



An
Bord
Pleanála

Inspector's Report

ABP-308942-20

Development	Development of a Biogas Plant.
Location	Townlands of Ballynamantan, Kinincha and Glenbrack, Gort, Co. Galway.
Planning Authority	Galway County Council
Planning Authority Reg. Ref.	19/1812
Applicant(s)	Sustainable Bio-Energy Limited.
Type of Application	Permission
Planning Authority Decision	Refuse
Type of Appeal	First Party vs. Refusal
Appellant(s)	Sustainable Bio-Energy Limited.
Observer(s)	See Appendix for details.
Prescribed Bodies	An Taisce Environmental Protection Agency
Date of Site Inspection	12 th November 2021
Inspector	Stephen Ward

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1.0 Site Location and Description

- 1.1. The site is located within the townlands of Ballynamantan, Kinincha and Glenbrack, in the northern environs of the town of Gort, County Galway. It is distanced c. 900m from the town centre and c. 400m from the northern periphery of the existing built-up footprint of the town.
- 1.2. The site extends to a stated area of 10.01 hectares and is of an irregular shape. The western portion of the site generally comprises a narrow curvilinear section around the existing/proposed access road and widened splays onto the adjoining Regional Road R458 (old N18 National Primary road). The main body of the site is located to the east along a narrow county road (Kinincha Road) and it gradually increases in width and elevation to the north and west. An existing 'horse gallop' area surrounded by steep embankments would be retained between the eastern and western portions of the proposed site. The site is currently used for agricultural grazing and equine related purposes.
- 1.3. The boundary of the site along the local road to the east comprises a mixture of stone wall, fencing and hedges, while the northern boundary to the north consists of a steep bank and hedging. To the south, a timber fence forms the boundary with the side garden of an existing dwelling. There are some rows of hedging along the western site boundary as it stretches through the existing farmyard and the western extremity of the site along the R458 consists of a stone wall and hedging.
- 1.4. Apart from the existing dwelling to the south and a local authority storage site to the east, the immediately adjoining land is in agricultural use. There are several 'one-off' houses in the surrounding area, with a particular concentration along the R458 road to the west, while the northern periphery of town consists of a mixture of residential and industrial uses. The M18 Motorway bypasses the western side of the town in a north-south direction and is c. 500m to the west of the appeal site, while the Galway-Limerick railway line runs at a similar alignment and distance to the east.
- 1.5. The Gort River flows within c. 20m of the eastern site boundary and Coole Lough is c. 2 km to the west. The area around Coole Lough is designated as a Special Area of Conservation and Special Protection Area and includes Coole Park and Nature Reserve.

2.0 Proposed Development

2.1. The proposal involves the development of a Biogas Plant involving the use of anaerobic digestion technology to produce renewable energy and fertiliser. It includes the construction of the following:

- 2-storey office building (509m²) with connection to the public sewer
- Single storey electrical substation (14.43m²) and associated banded transformer
- 13.4m high feedstock reception building (3,806m²)
- Banded Tank Farm (14,805m²) containing 2 no. pump houses, pipework, 8 digester vessels and 4 storage vessels (each vessel 15m in height and c. 5,120m³ capacity)
- Biogas purification plant
- Carbon dioxide processing building (10.44m height and 138m²) containing treatment plant and 4 outdoor storage tanks (each 12m high and 50m³ capacity)
- Odour control system comprising air scrubber units, carbon absorption bed and associated stack up to 23m high
- Energy centre containing combined heat and power (CHP) plant and 2 standby boilers with exhaust stacks (16.4m high)
- Biogas ground flare stack (8m high) and gas booster station
- Ancillary development including weighbridge, fencing, new entrance off the R458 road and internal access roads, emergency entrance/exit, planted soil berm and landscaping, car parking, surface water settlement and storage lagoons, lighting, and engineering works for disposal of foul and surface water.

2.2. Permission is being sought for a period of 10 years and the development is for the purpose of an activity requiring an Industrial Emissions (IE) Licence from the Environmental Protection Agency (EPA). An Environmental Impact Assessment

Report (EIAR) and Natura Impact Statement (NIS) have been prepared and accompany the application.

Feedstock

2.3. The application states that the proposed Biogas Plant will accept and process feedstock from the agri-food sector within a 30km radius Feedstock Catchment Zone (FCZ) of the appeal site (and potentially beyond this catchment in the case of Agri-food residues). Feedstock will comprise the following:

Feedstock	Annual Tonnage	% of Feedstock Input
Grass silage	54,000	60%
Cattle Slurry	22,500	25%
Agri-food Residues	13,500	15%
Total Annual Tonnage	90,000	100%

Process Description

2.4. Feedstock will be delivered by road using HGVs and will enter and exit the reception building via a purposely designed air lock lobby. The reception building will operate under negative pressure to ensure that any fugitive emissions (such as noise, dust and odours) are contained. Once treated and abated, air will be discharged to the atmosphere via a 22m high stack. Process effluents from activities within the reception building will be recovered to the AD process via 2 underground storage tanks. Feedstocks will be processed within 72 hours to reduce the potential for odour generation and feedstock bays will be emptied at least weekly.

2.5. The proposal includes 4 primary and 4 secondary digesters which will be heated and stirred/mixed continuously. AD is a natural process in which microorganisms break down organic matter in the absence of oxygen into biogas (a mixture of carbon dioxide (CO₂) and methane (CH₄)) and digestate (a nitrogen-rich fertiliser). The biogas is further upgraded and used in the same way as natural gas. Each digester will be covered with an airtight gas membrane to recover and store raw biogas.

2.6. The biogas pasteurisation process is intended to reduce the numbers of any pathogens and to ensure that all products are safe to handle and use. Digestate from

secondary digester vessels will be fed via macerators (to reduce particle size) to the pasteurisation unit where it will be circulated and heated to an optimal temperature of 70°C.

Digestate (Organic Fertiliser)

- 2.7. Once pasteurised, digestate material will be forwarded for storage and testing to ensure consistent quality. It is estimated that up to 150,000 tonnes of whole digestate will be produced per annum once fully commissioned. The relevant nutrients in the digestate are predominantly nitrogen, phosphorous, potassium and the organic carbon content. It is stated that the proposal will result in the production of nutrient-rich digestate which will be used as organic fertiliser and a substitute for chemical fertiliser on agricultural lands in the area, particularly those which provide feedstock, thereby providing a circular economy.

Biomethane

- 2.8. The gas clean-up plant recovers over 99.9% of the biomethane present in the raw biogas by separating the carbon dioxide through a process of chemical absorption. The biomethane gas produced is high quality and can be directly injected into the gas grid, compressed to produce bio-CNG, or liquified to produce bio-LNG. Following dewatering and the removal of a number of elements, the gas will be pumped into standard containers (5,500Nm³) for transportation to customers.

Carbon Dioxide

- 2.9. A chemical absorption process will be used to separate Carbon Dioxide from biogas. It will be purified and compressed to a class food grade 3 substance and stored in insulated tanks. Bulk tankers will periodically remove the clean compressed CO₂ for use elsewhere in the food and beverage industry.

CHP Unit and Boilers

- 2.10. Biomethane will also be directed to an on-site unit to generate electricity and heat to provide for the site's parasitic load, including heat for the AD process, pasteurisation, and the gas clean-up plant. Two c. 2MW standby dual fuel (gas and light oil) boilers will also be provided for use when CHP is unavailable.

Construction works

- 2.11. The development of the site is estimated to occur over a 24-month period. An Outline Construction Management Plan is included, and it is estimated that there will be an average of 15 trucks accessing the site per day to deliver materials. During peak construction activity, it is estimated that there will be 80 workers (40 vehicles) on site. Decommissioning of the plant will be subject to the terms of the IE Licence and a decommissioning methodology is included with the application.

3.0 Planning Authority Decision

3.1. Decision

- 3.1.1. It should be noted that Galway County Council (GCC) originally made a decision to refuse the application on 23rd January 2020, after which an appeal by the applicant to the Board (ABP Ref. 306709-20) was deemed invalid based on its receipt after the appeal period deadline. The applicant subsequently took a Judicial Review case regarding the date of the GCC decision and I understand that a High Court order of 13th October 2020 quashed the original decision, thereby requiring the re-issue of a decision on the application.

- 3.1.2. By order dated 2nd December 2020, GCC then issued notification of the decision to refuse permission for the following reasons:

- 1. The proposed development would involve the redesign of an existing Regional Road entrance (R458) and associated works and a significant intensification of use of this entrance to facilitate a high daily volume of commercial HGV traffic with associated frequent accessing and egressing daily turning movements onto a busy regional road at a point where the maximum rural speed limit applies for this category of road, where sight distance is below optimum, and where traffic is known to be fast moving for this category of road. It is considered therefore that the proposed development would present undue potential for the creation of dangerous and conflicting traffic movements and would accordingly be prejudicial to public safety. The Planning Authority, in addition, is not satisfied that the proposed development would not, by reason of the volume of HGV movements*

potentially associated with the proposed use, and residual uncertainties over regulation of the routing and off site control of HGV traffic associated with the proposed use, generate undue traffic congestion and conflict between commercial HGV traffic and other urban traffic in nearby Gort town centre and Junction 16. The proposed development would accordingly be contrary to the proper planning and sustainable development of the area.

- 2. The Planning Authority, having reviewed the justification submitted with this application, is not satisfied that the proposed development, located in a rural area close to Gort, which is not zoned for development, due to the nature and scale of the proposed development as outlined in submissions received with this application in the context of Galway County Development Plan Objective ER 8, satisfactorily meets the criteria set out therein. It is considered therefore that the proposed industrial development, located in a rural area, upon which the use is not dependent for electrical or gas grid connection, would be contrary to the provisions of Objective ER 8 and Objective EDT7 of the Galway County Development Plan 2015-2021. The proposed development would accordingly be contrary to the proper planning and sustainable development of the area.*
- 3. The proposed development would entail the construction of commercially operated anaerobic digestion biogas plant, which would contain several large structures, within an open, exposed and low-lying rural area which is characterised by low intensity agricultural activities. Having reviewed the submitted plans and particulars, Landscape and Visual Assessment contained within the submitted EIAR and associated photomontages with respect to the chosen receptors, the Planning Authority are not satisfied that the development would not be visually obtrusive and adversely impact on the receiving Class 3 landscape, including the Coole Demesne area to the north, the Kinincha Road/Gort River area and other potentially sensitive receptors. It is also considered that additional viewpoints would have been required to enable the Planning Authority to fully assess the proposal for a visual impact perspective and furthermore that the potential for visual impact of any visible air emissions associated with the use should all have been assessed in detail*

as well as the potential visual impacts of the stacks and any visible air emissions associated with the use from a wider visual catchment study area. The proposed development would accordingly be contrary to the provisions of Policy LCM 1 and Objective LCM 2 of the Galway County Development Plan 2015-2021, would seriously injure the amenities of the rural area, and would, therefore, be contrary to the proper planning and sustainable development of the area.

- 4. The site of the proposed development is located within c.600m of the Coole Garryland Complex SAC, c1.1km from Coole Garryland SPA, and within a distance of 15km of 27 no. other designated European site for rare and threatened flora and fauna across the European Union (i.e. Natura 2000 network of sites), which are protected under the EU Habitats Directive (92/43/EEC) & EU Birds Directive (79/409/EEC, as amended by Directive 2009/147/EC) and the European Communities (Natural Habitats) Regulations 1997, as amended by the European Communities (Birds and Natural Habitats) Regulations 2011. The protection of these European sites is further reinforced in the 2015-2021 Galway County Development Plan under Policy NB 1, Objective NB 1, Objective NB 2, Objective NB 3 and DM Standard 40. Based on the information included with the planning application, and the concerns identified by the Planning Authority in relation to the potential direct, indirect and cumulative impacts of air pollutants, pollutants to water quality, habitat loss/fragmentation and the exclusion of a satisfactory assessment of a number of European sites in the vicinity of the proposed development in the NIS submitted, the planning authority in conjunction with the application of the precautionary principle, consider that significant adverse effects on the integrity and conservation objectives of the European sites in the vicinity, cannot be ruled out, as a result of the proposed project. Therefore, the development is likely to have significant adverse impacts on the qualifying criteria and conservation objectives of nearby European sites, in particular the Coole Garryland Complex SAC, the Coole Garryland SPA, Lough Cutra SAC and Kiltartan Cave SAC which would contravene materially a policy, objectives and a development management standard contained in the current*

Galway County Development Plan, and would be contrary to the proper planning and sustainable development of the area.

5. *Based on the information submitted in the Environmental Impact Assessment Report and as identified in the Environmental Impact Assessment carried out by the Planning Authority, it is considered that the EIAR submitted has not presented a sufficient level of information and assessment in relation to impacts on population and human health, biodiversity, land, soil water air and climate, material assets and landscape, for the competent authority to make an EIA determination there is an acceptably low likelihood of environmental effects of a magnitude which would have a significant effect on sensitive environmental receptors as a result of the proposed development and mitigation proposed as part of the submitted EIAR. Therefore if permitted as proposed the development would be contrary to the proper planning and sustainable development of the area.*

3.2. **Planning Authority Reports**

Planner's Report

3.2.1. The Planner's Report outlines an analysis of the 'key planning issues', which can be summarised as follows:

Strategic analysis

- The site is located in a rural area outside the Gort LAP area; is not zoned for development; and is within a sensitive karst landscape that is hydrologically and hydrogeological linked to designated sites all located within a groundwater body with an overall status of 'poor'.
- It is proposed to export energy recovered on site and the use does not appear to be dependent on this site for electrical/gas network connection.
- The applicant's justification is based on the consideration of 4 alternative sites but has not satisfactorily demonstrated that suitable sites are not available in the reserve of land zoned for industrial use in Gort or other settlements.
- The reference in Objective ER 8 to promote 'Tuam Hub Town, Athenry and Gort and their environs as energy hubs' does not alone constitute a

reasonable basis/justification for the selection of an unzoned rural site close to Gort. The reference to “and their environs” is considered to mean the area within the Gort LAP boundary and lands outside that boundary can be classed as ‘rural’.

- The Draft Regional Spatial and Economic Plan for the region outlines that waste infrastructure shall in urban areas generally be on lands zoned for industrial use and in non-urban areas shall accord with proper planning and sustainable development.
- Feedstock sources (which has not been sufficiently detailed) does not appear to have been a significant determinant of site selection.
- The Planning Authority is not satisfied that the proposed industrial development has been justified in a rural area and the proposals would be contrary to the provisions of Objective ER 8 and Objective EDT 7 of the CDP.

Environmental Impact Assessment

- The content and competencies of the EIAR comply with the requirements of Article 94 of the P&D Regs 2000 (sic) and Article 5 of the EIA Directive 2014.
- There are concerns in the context of the Major Accidents Directive, including expected effects arising from the vulnerability of the project to major accidents and/or disasters. Sections 4 and 7 of the EIAR identify voids in the bedrock and there are uncertainties in the potential to cause accidents/disasters, including implications for human health, cultural heritage and the environment. The Planning Authority has also identified traffic hazards impacting on public safety. Likely significant effects on population and human health cannot be excluded.
- The main biodiversity concerns relate to bats (inadequate scope of assessment, loss of hedgerow and fragmentation/loss of habitat), badgers, the direct impact of air emissions (most notably Nitrogen) on the Gort River, and indirect impacts on connected European sites (Coole-Garryland SAC, Coole-Garryland SPA). There is ambiguity about the presence of an otter sett on site and the overall cumulative impacts on biodiversity. Likely significant biodiversity effects on the environment cannot be excluded.

- Having regard to the limited soil cover and bedrock outcrops on site, it is considered that inadequate detail of the extensive construction work has been submitted and concerns remain about the direct impact of wet concrete on bedrock and groundwater and indirect impacts on ecology and biodiversity.
- The Hydrology and Hydrogeology analysis in the EIAR is based on outdated (2015) data and a 'good' water quality status for the Canahowna (Gort) river. The quality status should be assigned as 'poor'. The EIAR stated requirement for further detailed pre-construction investigation to evaluate the bedrock and allow for appropriate mitigation of impacts on karst features undermines the efficacy of the proposed mitigation measure and the residual impact of same. The Flood Risk Assessment identifies the vulnerability of the proposal to high groundwater levels associated with high river levels, but inadequate mitigation detail is provided for the proposed bund and stormwater management. The Planning Authority concludes that the information does not provide for a complete and robust assessment of the impacts on hydrology and hydrogeology.
- Air quality impacts in the EIAR primarily focus on emissions from the CHP plant and Nitrogen deposition direct impacts on the nearest European sites, but no reference is made to the cumulative Nitrogen deposition from other sources or the risk of gaseous emissions on the Gort River and the impact of traffic movements has not been quantified. The EIAR does not address the odour impacts associated with spreading digestate and the efficacy of the carbon filter, and odour arising from the facility has been queried by the Environment Section. The Planning Authority is satisfied that significant effects on the environment will not arise due to noise but likely significant effects on Land, Soil, Water, Air and Climate cannot be excluded.
- Due to the inclusion of a 22m high stack (presumably with potentially visible gaseous emissions) the Planning Authority has residual concerns about the EIAR study area assumptions, does not concur that the visual impact rating from VRP 5 (Kinincha Road/Gort River area) would be 'low', and notes that visual impact assessment from the north, northwest and Gort town centre is absent.

- The Planning Authority has outstanding concerns about intensified/conflicting traffic movements, impacts on Junction 16 of the M18/R458 roads, the regulation of off-site HGV movements to avoid Gort town centre, and the overall impact on public safety.
- A satisfactory assessment has not (sic) been carried out to establish that significant direct, indirect and cumulative impacts on Archaeology are not likely.
- The EIAR provides limited analysis of the identified interactions between environmental factors. The Planning Authority also notes that the feedstock sources and end user locations for digestate have not been satisfactorily identified to provide a robust assessment of interactions.
- The Planning Authority's reasoned conclusion states that it has not ruled out the potential for likely significant effects deriving from the vulnerability of the project to risks of major accidents and/or disasters and includes a determination that that the EIAR was not adequate in identifying and describing the direct, indirect and cumulative effects of the proposed development, alone or in combination with other plans and projects on the receiving environment to satisfy the competent authority that all likely significant environmental impacts cannot be ruled out as a result of the proposed development and proposed mitigation.

Appropriate Assessment

- Based on the information submitted and the Planning Authority's concerns in relation to potential direct, indirect and cumulative impacts of air pollutants, pollutants to water quality, habitat loss/fragmentation and the exclusion of a satisfactory assessment of a number of European sites in the vicinity of the proposed development in the NIS submitted, the planning authority in conjunction with the application of the precautionary principle, consider that significant adverse effects on the integrity and conservation objectives of the European sites in the vicinity, cannot be ruled out, as a result of the proposed project. Therefore, the development is likely to have significant adverse impacts on the qualifying criteria and conservation objectives of nearby

European sites, in particular the Coole Garryland Complex SAC, the Coole Garryland SPA, Lough Cutra SAC and Kiltartan Cave SAC.

Flood Risk

- Concerns are raised as outlined in the EIA section above and inadequate detail is provided on uplift pressure and the bund to address these concerns.

Access, Roads and Transportation

- The Planning Authority has serious concerns about the design of the entrance and adequacy of sightlines; the speed of traffic and alignment of the road at this location; the projected volume of traffic movements; and the implication of proposed turning lanes on traffic safety.
- It is unclear how the applicant can ensure that feedstock inputs and digestate outputs will not be routed through Gort town centre.
- The impact of traffic movements on the M18 Junction 16 has not been assessed in detail and there are residual uncertainties regarding stacking / circulation.

Visual Impacts

- Concerns are raised as outlined in the EIA section above.
- The Planning Authority is not satisfied that the proposal would not adversely impact on the receiving Class 3 landscape, including Coole Demesne, the Kinincha Road/Gort River area and other vantage points.

Archaeology and Built Heritage

- In the event that the proposal is favourably considered, conditions requiring archaeological impact assessment should be attached.

Energy Transmission

- The application does not make provision for direct connection to the electrical or gas networks, proposing instead to export gas via HGV to third parties or the national gas supplier/grid.

Public Health and Safety

- There appears to be deficiencies and uncertainties in the EIAR in terms of description of expected significant effects and mitigation concerning preparedness and response to major accidents/emergencies; potential to cause accidents or disasters and implications for human health, cultural heritage and the environment; and vulnerability to potential accidents/disasters including risk of natural (flooding) and man-made disasters (technological issues).

Recommendation

- The Planner's Report recommended to refuse permission for the 5 reasons set out in the GCC decision.

Other Technical Reports

3.2.2. Roads Directorate: An email report of 21st January 2020 forms the basis of the roads/traffic concerns outlined in section 3.2.1 above. It concludes that the proposal would be contrary to the proper planning and sustainable development of the area for the reasons set out in reason no. 1 of the GCC decision.

3.2.3 Environment Section: The report of 21st January 2020 is prefaced by details of general discussions with the EPA regarding similar facilities and ongoing complaints and compliance issues. Otherwise, the report can be summarised as follows:

- The Environment Section generally supports anaerobic digestion facilities, subject to meeting national sustainability criteria, suitable location, and operation under a permit/license as appropriate. These facilities can provide numerous benefits including renewable energy, reduction in green house gas emissions, reduced risk of water pollution, and reduced reliance on chemical fertilisers.
- The Connaught Waste Management Plan 2015-2021 supports the development of new facilities in the biological treatment sector, in particular composting and anaerobic digestion.

- The facility will have an IE licence from the EPA which will enable ongoing monitoring and review of feedstocks and other environmental issues.
- The applicant should be requested to demonstrate that the proposal meets the sustainability criteria set out in the SEAI study *Sustainable Criteria Options and Impacts for Irish Bioenergy Resources* based on feedstock type, source area and GHG emissions through by-product transportation.
- The applicant should be requested to carry out an assessment of odour nuisance as a result of digestate spreading.
- The applicant should be requested to submit further details on the proposed carbon filter for odour abatement including sizing and evidence of its efficacy.
- Any required ground investigation should be carried out at planning stage so they can inform the design of the development, the EIAR and the NIS.
- Clarification is required on whether cleaning disinfectants can be re-used on site or whether it is proposed to dispose to the public WWTP (which is generally compliant with EPA wastewater licence).
- The ecological status (2013-2018) of the monitoring station downstream of this site is 'poor' based on biological monitoring data and further assessment is required in relation to the risk of deposition of gaseous emissions on the Gort River.
- If permission is granted, conditions should be applied requiring the preparation and supervision of an Environmental Management Plan for the construction and operation stage, as well as an Incident Response Plan.

3.3 Prescribed Bodies

Environmental Protection Agency (EPA): The content of the submission is covered in the observations on this appeal (see section 6.4 of this report).

Department of Culture, Heritage & Gaeltacht (DCHG): The submission can be summarised under the following headings:

Archaeology

- The scale, extent and location of the development has the potential to encounter subsurface archaeological remains and conditions requiring an archaeological impact assessment should be included in any grant of permission.

Biodiversity

- It would appear that further biological surveys are still to be completed and it is not clear what these surveys consist of.
- The EIAR assumptions regarding the location of a lesser horseshoe bat roost in a mill may be incorrect as the species has been recorded a different mill location in the area. The removal of 520m of hedgerow may have effects on commuting lesser horseshoe bats. Due to these other records and features in the area, a wider study should be done on how lesser horseshoe bats are using the landscape and accessing their summer and winter sites. It should also assess fragmentation and wider cumulative habitat loss and include Kiltartan Cave SAC and Lough Cutra SAC.

Water Quality

- The submission highlights the sensitivity of the surrounding water environment.

Air Quality

- Air quality impacts in the EIAR primarily focus on Nitrogen deposition direct impacts on the nearest European sites, but no reference is made to the cumulative Nitrogen deposition from other sources.

An Taisce: The grounds of the submission are covered in the observations on this appeal (see section 6.4 of this report).

Inland Fisheries Ireland: The submission (not on file but available on GCC website) highlights the proximity of the site to the Cannahowna (Gort) River and that it contains a resident population of brown trout. It has a WFD Directive 'good' status which should be protected and there are concerns about the proximity of the development and land spreading of digestate which may impact on the water quality

of local fisheries catchments. The location of land for spreading must be clarified before an informed decision can be made on the application.

3.4. **Third Party Observations**

The Planning Authority recorded a total of 405 submissions which are comprehensively summarised in the GCC Planner's Report. The issues raised are largely consistent with the issues raised in the observations on the appeal (see section 6.3 of this report).

4.0 **Planning History**

4.1. The following planning history is relevant to the appeal site:

ABP Ref. 306709-20: A previous appeal of the GCC decision was deemed invalid based on its receipt after the appeal period deadline. That GCC decision was subsequently quashed by High Court Order.

P.A. Ref. 18/502: Permission was sought for a similar Biogas Plant development on a smaller site (7.85ha) at this location. Further Information was requested by the Planning Authority on 19th June 2018 and the applicant subsequently withdrew the application on 14th December 2018.

P.A. Ref. 00/4545: Permission granted (8th January 2001) for the conversion of first floor of stables to residential accommodation and for the construction of a septic tank and percolation area.

P.A. Ref. 00/600: Permission granted (15th May 2000) for the retention and completion of stables and use for commercial purposes and for use of horse training facilities and horse gallop for commercial purposes.

P.A. Ref. 98/4738: Permission granted (29th March 1999) for construction, retention and completion of horse gallop and internal road and for construction of access off existing county road at Kinincha to access horse riding stables and lunging ring etc.

ABP Ref. 310203-21: Current application on a site c. 300m to the south for approval made under Section 177(AE) of the Planning and Development Act, 2000 (local authority development requiring appropriate assessment) for the provision of a Civic Amenity site/recycling centre.

5.0 Policy Context

5.1. National Legislation/Policy

Climate Change and Energy

- 5.1.1. The ***Climate Action Plan 2021*** 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.
- 5.1.2. The ***Draft Bioenergy Plan*** which was published by the then Minister for Communications, Energy and Natural Resources in October 2014. The draft Plan 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.
- 5.1.3. The 2018 ***National Policy Statement on the Bioeconomy*** sets out a vision, common principles, strategic objectives, and a framework for implementation to deliver on this vision for the bioeconomy in Ireland. It recognises that potential benefits include a reduction in the effects of climate change and the promotion of rural employment and economic development, and highlights that Ireland has significant strengths and comparative advantages in the bioeconomy.

Waste

- 5.1.4. The ***Waste Action Plan for a Circular Economy – National Waste Policy 2020-2025*** was produced by the Department of Environment, Climate and Communications and 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. It aims to reduce food waste by 50% by 2030, including pursuing ambitious reductions and other measures that contribute towards a sustainable food chain in the Agri-food sector, and aims to realise the food waste resource potential of Anaerobic Digestion (AD) and composting. It states that AD and composting provide opportunities for regional development with benefits for communities through sales of locally generated energy and compost.

