

# DALRADIAN GOLD



2020 Responsible  
Business Report

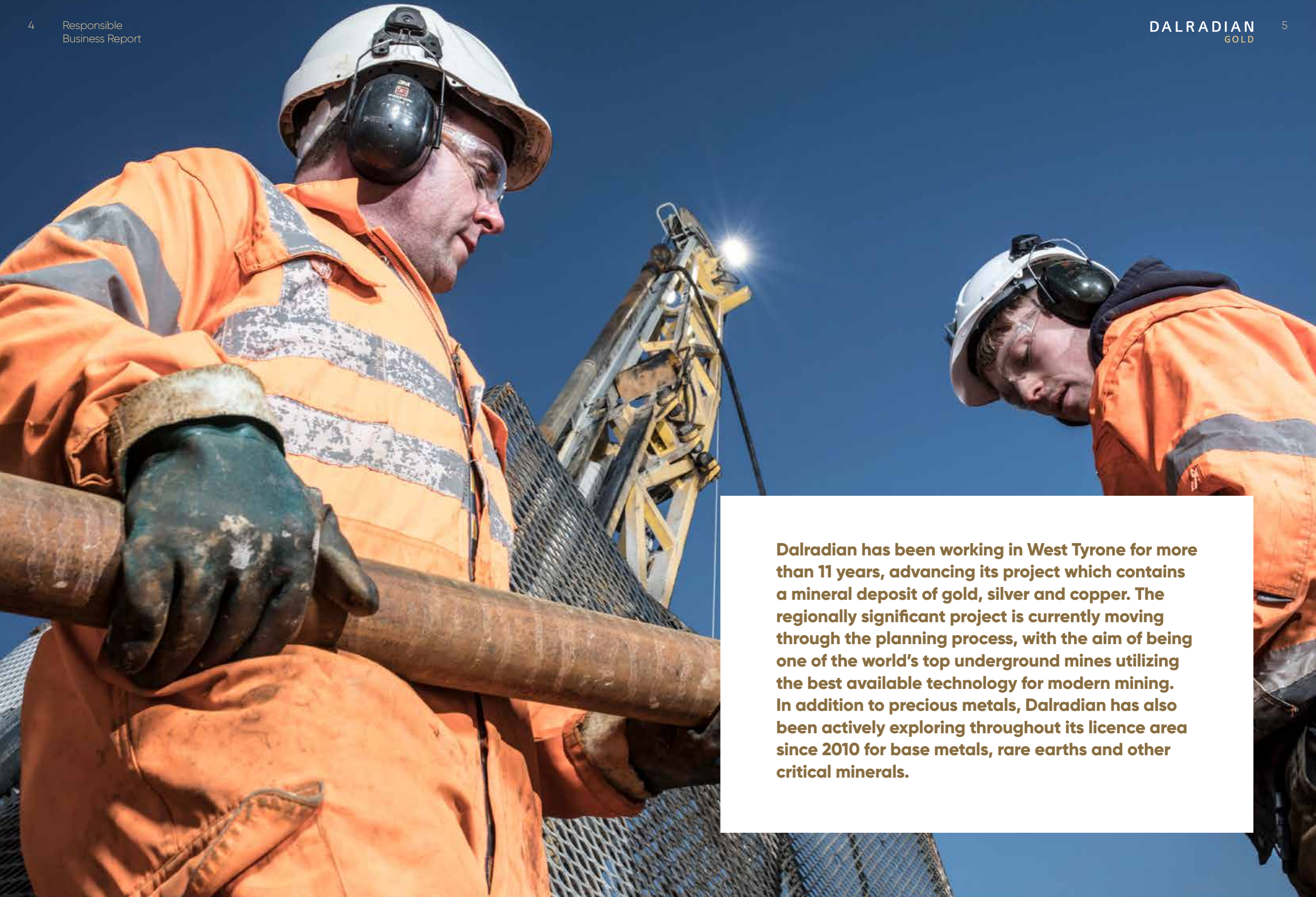
Dalradian's 2020 Responsible Business Report explains the company's business, strategy, activities and performance in a number of areas, including environmental, social and governance for the period January to December 2020. The report includes key metrics and case studies that illustrate Dalradian's long-term, responsible approach to modern mining.



