estate is to the north. The nearest settlement is Stonehall in addition to some dispersed housing .

7.5.2. The land use of the site and adjacent lands is agricultural and is described as grassland with hedgerows of generally low ecological value. The boundary hedges and drainage ditch traversing the site provide some habitat for fauna but are also of low ecological value.

7.5.3. The nearest Natura sites are the Lower River Shannon SAC (002165) and River Shannon and River Fergus Estuaries SPA (004077) which are hydrologically connected via the watercourse/drainage channel which flows to the River Shannon via a culvert through Shannon Airport lands – as mapped in the revised AA screening report (sep 21) submitted with grounds of appeal. The Shannon River is also a proposed Natural Heritage Area: Fergus Estuary and Inner Shannon, North Shore. All these sites substantially overlap in delineation and are c. 1km to the west at the nearest point and about 2km to the south of the site. Lough Gash Turlough SAC 000051 is c.4.6 km north (on the far side of the M18) Newhall and Edenvale Complex SAC 002091 is further northwest (c.11.3km) and the River Shannon intervenes.

7.5.4. All matter that is processed is a by-product of multiple licensed forestry industries in the wider region and connected by the road network.

7.6. **Aspects of the environment with potential to be significantly affected by the development**

7.6.1. Having regard to, a) the expected residues and emission and the production of waste where relevant and, b) the use of natural resources in particular soil, land, water and biodiversity and to the extent of information available on such effects of the development on the environment, the main aspects of the receiving environment include:

7.6.2.

(i) Air: Emissions to air during construction and then at operational stage are identified as potentially having an impact. The emissions comprise NO_x, SO_2, CO and PM_{10} particulate matter associated with the facility process.

(ii) The water process will generate odours . Atmospheric impacts will also be generated by noise and vibration at construction and operational stages. Residents in the area are potential sensitive receptors to such impacts.

(iii) Waste This is in the form ash and sludge from the processes and is to be disposed off-site by licensed facilities. Connection to the foul sewer is required as a condition of permission and this would cater for effluent associated with 18 people working on site.

(iv) Soil: No change in soil anticipated.

(v) Land: The existing agricultural grassland will be urbanised

(vi) Water: The overall environmental impact on water is considered to be low. There is a drainage channel through the site which ultimately connects to River Shannon downstream. The site layout and design provides for a barrier by way bunded storage of fuel and oils in the construction compound at construction stage and of an embankment, kerbing and fencing between this water body and the site. Soiled water from the external areas is intercepted before discharging to the stream while run-off from within the sheds that may be potentially contaminated is attenuated on site and tankered off-site. There will be no discharges of note and therefore no impact on the stream during the operational phase. By using best practice methods to manage run-off and soiled water, I am satisfied that there will not be a significant adverse impact on the watercourse to be culverted and ultimately River Shannon such as would require the carrying out of an EIA. The potential impact on River Shannon SAC/SPA is however addressed under the Habitats Directive.

(vii) Biodiversity is not likely to be impacted having regard to habitat type – improved grassland and wet grassland No mammal species will be impacted. Due to hard-surfacing and an effectively contained system and removal of waste off-site there is unlikely to be a significant impact on soil or flora and fauna. Invasive species has been addressed

7.7. **Characteristics of the impacts (nature and extent) and mitigation if any, avoiding or preventing a significant impact, having regard to probability magnitude, (including population effected) complexity duration , frequency, intensity and reversibility of impact.**

7.7.1. **Is the project significantly different in character or scale to the existing surrounding area or environment ?**

Yes in the short-term as the site is greenfield and unserviced, however, it is not a materially significant change in land having regard to the zoning in the development plan. In this plan, it is part of development land zoned as 'enterprise' land which when developed will extend existing urban industrial lands northwards over the longer term. It is therefore in keeping with the planned development character for the area. It is also to be provided with water and sewer connections along the road network resulting in limited demands for effluent drainage and water abstraction within the site. The diverting and culverting of a drain, subject to meeting requirements of the Inland Fisheries, is not significant in terms of altering character. Furthermore the site is stated to have the capacity to revert to grassland following decommissioning of plant if required.

7.7.2. The site has an overall area of 3.5 ha of which about two-thirds is to be developed and is part of a significantly larger tract of agricultural land that could potentially provide for additional mitigation, for example for attenuation and filtering of run-off, landscaping and biodiversity and buffering from residential development and recorded archaeological monuments to the north.

7.7.3. The scale and character will accordingly not result in any significant effect on the environment.

7.7.4. **Will construction, operation, decommissioning or demolition works cause physical changes to the locality (topography, land use, waterbody?**

There are no demolition works, the construction will involve diverting a drain and removal of soil as part of planned changes to locality. This will not result in any significant effect on the environment.

7.7.5. **Will construction or operation of the project use natural resources such as land, soil, water, materials/minerals or energy, especially resources which are non-renewable or in short supply?**

The operation will displace 15000 tonnes of soil as part of the development works and involves standard construction methods and materials.

The operation relies on input from the forestry sector and the information in Appendix Q of the submitted further information indicates there is adequate supply as a by-product/residual products from licenced forests. It will not in itself generate harvesting of trees as its primary source. Water supply will be from Irish Water mains connection and regulated accordingly.

Water consumption: The report in Appendix O of the Further Information Water requirements for EQTEC gasification plants sets out volumes of water consumption at a rate of 75l/s in the closed-circuit process with a recharge of 3.5l/s per annum for both processes (gasification and Methanation system and the CHP gasification Plant.) The volumes are quite low on average as it is only drawn down as a refill/top-up following an initial intake for a closed-circuit system . There is no objection from Irish water in principle to this connection.

The purpose is to produce bio-energy and the output potentially generates energy in a carbon efficient way. Energy consumed in the process can be self-generated. In this way the proposal is not likely to result in any significant effect on the environment.

7.7.6. **Will the project involve the use, storage, transport, handling or production of substance which would be harmful to human health or the environment?**

From my reading of the material and submissions, I believe it is reasonable to conclude that the fuel production is within a highly controlled and contained system and that output, while flammable will be contained and stored safely on site until transport or connection to a network. I refer to the mitigation measures as set out in Table 5.4 of the Planning and Environmental Report (page 104-109) which includes a range of measures to mitigate contamination from leaks or spills of fuels oils and chemical and increased concentration of suspended solids entering the aquatic environment at construction and operational stages. The risk of contamination and pollution is mitigated by, for example by siting and management of fuels storage in a bunded area, the use of absorbent materials at refuelling points, the use of interceptor drains and having a 20m buffer all in adherence to an agreed method statement. The open drain will be culverted as part of the first stage of construction works. These measures are also clarified in the further information (appendix D – CEMP) and response to grounds of appeal (sections 2.4 and 5.1 of the NIS.)

In terms of safety, the Chief Fire Officer has had input in terms of water storage for the purposes of fire safety notwithstanding separate regulations in this regard. It will be subject of Fire Safety Certification. Nor is the development classed as hazardous – it is not a Seveso site.

Accordingly I consider it reasonable to conclude that subject to environmental mitigation measures together with safety measures that any substances generated by the proposed development would not be harmful to human health or the environment. There is reference to using some effluent by-products subject to later engineering design detail and I consider this is something that could be restricted by permission in order to operate within the scope of the application details as proposed and to safeguard the localised environment from potentially harmful or noxious substances. In this way the proposal is not likely to result in any significant effect on the environment.

7.7.7. **Will the project produce solid waste, release pollutants or any hazardous / toxic / noxious substances?**

Appendix O contains technical reports of effluents. The report Main Effluents for EQTEC gasification plants sets out the types and quantities of effluents from the process and these consist of Bottom Ash, Sludge purge, Process water blowdown, condensate water from methanation, spent filtration media and spent catalyst will be handled by an authorised waste management company although the used of some by-products could be assessed at a detailed stage .

The main effluents of the gasification ad methanation systems are set out in Appendix O of the FI and comprise:

- Bottom ashes (11.5kg/hour) from the gasification process from the gasifier and the filter
- Sludge (3.5kg/hour) as a by-product of the water treatment process- its composition depending on the gasification and feedstock composition. This scraped and evacuated to tank form which it is pumped to a tar tank and then pumped for final disposal.
- Process water blowdown (1.4m^3/hr):. A water purge is required. Condensation is recovered as part of the process. The water purge is pumped and filtered which allows retention of the major fraction of contaminants and contaminant precursors

from the process. A breakdown of the composition of the process water is provided before and after secondary treatment. Notably the hydrocarbons separation presents very high efficiency >95% for HC, aromatics and PAH components. The water can then be discharged in the sewer or used otherwise used in the processes.

- Condensate water from the methanation (1m^3/hr): The methanation process produces water as a by-product. Which is removed from the bioSNG stream during the conditioning step.
- Spent Activated carbon and other filtration media: a series of spent media will be generated. The process water blowdown filters will be sized to allow for cartridges to be replaced every 1-2 months whereas the air carbon filter will facilitate a single annual collection of 1200-1500kg.
- Spent Catalyst (methanation unit this has capacity of 7500kg is to be replaced every 5 years.

The main effluent of the combined heat and power (CHP) Gasification Plant are set out in Appendix O of the FI and comprise

- Bottom ashes (24kg/hour) from the gasification process from the gasifier and the filter
- Sludge (4kg./hr). This is liquid effluent as a by-product of the water treatment process- its composition depends on the gasification and feedstock composition. This is scraped and evacuated to a tank from which it is pumped to a tar tank and then pumped for final disposal.
- Process water blowdown (.45m^3/hr): A water purge is required. Condensation is recovered as part of the process. The water purge is pumped and filtered which allows retention of the major fraction of contaminants and contaminant precursors form the process. A breakdown of the composition of the process water is provided before and after secondary treatment. Notably the hydrocarbons separation presents very high efficiency >95% for HC, aromatics and PAH components. The water can then be discharged in the sewer or used otherwise in the processes.
- Spent Activated carbon and other filtration media: a series of spent media will be generated. The process water blowdown filters will be sized to allow for

cartridges to be replaced every 1-2 months whereas the air carbon filter will facilitate a single annual collection of 800-1100kg.

- The process emits air borne pollutants via stacks but these are designed to be of a height to minimise impacts. The pollutants are well below the limits.

Table 1 Syngas Flare flue gas emissions expected levels and limits.

Parameter	**Unit**	**Expected Level[1]**	**Emission Limit[1]**
Sulphur Dioxide	Mg/NM^3	2.2	100
Nitrogen Monoxide and Nitrogen Dioxide expressed as NO_2	Mg/NM^3	91	200
Carbon Monoxide	Mg/NM^3	183	250
Dust	Mg/NM^3	6	10

[1] Standardised O_2 content of 11% in flue gas

- Wastewater will be connected to the foul sewer as conditioned – the applicant proposed tankering waste off site. Either way the wastewater is proposed to be managed through a licensed facility and will not be disposed of on site.
- Surface Water: storm water is proposed to outfall to the watercourse on site and will be restricted to green field run off rate. This is managed by the use of appropriately sized attenuation takes and hydro brakes. Prior to outfall to the attenuation tank, hydrocarbon pollutants will be filtered out. A range of construction stage measures to protect surface water are set out in section 3.4 of the civil Works and Roads Design Report (Sep 2020). Further to this there are no noted major flood events on the or within the vicinity of the site. This is partly due to the extensive flood defences in the wider area. This is to be further augmented by flood defence works in Shannon Airport.
- Effluent: Appendix O of the FI sets out details of emissions to air, effluent and water consumption

- Odour: The main source of odour is located in the water treatment room. A range of design measures in relation ducting and air pressure are stated to minimise this impact. This is achieved by preventing accumulation of volatile compounds and odour in the room atmosphere. The connecting pipe in the design detail includes a filter that protects the blowing of dust mist or other particles in the room atmosphere. In the case of the air blower a secondary duct extracts the air from the room and emits to the air via an activated carbon filter.

In this way the proposal is not likely to result in any significant effect on the environment.

7.7.8. **Will the project cause noise and vibration or release of light, heat, energy or electromagnetic radiation?**

- There will be some noise and vibration at both construction (15-18months) and operation stages . These levels are controlled during construction through a CMP and at operational stage at source through design and operation and levels are within acceptable limits.
- The construction phase will raise noise levels which will be apparent in nearby dwellings . This is set out in the section 4.4.1 of the Irwin Carr Consulting Noise impact Assemsent. The maximum predicted noise level at construction stage is 56.4 dB LAeq which is during the earthworks stage and this level is at house no. 15. This level is intermittent and short lived. The noise level at operational stage is predicted at a maximum to reach 35.2 LAeq for House 13. At this point the difference rating level is predicted to be 0.2dB during daytime and 2.2dB during night-time. Where +5dB is considered an adverse impact, the precited impact is reasonably described as low. This is based on mitigation measures such as , construction management mufflers and plant type all subject of on-going management and review. Further details of operational noise from plant and process are set out in Appendix O of further information (section 4 of the EQTEC Technical report: Emissions). A range of mitigations are listed in the report. The ese include :
    - Sound proofing of the engine building using acoustic insulation.
    - Soundproofing of ventilation ducting.

- Silencers to be installed to avoid outside propagation of noise.
- Soundproofing of the air fans.
- Soundproofing of exhaust pipes : one silencer between each engine and its chimney.
- Design of other equipment (air blowers, pumps compressors, to allow a maximum of 70dB(A) at 1.5m distance.
- Use of anti-vibration supports and plate silent block will used to avoid transmission of vibration.

It is stated that with these adopted measures, the reduction of noise transmission outside to a level of 70dB(A) will be obtained at a distance of 1.5m from the plot limits. (All measures and testing are in accordance with BS EN ISO 3746 and EN ISO 3747.)

