



Rialtas na hÉireann
Government of Ireland

Draft Policy Statement on Mineral Exploration and Mining

Published for Consultation

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Prepared by the Department of the Environment, Climate & Communications
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Table of Contents

Table of Contents.....	i
Foreword.....	1
Executive Summary	2
1 Minerals	3
1.1 Minerals – what are they?	3
1.2 Why do we need minerals?	3
1.3 Where do we get minerals from now?	6
2 National, EU and International Policy Context for Mineral Exploration and Mining	8
National Policy Context	8
2.1 Programme for Government - Our Shared Future	8
2.2 Circular Economy Strategy (draft for public consultation, April 2021)	9
2.3 Project 2040 and National Planning Framework	11
2.3.1 Spatial Planning	12
2.3.2 Regional Planning – Regional Spatial and Economic Strategies	12
2.3.3 City and County Development plans and Local Area Plans.....	13
2.4 Climate Action Plan 2019 to Tackle Climate Breakdown	13
2.5 Our Rural Future - Rural Development Policy 2021-2025	14
2.6 Waste Action Plan for a Circular Economy	15
2.7 National Clean Air Strategy	17
2.8 Future Jobs Ireland 2019 – Preparing Now for Tomorrow’s Economy	17
EU Policy Context	18
2.9 The European Green Deal	18
2.10 Critical Raw Materials (CRMs)	19
2.11 The European Innovation Partnership (EIP) on Raw Materials	21
2.12 Strategic Action Plan on Batteries	21
International policy context.....	22

2.13 United Nations Sustainable Development Goals	22
3 Regulatory Framework	24
3.1 Measures in place to mitigate the environmental impacts of mineral exploration	24
3.2 Measures in place to mitigate the environmental impacts of mining	25
3.3 Mineral exploration and mining in the marine space	26
4 Mineral Exploration and Mining Policy	27
4.1 Key Principles	27
4.1.1 Robust Regulation	27
4.1.2 Increasing awareness and participation	27
4.1.3 Sustainable development	27
4.1.4 Building capacity and access to knowledge	29
4.1.5 International co-operation	29
4.2 Key Priorities	29
4.2.1 Building Public Understanding and Trust	29
4.2.2 Enhancing the Regulatory Framework	31
4.2.3 Research on the role of minerals in the transition to net-zero greenhouse gas emissions by 2050	32
4.2.4 Better data enhancing policy and decision-making	32
4.2.5 Monitoring, Review and Reporting	33
5 Appendix A Scheduled Minerals	34
6 Appendix B Mineral Exploration and Mining in Ireland – Additional information	35
6.1 Mineral Exploration	35
6.2 Ireland's Mineral Potential	35
6.3 Where does mineral exploration or mineral prospecting take place?	36
6.4 Mining in Ireland	37
6.5 Modern day mining in Ireland and how it differs from the past	37
6.6 Legacy Mines	38

7 Appendix C International Initiatives to source minerals responsibly and promote sustainable mining	40
7.1 Kimberly Process.....	40
7.2 Minerals from Conflict Areas	40
7.3 Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF)	41
8 Appendix D - Frequently Asked Questions on Mineral Exploration and Mining.....	42
9 Glossary.....	49

Foreword

The Department of the Environment, Climate and Communications is seeking views on a Draft Policy Statement on Mineral Exploration and Mining. This draft Policy Statement covers a range of issues relevant to the mineral exploration and mining sector such as the role of minerals in our everyday lives and in our transition to net zero greenhouse gas emissions; the regulation of the sector, how the sector contributes to the achievement of other national, EU and international policies as well as setting out a draft policy, key principles and key priorities for the sector.

All submissions are welcome and will be considered in finalising the Policy Statement.

Submissions can be made to the following e-mail address: GSPD@DECC.gov.ie

Alternatively submissions and responses can be returned by post marked '**Consultation on mineral exploration and mining**' to:

Geoscience Policy Division
Department of the Environment, Climate and Communications
29-31 Adelaide Road
Dublin, D02 X285
Ireland

The closing date for submissions is **5.30pm on Friday, 15 October, 2021.**

Responses to this consultation are subject to the provisions of the Freedom of Information Act 2014 and Access to Information on the Environment Regulations 2007-2014.

Confidential or commercially sensitive information should be clearly identified in your submission, however parties should also note that any or all responses to the consultation are subject in their entirety to the provisions of the FOI Acts and will be published on the website of the Department of the Environment, Climate and Communications . **By responding to the consultation, respondents consent to their name being published online with the submission.** Please indicate in your response whether you are submitting a response in a personal capacity or on behalf of an organisation. The Department will redact personal addresses and personal email addresses prior to publication. There will be no redaction of contact information or names in submissions from an organisation. We would draw attention to the Department's privacy statement: "The Department of the Environment, Climate and Communications require responders to provide certain personal data in order to provide services and carry out the functions of the Department. Your personal data may be exchanged with other Government Departments and Agencies in certain circumstances, where lawful. Full details can be found in our Data Privacy Notice."

Executive Summary

Minerals matter. They are fundamental to how we live our lives, providing the raw materials which allow our society and economy to function and evolve. Minerals are vital to many sectors, including renewable energy, transport, electronics, communications, health, pharmaceuticals, agriculture, and construction.

In Ireland the importance of mineral exploration and mining has long been recognised.

This draft policy statement seeks to underline the importance of mineral exploration and mining and the role that they can play in:

- Ireland's and the European Union's transition to the circular economy and net-zero greenhouse gas emissions;
- Supporting primary and secondary economic activity and associated jobs creation; and
- Progressing many of our national, European and international policies and commitments.

It also seeks to put in place a clear and sustainable policy framework that supports our communities, our environment, our climate and our mineral exploration and mining sector.

This draft policy statement includes:

1. A brief overview of the importance of minerals;
2. A policy context for minerals exploration and mining;
3. The regulatory framework which governs mineral exploration and mining in Ireland ;
4. Policy and principles for mineral exploration and mining in Ireland; and
5. Appendices providing further detail on the legal definition of minerals, background on mineral exploration and mining as well as Ireland's international involvement in actively encouraging and overseeing sustainable and responsible sourcing of minerals and mining.

This draft policy statement does not apply to quarries producing aggregates, dimension stone or agricultural lime (which are regulated through the planning system).

It is being published now for a period of public consultation with submissions invited on or before **5.30pm on Friday, 15 October, 2021**.

1 Minerals

1.1 Minerals – what are they?

Minerals are the raw materials which provide us with many of the resources and materials we use to sustain modern life. Every aspect of our daily existence is dependent on a secure and sustainable supply of minerals, from our health to the homes we live in and the food we eat.

Base metals (particularly zinc, lead and copper), gold and silver, barite, lithium and gypsum are by far the most common minerals currently being explored for or mined in Ireland.

For the purpose of Irish legislation, ‘minerals’ are those listed in the Schedule to the Minerals Development Acts 1940 to 1999 (the Minerals Development Acts) set out in [Appendix A](#), and include all substances in, on or under the ground except:

- the agricultural surface of the ground;
- turf or peat;
- stone, sand, gravel or clay, (quarries are regulated through the planning process by local authorities); and
- [petroleum](#).

In practice, this means that most quarries producing, for example, aggregates, dimension stone or agricultural lime do not work ‘minerals’ as defined in the Minerals Development Acts. There are a small number of exceptions, involving quarries that work specified industrial minerals listed in the Schedule to the Minerals Development Acts, (see [Appendix A](#)).

1.2 Why do we need minerals?

We are surrounded by and depend on minerals for our daily existence and we use them in our lives much more than we may realise. Some of the common items which use minerals in their making include:

- batteries (including batteries for electric vehicles);
- renewable energy devices (see illustrations 1 and 2 below);
- electrical transmission lines and electrical wiring;
- medicines and medical devices (including ventilators);

- smartphones;
- electronic devices (including computers, TVs, tablets)
- light bulbs;
- stainless steel;
- toothpaste;
- pencils;
- paint;
- glass;
- paper;
- drinks cans;
- toiletries;
- soaps/detergents/cosmetics,
- glue;
- camera lenses;
- plaster;
- antiseptic; and
- dietary supplements.

Minerals have a critical role to play in realising our national ambitions, including the implementation of the National Planning Framework, the Climate Action Plan, assisting economic recovery and our transition to a circular and resource efficient economy, supporting rural development, and reducing our emissions in every sector to meet our climate commitment to net-zero greenhouse gas emissions by 2050.

Minerals also have a part to play in helping us meet our international goals and commitments, including the [European Green Deal, Circular Economy Action Plan](#), [Raw Materials Initiative](#) and the [UN Sustainable Development Goals](#). The national and international policy context for mineral exploration and mining is set out in more detail at [Section 2](#).

Illustration 1: Minerals for Green Energy (Source: [IISD https://www.iisd.org/story/green-conflict-minerals/](https://www.iisd.org/story/green-conflict-minerals/))

