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Sent: 23 January 2019 16:57
To: RSES; Malachy Bradley
Cc: Koen Verbruggen; Matt Collins
Subject: Geological Survey Ireland submission to Draft Regional Spatial and Economic Strategy
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A chara,

Please find attached a submission from the Geological Survey Ireland on the Draft Regional Spatial and Economic Strategy for the Eastern and Midland Region.

Yours,

Eoin McGrath



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Eastern and Midland Regional Assembly,
3rd Floor North,
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23rd January 2019

[By email to rses@emra.ie]

Title: Geological Survey Ireland Submission to the Draft 'Regional Spatial and Economic Strategy for the Eastern and Midland Region' Public Consultation

A Chara,

Founded in 1845, the Geological Survey Ireland (GSI) is Ireland's national earth science knowledge centre. GSI is committed to providing free, open and accurate data and maps on Ireland's subsurface to landowners, the public, industry, and all other stakeholders, within Ireland and internationally. GSI welcomes the opportunity to provide comments to the Draft Regional Spatial & Economic Strategy published by the Eastern and Midland Regional Assembly.

GSI is a Division of the Department of Communication, Climate Action and Energy. The Department's objective is to ensure Ireland's natural resources are exploited and managed in a sustainable way, through developing knowledge of Ireland's hydrocarbon and mineral resources, ensuring an economy based on resource efficiency and the re-use, recovery, recycling and disposal of waste, while advancing geoscience knowledge through the work of the GSI.

In addition, GSI acts as a project partner in interpreting data and developing models and viewers to assist the public, industry and decision makers in understanding the subsurface. It maintains expertise in and deals with a diverse array of topics including bedrock, minerals, groundwater, seabed mapping, natural disasters, and public health risks.

GSI works closely and in collaboration with numerous other public bodies and agencies including Teagasc, Irish Water, Environmental Protection Agency, Dept. of Housing Planning & Local Government and numerous local authorities across the country.

The Geological Survey Ireland supports the development of the Eastern & Midland Regional Assembly's Spatial & Economic Strategy. GSI will make its expertise available in providing data and knowledge to assist EMRA in ensuring that the strategic plan and investment framework of the region is aligned with the concept of sustainable development.

GSI would be happy to contribute further to the development of this strategy and is available for further discussion or to answer any questions that may arise from this submission. This submission has been developed by the Marine Programme and by the Minerals Programme of GSI as these sectors play a vital strategic role in the region, in terms of supporting economic activity and underpinning social infrastructure.



GSI has several recommendations and submissions outlined in this document, with the key points summarised below.

- **GSI submits that the potential employment and sustainable development benefits of the natural resources industry to rural communities should be explicitly recognised within the Spatial & Economic Strategy of the Regional Assembly.**
- **GSI submits that the potential contribution of the natural resources sector in Ireland to the climate change challenge should be explicitly recognised within the draft document, particularly given the region's international standing as both a current and future producer of battery critical elements.**
- **GSI submits that the protection of aggregates and minerals from development that might prejudice their utilisation as outlined in the National Planning Framework should be explicitly recognised and stated in the Regional Spatial & Economic Strategy.**
- **GSI submits that the sustainable development of our natural resources should be an integral policy objective of all city and county development plans to ensure that the materials required for our society are available when required.**
- **GSI submits that the economic, social and environmental cost of sourcing minerals and aggregate from distant sources as opposed to locally derived material should be recognised within the Regional Spatial and Economic Strategy and the planning process.**
- **GSI submits that through its marine mapping and coastal programmes, has developed leading data acquisition and interpretation capabilities in the field of coastal and marine science and is keen to make this knowledge and expertise available as required by EMRA and the local authorities in the region.**

Eastern and Midland Region: A World Class Mining & Aggregates Location

The Eastern & Midland region is a world class investment location for exploration and mining companies and is host to Boliden Tara Mines, the largest zinc mine in Europe and one of the top 10 worldwide. Tara mines has been in operation since 1977, employs 580 direct employees and has an economy wide impact of over 1,200 full time equivalent jobs.

The region is an internationally renowned exploration destination with extensive potential for metal exploration, particularly in the more rural areas. Ongoing advanced projects across the region include prospects in Meath, Longford, Westmeath, Offaly, Laois, Kildare and Wicklow, both in base metals and lithium.

