



Submission

Submitter:	Trish Smullen
Submission Title:	GSI Submission
Submission Reference No.:	S010086
Submission Received:	27 August 2021

Application

Applicant:	Dublin Waste to Energy Limited
Reg. No.:	W0232-02

See below for Submission details.

Attachments are displayed on the following page(s).

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Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes
following European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018
(S.I. No. 296 of 2018)

Geological Survey Ireland Programme	Dataset	Relevant EIA Topic	Coverage	Description / Notes	Link to Geological Survey Ireland map viewer
Geohazards	Landslide: National landslide database and landslide susceptibility map	Land & Soil/Climate/Landscape	National	Associated guidance documentation relating to the National Landslide Susceptibility Map is also available.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=b68cf1e4a9044a5981f950e9b9c5625c
Geohazards	Groundwater Flooding (Historic)	Water	Regional	Provide information of historic flooding, both surface water and groundwater. [A lack of flooding presented in any specific location of the map only indicates that a flood has not been detected. It does not indicate that a flood cannot occur in that location at present or in the future]	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc
Geohazards	Groundwater Flooding (Predictive)	Water	Regional	Provides information on the probability of future karst groundwater flooding (where available). [The maps do not, and are not intended to, constitute advice. Professional or specialist advice should be sought before taking, or refraining from, any action on the basis of the flood maps]	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc
Geohazards	Radon Map	Land & Soils/Air	National		http://www.epa.ie/radiation/radonmap/
Geoheritage	County Geological Sites as adopted by National Heritage Plan and listed in County Development Plans	Land & Soils/Landscape	Regional	All geological heritage sites identified by Geological Survey Ireland are categorised as CGS pending any further NHA designation by NPWS.	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0b2fbd2aaac3c228
Geological Mapping	Bedrock geology:	Land & Soils	National	1:100,000 scale and associated memoirs.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea91067ee1b6ab8d58&scale=0
Geological Mapping	Bedrock geology:	Land & Soils	Regional	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea91067ee1b6ab8d58&scale=0
Geological Mapping	Quaternary geology: Sediments	Land & Soils	National	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea91067ee1b6ab8d58&scale=0
Geological Mapping	Quaternary geology: Geomorphology	Land & Soils	National	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea91067ee1b6ab8d58&scale=0
Geological Mapping	Physiographic units:	Land & Soils	National	Broad-scale physiographic landscape units mapped at 1:100,000 scale in order to be represented as a cartographic digital map at 1:250,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=afa76a420f54877843aca1bc075c62b
Geological Mapping	GeoUrban: Spatial geological data for the greater Dublin and Cork areas	Land & Soils	Regional	Includes 3D models	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=9768f4818b79416093beb2212a850ce6&scale=0
Geological Mapping	Geotechnical database	Land & Soils	National	Digital geotechnical and Site Investigation Reports and boreholes which can be accessed through online downloads	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=a27138be1873d47a585a3f0415b4a724c
Goldmine	Historical data sets including geological memoirs and 6" to 1 mile geological mapping records	Land & Soils/Water	National	Available online	https://secure.dcaa.gov.ie/goldmine/index.html
Groundwater & Geothermal	Groundwater resources (aquifers)	Water	National	Data limited to 1:100,000 scale; sites should be investigated at local scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater recharge.	Water	National	Data limited to 1:40,000 scale; sites should be investigated at local scale; long term annual average recharge	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater vulnerability.	Water	National	Data limited to 1:40,000 scale; sites should be investigated at local scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Group scheme and public supply source protection areas.	Water	National	Not all PWS / GWS have SPZ / ZOC. Check with IW / coco / NFGWS for private supplies.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater Protection Schemes	Water	National	Data is limited to scale of 1:40,000. Data does not include all of the source protection areas	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Catchment and WFD management units.	Water	National		https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	karst specific data layers	water	National	For areas underlain by limestone, includes karst features, tracer test database; turf/rough water levels (gwlevel.ie)	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Wells and Springs	Water	National	Not comprehensive, there may be unrecorded wells and springs	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater body Descriptions	Water	National	Not exhaustive; only those in designated SACs; could be other GWDTEs; for more information contact NPWS / EPA / site investigations Also, Roadmap for a Policy and Regulatory Framework for Geothermal Energy, November 2020	https://www.gsi.ie/en-ie/programmes-and-projects/groundwater-and-geothermal-unit/activities/understanding-ireland-groundwater/Pages/Groundwater-bodies.aspx
Groundwater & Geothermal	Geothermal Suitability maps	Land & Soils/Water	National		https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=9eae46bee08de41278b90a9916d0c0b9e
Marine & Coastal Unit	INFOMAR - Ireland's national marine mapping programme; providing key baseline data for Ireland's	Water	National		https://secure.dcaa.gov.ie/GSI/INFOMAR_VIEWER/
Marine & Coastal Unit	CHERISH - Coastal change project (Climate, Heritage and Environments of Reefs, Islands, and Headlands)	Water	Regional		http://www.cherishproject.eu/en/
Marine & Coastal Unit	Coastal Vulnerability Index (CVI).	water / Land & Soils	Regional	Currently the project is being carried out on the east coast and will be rolled out nationally	https://www.gsi.ie/en-ie/programmes-and-projects/marine-and-coastal-unit/projects/Pages/Coastal-Vulnerability-Index.aspx
Minerals	Aggregate potential	Land & Soils/Material Assets	National	Consideration of mineral resources and potential resources as a material asset which should be explicitly recognised within the environmental assessment process	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956
Minerals	Active quarries	Land & Soils	National		https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956
Minerals	Historic mines	Land & Soils/Cultural Heritage	National	Inventory and Risk Classification 2009. Environmental Protection Agency, Economic Minerals Division and Geological Survey Ireland (DECC).	https://gis.epa.ie/EPAMaps/default?zesting=7&lid=EPALEMA_Facilities_Extractive_Facilities
Tellus	Geochemical data: multi-element data for shallow soil, stream sediment and stream water	Land & Soils	Regional	A national mapping programme	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707f72754
Tellus	Airborne geophysical data including radiometrics, electromagnetics and magnetics	Land & Soils	Regional	A national mapping programme	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707f72754
Tellus	urban geochemistry mapping (Dublin SURGE project).	Land & Soils	Regional		https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707f72754