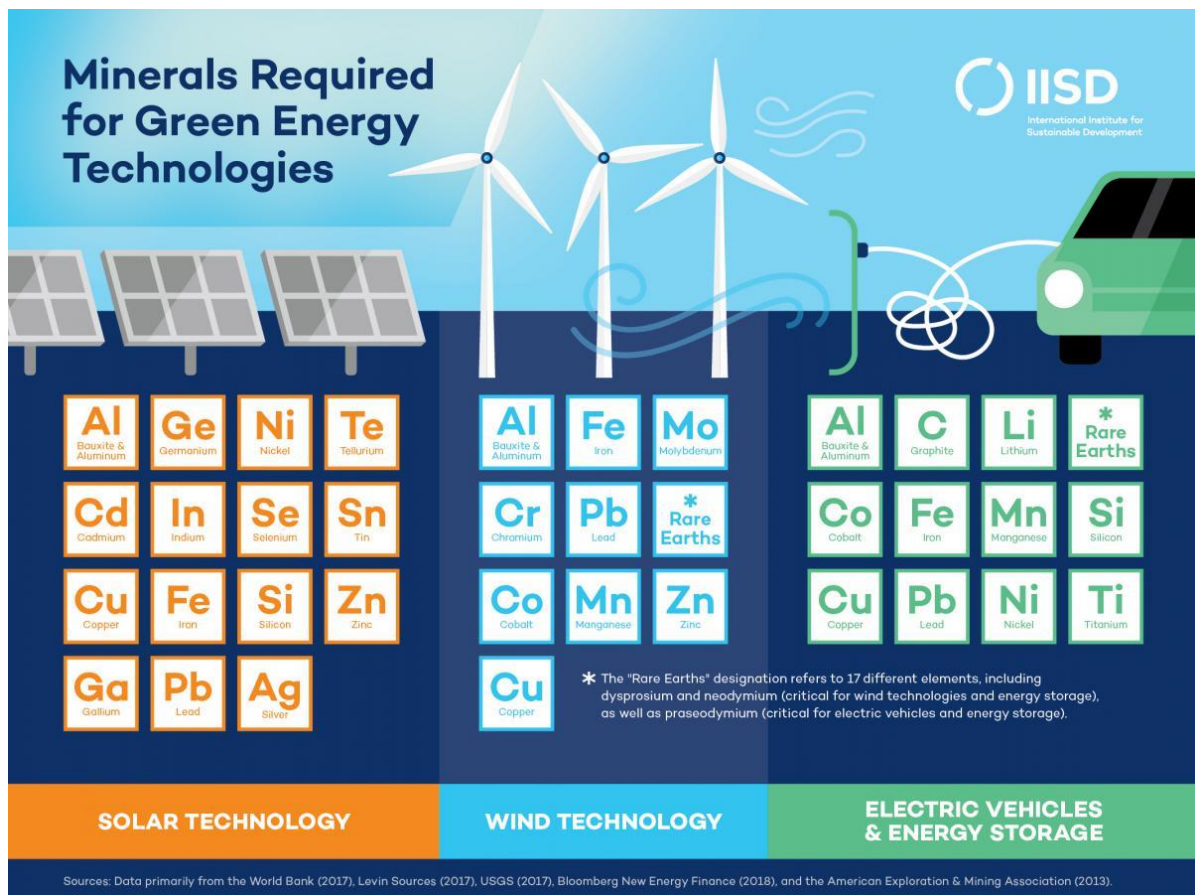
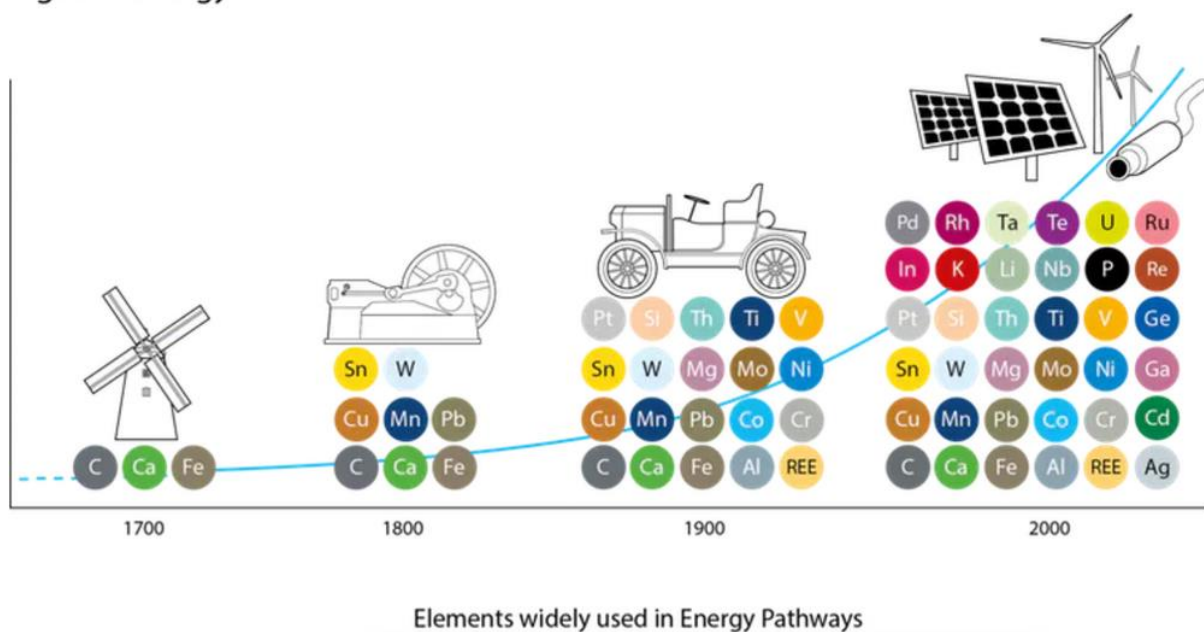


Illustration 2: Ages of Energy (Source: <https://theconversation.com/time-for-a-global-agreement-on-minerals-to-fuel-the-clean-energy-transition-87186>)

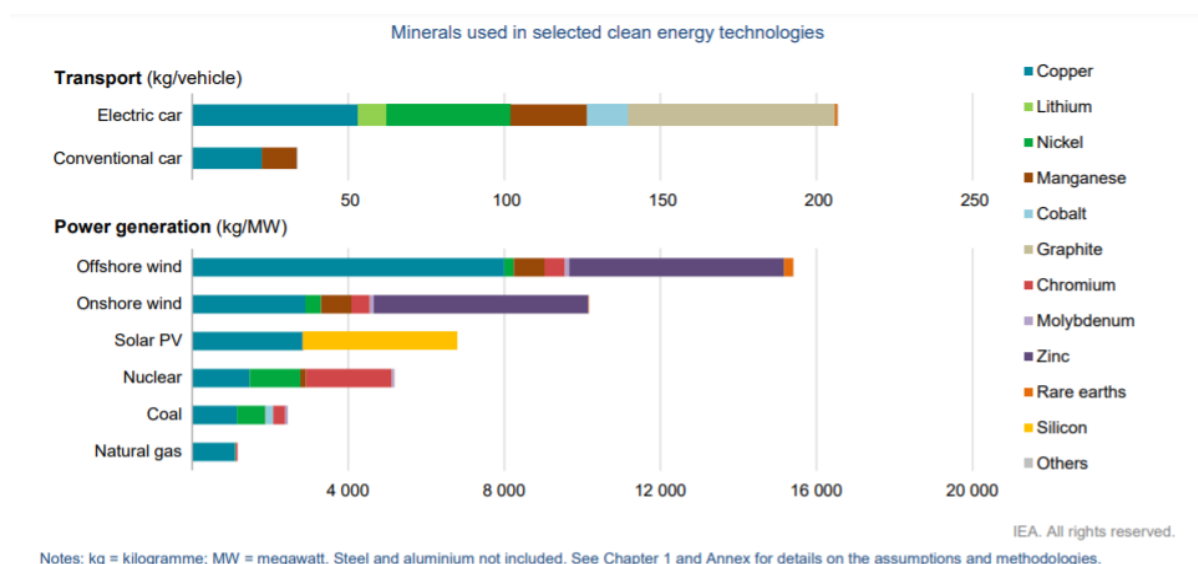
Ages of Energy



The International Energy Agency notes in [The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions](#) that:

An energy system powered by clean energy technologies differs profoundly from one fuelled by traditional hydrocarbon resources. Building solar photovoltaic (PV) plants, wind farms and electric vehicles (EVs) generally requires more minerals than their fossil fuel based counterparts. A typical electric car requires six times the mineral inputs of a conventional car, and an onshore wind plant requires nine times more mineral resources than a gas-fired power plant. Since 2010, the average amount of minerals needed for a new unit of power generation capacity has increased by 50% as the share of renewables has risen.

Illustration 3: The rapid deployment of clean energy technologies as part of energy transitions implies a significant increase in demand for minerals. (Source: IEA - The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions)



1.3 Where do we get minerals from now?

Most minerals that are utilised by Irish and European industry are imported. This raises a number of important questions and concerns regarding security of supply as well as social or environmental costs in certain countries of origin.

The need to secure a sustainable supply of raw materials, and in particular [critical raw materials](#), has become an ever increasing issue of importance for the EU. In addition, in politically unstable areas of the world, the minerals trade can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering, increasing the need to ensure that we are responsible about where we

source minerals. Furthermore, the same stringent environmental standards which apply in Ireland and the EU are not necessarily applied in particular areas of the world where minerals are being mined.

Notwithstanding the role of imported minerals, the EU minerals sector produces a wide range of metallic ores and industrial minerals. The EU is an important producer of chromium, copper, lead, silver and zinc.

As set out in [Appendix B](#), a variety of minerals are mined in Ireland, including zinc, lead and gypsum. Navan Mine, Co. Meath is the largest underground zinc-lead mine in the EU and by far the most significant mining facility in the State.

Amongst global industrial activities, mineral mining is one of a select few that are 'geo-fixed'. That is, you can only have a mine where the mineral is located; it is not possible to cherry-pick an alternative development site elsewhere in a region. This is a key aspect for consideration in land-use planning

2 National, EU and International Policy Context for Mineral Exploration and Mining

National Policy Context

Mineral exploration and mining in Ireland take place within a comprehensive and wide-ranging national and international policy context. Some of the most important policy drivers are set out below.

Ireland's mining policies and administration have been recognised in an international benchmark report of the Canadian-based Fraser Institute for a number of years. The most recent [annual survey](#) for 2020 based on responses from the industry, ranked Ireland fourth for Policy Perception Index among 77 jurisdictions. An [Economic Review of the Irish Geoscience Sector](#) commissioned by Geological Survey Ireland and undertaken by INDECON (2017) estimated that mineral exploration and mining activities in Ireland accounted for approximately €586 million in output and 1,400 jobs across the economy.

2.1 Programme for Government - Our Shared Future

The Programme sets out Government strategy across a range of policy areas for the next five years, including in the areas of economic recovery, climate action, housing, health care, transport and energy.

The mineral exploration and mining sector is well positioned to contribute positively to the achievement of many of the objectives in the Programme, including with regard to:

- promoting balanced regional development and supporting the rural economy;
- the policy shift to increase jobs that will allow for better living standards;
- harnessing the natural resources to meet our needs in this country, without compromising the ability of future generations to meet theirs; and
- supplying some of the raw materials necessary to:
 - achieve at least 70% renewable electricity by 2030;
 - facilitate electricity storage and interconnection,
 - support the [European Green Deal](#);
 - develop the potential for Ireland as a location of choice for resilient supply chains; and

- accelerate electrification of the transport system including electric bikes, electric vehicles and electric public transport alongside a ban on new registrations of petrol and diesel cars from 2030.

The mineral exploration and mining sector is well positioned to progress many of the aims of the Programme for Government – Our Shared Future, including in the areas of balanced regional development, supplying quality jobs and the raw materials necessary to transition to net zero greenhouse gas emissions.

2.2 Circular Economy Strategy (draft for public consultation, April 2021)

Today's global economy is overwhelmingly based on a linear ('take-make-waste') model of production and consumption. The environmental impacts of this linear model, in which we extract great quantities of natural resources to make things that we may use only once before throwing them away, are not sustainable. Allowing resources and goods to go to waste also represents a significant loss of value and increases our dependence on complex global supply chains.

The circular economy offers an alternative to this linear model, one in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of life. Materials management and the sustainable sourcing and use of critical raw materials are central to our vision for minerals and mining in Ireland and are key components of the circular economy transition.

The clear focus on resource efficiency set out in the Government's Circular Economy Strategy (draft for consultation, April 2021) will ensure that the mineral exploration and mining sector will contribute to achieving the national transition to a circular economy, complementing the [Waste Action Plan for a Circular Economy](#) for Ireland. Although Ireland and the EU's metal demand cannot be met solely from recycling currently - mining will continue to be necessary to meet demand for critical metals for some time - recycling, including the recycling of minerals and metals, can contribute significantly to the security of supply of raw materials and help improve the circularity of materials in the national economy.

Ireland supports the [new Circular Economy Action Plan](#) as part of the EU Green Deal and recognises that although certain elements of the package may prove challenging, the potential for jobs and for the environment present a valuable opportunity for the country.

Illustration 4: Critical raw materials and the circular economy (Source: EC JRC Report [Critical Raw Materials and the Circular Economy – Background report](#))

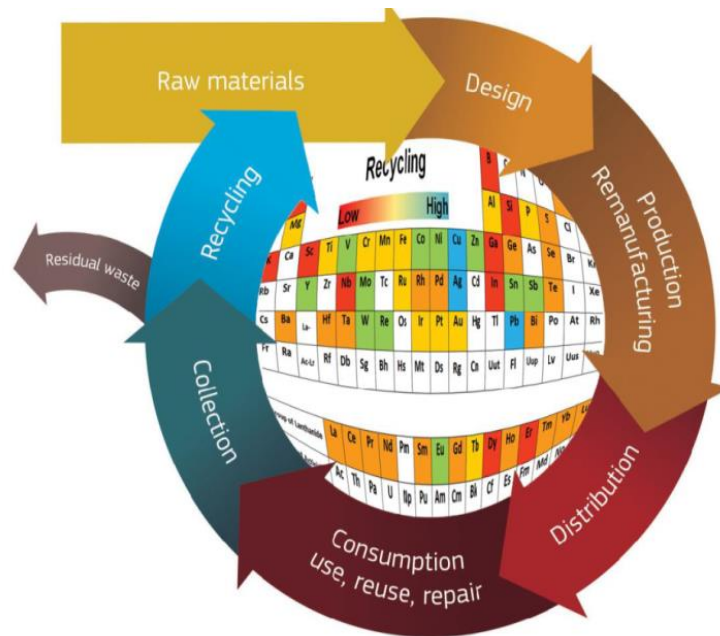


Illustration 5: [EIT Raw Materials Circular Economy](#)



Closed mine sites can also contribute positively towards our transition to a circular economy through the bio-economy. Lisheen mine provides one such example, with the development of a [National Bio-economy Campus](#) on site.