- The proposed development is designed to generate heat and energy within a controlled environment which will be stored and transmitted from the site via trucks, grid connection and potentially as part of district heating system via a piped network that is not part of the proposal. This will be in accordance with health and safety requirements.
- In respect of heat, Appendix O indicates some heat emission as part of the water-cooling operation. Aside from the thermal energy store in the process, wastewater heat is also broken down for each process. The temperature range for the cooling stages in the Gasification and methanation is 35-50 degrees Celsius. (Heat to be removed at this phase is 275 kWth (kilowatt thermal) in the gasification island and 800kWth in the cooling water treatment phase). The temperature range for the CHP plant has a higher range at 35-50 degrees with heat to be removed ranging from 350 to 1000kWth. The use of an adiabatic cooling tower for cooling is envisaged to remove the waste heat from the gasification process. This I understand is a process of reducing heat through a change in air pressure caused by volume expansion. Having regard to the dispersion rates as modelled for the airport authorities and the intermittent nature I do not consider this heat dispersion to be likely source any significant impact. As the heat will be dispersed in the air it is reasonable to assume that this will not result in raised heat levels in the surrounding waters.

- The site will be illuminated and this is to be controlled particularly having regard to relationship with the airport zone. The DAU has recommended the light pollution be controlled on grounds of nature conservation.
- There is no indication of electromagnetic radiation.

7.7.9. **Will there be any risks to human health, for example due to water contamination or air pollution?**

- during construction there will be some dust, but this will be temporary with a duration of up to about 18 months. construction hours will be controllable with a localised impact. Risk of pollution of water courses or ground water from spillage and excavation will be controlled through standard mitigation which includes filtering out hydrocarbon pollutants . Mitigation measures are set out in in detail in the Planning and Environmental Report and are also included in the CMP
- At operational station wastewater will be connected to foul sewer. The process water will be subject o secondary treatment as already described. Run-off is to controlled and intercepted. Pollutant from the stacks including the syngas flare will be within acceptable range and subject monitoring.

- Surface Water: Storm water is proposed to outfall to the watercourse on site and will be restricted to green field run off rate. This is managed by the use of appropriately sized attenuation tanks and hydro brakes. Prior to outfall to the attenuation tank, hydrocarbon pollutants will be filtered out. A range of construction stage measures to protect surface water are set out in section 3.4 of the civil Works and Roads Design Report (Sep 2020). Further to this there are no noted major flood events on the or within the vicinity of the site. This is partly due to the extensive flood defences in the wider area. This is to be further augmented by flood defence works in Shannon Airport.

- Appendix O of the FI sets out details of emissions from the gasification plant and air quality and odour impacts Appendix F sets out the assessment criteria for modelling inputs and predicts the anticipated levels of NO_x, SO_2, CO and PM_{10} particulate matter at residential receptors and concludes that the predicted long-term levels are all significantly within the appropriate limits. The predicted levels

show that additional mitigation is not required during the operation stage. Furthermore, a Nitrogen assessment was undertaken which showed the max deposition at designated sites within 7.5km of the site was 0.3kg/ha/yr and less than 1% at all of the location assessed from the proposed facility. (See pages 20-27 of Appendix F.) The airborne pollutants from the facility would, in the opinion of the consultants, not have a detrimental effect on any residential receptors in the vicinity of the site. They are stated not to impact negatively on any of the qualifying interests of the Natura Sites in the wider area and I agree with this assessment. The air dispersion model found that the predicted ground level concentration for NOx will be significantly below the UNECE critical local value. It is further noted that the air quality Assemsent concluded that the predicted long-term levels of all pollutant paraments listed in Table 4.4 (NIS) will be significantly less than the appropriate limit levels for each parameter and as such will not result in perturbation to air quality.

- In terms of air quality, atmospheric emissions from the methanation unit by way of the syngas flare are stated to be regulated by Directive 2010/75/EU on Industrial emissions. This sets limits and standardised design parameters. .I further note that the gases from the syngas Flare will be discharged by means of a stack, the height of which will be calculated in such a way as to safeguard human health and the environments. This is in addition to embedded mitigation measures in the design of the buildings and plant. The emissions are stated to be well within the limits as can be seen in the extract from the report cited above.

It is considered that risks to human health would not be significant to warrant an EIA

7.7.10. **Will there be any risk of major accidents that could affect human health or the environment?**

- There is a slight risk of concrete entering the watercourse during construction of foundations , but no batching will take place on site and chute cleaning water will be tankered off site and will not discharge within the site. Plant and machinery during construction will be managed with the use of a compound and spill kits so as to protect groundwater and surface water. Best Practice Health and Safety will be followed on site.

- The site is not a SEVESO Site. Fire safety has been considered at planning stage and provision for water for firefighting can be addressed.
    - Potential risks associated with major accidents and/or disasters, which will be suitably mitigated through compliance with the relevant health and safety regulatory regimes and by limiting the quantities of dangerous substances present on site to levels below the relevant thresholds for the COMAH Regulations.

It is considered that risks risk of major accidents that could effect human health or the environment would not be significant to warrant an EIA

7.7.11. **Will the project affect the social environment (population, employment)?**

- The project will provide under 20 local jobs on ongoing basis and will have negligible impact.
- It is part of the planned focus of the development plan to develop the area as an industrial area and more specifically in the delivery of a district heating network the adjacent industrial park while reducing carbon emission and replacing fossil fuels for heating abd de-carbonising industry in line with the Climate Action Plan.

It is considered that the effect on the social environment would not be significant to warrant an EIA

7.7.12. **Is the project part of a wider large-scale change that could result in cumulative effects on the environment?**

- The proposal has been assessed in the context of a number of developments in the vicinity of the site and none by themselves or cumulatively are likely to have a significant adverse impact on the environment.
- In terms of positive impacts, the development is however part of a green energy enterprise on lands targeted for such development and adjacent to an industrial zone wehre there is a significant demand for heat and energy. In this way it is positive cumulative impact as part of a plan led approach to sustainable bio-energy provision.

7.7.13. **Is the proposed development located on, in, adjoining or have the potential to impact on any of the following:**

a**) European site (SAC/ SPA/ pSAC/ pSPA)**

b) NHA/ pNHA

c) Designated Nature Reserve

d) Designated refuge for flora or fauna

e) Place, site or feature of ecological interest, the preservation/conservation/ protection of which is an objective of a development plan/ LAP/ draft plan or variation of a plan

- Based on the information submitted and from my review of the Environmental Sensitivity Maps and NPWS available data, the development site is not subject to any designation related to the aforementioned. The site is covered in unimproved grassland and there are no reported findings of significance in relation to supporting species of interest. The nearest habitat of interest is a fen area north of the industrial estate at Stonehall and with which there is no clear connections- either with the site or the ecological buffer. I further note the descriptions of these habitats in Fossitt Classification Codes and Description. The only pathway for surface water to reach River Shannon Estuary is via a culverted watercourse which connects to the drain within the site. This has been addressed and is considered in detail in the Appropriate Assessment stage of assessment. In terms of EIA issues the mitigation measures in respect of controlling pollutants at source and filtering out would I accept eliminate any signficnat impact on the environment.

7.7.14. **Could any protected, important or sensitive species of flora or fauna which use areas on or around the site, for example: for breeding, nesting, foraging, resting, over-wintering, or migration, be significantly affected by the project?**

- No, the site is of low ecological value and is not a significant foraging area having regard to abundance of the habitat in the wider area. The NIS also concluded that that there are no likely adverse impacts.

7.7.15. **Are there any other features of landscape, historic, archaeological, or cultural importance that could be affected?**

- The schedule 7A information refers to a Desk top survey to be carried out as part of the application which was submitted in an updated version in the applicant's response to the grounds of appeal - a report is contained in Appendix E of this submission. Based on its review of the application documentation, the DAU had raised the matter of a possible former avenue to Stonehall to the north (c.250m) and noted that this traverses the development site and this is acknowledged in the Archaeological Assessment Report. However no sub surface investigations have been carried out and this is necessary to ascertain the extent of the heritage value, if any of the site.
- While there is a clustering of recorded monuments in the wider area, none are directly impacted. Archaeological trenches are proposed across this former avenue which has, I note from o.s. maps, been already truncated by road realignment works. Archaeological monitoring during construction with preservation in situ and by record is proposed and will be carried out under license which will ultimately protect the archaeological heritage of the site.
- The site or immediate environs is not subject of a landscape or visual amenity conservation/ preservation objectives and has capacity to absorb industrial development by reason of low-lying terrain and development plan objectives. Landscaping and boundary treatment will minimise visual impact.

7.7.16. **Are there any areas on/around the location which contain important, high quality or scarce resources which could be affected by the project, for example: forestry, agriculture, water/coastal, fisheries, minerals?**

- The development uses by-product of the forestry sector in a manner that is resource efficient - based on the information submitted.
- The site is not located within a flood zone.
- The water course is a conduit via a culvert to the sensitive receiving water in the River Shannon. The runoff rate is to be maintained at greenfield rate. Pollutants will be regulated by a precautionary approach in design and filtering. The deposition of pollutants and dust from the plume at operational stage will be controlled and within acceptable limits such that there is unlikely to be any deposition on surface water or pasture lands or crops in the vicinity of the site.

Mitigation measures include consultation with Irish Water and Inland Fisheries. Having regard to the nature of the biomass supply and mitigation measures and particularly those outlined in the NIS, the proposed development is unlikely to have a significant adverse impact on the environment in this regard.

7.7.17. **Is the location susceptible to subsidence, landslides or erosion?**

- It is not susceptible having regard to the relatively low-lying and level terrain with shallow soil over underlying rock and nature of development which includes hard and soft landscaping and tree and hedge planting along the perimeter. The proposed development is unlikely to have a significant adverse impact on the environment in this regard.

7.7.18. **Are there any key transport routes(e.g. National primary Roads) on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?**

- No – the site is served by a good road network and the traffic level associated with both construction and operational stages will be within the capacity of the road network. The Road safety Audit provides for details measures to protect and enhance road safety and minimize any potential traffic hazards. The proposed development is unlikely to have a significant adverse impact on the environment in this regard.

7.7.19. **Are there existing sensitive land uses or community facilities (such as hospitals, schools etc) which could be significantly affected by the project?**

- The site is a low density area. A small industrial estate to the north and Stonehall school is approx. 1.2km to the north and the site is sufficiently separated from populated areas to not have any significant effect on the environment.

Other factors that should be considered which could lead to environmental impacts

7.7.20. **Aviation safety**

- Concerns raised by Shannon Airport Authority have been addressed by the planning authority by way of further information which included a Special

Aeronautical Study (Appendix E) which follows standard international practices . This examined risks to navigational aids and instrumental flight procedures. The main risks relate to the use of cranes and also at operational stage and the flares. This can be addressed through construction management, the height and design of the stack and the management of the syngas flare, together with other operational management and protocols to ensure ongoing aeronautical safety. I further note that the Shannon Airport Authority own the subject lands and have consented to the application, notwithstanding, conditions of permission are recommended.

7.7.21. **Cumulative Effects: Could this project together with existing and/or approved development result in cumulative effects during the construction/ operation phase?** No having regard to the following**:**

- While the development in part relies on infrastructure for transmission of heating there are no projects at planning stage. The development in part relies on a grid connection but this is proposed along the road network and is indicated to be subject to a road opening licence only. It is stated not to interfere with watercourses.
- The proposal also relies on inputs from the forestry sector. However, the process is stated to use only by-products which are stated to be from licensed facilities in the region. I further note that the forestry sector is identified as a growth sector in County Clare and that the development plan has been subject to strategic EIA.
- In terms of other developments in the area, the projects in the area are outlined in the NIS (section 4.4 which refers to 'in-combination effects') and are I concur, of a nature and scale where these impacts are considered to be low or negligible and are not considered to justify the need for EIA.
- I also note Shannon LNG ltd seeks a 10-year permission for proposed Shannon Technology and Energy Park consisting of power plant, battery energy storage system, floating storage and regasification unit, jetty, onshore receiving facilities, above ground installation and all ancillary structures/works. (This is a SID case 311233-21 not yet decided at time of writing this report). This is on the southern site of the Shannon Estuary and has no connectivity with the site.

7.7.22. **Transboundary: Is the project likely to lead to transboundary effects?**

- The site is not located within what I would describe as a location having any direct or indirect transboundary impacts.

7.7.23. **Are there other relevant considerations?** No

- There is adequate land to cater for any unforeseen mitigation measure to ensure retention of greenfield run-off rates and no increased loading on the land drainage.

7.8. Conclusions

7.8.1. In view of the foregoing and having regard to the nature and scale of the proposed, it is considered that the issues arising from the proximity/ connectivity to European Sites can be adequately dealt with under the Habitats Directive (Appropriate Assessment) as there is no likelihood of other significant effects on the environment. I do not consider that the proposed development is likely to have significant effects on the environment by virtue, inter alia, of its nature, size or location, that would warrant an EIA. The submission of an environmental impact assessment report is, therefore, not required. I accordingly recommend a determination to following effect:

7.9. Determination

7.9.1. Having regard to: -

(a) the nature and scale of the proposed development, which is significantly under the mandatory threshold in respect of Class 2(a) of Part 1 Schedule 5 – Thermal power stations or other combustion installation with a heat output of 300megawatts and of Class 3 (a) of Part 1 Schedule 5 – Industrial installations for the production of electricity, steam, hot water not included in Part 1 of the schedule with a heat output of 300 megawatts or more.

(b) the location of the site on lands that are zoned 'Enterprise' under the provisions of Shannon and Environs LAP 2012-2018 (as amended) in accordance with the Clare County Development Plan 2017-2023, and the results of the strategic environmental assessment of that plan, undertaken in accordance with the SEA Directive (2001/42/EC);

(c) the location of the site, north of Shannon Airport, in an area outside a large settlement area and on lands which are proposed to be connected to public infrastructure, and the existing pattern of residential development and proximity to community facilities (including a primary school) in the vicinity;
(d) the location of the site outside of any sensitive location specified in article 109(4)(a) of the Planning and Development Regulations 2001 as amended and the absence of any relevant connectivity to any sensitive location;
(e) the schedule 7 A and associated documentation submitted with the application,
(f) the guidance set out in the 'Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development', issued by the Department of the Environment, Heritage and Local Government (2003), and;
(g) the criteria set out in Schedule 7 of the Planning and Development Regulations 2001 as amended,

it is considered that the proposed development would not be likely to have significant effects on the environment, and submission of an environmental impact assessment report is not therefore required.