**Our Vision**

We aim to build a modern mine that draws on Tyrone's heritage of engineering and manufacturing excellence to drive economic growth and community development in the local area and beyond.

<b>CEO FOREWORD</b>	<b>6-7</b>	<b>OUR BUSINESS</b>	<b>26-35</b>
<b>MINING'S CRITICAL ROLE</b>	<b>8</b>	- DALRADIAN IN NUMBERS	28-29
<b>MD FOREWORD</b>	<b>9-10</b>	- THE PROJECT	30-31
		- PLANNING PROCESS	32-33
<b>PEOPLE</b>	<b>12-19</b>	- PUBLIC LOCAL INQUIRY	34
- COMMUNITY FUND	16	- DALRADIAN SUPPLIERS	35
- STAYING CONNECTED	17	- GOVERNANCE	36-37
- VIRTUAL TOUR	18		
- INVESTORS IN PEOPLE	19	<b>SASB METALS &amp; MINING STANDARD</b>	<b>38-39</b>
<b>ENVIRONMENT</b>	<b>20-25</b>		
- CARBON NEUTRAL PLUS	22		
- OFF-SETTING PROJECT	23		
- CLIMATE CHANGE	24-25		



**Dalradian has been working in West Tyrone for more than 11 years, advancing its project which contains a mineral deposit of gold, silver and copper. The regionally significant project is currently moving through the planning process, with the aim of being one of the world's top underground mines utilizing the best available technology for modern mining. In addition to precious metals, Dalradian has also been actively exploring throughout its licence area since 2010 for base metals, rare earths and other critical minerals.**



**Patrick F.N. Anderson**  
President & CEO  
Dalradian Resources Inc.

## CEO Foreword

### This second Responsible Business Report discusses our results from 2020, delving into how our business affects the people in and around it and the environment we work in.

It also aims to give a solid understanding of our proposed underground mine from an environmental, community and economic perspective. We are taking our reporting a step further this year by referencing our results to the Sustainability Accounting Standards Board (SASB) framework. The SASB Metals & Mining Standards identify the environmental, social, and governance (ESG) issues most relevant to our industry.

In 2020, our project continued to progress through the planning system, which balances the positive and negative impacts of the proposal to arrive at a decision of whether a project should proceed and under what conditions. The amount of information required for regionally significant projects such as ours is necessarily high, with detailed studies on environmental, social and economic impacts being submitted. Examination of these studies by a range of government departments and consultees is extensive and for many major projects such as ours culminates in a public local inquiry (PLI) by the independent Planning Appeals Commission. Our project is just beginning the PLI phase in 2021, which will result in a report with a recommendation for the

Minister for Infrastructure on whether the project should be approved.

During early 2021, a third-party report on our proposed mine was published by EY. It found that the mine will provide a “significant and timely stimulus” for the economy for more than 25 years should it receive planning permission. The review assessed the mine’s potential economic and social impacts over time and concluded that the project will contribute to “a more prosperous, competitive and regionally balanced economy”.

Other findings published in the report included that the mine would provide more highly skilled jobs, which would mean fewer people being forced to travel for work outside the area, and increased incomes for families, which would provide “greater choices for their children and help them reach their lifelong potential”.

The review sets the benefits of the project against EY’s outlook for the Northern Ireland economy, which forecasts that Gross Value Added (GVA) will be 3.4% lower in 2022 than pre-pandemic levels due to Covid-19

and Brexit uncertainty. Dalradian’s project, however, which will support c.1,000 direct, indirect and induced jobs, will produce a “long-term counter cyclical effect” to help mitigate this difficult economic position.

The mine will provide a minimum of £4m in community funding, deliver a multi-million investment in training and further enhance the region’s STEM skills which are essential for leveraging its existing strong manufacturing and engineering base.

Coupled with these strong socio-economic benefits, our project has been designed to respect the environment. It aims to be Europe’s first carbon neutral mine, operating in tandem with the local environment and within strict regulatory standards. Silver and copper, both of which will be produced by the mine, are important materials in making the transition to a green economy since they are used in applications such as solar panels, wind turbines and electric vehicles.