Water

- 5.1.5. 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 second cycle 2016 to 2021. 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.

Planning

- 5.1.6. Project Ireland 2040, including the **National Planning Framework (NPF)** and the **National Development Plan 2018-2027**, set out a vision for the future development of the country. The NPF contains a number of relevant National Strategic Outcomes (NSOs) and National Policy Objectives (NPOs) which can be summarised as follows:

NSO 8 'Transition to a low carbon and climate resilient society' recognises that more diversified and renewables focused energy systems will be necessary, including biomass, and that our gas storage capacity is limited. 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.

NSO 9 'Strategic Management of Water and other Environmental Resources' highlights the future effects of climate change on the availability of water sources. It also states that waste treatment planning will require biological treatment and an increased uptake in anaerobic digestion, along with waste to energy facilities.

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 23 Facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with other industries including energy and the bio-economy, while protecting the natural landscape and built heritage which are vital to rural tourism.

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.

5.2. Regional Policy

- 5.2.1. This ***Regional and Spatial Economic Strategy*** (RSES) for the Northern & Western 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 Government. It provides a 12-year strategy to deliver the transformational change that is necessary to achieve the objectives and vision of the Assembly.
- 5.2.2. Section 4.4 identifies several sectors and clusters that are of most importance to the region. Under 'Renewable Energy and Low Carbon Future' the RSES acknowledges the region's huge potential for growth in renewables. RPO 4.20 supports the development of the bio-economy for energy production, heat and storage distribution. It also highlights the critical importance of maintaining the 'green' credentials of the 'Agri-food and the bioeconomy' sector. RPO 4.27 supports the National Policy Statement on the Bioeconomy and opportunities for the circular resource-efficient economy, RPO 4.28 supports the potential creation of appropriately scaled local multi-feedstock bio-refining hubs, and RPO 4.29 supports the use of bio-renewable energy for the sustainable production of bio-based products.
- 5.2.3. Section 8.3 deals with 'Gas Networks' and recognises that Compressed Natural Gas (CNG) can contribute to decarbonisation in transport. RPO 8.7 supports innovative

partnerships extending the gas network in the region, including the potential for gas to grid injection facilities along with anaerobic digestion facilities.

5.2.4. Section 8.4 deals with 'Waste Infrastructure' and supports the implementation of the Connaught Ulster Regional Waste Management Plan 2015-2021. RPO 8.10 states that the siting of waste infrastructure shall in urban areas generally be on lands zoned for industrial use and in non-urban areas shall accord with the principles of proper planning and sustainable development. RPO 8.11 supports the move towards regional and national self-sufficiency in terms of waste management infrastructure in accordance with the proximity principle and with the circular green economy.

5.2.5. The strategic vision of the **Connaught Ulster Regional Waste Management Plan 2015-2021** is to rethink the approach to managing waste, by viewing waste streams as valuable material resources. The approach places a stronger emphasis on preventing wastes and material reuse activities. It seeks to build on recycling progress and strives to improve the recovery and generation of energy by maximising the resource value of the materials and energy embodied in residual wastes. Finally, the plan will seek to further reduce the role of landfilling in favour of higher value recovery options. Some of the key measures in the plan include:

- Plan and develop higher quality waste treatment infrastructure including new reprocessing, biological treatment, thermal recovery and pre-treatment facilities
- Grow the biological treatment sector, in particular composting and anaerobic digestion, by supporting the development of new facilities
- Ensure existing and future waste facilities do not impact on environmentally sensitive sites through proper assessments and siting.

5.3. Local Policy

5.3.1. The operative Development Plan for the area is the **Galway County Development Plan 2015-2021**. The Core Strategy of the Plan identifies Gort as A 'Key Town' with an extensive range of services, infrastructure and a strong historical identity. Sustainable growth in these settlements is required to achieve their potential as self-sustaining towns. Gort is within the identified 'Economic Engine' of the county

running north-south between Gort and Tuam and east-west between Ros a Mhil and Ballinasloe.

- 5.3.2. Section 7.4 recognises the huge potential for the county for ‘Renewable Energy’ including biomass as a source. Section 7.4.5 outlines support for the production of bio-crops and forestry for biomass in the generation of renewable energy as well as production units in appropriate locations. The policies and objectives in this section generally support renewable energy projects and include the following objectives:

ER 4 Support the use of appropriate renewable energy resources and associated infrastructure, including Bio-Energy and CHP.

ER 8 Promote Tuam Hub Town, Athenry and Gort and their environs as energy hubs, to take account of opportunities to develop suitable sustainable enterprises due to their proximity to electricity and gas transmission networks and minimising environmental impact.

- 5.3.3. Sections 4.9 and 4.10 support rural enterprise and farm diversification. Objective EDT 7 encourages industrial and enterprise development to operate from lands zoned for these purposes within the various Local Area Plans, subject to an adequate consideration of the policies and objectives of this plan and the need to protect the vitality and amenities of the town or settlement.

- 5.3.4. Section 11.1.1 deals with ‘Agriculture’ and recognises the opportunities and challenges facing the industry, while Section 11.3 highlights the potential to increase carbon efficiency within the food sector. Relevant policies and objectives can be summarised as follows:

Policy AFF 1 recognise innovative strategies in the agri-food sector

Policy AFF 3 Facilitate the sustainable development of the countryside and diversification of appropriate uses on rural landholdings to ensure the continued viability of agriculture

Objective AFF 1 support sustainable development of agriculture, with an emphasis on a high quality, traceable primary production methods, the promotion of local food supply and diversification.

- 5.3.5. Section 9.10 outlines that the Landscape Character Assessment for the county identifies 25 ‘character areas’. The Landscape Sensitivity and Character Area Map

(LCM2) shows that the site is within an area to the north of Gort that is 'Class 3 – Medium' sensitivity, while map LCM1 indicates that the Landscape Value Rating for the area is also medium. The area around Coole Lough to the northwest of the site is classified as 'Class 4 – Special' sensitivity and is rated as being of 'high' value. The policies and objectives of the plan generally aim to protect landscape character and to have regard to the landscape character assessment classification when considering proposals for development.

- 5.3.6. The **Gort Local Area Plan 2013-2023** provides a statutory framework and strategic vision for the future growth, development and improvement of Gort. The appeal site itself is located directly outside the northern extent of the LAP Boundary. Nonetheless, the provisions of the LAP are relevant to the appeal case and include the following summarised points:

Objective DS 1 & Policy LU1 – Support orderly and sequential development focusing on the consolidation of the town centre and protection of landscape character, heritage and identity.

Objective LU3 (Industrial zoning) - Promote the sustainable development of industrial and industrial-related uses on suitable lands with adequate services and facilities and a high level of access to the major road network and public transport facilities.

Objective LU7 (Agriculture zoning) - Protect the rural character of the area from inappropriate development and provide for agricultural and appropriate non-urban uses.

Objective CF9 - Support a network of greenway linkages and amenities including an amenity walking circular route along the Kinincha Road returning via the river bank to George's Street.

Objective ED2 - Facilitate business, enterprise and industrial developments that are considered compatible with surrounding uses on suitably zoned and serviced sites and subject to appropriate buffer zones/screening. The Business and Enterprise (BE) and Industrial (I) zonings will be the primary focus for such uses.

Objective TI24 - Provide a walkway along the Cannahowna/Gort River including the Kinincha and Pound Road.

Policy UI6 - Support the provision of adequate energy infrastructure to service developments, including gas. In particular, the Council supports the increased development and use of renewable energy.

Objective UI18 - Facilitate the provision of an adequate supply of electricity and gas to developments in the Plan Area, to the requirements of the relevant service provider and in accordance with the principles of proper planning and sustainable development.

Objective UI21 - Promote and facilitate the development and use of renewable energy sources and associated infrastructure within the Plan Area, including bioenergy and geothermal/CHP. Encourage the integration of micro-renewable energy sources into the design and construction of new developments.

Policy UI7 - Support and promote local, national and international initiatives for limiting/reducing emissions of greenhouse gases and encouraging the development of renewable energy in accordance with climate change and air quality policy/legislation.

Objective NH5 – Protect and enhance biodiversity and ecological connectivity including the water quality and ecology of the Gort River.

5.4. **Natural Heritage Designations**

The nearest Natura 2000 sites are Coole-Garryland Complex SAC (c. 750m to the west) and Coole-Garryland SPA (c. 1 km to the southwest). There are several other Natura 2000 sites within a surrounding 15km radius of the site.

6.0 **The Appeal**

6.1. **Grounds of Appeal**

- 6.1.1. The decision of GCC to refuse permission has been appealed by the applicant, Sustainable Bio-Energy Limited. The appeal reiterates the development rationale in the context of policy/legislation relating to Energy, Climate Change, Environment, Agriculture and Waste, and contends that the biogas industry is central to

Government policy achieving renewable energy and greenhouse gas reduction targets.

6.1.2. The grounds of appeal address the 5 reasons for refusal and can be summarised as follows:

Reason No. 1 (Traffic)

- The reference in Table 2.1 of the EIAR to 90m sight distances from the new entrance is a typographical error. The 215m sight distances shown on the drawings account for traffic conditions, exceed CDP requirements (160m), and are agreed in accordance with the Road Safety Audit (RSA).
- In accordance with the RSA, the left turn lane has been removed and a right-turn lane will maintain existing hard shoulders for pedestrians.
- Proposed traffic movements are extremely low (less than 1.5% of movements at entrance location on R458) and spare capacity is detailed in Tables 11.3 and 11.5 of the EIAR.
- Impacts on the M18 Junction 16 were not assessed as predicted traffic movements (1 – 1.5 per 15mins) would not result in a measurable impact in terms of changes in ratios of flow to capacity values output by junction modelling software.
- Feedstock will not be delivered from the whole FCZ and will not be delivered by HGVs via Gort town centre.
- The collision history statistics have been considered in the RSA preparation.
- Traffic modelling accounts for seasonal variations (Table 11.4 of EIAR) and is based on the maximum values.
- Erroneous claims are made within the objections, including that traffic modelling is based on 10 movements per day, and that junction radii are based on residential entrances.

Reason No. 2 (Locational justification)

- The proposed location is informed by relevant policy and constraints relating to access, distance, sustainable transport of feedstock and output products, availability of services, buffer distance to residential receivers, and availability of sufficient lands.

- The CDP (Section 7.4) reference to promoting energy hubs in the ‘environs’ of Gort should include lands within townlands surrounding, and in the vicinity of, the defined LAP boundary.
- The site selection and alternatives process considered sites zoned for industrial uses within the Gort LAP area. Due to the lack of suitable sites and the location of feedstock sources in the agricultural hinterland, it concluded that the development should be sited outside the LAP boundary. It is located adjacent to industrial zoned land while also providing sufficient buffer distance from sensitive receptors (e.g. residential areas).

Reason No. 3 (Visual Amenity)

- The CDP classifies the landscape value as ‘medium’ (2nd lowest of 4 categories) and the landscape sensitivity borders on ‘moderate’ and ‘medium’ (2nd and 3rd lowest of 5 categories). The applicant’s EIAR considers that the area has a lower sensitivity than that of the CDP i.e. a highly modified and somewhat degraded setting of ‘low’ sensitivity, and concluded that the proposed development would have a ‘moderate-slight’ impact.
- Viewpoint VP7 assesses worst-case-scenario views from Coole Demesne (which is further away on lower ground) as ‘slight’, with only the upper sections of a couple of tanks and stacks visible. Impacts from Coole Demesne will be even lower or non-existent and will be separated from the proposed development by 2 major road corridors.
- VP1, VP4 and VP5 are within the Kinincha Road / Gort River area. They account for sensitive receptors, worst-case scenario views and mitigation measures, and demonstrate that impacts will not be significant in this area.
- Views from the north (M18) are represented by VP8 and demonstrate an ‘imperceptible’ impact. Further north and west, the M18 is at a lower elevation and there would be limited impact.
- Gort town centre is represented by VP6 and the town edge by VP2, both as ‘worst-case-scenarios’ demonstrating the absence of significant impacts and the absence of visibility from the town core.
- There would be no visible plume emanating from the proposed stacks.

Reason 4 (Habitats Directive & Biodiversity)

- The potential for impacts on European Sites is fully acknowledged in the NIS. The Planning Authority's AA Screening rationale is unclear and is at odds with the applicant's robust and precautionary approach (see Table 1 of Appendix 1 of NIS). The AA conclusions are also unclear and at odds with those of the applicant's NIS.
- The appeal outlines the extent of bat habitat and activity surveys carried out in recent years and the consultation, methodologies and guidance applied. This makes it clear that, completely contrary to the GCC Planner's Report, Bat Conservation Ireland was consulted on wider area records for bat species (Tables 5.9a, b & c of the EIAR) and surveys were undertaken in accordance with relevant Guidelines. Wider area studies would only be relevant if the proposal could result in wider area impacts, which is not the case.
- The site holds no potential otter holts as detailed in section 5.4.5 of the EIAR.
- There are no confirmed active badger setts within or close to the site. However, there is recognised potential to occur in the future and appropriate mitigation in the form of a pre-construction mammal survey is proposed.
- A detailed assessment of predicted nitrogen deposition rates at all designated sites within 10km has been undertaken relative to existing background concentration and the 'critical load' for each site. It has been determined that the proposal will not have a significant impact. The potential impact of air emissions on the Gort River has not been assessed as it is not part of a European Site and nitrogen inputs from agricultural practices are much more significant compared to atmospheric deposition.
- The Planning Authority's concerns about habitat loss and fragmentation is assumed to relate to hedgerow loss impacts on lesser horseshoe bats. However, the potential loss of 1.9km of hedgerow refers to a worst-case pre-mitigation scenario and sections 2.3.4, 3.4.1 and the biodiversity mitigation measures in the EIAR address this impact. The landscape model (section 5.6.1) also proposes hedgerow planting (450m) and replacement to enhance bat commuting and feeding, ensuring that any loss of hedgerow will be minimised and temporary.

- A core part of the NIS assesses air quality impacts on European Sites and the Planner's Report does not detail the basis of concerns in this regard.
- A detailed odour and air quality impact assessment has assessed the impact on residences and European Sites and has determined compliance with relevant standards and guidelines.
- Odour modelling from land spreading of digestate is not a planning requirement but odours from organic fertilisers such as slurry or digestate is common practice and impacts are short-term and transient.
- The additional vehicular movements do not require an air quality assessment and will not result in a significant air quality impact.

Reason 5 (Environmental Impact Assessment)

- The EIAR was prepared by competent experts and provides relevant information that is complete and of sufficient high quality in identifying, describing and assessing the significant direct and indirect effects of the project on all factors. The appeal presents the unclear and unfounded reasons on which the Planning Authority reached its decision to refuse permission.

6.2. Planning Authority Response

The Planning Authority has not responded to the grounds of the appeal.

6.3. Observations

A total of 49 no. 3rd party submissions have been received in relation to the appeal. Some of the submissions are on behalf of multiple individuals/parties. The issues raised in many of the submissions are generally consistent in their opposition to the proposed development and I propose to summarise the content on a themed basis using the following headings:

Feedstock supply

- The viability of silage in terms of availability and cost.
- The facility may become a national destination for other products, including animal/fish by-products and waste.

- The site is not close to source materials and no details of the source locations have been provided.
- The environmental impacts of silage production need to be assessed.

Water supply

- The requirement of 120,000m³ per annum for silage is an underestimate and over 200,000m³ would be required.
- The primary supply (rainfall) has not considered seasonal water supply and requirements and has the potential to put the town's supply under pressure.

Transport and traffic

- Contravenes best practice to locate adjacent to source raw material.
- A round trip of 40km would be a best-case journey for each vehicle collection/delivery and data suggests that journeys over 18km from the plant could be commercially non-viable.
- The predicted traffic volume figures are inconsistent and significantly reduced compared to the previous application (PL 18/502) and other similar proposals.
- Traffic predictions do not account for the higher gas production yield associated with silage feedstock; the potential use of tractor-drawn trailers and slurry tanks (which are excluded from motorway use); and the seasonality of silage and digestate movements.
- Concerns about routing traffic through Gort and lack of clarity in relation to routes/vehicles for the collection of digestate. There is no plausible mechanism to ban movements through the town centre.
- Traffic congestion/conflict and dangerous traffic movements/conditions at this location.
- The Spatial Planning and National Roads Guidelines could be applied to this Regional Road which carried significant volumes of traffic outside the 50-60kmph speed limit.
- Planning history of restricted access onto the R458.
- Inadequate assessment on the capacity of the M18 and associated junctions

Location

- Not zoned for industrial/commercial, goes against the Gort LAP, and cannot be considered an 'on-farm' facility that would be preferred on unzoned land.
- The proposal does not comply with the Irish Bioenergy Association of Ireland recommendations for siting in rural and urban brownfield sites and to avoid proximity to 'high amenity areas'.
- The Irish Bioenergy Association of Ireland planning guidelines are relevant and important but are not local or national planning policy. Further national/regional guidance is required in relation to biogas facilities.
- Inadequate assessment of site-selection and alternatives.
- Proposal is inconsistent with CDP Objective ER 8 which facilitates energy proposals that would connect directly to the local gas and electrical networks.
- The large scale of the proposals and total reliance on road transport would not be supported by RPO 4.28 and 4.29 of the RSES.
- Too close to the town centre and urban population and will restrict housing supply for the area.

Visual Amenity and Landscape

- The site is fully within the CDP 'Class 3 - Medium' sensitivity landscape and the applicant's attempt to reclassify to 'Class 1' is severely flawed. The site is close to the 'Class 4' Coole Garryland landscape.
- The scenic, cultural and perceptual values of the wider area are highlighted, including Coole Park, monastic and cultural attractions, trails, rivers and lakes, the Wild Atlantic Way, and The Burren. The development would compromise the tourism potential associated with these attractions.
- The proposal will adversely impact on the amenity/recreational value of Gort's 'Golden Mile', an award-receiving 1-mile stretch between Kinincha Road to Coole, and the existing and proposed phases of Gort River Walk, as well as other trails and attractions.
- The applicant's assessment gives very little consideration to impacts on tourism, heritage and other features, including Thoor Ballylee, Kiltartan

Gregory Museum, River Walk, Golden Mile, Lavallylisheen Children's Graveyard, Wild Atlantic Way loop, residences, The Burren, bus and train approaches,

- The applicant's visual impact assessment and photomontages are not representative of existing and proposed development.
- The development, including flame burning, would be unsightly and overlooked by c.100 houses.
- Further archaeological research of adjoining fields should have been completed.

Noise

- Lack of clarity regarding the EIAR suggestion that the existing site is noisier than Junction 16 and the R458.
- Given the inadequate traffic volume information, the effects of traffic noise on human health have not been properly assessed.
- Noise/vibration was not measured at the identified sensitive receptors, has not been carried out for night-time periods, and is deficient to establish that it will not interfere with surrounding amenities.

Air / Odour

- Volumetric emission rates from the reception building (stated as 75,000m³/hour in the EIAR) will actually be 150,000m³/hour and the odour dispersion model is incorrect as a result.
- Assessments of odour on surrounding residences have not been carried out.
- Odour measurements were carried out during slurry spreading season so there has been no measurement for ambient air quality.
- The predicted emissions are highly speculative and lacks site-specific parameters and consideration of surrounding topography.
- The proposed stack height may not be sufficient to disperse Hydrogen Sulphide emissions given the low-lying nature of the site and 'draw down' cannot be ruled out.

- Meteorological data sources have not been clarified and prevailing wind directions have not been considered.
- Odour emissions from other biogas plants and previous developments in Gort.
- Air quality impacts on human health and quality of life.
- Increased emissions associated with traffic.
- Digestate odour will be much more than current slurry spreading levels.

Natura 2000 sites and biodiversity

- Increased noxious gases and inadequate dispersion has the potential to impact on the foraging habitat of lesser horseshoe bats, insectivorous birds, the Gort River, Coole-Garryland SPA and Caherglassaun Turlough SAC.
- Maximum nitrogen deposition rates have been calculated in isolation, with no assessment of cumulative impacts from other sources.
- The NIS has not addressed the impacts of digestate disposal, including locations, transport and flooding implications. The IFI has also raised concerns in this regard.
- Galway Bay Natura 2000 sites, Lough Cutra SAC, Peterswell Turlough SAC and Termon Lough SAC have been excluded from the Appropriate Assessment and other SACs have not been assessed for the impacts of digestate disposal.
- Flood events are increasing in frequency and severity in the area and complex underground systems make groundwater modelling and maximum flood levels for the site and land used for digestate unpredictable. The precautionary principle means that significant adverse impacts on integrity/conservation objectives of European sites cannot be excluded.
- Additional loading on the wastewater treatment plant has the potential to impact a number of Natura 2000 sites via the Gort River, which has not been fully investigated.
- The connection of site drainage to an infiltration system is in direct contravention of the NIS mitigation measures and presents a very high risk of pollution of groundwater pathways to the Coole-Garryland SAC.

- By preventing access to the development for local farms/businesses it is likely to increase nitrate pollution in the eastern and west-central FCZ, which are predominantly SAC areas with high groundwater vulnerability, and would effectively rule out any future investment in sustainable AD biogas in the area.
- Potential risk to the karst aquifer and SAC cannot be screened out until ground investigation and mitigations measured have been detailed in full. In the absence of these mitigation measures the NIS is invalid.
- Potential impacts on designated shellfish production areas in Auginish Bay and Kinvara Bay.
- Lighting impacts on lesser horseshoe bats during construction and operation.
- Disturbance to flora and fauna on site and in the surrounding area.

Major Incidents / Health & Safety

- The storage of 33 tonnes of biogas would require consideration as a 'high hazard site' for fire/emergency and services in the area are inadequate.
- The applicant incorrectly assumes that there will be no effects despite the evidence of accidents associated with biogas plants.
- The applicant has associations with the Glemore Biogas Plant in County Donegal, which has had serious EPA compliance issues relating to reporting incidents, waste/odour management, monitoring, digestate management, air emissions, and storage of potentially polluting liquids.
- Health and safety implications for local residents, including the dangers of Hydrogen Sulphide.
- The individual who prepared the Population and Human Health chapter of the EIAR and their qualifications is not identified.
- Lack of detail on design compliance with applicable laws, standards, codes and guidelines.
- Over-development of the site and inadequate detail on site spacing and gas export plans.

- Potential to produce quantities of methane which exceed the qualifying threshold for the Control of Major Accidents Hazards Regulations.
- Lack of detail on Commission for Regulation of Utilities requirements.
- Estimated construction timeframes are totally unrealistic and should be c.4yrs
- Insufficient experience to secure a safe, well-functioning plant.

Economic / Financial

- Potential adverse impacts on the tourism attraction of the area.
- Potential loss of tourism jobs and related businesses.
- The proposal will devalue local property.
- Reduced attractiveness of Gort as a place to live and work.

Energy / Climate change

- Support for sustainable solutions but not at this location and scale.
- The proposed methodology is not a sustainable approach.

Nature and extent of the development

- The absence of connection to gas and electricity networks raises the question of whether the development should simply be regarded as an energy efficient waste management facility.
- The development must make provision for connection to gas/electricity networks, which need full assessment as part of the application.
- No detail has been included on any future locations for Central Grid Injection facilities in the gas transmission network.
- Potential for future extensions/upgrading.
- The reference in Table 11.5 of the EIAR to potential development access on the proposed new R458 junction may relate to further development of the facility and requires assessment.

Soils and geology

- The 'soils and geology' chapter is dependent on the results of 2 shallow trial holes. The EIAR should be prepared with the benefit of a detail investigation of conditions underneath the facility.
- Questions about the capacity of this karst area, including a nearby sinkhole, gorge and 'punch bowl', to carry the weight of the development. An underground collapse is possible.

6.4. **Prescribed Bodies**

6.4.1. Environmental Protection Agency: The appeal was referred to the EPA in accordance with section 87 of the EPA Act 1992, as inserted by Article 5 (1F) of the EU (EIAR) (IPPC) Regulations 2012. The EPA response can be summarised as follows:

- The proposed development may require a licence under Class 11.4 of the EPA Act 1992, but the agency has not received a licence application.
- Any licence application will be subject to EIA as respects the matters that come within the functions of the Agency and subject to further consultation with the Planning Authority.
- Should a licence application be received, all matters to do with emissions to the environment from the activities proposed, the application documentation and EIAR will be considered and assessed by the Agency.
- Where the Agency is of the opinion that the activities cannot be carried on or effectively regulated, a licence cannot be granted.
- Any granted licence will incorporate conditions to ensure that National and EU standards are applied and that Best Available Technologies will be used.
- The Agency cannot issue a Proposed Determination on a licence application until a planning decision has been made.

6.4.2. An Taisce: The submission highlights the previous application for a similar development on the site and can be summarised as follows:

- Such proposals should demonstrate sustainability in both input sourcing and production process. The emissions that contribute to the growth, harvesting

and transport of feedstock must be considered, and fertiliser use for increased energy crop production can produce emissions and contribute to water pollution. With regard to slurry use, intensive cattle farming is a major emitter of GHGs and bioenergy production should not rely on the intensification of bovine agriculture.

- Highlights ongoing Water Quality trends and commitments and contends the biogas production contingent on increased silage production would likely increase inputs of nitrogen fertiliser and risks of water pollution.
- Full calculations of GHG emissions and emissions mitigation potential are required to establish the sustainability of the proposal. This should account for potential methane slippage and postponed emissions of nitrous oxide, methane, and ammonia. Therefore, the AD process may not even reduce, let alone eliminate, the climate impact of GHGs and air emissions.
- Highlights ongoing Ammonia emission trends and commitments. Intensifying bovine agriculture will make achieving targets extremely difficult and ammonia emissions associated with the proposal, including feedstock production, require assessment.
- Highlights ongoing challenges associated with biodiversity loss and states that the potential impacts on biodiversity as a result of feedstock production require assessment.
- There is a functional interdependence between the biogas plant and the feed source, and the feedstock must be addressed as part of the EIAR and NIS.
- The EIAR does not identify or assess the specific locations of feedstock supply and wholly fails to identify or assess the proposed agri-food inputs.
- No projections or plans for achieving greater efficiencies in silage production within the FCZ have been provided. If the proposal is predicated on this and given that the increasing bovine herd is running into fodder availability limits, a sustainable silage supply cannot be guaranteed.
- The efficiency of grass as an energy crop needs to be determined.
- Anaerobic Digestion may not be the most sustainable use of agri-food waste.
- Biogas cannot be considered sustainable if it relies on fossil gas for its end use and clarification is required on this.

- The application in its current form is based on untenable feedstock availability and unless sustainable feedstock can be established the energy gained by AD is a 'greenwash'. Given the lack of specific information on the source and sustainability of feedstock, there can be no security of supply and the direct, indirect and cumulative impacts cannot be adequately assessed for the purposes of the EIA and Habitats Directives.