- Notes:
- The maps and data listed above are available on the Geological Survey Ireland map viewer <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>
 - Please read all disclaimers carefully when using Geological Survey Ireland data
 - Geological Survey Ireland and Irish Concrete Federation published guidelines for the treatment of geological heritage in the extractive industry in 2008.



Environmental Licensing Programme
Office of Environmental Sustainability
EPA
Johnstown Castle Estate
Wexford, Y35 W821

27 August 2021

Re: Industrial Emissions licence application, Dublin Waste to Energy Poolbeg Peninsula, Dublin 4

Your Ref: W0232-02

Our Ref: 21/281

Dear Sir/Madam,

Geological Survey Ireland is the national earth science agency and is a division of the Department of the Environment, Climate and Communications. We provide independent geological information and advice and gather various data for that purpose. Please see our [website](#) for data availability. Use of our data or maps should be attributed correctly to 'Geological Survey Ireland'.

With reference to your letter dated 29 July 2021, concerning the Industrial Emissions licence application, Dublin Waste to Energy, Poolbeg Peninsula, Dublin 4, Geological Survey Ireland would encourage use of and reference to our datasets. Please find attached a list of our publicly available datasets that may be useful to the licence review, environmental assessment and planning process. We recommend that you review this list and refer to any datasets you consider relevant to your assessment. The remainder of this letter and following sections provide more detail on some of these datasets.

We are pleased to see use of Geological Survey Ireland's Bedrock and Groundwater online datasets within the EIAR undertaken by AECOM.

Geoheritage

County Geological Sites (CGSs), as adopted under the National Heritage Plan, include geological sites that may be of national importance, but which were not selected as the very best examples for NHA designation. All geological heritage sites identified by Geological Survey Ireland are categorised as CGS pending any further NHA designation by NPWS. CGSs are now routinely included in County Development Plans and in the GIS of planning departments, to ensure the recognition and appropriate protection of geological heritage within the planning system. CGSs can be viewed online under the Geological Heritage tab on the online [Map Viewer](#). The audit for Dublin City was carried out in 2014. The full report details can be found at [The Geological Heritage of Dublin City](#). **Our records show that there are no CGSs in the vicinity of the Waste to Energy Facility.**

Groundwater

Geological Survey Ireland's [Groundwater and Geothermal Unit](#), provides advice, data and maps relating to groundwater distribution, quality and use, which is especially relevant for safe and secure drinking water supplies and healthy ecosystems.

Proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources in general. We recommend using the groundwater maps on our [Map viewer](#), which should include: wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps.