I appreciate the support and patience of our staff, contractors, suppliers, community groups and other stakeholders over the past

year. The permitting period can be difficult for all concerned since it sometimes feels as if the project is not progressing as quickly as we would hope. However, it is important that the project be closely scrutinized, reviewed, consulted on and understood prior to it being approved. We are confident that the project is standing up well under this process and will do so in the PLI phase, which kicked off in September of 2021. The inquiry provides a further opportunity for independent scrutiny in an open and transparent forum. This will give all interested parties the chance to have their voices heard.

With the project’s positive economic and social impact, plus our commitment to deliver a hi-tech, environmentally responsible mine, this is a once-in-a-generation opportunity for Tyrone. Good quality, long-term jobs are the bedrock of any community, increasing prosperity and resulting in a range of social benefits.

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Speaking in the Dáil Éireann on 2 November 2021 on the subject of granting mining licences, Deputy Eamon Ryan, the Minister for the Environment, Climate and Communications (and the leader of the Green Party in the Republic of Ireland) said:

**“My Department is currently finalising a draft policy statement on mineral exploration and mining...[highlighting] the role of minerals in our everyday lives and the critical role they will play in our transition to net-zero emissions and carbon neutrality by 2050. The draft policy recognises that we need to repair, reuse and recycle more minerals and metals but this alone will not supply the quantity of minerals required to decarbonise our energy system through solar power, renewable wind energy and batteries. Relying solely on imported minerals risks these activities being developed in parts of the world where less stringent environmental and human rights standards apply while also risking our ability to secure the minerals needed to make the green and digital transition a reality.”**

## Mining's critical role for a sustainable future

The Institute of Geologists of Ireland (IGI) published a series of factual, science-based resources produced by experts in mineral exploration, mining and the environment. Their aim is to raise awareness of the "role of mineral exploration and mining in meeting Ireland's future societal, economic and environmental needs".

The World Bank anticipates that demand for metals, including copper and silver, to support the clean energy transition will increase. To read the IGI's factsheets on Mining through the Ages, Mineral Exploration in Ireland, Lifetime Value of a Mine, Environmental Oversight and Mining and our Green Future visit: [www.igi.ie/mineralsinformation-working-group/](http://www.igi.ie/mineralsinformation-working-group/)

## Energy Transition

**Brown Economy**  
Based on fossil fuels (oil, coal and gas)



**Green Economy**  
Based on renewable technologies using mined and recycled materials



## Decarbonisation requires a new approach and new resources

According to the IGI's John Barry:

**"Renewable energy to mitigate climate warming is not possible without metals. Mineral exploration and mining are essential to ensure supply of these metals".**



**Brian Kelly**  
Managing Director  
Dalradian Gold Ltd

## MD Foreword

**Our focus during 2020 and into 2021 was to complete the consultation on our planning application for an underground mine. It is a regionally significant application, backed up by many years of data collection and extensive studies on environmental, economic and social matters.**

These studies confirm the robustness of the project, which has the potential to boost the economy and community in Tyrone for decades to come. With its use of the latest technology, it will build on Tyrone's global reputation and proud tradition of engineering and manufacturing in the mining and extractive sectors. We envisage a centre of excellence that could encourage best practice in the development of cutting edge equipment, not only for mining, but for water treatment and environmental protection.

Our application has been reviewed by more than 30 statutory consultees, many of whom have made queries or requested further information during the consultation process. This is a critical part of the planning process and feedback from such statutory consultees and, indeed, the public, has informed the evolution of the project's planning since the original application was submitted in November 2017. During 2020, we submitted a second package of Further

Environmental Information, providing additional material for the Department for Infrastructure and statutory consultees around a number of key areas including roads, landscape and water. Completion of consultation was marked in 2021 by referral of the main application and associated powerline and road abandonment applications, in September, to the Planning Appeals Commission (PAC) for a Public Local Inquiry (PLI). This is a key stage for our regionally significant application and allows for a further independent review of the project by the experts at the PAC.

During the past year, we have also continued to support the community, train and develop our people, engage with stakeholders and perform technical and environmental work on the project to progress it and meet regulatory requirements.