8.0 Assessment

8.1. Issues arising

8.1.1. This appeal relates to a biomass energy plant in industrial type zoned lands north of Shannon Airport. The lands are open fields, un-serviced and part of the grounds previously associated with Stonehall House – a demolished house, the origins of which date from the 11th Century. The area is otherwise described as low-lying and rural in character with some dispersed housing. The site is not within any site or habitat of ecological conservation interest although there is a drainage channel which drains to the Shannon River/Estuary SAC/SPA. Having regard to my site inspection, the relevant policy and guidance and the submissions on file, the salient issues relate to:

- The principle of the development: Location and policy/zoning, infrastructure, prematurity, not a sustainable form of development and conflict with national policy

- Supply of forestry biomass
- The scope of assessment/project splitting
- Impact on Archaeological and landscape heritage
- Air Emissions – pollution and impact on amenity
- Water supply
- Effluent and Drainage /Water Pollution:
- Other environmental issue
- Other procedural matters
- Appropriate Assessment

8.2. The principle of the development

Zoning

8.2.1. The proposal is for biomass gasification and conversion of the resultant syngas to renewable energy which will provide 1) electricity to the grid and 2) liquified fuel for transport and injection into the gas network. It will also provide for thermal heat recovery and storage for district heating. (See figure 2.7 of the Planning and Environmental Report 2020, for a diagrammatic process overview). The process is accordingly industrial in nature and I consider its siting in 'Enterprise' zoned lands in the Shannon Town and Environs Local Area Plan (2012-18 as amended) which specifically provides for Bioenergy, CHP, Biofuels and District heating complies in principle with the land-use objectives for both the Shannon environs and wider county. More specifically, the subject site is specifically identified in objective E3 for the nature of the proposed development in that it is described as being in a strategic location with excellent road access and where securing renewable energy/green user would reinforce the overall objective for Shannon as a low carbon zone. A full range of green energy development and industry including research and development in bio-fuel are further identified as potential uses in this category of development targeted for the subject lands. This is further mandated in the current Clare CDP objectives for energy supply, green technology and energy storage. In terms of positioning, I also accept that it is generally well placed for a bioenergy facility with District Heating Network capabilities due to the linear heat concentration, adjacent siting near large industrial, commercial and public sector thermal energy

consumers and proximity also to biomass. The development accordingly meets the objective of RES 6.2 Clare Renewable Energy Strategy to facilitate development of CHP plants/green energy in so far as such is located in an area of high heat demand while also being served by a good road network and catchment area.

8.2.2. Notwithstanding the zoning objectives, the suitability of the location is however disputed by reference to an absence of infrastructure. In this regard I note that the connections to the water mains and foul sewer require a considerable amount of connection pipework. However there are no fundamental objections to these connections (which would be via the road network) by the providers either in terms of the capacity of systems or feasibility of the pipe work and this is not, I consider a reasonable basis to refuse permission.

National Policy /Sectoral issues

8.2.3. The nature of the proposed use is also challenged in terms of the compliance of the process with the principles of sustainability. This case against the proposal is supported by a perceived non-compliance with sectoral policies and objectives for energy production in the context of climate action.

8.2.4. Section 3.8 of the Planning and Environment Report lodged with the application sets out how the project complies with energy policy. This report is modified by Appendix B of the Further Information and includes an addendum and a summary table of the issues. The documentation refers to the positive indirect effects of substitution of fossil fuel burning and reduced emission of atmospheric pollutants and estimates that the project would replace $C0_2$ emission with a reduction by an estimated 67,486 tonnes per annum – equivalent to over 1million tonnes over 15 years.(P.12, FI) In this way it is stated to help support Ireland's low carbon transition. The proposal is also stated to offer a way to use forestry by-products and cut carbon dioxide emission by 95% as compared to fossil fuels. The new approach of gasification is to turn such biomass into intermediate products such as liquid hydrocarbons, methanol or methane and in units integrated into district heating plants. Bioenergy is stated to be a growing sustainable energy source projected to contribute to 17% of energy consumed by 2060. It is also highlighted that the by-products of forestry, (wood chip, bark, waste) do not impact on the carbon sink effects/benefits of forestry, nor does it compete with either the forestry sector as a raw material or with food production.

Accordingly, I am satisfied that the principle of the development meets the strategic aims of the Clare Renewable Energy Strategy. I refer in particular to the manner in which the proposal will help meet the targets set out in this strategy by provision of renewable energy which will meaningfully contribute to the 30% target as set out in RES 6.1 which states 'It is an objective of Clare county council to a) to maximise bioenergy use in the County in order to make a proportional contribution to meeting, or exceeding, national targets for renewable energy heat and transport of 12% and 10% respectively in 2020; b) By 2020 to supply in a sustainable manner 80,000 tonnes of sustainable biomass to serve biomass installations, thus contributing to County Clare's share of regional target for renewable heating (representing an approximate 30% share of the regional biomass targets.)…'

8.2.5. With respect to the nature of the industrial use, I consider the proposal for using forestry by-products to produce biomass energy and production of biofuel and providing for a Combined Heat Power plant for electricity and heating is consistent in principle with national policy regarding its aims in both implementing a circular economy and Climate Action measures as set out in section 5 of this report. The Climate Action Plan in particular, supports the development of renewable gas, such as biomethane. In terms of the National Planning Framework, I further note that NPO 8 seeks transition to a low carbon society. NPOs 21 and 23 also aim to support rural economies through increased diversity and sustainability, including investment in sectors/industries that address climate change, energy efficiency and the bio-economy. More targeted plans relating to Bioenergy as set out in section 5 further advance mechanisms for the role of biomass in energy provision. Accordingly I consider the nature of the development in its contribution to bioenergy at this location is consistent with the principles of sustainable planning and development.

Lack of infrastructure and Prematurity

8.2.6. The proposed grid connection is criticised as being a considerable distance from the site of the proposed development. The proposal however provides for connection to the grid via the adjacent road network, the process of which is governed by road opening licenses. I see no reason that such connection when required is not feasible.

8.2.7. The objections are stronger in respect of the infrastructure for District Heating capabilities. They go as far to presume the likely exclusion of the Combined Heat and Power Plant and in this way the proposal cannot be compliant with the national policy. It is argued that the absence of direct heat generation , as an integral element of the proposal effectively renders the project unsustainable.

8.2.8. I accept that the CHP element is dependent on a network of infrastructure including a piped network which is not part of this or any concurrent proposals. However a green energy enterprise is clearly supported in many forms as part of the green energy objectives for the Shannon area and specifically for the site - I refer to objective E3. In this context, while incremental in some respects, it is part of a wider strategy that is being developed in accordance with a plan led approach. In this regard I refer to the wider context of the nearby industrial zone where there are identified zones of High Heat Demand in Shannon /linked gateway - the 2nd largest demand centre. (Vol. 6 of the CDP 2012-23 Clare Renewable Strategy. Map 6.1). The project is also a catalyst development in the energy sector.

8.2.9. The observing party raises a range of technical challenges at quite a micro level which flag issues that are also considered fundamentally at odds with overall climate action plan objectives. While I accept that elements of this such as district heating are dependent on the capabilities of a receiving environment, I note that a high level of the Shannon industrial zone has been identified as significant users of heat. I also note that the technology at this level is somewhat innovative and new in the region and there is no comparable example given in the region . As I see it, the industry is evolving in response to a growing demand for means of sustainable energy production for power and heat and there are aspects that are new and evolving in terms of technologies. In this regard I also note the support for research and development in district heating in Action 188 of the Climate Action Plan. In such circumstances I consider that any permission should be subject to rigorous controls and monitoring ultimately enforced by way of a time restricted permission of 20 years. This will facilitate a review of the technology and processes in light of infrastructural needs and emerging technologies having regard to the environmental context and circumstances at that time. The more specific issues of development control are addressed in more detail under the respective headings relating to the environment and amenities of the area.

8.3. **Supply of forestry biomass**

8.3.1. The sustainability and adequacy of the supplies to fuel the proposal development is also questioned in terms of quantities, distances and nature of products and inherent unsustainability. The objection raise concerns that the suppliers can only provide 117,500 tonnes of woodchip which is short of the 133,000 required by the applicant. It is further estimated that only 39,000 tonnes of forestry residue and by-products can be supplied by the intended suppliers. The insufficient evidence of a sustainable supply in the opinion of the objectors is likened to the inadequacies of the proposed West Offaly Peat powered station for biomass given the Board's decision referred to the lack of information regarding the source of the biomass to be used as fuel and how it could not reasonably determine that the main direct and indirect effects of the proposed development on the environment would be mitigated. I do not consider Offaly case to be comparable given the scale and range of the supply source which is considerably less in terms of quantities and catchment in the subject case.

8.3.2. The issue raised in this case is that there is insufficient information on the supply of suitable quantities of by-products in the area. The catchment of 75-100km is stated to be unclear- although, it is I note, later clarified as being 50-75km. It is further criticised for being reliant on road-based deliveries rather than siting at an alternative and more suitable location with rail or port facilities. This raises concerns about sourcing by-products from greater distances and/or a potential need to plant crops solely for bio-fuel – each having unsustainable implications. In this regard, the applicant has provided letters from potential suppliers demonstrating a supply of biomass products, in addition to the further information provided to the Planning authority. This is, I consider, not an exhaustive list . Nor would I consider it a binding supply source as part of the application. It is simply evidence of how there is local supply of a by-product that could be used in an energy efficient way. I consider this to be a reasonable demonstration of a sustainable supply source. I further note in support of this type of supply source that Forestry is identified as a potential sectoral growth area in the county.

8.3.3. There are also concerns about the potential for future use of mature timber as a raw material and other supplies that are not timber by-products. It is also pointed out that wood from coniferous plantation can be classed as pulpwood associated with a high carbon debt. The appeal however should be assessed on the basis of the current

proposal and particulars and not speculation. Conditions of any grant of permission could control the operation of the development, including the nature and quantity of biomass supplies and any future material changes could be assessed as part of a new application for planning permission.

8.3.4. There is concern over the reference to use of pulpwood in letters of supply (Appendix Q) and that various wood categories will result in significant carbon debt. While I accept that mature trees and forestry as a raw material would be unsustainable, I do not consider a detailed examination of the supply chain at a micro level to be within the scope of analysis of the planning merits of the case. I consider it sufficient to restrict the supplies to being by-products as described and being from licensed facilities. Operations could be monitored for level of contribution to carbon debt reduction and this could be done by annual reporting to the planning authority . However, I do not consider there is sufficient statutory guidance for planning authorities to implement this through planning conditions.

8.3.5. I consider the criticism of a questionable degree of efficiency of the forestry by-products at stages of the process, particularly in an innovative stage of development, is unreasonable criteria to assess the development. I consider the use of by-products of the forestry sector and harnessing emissions from a bio-degradable gas emitting product so as to produce energy is inherently sustainable. I consider on balance that the principle of a bio-energy industry at this location using forestry by-products is acceptable having regard to both national and local policies. I further note the provisions of the National Energy Security Framework published in April this year. I accept however that permission is predicated on meeting environmental and amenity criteria within the scope the planning acts.

8.3.6. While I note concerns about the security and sustainability of forestry material on which the proposal is reliant, I am satisfied that the applicant has provided a reasonable basis to demonstrate the existing availability of adequate biomass within a 50-75km range and that availability is likely to increase due to the forestry policies for the region. I am also satisfied that any associated changes to forestry management practice will be suitably managed separately through the licensing of those activities. Accordingly, I do not consider that an objection to the proposed development is warranted on the basis of security or sustainability of supply sources, and furthermore, concerns raised about the economics of the operation are not a

planning consideration. Should the Board be of a mind to grant permission a 75km catchment could be applied as a condition of permission.

8.4. The scope of assessment

8.4.1. There is criticism that the omission of the electricity grid connection route from the application amounts to project splitting and that the various components of the overall project cannot be viewed in isolation. However the applicant, and my view correctly, points out that as the proposed development does not require being subject of an EIA and the works associated with the grid connection do not require a planning application, this is not a correct interpretation of the situation. The planning authority also holds this view.

8.4.2. The scope of the ecological impact such as in the NIS is also criticised in terms of omissions regarding the related works for water and sewer connections outside the site having regard to extent of watercourses feeding into the river proximate to the Lower River Shannon SAC. This is addressed in the Appropriate Assessment section of this report.

8.4.3. There is also criticism of the nature of forestry products and I have already substantially addressed this aspect . In terms of overall scope of assessment, while I note the intended sourcing within a catchment of up to 50-75km as clarified in further information and written confirmation from potential providers has been provided, I consider that given the volume of material required and the likely lifespan of the project it can be reasonably concluded that: While there is a functional independence between the proposed development and the forestry by-product suppliers, the practicalities of identifying specific sources for the input into the process are not practical or reasonable; the by-products are not necessarily exclusive suppliers to the proposal and it would unreasonable to expect that agreements with forestry/forestry related enterprises would be finalised at this stage or that they would remain constant over time. Moreover, the applicant would have no legal remit to control or oversee the operations of the suppliers and any condition requiring this would be ultra vires. Accordingly, I do not consider that it is feasible or practical to carry out an assessment of the impacts of different forestry by-products

either as part of the planning assessment , EIA screening assessment or appropriate assessment screening processes .

8.4.4. I would also make the point that the waste produced is relatively small in scale and I consider the disposal of the outputs associated with the bottom ash and sludge to not be practicably within the scope of assessment.

8.4.5. These outputs will ultimately be disposed of through dispersed receptors and through licensed waste facilities or possibly used as part of good agricultural practice subject to regulatory provisions. I do not therefore agree with the objections that the decision is flawed due to failure to assess effluent recycling. The proposal to generate other by-products could however be restricted by condition for the purposes of clarity and as a precautionary approach to protecting the environment and amenities of the area.

8.5. **Impact on Archaeological heritage:**

8.5.1. It is submitted by the appellants that the development would have an unacceptable impact on the architectural heritage of the site having regard to

- the comments of the Department Culture Heritage and the Gaeltacht regarding the former avenue,
- its proximity to some 15 recorded Monuments which have not been fully considered,
- the archaeological report notwithstanding its inaccuracies, on behalf of the appellant and
- the need for further investigation prior to a decision.

8.5.2. More specifically there are concerns about the direct impact on the former Avenue to the House as raised by the DAU and which is new information not previously considered by the Planning Authority. These concerns are supported by Dr. Rynne, Archaeologist in UCC (in a letter appended to Clean Air Shannon's appeal) and by the Department of Tourism Culture Arts Gaeltacht Sport and Media (13th Nov) who advocate adherence to international best practice in the absence of reasoned archaeological grounds by the planning authority for rejecting the recommendation.