The rehabilitation of legacy mine sites also provides the opportunity for developing renewable energy and the use of recycled or by-product material from other sectors (for example by-products or recycled material from the construction sector) for remediation purposes, further reducing the need for primary materials to be used or secondary materials to become waste. There may also be opportunities for exploiting 'mining waste' as noted in the European Commission [Recovery of critical and other raw materials from mining waste and landfills](#) and in the research paper [Characterisation of Mining Waste](#) commissioned by Geological Survey Ireland. The Environmental Protection Agency (EPA) Research Programme, which is a Government of Ireland initiative, has funded a number of assessments of the secondary economic potential in former mine and minerals processing residues (for example [Potential for Economic Reprocessing of Mine Waste in Ireland](#), report on [Algeopolymers](#), and report on [Silvermines Wetland Substrate Reprocessing](#)). EPA estimates that there are over 75 million tonnes for secondary mineral resources deposited on the land surface around Ireland associated with existing and former mine activities and mineral processing activities (including Aughinish Alumina). The EPA and Geological Survey Ireland (GSI) collaborated in the establishment of a [national inventory of historic mine facilities](#).

Mineral exploration and mining activities have their role in the transition to the circular economy, through the use of practices which are more resource efficient, such as better planned operations, energy and water use, as well as reducing and reusing waste.

Former mine sites can and do contribute to the circular economy through the reuse or recycling of waste streams (for example biowaste) as well as their potential for 're-mining' wastes.

2.3 Project 2040 and National Planning Framework

Project Ireland 2040 is the government's long-term overarching strategy to make Ireland a better country for all of its people. It comprises the National Planning Framework and the National Development Plan 2018-2027. The National Planning Framework sets the vision and strategy for the development of our country to 2040 and the National Development Plan provides enabling investment to implement the strategy.

The National Planning Framework (NPF) is the Government's high-level, strategic plan for shaping the future growth and development of our country out to 2040. It is a framework to guide public and private investment, to create and promote opportunities for our people and to protect and enhance our environment. In relation to minerals, the NPF recognises that the planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important resources of aggregates and minerals from development that might prejudice their utilisation.

National Policy Objective 23 of the National Planning Framework notes that exploration and mining have the potential to develop rural areas in a sustainable manner while protecting the environment:

“Facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries [including the extraction of minerals], the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.”

2.3.1 Spatial Planning

The planning system is intended to provide the social, economic and physical infrastructure necessary to meet our needs and in a way that protects the many qualities of our natural and built environment. Plan-making or forward planning at both regional and local level also has a critical role to play in shaping and guiding development in the public interest, including public and private investment and the determination of individual planning decisions in respect of all development types.

2.3.2 Regional Planning – Regional Spatial and Economic Strategies

The Local Government Act 2014 provides for a regional dimension to local government in Ireland and groups the authorities into three regional assemblies:

- the Northern and Western Regional Assembly;
- the Southern Regional Assembly; and
- the Eastern and Midland Regional Assembly.

Regional assemblies, amongst other functions, make regional spatial and economic strategies, which co-ordinate the both the development plans and local economic and community plans of local authorities.

2.3.3 City and County Development plans and Local Area Plans

The Development plan is a local authority's main policy document in relation to planning. The making of a development plan is a function of the elected members of the local authority. The development plan sets out the overall core strategy and specific objectives for the proper planning and sustainable development of the entire functional area of the local authority. The plan consists of a written statement which sets out the policies for the county, and maps which show zonings for different types of development, for example, residential, industrial and amenities such as parks.

Mineral exploration and mining activities have the potential to enhance and grow rural communities in line with the NPF, not just in terms of the provision of skilled jobs and the financial contribution they make to local economies and local authorities, but also in terms of the infrastructure improvements (for example buildings, roads, broadband, energy, water supply), human capital (skills, education, technical capabilities), indirect jobs in the sector (for example services supporting mineral exploration and mining), and potential for tourism (for example historic mine tourist attractions).

A well-managed and well-regulated mineral exploration and mining sector has the potential to enhance and grow rural communities. These activities are a complementary driver enhancing the planned development of rural economies as set out in the National Planning Framework by providing skilled jobs and economic activity in rural areas.

2.4 Climate Action Plan 2019 to Tackle Climate Breakdown

The [Climate Action Plan](#) 2019 sets out the actions needed to deliver our 2030 climate targets and put Ireland on the right trajectory towards delivery of 70% of our electricity from renewable sources by 2030 and net-zero greenhouse gas emissions by 2050. These actions will cut our reliance on fossil fuels in electricity generation (including the elimination of coal and peat), heat, transport, industry and agriculture. The actions chosen are those measures which cut emissions with least burden on citizens and open up most opportunities. This could potentially include the use of former mine sites for generating and storing renewable energy (for example pumped hydroelectric, wind and geothermal energy).

The Climate Action Plan 2019 sets out the detailed policies and measures to achieve existing emissions reduction targets to 2030. The Plan is now being updated to reflect the

commitment in the Programme for Government to a 7% annual average emissions reduction to 2030 and target of net zero by 2050. The Plan will be updated on an annual basis, with each update to include a roadmap of actions, including sector specific actions. This will be supported by a National Long-Term Climate Strategy, which has been established in legislation by the [Climate Action and Low Carbon Development \(Amendment\) Act 2021](#).

The roadmap of actions will include the adoption and deployment of 'green technologies' to generate power from renewable sources, as well as battery storage and other technical system changes to support the operation of our electricity grid and electric transportation. The supply of minerals will be critical to these objectives. Current related targets are that renewable energy (for example wind, solar, offshore) will produce 70% of our electricity by 2030 and there will be one million electric vehicles in use by 2030.

A greater focus needs to be placed on the sourcing of the minerals that are required as inputs to achieve our climate goals and the role that Ireland can play in the supply chain for raw materials. Such focus will complement many of the actions set out in the current and future Climate Action Plans, including actions to support retrofitting initiatives (for example to upgrade building energy ratings for 500,000 homes and to install 400,000 heat pumps).

Minerals will be required for Ireland's and the EU's transition to net-zero greenhouse gas emissions across several sectors, for example renewable power generation, energy storage (batteries), transmission and transportation.

Not only can Ireland's mineral exploration and mining sector contribute to the supplying the raw materials necessary for this transition, but former mine sites with their infrastructural connections and space have a recognised potential as renewable generating and energy storage nodes.

2.5 Our Rural Future - Rural Development Policy 2021-2025

'[Our Rural Future](#)' provides a framework for the development of rural Ireland over the next five years. The Vision of this policy is for a thriving rural Ireland which is integral to our national economic, social, cultural and environmental wellbeing and development. An Ireland which is built on the interdependence of urban and rural areas. An Ireland which recognises the centrality of people, the importance of vibrant and lived-in rural places, and the potential to create quality jobs and sustain our shared environment. The role that mineral exploration and mining can play in this regard is noted in the section above on the National Planning Framework. Specific information on mineral exploration and mining, including the economic benefits to local communities, is set out in [Appendix B](#). In this regard, it is worth noting that

- expenditure on mineral exploration in Ireland in 2019 was approximately €17.5 million; and
- the Navan Mine, Co. Meath is the largest underground zinc mine in the EU, employs approximately 600 people and generates an estimated €70-75 million in the local community with a further €2 million paid to the local authority in rates, water rates and planning charges annually.

In addition, there are currently 3 UNESCO [Global Geoparks](#) and one aspiring UNESCO Global Geopark on the island of Ireland. The [Copper Coast Geopark](#) in Co. Waterford boasts a walking trail that passes many beautiful ponds which are home to a wide range of flora and fauna, including protected species. Mining is one of the 16 [geoheritage](#) themes under which county geological sites are audited and promoted for tourism, education, scientific research and public awareness by local authorities, the Heritage Council and Geological Survey Ireland.

An independent report [A social, environmental and economic assessment of Galmoy and Lisheen Mines](#) offers a critical perspective of the effects of mining on rural communities, with due regard to social, environmental and economic factors and highlights the net benefits of mining, including the benefits which remain after the mines ceased operating.

A well-managed and well-regulated mineral exploration and mining sector can support rural economies, helping to sustain rural communities in line with Government rural development policy. Such supports are available to communities through and beyond the life cycle of any mineral project (exploration, extraction, closure and post closure), as demonstrated with the Galmoy and Lisheen projects.

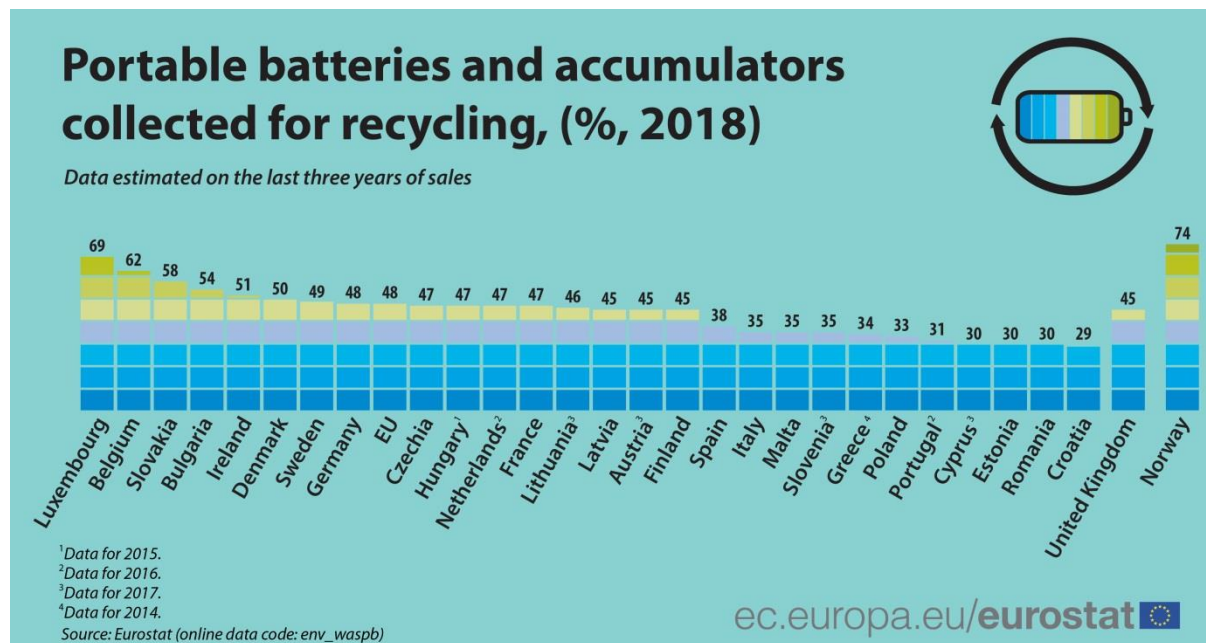
2.6 Waste Action Plan for a Circular Economy

This national waste policy (published September, 2020) will inform and give direction to waste planning and management in Ireland over the coming years.