In the same way that broader society has had to navigate through the challenges of Covid-19, our staff, their families and our

## MD Foreword (continued)

### Over the past 18 months, many of our team refocused themselves and some of our equipment to help their local towns and community groups with sourcing and producing sanitiser, PPE, food and other supplies.

community have had to make enormous and ongoing adjustments in how we approach each and every part of our working life. While many of our people were working from home, those that could not, such as our field staff, had to implement many new procedures and processes to comply with government advice and to keep our team as safe as possible. I would like to thank our managers, who did a lot of planning and reorganizing to make it all possible and, especially, those responsible for Health & Safety, HR and Geology. They put in a tremendous effort to keep our people safe and connected. They were also able to assist a number of local clinics/GP's practices to safely make medical house calls to patients by providing safe and secure transport for the medical experts.

For the second year running, we were certified as Carbon Neutral Plus by Carbon Footprint. This is a long-term commitment that will adapt as we move through the different stages from permitting to construction, operations and ultimately closure. It starts by working each year to minimise emissions in each area of our business. Part of the certification process is to set goals for the coming year and identify areas where emissions can be reduced. We offset the remaining emissions with international certified projects, choosing those that align best to the Sustainable Development Goals established by the United Nations in 2015. As well as supporting overseas projects, we have looked to contribute more locally too. We achieved

a carbon "Plus" designation (awarded for going above and beyond neutral/net zero) by supporting local tree-planting projects to help combat climate change.

Late in 2020, we presented an update on the project to Fermanagh & Omagh District Council; we appreciate their engagement and feedback, which caused us to expand our community fund into the Fermanagh area. We also began preparation for holding a series of Meet the Buyer events through some of the local Chambers of Commerce late in 2020. We held three virtual events in 2021, with nearly 100 potential suppliers attending on-line. This builds on the more than 530 suppliers we have already worked with in the exploration phase. We are seeking to agree a number of key construction contracts to ensure we are shovel ready pending a positive planning decision by the Minister for Infrastructure.

We are pleased to be getting closer to realizing our goal of building and operating a world-leading modern mine in Tyrone. Many years of preparation, technical work and investment have taken us to this stage of the PLI. We look forward to a successful conclusion to the process and are grateful to the many stakeholders who have taken time to examine the project (with more than 1,600 having gone underground) and share their feedback on how they would like to see the project move forward. Our project is better as a result.

Speaking in November at the international Mining Show 2021 in Dubai, Northern Ireland's Economy Minister, Gordon Lyons, confirmed that:

**"Northern Ireland is recognised as a centre of excellence in the design and manufacture of engineering and technology-led solutions for the global mining and quarrying industry."**

Dalradian believes its development of a technologically advanced underground mine can further enhance the region's expertise in this area.

### Oonagh McKenna, Sustainability Officer

**"Since 2019 I have been helping minimise our carbon emissions. Modern mining is incredibly hi-tech already, but the opportunities to use ever-more carbon neutral equipment is growing constantly - it's a very exciting time to be developing a new mine. "We're looking at innovations such as hydrogen engines, hydrogenated vegetable oil to replace diesel, solar panels and a tree nursery for indigenous species. Longer term, we are looking at suppliers that can increase the proportion of electric vehicles used in the mine."**



## People

**We want to spread the benefits of our project as widely as possible. Modern mining projects bring prosperity to the areas in which they operate - as the experience of mines in the Republic of Ireland show. These projects have developed local people's skills, helped communities thrive and provided opportunities for other businesses - all while respecting the environment.**

With over 115,000 people living in the c.3,000km<sup>2</sup> of Fermanagh & Omagh, the district is the largest in Northern Ireland in terms of land mass and the smallest in terms of population, with a population density of 38 people per square kilometre. With 46% of the population living in open countryside, the district is primarily rural. Social priorities for the Fermanagh & Omagh Council area include people and communities' physical and mental wellbeing, an ageing population, strong, safe, shared and inclusive communities and finally, children and young people (Source: Fermanagh & Omagh District Council, Fermanagh & Omagh '2030 Community Plan', March 2017).

For decades, people in the area have had to travel to distant centres for study and work. Their careers have taken them to Belfast, Dublin, Great Britain and further afield. That has put pressure on local families. Dalradian aims to relieve some of this pressure by hiring most of our workforce for the mine from the local community, which is already our approach during these current exploration and planning phases.