The significance of the natural resources sector, as outlined in the above example and recently published research undertaken by Indecon¹ is reflected in the National Planning Framework (NPF) under National Policy Objective 23 [pg. 78], which states;

¹ Indecon (2017) 'An Economic Review of the Irish Geoscience Sector' Accessible via:
https://www.gsi.ie/documents/Indecon_Economic_Review_of_Irish_Geoscience_Sector_Nov2017.pdf



“Extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export. The planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important reserves of aggregates and minerals from development that might prejudice their utilisation. Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation.”

GSI submits that the potential employment and sustainable development benefits of this industry to rural communities should be explicitly recognised within the Spatial & Economic Strategy of the Regional Assembly.

Additionally it is clear that the sustainable development of Irish natural resources has an increasingly large role to play in the transition to a lower carbon greener economy. In particular, development of the zinc and lithium prospects located in the Eastern & Midland region can help to position Ireland as major international source of battery technology and raw materials. Chapter 7.8 of the Draft Regional Spatial & Economic Strategy clearly outlines the country and the region’s commitment to climate change prevention and mitigation.

GSI submits that the potential contribution of the natural resources sector in Ireland to the climate change challenge should be explicitly recognised within the draft document, particularly given the region’s international standing as both a current and future producer of battery critical elements.

Aggregate Requirements

The NPF recognises that the Eastern & Midland region is projected to grow in population size by at least 500,000 people over the next 20 years, requiring a commensurate increase in housing stock. On a national level the National Development Plan has projected the need for over 500,000 new housing units nationally, with an average rate of 25,000 new units per year. Nationally at present less than 20,000 units have been constructed every year since 2010 however the number of units completed is likely to increase over the coming years.

This has led to the Housing Agency identifying urban settlement housing shortfalls in nine locations across the state. Existing and future housing growth will require a sustainable aggregate supply to construct these residential units; therefore it is important that the role of aggregates is recognised within the strategy. Couple with the delivery of housing units is the need to deliver infrastructure of all kinds which enable the population of the EMRA to live, work and recreate.

The Strategic Investment Priorities enumerated in the NPF are significant drivers of this demand, particularly the first three; Housing and Sustainable Urban Development, National Road Network and Rural Development. It is clear that a significant expansion in housing and complementary infrastructure is required to support sustainable development in the years leading up to 2040 and this will require an associated expansion in aggregate production and capacity.

Research by the British Geological Survey has estimated that the **aggregate material required for each housing unit is approximately 60 tonnes per residential unit, increasing to 400 tonnes per unit**



when roads and utilities are included². This research broadly aligns with international figures and is therefore applicable in an Irish context.

Simply to meet Ireland's projected housing requirements; 220 million tonnes of aggregate will be required over the next 20 years, over 10 million tonnes per year solely for the residential construction market. At present, Ireland produces approximately 30Mt of aggregate material which is projected to expand by a minimum of 15% per annum. The projected aggregate needs of the Eastern and Midland region will almost certainly require the expansion and development of quarry capacity in line with the National Planning Framework.

The GSI is firmly of the view that the sustainable development of our natural resources should be an integral part of all development plans from a national to regional to local level to ensure that the materials required for our society are available when required.

GSI has identified several Regional Policy Objectives which it wishes to highlight from a mineral resources and mineral potential standpoint. GSI would be happy to make a further presentation on any topic mentioned within this submission.

- ***RPO 3.3: Identification of suitable employment and residential lands and suitable sites for infrastructure should be supported by a quality site selection process that addresses environmental concerns such as landscape, cultural heritage, ensuring the protection of water quality, flood risks and biodiversity as a minimum.***

GSI highlights the need for the inclusion of mineral resources as a consideration in the identification of sites for infrastructural development. Sites which may hold the potential for strategically important deposits should not be identified for development that would prejudice their utilisation as a natural resource.

- ***RPO 4.2: Infrastructure investment and priorities shall be aligned with the spatial planning strategy of the draft RSES. All residential and employment developments should be planned on a phased basis in collaboration with infrastructure providers so as to ensure adequate capacity for services (e.g. water supply, wastewater, transport, broadband) is available to match projected demand for services and that the assimilative capacity of the receiving environment is not exceeded.***

GSI highlights the need to consider the availability of construction materials in the infrastructural planning process. The location, quality and quantity of available material is a significant factor that should be considered within the spatial planning strategy.