8.5.3. There is ultimately doubt about the absence of impact and concern for the potential for significant long term and possible irreversible impacts upon the curtilages of two important recorded monuments, namely (CL051-124 and CL051-124001) Stonehall

House and its associated garden landscape and adjacent later-medieval tower house. The planning authority is considered not to have had due regard to the archaeological landscape and has not stipulated mitigation measures. Crucially, the absence of pre-testing denies the opportunity for evaluation by the statutory consultees. (DCH&G) While mitigation by monitoring is not wholly rejected, it is submitted to be poor professional practice.

8.5.4. In its response, (7th September 2021,) the planning authority is of the view that the site is outside the zone of influence and that in any event, pre-development conditions for testing have been included as part of the grant of permission. The reference to the potential for misunderstanding due to the inclusion of lands outlined in blue as part of the development site and that the development is actually outside the zone of influence is dismissed by the 3rd parties by reference to the Office of Planning Regulator leaflet 13 – Archaeology in the Planning Process and the reference to such zones not being definitive and other factors can also be relevant. It is submitted that in this case that other factors are relevant. In its further response (4th October) the Planning authority confirms, by reference to ArcGIS, that there is no recorded monument within the site outlined in red. Some recorded monuments relating to a Bawn and Tower House and 17th Century House lie outside the site but the zone of influence is partially within land within the applicant's land holding interests. Given the size of the site and extent of archaeological heritage in the vicinity, archaeological monitoring was accordingly a condition of permission by the planning authority.

8.5.5. An archaeological assessment was carried out by Through Time Ltd and the report is contained in the applicant's responses to the grounds of appeal. (Appendix E). The nearest recorded monument is at a distance of c. 65m in an industrial site on the other side of the road to the south and there are no surface remains. The report traces the history of development in the area and confirms no visible surface trace of the 17th Century House or tower house but it is cognisant of the former curtilage (p.36 – the walled garden which is 120m north of development site) and the former avenue to Stonehall in addition to the wider landscape and the context of airport associated structures south west. It is confirmed that the proposed development will not directly impact on any recorded monument or protected archaeological site. P.38 refers to the removal of a 130m length of ground associated with the former

avenue to Stonehall - leaving the remaining 115m of the former avenue untouched. As the monuments are not on site and not visible there will be no visual intrusion on such monuments. The report also highlights the improved access to recorded monuments and maintenance opportunities consequent on the development. The report recommends predevelopment testing which should be undertaken under licence. A series of trenches are recommended across the former avenue. The report defers to the Department in its statement that a report on testing should be forwarded to the relevant authorities with recommendations how to proceed.

8.5.6. While I accept that the zone of archaeological potential is not definitive and in this case the avenue alignment suggests historic activity associated with the original settlement at Stonehall, I note this area has been subject to relatively recent road realignment works along the southern boundary which truncate any former avenue to the south. This is evident in the 6" inch Ordnance Survey map. This map shows the southern approach to Stonehall aligning with the western field boundary/site boundary and there is no mapped trace of the original possible avenue as suggested in aerial photography. Nor is there any reference to any discoveries during the realignment works carried out along the present southern frontage . There is also an absence of significant discoveries in the wider landscape as referred to in the applicant's report– although I consider these somewhat removed and not entirely relevant. The proposed development structures such as boiler rooms and upgrading room are set at least 22m from the northern boundary and are outside the typical zone of influence being some 250m from the recorded monuments.

8.5.7. While I accept that avoidance is a preferred mitigation measure, there is I consider some opportunity to modify the layout to reflect an important historic route, if any. The southern site frontage incorporates a new entrance with a small office and a north-south internal access road with a low level of site coverage and in this context there is scope to modify the layout to protect artefacts if any, in situ along the former avenue. The layout also allows to make reference to the original alignment with a slightly modified footprint. The Board could seek revised plans in this regard or could insert a condition in the event of permission to allow for such modifications if minor. However I note section 3.3 of Framework and Principles for the Protection of the Archaeological Heritage also provides for an approach such that 'whenever the archaeological heritage is affected, or proposed to be affected, by development the

approach to be followed must be preservation in-situ or preservation by record through archaeological excavation and recording'. In this case, which relates to a considerably altered curtilage of the original now demolished house and ancillary structures, I consider in the event of discovery of artefacts that the approach of preservation by record and where preservation in situ is not feasible, is a reasonable approach for a site that is zoned for industrial development and is of part of key energy infrastructure planned for the area.

8.5.8. Accordingly, I consider a condition to include archaeological monitoring, supervision and recording of findings together with ongoing liaison with the National Monuments Service throughout construction to ensure appropriate mitigation by avoidance, reduction and remediation where feasible, is reasonable.

8.6. **Air Emissions**

8.6.1. There are concerns about the impact of the development on air quality and consequently on the localised environment where there is a school and dispersed houses. The observing party goes further in challenging the basis for calculating emissions and the wider environmental impact.

8.6.2. Appendix F of the FI includes an Air Quality Impact Assessment by Irwin Carr consulting. Appendix O of the FI includes specialist EQTEC reports which are updated and describe and quantify the atmospheric emissions from the gasification and methanation plant and air quality and odour impacts.

8.6.3. With respect to air quality, the atmospheric emissions from the methanation unit consists of the syngas flare and these are stated to be regulated by Directive 2010/75/EU on Industrial Emissions. This sets limits and standardised design parameters. The gases from the syngas Flare will be discharged by means of a stack, the height of which will be calculated in such a way as to safeguard human health and the environment. The emissions are stated to be well within the limits as can be seen in the following extract from the report.

8.6.4. Table 1 Syngas Flare flue gas emissions expected levels and limits. (Appendix O: Technical Report – Emissions from EQTEC Gasification)

Parameter	**Unit**	**Expected Level[1]**	**Emission Limit[1]**

Sulphur Dioxide	Mg/NM^3	2.2	100
Nitrogen Monoxide and Nitrogen Dioxide expressed as NO_2	Mg/NM^3	91	200
Carbon Monoxide	Mg/NM^3	183	250
Dust	Mg/NM^3	6	10

[1] Standardised O_2 content of 11% in flue gas

8.6.5. The applicant's claim that 'we applied the higher concentration from the directives ' is disputed by the observing party as the proposed total fuel input to the plant is below 50MW and so it falls under the Medium Combustion Plant Directive (MCPD) . It is submitted that the limits in this directive are breached by reference to the data provided in Table 2: Engine flue gas emission: expected levels and limits -as contained in original Air Quality assessment. By way of comparison, I note that the expected engine flue gas emissions are significantly less than the limits set in the MCPD as I have summarised below.

Summary comparative values mg/Nm^3

Pollutant	MCPD Limit for new engines and gas turbines- Liquid fuels other than gas oil	MCPD limit Gaseous fuels other than natural gas	Assessment expected engine flue gas emissions in Table 2 Engine flue gas emission in applicant technical report relative to limit (limit[1])
Sulphur dioxide	120	15	1.3 (10)
Nitrogen monoxide and nitrogen dioxide expressed a NO_2	190 (engines) 75(Gas turbines)	190 (engines) 75(Gas turbines)	45(100)
Dust	10	-	<5(10)

[1] Standardised O_2 content of 15% in flue gas

8.6.6. I note that the 15 limit in the MCPD for gaseous fuels other than natural gas is actually higher in the case of biogas (40mg/Nm^3). I also note that although the emission limits are stated as being met in the technical documentation (Table 2

Engine Flue gas emission: expected levels and limits) the achievement of more restrictive limits is achievable with a proposed flue gas treatment system. Accoridngly a condition limiting the applicant to limits in Table 2 is a feasible safeguard.

8.6.7. While the 3rd party observations question the inputs, in terms of specification of engines and plant and absence of sufficient evidence-based data and veracity of predictions, I consider that the applicant has set out the limits within which the processes will operate, and I note it is with stated caution and the possibility of additional mitigation. The flue design and plume/flare have also been subject to detailed assessment pursuant to the airport authority's aeronautical requirements, and I do not consider a detailed examination of the machinery specification is appropriate for an industrial zoned site. In any event machinery of the nature proposed is separately regulated through industry standards under European governance e.g. the MCPD. A condition of permission setting these limits is I consider the appropriate mechanism for regulating this for the purposes of safeguarding the environment and amenity within the provisions of Planning and Development Act.

8.6.8. The Irwin Carr report concludes that for all the residential sensitive receptors, the predicted long term levels are significantly less than the appropriate limits - the short term 1 hour predicted levels being less than 75% of the appropriate limit at all residential sensitive receptors. The pollutant elements in the emissions did not exceed any of the appropriate limits. Air borne pollutants are therefore predicted to not have any detrimental effect by reason of NO_x, SO_2 CO_2 and PM10 emissions from the facility. It is accordingly concluded that no mitigation is therefore required during the operational stage.

8.6.9. I note a range of preventative safeguarding measures that are embedded in the design and some of which are referred to in the documentation including the Planning and Environmental Report as amended and consider for the purpose of clarity that a range of mitigation measures to be clarified as part of the construction management and operational phases should be submitted for agreement as a condition in the event of permission. This should include the following to safeguard amenities*:*

- Dust monitoring and cleaning arrangements during construction.
- Material storage and handling areas to prevent dust emissions.
- Containment of emissions within tanks and other vessels.
- stack height to ensure adequate dispersion of minimal air pollutants.
- Operational procedures to minimise odour generation.
- Recording and monitoring of materials received, vehicle movements, and odour assessment.
- Monitoring of spillages and planned preventative maintenance
- A Neighbour/Stakeholder Communication Plan to establish contacts, complaints and response procedures for off-site odour and/or noxious emissions.
- Traffic management

8.6.10. As such I am satisfied that the project is unlikely to have the potential to result in the emission of nutrients or any other pollutants or odours that would have the potential to result in significant adverse effects of the sensitive receptors in the receiving environment. Subject to mitigation and best practice measures, I am satisfied that the proposed development would not give rise to pollution or pose any significant risk on this basis to human health or injury to amenities. It is also relevant to highlight that the proposal has the potential to have a positive impact in terms of reducing greenhouse emission. On balance I do not consider there are any substantive basis to refuse permission on grounds of air pollution or amenity.

8.7. **Noise and Vibration**

8.7.1. The applicant conducted a noise impact assessment of the proposed development on its nearest sensitive receptors – 18 dwellings. A 5-day noise monitoring survey was undertaken . Noise modelling was undertaken to predict construction and operational noise levels in the vicinity of the site and at nearest noise sensitive receptors. Methodology was informed by the NG4 of the EPA , BS and WHO. Construction noise was assessed in line with TII guidelines and found to be compliant.

8.7.2. The background noise levels recorded were low with a base of 34dB at night-time due to distant motorway and local traffic, agricultural activities and wind noise.

Having regard to the levels anticipated and the background noise I consider it reasonable to conclude that the operational noise is likely to have a low impact on neighbouring residential properties subject to mitigation measure as outlined at construction stage and operational stage. In this regard I note section 4 of the Technical Report: Emissions', Noise and Vibration Emissions and the following measures which include a range of sound proofing measures for buildings, venting, and exhaust pipes in addition to design measures, specification and positioning of plant and use of antivibration supports. Such measures can reduce noise levels for machinery to levels of 70dBA at 1.5m distances. A condition setting limits for noises at sensitive receptors will further safeguard amenities.

8.7.3. I am satisfied that the impacts predicted to arise in relation to noise and vibration are negligible and that there will be no significant residual noise impacts associated with the development. Accordingly I do not consider there are any substantive grounds in relation to noise and vibration to refuse permission.

8.8. **Water supply and Effluent**

8.8.1. The 3rd party submissions have raised concerns about the proposed water supply. It is submitted that water supply connection requires assessment of impact on a number of watercourses which flow into the proximate Lower River Shannon. I note however that the development is to be connected to a public supply and this will require a connection agreement with Irish Water prior to the commencement of development. Irish water has raised no objections. I further note that the water consumption, for an industrial use, is quite low as the water is in a closed-circuit system with the initial fill and then recharge being the main source of drawdown. I consider that this issue could be satisfactorily addressed by way of conditions. Such conditions would require that the developer would enter into a connection agreement with Irish Water prior to the commencement of development, and that the developer would submit a breakdown of water supply needs to the development with associated calculations for the agreement of the Planning Authority. I consider that this would ensure appropriate protection of the public water supply.

8.8.2. While the projected loads are low, the Planning Authority requires disposal to the foul sewer where the public WWTP has capacity. The process effluent will however be

fully captured and removed from the site where it is not reused. It states that foul effluent discharge to sewer will be limited to the office/control buildings for 20 person and will be of a domestic nature. I do not consider the management of foul waste to be an issue.

8.8.3. Details of the managing of process effluent and its disposal are however considered insufficient in the objection, particularly in respect of effluent recycling as set out in FI (appendix L). In section 2.3 of Appendix L in the FI the effluents referred to are as quantified in Appendix B of Appendix L. It is stated that the identified effluents/by-products of ash, sludge, process water blowdown, spent filtration media and spent catalysts from the methanation unit will be handled by an external authorised waste management company. Notably it also stated 'although the use of these by-products of the process would be assessed during the detailed design', and this would appear to be a source of concern. In the response to the grounds of appeal the applicant addresses this matter and further appends details (Appendix D of Response).

8.8.4. Ultimately, the streams of different effluents and by-products remain to be assessed during plant commissioning stage and the final use streams will therefore depend on the characteristics/final composition and are not certain. Scenarios are provided for each stream and

- Bottom ash could be used in forestry or agricultural land if in compliance with the relevant regulations and if it cant be use din sol application it will be disposed of in controlled landfilling.
- Sludge is most likely to include hydrocarbons and PAHs compounds and so is most likely to end up in incineration with energy recovery. .
- Process water blowdown remains to be analysed for re-use or waste management.
- The filtering media is anticipated to be taken away by supplier for partial or full recycling subject to BATs.