Recycling waste electrical and electronic equipment (WEEE) can provide one source of precious metals. [Recycling WEEE](#) is not only good for the environment and our health, it also makes sense: many of these devices contain valuable components and precious metals that can be used again in new products. Ireland has reached the [European Union targets](#) for recycling and recovery of all categories of WEEE. Similarly, there are successful procedures and systems in place for the reuse, recycling and recovery of [End-of-Life vehicles](#) (including the recycling of metals) and [waste battery recycling](#), where valuable materials such as

cobalt, nickel, rare earth metals, zinc, lithium, lead, manganese, and steel are recovered from the batteries.

Illustration 6: [Waste statistics - recycling of batteries and accumulators \(Source: Eurostat\)](#)



However, a circular economy and resource efficient vision for mineral exploration and mining should go beyond just recycling the end products (the metal and minerals contained in products such as electronic equipment, batteries, and so on). Indeed, the [Waste Action Plan for a Circular Economy](#) shifts focus away from waste disposal and moves it back up the production chain.

The mining process generates mainly inorganic waste. This waste is constantly reviewed for by-product potential that could deliver sustainability benefits and further economic value (as an example from another sector, see [Al Source](#) research project which examines potential in the reuse of bauxite residue produced during the process to produce alumina).

State mining permissions and State agency guidance to operating mines challenge the mining sector in Ireland to go beyond the high standards set in operating and closing / rehabilitating mines and to move to becoming a ‘zero waste’ industry. The mining sector will continue to look for re-processing opportunities and a role in the circular economy; to embrace energy efficiency and the use of renewable energy; to reduce a mine’s local carbon footprint and through appropriate external trade, minimise a mine’s global carbon impact.

The mining sector has a role to play in progressing the implementation of national waste policy through transitioning to a zero waste industry and maximising the value of materials which may in the past have been discarded.

2.7 National Clean Air Strategy

A National Clean Air Strategy is part of the Programme for Government - Our Shared Future and is currently being prepared by the Minister for the Environment, Climate and Communications. A [consultation process](#) to inform the strategy has been undertaken. The mineral and exploration sector is well placed to contribute positively to the aims and objectives of a clean air strategy, including by providing the raw materials necessary for the adoption and deployment of 'green technologies' to generate power from renewable sources, reducing the need for energy generation from combustion.

A co-benefit of better air quality can be realised as mineral exploration and mining support the development of the 'green technologies' that are required for net-zero greenhouse gas emissions.

2.8 Future Jobs Ireland 2019 – Preparing Now for Tomorrow's Economy

To ensure Ireland's economy is well positioned to adapt and prosper in the future, in 2019 the Government launched a new economic pathway for Ireland based on embracing innovation and technological change, improving productivity, increasing labour force participation, enhancing skills and developing talent and transitioning to a low carbon economy. Future Jobs Ireland 2019 looked to drive our development as a resilient, innovative, and globally connected economy, capable of coping with technological and other transformational changes ahead. Mineral exploration and mining activities have the potential to provide occupations that span the 5 pillars of [Future Jobs Ireland](#) 2019:

1. Embracing Innovation and Technological Change.
2. Improving SME Productivity.
3. Enhancing Skills and Developing and Attracting Talent.
4. Increasing Participation in the Labour Force.
5. Transitioning to a Low Carbon Economy.

The mineral exploration and mining sector is closely aligned with *Future Jobs Ireland 2019* in that it embraces innovation and technological change, seeks to improve productivity and increase labour force participation, enhances skills and developing talent and can supply the raw materials necessary for transitioning to a climate neutral economy.

EU Policy Context

2.9 The European Green Deal

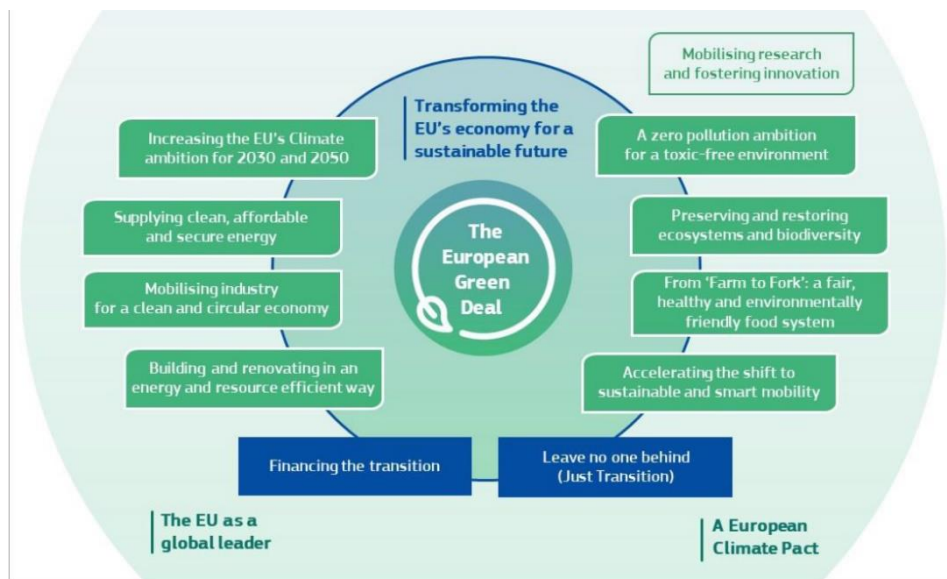
The [European Green Deal](#) is the European Union's response to the climate and environment-related challenges that are this generation's defining task. It is a new growth strategy that aims to transform the EU into a fair and prosperous society with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050, where the environment and health of citizens are protected, and where economic growth is decoupled from resource use.

Reaching this target will require action by all sectors of our economy, including rolling out cleaner forms of private and public transport and accelerated deployment of renewable energy.

Decarbonising the EU's energy system is critical to reaching climate objectives. Access to critical raw materials (many of which are minerals) used in digital and clean technologies was labelled as "a strategic security question" in the European Green Deal.

The [European Green Deal](#) provides a roadmap with [actions](#) for making the EU's economy sustainable, including proposing the first ever EU climate law, for a climate-neutral EU by 2050. As part of the [European Green Deal](#), the Commission [proposed](#) in September 2020 to raise the 2030 greenhouse gas emission reduction target, including emissions and removals, to at least 55% compared to 1990. It looked at the actions required across all sectors, including increased energy efficiency and renewable energy, and it starts the process of making detailed legislative proposals by June 2021 to implement and achieve the increased ambition.

Illustration 7: Elements of the [European Green Deal](#)



On 14 July, 2021 the European Commission adopted a [package of proposals](#) to make the EU's climate, energy, land use, transport and taxation **policies fit for reducing net greenhouse gas emissions by at least 55% by 2030**, compared to 1990 levels. Achieving these emission reductions in the next decade is crucial to Europe becoming the world's first climate-neutral continent by 2050 and making the [European Green Deal](#) a reality. In addition to the proposals, the Commission presented the legislative tools to **deliver on the targets agreed in the European Climate Law** and fundamentally transform our economy and society for a fair, green and prosperous future.

Mineral exploration and mining can contribute to supplying the raw materials necessary to deliver clean, affordable and secure energy and the shift to sustainable and smart mobility; the rehabilitation of legacy mine sites also provides opportunities for restoring ecosystems and biodiversity.

2.10 Critical Raw Materials (CRMs)

Raw materials are crucial to Europe's economy. They form a strong industrial base, producing a broad range of goods and applications used in everyday life and modern technologies. Reliable and unhindered access to certain raw materials is a growing concern within the EU and across the globe. To address this challenge, the European Commission has created a list of CRMs for the EU, which is subject to a regular review and update. CRMs combine raw materials of high importance to the EU economy and of high risk associated with their supply.

The 2018 [Report on critical raw materials and the circular economy](#) noted that:

“CRMs are irreplaceable in solar panels, wind turbines, electric vehicles, and energy efficient lighting and are therefore also very relevant for fighting climate change and for improving the environment. For example, the production of low-carbon technologies – necessary for the EU to meet its climate and energy objectives – is expected to increase the demand for certain raw materials by a factor of 20 by 2030.”

In September, 2020 the European Commission presented an [Action Plan on Critical Raw Materials](#), including the 2020 List of Critical Raw Materials and a [foresight study](#) on critical raw materials for strategic technologies and sectors from the 2030 and 2050 perspectives. The Action Plan looks at the current and future challenges and proposes actions to reduce Europe's dependency on third countries, diversifying supply from both primary and secondary sources and improving resource efficiency and circularity while promoting responsible sourcing worldwide. The actions will foster our transition towards a green and digital economy, and at the same time, bolster Europe's resilience and open strategic autonomy in key technologies needed for such transition. The List of Critical Raw Materials (see below) was updated in 2020 to reflect the changed economic importance and supply challenges based on their industrial application. It contains 30 critical raw materials. Lithium, which is essential for a shift to e-mobility, has been added to the list for the first time.

The CRMs highlighted in yellow show some potential for development in Ireland.

2020 critical raw materials (new as compared to 2017 in bold)		
Antimony	Hafnium	Phosphorus
Baryte	Heavy Rare Earth Elements	Scandium
Beryllium	Light Rare Earth Elements	Silicon metal
Bismuth	Indium	Tantalum
Borate	Magnesium	Tungsten
Cobalt	Natural graphite	Vanadium
Coking coal	Natural rubber	Bauxite
Fluorspar	Niobium	Lithium
Gallium	Platinum Group Metals	Titanium
Germanium	Phosphate rock	Strontium

Mineral exploration and mining in Ireland can contribute to ensuring the supply of critical raw materials required to develop green technologies such as electric vehicles, wind and solar power which will be necessary for net-zero greenhouse gas emissions by 2050.

2.11 The European Innovation Partnership (EIP) on Raw Materials

The [European Innovation Partnership \(EIP\) on Raw Materials](#) is the EU body tasked with implementing the [raw materials initiative](#). It is a stakeholder platform that brings together EU countries, companies, researchers and NGOs to promote innovation in the raw materials sector in an effort to ensure the sustainable supply of raw materials to the European economy whilst also increasing benefits for society as a whole.

The EIP developed its strategic implementation plan (SIP) in 2013 with 95 actions to foster innovative solutions. Many of the issues highlighted in the plan are relevant to Ireland in terms of developing minerals in Ireland, including:

- the EU (including Ireland) is dependent on ores and metals imports;
- Europe's mineral potential is under-explored both with regard to subsurface (particularly deeper than 150 meters).

Mineral exploration and mining in Ireland can contribute to ensuring the sustainable supply of raw materials to the EU economy.

2.12 Strategic Action Plan on Batteries

In May 2018, the European Commission published a communication entitled [Europe on the Move](#). This communication sets out the policy the Commission has in mind with regard to sustainable mobility for Europe: safe, connected and clean.

Within the context of *Europe on the Move*, a specific action plan was drawn up by the Commission with a view to developing and producing batteries. To this end, the Commission presented a separate annex to the above mentioned communication in 2018 entitled a [Strategic Action Plan on Batteries](#). Batteries development and production is a strategic imperative for Europe in the context of the clean energy transition:

- Transport in general, and the automotive sector in particular, will dominate growth in demand for battery cells in the medium term, as is already the case today.
- Storage for renewable energy will be a major driver of battery demand.