7.0 **Assessment**

7.1. I have inspected the site, had regard to local and national policy and guidance, and examined the application details and all other documentation on file, including all of the submissions received in relation to the appeal. Many of the issues relevant to this case relate to Environmental Impact Assessment and Appropriate Assessment, which are examined in sections 8.0 and 9.0 respectively. In addition, I consider that the main issues in this appeal are as follows:

- The principle of the development
- The scope of assessment
- Location and policy/zoning
- Feedstock availability
- Drainage and water supply

7.2. **The principle of the development**

7.2.1. Section 5 of this report outlines a wide range of European, national, and regional policies and objectives aimed at addressing climate change, reducing GHG emissions, improving waste management, and improving water quality and agricultural practice.

7.2.2. More particularly, the Climate Action Plan 2021 aims for the collaboration of the waste and agricultural sectors sector to contribute agricultural feedstocks to the production of 1.6 TWh per annum of indigenous sustainably produced biomethane for injection into the gas grid by 2030, representing about 3% of natural gas supply. It states that the remaining agricultural feedstocks, primarily grass silage and animal slurries, required to produce 1.6 TWh, after the utilisation of waste resources, could

be provided through improved productivity and grassland management practices while keeping within the sustainability criteria as laid out in the Renewable Energy Directive. Regarding fertiliser use, it aims for a significant reduction in nitrous oxide emissions by changing farm management practices in relation to nutrient use, including a reduction in use of chemical nitrogen use on Irish farms to <350,000 tonnes by 2025 and <325,000 tonnes by 2030.

- 7.2.3. The Climate Action Plan acknowledges that the circular economy and climate action are inherently interlinked and highlights the Waste Action Plan for a Circular Economy focus on increasing recycling, minimising waste generation by prioritising the prevention of waste at every opportunity through eco-design, reuse and repair, and increasing segregation. It aims to enhance food waste segregation, collection and treatment (including anaerobic digestion) and also highlights the Government's vision for the bioeconomy, as set out in the National Policy Statement on the Bioeconomy, which is to grow Ireland's ambition to be a global leader for the bioeconomy through a co-ordinated approach that harnesses Ireland's natural resources and competitive advantage, and that fully exploits the opportunities available while monitoring and avoiding unintended consequences. Regarding transport, the Climate Action Plan supports the development of renewable gas, such as biomethane, as a transport fuel.
- 7.2.4. In terms of national planning policy, I note that NSO9 and NSO56 support the sustainable management of waste, investment in different types of waste treatment, and circular economy principles, including an increased uptake in anaerobic digestion. 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.
- 7.2.5. At regional level, the RSES for the NWRA supports the development of the bio-economy for energy production and supports the development of the gas network, including gas to grid injection and the development of AD facilities. The Connaught Ulster Regional Waste Management Plan 2015-2021 also supports the growth of new facilities in the biological treatment sector, in particular composting and anaerobic digestion. The Galway County Development Plan is also generally consistent in supporting the development of renewable energy, CHP and rural diversification.

- 7.2.6. The proposed development involves the use of silage, slurry and agri-food residues for the production of biomethane as a renewable gas supply, carbon dioxide for re-use in the food sector, and digestate as an organic fertiliser. Having regard to the policy context outlined above, I consider that the benefits of anaerobic digestion are widely recognised in national, regional and local policy such that, in principle, the form of development proposed is in my opinion acceptable and compatible with national energy and waste policy. It would contribute towards the achievement of national targets for greenhouse gas emission reductions through the proposed replacement of natural gas with gas generated from the anaerobic digestion process. It would also be consistent with policies that support rural/agricultural diversification and would promote the use of digestate as an organic fertiliser in place of the spreading of slurry or the use of chemical fertilisers.
- 7.2.7. I note that several 3rd party submissions have raised questions about the nature and scale of the proposed development, with some suggesting that the absence of a gas/electricity grid connection compromises the energy-generation value, and others contending that the excessive scale will compromise the roll-out of more appropriately scaled farm-based biogas schemes. However, notwithstanding the relative proximity of the gas and electricity grids, I do not consider that the proposal needs necessarily to be connected to the grid and I am satisfied that the RSES supports the principle of gas to grid injection facilities. Regarding scale, I acknowledge that the Climate Action Plan supports the development of micro/small-scale energy generation. However, I do not consider that this is to the exclusion of larger scale projects as proposed.
- 7.2.8. Having regard to the foregoing, I have no objection in principle to the proposed development, subject to further detailed assessment of site suitability and environmental impacts.

7.3. **The scope of assessment**

- 7.3.1. The Planning Authority, along with submissions from An Taisce, IFI and 3rd party observers highlight the need to widen the scope of assessment of the proposal to assess the impacts of feedstock supply and digestate spreading. It is argued that no detailed information has been submitted on the locations for feedstock supply and

land spreading and that, consequently, a cumulative and comprehensive assessment of the impacts of the development cannot be completed.

7.3.2. I acknowledge that the feedstock is to be sourced within a 30km radius of the site and that no specific locations are specified. However, given the volume of material required (90,000 tonnes per annum) and the likely lifespan of the project, I consider that:

- The practicalities of identifying specific sources for the input of feedstock into the anaerobic digestion process are infeasible.
- It would be unreasonable to expect that agreements with farmers would be finalised at this stage or that the feedstock locations would remain constant over time.
- There is a functional independence between the proposed development and the feedstock suppliers.
- The applicant would have no legal remit to control or oversee the operations of feedstock suppliers and any condition requiring this would be ultra vires.

7.3.3. Accordingly, I do not consider that it is feasible or practical to carry out an assessment of the impacts of feedstock supply within a multiplicity of defined sources. Furthermore, I would contend that none of the feedstock inputs are being produced with the sole intention of supplying the AD process. The silage, slurry and agri-food residues are already being produced and in the event of a 'do-nothing' scenario would have to be disposed of by alternative means.

7.3.4. A similar situation occurs with regard to the digestate produced from the anaerobic digestion process. It will be suitable to be used as an organic fertiliser on agricultural lands and, again, I consider that the identification, assessment and control of the land-spreading locations is infeasible in the context of the current application. The EIAR, by highlighting the environmental improvements associated with the proposed digestate, does not entirely disregard the impacts of land spreading. I would concur that the proposed digestate would replace more potentially contaminating raw materials such as slurry and chemical fertilisers, and that, in a 'do nothing' scenario, the cattle slurry that makes up 25% of the proposed feedstock would likely be disposed of by spreading on land. And while the activity of digestate disposal clearly

has the potential for impacts, I am satisfied that the activity does not form part of the current project and that it can be appropriately controlled by the requirement for Nutrient Management Plans and compliance with the European Union (Good Agricultural Practice for the protection of waters) Regulations 2017.

- 7.3.5. The question of assessing the impacts of gas grid injection facilities as part of this application has also been raised. I am aware that Gas Networks Ireland (GNI) currently operates a purpose-built injection facility in Cush, Co. Kildare. The Board has granted permission for another facility in Mitchelstown, Co. Cork (ABP Ref: 307394, 21st December 2020) and GNI has stated plans to roll out a network of facilities across the country. In relation to gas-powered transport, there are currently 7 Compressed Natural Gas (CNG) stations operational in the country (including stations at Shannon and Limerick) and a further 9 stations at various stages of design, planning and construction (including a station at Birdhill, Co. Tipperary). I am satisfied that the on-going roll-out of these facilities will expand the market for the proposed development. Furthermore, I am satisfied that these facilities will be suitably assessed as independent projects in the planning process and do not warrant a cumulative assessment as part of the proposed biogas project.
- 7.3.6. Some 3rd party submissions have raised concerns about the potential for future expansion and changes to the proposed development, including changes to the feedstock supply. However, I am satisfied that the appeal should be assessed on the basis of the current plans and particulars and that the conditions of any grant of permission would appropriately control the operation of the development, including the nature and quantity of feedstock. Any future material changes would have to be assessed as part of a new application for planning permission. Submissions have also raised concerns about potential unauthorised developments and non-compliance with EPA license requirements, referring particularly to the planning history of the site and the applicant's related operation at Ballybofey, Co. Donegal. However, I consider that the current proposal should be addressed on its merits and that any historical or potential future unauthorised developments/activities are the responsibility of the relevant enforcement authority.
- 7.3.7. Having regard to the above, I consider that the scope of assessment should concentrate on the direct, indirect and cumulative/in-combination impacts of the proposed development itself. A cumulative assessment is not warranted in relation to

the agricultural activities associated with feedstock supply and digestate spreading, or in relation to gas grid injection projects.

7.4. Location and policy/zoning

- 7.4.1. The Planning Authority decision to refuse permission did not consider that an appropriate justification had been demonstrated for the location of the proposed development in a rural unzoned area. The 3rd party observations have also raised concerns that the proposed rural location would not comply with the Irish Bioenergy Association of Ireland recommendations, would have unacceptable amenity impacts, and would compromise the future development of Gort.
- 7.4.2. In terms of locational policy as outlined in the CDP, I note that Objective ER8 promotes Gort and its environs as an energy hub to take account of opportunities to develop suitable sustainable enterprises due to their proximity to electricity and gas transmission networks and minimising environmental impact. Objective EDT 7 encourages industrial and enterprise development to operate from lands zoned for these purposes within the various Local Area Plans, subject to an adequate consideration of the policies and objectives of this plan and the need to protect the vitality and amenities of the town or settlement. While the site is located outside the Gort LAP boundary, I note that the LAP supports the consolidation of development, including industrial, on zoned lands, and aims to protect the rural character of the area while providing for agriculture and appropriate non-urban uses. The LAP also supports the provision of adequate energy infrastructure, including gas, renewables and bioenergy.
- 7.4.3. I note the references to the Irish Bioenergy Association Planning Guidance Recommendations for Bioenergy Projects in Ireland document. While this is clearly not approved national policy, I note that it suggests the location of 'large scale projects' in rural or urban brownfield sites and that 'exclusionary factors' would include proximity to designated sites, areas of high amenity or archaeological interest, and appropriate CDP zoning.
- 7.4.4. With regard to CDP Objective ER8 and the promotion of Gort as an energy hub, the Planning Authority has contended that the objective does not apply as the site is not within 'the environs' of Gort and does not propose to connect to the gas or electricity

network. I accept that the CDP does not define the extent of the 'environs' and the Planning Authority has interpreted that the LAP boundary forms its limit. However, I would consider that this is an overly rigid interpretation and that the environs of Gort would extend beyond the LAP boundary to include the appeal site to the immediate north of the boundary. With regard to the gas/electricity networks, I acknowledge that the proximity of Gort appears to have largely informed the rationale for Objective ER 8. However, I do not consider that a connection to the network would be a prerequisite for any such proposal or that the proposed development is contrary to the objective simply by reason of the absence of a connection to the transmission network. I consider that the proposed development would provide a large-scale renewable energy development in the environs of Gort, which would be consistent with the provisions of Objective ER 8.

7.4.5. Similarly, I acknowledge that CDP Objective EDT 7 encourages industrial development on suitably zoned lands, subject to the consideration of other policies/objectives and the protection of the vitality and amenities of the town. While the aim of the objective is acknowledged, I do not consider that this specifically precludes industrial development on other lands subject to suitability. I consider this to be the case, in particular, given that the nature and scale of the proposed development would not easily integrate with the town centre or existing/future residential development.

7.4.6. Regarding the location of the proposed entrance onto Regional Road R458, I acknowledge that the 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DECLG, 2012) make provision for the restriction of access to regional roads outside the 60kph speed limit, subject to the identification of applicable roads in the Development Plan. In this regard, Objective TI 6 of the CDP aims to protect the capacity and safety of the Strategically Important Regional Road network and DM Standard 19 (Table 13.2) lists the 'Restricted Regional Roads' (Class II Control Roads) to which such policies will apply. Regional Road R458 is not included in Table 13.2 of the CDP. However, I acknowledge that some reclassification of roads would have occurred since the completion of the M18 motorway (after adoption of the CDP) and that the R458 was previously classified as the N18 National Primary Road. The N18 is listed in Table 13.2 and is described as 'County Boundary to Gort'. In considering the historical route of the N18, I note that the only section that ran

from the 'County Boundary to Gort' was the southern approach to Gort from the Galway/Clare county boundary. The N18 route to the north of Gort (i.e. the section including the proposed entrance location) terminated at Claregalway, did not cross a county boundary, and, therefore, cannot form part of the N18 referred to in Table 13.2. Accordingly, I do not consider that Table 13.2 of the CDP includes either the existing R458 or the former N18 section on the northern side of Gort, and, therefore, the access restrictions of the CDP (i.e. Objective TI6 and DMStandard 19) and the Spatial Planning and National Roads Guidelines for Planning Authorities' (DECLG, 2012) do not apply at this location.

- 7.4.7. In conclusion, and notwithstanding that the lands are not zoned for industrial development or that the proposal does not include a connection to the gas/electricity network, I do not consider that the proposed development is precluded by the zoning objectives or planning policy regarding the location of such developments. Furthermore, the proposed location adjoining the planned industrial expansion of Gort is considered to be an acceptable location in principle given that the nature and scale of the development would not easily integrate with the town centre or existing/future residential development. The suitability of the proposed site therefore warrants consideration on its merits and will be assessed in further detail throughout this report.

7.5 Feedstock availability

- 7.5.1. The EIAR outlines that the majority of feedstock (60%) will consist of silage and points to a 2013 Teagasc study¹ which concluded that there was an estimated 1.7 million tonnes per annum of dry matter available in excess of livestock requirements, and that this could be increased to 12 million tonnes if grassland management techniques were improved. I acknowledge that the country has experienced periodic livestock fodder shortages in recent years, most recently in 2018. However, I am satisfied that these were largely temporary weather-related events and that, in principle, there is an excess and potentially increasing supply of silage available for bioenergy use.

¹ McEniry et al (2013), 'How much grassland biomass is available in Ireland in excess of livestock requirements?' Irish Journal of Agricultural and Food Research.

- 7.5.2. The current proposal is based on a feedstock catchment zone (FCZ) of 30km radius, a total land area of 282,167 hectares. The EIAR excludes unsuitable lands (including urban, forest, bog, The Burren, and ecological designations) from this FCZ and estimates that there would be 95,022 hectares of suitable pasture lands available. It estimates that 1,100 hectares will be required per annum to supply the required 54,000 tonnes of silage, which equates to just 1% of the available land within the 30km FCZ. The EIAR does not outline the basis for its estimated requirement of 1,100ha, but it would appear to imply a very high silage yield of c. 50 tonnes per hectare (i.e. feedstock input of 54,000 tonnes divided by 1,100ha). Notwithstanding this, I would accept that even a significantly lower yield of 10 tonnes per hectare would require 5,400 ha, which would still be just c. 5% of the suitable pasture lands.
- 7.5.3. In relation to cattle slurry as a proposed co-digestant, the EIAR outlines that restrictions on the extent of land spreading have already resulted in a situation where there is no outlet for excess slurry. It estimates that there is 471,361m³ slurry per annum available within the 30km FCZ and that the proposed requirement of 22,500 tonnes would equate to 5% of the available source. Finally, the EIAR states that residues from the agri-food sector will make up a complimentary but minor portion of the overall feedstock and would be sourced from a limited number of producers within and beyond the 30km FCZ.
- 7.5.4. The EIAR states that positive discussions have been held with farmers and that the applicant has reached agreements with farmers within the 30km FCZ regarding the availability of c. 2,000 hectares for the supply of feedstock (silage and manure) and the use of organic fertiliser (digestate) produced in the proposed development.
- 7.5.5. I acknowledge that some submissions on the appeal have raised concerns about the security and sustainability of feedstock for the proposed development. However, having regard to the preceding paragraphs, I am satisfied that the applicant has provided a reasonable basis to demonstrate the existing availability of adequate feedstock and that availability is likely to increase due to improved grassland management and reduced capacity for land spreading of slurry. I am also satisfied that any associated changes to agricultural practice will be suitably managed separately through agricultural policy and legislation. Accordingly, I do not consider that an objection to the proposed development is warranted on the basis of

feedstock security or sustainability, and that concerns raised about the commercial viability of the operation are not a planning consideration.

7.6 Drainage and water supply

- 7.6.1. The Planning Authority felt that clarification was required on whether cleaning disinfectants can be re-used on site or whether it is proposed to dispose to the public WWTP. However, I note that section 7.8.2 of the EIAR makes it clear that there will be no effluent discharge and that process effluent will be fully captured and removed from the site where not reused. It states that foul effluent discharge to the WWTP will be limited to the office/control buildings and will be of a domestic nature.
- 7.6.2. The Planning Authority noted the contents of the storm water report included with the application but raised concerns that the drainage drawings referenced therein were absent. However, I can confirm that Appendix 7.3 of the EIAR does consist of 'Surface Water Drainage Drawings'.
- 7.6.3. The 3rd party submissions have raised concerns about the proposed water supply, contending that the applicant's stated requirement for 120,000m³ per annum for silage underestimates an actual requirement for over 200,000m³. There are concerns that the proposed primary supply (rainfall) has not accounted for seasonal supply pressures and that the town's supply (via Irish Water) will be put under pressure.
- 7.6.4. I note that the applicant's storm water report outlines that the primary site drainage will route to a 2-day storage tank for processing of the feedstock. When full, excess stormwater from the 2-day tank will be pumped to a lined attenuation pond at the southern end of the site. It states that an annual liquor requirement of 120,000m³ is based on daily requirements of 300-330m³ and that the attenuation pond will provide c. 9 days storage (2,954m³). At times of dry weather, a penstock arrangement will release water from the pond back to the 2-day storage tank and the pond will naturally recharged after subsequent rainfall events.
- 7.6.5. It is important to note that the applicant's stated requirement for 120,000m³ per annum refers to 'liquor' rather than 'water' specifically. The exact make-up of the liquor and what proportion would consist of water is unclear. It is clear that the proposed development provides for significant re-use of water and other effluents within the process, but it has not been clarified whether or not re-cycled water would

contribute towards the overall liquor requirement of 120,000m³, or what volume of public water supply would be required. Correspondence with Irish Water (Appendix 1.1 of EIAR) would indicate that a water supply demand of 0.042l/sec has been indicated in the pre-connection enquiry submission and that a watermain connection would be available. At a flow of 0.042 l/sec, I estimate that the public water supply would amount to c. 1,300m³ per annum. This falls significantly short of the stated requirement for 120,000m³ and it would therefore appear that the vast majority of 'liquor' requirements would be met by the capture of rainwater and the recycling of other effluents/liquids as part of the process.

7.6.6. In terms of rainwater capture and processing capacity, I note that the Storm water report calculations are based on a drained area of 3.85 ha. Section 7.3.6 of the EIAR outlines that the mean annual rainfall is expected to be in the region of 977.6mm/yr based on data from the Shannon Airport station, which I consider to be in reasonable proximity to the appeal site (40km). Based on these figures, I estimated that rainwater capture on the site would be in the region of 38,000m³ per annum, which is again significantly short of the stated liquor requirement of 120,000m³.

7.6.7. In conclusion, I would acknowledge the lack of clarity regarding water/liquor requirements. It is unclear as to how the liquor requirement for 120,000m³ would be met and what proportion of this would be composed of public supply, captured rainwater, recycled water, or other sources. However, I am satisfied that the project will be largely dependent on captured rainwater and other recycled water/liquids. For example, section 2.7 of the EIAR states that the plant is designed to allow recirculation of digestate (liquid) to the feedstock mixing area for the efficient use of liquid resources. My estimations would indicate that the stated rainwater capacity (38,000m³) and Irish Water supply (1,300m³) would fall significantly short of the 120,000m³ requirement. The Board may wish to consider requesting further information that would detail the water/liquor demand required to serve the proposed development and a breakdown of the sources of this water/liquor. On balance however, given the indications of the sourcing of process water supply from a wide range of on-site collection and recycling sources, and the fact that the development will require a connection agreement with Irish Water prior to the commencement of development, 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 sources 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.

8.0 Environmental Impact Assessment

8.1. Introduction

8.1.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR). Section 1.3.1 of the EIAR states that following a review of the legislation and guidance governing the requirements for mandatory and sub-threshold EIA and consultation with GCC, it was determined that a full EIAR should be prepared in support of the application. It is stated that several pre-planning meetings were carried out with the Planning Authority and that information meetings were held with GCC elected members for the electoral area, members of the farming community, and members of the local community. Consultation was carried out with relevant public and private agencies by the various EIA specialists, details of which are provided within the relevant EIAR chapters and appendices.

8.1.2. This section of my report evaluates the information in the EIAR and carries out an independent and objective environmental impact assessment (EIA) of the proposed project in accordance with the requirements of relevant legislation. In carrying out an independent assessment, I have examined the information submitted by the applicant, including the EIAR, as well as the written submissions made to the Board on appeal as set out in section 6.0 of this report. The main issues raised specific to EIA have been addressed under the relevant headings and, as appropriate, in the reasoned conclusion and recommendation, including conditions. The main issues can be summarised as follows:

- The scope of the assessment and impacts relating to feedstock collection, digestate disposal and connection to the gas network.
- The potential for accidents and/or disasters.
- Impacts on Biodiversity, including the Natura 2000 network.
- Impacts on the public water supply.

- Pollution of surface water and groundwater.
- Air, noise and odour pollution.
- Landscape and Visual impacts.
- Traffic and transport impacts.

8.1.3. As outlined above, concerns have been raised that the scope of the EIAR does not consider the entire project and, in particular, excludes the potential impacts associated with the provision of feedstock, the disposal of digestate, and the connection of the gas to the national network. I have previously addressed this matter in section 7.3 of this report, and I have concluded that it is not feasible or practical to assess the impacts of feedstock supply and digestate land-spreading over a multiplicity of sources/destinations, particularly under the circumstances when these activities are already occurring and will be suitably controlled by good agricultural practice and legislation. Regarding connection to the gas grid, I am satisfied that the existing and on-going roll-out of grid-injection facilities have and will be suitably assessed as independent projects in the planning process and do not form part of the proposed development for the purposes of EIA. Accordingly, I do not consider that the issue of project-splitting arises in this case and I am satisfied that it is not reasonable or practical to assess the cumulative impacts of activities/projects associated with feedstock provision, digestate spreading or gas grid connection.

8.1.4. The EIAR includes various appendices relating to supporting information and studies, as well as a separate non-technical summary. Several issues relevant to the EIA have already been addressed in my planning assessment as outlined in section 7.0 of this report. This EIA section should, where appropriate, be read in conjunction with the relevant parts of the planning assessment.

8.1.5. The impact of the proposed development is addressed under all relevant headings with respect to the environmental factors listed in Article 3(1) of the 2014 EIA Directive. Although the factor of 'Land' is not specifically dealt with as a chapter heading, I am satisfied that is adequately addressed in the EIAR, including the section on 'Material Assets' (Chapter 13). The EIAR sets out a description of the proposed development and associated processes. The application has complied with statutory public notice requirements in the form of site notice, newspaper notice and

EIA Portal notification. The competency of experts involved in producing the EIAR are set out in Section 1.5.

- 8.1.6. I am satisfied that the information contained in the EIAR has been prepared by competent experts to ensure its completeness and quality; that the information contained in the EIAR and supplementary information adequately identifies and describes the direct, indirect and cumulative effects of the proposed development on the environment; and that it complies with article 94 of the Planning and Development Regulations 2001 (as amended).

8.2. Consideration of alternatives

- 8.2.1. Part 2 of Annex IV of the 2014 EIA Directive requires that the developer sets out a description of reasonable alternatives studied and provides an indication of the main reasons for selecting the chosen option. Section 2.13 of the EIAR sets out the evaluation of the alternatives considered as part of the development.
- 8.2.2. The EIAR states that the proposal will result in benefits to a number of sectors including renewable energy and agri-food. It is stated that the do-nothing scenario will result in higher levels of pollutants and greenhouse gas emissions, as well as further deterioration in the quality of groundwater and surface water bodies.
- 8.2.3. The proposal to locate a biogas plant in Gort was informed by a high-level review of policy and guidance. Key land use considerations are identified as the location relevant to raw materials and sensitive locations; landscape and visual impact; pollution potential; transport infrastructure and biodiversity. Four potential sites were considered and rated according to relevant assessment criteria. Key aspects of the assessment for each site can be summarised as follows:
- Site 1 (Rindifin) – Zoned ‘Industrial’ with potential size constraint (3.8ha), need for transport through town centre and proximity to residential areas. Rates poorly for noise, air, human and transport impacts. (Overall ranking score: 31)
 - Site 2 (Kinincha) – Zoned ‘Industrial’ with a former industrial use and no need for transport through town centre. Potential size constraint (1.37ha) and possibility of ground contamination. Close proximity to residential areas and rates moderately for noise, air, and human impacts, and poorly in relation to

environmental licences and technical engineering challenges. (Overall ranking score: 34)

- Site 3 (Lavalley) – Unzoned agricultural site with potential need for transport through town centre and proximity to residential areas. Rates moderately in relation to noise, air, landscape, soils, geology, hydrogeology, agronomy, ecology and human impacts, and poorly in relation to traffic and transport. (Overall ranking score: 32)
- Site 4 (The appeal site) - Unzoned agricultural site with no need for transport through town centre and distanced from any concentrated residential area. Rates moderately in relation to change of landuse, ecology and agronomy, but otherwise rates highly and has the highest overall ranking score (39).

8.2.4. Alternative layouts were considered and progressed in order to incorporate adequate digestate storage facilities and to address landscape impacts, engineering constraints (including bunding), and DAFM requirements. A proposal for a digestate storage lagoon was not progressed due to potential impacts on geology, waters and air quality, and has been replaced with the current proposal for digestate storage vessels and digesters within a bunded tank farm. An earlier proposal for access via an upgraded Kinincha Road has also been replaced in favour of the current proposal for a new access off the R458.

8.2.5. The final design aims to minimise visual intrusion through a low base elevation (17m AOD) while carefully considering the potential for groundwater ingress or flooding. The CHP and odour control unit stacks have been designed at a height of 22m to ensure sufficient emission dispersion and an air lock lobby has been incorporated into the reception building to mitigate potential odour impacts.

8.2.6. Several different process configurations were considered, and the chosen process design is a continuous feed system with multi-stage process to take advantage of the fact that different portions of the overall biochemical process have different optimal conditions and to increase the overall rate of production. Several options for dealing with the biogas generated were considered. The final design includes a standby flare (for emergency use) and an on-site CHP, while the vast majority of biomethane produced will be exported for use in the heat and transport sectors.