This could be as much as 90% of our staff, based on the experience of other mines. Dalradian plans to invest £15 million over three years to assist local people qualify for positions at the mine. That means people will see their families at tea time, rather than waiting for the weekend and holidays.

It means more money will be spent in local businesses, boosting employment prospects across the whole of the economy. It's the start of a virtuous cycle that will make our community stronger.

Tyrone and Fermanagh have a strong community spirit which supports groups that are working to improve the lives of local residents and address local challenges such as poor access to services. We established the Dalradian Community Fund (formerly known as the Tyrone Fund) in 2015 to formalise something we had been doing for a long time - supporting local people. To date, we've provided over £900,000 to over 500 community initiatives. In November 2020, following a discussion with local councillors we decided to extend the fund to include applications from Fermanagh as well as Tyrone.



Peter McKenna, Community Relations Manager and team presenting Marie Curie with a £50,000 donation and hand sanitiser produced by Ion Distillery

**£900k+**

in funding provided to more than 500 community groups, including those needing Covid-19 support (2015-2020)

**10,000**

litres of sanitiser purchased locally and distributed to organisations providing Covid-19 support

**1,600+**

people to date have taken Tunnel Tours\*

**5**

college students supported in 2020 (27 to date) through bursaries at South West College

**650+**

landowners have given us permission to sample or access their property for exploration or environmental monitoring

**90%**

of landowners approached for permission agree to give us access

**35**

paid internships to date\*

**3,000+**

people have enquired about jobs at the mine

**37**

contractors given inductions in 2020 (239 to date)

**500**

days Lost Time Incident-free at the end of 2020

**2,000**

training hours in 2020 and 15,000 total 2015-2020

**15**

Mine Rescue team members trained, with 543 training hours in 2020.

**10+**

health & wellness programmes for staff in 2020 covering exercise, nutrition, mental health and carbon footprint reduction

**38**

staff employed at the end of 2020 (total of 200+ to date)

**66%**

of staff taking part in wellness programmes

**271**

internal safety inspections

**Zero**

health & safety non-compliance in 2020

\*Due to Covid-19, the company was not able to offer internships or Tunnel Tours in 2020



## Community Fund Expansion

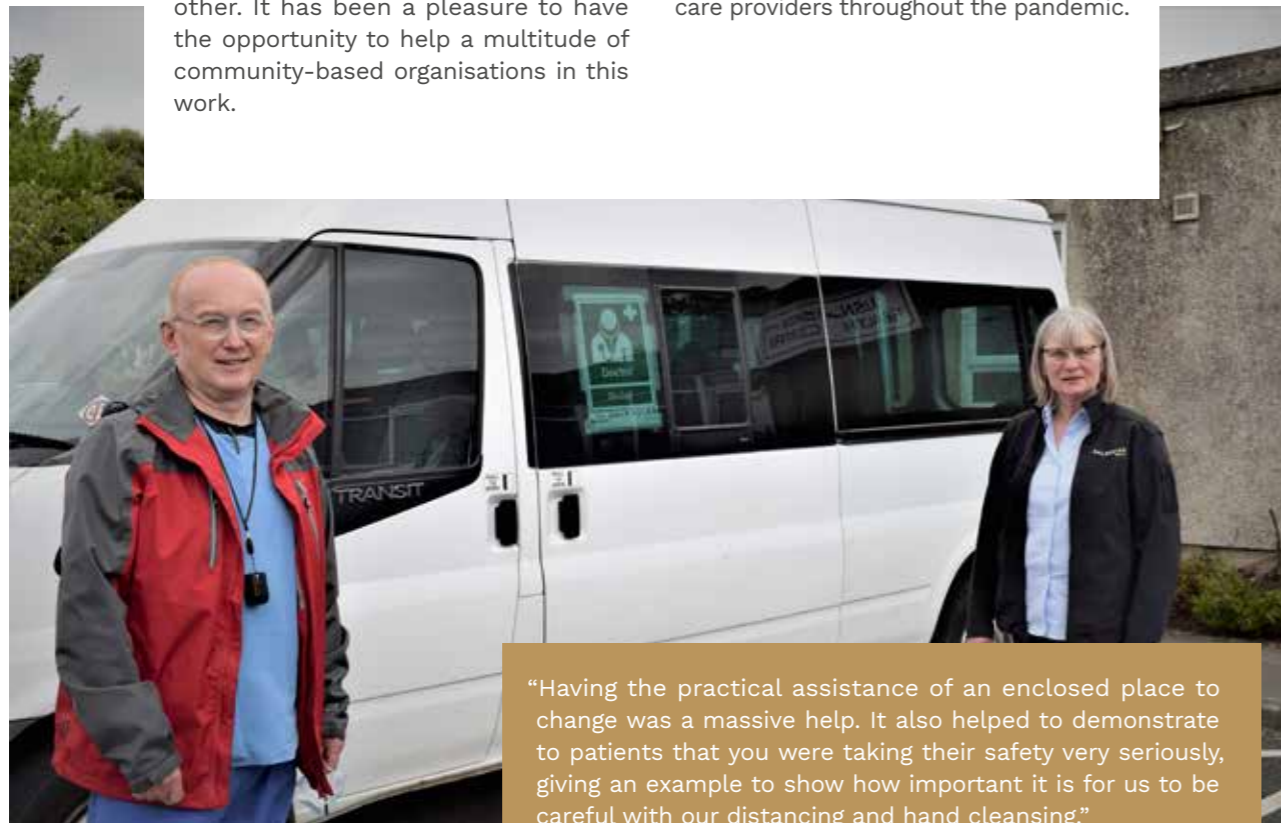
**Our support for charities and community organisations in Northern Ireland has grown to over £900,000 to more than 500 organisations, including those providing Covid-19 support to their communities.**