8.8.5. I consider the applicant in the submitted details including the appeal response has reasonably addressed the waste streams for the purposes of a planning application. It would appear that Bottom Ash is the most likely to a have a local based demand for soil enrichment. As a precautionary approach the re-processing of by-products

could either be omitted from the scope of this particular permission although this may conflict with the principle of circular waste economy, or it could be subject to detailed agreement. Given the complexity of the process and unknown composition I consider the further processing and by-product development of sludge purge and process blowdown should be subject to a separate permission.

8.8.6. With respect to wastewater I consider I have addressed these issues in the EIA screening and refer again to the connection to the foul sewer. The SUDs methods in conjunction with the mitigation measures as set out in the documentation and also outlined in the NIS also address the issue of protection of water quality due to run-off.

8.8.7. I do not consider there are any reasonable grounds to refuse permission for reasons relating to water pollution or waste management .

8.9. **Other environmental**

Ecology and Invasive species

8.9.1. The objections raise the issue of policy adherence in respect of biodiversity in surrounding habitats. The Appropriate Assessment has identified the main sources of impacts on the most sensitive receptors in the catchment and has highlighted how the proposed development has low potential for impacts generally. I accept that the proposed development would result in a direct loss of on-site habitat, which mainly consists of grassland and hedgerow. This is of low ecological significance (fossits). Furthermore, in light of the location of the site in the environs of Stonehall and the relative abundance of similar habitat in the surrounding area, I consider that the predicted habitat loss is acceptable in this case.

8.9.2. The main issue outside that considered in the appropriate assessment relates to the localised management of invasive species which were identified in the hedgerow - namely Fallopia Japonica Japanese Knotweed and this will be treated in situ and not removed from the site. In the response to the further information request, the applicant has addressed this in more detail by way of an Invasive Species Management Plan (Appendix J) and this is to the satisfaction of the planning authority. I consider this matter has been adequately addressed.

8.9.3. I am satisfied that impacts predicted to arise in relation to biodiversity would be minimal and not be at a level to warrant a refusal of permission.

Hazardous nature

8.9.4. Regarding potential hazards and accidents, I accept that having regard to the nature of development and the concerns of the fire officer there is an understandable concern. There will however be a need to comply with the Fire Safety Regulations and Safety Health and Welfare at Work Act 2005. Notwithstanding, it is also explained how the raw materials have a high moisture content and that the design incorporates fire hazard mitigation. It is also clarified that the Health and Safety Authority has been consulted and is satisfied. I consider that a condition requiring a Project Supervisor for the Design Process (PSDP) and Project Supervisor for the Construction Stage (PSCS) to design and manage risk assessment until construction is completed would ensure the management structure is in place to facilitate appropriate compliances as an added safety precaution. At operation stage, a Supervisory Control and Data Acquisition (SCADA) system to monitor the plant performance and operators to prevent emergency situations would further augment safety assurances.

8.9.5. While, I acknowledge that the proposal is not a Seveso site, there are requirements to comply with regulatory regimes of the Health and Safety Authority. A further condition should as a precaution specify that the proposal is not for development that would be classed as Seveso.

8.10. **Other Procedural**

<u>community consultation</u>:

8.10.1. The objectors are concerned about the lack of consultation. The applicant refers to previous meetings and public information and also the restrictions during COVID for more recent public meetings but the appellants consider reliance on a meeting 10 years ago is not relevant. While I accept that communication can facilitate the implementation, I note that the site has very specific energy related objectives which are part of an adopted plan as part of democratic process and I do not consider lack of recent non-mandatory public or private meetings to be reasonable grounds of

refusal. I do however consider that a condition requiring for ongoing monitoring and that the developer establish a local consultative group to include a representative of the developer and members and representatives of the local community would provide for a forum to address operational issues of the plant which are considered to impact on the local community. As part of the planning authority's development control of on-going operations this I consider would help to safeguard the amenities of the area and keep the public informed in a transparent manner. This can be addressed by a condition in the event of grant of permission.

Substandard nature of application

8.10.2. The objectors submit that the inaccuracies in the submitted documentation should have resulted in an refusal of permission from the start. The planning authority however has sought to rectify these matters though the request of very detailed further information to which was in turn comprehensively responded with the attachment of specialist reports. A large volume of material has I agree been submitted and the various amendments, appendices and cross references make navigation in parts, slow and tedious – it is however quite comprehensive in scope and has been reviewed and assessed by the respective divisions in the planning authority substantially to their satisfaction. The Board also required further publication of notices in respect of the amended NIS and this provided additional time to review quite similar documentation. A requirement to submit complete plans and details and setting clear limits will further clarify the scope of the development in the event of permission. I consider the documentation submitted substantially meets with the requirements of the Planning and Development Regulations and a refusal of permission on related grounds is not reasonable.

9.0 Appropriate Assessment

9.1. Introduction

The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U and section 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed in this section are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive

- Screening the need for appropriate assessment
- The Natura Impact Statement and associated documents
- Appropriate Assessment of implications of the proposed development on the integrity of relevant European sites.

9.2. **Compliance with Article 6(3) of the Habitats Directive**

9.2.1. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site before consent can be given.

9.2.2. The proposed development is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3).

9.3. **Screening the need for Appropriate Assessment**

Background

9.3.1. The applicant has submitted a Natura Impact Statement (NIS), including an appended 'Screening for Appropriate Assessment', as part of the planning application. An amended NIS and Screening Report were submitted in the grounds of appeal and have been prepared by Pat Doherty of Doherty Environmental Consultants.

9.3.2. The AA Screening Report as amended was prepared 'with reasonable skill, care and diligence' and by reference to current best practice guidance as set out in section 2 of that report. It identifies European Sites with potential pathways to the proposed development in order to establish the zone of influence of the proposal. It concludes that there is potential for likely significant effects. As the project site is c. 1km from the nearest European Sites, a source-pathway-receiver model was used to identify

potential impact pathways linking the project site to the European sites. The potential pathways were restricted to hydrological, aerial and noise emission pathways. The European Sites with potential likely significant effects are the River Shannon European Sites given that emissions may have the potential to result in significant effects on estuaries, tidal mudflats and sandflats, Bottlenose Dolphins, otter and wetland bird species which are the qualifying features and having regard to the threats. Accordingly, taking a precautionary approach, the zone of influence cannot be ruled out at screening site.

9.3.3. Having reviewed the documents and submissions on file, I am satisfied that the information allows for a complete examination and identification of all the aspects of the project that could have an effect, alone, or in combination with other plans and projects on European sites.

9.3.4. I note that concerns have been raised that the scope of the NIS does not consider the entire project, and in particular excludes the potential impacts associated with the grid connection however this has been addressed in the screening report- section 5.2. As works related to road open under licence, the nature of works are limited and not likely to present any risk to water quality. I am also satisfied that the site delineation and information regarding outfall has been clarified in the submitted documentation and also note the planning authority's satisfaction in this regard. More detailed 3rd party concerns are addressed below.

9.3.5. I have also addressed the matter of the biomass supply in this report, and I have concluded that it is not feasible or practical to assess the impacts of supply particularly as it is to be sourced from existing plantations that have rights to harvest in line with forestation policy and licensing and that such licencing requires demonstrating that it will not likely result in significant effects to European sites. nor do I consider the disposal of the outputs associated with the bottom ash and sludge to be practicably within the scope of assessment. These outputs will ultimately be disposed of through licensed waste facilities or used as part of good agricultural practice subject to regulatory provisions. Accordingly, I am satisfied that the cumulative impacts of these activities do not form part of the Appropriate Assessment of this project.

Screening for Appropriate Assessment – Test of likely significant effects

9.3.6. The proposed development is examined in relation to any possible interaction with European sites designated as Special Conservation Areas (SAC) and Special Protection Areas (SPA) to assess whether it may give rise to significant effects on any European Site in view of the conservation objectives of those sites.

9.3.7. A detailed description of the development is set out in EIA Screening and section 2 of this report. In summary, the proposed development involves the development of a Bio-energy Park involving the use of gasification and methanation technology to produce fuel and energy from forestry by-products. The application site extends to 3.5 hectares and is described, in terms of habitat , as consisting mainly of varied grassland in use as agricultural grazing. Taking account of the characteristics of the proposed development in terms of its location and the scale of works, the main issues considered for examination in terms of implications for likely significant effects on European sites are water quality impacts and air quality impacts.

Submissions and Observations

9.3.8. The 3rd party observations on the appeal raised issues relevant to European Sites and concerning the inadequacies of the screening assessment process, which can be summarised as follows:

9.3.9. The Board is precluded from granting permission primarily on the basis of site delineation differing from the planning drawings and the apparent disregard to the watercourse on site and inaccuracies relating to point of outfall to the SAC. (This in turn undermines the NIS.) It is held by the objectors that impacts cannot therefore be appropriately assessed. The more detailed concerns relate to:

- Inadequate assessment of impact on River Shannon and River Fergus Estuaries SPA- e.g. Insufficient surveying of Annex 1 Bird Species
- Lack of detail regarding impact on groundwater.
- Insufficient foundation details in order to assess impact on aquifer and groundwater/flow paths near European sites.
- Watercourse issue remains outstanding – Grid connection will cross existing water course outside red line and this section has not been considered in the NIS. This is in addition to 5 other culvert crossings outside site. Robustness of

screening is question in context of reliance on ‘dry conditions’ for works and - Insufficient details of culvert elves to assume lack of impact. Kelly v An Bord Pleanála [2014] is referenced in support of a submitted flawed approach.

- the 2km discrepancy in outfall and proximity to reef habitat raises questions of the adequacy of the Assemsent of impacts on QI.
- Water and sewer connections outside the site raise issue of compliance with 2001 Regulations and AA issues having regard to extent of watercourses feeding into the river proximate to the Lower River Shannon SAC.
- The NIS (Sep 2021) is confusing.

<u>European Sites</u>

9.3.10. The development site is not located in or immediately adjacent to a European site. Section 4 of the applicant’s Screening for Appropriate Assessment presents all Natura 2000 Sites that are within 15km of the Proposed Development in tabular and mapped format. Due to distances and the limited potential for pathways I consider it reasonable to exclude all sites as listed (with QI in brackets) as being outside the zone of influence of the proposed development.

- Askeaton Fen - SAC 00279 - (south of estuary) (Calcareous fens with Cladium mariscus and species of the Caricion davallianae and Alkaline fens)
- Barrigone - SAC 000432 - (south of estuary) (Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates, Limestone pavements, Euphydryas aurinia
- Curraghchase Woods - SAC 000174 -(south of estuary) (Alluvial forests with Alnus glutinosa and Fraxinus excelsior, Taxus baccata woods of the British Isle, Desmoulins’s Whorl Snail, Lesser Horseshoe Bat)
- Kilkishen House - SAC 002319 – (Lesser horseshoe bat)
- Knockanira House - SAC 002318 – (Lesser horseshoe bat)
- Lough Gash Turlough - SAC 000051 - (rivers with muddy banks habitat)
- Newhall Edenvale Complex - SAC 002091 - (caves and Lesser horseshoe bat)
- Old Domestic Building (Keevagh) - SAC 002010 – (Lesser horseshoe bat)
- Pouladatic Cave - SAC 000037 - (caves and Lesser horseshoe bat

- Ratty River Cave - SAC 002316 - (caves and Lesser horseshoe bat)
- Poulnagordon Cave - SAC 000064 - (caves and Lesser horseshoe bat)

9.3.11. Given the proximity of the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA and the presence of a hydrological pathway established by the drain flowing through the project site to the Estuary, both of the European Sites are within the zone of influence. These sites are presented in the table below together with the potential connection description and details of links to conservation objectives that I have considered for each site.

European Site (Site Code)	**Qualifying Interests (QIs)** ***Denotes a priority habitat**	**Distance**	**Connections (source, pathway, receptor) and effects**
Lower River Shannon SAC (002165)	Sandbanks which are slightly covered by sea water all the time [1110] **Estuaries [1130]** **Mudflats and sandflats not covered by seawater at low tide** [1140] (see maps 5 and 9 for targets) Coastal lagoons [1150] Large shallow inlets and bays [1160] Reefs [1170] Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	c.1km	Estuaries habitat is located to the south of the site and there is a hydrological pathway by way of the drain flowing to this habitat from the site . Bottle-nosed Dolphin and Otter: suitable habitats for both this species occur within the section of the Shannon

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
	Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096]		estuary downstream of the project site. Potential air quality impacts: Dust particles during construction can travel up to 10μm Syngas flare and exhaust gas from process (Sox, NOx, CO and dust) could result in deposition of elevated nutrient emission to QI habitats Potential to generate contaminated surface run-off during construction and operational phases.

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
	Lampetra fluviatilis (River Lamprey) [1099] Salmo salar (Salmon) [1106] Tursiops truncatus (Common Bottlenose Dolphin) [1349] **Lutra lutra (Otter)** [1355] (see map 17) Conservation Objectives: Site_specific_cons_obj (npws.ie)		Ptotenti to contaminate groundwater during construciton (Process water an dash/sludge will be contained).
River Shannon and River Fergus Estuaries SPA (004077)	Cormorant (Phalacrocorax carbo) [A017] Whooper Swan (Cygnus cygnus) [A038] Light-bellied Brent Goose (Branta bernicla hrota) [A046] Shelduck (Tadorna tadorna) [A048] Wigeon (Anas penelope) [A050] Teal (Anas crecca) [A052] Pintail (Anas acuta) [A054] Shoveler (Anas clypeata) [A056] Scaup (Aythya marila) [A062]	c.1km	The SPA is located to the south of the development site and there is a hydrological pathway by way of the drain flowing into the Estuary. 13 species identified of which 8 are qi . 5 are wetland species . these may forage in sections of the

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
	Ringed Plover (Charadrius hiaticula) [A137] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Knot (Calidris canutus) [A143] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Redshank (Tringa totanus) [A162] Greenshank (Tringa nebularia) [A164] Black-headed Gull (Chroicocephalus ridibundus) [A179] Wetland and Waterbirds [A999] Conservation Objectives:		Shannon estuary downstream of the project site. Potential air quality impacts: Dust particles during construction can travel up to 10μm Syngas flare and exhaust gas from process (Sox, NOx, CO and dust) could result in deposition of elevated nutrient emission to foraging areas Potential to generate contaminated surface run-off during construction and operational phases.