- 8.2.7. I note that 3rd party submissions have raised concerns about the nature and extent of the alternatives considered. In this regard the EIAR has concentrated on the Gort area only and the applicant states that this is informed by relevant policy and constraints relating to access, distance, sustainable transport of feedstock and output products, and availability of services. I consider that the applicant's focus on the Gort area is reasonable given its promotion as an 'energy hub' in the CDP, and, as previously outlined in section 7.4 of this report, I do not consider that this approach is necessarily dependent on connection to the gas/electricity network. I acknowledge that other towns have been identified as possible energy hubs, both within Galway and in several other counties. However, I would accept that the consideration of all such potential locations would be excessive and I am satisfied that the adopted focus on Gort is a reasonable approach.
- 8.2.8. Within that focus, the EIAR considers 4 potential locations, 2 sites (no.'s 1 & 2) on industrial zoned lands within the LAP boundary, and 2 unzoned sites (sites 3 & 4) within the rural/agricultural environs of the town. I would concur with the concerns raised in relation to sites 1 & 2, which largely relate to site size, proximity to residential areas and associated noise, air, and human impacts. I would also agree with the concerns raised about direct access to Site 1, and that Site 2 would involve potential ground contamination. Site 3 also adjoins residential areas, does not have convenient access to the motorway, and rates only moderately in relation to noise, air, landscape, soils, geology, hydrogeology, agronomy, ecology and human impacts. I would concur with the EIAR conclusion that Site 4 (the appeal site) is the most appropriate of the options considered. It has the most convenient access to the M18, is not constrained by site size, and is significantly distanced from sensitive residential receptors. I acknowledge that it rates only moderately in relation to land-use, agronomy and ecology, but I am satisfied that these issues can be assessed further as part of the EIA process.
- 8.2.9. In addition to the issue of location, the EIAR has outlined the alternatives considered in relation to layouts and processes. I note that alternative access and digestate storage proposals were discounted in favour of the current proposals, and that the levels of the proposed development have been designed to achieve an appropriate balance between visual impact, ground water flooding and air control/dispersion. I also note that process configuration options were decided on the

basis of a continuous feed system which promotes recycling and the minimisation of any waste.

8.2.10. Having regard to the above, I am satisfied that the EIAR includes an adequate examination of the reasonable alternatives to the proposed development.

8.3. Consideration of risks associated with major accidents and/or disasters

8.3.1. Article 3(2) of the 2014 EIA Directive includes a requirement that the expected effects derived from the vulnerability of the project to major accidents and/or disasters that are relevant to the project concerned are considered. There are no existing Seveso sites in the vicinity of the site.

8.3.2. I note that some of the observations on the appeal have questioned the potential to exceed the threshold for Seveso sites based on the stated feedstock supply of 90,000 tonnes per annum. Other concerns have been raised about the design and layout of the proposed development and potential safety concerns, including fire hazards. The EIAR outlines that the proposed infrastructure on site will be constructed in accordance with their respective guidance and/or regulations, which will dictate their design, location, construction and maintenance. It is stated that notification and engineering certification in respect of each structure will be required by the EPA, and that the proposed development will operate in accordance with the requirements of the Health and Safety Authority. The application also outlines that a Fire Safety Certificate will be required, and proposals have been included for a dedicated fire-fighting water supply at the northern end of the site.

8.3.3. Regarding the Seveso Directive, the EIAR states that the total storage of biomethane on site at any one time will be equivalent to c. 33 tonnes and that this is below the qualifying quantity for application of the Control of Major Accident Hazards (COMAH) Regulations. I note that for the purpose of these regulations upgraded biogas may be classified under entry 18 of Part 2 of this Schedule where it has been processed in accordance with applicable standards for purified and upgraded biogas ensuring a quality equivalent to that of natural gas, including the content of Methane, and which has a maximum of 1% Oxygen, and that the qualifying quantity under entry 18 is 50 tonnes. I acknowledge that the EIAR details are consistent with maximum storage of 33 tonnes (i.e. the provision of 6 no. modules with a gas mass of 5,500kg each) and

this is generally consistent with the drawings submitted with the application (i.e. Drawing No. GBIO-19-011 for the Gas Bottling Plant). Furthermore, regarding 3rd party concerns regarding the potential output from 90,000 tonnes of feedstock, I would state that the regulations refer to quantity of the 'dangerous substance' present on site, rather than a theoretical maximum feedstock potential.

- 8.3.4. Separate to the storage of biomethane as an 'upgraded biogas' under entry 18 of Part 2 of the COMAH Regulations, I note that the 8 proposed digesters have the potential to store raw biogas (c. 1,400m³ each) in the collection domes. The EIAR does not specifically address this matter in relation to the COMAH Regulations, which set a lower tier requirement threshold for P2 'flammable gas' of 10 tonnes. In the absence of the applicant's assessment, I would note that the typical weight of biogas is approximately 1.15kg / cubic metre, which would likely vary depending on the exact mixture and atmospheric conditions. Using 1.15 kg/ cubic metre, the level of 1,400 cubic metres of gas storage provided in the 8 digestors domes would equate to a total of 12,880 kg or 12.88 tonnes, which would exceed the 10-tonne threshold.
- 8.3.5. However, I would acknowledge that generalised assumptions have been made in this calculation. I also understand that the AD process is likely to collect a significantly smaller volume of gas in the secondary digester, so the maximum volume of gas collected in the domes is likely to be less than the theoretical maximum of 12.88 tonnes. Finally, I note that the biogas would consist of approximately 60% methane, 35% carbon dioxide, and the remainder consisting of other components such as oxygen, nitrogen and hydrogen sulphide. The mixture would therefore consist of a significant proportion that is not relevant to the COMAH Regulations (i.e. carbon dioxide) and I understand that such situations would result in a reduced overall total of dangerous substances when calculating compliance with the relevant COMAH thresholds. Therefore, the factors outlined above may well result in a total biogas capacity that would be below the 10-tonne threshold.
- 8.3.6. The Board may wish to consider seeking further information on this matter and I would bring the Board's attention to High Court case No. 637 of 2016, which is *Halpin vs An Bord Pleanala*, relating to a challenge to the decision of An Bord Pleanala to grant permission to Greenfield Ventures Limited for a development comprising the construction of 2 no. anaerobic digesters to process farm slurry and

biodegradable waste to produce renewable energy and fertiliser at Gillstown, Garlow Cross, Navan, Co. Meath, (Meath County Council Ref. NA120218; An Bord Pleanála Refs. PL17.241533 and PL17.244154). The judgement in this case quashed the Board's decision to grant permission.

- 8.3.7. Firstly, the decision raised concerns that the Board concluded that there was no likelihood of the 10-tonne limit for biogas being exceeded based on inadequate information regarding *inter alia* the operation of the AD plant; the volume of gases to be produced; the fractions of the biogas that would constitute substances for the purposes of the Seveso Directive or the COMAH Regulations; storage periods and gas build-up; and the absence of express reference to the 10-tonne threshold itself. It stated that these omissions have to be seen against a factual background where the theoretical capacity of the tanks could exceed the 10-tonne limit and concluded that the Board's conclusions were unreasonable in the sense that there was no material to support the conclusions. Secondly, concerns were raised that a condition imposed by the Board² did not require the developer to *demonstrate* that the maximum quantity of biogas present on the site at any one time could never exceed 10 tonnes and was not prescriptive in respect of the suitable operational controls to be implemented to limit biogas quantities, e.g. monitoring liquid levels in tanks, monitoring biogas concentrations in the vapour spaces of the tanks, use of flaring to manage inventory if required, or other measures.
- 8.3.8. In conclusion, I acknowledge that applicant's contention that the project is below the qualifying quantity for application of the Control of Major Accident Hazards (COMAH) Regulations, and I would highlight the ultimate requirement in this regard to comply with regulatory regimes of the Health and Safety Authority. Therefore, I am satisfied that a suitable condition can be applied taking into account the salient points outlined above. Firstly, the condition should specify that the maximum quantities present on site at any one time shall not exceed the relevant thresholds of the COMAH Regulations. Secondly, the developer shall be required to submit information to *demonstrate* that the maximum quantities will not exceed the relevant thresholds, including details of the suitable operational controls to be implemented.

² Condition no. 3. The maximum quantity of biogas present on site at any one time shall not exceed 10 tonnes. Reason: To ensure that the facility will not comprise an establishment for the purposes of the Seveso III Regulations in the interest of clarity.

8.3.9. Otherwise, I note that, where relevant, each section of the EIAR outlines the expected effects deriving from vulnerability to risks of major accidents or disaster, including those relating to population and human health; soils & geology; and hydrology and hydrogeology; which are discussed in the following sections of this report. The EIAR outlines the existing and proposed procedures and mitigation measures in this regard and does not identify significant residual risks. I am satisfied that this is a reasonable conclusion subject to the inclusion of conditions as outlined in the previous paragraph.

8.4. **Assessment of the likely significant direct and indirect effects**

8.4.1. The likely significant effects of the development are considered below under the headings used in the EIAR, which generally follows the order of the factors set out in Article 3 of the EIA Directive 2014/52/EU.

8.5. **Population and Human Health**

8.5.1. This chapter highlights that a range of issues that may impact on human beings are addressed in other chapters of the EIAR (landscape and visual, traffic and transport, noise and vibration, air quality) and that it will focus on the potential impacts that have not been addressed elsewhere. A desk study was undertaken of relevant data from the CSO, planning policy and other sources.

8.5.2. The EIAR predicts the following impacts:

- No direct positive or negative effects on population levels but the project may encourage employees to relocate to the town to reduce commuting distances.
- Construction phase has potential for limited impacts on residential amenity.
- Traffic may be a slight negative impact during construction and decommissioning but will be imperceptible during operation.
- Land use impacts are long-term, direct and indirect, and will be of a slight/moderate positive significance.
- Significant direct positive employment impacts from the construction and operational stages, as well as indirect employment associated with haulage,

services and other spin-off sectors. There will be up to 80 employed during construction and 20 at operational stage.

- The EIAR outlines the legislation and procedures that apply to Health and Safety during construction and operation and outlines the various potential hazards associated with the proposal. In terms of personnel accidents, the impact is predicted as direct slight/moderate negative, and with respect to accidents to infrastructure is predicted as direct slight negative.

8.5.3. Mitigation measures for the construction stage have included an outline Construction Environmental Management Plan (CEMP) and post-mitigation impacts to population and human health are predicted to be 'short-term direct and indirect slight positive short-term'. Operational mitigation measures include various monitoring and control systems to reduce and control hazards; feedstock odour controls/treatment; digester and digestate storage vessels to be integrity-tested and fitted with air tight covers; and concrete bunding to contain spillage, after which impacts are predicted as being 'long-term, direct and indirect slight/moderate positive'. The EIAR concludes that no residual or likely significant negative impacts for population and human health are predicted and that the proposal has the potential to result in overall effects of a slight positive, long-term nature.

8.5.4. Otherwise, I note that GCC has raised concerns about human health hazards from potential accidents/disasters associated with bedrock voids and traffic hazard. The observations on the appeal also raise concerns about potential fire hazards and inadequate services, potential accidents and gaseous emissions, and compliance with relevant building standards/codes.

8.5.5. I would concur that the proposal has limited potential to impact on the population trends in the area. I would also accept that the construction phase has the potential to negatively impact on the amenity of surrounding residents through traffic, noise and other disturbances, but I am satisfied that this would be a temporary effect that would be acceptable as part of any large-scale project, particularly given that housing density is very low in the immediate environs. This will be suitably mitigated through a CEMP. There will also be positive effects during the construction and operational stage through employment generation.

- 8.5.6. Regarding potential hazards and accidents, the EIAR acknowledges the need to comply with the Safety Health and Welfare at Work Act 2005 and that a Project Supervisor for the Design Process (PSDP) and Project Supervisor for the Construction Stage (PSCS) will be appointed to design and manage risk assessment until construction is completed. The EIAR also recognises the hazards associated with the operation of a biogas plant, the process of AD and biogas production. A Supervisory Control and Data Acquisition (SCADA) system will monitor the plant performance and will alert the operators to prevent emergency situations.
- 8.5.7. I note that the other potential environmental interactions with population and human health are largely dealt with in other chapters of the EIAR (i.e. landscape and visual, traffic and transport, noise and vibration, air quality). Therefore, consistent with the EIAR approach, I propose to address these impacts in other sections of my assessment.

Conclusion

- 8.5.8. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to population and human health would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of population and human health.

8.6. **Biodiversity**

- 8.6.1. The Biodiversity chapter acknowledges relevant legislation, policy and guidance and is supported by a Natura Impact Statement. Several field surveys (for scoping, habitats, bats, mammals and birds) were undertaken between 2017-2019 and a desktop study of relevant databases was completed.
- 8.6.2. Section 5.3.3 outlines that 10 SACs, 2 SPAs, 1 Ramsar site, 1 NHA and 12 pNHAs lie within the potential zone of influence. Of these designated areas, 2 Natura 2000 sites (Coole-Garryland Complex SAC and Cole Garryland SPA, as well as their related Ramsar/NHA designations) have potential surface water connectivity via the Gort River. Other sites have potential groundwater connectivity, falling within the

same groundwater body within a karst area and holding groundwater dependent features. A desktop study was also completed for important recorded and protected species using data from the National Biodiversity Data Centre (NBDC) and Bat Conservation Ireland.

- 8.6.3. An extended Phase 1 Habitat Assessment was undertaken in December 2017 and updated surveys were completed in 2018 and 2019. Table 5.10 lists the habitat types (according to Fossitt, 2000), the majority of which consist of varied calcareous grassland, and all of which is of potential ecological value (except for 'Buildings and artificial surfaces').
- 8.6.4. Habitat suitability assessments and an emergence survey for bats were carried out for buildings and trees throughout the site and BCI records were consulted, resulting in a conclusion of negligible suitability for roosting bats. The site was deemed to have a high suitability for foraging and commuting bats having regard to proximity to known roosts of international importance (Kiltartan Cave SAC), the existence of river/tree/hedgerow connections, and BCI records. Eight bat species are known to occur in the vicinity of the site and notably there are records of a lesser horseshoe roost within in an 'old mill' in the same 1km grid as the appeal site (assumed to be 'Tuck Mill' 270m to the east). The NBDC habitat suitability index for bats was also consulted, which generally ranges from 52 to 72 (0 = least favourable and 100 = most favourable). The EIAR states that species likely to be found within the core part of the site would be features of 'local (higher)' importance, while the area along the eastern boundary of the site along the river is of 'county' importance for commuting. Dusk and dawn bat surveys in the form of walked transects were carried out at various times in the summer of 2018 and 2019. The existing derelict site to the south of the site was shown to have moderate potential for roosting bats. Static bat detectors were deployed in 2018 over a period of 2 weeks.
- 8.6.5. Badger surveys were carried out in 2018 and 2019. No confirmed active badger sett was found within the application site (some areas could not be accessed) but the EIAR concludes that the species likely uses the site for commuting and foraging and that it is a feature of 'local (higher)' importance. An Otter survey of the site and surrounds (including the Gort River) was completed and no holts, lie-up areas or slipways were recorded, although a mammal track near the site indicates likely otter

occurrence (outside the site) of a 'local (higher) importance'. The potential of the site to support a population of Irish Hare is rated as 'local (lower) importance'.

- 8.6.6. Bird surveys were carried out over 2018 and 2019. Although the site itself supports a relatively limited bird assemblage, it is enhanced by the existence of flooding and wet meadows to the east. The surveys recorded 6 red-listed birds and 14 amber-listed birds, including 1 Annex I species (Little egret). Overall, the EIAR considers that the site supports a bird assemblage of 'local (higher) importance'.
- 8.6.7. Section 5.5.2 of the EIAR identifies the potential impacts of the construction phase without mitigation, which largely relate to water quality, habitat loss, species disturbance, and lighting. The EIAR considers that potential direct impacts (without mitigation) at operational phase are limited to water and air quality changes as well as operational lighting. It considers that the proposed development is self-contained in water terms and that impacts on watercourses and downstream ecology will not be significant. Lighting has the potential to affect commuting/foraging habitat for bats at a significant local/county scale. Secondary impacts at operational stage (without mitigation) are identified as water quality changes for designated sites resulting from contamination of surface water or groundwater, and noise disturbance for the waterbird assemblage at a significant local scale.
- 8.6.8. Section 5.6 of the EIAR outlines that the proposal contains significant embedded mitigation, including a sealed effluent and water system and landscape/habitat creation. Additional construction stage mitigation (by avoidance) includes measures to protect watercourses, groundwater and designated areas, and to protect important habitats and species. Construction mitigation (by reduction) includes the establishment of a working corridor near treelines and hedgerows, as well as an active approach to silt control. Construction mitigation (offsetting) includes habitat restoration and bird species protection through the protection and replacement of existing vegetation.
- 8.6.9. Operational stage mitigation (by reduction) includes measures for the protection of bats (lighting and foraging features/habitats), and habitat creation to reduce the potential for silt-laden run-off to watercourses and associated impacts on designated sites. Mitigation 'offsetting' includes monitoring and remediation of the habitat restoration proposals. The EIAR states that the construction mitigation measures will

similarly be applied to the de-commissioning phase to ensure that all such impacts are avoided.

- 8.6.10. The EIAR concludes that, following the implementation of mitigation measures, there is a worst-case scenario of residual impact in the case of the loss of calcareous grassland which will be significant at the local scale, and short-term residual impacts for the loss of hedgerows which will be significant at the local scale. Other potential effects are not deemed to be significant.
- 8.6.11. I accept that the proposed development would result in a direct loss of on-site habitat, which mainly consists of calcareous grassland of local ecological significance. However, in light of the location of the site in the environs of Gort and the relative abundance of similar habitat in the surrounding area, I consider that the predicted habitat loss is acceptable in this case.
- 8.6.12. Regarding impacts on bats, I note that the Planning Authority and the DCHG have raised concerns about the scope of assessment carried out and potential impacts on foraging/commuting due to the loss of hedgerow. As previously outlined, the EIAR assessment of bats is based on a total of 8 site surveys carried out between 2017-2019, including 1 winter habitat/roost survey and 7 dusk and dawn surveys during the active summer season. I also note that the applicant has consulted BCI on wider area records for bat species (Tables 5.9a, b & c of the EIAR) and I consider that surveys were undertaken in accordance with relevant guidelines, including Bat Mitigation Guidelines for Ireland (NPWS, 2006). I note the suggestions of the file that a wider scope of study would be required to assess how Lesser Horseshoe Bats are using the landscape, but I do not consider that this is warranted given the limited scale of impact associated with the proposed development.
- 8.6.13. I would concur with the EIAR conclusions that the site has negligible suitability for roosting and that the eastern boundary of the site is of 'county' importance for commuting. The appeal outlines that the concerns of the Planning Authority were incorrectly founded on a worst-case scenario of hedgerow removal (i.e. pre-mitigation) and contends that the impact of any commuting habitat will be mitigated through the retention and strengthening of hedgerows/linear features on site. While this is noted, I consider that the proposed mitigation measures and the Landscape Mitigation Plan lack certainty regarding the precise extent of existing hedgerow

retention. I do not consider that this uncertainty is necessary given that the proposed works (apart from the entrance along the R458) are generally significantly distanced from the site boundaries, and particularly the eastern site boundary which would be of most foraging/commuting value. I consider that any grant of permission could include a condition requiring the retention of the eastern site boundary and, together with the proposed planting, I consider that this would appropriately protect the value of the site to bats. I also note that the NIS includes measures to include an external lighting plan to ensure that areas of vegetation are retained in close to darkness (1 lux) and I am satisfied that this will appropriately address lighting impacts on bats.

- 8.6.14. While the Planning Authority has highlighted a lack of clarity regarding the potential for otters on site, I consider that section 5.4.5 of the EIAR clearly outlines that the site holds no potential for otter holts. And while there are also no confirmed active badger setts within or close to the site, the EIAR recognises the potential for activity to occur in the future and mitigation in the form of a pre-construction mammal survey is proposed, which I consider to be acceptable.
- 8.6.15. The EIAR also identifies potential biodiversity impacts relating to water quality and air quality. I acknowledge that the EIAR states that the proposal has been designed to be self-contained in water terms with no direct discharges (of process effluents or dirty storm water) to ground/groundwater or surface water. This is discussed further in section 8.8 of this report whereby I outline that the proposed development would not result in any unacceptable water quality impacts and, by extension, no unacceptable water quality impacts on species or habitats in the area.
- 8.6.16. With regard to air quality (discussed further in section 8.9 of this report) and the concerns raised by the Planning Authority, I note that section 5.5.3 of the EIAR outlines that the NIS demonstrates that there will be no impact on the integrity of Natura 2000 sites and that this can be applied equally to nationally designated sites which cover much of the same area. Chapter 8 of the EIAR (Air) outlines that the predicted nitrogen deposition rates at the Coole-Garryland Complex SAC and East Burren Complex SAC are less than 10% of the relevant critical load and 3.9% of the existing background levels, and that there will be no significant impacts on designated sites.

- 8.6.17. I acknowledge that the EIAR did not specifically assess the potential impact of air emissions on the Gort River. However, in addition to the applicant's appeal contentions that the Gort River is not a designated site and that nitrogen inputs from agricultural practices would be much more significant compared to atmospheric deposition, I note from Table 8.11 of the EIAR (Predicted Maximum Ground Level Concentrations) that even the maximum predicted environmental concentrations for any of the potential air pollutants would not exceed 40.3% of the relevant limit value. Therefore, even in the event of maximum concentrations occurring on the Gort River, which is not the case, I am satisfied that the concentrations will still be within acceptable levels. Furthermore, I am satisfied that air emissions will be appropriately controlled through the Industrial Emissions licence application.
- 8.6.18. Regarding potential cumulative impacts, I note the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre on a site located c. 300m to the south of the appeal site (ABP Ref. 310203-21 refers). This application has addressed the potential for loss of foraging, commuting and roosting habitat for the Lesser Horseshoe Bat and was subject to a 14-day survey which found only 2 records of site usage. It involves a small site (0.168ha) with limited vegetation and the proposal includes habitat enhancement measures and measures to ensure that lighting does not impact on bat activity. Accordingly, I am satisfied that likely significant effects on the Lesser Horseshoe Bat will not arise and there will be no cumulative impacts with the proposed biogas project. The local authority application also identifies the potential for indirect impacts on biodiversity due to deleterious material run-off affecting water quality during construction and operation stages. However, the NIS submitted with the application includes measures to address flood risk; to contain run-off; for the treatment of surface water prior to discharge to the wastewater treatment plant; for the bunding of oils and paints etc; and for the containment of material through construction management practices. I am satisfied that the potential water quality impacts associated with the local authority proposal will be appropriately mitigated and, accordingly, there will be no cumulative biodiversity effects associated with the proposed biogas project.
- 8.6.19. The predicted impacts in relation to designated Natura 2000 sites will be addressed in detail through Appropriate Assessment in section 9.0 of this report.

Conclusion

8.6.20. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to biodiversity would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of biodiversity.

8.7. **Soils & Geology**

8.7.1. This chapter of the EIAR is informed by a desktop study of site-specific resources (including surface water samples, trial pit logs and other elements of the EIAR) and online mapping data and studies. Site investigations also informed the study, comprising 2 trial pits (part of the Flood Risk Assessment and stormwater design works) and field survey works (part of hydrogeological risk assessment works), and consultations were carried out with GCC and the EPA.

8.7.2. The EIAR review of Teagasc soil mapping outlines that the northern area of the site is composed of 'deep well drained soils' (grey brown podzolics and brown earths) and the remaining area is composed of shallow well drained soils (renzinas and lithosols). The review of EPA mapping indicates that soil cover is composed of well drained Faoldroim (fine loamy drift with limestone) across the entire site. GSI Quaternary Geology mapping indicates that the majority of the site is underlain by 'till derived from limestones', with the far north corner containing river alluvium and the southern area underlain by outcropping bedrock geology of the Tubber Formation. The Teagasc Subsoils map confirms that the cover is 'Limestone Till' in the northern area and surface bedrock (limestone) across the southern area. The trial pit investigations indicate a reduction in soil thickness and drift deposits from north to south and sandy material of higher permeability.

8.7.3. In terms of geology, the EIAR states that the GSI bedrock maps show that the site is underlain by the Tubber Formation and that rock outcrops at the surface across much of the site. The trial pit at the northern end of the site had not reached rockhead at the completed depth of 3mbgl, while the southern pit encountered rock

at a depth of 1.2mbgl. GSI mapping also indicate that 3 boreholes were recorded within 1km of the site and recorded rockhead at depths of 1.8m to 2.1m.

8.7.4. Regarding features of geological significance, the EIAR acknowledges the sensitivity of the overall limestone unit (including caves and turloughs) and the presence of a trending fault feature 800m southeast of the site. Although GSI data indicates that a quarry was active between 1975-1995, the land is currently undeveloped fields. The EIAR states that the site includes an area of geological heritage interest consisting of peloidal limestones from the Tubber Formation which is subject to further review by GSI as part of a County Geological Site Report. At the time of writing the EIAR (June 2019) an audit had not been completed and a 200m buffer had been mapped in the absence of a defined boundary. It is stated that consultation with GSI indicates that the development of adjacent sites rarely causes a direct conflict of interest. The EIAR inspected historical maps and aerial photography to evaluate potential land contamination of the site and no potential sources were identified.

8.7.5. The EIAR identifies the following potential impacts (without mitigation):

Construction phase

- Moderate impacts on drift deposits and bedrock geology due to contamination from leaks of hazardous substances/chemicals/fuels stored on site.
- Negligible impacts due to the loss of shallow soils and drift due to construction on site.
- Moderate impacts on bedrock geology due to contamination from foundation construction and road works.

Operational Phase

- Moderate impacts on shallow soils, drift deposits and bedrock geology due to contamination from leaks of chemicals/fuels stored on site.
- Moderate impacts on shallow soils, drift deposits and bedrock geology due to contamination from leaks/spills from waste processing and storage tanks.
- Moderate impacts on exposed drift deposits due to erosion.

8.7.6. Table 6.14 of the EIAR outlines mitigation measures to include the following:

- Dedicated areas for deliveries, storage and wash-out

- Use of spill kits, drip trays, bunding and secondary containment
- Developing of waste management and incident response plans
- Casing for wet concrete to protect deeper sub surface deposits
- Revegetation of exposed drift deposits

8.7.7. The EIAR states that the construction mitigation measures will similarly be applied to the de-commissioning phase to ensure that all such impacts are avoided. It also states that no cumulative impacts exist for the on-site receptors given that impacts will be negligible post mitigation, and that the residual effects of the development will be negligible.

8.7.8. Section 6.9 of the EIAR considers the effects deriving from the vulnerability of the development to risks of major accidents or disasters. It states that the risk of earthquakes, fire, tidal or weather events is low, and that flood risk has been assessed. With regard to accidents, it is stated that the development will be constructed in accordance with relevant guidance and/or regulations, and that the operational activity will be in accordance with an Environment Health and Safety Management Plan. It concludes that vulnerability to major accidents or disasters is low.