For areas underlain by limestone, please refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie). Background information is also provided in the Groundwater Body Descriptions. Please read all disclaimers carefully when using Geological Survey Ireland data.



Geohazards

Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. In Ireland, landslides, flooding and coastal erosion are the most prevalent of these hazards. We recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so.

Coastal Vulnerability is seen as a potential geohazard, while associated data collection and assessment is managed by our marine and coastal unit. In Table 16-2 Summary of Natural Disasters, we note reference to Scenario Refs.15 and 16, Natural Disaster - Flooding and Climate Change respectively. Geological Survey Ireland is undertaking a new coastal vulnerability mapping initiative. Maps produced by this project will provide an insight into the relative susceptibility of the Irish coast to adverse impacts of sea-level rise through the use of a Coastal Vulnerability Index (CVI). Currently the project is being carried out on the east coast and will be rolled out nationally, detailed information and maps are available [here](#). These index-based maps offer a simple, easy visual representation of sensitive areas based on robust methods and conceptualised metrics from latest research, adapted to the Irish context. This will enable coastal managers to prioritize or concentrate efforts on adaptation. **The CVI data for Dublin is due to be published shortly and provisional data can be made available upon request.**

In Table 16-2 Summary of Natural Disasters we note reference to Scenario Ref. 19, 'Subsidence'. We would like to draw your attention to Geological Survey Ireland's work on subsidence and ground instability associated with compressible ground. Ground instabilities affect parts of Co. Dublin and Geological Survey of Ireland has developed a map and report which shows and describes areas of potential or observed ground instabilities as part of the [FP7 PanGeo project](#). Geological Survey of Ireland datasets along with Ordnance Survey Ireland (OSi) mapping, PSI datasets and limited field validation were used to develop this interpretation. The [PanGeo](#) interpretation has led to the delineation of 9 polygons (areas) within which potential or observed ground instabilities have been identified. The PanGeo online map viewer and Dublin report are available [here](#) and [here](#). OSi have PanGeo data in their geohive viewer at <http://map.geohive.ie/mapviewer.html>.

Long term ground movement has been recorded at Ringsend and at the margins of the site and at the water treatment site immediately to the east of the Waste to Energy Facility (see attached images from page 24 and 61 of the Pangeo Dublin report).

Fig PGGH_Dublin_002.2 shows an image of a 3 km section of the estuary of the River Liffey. ERS PSI point data indicates subsidence in certain parts of the area.





Fig PGGH_Dublin_009.1 Red and orange Envisat PSI points showing an area of subsidence on aerial imagery
(Licence No. EN 0047212)

Geotechnical Database Resources

Geological Survey Ireland continues to populate and develop our national geotechnical database and viewer with site investigation data submitted voluntarily by industry. The current database holding is over 7500 reports with 134,000 boreholes; 31,000 of which are digitised which can be accessed through downloads from our [Geotechnical Map Viewer](#). The use of this database as part of any baseline geological assessment can provide invaluable baseline data for the region or vicinity of proposed development areas.

Geochemistry of soils, surface waters and sediments

Geological Survey Ireland provides baseline geochemistry data for Ireland as part of the Tellus programme. Baseline geochemistry data can be used to assess the chemical status of soil and water at a regional scale and to support the assessment of existing or potential impacts of human activity on environmental chemical quality. Our Tellus pages host urban geochemistry mapping (Dublin SURGE project). Geological Survey Ireland and partners are undertaking applied geochemistry projects to provide data for among other things, waste soil characterisation ([Geochemically Appropriate Levels for Soil Recovery Facilities](#)).

Marine and Coastal Unit

As this site is located in a low lying coastal area our data collected and managed by our Marine and Coastal Unit may be of use. Our marine environment is hugely important to our bio-economy, transport, tourism and recreational sectors. It is also an important indicator of the health of our planet. Geological Survey Ireland's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages [INFOMAR](#), Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector.

The programme delivers a wide range of benefits to multi-sectoral end-users across the national blue economy with an emphasis on enabling our stakeholders. Demonstrated applications for the use of INFOMAR's suite of mapping products include Shipping & Navigation, Fisheries Management, Aquaculture, Off-shore Renewable Energies, Marine Leisure & Tourism and Coastal Behaviour.

INFOMAR also produces a wide variety of seabed mapping products that enable public and stakeholders to visualize Ireland's seafloor environment <https://www.infomar.ie/maps/downloadable-maps/maps>.