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
	Site_specific_cons_obj (npws.ie) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004077.pdf		Ptotenti to contaminate groundwater during construciton (Process water and ash/sludge will be contained).

Identification of likely effects

9.3.12. In conclusion, the applicant's screening assessment has regard to characteristics of both the project site as a habitat and to the foraging and behaviour of a range of bird species (QI) and states that in addition to there being no direct loss of SAC or SPA habitat. the development site does not support wetland bird species. The development site is described as suboptimal as a potential habitat to support wetland bird species or otters and there will be no potential for the project to result in likely signficnat effects as a result of perceptible loss of suitable off-site habitats that could be relied upon by these species outside the boundaries of the SPA or SAC. IT is further pointed out that the grassland habitat of the development footprint represents a minuscule proportion of the grassland habitat in the wider area that would serve a number of bird species with ranges up to 10km form roost sites. . By establishing a 300m potential disturbance buffer around the project site as worst-case scenario to inform this examination will amount to a potential disturbance zone of approximately 33.5 ha of grassland/arable habitat to the north of Shannon Airport (I note the airport lands have been excluded due to disturbance) Accordingly with the context of the approximate extent of the available area of grassland/arable habitat occurring within

5km of the nearest point of the SPA to the south, the worst case scenario disturbance zone surrounding the project site will represent approximately 0.8% of this area of grassland/arable habitat. This is miniscule in the wider context and the absence of this habitat with the site will not represent a perceptible reduction in the extent of terrestrial grassland habitat available for special conservation interest bird species and waterbirds o the SAP. The report further rationalises that given the small portion of this habitat up to 5km area around the SPA, the highly mobile nature of the spaces most reliant on this habitat (e. golden plover and lapwing), the small field size of the development site and the active bird deterrents in airport lands adjacent to site, the loss of habitat at the site location will not significantly effect the favourable condition of the QI species of the SPA.

9.3.13. The report highlights the location of the site at a distance of 1km at it nearest distance and also the location of the outfall point from the site in the estuary and the proximity of roost sites. Effects relate to discharge of emissions generated at the site during construction and operation phases, construction noise and disturbance and potential emissions to air. Surface water discharging from the site to the Estuary has the potential to be contaminated by materials such as hydrocarbons, cement-based material and construction emissions, and silt. The s.w. discharge will be minuscule in the context of receiving water body. .

9.3.14. Groundwater base is identified as flowing from under and around the site to the Shannon Estuary and so the potential for a groundwater pollution pathway also requires further examination. Notwithstanding the minuscule discharge rate in the context of the receiving waterbody , in the absence of a detailed examination it cannot be ruled out at screening stage that the discharge of surface water runoff or ground water baseflows will not result in negative impact to the QI of the Shannon Estuary sites downstream of the site.

9.3.15. Due to hydrological, aerial and noise emissions pathways to European Sites from the project site; the report concludes that an Appropriate Assessment is required due to the potential for impacts on the following Natura 2000 sites and their QIs:

River Shannon and River Fergus Estuary SPA

Lower River Shannon SAC

<u>Sites that were ‘screened out’</u>

9.3.16. I note that the applicant has 'screened out' a number of sites within 15km but am satisfied that there is no hydrological pathway. I note reference to the concerns of inadequacy of bird survey . However I have examined the QI of each of these sites and none include Bird species. In this regard I also note the Planning and Environmental Report lodged with the application. In this, section 5.5 refers to a review of rare, threatened or protected species in the vicinity of the site and sets out the species in Table 5.2 and likely occurrence in the site. The site has limited suitability for a number of species – mostly birds and none of these are included in the QI of the surrounding European sites. For example the limited suitable habitat for barn swallow, black backed gull, common coot, common moorhen, common snipe, little egret, little gull , mallard northern lapwing , whooper swan, yellowhammer, common starling house martin, meadow pipit, sky lark, badger, and hedgehog. Accordingly for the purposes of screening for AA, I do not consider further surveying of bird species would be beneficial.

9.3.17. I note reference to the groundwater impacts by 3rd parties and in this regard I note the miniscule risk of contamination at construction stage and having regard tot eh distance intervening estuary in some cases and the QI I do not consider groundwater to be a likely or significant pathway between the development and the there European sites at a greater distance of 1km and within 15km of the development site. I also note the extent and nature of dispersal of emissions and dust and consider it is reasonable to exclude those sites at a greater distance than 1km. I have also noted the noise levels and similarly do not consider this to have a potential effect on the QI of sites in the wider area. I also note low levels of water consumption to be from a regulated mains supply and discharge to a sewer discharging to licensed facility and do not consider the impacts on water are likely to be significant. Accordingly having regard to significant separation distance and no evident hydrological connections to the appeal site, together with the location of the site within the development boundary of Shannon and Environs LAP, the subject of SEA, I am satisfied that the proposed development is not likely to have significant effects on the QI habitats and species for these other listed European sites in the screening report. In addition, . I have also considered Poulnagordon Cave - SAC 000064, which does not appear to have been included in the list in the applicant's Screening report.

9.3.18. Having regard to the above, I would concur with the applicant's AA Screening conclusion in relation to the potentially significant effects as a result of water quality and air quality for the following sites:

- River Shannon and River Fergus Estuaries SPA
- Lower River Shannon SAC

Mitigation Measures

9.3.19. In this screening exercise, I have not relied upon any measures designed or intended to avoid or reduce any harmful effects of the project on European Sites.

AA Screening Conclusion

9.3.20. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually, or in combination with other plans or projects, could have a significant effect on 2 European Sites in view of the Conservation Objectives of those sites and Appropriate Assessment is therefore required for the following sites:

9.3.21. I am satisfied the possibility of significant effects on other European sites can be excluded on the basis of objective information.

9.4. **The Natura Impact Statement and associated documents**

9.4.1. The application documentation includes an NIS and this was revised and lodged with the grounds of appeal (dated March 2021). This examines the potential effects of the proposed development on the integrity of the following European Sites:

- River Shannon and River Fergus Estuary SPA
- Lower River Shannon SAC

9.4.2. In the revised NIS, the site area is clarified in figure 1.2 - it being smaller than that outlined in the original NIS. The response to the appeal, on page 16, and page 30 of the revised screening report includes a hydrological pathway marked in white which

is east of the historical route through the airport lands and it is clarified that the examination of the marine community types presented in section 4.1 is equally relevant to this confirmed outfall. I note Figure 4.1 which maps the marine communities reflects this . It is also clarified that bird roosts at the confirmed outfall location were included in the original examination of the potential for surface water run-off and impacts on bird species of the SPA. The NIS March 2021 has been updated with further information supporting the examination of potential impacts to the special conservation interest bird species and water birds of the SPA in section 3 of the NIS.

9.4.3. The updated NIS includes more detail on supply sources. The grid is correctly referenced. Section 2.4 has been inserted to describe construction works and mitigation. The atmospheric emissions are all presented in a Table 4.4 Emission Concentration (rather than the 2 tables in the original) and references the Irwin Carr Consulting report 2021.

9.4.4. The NIS outlines a description of each of the Natura 2000 sites, including the QIs that are within the zone of influence of the project site.

9.4.5. For the SAC these are: Estuaries, tidal mudflats and sandflats, Bottle-nosed dolphin and otter. Threats are from fertilisation, urbanisation, human habitation, discharges from point and diffuse sources to the River Shannon, eutrophication, polderisation and land reclamation from sea estuary and marsh. Table 3.2 sets out conservation objectives for the relevant QI of the SAC

9.4.6. For the SPA, 13 bird species have been identified and these are Black-headed gull, Cormorant, Curlew, Wigeon, Teal, Shelduck, Redshank, Dunlin, Great black-backed gull, Gey Plover, Mallard, Mute swan and oystercatcher. Table 3.1 sets out the site specific conservation objectives for the relevant QI of the SPA.

9.4.7. The applicant's NIS has been prepared in line with current best practice and includes an assessment of the direct and indirect effects on habitats and species, as well as an assessment of the cumulative impact of other plans and projects. It concludes that if the mitigation measures referred to in the NIS are employed, then in view of best scientific knowledge and the conservation objectives of the Natura 2000 sites, the proposed development will not have any adverse effects on the integrity or

conservation status of the River Shannon sites, either alone or in-combination with other plans and projects.

9.4.8. Having reviewed the documents and submissions included in the appeal file, while I note the grouping of the SPA and SAC sites as River Shannon European sites, I am satisfied that the information allows for a complete assessment of any adverse effects of the development alone, or in combination with other plans and projects, on the conservation objectives of the relevant European Sites.

9.5. **Appropriate Assessment of implications of the proposed development on the integrity of each European Site**

9.5.1. The following is a summary of the objective scientific assessment of the implications of the project on the qualifying interest/special conservation interest features of the European Sites using the best scientific knowledge in the field. All aspects of the project which could result in significant effects are assessed and mitigation measures are considered and assessed.

9.5.2. The main aspects of the proposed development that could adversely affect the conservation objectives of the sites include:

- Contaminated Surface water run-off effect on Water Quality and impact on habitat and species:
- Air Quality: Emissions may impact on QI species/habitats.
- Disturbance: Due to the noise associated with the development.

<u>Surface water quality impacts on Lower River Shannon SAC and River Shannon and River Fergus estuary SPA</u>

9.5.3. The NIS states that the development has the potential for contamination of surface water from the site at both construction and operational phases. There is a risk of potential pollution of surface water run-off and discharge of contaminated surface water from the project site to the estuary via the existing watercourse (described as drain) that drains from the site through airport lands to the Estuary. This site is mapped in the updated NIS and outfall is clarified in the response to the grounds of appeal as correctly mapped in the amended AA screening report (Sep 21) which I am satisfied makes no material difference in terms effects and impacts.

9.5.4. Polluted surface water could result in localised deterioration of water quality and negative impacts to the status of estuaries and tidal mudflat and sand flats (the reference to reef habitat to rereferred to an error as it is not referred to elsewhere in the report and not proximate to the outfall in the receiving waters) and foraging habitat for wetland species, including otters and dolphin's, and waterbird species **of** the SPA. The sources are identified as coming from earthworks and use of contaminating fuels, construction related solutions, cement-based products and accidental emission. During operations, the car park run-of is potential source . The volume of and frequency of run-off is a factor and is identified as minuscule relative to the receiving body. The resilience of the habitat and species is another factor . The marine community types identified in the pathway of the outfall is 'Intertidal sand to mixed sediment with polychaetes, molluscs and crustaceans community complex' and 'subtidal sand to mixed sediment with Nephyts spp. Community as shown in Fig 4.1. The Nephyts community has a medium to high level of sensitivity to surface water contaminants that may arise. The implication of any disturbance to marine communities is dependant on whether or not it is representative of a keystone community. . A significant impact is where there is continuous disturbance to an area greater than 15% of such community . In this case the Nephyts community in the Lower River Shannon SAC is 8404HA and so it is considered that in the context of the dispersal rate and allowing for a 200m buffer for receiving contaminated run off the relevant area is well below the threshold. It is further deducted that given the imperceptible impact of the surface water discharges arising from the project downstream to the marine habitats that the impact on otters, bottle-nosed dolphin and wetland bird species will be similarly imperceptible and not significant in terms of impact.

9.5.5. Notwithstanding, mitigation measures will be implemented to avoid potential for discharge of contaminated surface water.

9.5.6. I note the construction phase measures in section 5.1 which serve to protect surface water. This includes measures to manage the culverting of the drain/watercourse (in consultation with the OPW an Inland Fisheries) and construction management of earthworks (e.g. use of geosynthetic clay liner to protect underlying aquifer), storage of substances and control of surface water drainage and silt with use of interceptors and containment. There are also measures to manage risk of leaks and spills.

Measures are proposed to be monitored and informed by weather and good management. I am satisfied that the potential impacts will be mitigated through a Construction and Environmental Management Plan as proposed and appropriate operational measures for the design, storage and containment of potential pollutants.

9.5.7. For the operational phase, mitigations are set out in section 5.3. Deliveries and the associated hardstanding will be designed and managed to manage surface water. This includes the use of SuDS, attenuation and flow management, interceptors and connection foul sewer to ensure that all potential discharges to surface waters will be adequately managed.

9.5.8. In respect of cumulative impact, other projects in the vicinity were either small in scale or screened out for appropriate assessment and it is stated that there is no potential for the subject project to combine with these to give rise to cumulative impact. The main issue relates to urbanisation and human activity but this is disregarded on the basis of the buffering of the airport lands from the River Shannon. In this context, the site location will not result in any perceptible increase in urbanisation and human occupation that would give rise to disturbance to the SAC or SPA. Ultimately, the project will not have the potential to result in any perceptible negative impact to the status of the marine communities occurring downstream of the site within the estuary. It is also noted that the current 'unpolluted status' suggests that the immediate surrounding land uses are not resulting in negative pressure to the status of the marine habitats. Given this status and the nature of the surface water impacts in section 4.1 there will be no potential for the project to combine with other land uses and associated discharges to result in cumulative negative impacts to the status of the relevant SAC and SPA. I consider this to be a reasonable conclusion and I am satisfied that the potential water quality impacts associated with the proposal will be appropriately mitigated and, accordingly, there will be no cumulative effects,

9.5.9. Having regard to the baseline water quality status, the nature and extent of the marine community in the receiving habitat, separation distance and dispersion levels and low levels of emission , I would concur with the NIS conclusion that there is no likely potential for impact on the integrity of the SAC as a result of water-quality impacts. In view of the imperceptible change in water quality, I am also satisfied that surface water quality impacts on the habitats and foraging habitat for birds/wetlands

is unlikely to be affected. Having regard to the separation distance between the appeal site and the receiving waters downstream and the limited effects on water quality as outlined above, I am satisfied that the proposed development will not adversely impact on the QI of the River Shannon SAC or the River Shannon and River Fergus Estuary SPA .

9.5.10. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of the River Shannon SAC or the River Shannon and River Fergus Estuary SPA as a result of surface water quality impacts

Noise Impact on Westland Birds – QI of SPA

9.5.11. The NIS acknowledges that noise can cause disturbance to wetland birds. By reference to studies in this field and noise calculations for the project during construction phase and the potential for disturbance in c.300m range. The noise disturbance is projected to be within acceptable dose levels for wetland birds species within 20m of source of construction noise. The projection has regard to a potential 20m zone around the site and the foraging habitat of the species associated with the site 1km to the south and the roost site 2km from the project site . it is I consider reasonably concluded that there will be no potential for the constriction phase to disturb wetland birds. The noise generated is not therefore predicted to undermine the conservation status of wetland bird species or the conservation objectives for the special conservation interest bird species of the River Shannon and River Fergus Estuaries SPA.