8.7.9. I note that 3rd party submissions raise concern that the extent of ground investigations have been limited to 2 shallow trial holes and question the capacity of this karst area to structurally absorb the proposed development. However, as outlined in the following section of this report (section 8.8), it should be noted that a comprehensive geophysical survey of the site was also completed to determine the extent of karstified bedrock below the site and further pre-construction investigations will be completed to establish suitable bedrock foundations for the proposed development. I consider that this constitutes an acceptable approach to investigation and mitigation, and that it would be unreasonable to expect any further extent of investigation at this planning stage.

8.7.10. Regarding the potential area of geological interest identified by GSI, I note that, since the completion of the EIAR, the geological audit for County Galway³ has been

³ The Geological Heritage of County Galway, An Audit of County Geological Sites in County Galway 2019

completed. It outlines that a range of sites had been previously flagged for consideration in the IGH Master Site List, and some were assessed as unsuitable for County Geological Site status in this audit. One of those excluded includes the feature identified on the appeal site (i.e. 'County Council Quarry near Gort'), about which it is stated that the site has been re-landscaped such that only a single, low rock exposure survives. It concludes that this outcrop and its extent is not deemed of sufficient importance to merit CGS status.

- 8.7.11. I acknowledge that the loss of soil and bedrock is an inevitable consequence of development and I consider that the significant retention and landscaping of soil on site will assist in mitigating these impacts. Furthermore, I consider that the loss of any geological features will not be significant and the EIAR includes adequate measures to mitigate against potential bedrock/geological impacts during construction and operation.

Conclusion

- 8.7.12. I am satisfied that the impacts that are predicted to arise in relation to soils and geology are negligible having regard to the extensive resources in the surrounding area. I have considered all the information on file, including submissions received and the information contained in the EIAR, and I am satisfied that impacts predicted to arise in relation to soils and geology, would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of soils and geology.

8.8. Hydrology & Hydrogeology

- 8.8.1. This chapter of the EIAR focuses on the water environment (surface water and groundwater) and its relationship with the underlying limestone karst environment. It is informed by a review of the development proposal, site-specific reports, legislation and guidance, and consultation with relevant statutory authorities. Site investigations also informed the study, comprising 2 trial pits (part of the Flood Risk Assessment and stormwater design works) and field survey works (part of hydrogeological risk assessment works).

- 8.8.2. The chapter recognises the numerous designated sites in the surrounding area, the topographical location of the site within the 'Gort lowlands', rainfall records, and the geology/geological heritage of the site as previously outlined in section 8.7 of this report. It also identifies the mapped regional karst features in the surrounding area and the potential for additional unmapped features, and that underlying geological bedrock is classified as a regionally important karstified aquifer (conduit flow) with significant possibility of groundwater flow. The site is within the Kinvara/Gort groundwater body which consists of high transmissivity karstified limestone and has significant interconnectivity between surface water and groundwater.
- 8.8.3. With regard to the adjoining Gort River, the EIAR outlines that the WFD status for the 2010-2015 period is 'good' and that a 2017 water sample analysis showed an exceedance of Ammoniacal Nitrogen values against the surface water Environmental Quality Standards. The Gort River becomes subterranean at Castletown sink, where water levels fluctuate significantly, and nine subsurface traces have been confirmed.
- 8.8.4. The EIAR states that the GSI Groundwater Vulnerability Map shows that the site is generally classified at 'rock at or near the surface' in the southern part of the site, 'high' in the northern part, and 'moderate' in the northwest part associated with the proposed entrance. The groundwater quality status for the period to 2015 is described as 'poor', although further GCC results indicate that there is generally a good quality. GSI data on average groundwater recharge for the region is stated to be 431mm/yr (recharge coefficient of 60%) with higher areas being 611mm/yr (coefficient of 85%). This chapter of the EIAR also considers available data in relation to bore holes and wells.
- 8.8.5. A comprehensive geophysical survey of the site was completed to determine the extent of karstified bedrock below the site and to assess any risk to the hydrogeological environment. It observed that depth to bedrock across the site varies considerably and highlighted several karst features within the bedrock profile. The most significant feature identifies a vertical area of low resistivity over a distance of 20m below ground level which is likely to represent a significant fissure. High resistivities (typical of air filled fissures or voids) were also observed along profiles across the central and southern parts of the site. The EIAR also refers to an evaluation of karst risk carried out in 2014/2015 in connection with the M18

motorway project, which outlined that the section in proximity to the appeal site had a risk rating of low to high, with the majority designated as medium risk. With regard to karst mitigation for the subject development, it is stated that pre-construction ground investigations will inform the detailed design and foundation solution in order to mitigate against karstified bedrock impacting on the foundation and bund integrity of the facility. Founding of the structure on competent bedrock will also mitigate against any possible settlement of the structure as a result of karst processes.

8.8.6. The EIAR identifies the potential construction phase impacts (without mitigation) as follows:

- Major impacts on surface water and groundwater from contamination due to spills/leaks of fuel/oil and hazardous substances.
- Negligible impacts on surface water due to disturbance of contaminated soil.
- Moderate impacts on groundwater due to increased vulnerability of the aquifer as a result of soil removal.
- Major impacts on groundwater due to contamination by concrete/cement/grout
- Negligible impacts on groundwater due to decreased infiltration on site, dewatering causing a reduction in water table and change in local flow patterns, and disturbance of contaminated soil.

8.8.7. The EIAR includes a Hydrogeological & Hydrological Risk Assessment for the Operational Phase which identifies potential sources (effluent, digestate fertiliser, feedstock, and other hazardous material), pathways (infiltration of soil/subsoil, infiltration into bedrock, degradation/compromise of concrete bunding/hardstanding, and corrosion/cracking of piping used for connections), receptors (surface water and groundwater) and risk (low, medium and high). After mitigation measures are applied, the residual risk in all cases is classified as 'low'. Table 7.18 summarises the potential operational phase impacts (without mitigation) as follows:

- Major impacts on surface water due to contamination of underlying drift deposits and soils due to leaks from chemical/fuels stored on site and leaks/spills from waste processing/storage tanks.
- Major impacts on groundwater due to contamination of underlying drift deposits and soils due to leaks from chemical/fuels stored on site and leaks/spills from waste processing/storage tanks.

- Negligible impacts on groundwater due to decreased infiltration on site associated with increased hardstanding.

8.8.8. Tables 7.19 and 7.20 outline the EIAR mitigation measures to include the following:

- Dedicated areas for deliveries, storage, refuelling and wash-out etc
- Use of spill kits, drip trays, bunding and secondary containment
- Developing of waste management and incident response plans
- Chemical used within a contained/lined area
- Excavation and disposal off-site of contaminated soils
- Casing for wet concrete to protect deeper sub surface deposits
- Minimised land disturbance and soil movement and covering of exposed bedrock.
- Application of SUDS principles and oil interceptor drainage/stormwater.
- Regular integrity testing of bunding, hardstanding, and storage vessels
- Groundwater monitoring boreholes to assess water levels and the integrity of constructed mitigation.
- Further ground investigation to determine foundation design and structure settlement measures.

8.8.9. The EIAR considered cumulative effects with the M18 Motorway and the Gort Wastewater Treatment Plant. Given the extensive measures taken for the M18 project to protect and mitigate against any potential groundwater contamination, the cumulative effects of the proposed development are deemed to be negligible. It is proposed to connect to the Gort WWTP which discharges to the Gort River. Given that there are no discharges within the site itself, the EIAR considers that exceedance of capacity at the Gort WWTP is the only potential cumulative impact on hydrogeology. It concludes that the nature and volume of effluent disposal is unlikely to exceed the WWTP capacity and that any impacts on hydrogeology will be negligible.

8.8.10. The EIAR concludes that there will be no significant residual impacts and that after mitigation, the significance of impacts on the identified receptors (shallow soils, underlying drift, bedrock geology and waters) will be 'negligible'.

8.8.11. Section 7.12 of the EIAR considers the effects deriving from the vulnerability of the development to risks of major accidents or disasters. It states that the risk of

earthquakes, fire, tidal or weather events is low, and that flood risk has been assessed. With regard to accidents, it is stated that the development will be constructed in accordance with relevant guidance and/or regulations, and that the operational activity will be in accordance with an Environment Health and Safety Management Plan. Vulnerability to major accidents or disasters is therefore considered to be low.

8.8.12. The Planning Authority has highlighted that the updated WFD water quality status for the Gort River is 'poor', which I can confirm to be the case. It also raised concerns about bedrock stability and uncertainty about mitigation of impacts on karst features, as well as concerns about the interaction between high groundwater levels and the proposed bund. The submissions from DCHG, IFI, and An Taisce also highlight general water quality challenges and obligations, as well as the potential impacts associated with intensifying agricultural activity and land spreading (which I have previously advised to be outside the scope of this assessment).

8.8.13. I acknowledge the sensitivities and interactions of surface water and groundwater activity in this karstified region, and the associated concerns raised by the Planning Authority. However, I consider that the EIAR information, including the geophysical survey completed, constitutes an acceptable level of investigation and prediction of bedrock below the site and the potential impacts of the project on the hydrogeological environment. This would be followed by further pre-construction ground investigations to inform detailed foundation design and to ensure the integrity of the bund design. I would accept that the requirements for further ground investigation and detailed design contain an inherent potential for the identification of further impacts. However, I would not consider this to be an uncommon feature of the construction stage, particularly in karst areas, and I consider that such further investigation/monitoring is an acceptable construction mitigation measure which could be further controlled through the agreement of details by condition. Accordingly, I am satisfied that the EIAR presents an acceptable level of certainty regarding hydrogeological impacts and that any residual impact risks could be acceptably managed.

8.8.14. With regard to flood risk, I note that the EIAR Flood Risk Assessment report (Appendix 7.1) outlines that CFRAM fluvial flood modelling does not impact on the site. And while the extent of CFRAM modelling does not extend to include the extent

of the Gort River adjoining the northern extremity of the site, the FRA has included further modelling to demonstrate that the lowest site level adjacent to the river would be 19mAOD, i.e. 1m+ in excess of the predicted 0.1% AEP river level. This is consistent with the OPW 'National Indicative Fluvial Mapping – Present Day' (as per www.floodinfo.ie), which does include the extent of the river to the north of the site and indicates that the site is not at fluvial flood risk.

- 8.8.15. In relation to groundwater, I note that only a marginal portion to the east of the site is affected by the GSI Groundwater Flooding Probability Mapping, and this is limited to a return period of every 1000 years (0.1%AEP). The FRA acknowledges that the bund level (17mAOD) is below the relevant predicted river flood levels. Accordingly, the level of the top of the bund has been designed at 19.1mAOD in order to exceed the 0.1% AEP (used to account for climate change instead of the 1% AEP) plus a 300mm freeboard. I am satisfied that this approach is in accordance with the mitigation approach to levels as recommended in The Planning System and Flood Risk Management Guidelines (2009, p. 72) and that it will satisfactorily address the groundwater flood risk to the project. The FRA also confirms that the bund should be capable of withstanding the uplift pressure from groundwater. And while the Planning Authority considered that there was inadequate detail in this regard, I am satisfied that it is a detailed structural design measure and that an appropriate condition could be applied in this respect.
- 8.8.16. I acknowledge that the construction stage has the potential for impacts on surface water and groundwater due to construction materials/pollutants, soil disturbance/removal, construction run-off, and impacts on groundwater levels/flows. However, the EIAR includes a wide range of construction-stage mitigation measures, including a Construction and Environmental Management Plan (CEMP) addressing construction site run-off, water pollution prevention controls, and water quality monitoring and management, and I am satisfied that these measures will satisfactorily address the identified risks.
- 8.8.17. I also acknowledge the potential operational stage effects emanating from sources including effluent, digestate, feedstock, and other hazardous material. However, the proposed project is based on a self-contained system whereby potential water pollutants will be controlled in accordance with the mitigation measures outlined in Tables 7.17 and 7.20 of the EIAR. On this basis, the only potential hydrological

connections will be via the proposed surface water infiltration area along the eastern boundary and the proposed effluent discharge to the Gort WWTP (and subsequently the Gort River).

- 8.8.18. Regarding the infiltration area, I note that it has been included to accommodate overflow in the coincidence of a 1 in 100-year storm event and the attenuation pond being full, and that a By-Pass Petrol Interceptor will be installed to protect the water quality of the storage pond and ultimately that of any infiltrated water. Accordingly, given that water infiltration will only occur in storm events and will be adequately treated, I am satisfied that any potential impacts as a result of surface water infiltration are acceptable.
- 8.8.19. Regarding the proposed wastewater discharge, I note that, according to the Irish Water Annual Environmental Report 2020 (Gort D0195-01), the final effluent of the Gort WWTP was deemed to be compliant with Emission Limit Values and the capacity of the plant was not predicted to be exceeded within the next 3 years. The foul effluent discharge to the WWTP from the proposed project will be limited to the office/control buildings and will be of a domestic nature. It is stated that there will be approximately 20 people employed at the plant during the operational stage and I do not consider that this will have a significant impact on the capacity of the WWTP which has a design PE of 4,310. Accordingly, I am satisfied that there will be no unacceptable impacts on water quality as a result of the proposed connection to the Gort WWTP.
- 8.8.20. Regarding potential cumulative impacts, I note the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre on a site located c. 300m to the south of the appeal site (ABP Ref. 310203-21 refers). This application has identified the potential for impacts on water quality due to deleterious material run-off during construction and operation stages. However, the NIS submitted with the application includes measures to address flood risk; to contain run-off; for the treatment of surface water prior to discharge to the wastewater treatment plant; for the bunding of oils and paints etc; and for the containment of material through construction management practices. I am satisfied that the potential water quality impacts associated with the local authority proposal will be appropriately mitigated and, accordingly, there will be no cumulative hydrological effects associated with the proposed biogas project

Conclusion

8.8.21. I am satisfied that the impacts that are predicted to arise in relation to water are acceptable having regard to the characteristics of the existing hydrological and hydrogeological regime. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to water would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of water.

8.9. Air Quality, Odour & Climate

8.9.1. Chapter 8 of the EIAR includes an odour and air assessment of the potential impacts from the emission stacks on the nearest residential properties (20 no. receptors). A dispersion modelling assessment is included to predict the impact and allow for comparison to an appropriate odour annoyance criterion and the relevant ambient air quality standards outlined in the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). The SCAIL-Agriculture (Simple Calculation of Atmospheric Impact Limits from Agriculture) screening tool is also used to assess impacts on designated sites while considering background deposition and the critical load of the habitat. A detailed Dispersion Modelling Assessment (AERMOD) is also used to predict the nitrogen deposition level.

8.9.2. The EIAR states that an appropriate stack height determination study was carried out to establish a minimum 22m height for the stacks at the reception building and CHP installation, which is 7.6m above the highest roof level of the facility. The flare stack will have a height of 8m but will be rarely used (<1% of year) and the temporary boiler emissions will emit at a height of 16.4m. These form the emission points for the study. The chemistry of the proposed processes has been considered along with time averaging and percentiles to calculate the relevant odour and air emission rates for input into the Air Dispersion Model.

8.9.3. The EIAR preparation included baseline air quality monitoring in June/July 2019 at locations representative of the nearest point of the 2 closest designated European sites and at the proposed site entrance along the R458. The results show that NO_x

concentrations at the 2 closest designated sites are less than 15% of the annual limit for the protection of vegetation and that NO₂ concentrations at the closest residential properties are less than 10% of the annual limit for the protection of human health. Consistent with the EPA classifications for the area (i.e. Zone D), the air quality in the area is deemed to be 'good'. Typical average background concentrations based on EPA data are therefore applied for the air quality assessment. The EIAR states that Baseline odour surveys were also carried out in June/July 2019 in the vicinity of the site. No significant individual odour source has been identified and background odours are therefore typical of intermittent rural areas influenced by agricultural activities etc.

- 8.9.4. In relation to climate change and greenhouse gases, the EIAR highlights the proposed production of biogas and fertiliser will result in an overall reduction in carbon dioxide emissions in comparison to typical fossil energy sources.
- 8.9.5. For the construction stage, the EIAR considers the potential for construction dust and traffic emissions on sensitive receptors. Using NRA guidelines, the EIAR considers that dust from this 'moderate scale' development may cause an impact on sensitive receptors within 25m. It states that the nearest sensitive receptor is at a distance of 250m and all sensitive habitats are at a greater distance than 25m, and concludes that construction stage impacts will be imperceptible.
- 8.9.6. For the operational phase, the EIAR predicts the following potential impacts:
- Emissions from the CHP plant (nitrogen oxides (NO₂), sulphur dioxide (SO₂), non-methane volatile organic compounds (VOCS), carbon monoxide (CO) and particulates) indicate that maximum short-term and annual mean ambient ground level concentrations (GLCs) are below the relevant air-quality standards.
 - Maximum odour emissions from the feedstock stack at the nearest residential receptor are well below target values.
 - The predicted nitrogen deposition rates at the Coole-Garryland Complex SAC and East Burren Complex SAC are less than 10% of the relevant critical load and 3.9% of the existing background levels. Therefore, there will be no significant impacts on designated sites or sensitive habitats.

- Annual mean nitrogen oxide and sulphur dioxide concentrations at all designated sites will also be below the relevant limit values for the protection of vegetation.
- The limited level of vehicle movements associated with the development will not result in a significant air quality impact.

8.9.7. The EIAR proposes mitigation measures for the construction and operational phase to include the following:

- Dust monitoring and cleaning arrangements during construction
- Material storage and handling areas to prevent dust emissions
- Containment of materials within the reception building
- Containment of emissions within tanks and other vessels.
- CHP combustion of biogas to destroy odorous compounds
- 22m high stacks to ensure adequate dispersion of odour and 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 emissions.

8.9.8. The EIAR states that there are no other significant air pollutant sources in the area other than traffic, that air quality is good, and that there will be no significant cumulative impacts. It concludes that there will be no significant residual impacts; that the emission points will be regulated through the EPA licensing process; that air quality impacts will be acceptable in accordance with Air Quality Standards Regulations 2011; and that a stringent odour target value will be achieved in the vicinity of the site and at the surrounding sensitive receptors.

8.9.9. The Planning Authority has raised concerns that the EIAR has not properly considered the cumulative Nitrogen deposition rates, emissions to the Gort River, emissions from traffic movements, or the efficacy of the proposed carbon filter in relation to odour abatement. In response, I note that the EIAR includes a detailed assessment of predicted nitrogen deposition rates at all designated sites within 10km relative to existing background concentration and the 'critical load' for each site. It

has been determined that the proposal will not have a significant impact and I am satisfied that this constitutes an appropriate cumulative assessment of impacts. As previously outlined in this report, I acknowledge that the EIAR did not specifically assess the potential impact of air emissions on the Gort River. However, Table 8.11 of the EIAR demonstrates that even the maximum predicted environmental concentrations for any of the potential air pollutants would not exceed 40.3% of the limit value. Therefore, even in the event of maximum concentrations occurring on the Gort River, which is not the case, I am satisfied that the concentrations will still be within acceptable levels. Furthermore, I am satisfied that the extent of air emissions from traffic will be negligible to the extent that quantification is not required, and that any required clarification in relation to the carbon filter would be satisfactorily addressed as part of the Industrial Emissions licensing process.

8.9.10. The 3rd party submissions have raised several concerns in relation to the EIAR air and odour assessments, including fundamental concerns about the volumetric odour emission rate used (75,000m³/hour). The 3rd party submissions contend that a rate of 150,000m³/hour should apply. In this regard, the EIAR states that, in accordance with BAT (best available technology), the volumetric emission rate from the feedstock reception building should be three times the building volume. While the EIAR does not provide any further detail on calculations, I note that the main feedstock reception space (i.e. excluding the 'air lock lobby' and the digestion enhancement' areas) has a floor area of c. 2900m². The internal ceiling height is not consistent but would generally average at c. 11.5m. On that basis I have calculated that the space has a potential total volume of c. 33,350m³. Within that space, deductions should apply for the proposed tanks (c. 650m³). Further reductions would apply due to the presence of feedstock material itself within the tipping/quarantine bays and the mixing area (estimated capacity of c. 3,000m³). The identified deduction would, therefore, reduce the actual volume of the space to less than 30,000m³. I would acknowledge that these are estimated figures and further deductions may apply for inter alia the pedestrian lobbies, disinfection areas, and other ancillary plant and equipment. Accordingly, I am satisfied that the volumetric rate used in the EIAR (i.e. 25,000m³ x 3 = 75,000m³) is reasonable and generally consistent with my calculations. Furthermore, I am satisfied that the predicted odour concentrations have been demonstrated to be well below the target value of C_{98, 1-}

Hour 1.50µE/m³ and the odour emission rate will be appropriately controlled via the Industrial Emissions licence process.

8.9.11. Regarding other 3rd party concerns, I would state the following:

- Baseline odour monitoring has been carried out in the vicinity of the appeal site at a suitable time and under suitable meteorological conditions, and there is no requirement for baseline monitoring within each residential property.
- According to the US EPA website⁴, the AERMOD dispersion modelling system includes the regulatory components of AERMET and AERMAP, which are meteorological and terrain data pre-processors respectively. I am therefore satisfied that the assessment appropriately accounts for the site-specific meteorological and topographical conditions.
- The EIAR has outlined that the stack heights have been designed to address the potential 'downwash' effects of all emission point sources.

8.9.12. I acknowledge that the construction stage has the potential for impacts on sensitive receptors as a result of traffic and dust emissions. However, the EIAR includes a range of construction-stage mitigation measures, including a Construction and Environmental Management Plan (CEMP), and I am satisfied that these measures will satisfactorily address the identified risks.

8.9.13. I also consider that the air and odour impacts at operational stage have been suitably identified and mitigated and that these impacts will be satisfactorily controlled through the Industrial Emissions Licence process. Air and odour impacts from traffic at operational stage are unlikely to be significant as a proportion of existing traffic emissions and do not warrant further assessment.

8.9.14. In relation to climate change and greenhouse gases, I consider that the proposed production of biogas will result in an overall reduction in carbon dioxide emissions in comparison to typical fossil energy sources and this will be a positive impact on climate.

⁴ <https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models>

Conclusion

8.9.15. I am satisfied that the impacts that are predicted to arise in relation to air quality, odour and climate are acceptable having regard to the nature and scale of the proposed development. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to air quality, odour and climate would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of air quality, odour and climate.

8.10. **Noise and Vibration**

8.10.1. This chapter is informed by the preparation of a noise impact assessment on the nearest neighbouring properties. A 10-day noise monitoring survey was undertaken at the site boundary closest to nearest residential properties in January/February 2018. Short-term daytime noise surveys were also taken at the proposed access and at residences along the R458 road. Noise modelling has also been undertaken to predict construction and operational noise levels in the vicinity of the site and at nearest noise sensitive receptors.

8.10.2. The background noise levels recorded were dominated by distant motorway and local traffic, agricultural activities and wind noise. The measurements recorded were not deemed to qualify as an 'area of low background noise' and noise limit criteria was determined based on EPA guidance as 55dB (daytime noise, dB $L_{Ar,T}$), 50dB (evening noise, dB $L_{Ar,T}$), and 45dB (night-time noise, dB $L_{Aeq,T}$).

8.10.3. The EIAR states that construction will be limited to the 'daytime' and uses BS 5228 guidance to establish that a noise limit of 65 dB $L_{Aeq,T}$ applies. It predicts the worst-case scenario noise levels at various distances from construction noise sources (ranging from c. 53 dB(A) at 100m to c. 38 dB(A) at 400m) and concludes that the construction noise limit (65 dB $L_{Aeq,T}$) will not be exceeded at the nearest sensitive receptor (200m). It states that the additional construction traffic movements along the R458 will result in a less than 1 dB(A) increase, which would be an imperceptible effect.

8.10.4. Operational noise levels for the main sources have been predicted using worst-case assumptions based on the Cadna_A noise model and measurements at the existing Glenmore Biogas Plant in Ballybofey, Co. Donegal. None of the predicted noise levels for on-site plant is predicted to exceed the EPA limits for daytime, evening and night-time, and the additional operational traffic movements along the R458 are predicted to result in an imperceptible increase of less than 1 dB(A). The combined worst-case noise predictions for plant/equipment and site traffic movements during daytime would also not exceed EPA daytime limits at any of the surrounding sensitive receptors. Noise predictions are also stated to be in accordance with WHO Guidelines for Community Noise.

8.10.5. The EIAR outlines mitigation measures for the construction phase (none deemed necessary for operational phase) to include the following:

- Contractor to apply appropriate control measures recommended in BS 5228.
- Working hours restricted to daytime
- On-site speed limits for vehicles
- Use of quiet working methods
- Use of noise-reduced construction plant, vehicles and equipment
- Positioning and screening of noisy construction plant
- Construction workers to be informed of requirement to minimise noise and undergo training.

8.10.6. The EIAR states that the background noise levels have been considered and no other significant cumulative effects are identified. It concludes that there will be no significant residual noise impacts associated with the development.

8.10.7. The 3rd party submissions have questioned the methodology and results of the baseline noise monitoring and contend that higher levels should not apply to the appeal site compared to the appeal site monitoring location compared to the 2 other locations along the R458. I acknowledge that baseline noise monitoring has not been carried out at the actual sensitive receptors, but I am satisfied that the monitoring locations used present a realistic background noise level, both for the area along the R458 road and areas to the north and east of the appeal site. It should also be noted that the appeal site monitoring was carried out over 10 days, while the monitoring along the R458 was over a short period of c. 4 hours, which may account any

perceived anomalies in the results. In any case, I consider that the purpose of the noise monitoring was to establish that this is not an area of 'low background noise' and I am satisfied that this has been demonstrated by the monitoring results.

8.10.8. Regarding noise prediction modelling, the 3rd party submissions also contend that realistic traffic volumes have not been considered and that modelling is insufficient to establish that noise levels will not interfere with surrounding amenities. The issue of traffic volume is dealt with in a following section of this report (section 8.12).

Furthermore, I note that the noise prediction modelling has been run for the worst-case night-time scenario and will not exceed the EPA Noise Limit of 45dB. I am satisfied that traffic noise can be excluded for the evening and night-time periods as it is not envisaged that there will be traffic movements on site at these times. Based on the predicted operational noise levels within the EPA Noise Limits, I am satisfied that no further mitigation measures are required in this regard.

8.10.9. I acknowledge that the construction stage has the potential for impacts on sensitive receptors as a result of construction activities and the operation of vehicles/plant. However, the EIAR includes a range of construction-stage mitigation measures, including a Construction and Environmental Management Plan (CEMP), and I am satisfied that these measures will satisfactorily address the potential impacts.

Conclusion

8.10.10. I am satisfied that the impacts predicted to arise in relation to noise and vibration are negligible. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to noise and vibration would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of noise and vibration.