Ireland is currently one of the main suppliers of zinc concentrates to the European market and is well placed to form part of future supply chains which may arise as zinc battery technology develops. The EU [Report on Raw Materials for Battery Applications](#) also notes that Ireland has potential in terms of developing lithium resources.

Mineral exploration and mining in Ireland can help supply the raw materials necessary to meet the increase in the demand for batteries as the transport and energy sectors in Ireland and the EU move to net-zero greenhouse gas emissions.

International policy context

2.13 United Nations Sustainable Development Goals

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) represent the world's plan of action for social inclusion, environmental sustainability and economic development. Meeting the SDGs by 2030 will require unprecedented cooperation and collaboration among governments, non-governmental organizations, development partners, the private sector and communities. [Mapping Mining to the Sustainable Development Goals: An Atlas](#) (2016) presents a broad overview of opportunities and challenges to demonstrate the actual and potential contributions of the mining sector to the achievement of the SDGs – from exploration through production and eventually mine closure. The document notes that 'The mining industry has the opportunity and potential to positively contribute to all 17 SDGs.' It also notes that mining can foster economic development by providing opportunities for decent employment, business development, increased fiscal revenues, and infrastructure linkages. Many of the minerals produced by mining are also essential building blocks to technologies, infrastructure, energy and agriculture.

A report by the UN Environment International Resource Panel on [Mineral resource governance in the 21st Century](#) presented the opportunities for mineral resource governance to advance sustainable development and proposed a governance framework referred to as 'Sustainable Development License to Operate' that is compatible with the 2030 SDGs. A number of actions were proposed including support for transparency, accountability and reporting, adopting a full life cycle perspective, strengthening stakeholder engagement and implementing strategic planning for minerals development.

The graphic below from [Mapping Mining to the Sustainable Development Goals: An Atlas](#) provides a brief overview of some of the major international issues for mining and the SDGs:

Figure 8: Mining and the 17 SDGs (Source: Mapping Mining to the Sustainable Development Goals: An Atlas)



A well-managed and regulated Irish mineral exploration and mining sector has the opportunity and potential to positively contribute to all 17 Sustainable Development Goals (for example SDG8 – Decent Work and Economic Growth).

3 Regulatory Framework

3.1 Measures in place to mitigate the environmental impacts of mineral exploration

Mineral exploration usually takes place on land in Ireland and is regulated by the Minerals Development Acts 1940 to 1999 (Minerals Development Acts) and associated Regulations. The Minister for the Environment, Climate and Communications, on behalf of the State, governs the exploration (prospecting) for minerals listed in [Appendix A](#). Mineral exploration is generally non-intrusive and temporary in nature; however, the regulatory process governing the activity in Ireland is robust.

Mineral exploration should be compliant with all relevant Government laws and regulations, including for the protection of the environment. Licensees are obliged to comply with the conditions of their prospecting licence and [Guidelines for Mineral Exploration](#) which set out in considerable detail the standard operating procedures required to avoid damage or pollution (for example compliance with European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011)) and also protect Archaeological and Built Heritage.

Drilling is perhaps one of the most intrusive forms of exploration and it is estimated that since the 1960s, tens of thousands of exploration holes have been drilled. In all that time, there is yet to be evidence of a significant impact on the environment resulting from drilling. As with all exploration activities, any proposed drilling is screened to ensure that no adverse environmental effects arise.

In terms of public participation and transparency, the legislation requires 21 days' notice of the Minister's intention to grant or renew a prospecting licence. The Minister invites submissions on the granting/renewal of each prospecting licence and the consultation period is open for an extra nine days (a total of 30 days' consultation period).

Notification is always given through a notice in the newspaper that is most relevant to the prospecting licence area under consideration. Notices are also sent for public display to the appropriate Garda station(s) and local authority office(s) and made available [online](#).

Further details on mineral exploration are available in [Appendix D](#) – *Frequently Asked Questions on Mineral Exploration and Mining*.

3.2 Measures in place to mitigate the environmental impacts of mining

In addition to a [State Mining Facility](#) (licence, lease or in rare cases a permission) required under the Minerals Development Acts, in order to mine, a mining company must first obtain planning permission from the relevant local authority and an integrated pollution control (IPC) or industrial emissions (IE) licence from the EPA, both of which provide for public consultation and require a full environmental impact assessment.

The Minister will not grant a State mining facility until both the planning permission and an IPC/IE licence have been granted. Therefore a mine for a scheduled mineral ([Appendix A](#)) in Ireland is subject to obtaining three separate State authorisations: planning permission, environmental licence and mining licence/lease/permission.

These authorisations cover the full life-of-mine activity from development, right through to closure, restoration and aftercare, and also include provision for financial liabilities in respect of securing funding from the operator to safely decommission the site. Authorisation stage and operational stage also include for public participation and public access to information. This supports securing the 'Social-Licence-to-Operate' ambitions of all stakeholders.

Environmental enforcement activities are carried out by the EPA through inspections, audits and emission monitoring. Inspectors assess the results of emissions monitoring carried out at licensed facilities to determine the impact, if any, of emissions on the environment. For more information visit the EPA website: www.epa.ie.

The planning code also provides an important framework for the assessment of potential environmental impacts; planning decisions provide for mitigation measures to address any impacts identified and are subject to enforcement to address non-compliance. The planning process is of particular importance in ensuring that biodiversity is protected and enhanced when mining activity is proposed.

The [Health and Safety Authority](#) also has specialist mining inspectors that carry out several inspections at each of the mines on an annual basis.

In collaboration with consultant mining engineers, DECC officials also inspect mining operations on at least a biannual basis to ensure compliance with terms and conditions of State leases and licences and adherence to best practice.

The [Waste Management \(Management of Waste From the Extractive Industries\) Regulations 2009](#) provide for measures and procedures to prevent or reduce as far as possible any adverse effects on the environment, in particular water, air, soil, fauna and flora

and landscape, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries and transpose Directive 2006/21/EC on the management of waste from the extractive industries into Irish legislation. The provisions of these regulations are incorporated in the EPA IPC/IE licences.

The legislation discussed in Section 3 is non-exhaustive; there is further over-arching national legislation which applies to many activities, including mineral exploration and mining, for example, the Wildlife Act 1976, the Waste Management Act 1996, and so on.

3.3 Mineral exploration and mining in the marine space

There has been no mining and little or no exploration of scheduled minerals in Irish waters to date. Future exploration and mining for scheduled minerals in our marine waters is not anticipated at this point in time.

Concerns have been raised regarding the lack of research and data available to inform a comprehensive understanding of the potential impact of mining in the marine space. Discussion at [EU level](#) has referenced the need to better understand the effects of deep seabed mining (i.e. mining in areas of the seabed beyond national jurisdiction) on the marine environment, biodiversity and human activities. It has been proposed that in advance of deep seabed mining taking place, it is important to ensure that the risks are fully understood and that the technologies and operational practices are able to demonstrate no serious harm to the environment, in line with the precautionary principle.

Given the limited scientific knowledge currently available, it is proposed that mineral exploration and mining activity does not take place offshore or on the Irish seabed until such time as sufficient data is available to adequately assess the impacts of any such potential mining activity. Research projects such as the [ObSERVE programme](#) will help to close this knowledge gap. The key priorities of Research on the role of minerals in the transition to net-zero greenhouse gas emissions by 2050 and Better data enhancing policy and decision-making discussed later in the draft policy statement will support and inform any future policy decisions with regard to mineral exploration and mining in the marine space.

There are also no active or anticipated mineral exploration or mining projects in a near shore marine area contiguous to the land. Any such future activity would need to meet the relevant environmental protection criteria for onshore activities and demonstrate that the potential impact of the activity on the near shore area could be adequately mitigated and managed before an application could be considered.

4 Mineral Exploration and Mining Policy

Minerals are, and will continue to be, an essential element of our daily lives. As society continues to need minerals it is therefore critical that these minerals be extracted in a socially and environmentally responsible manner, enforced by strong legislation.

In that context, our policy for mineral exploration and mining is to:

- ensure a robust and transparent regulatory framework that supports environmentally sustainable mineral exploration and mining; and
- maximise the contribution that the sustainable exploration and mining sector makes to our society, economic development and the transition to net-zero greenhouse gas emissions through the supply of the raw materials necessary for our sustainable development.

The following key principles, grouped under five themes, aim to guide the implementation of this policy for mineral and mineral exploration in Ireland.

4.1 Key Principles

4.1.1 Robust Regulation

- Maintain and improve the robust regulatory regime for mineral exploration activity and mining.

4.1.2 Increasing awareness and participation

- Further support public awareness and engagement around the importance of minerals, mineral exploration and mining at national, regional and local level;
- Promote and facilitate greater transparency and participation in the decision-making processes which regulate mineral exploration and mining activities, including through making more robust scientific data and evidence used in decision making available to the public.

4.1.3 Sustainable development

- Maintain and improve the sustainability of mineral exploration and mining, integrating consideration of its employment, social, climate, economic and environmental impacts;

- Maximise the value to the state (society, climate and economy) from mineral exploration and mining with due regard to its community and environmental impact;
- Maximise the contribution the mineral exploration and mining sector can make to achieve our national, European and international policies and objectives, particularly in the terms of the transition to net-zero greenhouse gas emissions by 2050;
- Ensure that mineral exploration and mining activities themselves continue to adapt in line with evolving environmental, waste action, circular economy and climate action principles and practices, particularly during the operation and post closure phases of mines;
- Develop the economy, technology, knowledge, research and development capability, infrastructure and [geoheritage](#)/tourism of regional and local communities during all phases of mineral exploration and mining (exploration, mining and post closure of a mine);
- Continue to provide for the protection, restoration and enhancement of biodiversity, as part of exploration and mining activity in line with Government policy, as set out in the [National Biodiversity Plan](#).
- Ensure our natural and built heritage continues to be valued and protected for future generations, cherished and enjoyed, in line with [Heritage Ireland 2030](#).
- Regularly review the schedule of minerals for which prospecting is permitted, against several criteria including,
 - their potential end uses,
 - their inherent circular sustainability (circularity) and,
 - their status as critical raw materials.

Our use of the earths' resources must be balanced, supporting our transition to the circular economy, carbon neutrality and more equitable development as well as generating economic activity through commercial enterprise.

- Enhance the potential of legacy mines through their management, stabilisation, and rehabilitation (including any necessary environmental remediation and the protection of valuable habitats some of which only occur on such sites), so that they can contribute to communities as public amenities, businesses, geoheritage, tourism and renewable energy, as well as examining their re-mining potential.

4.1.4 Building capacity and access to knowledge

- Ensure that Ireland has the necessary mineral exploration and mining personnel, skills, education, knowledge and mineral data to fully realise our mineral potential;
- Map and safeguard our mineral potential and make available the data on our mineral wealth for current and subsequent generations to be in a position to make decisions on their future;
- Support our geoscience data analytics and research capacity to deepen our knowledge of Ireland's geology for geothermal energy, minerals and water and other uses;

4.1.5 International co-operation

- Further promote our industry abroad as world class in terms of our expertise, sustainable mining practices and skilled workforce in order to continue to attract inward investment and facilitate Irish companies and personnel to compete for international contracts;
- Actively participate in European and international fora for advancing the technology, science and sustainability of exploration and mining, as well as supporting collaborative actions; and
- Ensure that minerals which cannot be developed in Ireland are sourced in accordance with international best practice and from conflict free sources and that they have the minimal impact on biodiversity and ecosystem services internationally, as set out in the [National Biodiversity Plan](#).