9.5.12. Noise mitigation measures are however set out in section 5.2. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of the River Shannon SAC or the River Shannon and River Fergus Estuaries SPA as a result of noise impacts.

Air quality Impacts

9.5.13. The NIS identifies the syngas flare and the exhaust gases from the engines as sources of atmospheric emissions.

9.5.14. Expected concentrations are presented in Table 4.4. As NOx is relevant to vegetation and habitats this was assessed by reference to critical load threshold

values for nutrient deposition (thresholds set by UNECE) . The air dispersion model analysis found that all predicted levels of concentrations for NOx will be significantly below the critical load value. The potential for project emissions to combine with other emissions to air to result in cumulative adverse effects to the Lower River Shannon SAC was also assessed as part of the air quality assessment and air dispersion model and even in the worst case scenario it was found that process contribution to this SAC is 0.55 of the air quality standard which is representative of an insignificant cumulative effect. Furthermore the long-term levels of pollutants in Table 4.4 will be significantly less than the appropriate limit levels for each parameter and will not result in perturbations to air quality. It is therefore concluded, and reasonably in my judgment, that the project will not have the potential to result in the emission of nutrients or any other pollutant hat will have the potential to result in significant adverse effects on the habitats that are QI of the Lower River Shannon SAC.

9.5.15. While indirect impact on surface waters is not specifically addressed, I note the dust levels at 0.05 for the syngas flare emission and 0.03 for the engine flue gas emission against a limit of 10mg/Nm3 and do not consider the effect of this to be significant, particularly in the context of mitigation measures and the receiving waters downstream. Given the limited air emission concentrations present, together with the significant assimilative capacity of waters between the appeal site, the effect would be imperceptible in terms of impact on the QI of the SAC or SPA.

9.5.16. Having regard to the separation distance between the appeal site and the SAC/ SPA; the limited impacts of air emissions as outlined above; and the unlikely scenario of ex-situ effects in the vicinity of the appeal site, I am satisfied that the proposed development will not adversely impact on the population trends or distribution of the waterbird species or the integrity of the River Shannon and River Fergus Estuaries SPA as a result of air quality.

9.5.17. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of River Shannon SAC or the River Shannon and River Fergus Estuary SPA as a result of air quality impacts or disturbance due to air quality.

9.5.18. Although the NIS does not specifically address each site separately they both overlap and are both vulnerable in from adverse impacts on water quality and atmospheric emissions and I am satisfied that the same conclusions can be applied.

Groundwater Impacts

9.5.19. The observation concerns about the potential impacts on groundwater quality and I have previously addressed this at construction stage. . I note the foundation construction as detailed and the soil characteristic on page 17 of the applicant's appeal response and miniscule risk of any likely pathway due to construction or operational activities. I am satisfied that the potential impacts will be mitigated through a Construction and Environmental Management Plan and appropriate operational measures for the bunding design, storage and containment of potential pollutants. Surface water management, including SuDS, attenuation, and interceptors, will also be employed to ensure that all potential discharges to groundwater water will be adequately contained.

9.5.20. The NIS and Planning and Environmental report submitted with the application include measures to contain potential pollutant materials/substances within bunded areas and for the containment of material through construction management practices. I am satisfied that the potential groundwater quality impacts associated with the local authority proposal will be appropriately mitigated and, accordingly, there will be no cumulative effects associated with the proposed biogas project.

9.5.21. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of River Shannon SAC or the River Shannon and River Fergus Estuary SPA as a result of groundwater quality impacts.

9.5.22. Sections 5.1, 5.2 and 5.3 of the NIS set out the measures proposed to mitigate the potential effects of the proposed development. I also note the environmental management and mitigation measures as outlined in the preliminary CEMP plan submitted to the planning authority on 14th May 2021 and the requirement of an agreed CEMP. In summary, they include the following:

Construction Phase: Mitigation measures include:

- Method statement for earthworks
- Monument of machinery and plant through pegging working corridor
- Re-use of excavation bedrock on site with minimum exposure

- Use of liner to protect shallow bedrock
- Pollution control of drainage
- Fuel use, storage and re-fuelling precautions – 20m buffer from drain
- Use of interceptors for groundwater seepage – divert to drainage system for pollution control
- Plant management
- Emergency plan for spillages
- Realignment and culverting of drain to be first item of works subject to agreement with Inland Fisheries/OPW
- Management of spoil and silt
- Management of noise by timing consultation, site management, terrain/siting and monitoring
- Inclusion of a Construction and Environmental Management Plan (CEMP)

Operational Phase: Mitigation measures include:

- Measures to protect surface water quality through design and attenuation.
- Use of separators and silt traps prior to attenuation
- Control of noise through plant type and management

9.6. **Appropriate Assessment Conclusion**

9.6.1. The proposed development has been assessed in light of the requirements of Sections 177U and 177V of the Planning and Development Act 2000 (as amended). Having carried out screening for Appropriate Assessment of the project, it was concluded that it may have a significant effect on the following European Sites:

- Lower River Shannon SAC (Site Code: 002165)
- River Shannon and River Fergus Estuaries SPA (Site Code 004077)

9.6.2. Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying interests/special conservation interests of those sites in light of their conservation objectives. I am satisfied that an examination of the potential impacts has been analysed and evaluated using the best scientific knowledge. Where potential significant effects on Natura 2000 sites have been identified, key

design features and mitigation measures have been prescribed to remove risks to the integrity of the European sites. I am satisfied based on the information available, which I consider to be adequate in order to carry out a Stage 2 Appropriate Assessment, that if the key design features and mitigation measures are undertaken, maintained and monitored as detailed in the NIS, adverse effects on the integrity of Natura 2000 sites will be avoided.

9.6.3. Therefore, following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the SAC (Site Code: 002165); SPA (Site Code: 004077) or any other European site, in view of the sites' Conservation Objectives. This conclusion is based on a complete assessment of all aspects of the proposed project and there is no reasonable doubt as to the absence of adverse effects.

10.0 Recommendation

10.1. On the basis of the above planning assessment, and Appropriate Assessment, I recommend that permission should be granted for the proposed development in accordance with the recommended order below and the reasons and considerations contained therein.

10.2. **Recommended Order**

Appeal by Eoin & Helen McInerney and Clean Air Shannon against the decision made on the seventeenth day of August 2021 by Clare County Council to grant permission for the proposed development.

Proposed Development: Development of Biomass processing and storage area. Construction of: Gasification and Methanation Plant for production of biofuels, a Gasification and Combined Heat Power Plant for production of electricity and heating, Battery Storage Facility, Thermal Energy recover and storage facility for district heating distribution, new 38kV substation. Creation of new access road off L-3169-0 and ancillary development, parking, landscaping and drainage. The application is accompanied by an NIS.

Decision:

Grant permission for the above proposed development in accordance with the said plans and particulars based on the reasons and considerations under and subject to the conditions set out below.

Matters Considered

In making its decision, the Board had regard to those matters to which, by virtue of the Planning and Development Acts and Regulations made thereunder, it was required to have regard. Such matters included any submissions and observations received by it in accordance with statutory provisions.

Reasons and Considerations

In coming to its decision, the Board had regard to the following:

(a) the policies and objectives set out in the National Planning Framework and the Regional and Spatial Economic Strategy for the Southern Regional Assembly

(b) the policies and objectives set out in the Clare County Development Plan 2017-2023 and the Shannon Local Area Plan 2012-2018 as amended

(c) the provisions of the Climate Action Plan 2021 (Government of Ireland)

(d) the National Energy Security Framework April 2022 (Government of Ireland)

(e) the Draft Bioenergy Plan (Department of Communications, Energy and Natural Resources, 2014)

(f) the National Policy Statement on the Bioeconomy (Government of Ireland, 2018)

(g) the Waste Action Plan for a Circular Economy – National Waste Policy 2020-2025 (Department of Environment, Climate and Communications)

(h) Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999)

(i) the nature, scale and design of the proposed development

(j) the pattern of existing and permitted development in the area

(k) the planning history of the site and the surrounding area

(l) the submissions and observations received, and

(m)the report of the Inspector.

Appropriate Assessment

The Board agreed with the screening assessment and conclusion carried out in the Inspector's report that the:

- Lower River Shannon SAC (site code 0002165)
- River Shannon and River Fergus Estuaries SPA (site code 004077)

are the European sites for which there is a likelihood of significant effects. The Board noted the decision of the Planning Authority and submissions from third parties and prescribed bodies regarding the potential for significant effects on the other European Sites within an approximately 15km radius of the site but agrees with the conclusion in the Inspector's report that significant effects are not likely on these sites having regard to the absence of surface water and/or groundwater pathways; the separation distance involved; and the nature/sensitivity of their qualifying interests.

The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for European Sites in view of the above sites' Conservation Objectives.

The Board considered that the information before it was sufficient to undertake a complete assessment of all aspects of the proposed development in relation to the sites' Conservation Objectives using the best available scientific knowledge in the field. The Board accepted the Inspector's conclusion that it is not feasible or practical to assess the impacts of biomass supply or waste products over a multiplicity of sources/destinations, particularly under the circumstances when these activities are already occurring and will be suitably controlled by good forestry practice and legislation, and determined that the cumulative impacts of these activities do not form part of the Appropriate Assessment of this project**.** In completing the assessment, the Board considered, in particular, the following:

- Site Specific Conservation Objectives for these European Sites,

- Current conservation status, threats and pressures of the qualifying interest features, likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- Submissions from observers, prescribed bodies and the reports of the Planning Authority, and
- Mitigation measures which are included as part of the current proposal.

In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites. The Board identified that the main likely impacts arising from the proposed development on the European Sites would arise from water and air quality impacts at construction and operational stages. Having regard to these potential impacts and the avoidance and mitigation measures as set out in the Natura Impact Statement, the Board concluded that the proposed development, subject to the identified mitigation measures, would not adversely affect any of the habitats or species within the relevant European sites. In the overall conclusion, the Board was satisfied that the proposed development would not adversely affect the integrity of the European sites in view of the site's conversation objectives and there is no reasonable scientific doubt as to the absence of such effects.

Environmental Impact Assessment Screening Determination

The Board completed an environmental impact screening assessment of the proposed development, taking into account:

(a) the nature, scale and extent of the proposed development, which is under the mandatory threshold in respect of Class 2(a) of Part 1 Schedule 5 – Thermal power stations or other combustion installation with a heat output of 300megawatts and of Class 3 (a) of Part 1 Schedule 5 – Industrial installations for the production of electricity, steam, hot water not included in Part 1 of the schedule with a heat output of 300 megawatts or more.

(b) the location of the site on lands that are zoned 'Enterprise' under the provisions of Shannon and Environs LAP 2012-2018 (as amended) in accordance with the

Clare County Development Plan 2017-2023, and the results of the strategic environmental assessment of that plan, undertaken in accordance with the SEA Directive (2001/42/EC);

(c) the location of the site north of Shannon Airport and outside a large settlement area and which is proposed to be connected to public infrastructure, and the existing pattern of residential development in the vicinity;

(d) the location of the site outside of any sensitive location specified in article 109(4)(a) of the Planning and Development Regulations 2001 as amended and the absence of any relevant connectivity to any sensitive location;

(e) the schedule 7 A and associated documentation submitted with the application,
(f) the guidance set out in the 'Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development', issued by the Department of the Environment, Heritage and Local Government (2003), and;

(g) the criteria set out in Schedule 7 of the Planning and Development Regulations 2001 as amended, and

(h) the inspector's screening report

It is considered that the proposed development would not be likely to have significant effects on the environment, and submission of an environmental impact assessment report is not therefore required.

Conclusions on Proper Planning and Sustainable Development

The Board considered that the proposed development would be in accordance with national, regional and local policy relating to energy and climate action, notwithstanding that the proposal does not include a connection to district heating network . The Board had particular regard to the site specific objectives in 'E3' of the Local Area Plan , 'To support and facilitate the development of site (E3) for a large scale strategic Green Energy development and distribution network , where appropriate to assist in the delivery of a low carbon industrial, commercial and business environment meeting the existing energy requirements of the town and business and enhancing the capacity to attract further industry /employment to the town,' as part of a plan led approach to developing a biomass energy supply and

considered that the proposed development was compliant in principle with the policies and objectives set out in the Clare County Development Plan 2017-2023 and the Shannon and Environs Local Area Plan 2012-2018, as amended. In this context, the Board considered that, subject to compliance with the conditions set out below, the proposed development would be acceptable at this location adjoining the planned industrial expansion of Shannon industrial zone, would not unduly conflict with the preservation of archaeological heritage, would not give rise to environmental pollution, would not seriously injure the residential or visual amenities of the area, and would be acceptable in terms of public health and aviation and road traffic safety. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

11.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application on the 30th day of September 2020 and further information lodged on 14th day of May 2021 and further details submitted on 14th September 2021 by the applicant to the Board in response to the grounds of appeal , except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

   Reason: In the interest of clarity.

2. (a) This permission shall apply for a period of 20 years from the date of this order. The bio-energy plant and associated infrastructure within the site shall then be removed unless prior to the end of that period, planning permission shall have been granted for their retention for a further period.
   (b) The site shall be reinstated on removal of structures and ancillary structures. Details relating to the removal and reinstatement to grassland shall be submitted to and agreed in writing with the planning authority at least six months before the date of expiry of this permission .
   Reason: To enable the impact of the development to be re-assessed, having regard to the changes in technology, design and regional energy needs during the specified period.

3. The following limits and requirements shall be complied with in the gasification and methanation process:
   (a) A maximum of 133,000 tonnes per annum of raw (wet) materials shall be processed in the bio-energy plant.
   (b) The biomass supply shall comprise forestry by-products only in accordance with the submitted details.
   (c) The biomass suppliers shall be within a 75km distance from the site.