The majority of the donations have been made through the Dalradian Community Fund, formerly known as the Tyrone Fund which was established in 2015. This provides grants and donations to groups committed to benefiting the local community.

For many of these groups, normal fund-raising activities haven't been possible due to Covid-19 restrictions. We are pleased that the Fund can help these groups in some small way. In the last year, people across our community have risen to the challenge of the pandemic and come together to support each other. It has been a pleasure to have the opportunity to help a multitude of community-based organisations in this work.

Some of the more local groups in our area have now been funded for many years and their skill and imagination around new projects and ideas have allowed us to become involved in sports, arts, youth groups, schools, community centres, local events, and even a project to secure match funding for environmental projects in the Owenkillew River.

We also supported doctors by providing them with safe transportation to make house calls to patients in the community. Our team contributed over 1,600 hours during 2020 to help with this project as well as delivering PPE to other health care providers throughout the pandemic.



“Having the practical assistance of an enclosed place to change was a massive help. It also helped to demonstrate to patients that you were taking their safety very seriously, giving an example to show how important it is for us to be careful with our distancing and hand cleansing.”

**Dr. John Porteous**

## Staying connected and healthy

**Covid-19 presented major challenges to most businesses around the world. In our case, the major challenge was that about half of our staff do work that is very hands on. The other half, who are office-based, were able to work from home with IT support.**

For the geotechnicians and other employees that had to work in our facilities, a new schedule was devised to ensure they were distanced. Our management team also did a considerable amount of planning and physical modifications to work areas to keep our people safe.

Our HR Manager kept everyone connected by organizing online meetings, health support and other training programmes.

Some of our staff also took the opportunity, with the support of the company to train or upgrade their skills. Two of our geologists were able to complete advanced degrees.

It wasn't easy, just ask anyone who worked from home with small children in the house, but we found a way to make it work and made sure our colleagues had the tools and support they needed.



## Making our project accessible

We use a broad range of communications and engagement tools to help people in the local area and beyond to understand our project. These include:

- Newsletters (printed and virtual)
- Social media (follow us on Twitter, LinkedIn, Facebook and Instagram)
- Advertorials (more than 94 to date)
- Website and blogs
- Videos and animations
- Presentations
- Home visits
- Tunnel tours (on-site and virtual)



## Virtual Tunnel Tour

Due to Covid-19, we couldn't offer our popular in-person Tunnel Tours at our exploration site in 2020.