4.2 Key Priorities

4.2.1 Building Public Understanding and Trust

Ireland has a long tradition of mining; however public acceptance is important for the development of any economic activity, including mineral exploration and mining activities.

The Irish Government will show leadership by engaging with the public on the issue to identify and to address any concerns members of the public may have about the mineral sector in Ireland and how the mineral sector interacts with their local communities. The mineral exploration and mining industry has and will continue to play a role in this regard, including through increased engagement with the public, environmental NGOs and business

representative groups (especially those which rely on products requiring the supply of minerals as raw materials).

Supporting Public Understanding and Trust

- DECC is committed to increasing transparency in its processes and will continue to assess how more information can be made available on-line concerning the decision-making process around the granting/renewal of prospecting licences. The goal is to make as much information as possible available as soon as possible. This is so that the public can have a high level of confidence in the openness, fairness, professionalism and efficiency of the process.
- DECC will develop a minerals communications strategy around:
 - the activities that make up mineral exploration and mining and the safeguards in place to ensure that local communities and the environment are protected;
 - informing communities how they can participate in the decision-making process around the granting/renewal of prospecting licences;
 - the benefits and impacts of mineral exploration and mining to local communities;
 - the importance of minerals, including their role in developing green energy solutions as part of the Climate Action Plan; and
 - further promoting the development of [geoheritage](#).
- DECC will develop and implement a clear road map on the approach to historic legacy mines in terms of the role of various stakeholders, State and private, particularly with regard to their responsibilities.
- The benefits to our local communities, society, climate and the economy of having a vibrant mineral exploration and mining sector have been set out above. More needs to be done to sustain and grow the sector. Providing a mechanism for a larger number of stakeholders with an interest in mineral exploration and mining will open up the possibility to discuss issues of mutual interest and concern.
 - DECC will establish a minerals exploration and mining advisory group comprising the regulatory (including land use planning), environment, academic, economic, industry and social pillars to:
 - increase transparency in and the profile of the mineral exploration and mining sector;

- discuss all matters relating to mineral exploration and mining, including topics such as land use planning and mineral sterilisation, education, skills, geoheritage/tourism, research and data needs;
- ensure that mineral exploration and mining in Ireland continues to be informed by best practice (including from an international practice perspectives, for instance [Canada's Green Mining Innovation](#));
- work with industry to explore the development of voluntary codes of practice (in addition to the existing standards which are obligatory via the conditions in the EPA licences) for the sector in relation to moving towards a 'zero waste' industry and world leader in 'green mining' as well as examining closure and aftercare plans and associated financial provisions and opportunities to protect and enhance biodiversity as well as our natural and built heritage;
- promote and discuss the protection of public health and the environment through taking responsibility for ensuring the making safe of legacy mining and mine waste sites;
- examine the inclusion of communications, public engagement and community liaison obligations in state exploration and mining consents issued to operators; and
- examine the articulation of community gain principles to be included in all mining authorisations.

4.2.2 Enhancing the Regulatory Framework

The Department's objective is and has been to have robust, sustainable, transparent processes in place. A range of information relevant to mineral exploration and mining (including information on legislation and regulatory processes) is available on the Department's [website](#), and this is kept under regular review, in order to maximise the level of information made publicly available.

Supporting the enhancement of the Regulatory Framework

- We will ensure that a clear separation exists between policy making and regulatory functions in relation to minerals exploration and mining.

- We will not issue prospecting licences, mining licenses or leases for coal, lignite and oil shale, in accordance with the Circular Economy Bill, 2021.
- We will review the regulatory framework regularly with a view to ensuring it is fit for purpose, delivers on our ambitions of it being robust, sustainable, transparent as well as examining opportunities for reducing administrative burden (where appropriate).

4.2.3 Research on the role of minerals in the transition to net-zero greenhouse gas emissions by 2050

Minerals will have a huge role to play in achieving our Climate Action Plan targets; however, we need more information to better understand the role Ireland currently plays and could play in terms of providing raw materials as part a wider EU and international supply chain.

Supporting Research to develop sustainably and transition to net-zero greenhouse gas emissions by 2050

- We will undertake research to better understand the life cycle of minerals developed in Ireland (cradle to recycling) and to better understand the demand for different minerals in Ireland (including Critical Raw Materials), the EU and globally as we transition towards net-zero greenhouse gas emissions by 2050.
- Further research for consideration could include topics such as: improved (more accurate) and less intrusive exploration techniques; ‘clean’ and ‘green’ mining and best practice remediation; zero-waste mining; the application of analytics to minerals data to deliver new insights; public acceptance of exploration and mining/social advocacy; and risk perception and communications.

4.2.4 Better data enhancing policy and decision-making

A huge amount of technical data relating to mineral exploration is continually collected, compiled and made available by DECC, (including the Geoscience Regulation Office and [Geological Survey Ireland](#)), private companies, educational bodies and research centres such as the Irish Centre for Research in Applied Geoscience ([iCRAG](#)). The development of this policy statement provides an ideal opportunity to look at whether current arrangements around the collection and sharing of data could be improved.

Supporting better data, policy and decision making

- We will examine ways to further promote the compilation, availability and accessibility of mineral data and highlight the role that geoscience and technical data and can play in assisting other sectors (for example agriculture or construction).

4.2.5 Monitoring, Review and Reporting

Given the important role and the fast moving pace of technologies and innovation in the sector, the monitoring of and reporting on the implementation of this policy statement should be carried out at least every two years. A review of the policy statement should occur at least every three years.

5 Appendix A Scheduled Minerals

A list of Scheduled Minerals under the Minerals Development Acts 1940 to 1999 is below. Prospecting licences, mining licences or leases will not be issued for the minerals marked *.

Scheduled Minerals under the Minerals Development Acts 1940 to 1999		
Alum Shales	Felspar	Monazite
Anhydrite	Fireclay	Nickel, Ores of.
Antimony, Ores of.	Flint and Chert	*Oil Shale
Apatite	Fluorspar	Platinum, Ores of.
Arsenic, Ores of.	Ganister	Potash Mineral Salts
Asbestos minerals	Gem minerals	Quartz Rock
Ball Clay	Gold, Ores of	Radioactive Minerals
Barytes	Graphite	Refractory Clays
Bauxite	Gypsum	Rock Phosphates
Beryl	Iron, Ores of.	Rock Salt
Bismuth, Ores of.	Kaolin	Roofing Slate
Bitumens	Laterite	Serpentinous Marble
Calcite	Lead, Ores of.	Silica Sand
Chalk	Lignite*	Silver, Ores of.
China Clay	Lithomarge	Strontium, Ores of.
Chromite	Magnesium, Ores of.	Sulphur, Ores of.
Coal*	Magnesite	Talc and Steatite or Soapstone
Cobalt, Ores of.	Manganese, Ores of.	Tin, Ores of.
Copper, Ores of.	Marble	Titanium, Ores of.
Corundum	Mercury, Ores of.	Tripoli
Cryolite	Mica	Tungsten, Ores of.
Diatomaceous Earth	Mineral Pigments	Witherite
Dolomite	Molybdenite	Zinc, Ores of.
Dolomitic Limestone		

6 Appendix B Mineral Exploration and Mining in Ireland – Additional information

6.1 Mineral Exploration

Mineral exploration or prospecting is the process undertaken by geoscientists/geologists, usually in a company or partnership, to find a viable mineral deposit.

Prospecting uses different techniques, such as examining historical and geological records (desk studies), surveying the land and, the examination of rocks (geological studies), collecting small samples of rocks, soil or sediments for analysis (geochemical surveys), or measuring certain properties of the rocks in the area, for example their magnetic properties (geophysical surveying).

If these techniques yield promising results, the geologists may wish to carry out drilling or to dig a shallow temporary trench ('trenching') to investigate the rock at depth.

Drilling extracts narrow diameter core samples, to build up a better picture of the geology below. Trenching is excavating and exposing bedrock for the same purposes.

Today, Ireland is internationally renowned as a major zinc-lead mining province. Over the last 40 years, a number of significant base metal discoveries have been made, including the giant ore deposit at Navan, Co. Meath (>120 million tonnes) which, after discovery and start of production in 1977 continues in operation today.

Current advanced exploration projects include Pallas Green in Co. Limerick and the extension to the Navan ore body.

An [Economic Review of the Irish Geoscience Sector](#) commissioned by Geological Survey Ireland and undertaken by INDECON (2017) estimated that mineral exploration activities in Ireland accounts for approximately €36.2 million in output and €13.9 million in gross value added. It also estimated that the sector supported 51 jobs directly and 109 jobs indirectly (2016). These are highly skilled jobs which can be sustained in Ireland and the activity provides the opportunity for companies to develop their skills here while also giving them the chance to compete for such work abroad.

6.2 Ireland's Mineral Potential

Ireland has a diverse geology and is prospective for a range of mineral deposits, in particular base metals. The carbonate rocks of Ireland's midlands are host to significant lead-zinc mineralisation. Since 1960, 14 significant zinc-lead deposits have been discovered in

Ireland. In addition to its significant potential for base metals, barite, gold, silver, gypsum and lithium, Ireland's diverse geology makes it prospective for a number of other mineral commodities, including platinum group metals, rare earth elements and speciality metals (for example lithium, tantalum, tungsten and tin), nickel, chromite, diamonds and other gem minerals.

Ongoing exploration, data collection and geological research are required to further understand Ireland's mineral potential and to support achieving the goal of net-zero greenhouse gas emissions through supplying the necessary raw materials (minerals) required for 'green technologies'. As we transition to net-zero greenhouse gas emissions, the demand profile for minerals in the EU and globally will change as new technologies, uses and economics emerge, for example lithium or zinc air batteries. It will be important that Ireland continues to play its part in producing the raw materials required for the transition.

6.3 Where does mineral exploration or mineral prospecting take place?

Mineral exploration typically takes place on land. Any legal entity can apply to the Minister for the right to explore for minerals through the prospecting licensing process. In practice, mineral exploration is a financially risky and costly activity and is only undertaken by private industry in Ireland.

A prospecting licence (PL) is a permit, issued by the Minister, which allows the holder (the licensee) to explore for specified minerals in a defined geographic area referred to as a prospecting licence area (PLA). The areas are on average 35 km² with their perimeters usually following townland boundaries (see [interactive map](#)). A prospecting licence will typically be valid for a period of six years and will entitle the licensee to carry out various activities in the search for certain (specified) minerals. Prospecting licences may be renewed, subject to the satisfaction of the Minister following consideration of any representations from the public.

There are a number of prohibitions and restrictions on mineral exploration in Ireland. These are:

- All exploration and mining within national parks is prohibited unless undertaken to help manage or improve the park under the control of the National Parks and Wildlife Service (NPWS);
- Ministerial ban on uranium exploration since 2007;

- Primary mercury mining is prohibited under the Minamata Convention on Mercury, to which Ireland is a Party;
- Certain licences (for example in County Mayo) are excluded from exploration under Ministerial order.
- Prospecting licences, mining licenses or leases for coal, lignite and oil shale will not be issued.

6.4 Mining in Ireland

Mining is the process of extracting minerals from the ground. There are two main types of mining – surface (also known as open pit or open cast) and underground.

Ireland has a rich history with respect to mining, dating back to the Bronze Age (2000 BC). However, mining only really started to flourish in the late Industrial Revolution of the 18th and 19th centuries, by which time when nearly every county in Ireland had at least one metal mine in production. Copper, lead-silver and other minerals, such as iron were mined along with coal. Slate quarrying, manganese, barite and pyrite mining also took place during this period.