We would therefore recommend use of our Marine and Coastal Unit datasets available on our [website](#) and [Map Viewer](#).



The Marine and Coastal Unit also participate in coastal change projects such as [CHERISH](#) (Climate, Heritage and Environments of Reefs, Islands, and Headlands) and are undertaking mapping in areas such as coastal vulnerability and coastal erosion. Further information on these projects can be found at [here](#).

I hope that these comments are of assistance, and if we can be of any further help, please do not hesitate to contact me Clare Glanville, or my colleague Trish Smullen at GSIPlanning@gsi.ie.

Yours sincerely,

Clare Glanville
Senior Geologist
Geological Survey Ireland

Enc: Table - Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes.

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From: [CorporateSupport.Unit](#)
To: [Licensing Staff](#)
Cc: [CorporateSupport.Unit](#)
Subject: Reply from DECC re EIS 21/281 Industrial Emissions Licence Dublin Waste to Energy
Date: Friday 27 August 2021 10:59:29
Attachments: [GSI datasets relevant to EIA & SEA_20210421.pdf](#)
[21_281 Industrial Emissions Licence Dublin Waste to Energy.pdf](#)

EPA reference : W0232-02

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Good morning,

Please see attached and below a reply from Ms. Trish Smullen and Dr Clare Glanville (Senior Geologist) on behalf of Geological Survey Ireland, (a division of the Department of Environment, Climate and Communications) for the subject below.

Please forward an acknowledgment of receipt to CorporateSupport.Unit@decc.gov.ie at your earliest convenience.

Regards,
Enda Brady,
Corporate Support Unit,
Department of Environment, Climate and Communications.
087 623 7714

From: GSI Planning
Sent: 27 August 2021 09:29
To: CorporateSupport.Unit
Cc: Clare Glanville; GSI Planning
Subject: RE: EIS 21/281 Industrial Emissions Licence Dublin Waste to Energy

Hi Enda,
Please see attached response and dataset sheet for return to the EPA.
Thanks and regards,
Trish

From: GSI Planning
Sent: 30 July 2021 14:24
Cc: GSI Planning
Subject: EIS 21/281 Industrial Emissions Licence Dublin Waste to Energy

EIS 21/281

Industrial Emissions Licence application from Dublin Waste to Energy.
Request for observations by the EPA for return via the CSU Mailbox.
Letter attached.

Regards,
Trish

From: noreply Reply [mailto:noreply@epa.ie]

Sent: 29 July 2021 16:52

To: An Bord Pleanála; An Taisce - The National Trust For Ireland; Department of Agriculture, Food and the Marine; Department of Culture, Heritage and the Gaeltacht; Department of Transport, Tourism and Sport; CorporateSupport.Unit; WPPR; Dublin City Council - Environ Section Spec Body; Dublin City Council - Planning Section Spec Body; Fáilte Ireland - Spec. Body; Health & Safety Authority; Health Service Executive (HSE); Inland Fisheries Ireland - Spec Body; Irish Water - Spec. Body; Teagasc; The Heritage Council

Subject: Notification from EPA in relation to W0232-02 Dublin Waste to Energy EPA043439

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Sir/Madam,

Please review the attached notification. Any response should be submitted to licensing@epa.ie.

EPA Correspondence Ref# LACT00008383 EIS/EIAR - Further Specified Body Notification.

Please note that there is **no requirement to acknowledge receipt** of this e-mail.

Yours faithfully,
Environmental Protection Programme
Office of Environmental Sustainability
Tel: 053-9160600

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Tá eolas sa teachtaireacht leictreonach seo (agus b'fhéidir sa chomhaid ceangailte leis) a d'fhéadfadh bheith príobháideach nó faoi rún. Is le h-aghaidh an duine/na ndaoine nó le h-aghaidh an aonáin atá ainmnithe thuas agus le haghaidh an duine/na ndaoine sin amháin atá an t-eolas. Murab ionann tusa agus an té a bhfuil an teachtaireacht ceaptha dó bíodh a fhios agat nach gceadaítear nochtadh, cóipeáil, scaipeadh nó úsáid an eolais agus/nó an chomhaid seo. Más trí earráid a fuair tú an teachtaireacht leictreonach seo cuir, más é do thoil é, an té ar sheol an teachtaireacht ar an eolas láithreach. Deimhnítear leis seo freisin nár aims odh víreas sa phost seo tar éis a scanadh.