We were still keen to help people understand the project so we developed a virtual tour, available on our website 24/7. Using VRify technology, the animated guided tour gives people a good introduction to our project in 15 minutes or less. It includes lots of videos and

images, including 360-degree shots such as the underground image shown, which users can interact with. The tour covers both our existing activities/locations and our proposed mine site and allows users to ask us questions.



## What does it mean to be Investors in People?

The "we invest in people" accreditation is recognised in 66 countries worldwide, making it the global benchmark for people management.

Investors in People (IIP) have been working with organisations since 1991 to recognise and accredit those who do invest in their people and assist them to continue to improve at inspiring, supporting, managing and training employees. The goal is to create better, more productive organisations.

to help us improve. The IIP practitioner, who knows our business, checks in with us every year to check progress and give additional suggestions.

Dalradian was first accredited in 2019 and is due to be assessed again in 2022.

IIP's model measures how well we are leading and supporting our people compared to other companies in our industry or of our size. IIP started by assessing how well our company was doing against the framework, including meeting with our staff and managers to get their views and then produced a report with specific recommendations




## Environment


**Dalradian's aim is to build and operate one of the world's best modern mines in Tyrone. We will use best practices and the latest technology to achieve a highly productive mine while minimising our environmental impact.**

Our mine design includes a reverse-osmosis water treatment plant, a dry stack tailings facility and commitments to carbon neutrality. The potential ecological impacts of the mine have been rigorously assessed using best practice guidelines and mitigation measures have been adopted to eliminate or reduce any potential impacts upon ecological receptors to negligible levels. Dalradian has committed to ensuring that the scheme delivers Biodiversity Net Gain.

This is not just a future plan. Dalradian's recent exploration operations demonstrate our careful environmental management. Examples include the use of bog mats to minimise impact from drill rigs, achievement of net zero emissions (carbon neutral) for 2020 and restoration of the waste rock store at our exploration site. Another example is the planting of 1,100 native species trees in Northern Ireland as part of our net zero carbon programme during 2019 and 2020. As well as sequestering carbon, these will support local biodiversity.

**5**  
staff dedicated to environmental management



**30km**  
river network subject to environmental testing as part of our baseline work



**Zero**  
environmental non-compliance in 2020




**373**  
internal environmental inspections in 2020




**15**  
meetings with regulators and statutory consultees on planning application in 2020 / 107 to date




**58%**  
of solid waste recycled or reused in 2020




**8**  
external agency environmental inspections in 2020



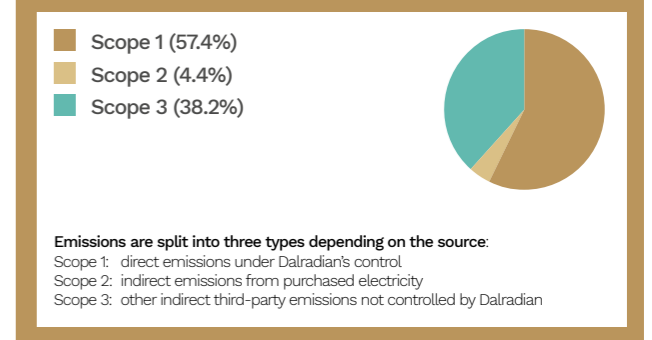
**68%**  
of our electricity was supplied by SSE in 2020, we chose SSE because it had the highest component of renewable sources among suppliers in NI (over one-third). In 2021 we switched to 100% renewable power



**130**  
environmental monitoring points (water, air quality, radon)



**349 tonnes**  
of carbon emissions were produced by Dalradian in 2020; 400 tonnes were offset in 2020 through high-quality international offsetting projects, resulting in net zero/carbon neutral certification. In addition, Dalradian supported tree-planting in Northern Ireland to achieve Carbon Neutral Plus status.



### Carbon Neutral Plus Certification for 2020

**Dalradian achieved carbon neutrality to PAS 2060 standards for 2020 by developing a carbon management plan and offsetting all carbon emissions by supporting a certified project in Malawi.**

As part of our carbon management plan, we reduced emissions during 2020 by purchasing an electric car to replace our company car and upgraded our office heating and lighting systems to reduce consumption.