- ***RPO 4.22: Core strategies in Local Authority development plans shall support objectives to achieve a minimum of 30% of housing in key towns by way of compact growth through the identification of key sites for regeneration.***

GSI highlights the need to consider the availability of construction materials in the infrastructural planning process. Significant quantities of suitable aggregates shall be needed in close proximity to key towns to sustainably develop and regenerate the sites identified.

² British Geological Survey (2008) 'Open Report (OR/08/26)' Accessible via:
<https://www.bgs.ac.uk/downloads/start.cfm?id=1373>



- **RPO 5.1:** Support continued collaboration between infrastructure providers, state agencies and Local Authorities in the metropolitan area to inform cross sectoral investment plans and capital spending plans to accelerate the development of strategic development areas and secure the best use of public lands in the Dublin metropolitan area.

GSI highlights the need to include aggregate sourcing within any infrastructural development plan.

- **RPO 6.2:** Local Authorities shall have regard to environmental and sustainability considerations for meeting sustainable development targets and climate action commitments, in accordance with the National Adaptation Framework. In order to recognise the potential for impacts on the environment, Local Authorities shall address the proper site/route selection of any new development and examine environmental constraints including but not limited to biodiversity, flooding, landscape, cultural heritage, material assets, including the capacity of services to serve any new development.

GSI highlights the consideration of mineral resources and potential resources as a material asset which should be explicitly recognised within the environmental assessment process. A designation which prejudices the development of a local resource may lead to material being sourced from a greater distance at a commensurately larger environmental cost.

- **RPO 6.20:** Support enterprise development agencies and LEOs on the development of industries that create and employ green technologies and take measures to accelerate the transition towards a low carbon economy and circular economy.

GSI notes that the largest cost both economically and environmentally in the production of aggregates is the transport of material from the source to the final destination. A development plan which incorporates the sustainable production of aggregates from local sources can significantly contribute towards the lowering of the carbon cost of construction.

Eastern and Midland Region: A Coastline of Vital Importance

The Eastern and Midland Region is a marine region with significant economic and social development potential, with a coastal in excess of 200 kilometres. This incorporates nationally significant infrastructure such as ports, pipelines, telecommunication and energy cable landing points. In addition, the area supports vibrant fishing grounds, environmentally important areas of conservation as well as heritage and historical assets.

The Marine and Coastal Unit (MCU) of Geological Survey Ireland is tasked with the management of Ireland's seabed mapping programme, INFOMAR ([Integrated Mapping For the Sustainable Development of Ireland's Marine Resource](#)) in partnership with the Marine Institute. The GSI operates several vessels on behalf of this globally recognised programme focused on seabed mapping in the near-shore and offshore environments.

Additionally the GSI and INFOMAR teams are involved with the INTERREG funded CHERISH (Climate and Heritage of Reefs Islands and Headlands) project and European Space Agency funded coastal vulnerability studies, which involve expertise in the fields of satellite and drone mapping. Through these projects and programmes a comprehensive knowledge base has been developed within the GSI and INFOMAR programmes in relation to marine and coastal mapping products, data analysis and



interpretation. GSI is eager to make this knowledge base and expertise available to EMRA in support of the RSES and other initiatives as they arise going forward.

Given the significant importance of the marine region, GSI observations on the Regional Policy Objectives related to marine and coastal area of the region are outlined below.

- **RPO 7.1:** *To ensure consistency and alignment between the upcoming National Maritime Spatial Plan (due in 2021) and regional approaches to marine spatial planning and to integrate the Marine Strategy Framework Directive and Marine Spatial Planning implementation into future land use plans in the Region in recognition of the opportunity to harness Ireland's ocean potential.*

GSI is actively involved in the acquisition of very high resolution data in the marine and coastal environment from vessel, satellite and drone based sensors. According to the MSP Directive 2014/89 EU, member states are obliged to make use of best available data.

Due to the nuances and large file sizes of these datasets, web-viewers are often obliged to host lower fidelity versions of these datasets. Also, GSI notes that various applications that relate to marine spatial planning would require data at varying spatial resolutions.