8.11. Landscape & Visual

8.11.1. Chapter 10 of the EIAR includes a Landscape and Visual Impact Assessment (LVIA) based on a desktop study of designations and receptors and fieldwork to establish the landscape character and refine viewpoints to be used for visual assessment. A

computer-generated Zone of Theoretical Visibility (ZTV) was also prepared over a 5km radius study area and the EIAR contends that c. 50% of the area has no theoretical visibility of the development; visibility generally mirrors the landform in a northeast-southwest alignment; the most exposed areas along the Gort River tend to be enclosed by vegetation such that theoretical visibility is seldom reflected by actual visibility; the theoretical visibility of the upper sections of the development are concentrated to the west and southwest and on sporadic hilltops in the wider area.

8.11.2. The EIAR outlines that mitigation measures include the construction of a planted/seeded berm along the eastern side of the site and the retention/bolstering of existing vegetation around the site perimeter. Embedded mitigation will also be provided in the colour/tone of the proposed buildings/structures.

8.11.3. The LVIA assesses the landscape sensitivity and concludes that the landscape is, with the exception of Coole Park, not rare or distinctive for the county or region; that it offers only a modest level of scenic amenity; that it is much-modified; and that it is at odds with the wider study area and Landscape Character Area and deemed to be of low sensitivity. It considers the magnitude of landscape impacts to be 'high-medium' in the vicinity of the site (reducing to medium, low, and imperceptible with distance) and concludes that the proposed development would have a landscape significance impact no greater than 'moderate-slight' (with most of the study area likely to experience imperceptible impacts) and will not be incongruous when considered in the broader context of the northern fringe of Gort.

8.11.4. The LVIA selected 8 viewshed reference points based on various criteria for visual impact assessment, the conclusions of which can be summarised as follows:

Viewshed Reference Point	Stage	Receptor Sensitivity	Impact Magnitude	Impact Significance
VP1	Pre-mitigation	Low	Negligible	Imperceptible
	Post-mitigation	Low	Negligible	Imperceptible
VP2	Pre-mitigation	Medium Low	Medium Low	Moderate Slight
	Post-mitigation	Medium Low	Low	Slight
VP3	Pre-mitigation	Medium	Negligible	Imperceptible
	Post-mitigation	Medium	Negligible	Imperceptible
VP4	Pre-mitigation	Medium	Medium Low	Moderate Slight
	Post-mitigation	Medium	Low	Slight
VP5	Pre-mitigation	Medium Low	Medium	Moderate
	Post-mitigation	Medium Low	Medium Low	Moderate Slight
VP6	Pre-mitigation	Low	Low	Slight Imperceptible

	Post-mitigation	Low	Low negligible	Imperceptible
VP7	Pre-mitigation	Medium	Low	Slight
	Post-mitigation	Medium	Low	Slight
VP8	Pre-mitigation	Low	Negligible	Imperceptible
	Post-mitigation	Low	Negligible	Imperceptible

- 8.11.5. The EIAR does not consider that there will be any discernible landscape or visual impacts in combination with other existing or permitted developments and concludes that the development would not give rise to any significant landscape or visual impacts.
- 8.11.6. The Planning Authority decision has raised concerns about the scope of the EIAR assessment and the potential impact of the development on the receiving Class 3 landscape, including Coole Demesne and the Kinincha Road/Gort River area. The 3rd party submissions also highlight visual/landscape concerns relating to local amenities such as the ‘river walk’, the ‘golden mile’ and Coole Park, as well as wider landscape features and tourist attractions including The Wild Atlantic Way and The Burren.
- 8.11.7. Having reviewed the Landscape Sensitivity and Character Area Map (LCM2) of the CDP, it would appear that the site is marginally within a ‘Class 3 – Medium’ sensitivity area, although it is close to both the ‘Class 4 – Special’ sensitivity area around Coole Lough to the northwest and the wider ‘Class 2 – Moderate’ sensitivity area of the south and east. However, I would accept that the landscape designations are based on quite broad areas of categorisation with significant variation therein, and that individual proposals require a more detailed assessment of site context. In that regard, I consider that the appeal site is quite detached from the Class 4 Coole Lough landscape to the west by the intervening higher topography and significant modern development, including the M18 Motorway. The site context is also affected by the built-up area of Gort to the south, which presents a much-modified landscape that is not consistent with the remainder of the Class 3 landscape to the north. I acknowledge that the Gort River corridor is to the east of the site, but I consider that it is largely screened by dense vegetation and does not form a significant landscape presence in the context of the site. Accordingly, I would be of the opinion that the landscape sensitivity is more consistent with the Class 2 ‘moderate’ sensitivity classification for the wider area to the south and east of the

appeal site. In that context I would concur with the conclusions of the EIAR insofar as landscape significance impacts would be acceptable and that the project would not be incongruous when considered in the broader context of the northern fringe of Gort.

- 8.11.8. Regarding the Visual Impact Assessment and the viewpoints selected in the Kinancha Road/Gort River area, I note that the project will not be visible from VP1 but would obviously create a significant visual impact further north along the Kinincha Road. Viewpoints VP4 and VP5 are taken from the eastern side of the Gort River and I would concur with the EIAR conclusions that the impact significance is greatest in this general area. I would acknowledge that the project would form a significant visual presence from these views and would increase the extent of urban development in this direction. However, I consider that these impacts are quite localised and will be significantly mitigated by the embedded design features and the additional berm/planting on site. I acknowledge the concerns raised by the Planning Authority and 3rd parties about the impact on the Gort River area and the existing/planned sections of the river walkway. I consider that views of the project from the existing walkway would largely be screened by existing riverside vegetation, but I acknowledge that it would create significant localised visual impacts, and particularly so if the planned section of the walkway is completed on the western side of the river to connect to Kinincha Road. However, the impact of the development must be considered in the full context of the existing and planned development for the area. In this regard I consider that the Kinincha Road to the west of the river valley area is largely dominated by the existing industrial development and utilities such as the WWTP and the municipal storage facility, and the Gort LAP land zoning would facilitate the further extension of industrial development as far as the appeal site. I also note that the current application before the Board for a Civic Amenity/Recycling centre along Kinincha Road (ABP Ref. 310203-21), which I consider to be consistent with the emerging and proposed pattern of utilitarian/industrial uses at this location.
- 8.11.9. The eastern side of the river valley includes the railway line and the Gort LAP land zoning again provides for additional industrial lands. Therefore, while I acknowledge that the scale of the proposed development would create a significant visual presence in the river valley from some viewpoints, I am satisfied that the impact will

be suitably localised and will be acceptable when viewed in its locational context adjoining the planned industrial expansion of Gort, and that suitable mitigation measures are included to appropriately accommodate the visual/landscape impacts at this location.

- 8.11.10. Further to the southeast along the N66 road corridor, I note that the impacts presented by VP2 and VP3 indicate that the project will either be obscured by existing vegetation/development or, where visible, will not be out of character with the transitional hinterland of Gort. The project will be suitably nestled into the landscape by the rising topography and trees to the rear, and I consider that the proposed colours and additional berm/planting will ensure that there will be no unacceptable visual impacts.
- 8.11.11. The town centre is largely enclosed by a perimeter of 3-storey terraces. Views from within the town centre area are severely restricted and I am satisfied that the project will not have any significant impacts from this location. I consider that worst-case scenario impacts for the town centre environs are appropriately demonstrated in VP8 (an elevated pedestrian overpass at Gort train station) and I do not consider that the project will result in any unacceptable visual impacts from this location.
- 8.11.12. Visual impacts from the west are demonstrated from VP7 (along the R458 road) and from the southwest by VP8 (an elevated overpass of the M18 Motorway). From the R458 road I am satisfied that the intervening higher ground levels will largely screen the proposed development. Despite the fact that the roofline of the tanks/reception building and the upper elements of the stacks would be visible, I do not consider that this would seriously detract from the visual amenities of the area. I note that no assessment has been carried out from the M18 Motorway or the Coole Lough area further west/north of VP7. However, having inspected the topography of the surrounding area further west/north, I am satisfied that visual impacts would not be any more significant than those presented in VP7 and I have no objection in this regard. I acknowledge the significant value of Coole Lough and the associated parklands, but I am satisfied that the project will not significantly impact on the amenity value of this resource due to the significant separation distance and the nature of intervening topography. I consider that the elevated view of the project above the M18 Motorway to the southwest (VP8) would not result in any significant

impacts and that the actual view from the lower motorway level would be further reduced.

8.11.13. I acknowledge the wide range of landscape features and tourist attractions that exist in the wider area and have been referenced in the 3rd party submissions received. However, I consider that the scope and extent of the landscape and visual impact assessment is sufficient, and I do not consider that the project would significantly detract from the value of the various features mentioned. I also note that the applicant confirms that the flare stack will be rarely used (<1% of year) and that there will be no visible plume emissions from the stacks, and, accordingly, I do not consider that significant visual impacts will occur from these features.

Conclusion

8.11.14. In conclusion, I am satisfied that the predicted landscape and visual impacts are acceptable having regard to localised area affected due to the low-lying nature of the site within an enclosed river valley and having regard to the location of the project adjoining the boundary of the planned industrial expansion of Gort. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to landscape and visual amenity would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of landscape and visual amenity.

8.12. Traffic & Transport

8.12.1. Chapter 11 outlines the roads, traffic and transport impacts of the proposed development and is based on a desktop study (including traffic collisions), field work (traffic counts and geometric measurement) and traffic modelling (to account for future assessment years, daily/peak trips, and junction modelling). The EIAR states that all collisions recorded by the RSA occurred before the opening of the M18 Motorway and the reclassification of the former N18 road (100km/h) as the current R458. A traffic count was carried out over a 15-day period in May 2019 and growth factors have been applied in accordance with TII guidelines. The assessment has

been carried out on the basis of access to the site from the south via the M18 motorway junction 16 and the R458; that no deliveries will be made using tractor-hauled slurry type tankers; and that no feedstock deliveries will be routed through Gort town centre.

8.12.2. The EIAR predicts the following impacts for the construction phase:

- The new site access junction will operate with over 90% spare capacity during peak hour movements, with negligible queuing.
- Maintenance of the structure of the R458 in the vicinity of the new access will be incorporated and any impact will be fully mitigated.
- Traffic and activity related to road/junction construction activities will create significant noise for a short period and mitigation measures will be included.
- No measurable local air pollution impact.

8.12.3. For the operational phase, the following impacts are predicted in the EIAR:

- Trips are less than 5% of peak hour traffic movements on the R458, which is below the normal threshold levels for assessment and intervention.
- The R458/new access junction will operate with over 98% spare capacity, with negligible queuing.
- No road structure impact is predicted.
- Due to low traffic flow, particularly at night, no noise impact is predicted.
- Due to low traffic flow, no measurable local air pollution impact is predicted.

8.12.4. The following mitigation measures are proposed:

- Junction design to incorporate the Road Safety Audit recommendations.
- New junction and access road to be completed in advance of the biogas plant
- A Temporary Traffic Management Plan will be implemented
- Drivers will be informed of appropriate delivery routes
- Road construction activity to be limited to the period 07:00 to 1900
- Spread of dust and materials to be minimised.

8.12.5. The EIAR states that cumulative traffic and transport impacts have been accounted for and the proposed development is unlikely to result in capacity-related issues on the local road network. It concludes that the inclusion of mitigation measures will

ensure that no significant adverse impacts on roads and traffic-related environmental impacts are anticipated.

- 8.12.6. The Planning Authority decision has raised concerns about the safety of the proposed entrance, the traffic volumes generated by the development, conflict with existing traffic and junctions, and potential impacts on Gort town centre. In addition to these concerns, the 3rd party submissions have raised concerns about the scope and methodology of the traffic assessment, underestimation of the potential volumes, and the inadequate measures to appropriately control movements.
- 8.12.7. The predicted average daily operational phase two-way traffic movements are outlined in Table 11.4 of the EIAR and indicate a total of 51 two-way movements, 29 of which are HGV. The basis for these predictions is not clearly set out and I acknowledge that it has been challenged in the 3rd party observations. Ultimately, I note that the majority of HGV/Tanker movements relate to feedstock delivery (10 two-way movements) and whole digestate collection (7 two-way movements), which are discussed further in the following paragraphs.
- 8.12.8. In relation to feedstock delivery, it is proposed to deliver a maximum of 90,000 tonnes per annum and the EIAR states that the facility will operate 7 days a week. Therefore, the predicted movements would appear to be based on an average of 10 no. 25-tonne deliveries per day (i.e. 90,000 tonnes/365 days/10 vehicles), which I consider this to be a reasonable estimation. I accept that there may be fluctuations in quantities of silage feedstock deliveries on a seasonal basis, although silage need not necessarily be delivered during the cutting season. Furthermore, it should be noted that the predicted feedstock delivery movements are not based on silage only and other feedstock sources make up a significant proportion (40%). Accordingly, I consider it reasonable that deliveries could be reasonably balanced throughout the year and I have no objection to the figures predicted in the EIAR.
- 8.12.9. Regarding whole digestate collection by tanker, I would estimate that the daily (365 days) movements of 7 no. tankers (using a weight capacity of 44 tonnes) would equate to the collection of c. 112,000 tonnes of whole digestate per annum. I acknowledge that this is less than that indicated in the EIAR (150,000 tonnes per annum). However, I would accept that this is a maximum figure, and that some flexibility should apply to these estimations.

- 8.12.10. Having regard to the above, I consider that the predicted traffic movements set out in Table 11.4 of the EIAR are reasonable. Based on the EIAR traffic counts on the R458, the predicted operational trips equate to 4.2% of the AM peak hour traffic movements and 3.6% of the PM peak hour movements. The industry standard PICADY modelling software has been used to demonstrate that the junctions tested will operate with over 98% spare capacity and negligible queuing during the operational phase of the development. Therefore, while I acknowledge the inherent margins that apply to traffic modelling predictions, I consider that there is significant spare capacity in the road network, that any likely increase in estimated volumes could be satisfactorily accommodated, and that further assessment is not required in relation to Junction 16 of the M18 Motorway.
- 8.12.11. In addition to traffic volumes, significant concerns were raised by the Planning Authority and 3rd party observations regarding the control of the type of vehicles to be used in connection with the development and the routes that they may use, particularly as it relates to Gort town centre. I consider that the application outlines a clear intention that tractor-trailer arrangements will not be used for the delivery of feedstock or collection of digestate. I am satisfied that this is within the control of the prospective operator and that it could be appropriately conditioned as part of any permission.
- 8.12.12. Regarding the travel routes to and from the subject site, I again note that the EIAR sets out a clear intention that collection/delivery vehicles will be contracted to use the M18 Motorway and to avoid travelling through Gort town centre. This is not an uncommon arrangement for traffic associated with operations such as this and I am satisfied that it can be appropriately controlled by the operator. Furthermore, I consider that the identified feedstock sources and digestate destinations are unlikely to generate a desire to travel through the town centre. The vast majority of the FCZ to the west (The Burren) and east (Forest & Bogland area) is unsuitable for both feedstock supply and digestate application. The largest suitable area within the FCZ is to the north of the appeal site and will not necessitate travel through Gort. Similarly, I would consider that any suitable areas within the FCZ to the west of the M18 would most likely use the M18 rather than crossing it to travel through the town centre of Gort. Finally, regarding the southeast area of the FCZ, I consider that the likely route to and from the site would be via Ennis and the M18 rather than a more

direct north-south route over the Slieve Aughty Mountain range. Accordingly, I am satisfied that the source and destination routes associated with the proposed development will not generate a desire to travel through Gort town centre and that this can be further controlled by the operator via contractual arrangements.

8.12.13. Regarding the proposed entrance and safety of sightlines, the EIAR includes a Road Safety Audit (RSA) in Appendix 11.2. The RSA recommendations include the provision of clear visibility splays; the removal of a left-turn lane; alterations to the junction radii; provision of signage, lining and lighting; and the provision of safe access to the 'Kinincha Stables' via the proposed new access. In accordance with these recommendations, the proposed development incorporates visibility splays of 215m in each direction; does not include a left-turn lane into the site; and facilitates a new access to the 'Kinincha Stables' off the southern side of the proposed new junction.

8.12.14. The CDP 'DM Standard 20' outlines that sight distances required for Regional Roads with a design speed of 100kph are 160 metres. While the speed limit on the R458 is 80kph, I acknowledge that this was formerly a National Primary Road and the design speed could be taken to exceed 80kph and possibly up to 100kph. In any case, the proposed sight distances of 215m would significantly exceed the maximum requirements for Regional Roads (160m). Having inspected the site, I am satisfied that the horizontal and vertical alignment conditions for the proposed development are favourable and that acceptable sight distances (215m) can be achieved as proposed. I consider that any outstanding detailed design issues in relation to signage, lighting and road markings could be satisfactorily agreed by condition.

Conclusion

8.12.15. In conclusion, I consider that the application clearly outlines the existing traffic conditions at the site and reasonably predicts that the impact of the proposed development and wider traffic growth will not result in a cumulative adverse impact on traffic and transport. I am satisfied that the impacts that are predicted to arise in relation to traffic and transport are acceptable having regard to the nature and scale of the proposed development. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to traffic and

transport would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of traffic and transport.

8.13. **Archaeology & Cultural Heritage**

8.13.1. Chapter 12 presents an assessment of cultural heritage (i.e. overall archaeological, architectural, historical and folklore heritage resources) within in a study area of 1km from the site, extending to 10km for visual impact assessment. It is based on a desktop survey of all recorded sites within the study area and a field inspection.

8.13.2. The EIAR outlines that:

- There are no recorded archaeological sites within the appeal site or Preservation Orders on sites within the study area, and that there are no monuments in state ownership/guardianship in the study area.
- Relevant cartographic and placename evidence has been reviewed, revealing a removed line of the townland boundary between Kinincha and Glenbrack.
- Previous excavations in the study area did uncover previously unrecorded archaeological features
- The site is outside the Gort Architectural Conservation Area. The closest Protected Structure is 800m to the south and the closest NIAH structure is 565m to the northeast.
- The site has been significantly modified by extensive groundworks and an unrecorded archaeological remains are likely severely truncated or destroyed
- An overgrown dump of stones recorded during field inspection may represent the remnants of a small circular feature, but the feature was not recorded by the OS in the 1940's and may have been removed in the early 20th century.

8.13.3. Having regard to the above, the EIAR assesses the impact on the archaeological and cultural heritage resource as 'imperceptible'. It states that the construction phase has the potential to impact on unrecorded sub-surface archaeological remains and mitigation measures are proposed to include archaeological monitoring, supervision and recording of findings. There will be ongoing liaison with the National Monuments

Service throughout construction to ensure appropriate mitigation by avoidance, reduction and remediation. Following the implementation of these measures, EIAR predicts no impacts or mitigation requirements at operational phase. No cumulative or residual impacts are predicted and the EIAR concludes that there will be no significant adverse impacts arising from the proposed development.

8.13.4. I note that the submission to the Planning Authority from the Department of Culture, Heritage and the Gaeltacht advised that conditions requiring the submission of an archaeological impact assessment should be included in any grant of permission. I would concur that this would satisfactorily address any outstanding archaeological issues.

Conclusion

8.13.5. I am satisfied that the impacts that are predicted to arise in relation to archaeology and cultural heritage are acceptable having regard to the significant modifications that have already taken place on site and the absence of significant archaeological/heritage impacts on the surrounding area. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to archaeology and cultural heritage would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of archaeology and cultural heritage.

8.14. Material Assets

8.14.1. Chapter 13 of the EIAR evaluates the impacts on material assets other than those already discussed in previous chapters. In summary, it assesses the identified assets as follows:

- Ownership and access – No severance of land or loss of rights of way or amenities. Landowner consent is included with the application.
- Agriculture – The location of the development on agricultural lands conforms with best practice and would be inappropriate within an urban environment.

- Water Quality – The proposals will support the agricultural sector by processing and converting raw organic wastes into certified organic fertiliser with known nutritional composition. Its application to lands will require effective and robust nutrient management planning.
- Climate Change and GHGs – Reduced GHG emission through biogas recovery (methane and carbon dioxide); replacement of fossil fuels with renewable gas (biomethane); utilisation of organic fertiliser to replace inorganic fertiliser which results in manufacturing GHG emissions; reduction in nitrous oxide emissions from land application of organic fertiliser.
- Settlements – Impacts on population and surrounding agricultural land have been previously outlined.
- Services – No process effluents will be discharged to the municipal sewer; SUDS will manage surface water; fire safety requirements have been incorporated and will be the subject of a Fire Certificate application; and a flood risk assessment has established that the development does not give rise to flood impacts.

8.14.2. The EIAR concludes that no significant impacts are likely given the mitigation measures that have been embedded in the design and implementation of the proposed development.

8.14.3. Given the location of the site outside the LAP boundary for Gort, I do not consider that the development of the site would significantly impact on impact on the availability of land as sufficient land has already been reserved within the LAP boundary to facilitate the future development of the town. The project will effectively result in the loss of agricultural/equine land and I am satisfied that there is an abundance of other suitable lands for these uses in the surrounding area.

8.14.4. I have previously outlined the impacts of the proposed development on the public water supply and wastewater treatment services. While I have identified a lack of information regarding water supply to the proposed development, I consider that the public water supply 'asset' would be suitably managed by the requirement to enter a connection agreement with Irish Water. I have also previously outlined that the project conforms with best practice policy relating to agriculture, waste management and energy production. The proposal will assist in the reduction of agricultural

pollution through the replacement of slurry-spreading and chemical fertilisers with organic fertiliser and will assist in the reduction of GHG emissions through the replacement of fossil fuels with renewable gas.

Conclusion

8.14.5. I am satisfied that the impacts that are predicted to arise in relation to material assets are acceptable and have been adequately addressed throughout various sections of the EIAR. I have considered all the information on file, including submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts predicted to arise in relation to material assets would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative impacts in terms of material assets.

8.15. Interactions

8.15.1. Chapter 14 of the EIAR addresses the interactions between different aspects of the environment that may be impacted as a result of the construction, operation, and decommissioning phases of the development. The potential interactions are set out in Table 14.1 of the EIAR. The main aspects for interaction are Population & Human Health (with Air, Odour, Climate, Noise & Vibration, Landscape, Biodiversity, Waters, Soils & Geology, and Traffic & Transport), Biodiversity (with Population & Human Health, Air, Odour, Climate, Noise & Vibration, Landscape, Waters, Soils & Geology, Traffic & Transport), Soils & Geology (with Population & Human Health, Air, Odour, Climate, Biodiversity, Waters, Material Assets, Traffic & Transport) and Traffic & Transport (with Population & Human Health, Air, Odour, Climate, Noise & Vibration, Landscape, and Biodiversity). The EIAR highlights that the potential interactions have been considered in the design of the proposed development and the inclusion of mitigation measures.

Conclusion

8.15.2. I am satisfied that the predicted interactions have been adequately identified and that potential impacts have been satisfactorily addressed and mitigated in relevant sections throughout the EIAR. I have considered all the information on file, including

submissions received and the information contained in the EIAR. Having regard to the above, I am satisfied that impacts relating to interactions would be avoided, managed, and mitigated by the measures which form part of the proposed scheme and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect, or cumulative interactions.

8.16. Reasoned Conclusion

8.16.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the applicant, the reports from the planning authority and submissions by prescribed bodies and the appellant in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are, and will be mitigated, as follows:

- Direct positive employment impacts from the construction and operational stages, as well as indirect employment associated with haulage, services and other spin-off sectors.
- 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.
- Direct and indirect impacts on Biodiversity at the construction and operational stages due to the loss of habitat, disturbance of species due to noise and lighting, and impacts on water quality and air quality. These impacts will be addressed by embedded mitigation measures including a sealed effluent/water system and landscape/habitat creation. Construction stage impacts will be mitigated by the implementation of a Construction Environmental Management Plan including the establishment of a working corridor near treelines/hedgerows and an active approach to silt control. Operational stage impacts will be mitigated by the provision of suitable lighting and habitat creation, as well as future monitoring and remediation of habitat restoration proposals.

- Potential direct and indirect impacts on Hydrology and Hydrogeology at construction and operational stage as a result of construction materials/substance pollution, soil disturbance/removal, groundwater flood risk, and pollution from the operational processes and materials. These 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 be employed to ensure that all potential discharges to water will be adequately contained. Further ground investigations will inform the detailed foundation design for structures and ongoing Integrity test and monitoring will apply to all potential pollution sources. Any potential cumulative water impacts have been satisfactorily addressed by the mitigation measures included in the M18 Motorway project and by the recent upgrade to the capacity of the Gort Wastewater Treatment Plant.
- Direct air and odour impacts on sensitive receptors (including designated sites and biodiversity) and populations in the site vicinity as a result of emissions during the construction and operation stages. Construction stage impacts will be suitably distanced from sensitive receptors and will be mitigated by dust suppression measures. Operational air and odour emissions will be appropriately treated (including containment, CHP combustion, and odour abatement) and dispersed at height to comply with the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) and stringent odour target values.
- Positive indirect impacts on Climate due to a reduction in carbon dioxide emissions through the production of biogas as a replacement of fossil energy sources.
- Direct Noise impacts during the construction phase which will be suitably mitigated through compliance with construction noise standards and a Construction Environmental Management Plan.
- Landscape and Visual impacts due to the scale of the project, which will be mitigated by embedded design measures including the proposed layout, form and colours, as well as the creation of additional berm screening and landscape planting.

- Direct and indirect traffic and transport impacts which will be mitigated by the design of the proposed entrance and the control of haulage vehicle type and routes.

8.16.2. Having regard to the above, I am satisfied that the likely significant environmental effects arising from the proposed development have been identified, described and assessed, and I consider that, subject to the mitigation measures proposed, the proposed project would not have any unacceptable, direct, indirect or cumulative effects on the environment.

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. It has been prepared by ecologists Hazel Doyle (MSc. BSc. CIEEM) and Will Woodrow of Woodrow Sustainable Solutions Ltd.

9.3.2. The AA Screening Report was prepared in line with current best practice guidance and 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 due to hydrological connections (surface water and/or groundwater) to European Sites sensitive to water quality impacts at construction stage (due to sedimentation and hydrocarbon input) and operational stage (due to nutrient enrichment and eutrophication as a result of the proposed connection to the Gort WWTP). It also states that there is potential for air quality impact such as nitrogen deposition on sensitive qualifying interests of the Coole-Garryland Complex SAC. The European Sites with potential likely significant effects are included as follows:

- Coole-Garryland Complex SAC (Site Code: 000252)
- Carowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293)
- East Burren SAC (Site Code: 001926)
- Lough Coy SAC (Site Code: 002117)
- Caherglassaun Turlough SAC (Site Code: 000238)
- Kiltartan Cave (Coole) SAC (Site Code: 000286)

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 provision of feedstock and the disposal of digestate, I have previously addressed this matter in section 7.3 of this report, and I have concluded that it is not feasible or practical to assess the impacts of feedstock supply and digestate land-spreading over a multiplicity of sources/destinations, particularly under the circumstances when these activities are already occurring and will be suitably controlled by good agricultural practice and legislation. 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

9.3.5. The proposed development is examined in relation to any possible interaction with European sites designated 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.