   Reason: In the interests of clarity

4. The development of by-products from the effluents other than bottom ash generated by the gasification and methanation process as referred to in the Technical Report: Effluents (as contained in Appendix D) of the Response to the grounds of appeal submitted on 21st September 2021 shall be omitted in the absence of a prior grant of planning permission or licensing for such processes.
   Reason: In the interest of clarity

5. (a) Details including samples of materials colours and textures of all the external finishes to the proposed structures and buildings shall be submitted to an agreed in writing with the planning authority prior to commencement of development.
   (b) Details of plans and elevations of the office and control buildings (Marked 24 and 25 on the submitted site layout drawings) at the site entrance shall be submitted for written agreement.
   Reason: In the interest of visual amenities of the area.

6. The developer shall ensure that all mitigation measures set out in the Environmental Planning Report and Natura Impact Statement submitted with the application and as amended in further submissions, shall be implemented in full, except as may otherwise be required in order to comply with the following conditions.
   Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

7. Details of aeronautical requirements including height and design of flu stack and other high plant such as cranes, shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Subsequently the developer shall inform the planning authority, Shannon Airport Authority and the Irish Aviation Authority of the co-ordinates of the 'as constructed' positions of the flu stacks and details as required of flare times and use of cranes or other non-stationary tall plant/equipment.
   Reason: In the interest of air traffic safety.

8. Permission is hereby granted on the basis that the maximum quantity of biogas and/or other fuels or chemicals present on the site at one time can never exceed the relevant lower tier thresholds under the Seveso Directive. Prior to the commencement of development, the developer shall submit details for the written agreement of the Planning Authority that clearly demonstrate compliance with these limits, including details of operational controls to limit the quantities, such as, but not limited to, the monitoring of liquid levels in tanks, monitoring biogas concentrations in the vapour spaces of the tanks, and the use of flaring to manage inventory.
   Reason: In the interests of clarity and to prevent the facility from becoming an establishment for the purposes of the Seveso III Regulations.

9. The atmospheric emission values shall be in accordance with the expected levels set out in Appendix O of the further information submitted the planning authority on 14th May 2021, unless otherwise agreed in writing with the planning authority prior to commission of operations.
   Reason: to control air pollution and in the interest of public health.

10. At least one month before final commissioning, the operator shall submit a Syngas Monitoring Methodology for written agreement with the planning authority detailing how representative sampling and analysis if syngas will occur, to demonstrate that it meets the limits specified in the submitted documentation (Table 1 of Technical Report : Emission form EQTEC Gasification Plants – Appendix O of further information submitted tot eh planning authority) . The methodology shall include but not be limited to:
    (a) Sample point location and evidence of homogenous sample collections,
    (b) Details of sampling methods, including duration, for representative sampling across different operating loads and biomass feedstock.
    (c) Sample analysis methods, limits of detection and availability of laboratory accreditation methods,

    Reason: to control air pollution and in the interest of public health.

11. (a)The noise levels generated during the operation of the development shall not exceed the following limits; 55 dB(A) during daytime, 50 dB(A) during evening time and 45dB(A) during night-time when measured at the nearest occupied house. When measuring the specific noise the time shall be any one-hour period.
(b)The developer shall implement all noise mitigation measures as set out in the Planning and Environmental Report and as amended by the further Information,
(c)During the night-time period no tonal or impulsive noise from the facility should be clearly audible or measurable at any dwelling.
(d)The noise from the facility shall not be so loud, continuous, repeated or of a duration or pitch so as to give reasonable grounds for annoyance.
(e)The applicant shall carry out an annual noise survey at of the nearest sensitive location and submit results to the planning authority.

Reason: In order to protect the amenities of property in the vicinity.

12. An annual report on the operation of the facility hereby permitted shall be submitted to the Planning Authority. The content of this report shall be as agreed in writing with the Planning Authority and shall include inter alia the following:
    (a) Details of the source of all biomass feedstock and final disposal areas of residual matter,
    (b) The volumes of raw/wet materials treated in the plant in the previous 12 months,
    (c) The volume and weight of dry materials processed and stored in the previous 12 months, and
    (d) The volume and weight of fuel produced/stored on site in the previous 12 months.

Reason: In the interest of orderly development and to ensure compliance with the parameters set out in the application.

13. Prior to the commencement of development, the developer shall submit for the written agreement of the Planning Authority a breakdown of supply sources, which shall be within a 75km catchment, to the development with associated calculations that confirm the capacity to meet the requirements for energy and heat output per annum as outlined in the submitted documentation.
Reason: In the interest of public health and to ensure a proper standard of development.

14. Water supply and drainage arrangements, including the attenuation and disposal of surface water shall comply with the requirements of the planning authority for such works and services. In this regard the following shall apply:
(a) Prior to commencement of development the developer shall enter into a Connection Agreement with Irish Water to provide for a service connection to the public water main.
(b) A breakdown of water supply needs shall be provided.
(c) All water infrastructure shall be constructed in accordance with the Irish Water's Standard Details and Code of Practice.
(d) The tankering of foul water from the site is not permitted. In this regard foul waste water disposal shall be via an approved connection to the public foul sewer.
(e) All surface water drainge infrastructure including works associated with culverting the stream on site, attenuation facilities, silt traps and hydrocarbon interceptors shall be provided on site in accordance with revised details lodged to the planning authority on 14th May 2021 (Civil Works report)
(f) All process wastewater generated on site shall be tankered off site to a licensed facility using a permitted contractor. Records shall be retained on site of all wastewater removed off-site.
(g) To prevent/minimise nuisance odour at the facility appropriate measures and infrastructure shall be implemented to manage and contain wastewaters, including purge and sludge. Temporary storage of process waters and sludges shall only be in sealed and appropriate tankers.

(h) Prompt and frequent removal of wastewater/sludge shall be undertaken to avoid odour nuisance.

Prior to commencement of operation, a report detailing the following should be submitted for the written agreement of the planning authority and shall contain:

(i) Quantities of wastewater/sludges to be generated.

(ii) Details of waste storage on site (sealed tanker or otherwise) and frequency of its removal off site for disposal.

(iii) Details of the facility to which such wastewater/sludges will be directed.

(i) All hazardous chemicals including oil shall be stored in appropriately sized bunded areas indoors.

(j) In the event of accidental spillage, the emergency response plan shall be implemented and the local authority and Inland fisheries shall be promptly notified.

Reason: In the interest of public health and to ensure a proper standard of development.

15. The development shall be operated and managed in accordance with an Environmental Management System (EMS) which shall be submitted by the developer and agreed in writing with the planning authority prior to commencement of development. This shall include the following:

(a) Proposal for the suppression of on-site noise and monitoring at sensitive receptors.

(b) Proposal for the suppression of dust on site and on the surrounding roads.

(c) Proposal for the bunding of fuel, lubrication storage areas and any other substance as required by the planning authority and details of emergency action including warning sign in the event of accidental spillage/leakage.

(d) Details of safety measures for the fencing.

(e) Specification of limits in relation to the following parameters, NO_x, SO_2, CO and PM_{10} particulate matter.

(f) Monitoring of ground and surface water quality, levels and discharges.

(g) Details of Site Manager and public information signs at entrance.

Reason: In order to safeguard the environment and local amenities.

16. The developer, as part of risk management of the site operations, shall
    (a) appoint a Project Supervisor for the Design Process (PSDP) and Project Supervisor for the Construction Stage (PSCS) to design and manage risk assessment until construction is completed and to ensure the management structure is in place to facilitate appropriate compliances.
    (b) implement a Supervisory Control and Data Acquisition (SCADA) system at operation stage, to monitor the plant performance and operators to prevent emergency situations.

    Details of these measures shall be submitted to the planning authority for written agreement prior to the commencement of development.

    Reason: In the interest of public health and safety.

17. The developer shall implement measures to reduce environmental risks associated with re-fuelling, greasing and other activities within the site. Such measures may include the use of spillage mats and catch trays. Such measures shall subject to written agreement of the planning authority prior to commission of use.
    Reason: In order to protect groundwater and surface water

18. The invasive species (Japanese Knotweed) located on the site shall be contained and eradicated in accordance with the details submitted in the Appendix J of the of the Further Information submitted to the planning authority on 14th May 2021.
    Reason: To prevent the spread of invasive species in the interest of ecology of the area.

19. Within six months from the date of this order the developer shall establish a local consultative group including representative of the developer and members and representatives of the local community . This group shall constitute a forum to address operational issues of the plant which are considered to impact on the local community.
    Reason: in the interest here of protection of amenity and planning control.

20. (a) Prior to the commencement of development, and on an annual basis post operation, the developer shall submit a mobility plan setting out the haul routes to and from the site for the agreement of the Planning Authority. The plan shall indicate the main biomass suppliers and waste locations and demonstrate as far as is practicable how routes to and from the site to these locations are restricted to the primary routes and avoid residential areas.
(b) All deliveries to and from the site shall be via Heavy Goods Vehicles and hauliers shall be contractually obliged to adhere to the haul routes agreed in this condition.
Reason: In the interests of traffic safety and to safeguard the amenities of the area.

21. Biomass Supply deliveries to the site and transport waste and fuels/biogases from the site shall be confined to between the hours of 0700 to 1900 Monday to Friday and between the hours of 0900 to 1500 on Saturday and Sunday.
Reason: In the interest of orderly development and the residential amenity of surrounding dwellings.

22. Prior to the commencement of development, the developer shall prepare s Stage II Road Safety Audit in accordance with current TII standards submit details for the written agreement of the planning authority of the proposed entrance arrangements and compliance with the recommendations of the Road Safety Audit, including details of loading bays, turning, signage, lighting and road markings.
Reason: In the interest of traffic safety.

23. Parking (car and bicycle) shall be provided in accordance with a detailed layout which shall be submitted to and agreed in writing with the planning authority prior to commencement of development . One car space shall be reserved for persons with impaired mobility.
Reason: To ensure satisfactory parking layout in the interest of pedestrian nd traffic safety and of visual amenity.

24. Following further ground investigations and prior to the commencement of development on site, the developer shall submit for the written agreement of the planning authority details of the proposed foundation and bund design. Proposals shall clearly demonstrate that mitigation measures relating to the protection of the watercourse, soil, geology, hydrogeology and groundwater have been appropriately incorporated into the design.
Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

25. Landscaping of the site shall be carried out in accordance with a landscaping scheme which shall include planting of deciduous trees and retention of hedgerows along the site boundaries, all of which shall be protected from damage, and enhanced in such a manner as to ensure that their value as a commuting and foraging habitat is protected. A Landscape Plan clearly detailing proposals in this regard, including the precise extent of existing hedgerow to be retained, shall be submitted to and agreed in writing with the planning authority prior to commencement of development.
Reason: To ensure the protection of the hedgerow habitat and in the interest of visual amenity.

26. The developer shall facilitate the planning authority in preserving, recording, or otherwise protecting archaeological materials or features that may exist within the site. In this regard, the developer shall
    (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,
    (b) employ a suitably qualified archaeologist who shall monitor all site investigations and other excavation works, and
    (c) provide satisfactory arrangements for the recording and removal of any archaeological material which may be considered appropriate to remove.
    Reason: In order to conserve the archaeological heritage of the site and to secure the preservation of any remains which may exist within the site

27. Site development and building works shall be carried out only between the hours of 0730 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be permitted in exceptional circumstances where prior written approval has been received from the planning authority.
Reason: In order to safeguard the residential amenities of property in the vicinity.

28. The construction of the development shall be managed in accordance with a Construction and Environmental Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall incorporate all the construction stage mitigation measures outlined in the Natura Impact Statement, and shall provide details of intended construction practice for the development, including and not limited to:
(a) location of the site and materials compound(s) including area(s) identified for the storage of construction refuse,
(b) location of areas for construction site offices and staff facilities,
(c) details of site security fencing and hoardings,
(d) details of car parking facilities for site workers during the course of construction,
(e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site if required,
(f) measures to obviate queuing of construction traffic on the adjoining road network,
(g) measures to prevent the spillage or deposit of clay, rubble, or other debris on the public road network,
(h) alternative arrangements to be put in place for pedestrians and vehicles in the case of the closure of any public road or footpath during the course of site development works,

(i) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels,

(j) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater,

(k) details of construction lighting,

(l) details of key construction management personnel to be employed in the development, and

(m) Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains.

(n) invasive species management.

A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan and monitoring results as appropriate shall be kept for inspection by the planning authority.

Reason: In the interest of amenities, environmental protection, public health, and safety.

29. Monitoring of the construction phase shall be carried out by a suitably qualified and competent person to ensure that all mitigation measures outlined in the Natura Impact Statement are fully implemented. In addition, the designated member of the company's staff shall interface with the planning authority and members of the public in the event of complaints or queries in relation to environmental emissions. Details of the name and contact details, and the relationship to the operator of this person shall be available at all times to the planning authority on request whether requested in writing or by a member of staff of the planning authority at the site.

Reason: To safeguard the amenities of the area.

30. Construction and demolition waste shall be managed in accordance with a construction waste and demolition management plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall be prepared in accordance with the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects", published by the Department of the Environment, Heritage and Local Government in July 2006.
Reason: In the interest of sustainable waste management.

31. All solid wastes arising on the site shall be recycled as far as possible. Materials exported from the site for recovery, recycling or disposal shall be managed at an approved facility and in such a manner as is agreed with the Planning Authority. In any case no such wastes shall be stored on the site except within the confines of the buildings on site. Adequate on-site arrangements for the storage of recyclable materials prior to collection shall be made to the satisfaction of the Planning Authority.
Reason: To safeguard the amenities of the area

32. Lighting shall be provided in accordance with a scheme, details of which shall be submitted to, and agreed in writing with the planning authority prior to commencement of development. The scheme shall minimise obtrusive light outside the boundaries of the development at all times and shall comply with the requirement of Shannon Airport Authority.
Reason: In the interest of public safety and amenity

33. An odour management plan, which shall include a monitoring programme, shall be put in place by the developer in respect of the operation phase of the development. The nature and extent of the plan and the monitoring sites shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. The results of the programme shall be submitted to the planning authority on a monthly basis for the first year after commissioning and on 6 month basis thereafter.
Reason: To protect the amenities of the area.

34. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme.

    Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission

Suzanne Kehely
Senior Planning Inspector
2nd December 2022