As originators of these data, GSI / INFOMAR are happy to provide advice and guidance on the optimal application of these datasets as they relate to ongoing planning objectives during the development of Ireland's Marine Spatial Plan

- **RPO 7.2:** *To achieve and maintain 'Good Environmental Status' for marine waters and to ensure the sustainable use of shared marine resources in the Region, and to promote the development of a cross-boundary and cross-border strategic management and stakeholder engagement framework to protect the marine environment.*

GSI believes that stakeholder engagement and cross-border and cross boundary cooperation using high quality datasets represents a useful starting point in associated dialogues.

- **RPO 7.3:** *EMRA will support the use of Integrated Coastal Zone Management (ICZM) to enable collaborative and stakeholder engagement approaches to the management and protection of coastal resources against coastal erosion, flooding and other threats.*
- **RPO 7.4:** *Statutory land use plans shall take account of the risk of coastal erosion, whereby new development should be avoided in areas at risk of coastal erosion to the greatest extent practicable.*

In addressing coastal erosion the strategic application of Earth Observation techniques in the identification and monitoring of coastal vulnerability to erosion is being addressed by the GSI through an ESA funded initiative while significant insight into the monitoring of at risk sites through the use of repeat UAV surveys is currently being coordinated with the Office of Public Works. Again these datasets are available through GSI along with corresponding guidance. This data is available to underpin the work of the regional assembly and local authorities when they commence work on forthcoming marine regional planning strategies going forward.



- **RPO 7.5:** *EMRA shall work with coastal stakeholders to support the sustainable development of the national Fishery Harbour Centre in Howth and the sustainable growth of the seafood sector in the Region, to ensure that marine resources are sustainably managed and that planned activities on land do not adversely affect the marine economy and environment.*

INFOMAR data products are a key baseline dataset for the development of key oceanographic models underpinning Irish fisheries research.

- **RPO 7.6:** *Local Authorities shall include in Development Plans, where relevant, policies for the protection and enhancement of ship wrecks and underwater cultural heritage and shall consult the Wreck Inventory of Ireland Database when assessing planning applications located in marine, riverine or lacustrine environments.*

The INFOMAR programme maintains a comprehensive database of shipwrecks and sites of relevance to coastal heritage are being actively studied as part of the CHERISH project

- **RPO 8.20:** *EMRA supports ports of Regional Significance that serve an important regional purpose and/or specialised trades or maritime tourism; and the accessibility requirements of regional ports within the Region, from within their regional catchments will be addressed through the provision of improved access routes, where necessary and improved access to the national and regional road networks. Opportunities for the use of rail, where such ports are connected to the rail network is also promoted.*
- **RPO 8.21:** *EMRA supports the protection of the marine related functions of ports in the Region in order to ensure the future role of ports as strategic marine related assets is protected from inappropriate uses, whilst supporting complimentary economic uses including the potential for facilitating offshore renewable energy development at ports.*

As part of the nationwide seabed survey, INFOMAR vessels have surveyed many of the national ports and harbours on the coast. These data represent a useful baseline for monitoring and mapping change through subsequent survey work on the part of the various ports

- **RPO 8.22:** *EMRA supports the undertaking of feasibility studies to determine the carrying capacity of ports in relation to potential for likely significant effects on associated European sites including SPAs and SACs.*

INFOMAR have a strong working relationship with National Parks and Wildlife Service (NPWS) carrying out an appropriate assessment annually and INFOMAR data have been used in the designation of several SACs offshore

- **RPO 10.19:** *Support the sustainable development of Ireland's offshore renewable energy resources in accordance with the Department of Communications, Energy and Natural Resources 'Offshore Renewable Energy Development Plan' and any successor thereof including any associated domestic and international grid connection enhancements.*

As custodians of Ireland's national marine dataset, which is made freely available to all stakeholders including operators in the field of offshore wind energy, INFOMAR are well positioned to offer guidance on the analysis and interpretation of high resolution seabed data for the identification of suitable sites for the development of offshore renewable energy



Roinn Cumarsáide, Gníomhaíthe
ar son na hAeráide & Comhshaol
Department of Communications,
Climate Action & Environment



Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

Conclusion

GSI would like to commend the work that has been undertaken by the Eastern and Midland Regional Assembly on the draft Regional Spatial and Economic Strategy. If GSI can be of any assistance to further this important initiative then please do not hesitate to contact us.

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