Ireland enjoys the status of a world-class producer of zinc and lead with six such mines coming on stream since the 1960s (Tynagh, Silvermines, Gortdrum, Galmoy, Lisheen and Navan). Galmoy Mine in Co. Kilkenny and Lisheen Mine in Co. Tipperary have ceased production in recent years. However, the extraction of zinc and lead supported the employment of 1,262 full-time equivalent persons and had an output of over €550m in 2016. Ireland still maintains significant status for zinc production in Europe, due to operations at the Navan Mine, the largest underground zinc mine in Europe and by far the most significant mining facility in the State. Approximately 600 people are directly employed at the mine along with additional contract staff. Each year it is estimated that the Navan Mine generates €70-75 million in the local community with a further €2 million paid to the local authority in rates, water rates and planning charges annually.

In addition, there are a number of other smaller facilities (when compared to the Navan Mine) working scheduled minerals in the State (details can be found in the [six-monthly reports to the Oireachtas on the status of the mineral exploration and mining sector](#)).

6.5 Modern day mining in Ireland and how it differs from the past

The regulation of and practices associated with mining have radically improved in recent times in tandem with Ireland's membership of the European Union, the updating of national

planning, mineral and environmental legislation, including the establishment of the EPA and associated Integrated pollution control (or as appropriate industrial emissions) licensing which applies to mining. It is important to note that mines which operate now are highly regulated in terms of their planning, environmental impact, operation, closure and after care planning and can in no way be compared to those mines which operated in the past and which have left us with legacy issues. In this regard, the DECC commissioned an independent report [A social, environmental and economic assessment of Galmoy and Lisheen Mines](#). The two mines were the first in Ireland to be opened, operated and closed under modern mining, planning and environmental regulation. The report assesses the social, environmental and economic effects of each mine on the local and wider communities, providing essential benchmarks for modern day mining within Ireland.

Today's generation of modern mines use innovative processes and technologies in their operations including automation and real time data management. The collection and processing of data from operations in real time allows for a disciplined and well planned mine advance in circumstances that are always challenging. Automation and real time response also allows mining to support a working environment that is safe and conducive to production for example by monitoring and controlling air quality in an underground mine. By developing renewable energy sources and reducing, reusing and recycling water onsite, operations are creating smart and efficient mines to produce minerals and metals. Navan Mine is no exception. The mine is among the safest in the world and is a hub for innovative mining.

6.6 Legacy Mines

As set out above, Ireland has a mining heritage that extends back to the Bronze Age. Mining has occurred at hundreds of sites, but for historical and legislative reasons, many are not the legal responsibility of the State (the relevant private mineral owner or landowner is responsible in most cases). However, under Article 20 of the Extractive Industries Waste Directive (2006/21/EC), DECC has compiled an inventory of waste facilities at old mine sites at which historical mining is known to have occurred. These reports are available in compliance with Article 20 of the Extractive Industries Waste Directive (2006/21/EC).

The legislation governing the making safe and rehabilitation of former mine sites is complex. The Minister may:

- carry out works to make safe openings into underground workings where State owned minerals have been extracted; and

- prepare a plan for the long-term rehabilitation of a former mine site, regardless of whether the minerals extracted were State owned or privately owned.

7 Appendix C International Initiatives to source minerals responsibly and promote sustainable mining

7.1 Kimberly Process

The [Kimberley Process](#) (KP) is an international trade regime consisting of governments, the diamond industry and NGOs with the goal of preventing the trade of diamonds from conflict areas. Today, there are over 55 participants in the KP, with the European Union (EU) acting as a single participant. Since its introduction in 2003, global production of diamonds from conflict areas has decreased by 99.8%.

As the EU is a participant in the KP, anyone wishing to import or export rough diamonds into or out of the EU must do so through a designated Kimberley Process Union Authority and comply with the Kimberley Process Certification Scheme (KPCS). There are currently Union Authorities in six EU Member States (Belgium, Germany, Czechia, Romania, Ireland, and Portugal). The UK is also a participant in its own right since leaving the EU. European rough diamond traders are free to choose any Union Authority to process their trade activities.

Ireland will continue to play its part to prevent the trade of diamonds from conflict areas and facilitate Irish companies trading in conflict free diamonds.

7.2 Minerals from Conflict Areas

Just as with diamonds, in politically unstable areas, the minerals trade can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. These so-called 'conflict minerals', tin, tungsten, tantalum and gold, also referred to as 3TG, can be used in everyday products such as mobile phones and cars or in jewellery. The EU Conflict Minerals Regulation aims to ensure that the EU supply chain for these minerals and metals is from responsible and conflict-free sources only. This regulation came into full force across the EU on 1 January 2021. In January 2021 legislation was introduced to achieve the aims of this EU Regulation and in doing so facilitate Irish companies trading in conflict free minerals and metals.

7.3 Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF)

The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) is a voluntary initiative supporting over 70 nations committed to leveraging mining for sustainable development to ensure negative impacts are limited and financial benefits are shared. Ireland joined the IGF in March 2019 and will continue to use the forum to engage with fellow member countries on a broad range of important policy issues such as development, environment, gender, mine closure and responsible supply chains. Through its membership, Ireland will be able to share its own best practice policies and learn from the experience of others as we work together on ensuring that mining contributes fully in the achievement of the UN Sustainable Development Goals.

8 Appendix D - Frequently Asked Questions on Mineral Exploration and Mining

What are minerals used for?

We use minerals in our lives much more than we may realise. Often, many of us aren't aware that minerals are needed to make a variety of everyday items. Here are some of the common items which use minerals in their making: toothpaste; pencils, paint, glass, paper, drinks cans, medicines, toiletries, soaps, detergents, cosmetics, fireworks, phones, glue, camera lenses, plaster, cement, fertiliser, mineral water, antiseptic, computers, lightbulbs, stainless steel, talcum powder, dietary supplements - the list goes on!

Minerals are also important for developing the cleaner technologies required for our green energy transformation, such as wind turbines, solar panels, batteries and energy storage units, transmission lines, and electric wiring.

Where do we get these minerals?

Minerals are found in the Earth's crust throughout the world. A mineral deposit has to be very big to make it worth extracting (that is a viable mineral deposit). Deposits can only be extracted (mined) where they are found.

What is mineral exploration, or mineral prospecting?

Mineral prospecting is the process undertaken by geologists, usually in a company or partnership, to find a viable mineral deposit.

Prospecting uses different techniques, such as examining of historical and geological records (desk studies), surveying the land, the examination of rocks (geological studies), collecting small samples of rocks, soil or sediments for analysis (geochemical surveys), or measuring certain properties of the rocks in the area, for example their magnetic properties (geophysical surveying).

If these techniques yield promising results, the geologists may wish to carry out drilling or to dig a shallow temporary trench to investigate the rock at depth.

Drilling extracts narrow diameter core samples, to build up a better picture of the geology below. Trenching is excavating and exposing bedrock for the same purposes.

Can anyone prospect for minerals?

Anybody can apply for the right to explore for minerals to the Minister for the Environment, Climate and Communications through the prospecting licensing process. In practice, mineral exploration is a costly activity and there is a substantial risk that after many years of prospecting, you may not find a viable deposit. Licensees also require specific technical skills and qualifications. For that reason, applications for prospecting licences are usually made by companies.

What is a prospecting licence?

A prospecting licence (PL) is a permit, issued by the Minister, which allows the holder (the licensee) to prospect for specified minerals in a defined geographic area referred to as a prospecting licence area (PLA). The areas are approximately 35 sq km with their perimeters usually following townland boundaries.

A prospecting licence will normally be valid for six years and will entitle the licensee to carry out various activities in the search for certain (specified) minerals. Prospecting licences can be renewed, subject to the satisfaction of the Minister.

There are a number of conditions to the granting of a prospecting licence, namely evidence of technical capability and financial viability; rationale for why particular minerals are being sought; and an appropriate exploration programme for those minerals. The licensee must also commit to minimum exploration expenditure.

Who administers prospecting licences?

The Minister for the Environment, Climate and Communications can issue a licence to a private operator to prospect for minerals in Ireland. The Minister is advised in that role by the Geoscience Regulation Office (GSRO) within the Department of the Environment, Climate and Communications (DECC). The GSRO manages the regulation, licensing and enforcement roles for mineral and petroleum exploration, production and decommissioning and geothermal applications within the DECC. The GSRO does not regulate petroleum or quarries for stone, sand, gravel, clay or aggregates, with some limited exceptions.

Following the evaluation of an application, if it is deemed acceptable, an offer is then made to the company, setting out the terms of the prospecting licence and the area to be licensed. On acceptance, notification of the Minister's intention to grant or renew a prospecting licence is then advertised.

Is there a difference between mineral exploration and mining?

Mineral exploration (prospecting) and mining are often confused with each other. Mineral exploration is not mining. They are two very different activities given their environmental impacts and scale. Different regulatory rules apply to each and there is a completely separate and distinct licence application process for each activity.

A prospecting licence relates to the activity of exploring for minerals only and does not give the licence holder permission to mine.

Does mineral exploration always lead to mining?

The State has issued thousands of prospecting licences for mineral exploration over the years. Only a handful of licences have led to mining operations. If a viable mineral deposit is discovered, and if a company wishes to extract those minerals, they will need to go through a separate mining licence application process.

What is mining?

Mining is the activity of removing valuable minerals from the ground. In order to consider mining, you first have to be sure that there is a viable mineral deposit. There are two main types of mine – surface (also known as open pit or open cast) and underground.

How do you get a mining licence?

If you have a prospecting licence and you find a viable mineral deposit, you cannot just extract those minerals.

If you want to mine the minerals discovered during prospecting, there are three separate licences you will need to get from the Government:

- An integrated pollution control (IPC) licence from the Environmental Protection Agency (EPA). IPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPC licence is a single integrated licence which covers all emissions from the facility and its environmental management
- Planning permission from the local authority (including a full environmental impact assessment and public consultation)
- A mining lease or licence from the Minister for the Environment, Climate and Communications

The Minister will not consider granting a mining lease or licence until both the planning permission and an IPC licence have been granted.

How are mines monitored?

Environmental monitoring of a mine is performed under an IPC licence from the EPA. Enforcement activities are carried out by the EPA through inspections, audits and emission monitoring. Inspectors assess the results of emissions monitoring carried out at licensed facilities to determine the impact, if any, of emissions on the environment. For more information visit the [EPA website](#).

Departmental officials also monitor mining operations. At a minimum, biannual inspections of each of the main State mining facilities are undertaken by specialist mine inspectors to ensure they are compliant with the terms of the mining lease or licence.

Does Ireland have any mines?

Ireland is internationally renowned for world class zinc-lead mining. Over the last 50 years significant zinc, lead and copper discoveries have been made, including the largest underground zinc and lead mine in Europe at Navan, Co. Meath. Gypsum is also currently mined in Co. Monaghan.

How does the Minister consult with the public when a prospecting licence is to be granted or renewed?

The legislation requires 21 days' notice of the Minister's intention to grant or renew a prospecting licence and for the receipt of any submissions. The Geoscience Regulation Office (GSRO) keeps the consultation period open for an extra nine days (a total of 30 days' consultation period).

Notification is always given through a printed notice in the newspaper that is most relevant to the prospecting licence area under consideration. Notices are also sent for public display to the appropriate Garda station(s) and local authority office(s). The same information is available [online](#).

I am worried that a prospecting licence will lead to mining. Can I object on this basis?

No, only submissions that relate to entering on land or prospecting for minerals and that do not relate to working (mining) the minerals or compensation for working the minerals will be considered by the Minister.