9.3.6. A detailed description of the development is set out in Chapter 2 of the EIAR and section 2 of this report. In summary, the proposed development involves the development of a Biogas Plant involving the use of anaerobic digestion technology to produce renewable energy and fertiliser. The application site extends to 10.1 hectares and is described as consisting mainly of varied calcareous grassland in use as agricultural grazing and equine-related purposes. 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, air quality impacts, lighting impacts, and habitat loss/fragmentation

Submissions and Observations

9.3.7. One of the Planning Authority's reasons for refusal outlined that, based on the precautionary principle, significant adverse effects on the integrity and conservation objectives of the European sites in the vicinity cannot be ruled out, in particular, the Coole Garryland Complex SAC, the Coole Garryland SPA, Lough Cutra SAC and Kiltartan Cave SAC. This reason for refusal was based on the following concerns:

- Inadequate scope of assessment for bats and fragmentation/loss of habitat as a result of hedgerow removal,
- The direct impact of air emissions (most notably Nitrogen) on the Gort River and indirect impacts on connected European sites (Coole-Garryland SAC, Coole-Garryland SPA)
- Pollutants to water quality, and
- The exclusion of a number of European Sites.

9.3.8. The Planning Authority received a submission from the DCHG which questioned the nature and extent of the application reference to the completion of further biological surveys. It also questioned the EIAR assumptions regarding the location of a lesser horseshoe bat roost and raised concerns that the removal of 520m of hedgerow may have effects on commuting lesser horseshoe bats. It recommended that a wider study should assess how lesser horseshoe bats are using the landscape and accessing their summer and winter sites, as well as fragmentation and wider cumulative habitat loss and include Kiltartan Cave SAC and Lough Cutra SAC.

9.3.9. The 3rd party observations on the appeal also raised issues relevant to European Sites, which can be summarised as follows:

- Increased noxious gases and inadequate dispersion has the potential to impact on the foraging habitat of lesser horseshoe bats, the Gort River, Coole-Garryland SPA and Caherglassaun Turlough SAC.
- Maximum nitrogen deposition rates have been calculated in isolation, with no assessment of cumulative impacts from other sources.
- The NIS has not addressed the impacts of digestate disposal, including locations, transport and flooding implications.
- Galway Bay Natura 2000 sites, Lough Cutra SAC, Peterswell Turlough SAC and Termon Lough SAC have been excluded from the Appropriate Assessment and other SACs have not been assessed for the impacts of digestate disposal.
- The unpredictability of flood events means that significant adverse impacts on integrity/conservation objectives of European sites cannot be excluded.

- Additional loading on the wastewater treatment plant has the potential to impact a number of Natura 2000 sites via the Gort River
- The connection of site drainage to an infiltration system is in direct contravention of the NIS mitigation measures and presents a very high risk of pollution of groundwater pathways to the Coole-Garryland SAC.
- Potential risk to the karst aquifer and SAC cannot be screened out until ground investigation and mitigations measured have been detailed in full. In the absence of these mitigation measures the NIS is invalid.
- Lighting impacts on lesser horseshoe bats during construction and operation.

European Sites

9.3.10. The development site is not located in or immediately adjacent to a European site. Table 1 (of Appendix 1) of the applicant's Screening for Appropriate Assessment presents a 'Screening Matrix of all Natura 2000 Sites in the vicinity of the Proposed Development'. It focuses on the potential for pathways to establish whether or not each site is within the potential zone of influence of the proposed development and concludes that the following sites are not (for the reasons outlined):

- Ballinduff Turlough SAC (No groundwater or surface water connectivity)
- Lough Cutra SAC (Distance in excess of 2.5km from qualifying bat roosts)
- Cahermore Turlough SAC (No groundwater or surface water connectivity)
- Peterswell Turlough SAC (No groundwater or surface water connectivity)
- Drummin Wood SAC (No surface water connection and QI not groundwater dependent)
- Gortacarnaun Wood SAC (No surface water connection and QI not groundwater dependent)
- Ardrahan Grassland SAC (No groundwater or surface water connectivity)
- Cregg House Stables, Crusheen SAC (No hydrological connectivity impact and the separation distance will prevent foraging habitat impacts on QI species)
- Moyree River System SAC (No groundwater or surface water connectivity)
- Lough Fingall Complex SAC (No pathways exist)
- Castletaylor Complex SAC (No pathways exist)

- Kiltiernan Turlough SAC (No pathways exist)
- Ballyogan Lough SAC (No groundwater or surface water connectivity)

9.3.11. I note that the Planning Authority and 3rd party observers have raised concerns about potential impacts on some of the above sites (i.e. Lough Cutra SAC and Peterswell Turlough SAC). In this regard I note that the only QI for Lough Cutra SAC is the Lesser Horseshoe Bat and the Conservation Objectives for the site would indicate that impacts are unlikely outside 2.5km from qualifying roosts. The proposed development is c. 6km from the roost location and, accordingly, I am satisfied that significant effects on the SAC QI are not likely. Peterswell Turlough SAC is located c. 5.7km upstream of the appeal site in a different groundwater body, and accordingly, I am satisfied that there will be no likely significant effects as a result of the proposed development. I have also considered the other sites listed in the preceding paragraph and I am satisfied that the applicant has appropriately excluded these sites from the potential zone of influence based on *inter alia* the absence of surface water and/or groundwater pathways; the separation distance involved; and the nature/sensitivity of the QIs.

9.3.12. For the remaining Natura 2000 sites included in the applicant's 'Screening Matrix', it should be noted that there are 2 entries for some sites (i.e. Coole-Garryland SPA, Lough Cultra SPA, Slieve Aughty Mountains SPA, Inner Galway Bay SPA, Rahasane Lough SPA, and Glendree Bog SAC) and that the conclusions regarding their inclusion within the zone of influence and/or potential effects differ in some cases. However, for each of the sites included in the table below, the applicant has indicated in some way that they are within the zone of influence and, accordingly, I have included them for further screening in the interests of caution and completeness. A summary of European Sites within the potential zone of influence and the applicant's assessment of potential effects and is presented in the table below. I have added links to conservation objectives for each site, which I have taken into consideration in this Appropriate Assessment section.

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
Coole – Garryland Complex SAC (000252)	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation, Turloughs*, Rivers with muddy banks with Chenopodium rubri p.p. and Bidention p.p. vegetation, Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (* important orchid sites)*, Limestone pavements*, Taxus baccata woods of the British Isles* Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000252.pdf	900m	Potential for surface water and groundwater quality impacts on water dependent QIs during construction and operation. Potential air quality impacts on QI habitats through nitrogen deposition.
Carowbaun, Newhall and Ballylea Turloughs SAC (002293)	Turloughs Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002293.pdf	1.35km	Groundwater connectivity, proximity and poorly productive bedrock raises potential for impacts at construction and operation stage.
Coole-Garryland SPA (Site Code: 004107)	Whooper Swan Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004107.pdf	1.35km	Surface water and groundwater connections may impact on foraging habitat. Potential for noise and visual disturbance, but unlikely that significant numbers would use the wetland habitat around the appeal site due to proximity and disturbance from surrounding urban development and traffic. Therefore, there will be no likely significant effects on this SPA.
Kiltartan Cave (Coole) SAC (000286)	Caves not open to the public, Lesser Horseshoe Bat. Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000286.pdf	1.9km	Potential use of the site by Lesser Horseshoe Bat for foraging.
Eastern Burren	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp, Turloughs, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, Alpine and Boreal heaths, Juniperus communis	3.5km	Groundwater connectivity, proximity and poorly productive bedrock raises potential for impacts on

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
Complex SAC (001926)	<p>formations on heaths or calcareous grasslands, Calaminarian grasslands of the Violetalia calaminariae, Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites), Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis), Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Petrifying springs with tufa formation (Cratoneurion), Alkaline fens, Limestone pavements, Caves not open to the public, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae), Euphydryas aurinia (Marsh Fritillary), Lesser Horseshoe Bat, Otter</p> <p>Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001926.pdf</p>		turloughs, petrifying springs and fens at construction and operation stage.
Lough Coy SAC (002117)	<p>Turloughs*</p> <p>Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002117.pdf</p>	3.75km	Groundwater connectivity, proximity and poorly productive bedrock raises potential for impacts on turloughs, petrifying springs and fens at construction and operation stage.
Lough Cutra SPA (004056)	<p>Cormorant</p> <p>Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004056.pdf</p>	3.9km	No pathways or suitable breeding/feeding habitat in the vicinity of the site and distance from the SPA is too great for potential disturbance impacts.
Slieve Aughty Mountains SPA (004168)	<p>Hen Harrier</p> <p>Merlin</p> <p>Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004168.pdf</p>	4km	No ecological connection exists and there is no suitable breeding or foraging habitat on the appeal site.
Caherglassaun Turlough SAC (Site Code: 000238)	<p>Turloughs*, Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation, Lesser Horseshoe Bat.</p> <p>Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000238.pdf</p>	4.4km	Location within the same groundwater body raises potential for impacts during construction and operation. Foraging habitat for Lesser

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
			Horseshoe Bat may also be affected.
Termon Lough SAC (Site Code: 001321)	Turloughs* Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001321.pdf	4.6km	Groundwater connectivity and proximity raises potential for groundwater impacts. However, the mitigation measure proposed for sites in closer proximity will mitigate against similar effects to this site.
Galway Bay Complex SAC (000268)	Mudflats and sandflats not covered by seawater at low tide, Coastal lagoons, Large shallow inlets and bays, Reefs, Perennial vegetation of stony banks, Vegetated sea cliffs of the Atlantic and Baltic coasts, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows, Mediterranean salt meadows, Turloughs, Juniperus communis formations on heaths or calcareous grasslands, Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites), Calcareous fens with Cladium mariscus and species of the Caricion davallianae, Alkaline fens, Limestone pavements, Otter, Harbour Seal. Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000268.pdf	10.2km	The SAC is located within a different groundwater body. Due to the large separation distance and lack of a direct surface water connection, there will be no likely significant effects on surface water QI habitats.
Sonnagh Bog SAC (001913)	Blanket Bogs (* if active bog) Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001913.pdf	10.85km	Within the same groundwater body but there will be no likely significant effects due to the large distance between the SAC and the appeal site. Groundwater mitigation measures for closer sites would prevent any effects to this SAC.
Rahasane Turlough SAC (000322)	Turloughs Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000322.pdf	14.1km	Within the same groundwater body but there will be no likely significant effects due to the large distance between the SAC and the appeal site.

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
			Groundwater mitigation measures for closer sites would prevent any effects to this SAC.
Rahasane Turlough SPA (004089)	Whooper Swan Wigeon, Golden Plover, Black-tailed Godwit, Greenland White-fronted Goose, Wetland and Waterbirds Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004089.pdf	14.3km	No species recorded during winter bird surveys and unlikely that significant numbers would use the wetland habitat around the appeal site due to proximity and disturbance from surrounding urban development. However, there is potential that the QIs could be affected by groundwater impacts.
Glendree Bog SAC (001912)	Blanket Bogs (*if active bog) Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001912.pdf	14.5km	Within the same groundwater body and there is potential for airborne nitrogen deposition affecting the blanket bog habitat. However, due to the large distance between the SAC and the appeal site there will be no likely significant effects. Groundwater mitigation measures for closer sites would prevent any effects to this SAC.
Inner Galway Bay SPA (004031)	Black-throated Diver, Great Northern Diver, Cormorant, Grey Heron, Light-bellied Brent Goose, Wigeon, Teal, Red-breasted Merganser, Ringed Plover, Golden Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, Common Gull, Sandwich Tern, Common Tern, Wetland and Waterbirds Conservation Objectives: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004031.pdf	10.2km	Although curlew, lapwing, teal, grey-heron, and black-headed gull were recorded during winter bird surveys, it is unlikely that significant numbers would utilise wetland habitat around the appeal site due to the distance and disturbance from surrounding urban development. Therefore, there will be

European Site (Site Code)	Qualifying Interests (QIs) *Denotes a priority habitat	Distance	Connections (source, pathway, receptor) and effects
			no likely significant effects.

Identification of likely effects

9.3.13. In conclusion, the applicant's screening assessment states that there will be no direct loss of SAC or SPA habitat. However, it highlights the location of the site within a karst area/karstic groundwater body and adjacent to a watercourse (Gort River), and the proposal to connect to Gort WWTP and increase loading on a plant that is currently overcapacity and exceeding emission limit values. Due to hydrological connections to European Sites sensitive to water quality; the proposed WWTP loading and its hydrological connection to Coole-Garryland Complex SAC; and the proximity and sensitivity of the development to Coole-Garryland SAC; it concludes that an Appropriate Assessment is required due to the potential for impacts on the following Natura 2000 sites and their QIs:

- Coole-Garryland Complex SAC
- Carrowbaun, Newhall and Ballylea Turloughs SAC
- Eastern Burren SAC
- Lough Coy SAC
- Caherglassaun Turlough SAC
- Kiltartan Cave (Coole) SAC

9.3.14. The applicant's screening assessment conclusion identifies the following potential impacts in the absence of mitigation:

Water quality impacts (on dependent QIs and sensitive habitats listed above)

- Surface and/or groundwater pollution (hydrocarbon and chemical) and sedimentation/siltation from the construction phase
- Nutrient enrichment/eutrophication and the presence of chemicals from the operational phase

Air quality impacts (on all QIs of the Coole-Garryland SAC)

- Nitrogen deposition during the operation of the biogas plant.

Sites that were 'screened out'

- 9.3.15. I note that the applicant has 'screened out' a number of sites within the potential zone of influence. With regard to the Galway Bay SAC/SPA sites, which are at a significant separation distance (c.10km) and have no evident hydrological connections to the appeal site, together with the disturbance associated with the proximity of the appeal site to the built-up area that would most likely deter the presence of any QI species, I am satisfied that the proposed development is not likely to have significant effects on the QI habitats and species for these European sites. Similarly, and notwithstanding the DCHG submission to the Planning Authority regarding Lough Cutra SPA, I consider that the Lough Cutra SPA and Slieve Aughty Mountains SPA sites are significantly distanced and disconnected from the appeal site, that there is no suitable breeding/foraging habitat in the vicinity of the appeal site for QI species, and that the proposed development is not likely to have significant effects on the QI habitats and species for these European sites.
- 9.3.16. I consider that the applicant's AA screening assessment lacks some clarity in relation to the Coole-Garryland SPA. Referring again to the double entries for some sites, I note that Table 1 (page 83) identifies potential hydrological impacts on the foraging habitat of Whooper Swan for the Coole-Garryland SPA, which is again reiterated in pages 97-98. And while page 98 concludes that significant numbers of Whooper Swan are unlikely to use wetland habitat in the site vicinity for ex-situ foraging, there is no conclusion in relation to the potential for hydrological impacts on the SPA itself, downstream from the project. On the basis of this potential, I do not consider that the Cool-Garryland SPA can be 'screened-out'.
- 9.3.17. The applicant's screening assessment also refers to potential groundwater impacts on Termon Lough SAC, Sonnagh Bog SAC, Rahasane Turlough SAC and Glendree Bog SAC, but concludes that significant effects are not likely due to a combination of large separation distances (except in the case of Termon Lough SAC) and the mitigation measures for other European Sites closer to the proposed development. However, mitigation measures cannot be relied upon in the screening exercise and therefore the Board must establish that these sites can be 'screened out' without considering mitigation measures. In this regard, I note that the Sonnagh Bog SAC, Rahasane Turlough SAC and Glendree Bog SAC are in excess of 10km from the appeal site, that Sonnagh Bog SAC is marginally located within the groundwater

body of the appeal site and is significantly elevated (c. 200m+), and that Rahasane Turlough SAC and Glendree Bog SAC are within different groundwater bodies to the appeal site. Given the significant disconnect between these sites and the proposed development, I am satisfied that significant effects are not likely. However, Termon Lough SAC is closer to the proposed development (c.4.5km) and is partially within the same groundwater body. I do not consider that this site can be 'screened out' on the basis of the mitigation measures for other closer sites and, accordingly, Termon Lough SAC should be included in the Appropriate Assessment.

9.3.18. Finally, I note that the applicant's assessment identifies the potential for groundwater impacts on the QIs of Rahasane Turlough SPA but does not exclude the potential for likely significant effects. However, I note that this SPA is located at a significant distance (c. 14km) and is within a different groundwater body to the appeal site. Accordingly, I am satisfied that there will be no likely significant effects on this SPA.

9.3.19. 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:

- Coole-Garryland SAC (Site Code: 000252)
- Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293)
- Eastern Burren SAC (Site Code: 001926)
- Lough Coy SAC (Site Code: 002117)
- Caherglassaun Turlough SAC (Site Code: 000238)

9.3.20. Furthermore, although not specifically stated in the applicant's screening conclusion, I am also satisfied that the screening report identified the potential for the loss of foraging habitat for the Lesser Horseshoe Bat and consequent significant effects on Kiltartan Cave (Coole) SAC (Site Code 000286). The applicant's NIS (page 8) also highlights that likely significant effects relating to lighting cannot be ruled out on this site/QI.

9.3.21. However, as previously outlined, and contrary to the applicant's AA Screening conclusion, I consider that the potential for significant effects on Termon Lough SAC and Coole-Garryland SPA cannot be excluded at this stage.

Mitigation Measures

9.3.22. As previously discussed, the applicant's AA screening exercise has incorrectly considered mitigation measures in 'screening out' likely significant effects on Termon Lough SAC, Sonnagh Bog SAC, Rahasane Turlough SAC and Glendree Bog SAC. For the reasons previously discussed, I am satisfied that the potential for likely significant effects can be excluded without mitigation measures for Sonnagh Bog SAC, Rahasane Turlough SAC and Glendree Bog SAC. However, I do not consider that likely significant effects can be excluded for Termon Lough SAC in the absence of mitigation relating to groundwater impacts. 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

9.3.23. 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 8 European Sites in view of the Conservation Objectives of those sites and Appropriate Assessment is therefore required for the following sites:

- Lough Coole-Garryland SAC (Site Code: 000252)
- Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293)
- Eastern Burren SAC (Site Code: 001926)
- Lough Coy SAC (Site Code: 002117)
- Caherglassaun Turlough SAC (Site Code: 000238)
- Kiltartan Cave (Coole) SAC (Site Code: 000286)
- Termon Lough SAC (Site Code: 001321)
- Coole-Garryland SPA (Site Code: 004107)

9.3.24. The possibility of significant effects on other European sites has been excluded on the basis of objective information. The following European sites have been screened out for the need for appropriate assessment:

- Ballinduff Turlough SAC
- Lough Cutra SAC
- Cahermore Turlough SAC
- Peterswell Turlough SAC
- Drummin Wood SAC
- Gortacarnaun Wood SAC
- Ardrahan Grassland SAC
- Cregg House Stables, Crusheen SAC
- Moyree River System SAC
- Lough Fingall Complex SAC
- Castletaylor Complex SAC
- Kiltiernan Turlough SAC
- Ballyogan Lough SAC
- Galway Bay Complex SAC
- Inner Galway Bay SPA
- Lough Cultra SPA
- Slieve Aughty Mountains SPA
- Sonnagh Bog SAC
- Rahasane Turlough SAC
- Rahasane Turlough SPA
- Glendree Bog SAC

9.4. The Natura Impact Statement and associated documents

9.4.1. The application included a NIS which examines the potential effects of the proposed development on the integrity of the following European Sites:

- Lough Coole-Garryland SAC (Site Code: 000252)
- Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293)
- Eastern Burren SAC (Site Code: 001926)
- Lough Coy SAC (Site Code: 002117)
- Caherglassaun Turlough SAC (Site Code: 000238)

- Kiltartan Cave (Coole) SAC (Site Code: 000286)

- 9.4.2. The NIS outlines a description of each of the Natura 2000 sites, including the QIs and its extent and character, the conservation objectives, and the various threats, pressures and activities impacting on each site. It notes that site-specific conservation objectives were not available for all sites at the time of writing and refers to both generic objectives and detailed conservation objectives for other similar sites/QIs. I note that site-specific conservation objectives have since been produced for Carrowbaun, Newhall and Ballylea Turlough SAC⁵, Lough Coy SAC⁶, and Caherglassaun Turlough SAC⁷. I will have regard to these objectives in my assessment, as well as the site-specific objectives for the Kiltartan Cave (Coole) SAC and the generic conservation objectives that apply to the other sites.
- 9.4.3. The applicant's NIS was 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 and guidance referred to in the NIS is adhered to in full, then in view of best scientific knowledge and the conservation objectives of the Natura 200 sites, the proposed development will not have any adverse effects on the integrity of any Natura 2000 sites, either alone or in-combination with other plans and projects.
- 9.4.4. Having reviewed the documents and submissions included in the appeal file, 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

⁵ https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002293.pdf

⁶ https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002117.pdf

⁷ https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000238.pdf

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 site include:

- Water Quality: Potential pollution, eutrophication, sedimentation/siltation of surface waters and groundwater.
- Air Quality: Emissions may impact on QI species/habitats.
- Habitat loss/fragmentation: Due to the loss of hedgerows and in-combination impacts with the M18 Motorway.
- Disturbance: Due to the external lighting associated with the development.

Air quality Impacts on Coole-Garryland Complex SAC and Coole-Garryland SPA

9.5.3. The NIS acknowledges the production of industrial emissions at operational stage and the potential for nitrogen deposition to impact on QIs. High resolution output modelling analysis of likely nitrogen depositions has been undertaken and outlines that the likely levels at the nearest point of the SAC would be 0.4 kg/N/ha/yr, with levels falling off to 0.2 or less within the SAC. The NIS also highlights that baseline monitoring shows that existing concentrations for NO, NO₂ and NO_x are less than 25% of the annual limit for protection of vegetation; that monitoring at Coole-Garryland SAC showed the lowest NO_x concentration at 6.6% of the annual limit for protection of vegetation; and that the EPA Air Quality Index for Health shows that the air quality is good in this area.

9.5.4. The NIS outlines various studies in relation to the effects of nitrogen deposition on the QIs and, where available and/or relevant, provides published critical load information for similar habitats, which generally range from 10 to 15 kg/ha/yr, although the critical load for 'limestone pavements' is stated to be 5-10 kg/ha/yr. It outlines that the relevant QIs are likely to experience a worst-case nitrogen deposition level of 0.2kg/ha/yr (reducing with distance), which would be equivalent to 1.98% of the total background level for the area and generally less than 2% of applicable critical loads. In the case of 'limestone pavements', the deposition level would be slightly higher at 4% of the critical load.

- 9.5.5. In addition to the direct pathway for emissions by air, I consider that air emissions also have an indirect pathway via the Gort River hydrological connection. However, I note from Table 8.11 of the EIAR that even the maximum predicted environmental concentrations for any of the potential air pollutants in the vicinity of the site, including the Gort River, would not exceed 40.3% of the limit value. Given the limited air emission concentrations present, together with the significant assimilative capacity of waters between the appeal site and Coole Lough, I do not consider that any air emissions are likely to have significant impacts on these European Sites via indirect hydrological connections.
- 9.5.6. Having regard to the baseline air quality, sensitivity level of the habitat, separation distance and fall-off levels of deposited nitrogen, I would concur with the NIS conclusion that there is no likely potential for impact on the integrity of the Coole-Garryland SAC as a result of air-quality impacts.
- 9.5.7. Although the NIS does not specifically address Coole-Garryland SPA, I am satisfied that the same conclusions can be applied. There are no site-specific conservation objectives for this SPA, but I note that the conservation objectives for Whooper Swan in other SPAs (e.g. River Shannon and River Fergus Estuaries SPA, Site Code: 004007) relate to population trend and distribution. Having regard to the separation distance between the appeal site and the SPA; the limited effects 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 Whooper Swan species or the integrity of the Coole-Garryland SPA as a result of air quality.

Surface water quality impacts on Coole-Garryland Complex SAC and Coole-Garryland SPA

- 9.5.8. It is proposed to connect foul discharges to the Gort WWTP, which discharges to the Gort River and is hydrologically connected to the SAC and SPA. The NIS states that, at the time of writing, upgrades to the Gort WWTP were due to be finished by October 2019 and would ensure that the proposal for foul discharges from the development would not result in nutrient enrichment or eutrophication. As previously outlined in section 8.8 of this report, the final effluent of the Gort WWTP is compliant

with Emission Limit Values and the capacity of the plant is not predicted to be exceeded within the next 3 years.

- 9.5.9. The NIS states that the development has the potential for sediments to enter the Gort River and undermine conservation objectives relating to water quality transparency and turbidity for 'Natural Eutrophic Lakes with Magnopotamion or Hydrocharition-type vegetation', and for the emission of nitrogen from the plant at operational stage to impact on soil type attributes for 'Turlough's and 'Rivers with muddy banks with *Chenopodium rubric p.p.* and *Bidenton p.p.* vegetation'. It states that suitable mitigation will be required to ensure that there is no potential for such surface water pollution events.
- 9.5.10. I have previously addressed the potential for impacts on surface water quality at construction and operational stage in section 8.8 of this report. 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 surface waters will be adequately managed.
- 9.5.11. Regarding potential cumulative impacts, I note the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre on a site located c. 300m to the south of the appeal site (ABP Ref. 310203-21 refers). This application has addressed the potential for impacts on surface water quality due to deleterious material run-off during construction and operation stages. The NIS submitted with the application includes measures to address flood risk; to contain run-off; for the treatment of surface water prior to discharge to the wastewater treatment plant; for the bunding of oils and paints etc; and for the containment of material through construction management practices. I am satisfied that the potential water 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. The potential cumulative surface water impacts with the M18 Motorway project have been satisfactorily addressed by the mitigation measures included in that project. The potential cumulative surface water impacts associated with wastewater discharges to the Gort River have been

satisfactorily addressed through the recent upgrade to the capacity of the Gort Wastewater Treatment Plant.

9.5.12. Although the Coole-Garryland SPA has not been included in the NIS, I am satisfied that surface water quality impacts on the foraging habitat of Whooper Swan is unlikely to be affected as it is a terrestrial feeding species. The site-specific conservation objectives for Whooper Swan in other SPAs relate to population trend and distribution. Having regard to the separation distance between the appeal site and the SPA; the limited effects on water quality 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 Whooper Swan species or the integrity of the Coole-Garryland SPA.

9.5.13. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of the Coole-Garryland SAC or Coole-Garryland SPA as a result of surface water quality impacts.