In the event that licensed prospecting activities lead to an intention to mine, three separate State consents are needed, providing for public consultation. This is the appropriate time to object to mining.

I would like to object to a prospecting licence – how do I go about this?

All valid submissions are considered as part of the final decision-making process on an application. Submissions may be sent by email to GSRO@DECC.gov.ie or posted to:

Geoscience Regulation Office
Department of the Environment, Climate and Communications
29-31 Adelaide Road
Dublin, D02 X285
Ireland

The Minister will consider only those submissions that relate to entering on land or prospecting for minerals and that do not relate to working (mining) the minerals or compensation for working the minerals.

I would like to object to a mining licence – how do I go about this?

If a company intends to develop a mine they will require three separate consents, providing for public consultation. This is the appropriate time to object to mining.

The regulation and licensing of mining for minerals is an independent and separate process from prospecting.

Who owns Ireland's minerals?

Minerals legislation is complex. What follows is general guidance only and does not purport to be a statement of the law.

Minerals are either State owned or privately owned. Approximately two thirds of scheduled minerals are State owned, as is all gold and silver.

How do I find out who owns the mineral rights on my land?

Landowners can find out from their title deeds if they own the minerals on or under their land. In many instances, where the minerals are privately owned, the owner of the land will also be the owner of the minerals. There are some instances when the minerals are privately owned but do not belong to the landowner; these are mostly in areas of historic mining. Mineral ownership is complex, and good legal advice is advisable.

Do I need a licence for recreational gold panning?

Recreational gold panning activities do not need a licence from the Minister. The Department considers recreational gold panning activities to be those that utilise only hand-held, non-motorized equipment. Examples of such equipment include a gold pan, shovel, hand-operated suction device, trowel, sieve and small-pry tools.

The use of powered or mechanized equipment (for example trommels, high-bankers or other concentrators, rocker boxes, suction dredges or vac-pac pumps, earth moving equipment, and so on) is not classified as recreational gold panning and instead is a mining activity. The use of this equipment for gold panning purposes will need a mining lease from the Department.

A recreational panner should not operate in the same stream, river or channel for more than two days in any one calendar month. Before commencing their activity, panners should contact the local [National Parks and Wildlife Service](#) (NPWS) ranger to ensure that the site they wish to pan is not environmentally sensitive (that is likely to be harmed by a single panning event) or legally protected.

Is cyanide used in mineral exploration?

Cyanide is not used in mineral exploration.

A company has been granted a prospecting licence; can they start drilling, trenching or working in sensitive sites?

If a prospecting licensee wishes to carry out drilling or dig a temporary trench, an application must be made in advance to the Minister and it will be screened for compliance with environmental protection legislation. This applies no matter where the activity is proposed. On the rare occasion that a company proposes to carry out work within a Natura 2000 site, the Minister will seek the view of the National Parks and Wildlife Service.

Licensees are obliged to follow the Geoscience Regulation Office's (GSRO) [Guidelines for Mineral Exploration](#), as part of their prospecting licence conditions. These guidelines set out, in considerable detail, standard operating procedures to avoid damage or pollution. All exploration activities are screened in advance to ensure that there will be no significant environmental effects.

Does a company with a prospecting licence have the right to enter onto my land?

Licensees should and do seek permission from the landowner or tenant in advance of undertaking any field-based exploration activities.

If the licensee has been unsuccessful in their efforts to reach the landowner or tenant to discuss entry onto land, the licensee may only carry out non-intrusive prospecting (for example collecting small samples of rocks or soil), without the express consent of the landowner or tenant.

I want to make a complaint about a prospecting licensee, who do I contact?

Please contact the Geoscience Regulation Office (GSRO) at the Department of the Environment, Climate and Communications at GSRO@decc.gov.ie or

Geoscience Regulation Office

Department of the Environment, Climate and Communications

29-31 Adelaide Road

Dublin, D02 X285

Ireland

9 Glossary

Term	Details
Action Plan for Rural Development	Realising Our Rural Potential - Action Plan for Rural Development
Aggregates	Aggregate is the term applied to any rock or mineral used in bulk, crushed or ground form, for road or building construction or materials fabrication, or for agricultural, agri-chemical or general chemical applications.
Circular Economy Action Plan	The European Commission's new Circular Economy Action Plan is one of the main blocks of the European Green Deal, Europe's new agenda for sustainable growth.
Climate Action Plan	Climate Action Plan to Tackle Climate Breakdown.
Critical Raw Material	Raw materials crucial to Europe's economy. They form a strong industrial base, producing a broad range of goods and applications used in everyday life and modern technologies. Reliable and unhindered access to certain raw materials is a growing concern within the EU and across the globe.
DECC	Department of the Environment, Climate and Communications.
Dimension Stone	A natural stone or rock that has been selected and finished; trimmed, cut, drilled, ground or other to specific sizes or shapes, for example grave stones, natural slate and curbing.
Economic Review of the Irish Geoscience Sector	Geological Survey Ireland publication in 2017 prepared by Indecon International Economic Consultants.
Energy (Miscellaneous Provisions) Act 2006	Energy (Miscellaneous Provisions) Act 2006
Environmental Protection Agency (EPA)	The Environmental Protection Agency is the front line of environmental protection and policing. Ensuring that Ireland's environment is protected, and monitoring changes in environmental trends to detect early warning signs of neglect or deterioration.
Europe on the Move	European Commission policy with the goal for the EU and its industries to become a world leader in innovation, digitisation and decarbonisation.
European Green Deal	The European Green Deal is the roadmap for making the EU's economy sustainable.

Term	Details
European Innovation Partnership	The European innovation partnership (EIP) on raw materials. It is a stakeholder platform that brings together representatives from industry, public services, academia and NGOs. Its mission is to provide high-level guidance to the European Commission, EU countries and private actors on innovative approaches to the challenges related to raw materials.
Geoscience Policy Division (GSPD)	A division of the Circular Economy, Waste Policy and Natural Resources sector of DECC, the GSPD manages the policy and legislative functions for the mineral exploration and mining, petroleum and geothermal sectors
Geoscience Regulation Office (GSRO)	A division of the Circular Economy, Waste Policy and Natural Resources sector of DECC. The GSRO manages the regulation, licensing and enforcement roles for mineral and petroleum exploration, production and decommissioning, geothermal applications and regulation.
Geoheritage	A term applied to sites or areas of geologic features with significant scientific, educational, cultural or aesthetic value.
Geology	The science which deals with the physical structure and substance of the earth, their history and the processes which act on them.
Geoparks	A (UNESCO) Geopark is a single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development.
Geosciences	Earth sciences, especially geology.
Geothermal energy	Energy originating from the earth's core, for example from high-temperature geothermal vents.
Greenhouse Gas	A wide range of gases known as greenhouse gases contribute to climate change. The most important greenhouse gases are carbon dioxide (CO ₂), methane (CH ₄), and nitrous oxide (N ₂ O). Other greenhouse gases comprise so-called F-Gases, a wide variety of man-made gases used in various applications, such as refrigeration and air conditioning. Collectively these greenhouse gases are the subject of international agreements, such as the United Nations Framework Convention on Climate Change and the Paris Agreement.
Guidelines for Mineral Exploration	Mineral Exploration must be undertaken in accordance with best practice and respect the environment. The Publications listed provide information through guidelines on how exploration should be carried out.

Term	Details
International Institute for Sustainable Development	The International Institute for Sustainable Development (IISD) is an independent think tank for solutions to our planet's greatest sustainability challenges.
Irish Centre for Research in Applied Geosciences	iCRAG is the Science Foundation Ireland (SFI) Research Centre for Applied Geosciences.
Legacy Mine	An historic mine site which are not regulated by a permit under current mining legislation and which encompasses all infrastructure related to a mine, including, but not limited to tailings facilities, waste rock dumps, buildings and mills.
Mapping Mining to the Sustainable Development Goals: An Atlas	Report, prepared jointly by the United Nations Development Programme, the World Economic Forum, the Columbia Centre on Sustainable Investments and the Sustainable Development Solutions Network, illustrates how mining can contribute to the achievement of the Sustainable Development Goals (SDGs).
Minamata Convention	The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury. The Minamata Convention entered into force on 16 August 2017.
Mineral Sterilisation	The loss of access to mineral resources due to the use of land for the development of activities that prevent their exploration or exploitation, for example commercial, residential or infrastructure building on potential minerals resources.
Minerals Development Act 2017	Minerals Development Act 2017
Mining Waste	Extractive industry waste that originates from the processes of excavation, dressing and further physical and chemical processing of wide range of metalliferous and non-metalliferous minerals.
National Parks and Wildlife Service	The National Parks and Wildlife Service is part of the Department of Culture, Heritage and the Gaeltacht and manages the Irish State's nature conservation responsibilities. As well as managing the national parks, the activities of the NPWS include the designation and protection of Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas.

Term	Details
National Policy Objective 23	<p>National Policy Objective 23 is part of Project Ireland 2040 - National Planning Framework.</p> <p>Objective 23 is to facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.</p>
Non-governmental organisations	<p>A non-governmental organization (NGO) is a non-profit, citizen-based group that functions independently of government.</p> <p>NGOs, sometimes called civil societies, are organized on community, national and international levels to serve specific social or political purposes, and are cooperative, rather than commercial, in nature.</p>
Project Ireland 2040 - National Planning Framework	<p>The National Planning Framework (NPF) is the Government's high-level strategic plan for shaping the future growth and development of our country out to the year 2040.</p>
Prospecting Licence	<p>A prospecting licence (PL) is a permit, issued by the Minister, which allows the holder (the licensee) to prospect for specified minerals in a defined geographic area referred to as a prospecting licence area (PLA). The areas are approximately 35 sq km with their perimeters usually following town land boundaries.</p> <p>A prospecting licence will normally be valid for six years and will entitle the licensee to carry out various activities in the search for certain (specified) minerals. Prospecting licences can be renewed, subject to the satisfaction of the Minister.</p>
Pumped storage hydroelectric power	<p>Pumped-storage hydroelectricity (PSH) is a type of hydroelectric power generation that stores energy in the form of potential energy of water, pumped from a lower elevation reservoir to a higher elevation. Low-cost off-peak electric power is used to run the pumps, and the stored energy can be used for load balancing. An Irish example of this is Turlough Hill in County Wicklow.</p>
Renewable energy	<p>Renewable energy, often referred to as clean or green energy, comes from natural sources or processes that are constantly replenished for example, wind, solar, hydroelectric, ocean, geothermal, biomass and biofuels.</p>
Report on Raw Materials for Battery Applications	<p>European Commission report (2018) launched to inform discussions with the Member States and other stakeholders about the implementation of the Battery Action Plan.</p>

Term	Details
Retrofitting	The addition of new technology or features to older systems, for example; power plant retrofit, improving power plant efficiency/increasing output/reducing emissions.
Strategic Action Plan on Batteries	European Commission Strategic Action Plan published 2018 and which aims to put Europe on a firm path towards leadership in a key industry for the future, supporting jobs and growth in a circular economy, whilst ensuring clean mobility and an improved environment and quality of life for EU citizens.
Sustainable Development Goals	<p>In September 2015, UN Member States adopted the 2030 Agenda for Sustainable Development.</p> <p>The centre piece of the 2030 Agenda were the 17 Sustainable Development Goals (SDGs). The 17 SDGs, reflect economic, social and environmental dimensions of sustainable development.</p> <p>The Minister for the Environment, Climate and Communications has lead responsibility for promoting and overseeing national implementation of the 2030 Agenda for Sustainable Development and its 17 SDGs.</p>