Groundwater Impacts to SACs within the same groundwater body

9.5.14. Coole-Garryland Complex SAC, Coole-Garryland SPA, Carrowbaun, Newhall and Ballylea Turlough SAC, Lough Coy SAC, Eastern Burren Complex SAC, Caherglassaun Turlough SAC, and Termon Lough SAC are within c. 4.5km of the development and are within the same groundwater body as the proposal. The NIS outlines that the construction stage of the development has the potential for impacts including non-toxic contamination (sedimentation/siltation) and toxic contamination (pollution, hydrocarbons, chemicals), and that the operational stage has potential impacts relating to nutrient enrichment / eutrophication and chemical pollution events.

9.5.15. The NIS considers that groundwater impacts on habitats such as petrifying springs and fens are not likely to be significantly affected, but that any mitigation measures relating to turloughs would need to essentially sever potential connectivity. It considers that potential impacts on turloughs are unlikely but that potential connectivity via underground routes is not fully known and the precautionary principle requires that appropriate mitigation is put in place to ensure an effective severing between the construction works, operating plant and ancillary infrastructure

(including drainage), and groundwater. Although the NIS did not include Termon Lough SAC or Coole-Garryland SPA, I am satisfied that similar circumstances would apply to this site as would to the other 5 sites listed in the preceding paragraph, and that the NIS information, predicted effects and mitigation measures can be equally applied to Termon Lough SAC and Coole-Garryland SPA to enable a full assessment.

- 9.5.16. I have previously addressed the potential impacts on groundwater quality at construction and operational stage in section 8.8 of this report. 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. While the NIS refers to a severing of potential groundwater connectivity, I acknowledge that the proposed infiltration area has the potential for a hydrological link. However, it should be noted that infiltration will only be used in the event of a 1 in 100-year storm event and the attenuation pond being full. Any such water would also have been treated via an interceptor prior to infiltration. I consider that the NIS reference to ‘severance’ of water connectivity should be applied only to process effluents and ‘dirty’ storm water, and I am satisfied that the proposal adequately provides for such an arrangement.
- 9.5.17. I acknowledge that further ground investigations will inform the detailed foundation design and further mitigation measures for structures, and that ongoing integrity testing and monitoring will apply to all potential groundwater pollution sources. Such monitoring arrangements are an established feature of the construction stage and I note that a Project Ecologist will be employed on site to ensure compliance with mitigation measures. Given the inherent challenges for large-scale construction in karst areas, I consider that this is a reasonable best-practice approach to ensure that potential impacts are appropriately mitigated.
- 9.5.18. Regarding potential cumulative impacts, I note the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre on a site located c. 300m to the south of the appeal site (ABP Ref. 310203-21 refers). This application has addressed the potential for impacts on groundwater

quality during construction and operation stages. The NIS submitted with the application includes 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.

- 9.5.19. Having regard to the above, I am satisfied that there will be no adverse impacts on the integrity of the Coole-Garryland Complex SAC, Coole-Garryland SPA, Carrowbaun, Newhall and Ballylea Turlough SAC, Lough Coy SAC, Eastern Burren Complex SAC, Caherglassaun Turlough SAC, or Termon Lough SAC as a result of groundwater quality impacts.

Impacts on Lesser Horseshoe Bats of Kiltartan Cave (Coole) SAC

- 9.5.20. The NIS highlights the potential for impacts on this QI as a result of the loss of foraging habitat and linear features. However, it states that these impacts are more relevant to summer roosting bats while these bats specifically hibernate during winter months, although there is limited potential for impacts during transitional periods. It highlights the intentions to strengthen hedgerow habitats and states that the commuting and foraging potential for bats will be increased. The NIS also acknowledges the potential light pollution impacts and impacts on winter roosts. It concludes that the proposed development is not located in the immediate surroundings of the SAC site and is not likely to impact on the roost site but accepts that the small-scale loss of linear features or inappropriate lighting has the potential for effects. It states that mitigation measures will be required and will be aimed towards areas where Lesser Horseshoe Bats were recorded on site.

- 9.5.21. I note that the Planning Authority and the DCHG have raised concerns about the scope of assessment carried out and potential impacts on foraging/commuting due to the loss of hedgerow. As previously outlined in this report, the EIAR assessment of bats is based on a total of 8 site surveys carried out between 2017-2019, including 1 winter habitat/roost survey and 7 dusk and dawn surveys during the active summer season. I also note that the applicant has consulted BCI on wider area records for bat species (Tables 5.9a, b & c of the EIAR) and I consider that surveys were

undertaken in accordance with relevant guidelines, including Bat Mitigation Guidelines for Ireland (NPWS, 2006). I note the suggestions that a wider scope of study would be required to assess how Lesser Horseshoe Bats are using the landscape, but I do not consider that this is warranted given the limited scale of impact associated with the proposed development.

9.5.22. I would concur with the EIAR conclusions that the site has negligible suitability for roosting and that the eastern boundary of the site is of 'county' importance for commuting. The appeal outlines that the concerns of the Planning Authority were incorrectly founded on a worst-case scenario of hedgerow removal (i.e. pre-mitigation) and contends that the impact of any commuting habitat will be mitigated through the retention and strengthening of hedgerows/linear features on site. I consider that existing vegetation, particularly the eastern site boundary, can be suitably retained given that the proposed works are generally significantly distanced from the site boundaries. This can be enforced through a suitable condition. I also note that the NIS includes measures to include an external lighting plan to ensure that areas of vegetation are retained in close to darkness (1 lux) and I am satisfied that this will appropriately address lighting impacts on bats.

9.5.23. Regarding potential cumulative impacts, I note the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre on a site located c. 300m to the south of the appeal site (ABP Ref. 310203-21 refers). This application has addressed the potential for loss of foraging, commuting and roosting habitat for the Lesser Horseshoe Bat and was subject to a 14-day survey which found only 2 records of site usage. It involves a small site (0.168ha) with limited vegetation and the proposal includes habitat enhancement measures and measures to ensure that lighting does not impact on bat activity. Accordingly, I am satisfied that likely significant effects on the Lesser Horseshoe Bat will not arise and there will be no cumulative impacts with the proposed biogas project.

9.5.24. I am satisfied that the mitigation measures relating to the retention of existing vegetation and the creation of new foraging habitat are suitable and can be enforced by the attachment of a suitable condition. Together with the provision of appropriate lighting on site, I consider that there will be no significant adverse effects on the Lesser Horseshoe Bats of Kiltartan Cave (Coole) SAC.

In-combination effects

9.5.25. The NIS considered consented proposals in the vicinity of the site and concluded that there was limited potential to act in combination with the proposed development to result in significant cumulative effects on any of the QIs identified within the zone of influence. It states that the upgrade of the Gort WWTP will prevent cumulative water quality impacts, that the lack of other significant projects obviates cumulative construction stage impacts, and that the lack of other IE licence developments in the zone of influence will ensure there will be no in-combination air quality impacts. I have carried out an updated review of such projects, including the current application before the Board for a local authority development consisting of a Civic Amenity site/Recycling centre (ABP Ref. 310203-21 refers), and I do not consider that there are any developments with potential to result in significant cumulative effects.

9.5.26. The NIS considers the cumulative impacts on the M18 Motorway as follows:

Air quality

The air quality modelling exercise is a measurement of increased impacts on existing background levels. It is, therefore, already a cumulative assessment, and the results of the air quality baseline monitoring show that the quality in the surrounding area is very good.

Water quality

The extensive mitigation measures undertaken as part of the M18 construction project and concludes that any cumulative water quality impacts with the proposed development can be deemed to be negligible.

Habitat Fragmentation

Limited loss of grassland and hedgerow has the potential to act in combination with the loss of similar features associated with the M18. However, if mitigation measures relating to habitat enhancement are implemented there will be minimal habitat loss.

9.5.27. Section 3 of the NIS sets out the measures proposed to mitigate the potential effects of the proposed development. In summary, they include the following:

Mitigation of Water Quality during Construction

- Inclusion of a Construction Environmental Management Plan (CEMP) incorporating the following:
 - Construction Waste Management Plan (CWMP)
 - Incident Response Plan (IRP)
 - IFI (2016) Guidelines on protection of fisheries during construction works in and adjacent to waters
 - CIRIA (2006) guidance on Control of water pollution from linear construction projects, and
 - SEPA (2017) guidance on Works and maintenance in or near water. GPP 5.
- Measures based on facility design to include:
 - Dedicated areas for deliveries, wash-out, storage
 - Use of bunding and secondary containment
 - Works involving chemicals/concrete will be suitably contained/cased
 - Minimise soil disturbance and off-site disposal of contaminated soils
 - No direct discharges to soil or surface water
 - Tank farm bund and second outer bund for processing areas
 - Integrity testing in the design of all structures
 - Prior to construction, areas where bedrock aquifer is exposed must be protected from surface activities
 - All outflows by diffuse overland drainage at appropriate locations and no on-site holding of pollutants unless bunded/contained.
 - Sealed effluent and water system
- Karstic mitigation measures to include ground investigations as part of detailed design to evaluate the karst bedrock and allow appropriate mitigation measures to ensure the integrity of bund design and foundation on competent bedrock.
- Hydrological Risk Assessment measures to include:
 - Regular integrity testing of bunding, hardstanding, vessels and piping
 - Groundwater monitoring boreholes
 - IRP to provide for total contamination clean-up of any spills

- Site surface water controlled and cleaned using best practice pollution control measures.
- Good housekeeping and facility management to prevent negative effects from sedimentation.
- Measures to avoid the release of cement leachate from the site
- On-site project ecologist to confirm adequacy of EIAR/CEMP mitigation measures and recommend further actions if required to avoid potential impacts on Natura 2000 sites.

Mitigation of water quality impacts during operation

- Connection to the upgraded Gort WWTP in accordance with Irish Water procedures will ensure that there will be no impact on surface water quality through eutrophication and/or nutrient enrichment.

Mitigation of air quality impacts on sensitive habitats

- Waste not handled outside the feedstock reception building, which will be enclosed and fitted with air/odour treatment facilities prior to exhausting
- Tanks/vessels will be fully sealed.
- Combustion of biogas in the CHP plant will destroy odorous compounds
- Adequate dispersion through 22m high stacks
- Operational procedures, recording, maintenance
- Neighbourhood / Stakeholder communication regarding complaints
- Compliance with EPA monitoring and requirements

Mitigation of impacts on Lesser Horseshoe Bats

- Hedgerow retention/strengthening and replacement where necessary
- Additional tree planting and strengthening of linear habitat
- Planting schedule to avoid any alien invasive plants
- External lighting plan to ensure that areas of vegetation are retained in close to darkness (1 lux).

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:

- Lough Coole-Garryland SAC (Site Code: 000252)
- Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293)
- Eastern Burren SAC (Site Code: 001926)
- Lough Coy SAC (Site Code: 002117)
- Caherglassaun Turlough SAC (Site Code: 000238)
- Kiltartan Cave (Coole) SAC (Site Code: 000286)
- Termon Lough SAC (Site Code: 001321)
- Coole-Garrland SPA (Site Code: 004107)

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 Lough Coole-Garryland SAC (Site Code: 000252); Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293); Eastern Burren SAC (Site Code: 001926); Lough Coy SAC (Site Code: 002117); Caherglassaun Turlough SAC (Site Code: 000238); Kiltartan Cave (Coole) SAC (Site Code: 000286); Termon Lough SAC (Site Code: 001321); Coole-Garryland SPA (Site Code: 004107) 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 Material Contravention

- 10.1. One of the Planning Authority's reasons for refusal (reason no.4) states that the proposed development would contravene materially a policy (NB 1), objectives (NB 1, NB 2, NB 3) and a development management standard (DM Standard 40) of the current Galway County Development Plan. This reason is based on the Planning Authority's conclusion that significant adverse effects on the integrity and conservation objectives of the European sites cannot be ruled out as a result of the proposed project, and that the development is likely to have significant adverse impacts on the qualifying criteria and conservation objectives of nearby European sites, in particular the Coole Garryland Complex SAC, the Coole Garryland SPA, Lough Cutra SAC and Kiltartan Cave SAC.
- 10.2. Section 37(2)(b) of the Planning and Development Act 2000 (as amended) outlines that, where a planning authority has decided to refuse permission on the basis of a material contravention of the development plan, the Board may only grant permission where it considers that one of the following circumstances apply:
- (i) the proposed development is of strategic or national importance,*
 - (ii) there are conflicting objectives in the development plan or the objectives are not clearly stated, insofar as the proposed development is concerned, or*
 - (iii) permission for the proposed development should be granted having regard to the regional spatial and economic strategy for the area, guidelines under section 28, policy directives under section 29, the statutory obligations of any local authority in the area, and any relevant policy of the Government, the Minister or any Minister of the Government, or*
 - (iv) permission for the proposed development should be granted having regard to the pattern of development, and permissions granted, in the area since the making of the development plan.*
- 10.3. However, despite the decision of the Planning Authority, the Board may determine that the proposed development would not materially contravene the Development

Plan. Having regard to the Appropriate Assessment conclusion outlined in section 9.6 of this report, I am satisfied that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of any European Sites. Accordingly, I would advise the Board that the proposed development would not materially contravene the Development Plan and the provisions of Section 37(2)(b) of the Act need not be applied.

- 10.4. Should the Board disagree with the Appropriate Assessment conclusion contained in this report, then the provisions of Section 37(2)(b) of the Act would be academic as the Board would be precluded from granting permission under the provisions of the Habitats Directive.

11.0 Recommendation

On the basis of the above planning assessment, Environmental Impact Assessment and Appropriate Assessment, I recommend that, subject to the conditions outlined in section 13 (below), permission should be granted for the proposed development in accordance with the recommended order in section 12 (below) and the reasons and considerations contained therein.

12.0 Recommended Order

Planning and Development Acts 2000 to 2020

Planning Authority: Galway County Council

Planning Register Reference Number: 19/1812

Appeal by Sustainable Bio-Energy Limited, care of Halston Environmental & Planning Ltd. of IHUB, Westport Road, Castlebar, County Mayo, against the decision made on the 2nd day of December 2020 by Galway County Council to refuse permission for the proposed development.

Proposed Development: Development of a Biogas Plant on a 10.01 hectare (ha) site located in the townlands of Ballynamantan, Kinincha and Glenbrack. The Biogas plant will utilise anaerobic digestion technology to produce renewable energy and organic fertiliser. The plant will consist of;

(i) Two storey office building (509 sq. m floor area) with connection to public sewer; incorporating offices / reception area, switch room, laboratory, welfare facilities, meeting room, storage room and electrical switch room;

(ii) single store electrical substation building (14.43 sq. m. floor area) and associated banded transformer;

(iii) 13.4m high feedstock reception building (3,806 sq. m floor area) incorporating; airlock lobby, feedstock reception area, processing and mixing areas, pasteurisation vessels and ancillary heating technology, wash down area, feedstock quarantine area, storage areas, workshop area, hygiene facilities, digestate separation area and process wastewater tanks;

(iv) banded tank farm (14,805 sq. m) containing; 2 no. pump house buildings (216 sq. m) and delivery pipework serving feedstock reception building, 8 no. digester vessels (each of c.15m in height and c.5, 120m³ in capacity) and 4 no. storage vessels (each of c.15m in height and c.5,120m³) fitted with gas collection roofs/domes, stairwell towers and gantries, banded digestate dispatch bays;

(v) biogas purification plant on raised concrete apron including containerised electrical room and glass modules, gas scrubber and filter unit (up to 14m in height), compressors, cooler, chiller, bottling plant and loading bays;

(vi) Carbon dioxide processing building (10.44m in height, 138 sq. m floor area) containing treatment plant and 4 no. outdoor storage tanks (each of 12m in height and 50m³ capacity) and dispatch area;

(vii) Odour control system comprising air scrubber units, carbon adsorption bed and associated stack of up to 23m in height;

(viii) energy centre, containing combined heat and power (CHP) plant and 2 no. standby boilers with exhaust stacks (16.4m in height);

(ix) Biogas ground flare stack (c. 8m in height) and gas booster station;

(x) weighbridge with secure lift barrier and all ancillary development, including perimeter fencing, internal access roads, emergency exist/entrance, planted soil berm and landscaping, car parking, surface water settlement and storage lagoons, lighting and all civil engineering works for the disposal of foul and surface water.

The development includes for construction of a new entrance to the site from the N18/R458 with associated signage and an access road (area of 1.734ha) from the new entrance to the Biogas plant.

Permission is being sought for 10 years and is a development that is for the purpose of an activity requiring an Industrial Emissions Licence from the Environmental Protection Agency (EPA). An Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) has been prepared and accompanies this planning application.

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 Northern & Western Regional Assembly

- (b) the policies and objectives set out in the Galway County Development Plan 2015-2021 and the Gort Local Area Plan 2013-2023
- (c) the provisions of the Climate Action Plan 2021 (Government of Ireland)
- (d) the Draft Bioenergy Plan (Department of Communications, Energy and Natural Resources, 2014)
- (e) the National Policy Statement on the Bioeconomy (Government of Ireland, 2018)
- (f) the Waste Action Plan for a Circular Economy – National Waste Policy 2020-2025 (Department of Environment, Climate and Communications)
- (g) the Connaught Ulster Regional Waste Management Plan 2015-2021
- (h) The Planning System and Flood Risk Management Guidelines (Department of Environment, Heritage and Local Government and The Office of Public Works, 2009)
- (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:

- Lough Coole-Garryland SAC (Site Code: 000252),
- Carrowbaun, Newhall and Ballylea Turloughs SAC (Site Code: 002293),
- Eastern Burren SAC (Site Code: 001926),
- Lough Coy SAC (Site Code: 002117),
- Caherglassaun Turlough SAC (Site Code: 000238),

- Kiltartan Cave (Coole) SAC (Site Code: 000286), and
- Termon Lough SAC (Site Code: 001321)
- Coole-Garryland SPA (Site Code: 004107)

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 Lough Cutra SAC, Peterswell Turlough SAC, Galway Bay Complex SAC, and the Inner Galway Bay SPA, 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 feedstock supply and digestate land-spreading over a multiplicity of sources/destinations, particularly under the circumstances when these activities are already occurring and will be suitably controlled by good agricultural 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 operational air quality impacts on Coole-Garryland Complex SAC and Coole-Garryland SPA, surface water quality impacts on Coole-Garryland Complex SAC and Coole-Garryland SPA at construction and operational stages, groundwater impacts to European Sites within the same groundwater body during construction and operational stages, and the impacts on Lesser Horseshoe Bats of Kiltartan Cave (Coole) SAC as a result of lighting and the loss of foraging habitat and linear features. 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 conservation objectives and there is no reasonable scientific doubt as to the absence of such effects.

Environmental Impact Assessment

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

- (a) the nature, scale, location and extent of the proposed development,
- (b) the Environmental Impact Assessment Report and associated documentation submitted with the application,
- (c) the reports and decision the Planning Authority, and the submissions received from third party observers and the prescribed bodies in the course of the application and the appeal, and
- (d) the Inspector's report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately identifies and describes the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board agreed with the Inspector's conclusion that it is not feasible or practical to assess the potential impacts associated with the provision of feedstock, the disposal of digestate, and the connection of the gas to the national network, particularly under the circumstances when these activities/projects are already occurring and will be suitably controlled by good agricultural practice/legislation and/or separate planning processes. Accordingly, the issue of project-splitting does not arise in this case and it is not reasonable or practical to assess the cumulative impacts of activities/projects associated with feedstock provision, digestate spreading or gas grid connection.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the planning application and the appeal. The Board considered and agreed with the Inspector's reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- Direct positive employment impacts from the construction and operational stages, as well as indirect employment associated with haulage, services and other spin-off sectors.
- 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.
- Direct and indirect impacts on Biodiversity at the construction and operational stages due to the loss of habitat, disturbance of species due to noise and lighting, and impacts on water quality and air quality. These impacts will be addressed by embedded mitigation measures including a sealed effluent/water system and landscape/habitat creation. Construction stage

impacts will be mitigated by the implementation of a Construction Environmental Management Plan including the establishment of a working corridor near treelines/hedgerows and an active approach to silt control. Operational stage impacts will be mitigated by the provision of suitable lighting and habitat creation, as well as future monitoring and remediation of habitat restoration proposals.

- Potential direct and indirect impacts on Hydrology and Hydrogeology at construction and operational stage as a result of construction materials/substance pollution, soil disturbance/removal, groundwater flood risk, and pollution from the operational processes and materials. These 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 be employed to ensure that all potential discharges to water will be adequately contained. Further ground investigations will inform the detailed foundation design for structures and ongoing Integrity test and monitoring will apply to all potential pollution sources. Any potential cumulative water impacts have been satisfactorily addressed by the mitigation measures included in the M18 Motorway project and by the recent upgrade to the capacity of the Gort Wastewater Treatment Plant.
- Direct air and odour impacts on sensitive receptors (including designated sites and biodiversity) and populations in the site vicinity as a result of emissions during the construction and operation stages. Construction stage impacts will be suitably distanced from sensitive receptors and will be mitigated by dust suppression measures. Operational air and odour emissions will be appropriately treated (including containment, CHP combustion, and odour abatement) and dispersed at height to comply with the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) and stringent odour target values.

- Positive indirect impacts on Climate due to a reduction in carbon dioxide emissions through the production of biogas as a replacement of fossil energy sources.
- Direct Noise impacts during the construction phase which will be suitably mitigated through compliance with construction noise standards and a Construction Environmental Management Plan.
- Landscape and Visual impacts due to the scale of the project, which will be mitigated by embedded design measures including the proposed layout, form and colours, as well as the creation of additional berm screening and landscape planting.
- Direct and indirect traffic and transport impacts which will be mitigated by the design of the proposed entrance and the control of haulage vehicle type and routes

The Board completed an Environmental Impact Assessment in relation to the proposed development and concluded that, subject to the implementation of the proposed mitigation measures set out in the Environmental Impact Assessment Report, and subject to compliance with the conditions set out below, the effects on the environment of the proposed development, by itself and in combination with other development in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

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 waste, and notwithstanding that the appeal site is not zoned for industrial use and the proposed development does not include a connection to the gas or electricity network, the Board did not consider that the proposed development was precluded at this location by any of the policies and objectives set out in the Galway County Development Plan 2015-2021 or the Gort Local Area Plan 2013-2023. Furthermore, 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

Gort, would not seriously injure the residential or visual amenities of the area, and would be acceptable in terms of pedestrian and traffic safety. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

13.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application on the 21st day of November, 2019, 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. The developer shall ensure that all mitigation measures set out in the Environmental Impact Assessment Report and Natura Impact Statement submitted with the application, 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.

3. The following limits and requirements shall be complied with in the anaerobic digestion process:
 - (a) A maximum of 90,000 tonnes per annum of raw materials shall be treated in the anaerobic digesters

- (b) The composition of feedstock used as input into the anaerobic digestors shall be as detailed in Table 2.4 of Volume 2 of the EIAR.

Reason: In the interests of clarity

- 4. 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 feedstock and final disposal areas of digestate,
- (b) The volumes of raw materials treated in the anaerobic digester in the previous 12 months,
- (c) The volume and weight of digestate produced and stored in previous 12 months, and
- (d) The volume and weight of Biomethane and Carbon Dioxide produced/stored on site in previous 12 months.

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

- 5. 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.

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

- 6. Prior to the commencement of development, the developer shall submit for the written agreement of the Planning Authority a breakdown of water/liquor

supply sources to the development with associated calculations that confirm the capacity to meet the requirement for 120,000m³ of liquor per annum as outlined in the Stormwater Report (Appendix 7.2 of Volume 3 of the EIAR).

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

7. Prior to commencement of development, the developer shall enter into water and/or waste water connection agreements with Irish Water.

Reason: In the interest of public health

8. (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 feedstock and digestate spreading 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 Gort town centre and 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 by condition 8 (a) above.

Reason: In the interests of traffic safety and to safeguard the amenities of the area.

9. Feedstock deliveries to the site and transport of digestate and 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.

10. Prior to the commencement of development, the developer shall 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 signage, lighting and road markings.

Reason: In the interest of traffic safety.

11. Permission is hereby granted on the basis that the maximum quantity of biogas and/or biomethane 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.

12. 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 soil, geology, hydrogeology and groundwater have been appropriately incorporated, and that the bund design shall withstand the uplift pressure of groundwater.

Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

13. The existing hedgerows along the eastern site boundary shall be retained, protected from damage, and enhanced in such a manner as to ensure that its value as a commuting and foraging habitat is protected. A revised Landscape Mitigation Plan shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development, and shall clearly detail proposals in this regard including the precise extent of existing hedgerow to be retained.

Reason: To ensure the protection of a feature of importance for bats.

14. 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

15. Site development and building works shall be carried out only between the hours of 0800 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.

16. 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 Environmental Impact Assessment Report and 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.

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.

17. 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 Environmental Impact Assessment Report and 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.

18. 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.

19. 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

20. 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 mitigation measures for bats as outlined in the Natura Impact Statement.

Reason: In the interest of amenity, public safety, and the protection of bats.

21. An odour management plan, which shall include a monitoring programme, shall be put in place by the developer in respect of the construction and 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.

Reason: To protect the residential amenities of the area.

22. 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

Stephen Ward
Senior Planning Inspector

3rd December 2021

Appendix: List of Observers

1. Leo Smyth
2. Kathleen Bell Boylan
3. Gort Biogas Concern Group
4. Sheelagh Jacobs
5. Noelle & Pearse Piggott and Family
6. Clare Conway
7. Richard Joyce (x2)
8. Jennifer Joyce
9. Aongus Kelly
10. PJ Hawkins Foodstore and Newsagent
11. Kitty Cunningham
12. Ignatius Cahill
13. John Sullivan
14. Bridie Dolan
15. Mary Brennan & Others
16. Karen O'Neill
17. Maisie Murphy
18. Diane Kirk & Others
19. Mary Anne Jacobs
20. Bill Richardson and Enda De Paor
21. Andreas Elder
22. Tony Hilley
23. Martina Dempsey
24. Rita Lundon
25. Grainne Ni Choncuile and Sean O'Connor
26. Sean Og Duffy
27. Edward Conlon & Others
28. Louise Duffy
29. Dermot Duffy
30. David Murray
31. Cuan Beo

32. Petra Bhreatnach & Others
33. E. Van Hout
34. Elizabeth Joyce
35. Mernie Gleeson
36. Bill Richardson & Emer MacSweeney
37. Richard & Christina Cooper & Others
38. South Galway AC
39. Frank Murray
40. Ciaran O'Donnell & Others
41. Sharon Cropera & Others
42. Sheila Duffy
43. George Fahey
44. James Kelly
45. Martin & Valerie Aherne
46. James B. Hannigan & Patricia Hannigan
47. Pat & Mona O'Donnell
48. Mary Kealy & Colman Sherry