While our overall emissions were about half what they were the previous year, a substantial portion of this reduction was due to impacts of Covid-19, such as reduced travel and most staff working from home. The biggest decrease was in scope 3 emissions, indirect third-party emissions; the two biggest contributing factors would have been a lack of exploration drilling and very limited air travel.

The company's assessment of its carbon footprint for 2020 was independently verified by Carbon Footprint Ltd, a leading sustainability & climate change solutions provider. Carbon Footprint

followed the exacting standards of ISO 14064-3, an international standard for businesses and other organisations to quantify, monitor, report and verify greenhouse gas emissions. By doing this, Dalradian has achieved the status of Carbon Footprint Standard - Assessed for 2020. This process has followed the stringent requirements of BSI PAS 2060, a specification produced and published by the British Standards Institution with the objective of increasing transparency of carbon neutrality claims by providing a common definition and recognised method of achieving carbon neutral status.

The Plus portion of the certification was achieved by supporting tree-planting in Northern Ireland for the second year in a row, benefiting the local region in which we operate.



### Off-Setting Project: Malawi Cookstoves

**The off-setting project chosen by Dalradian for 2020 distributes improved energy efficient cookstoves to lower-income homes in Malawi.**

The stoves are more efficient and use less wood for household cooking and heating than traditional stoves. Malawi is classed by the United Nations as a Least Developed Country (LDC). The economy is heavily based on agriculture, and it has a largely rural and rapidly growing population.

The project promotes improved kitchen and firewood management practices (e.g., use of less firewood, use of dry firewood, using a pot lid while cooking and soaking legumes before cooking) to households in Malawi. The improved technology and practices are intended to replace less efficient technologies and practices and

result in biomass conservation and a reduction of greenhouse gas emissions into the atmosphere from the burning of solid biomass.

Ancillary benefits include reduced smoke during cooking, which reduces exposure to health damaging pollutants and reduced time and effort procuring wood fuel. The stoves are attractive to end-users and can result in quicker cooking times. The stoves are locally made using local materials wherever possible, resulting in local income generation and the acquisition of new skills for local people.



United Nations Sustainable Development Goals that are supported by the Malawi project

## Climate Change

**Dalradian has been active in management of climate change from the standpoint of minimising the impacts of our existing and future operations on climate as well as managing the risks that climate change could bring, both in our existing operations as well as the proposed mine.**

As part of our carbon management plan, we reduced emissions during 2020 by purchasing an electric car to replace our company car and upgraded our office heating and lighting systems to reduce consumption.

In our existing operations, the primary focus for climate change management is the exploration site. Within that site, the waste rock store and the water treatment plant were engineered and are maintained with climate change in mind. As a result, the site performed well even in the local flooding events of 2017 that caused substantial damage to roads, bridges, homes and businesses in the North West (as reported in the DAERA report Draft 3rd cycle River Basin Management Plan: For the North Western, Neagh Bann and North Eastern River Basin Districts (2021 - 2027)).

The future mine has been designed using the best available technology to manage climate-related risks, including:

- Mining is underground.
- The tailings method is dry stack, not a dam, which is important in an area that already receives substantial rainfall (we studied and visited projects in higher rainfall areas that were using the technique to ensure it would work well). Another advantage to dry stack is it can be progressively rehabilitated during operations.

- Ponds are designed to withstand a 1 in 1,000 year storm event and are developed through 100% excavation into existing ground.
- We introduced a conveyer as the primary method of transporting ore and waste rock to surface, thereby reducing diesel consumption, and introduced underground ore-sorting equipment at source to improve efficiency. Smaller underground vehicles (such as the drill rigs and jumbos) will be electric powered. For the larger machines, we are looking at developing technology and will incorporate it as it becomes proven.

Where relevant, our Environmental Statement for the mine's planning application has considered climate change, for example, in the surface water and groundwater impact assessments and modelling, which were independently reviewed by a mine waste consultant appointed by the Department for Infrastructure. Development of the site also makes flooding in the catchment less likely, due to on-site storage capacity, while at the same time protecting current low flow minimums by controlling discharge. Water for operations will be sourced on-site, recycled extensively to minimise water use and treated prior to release.

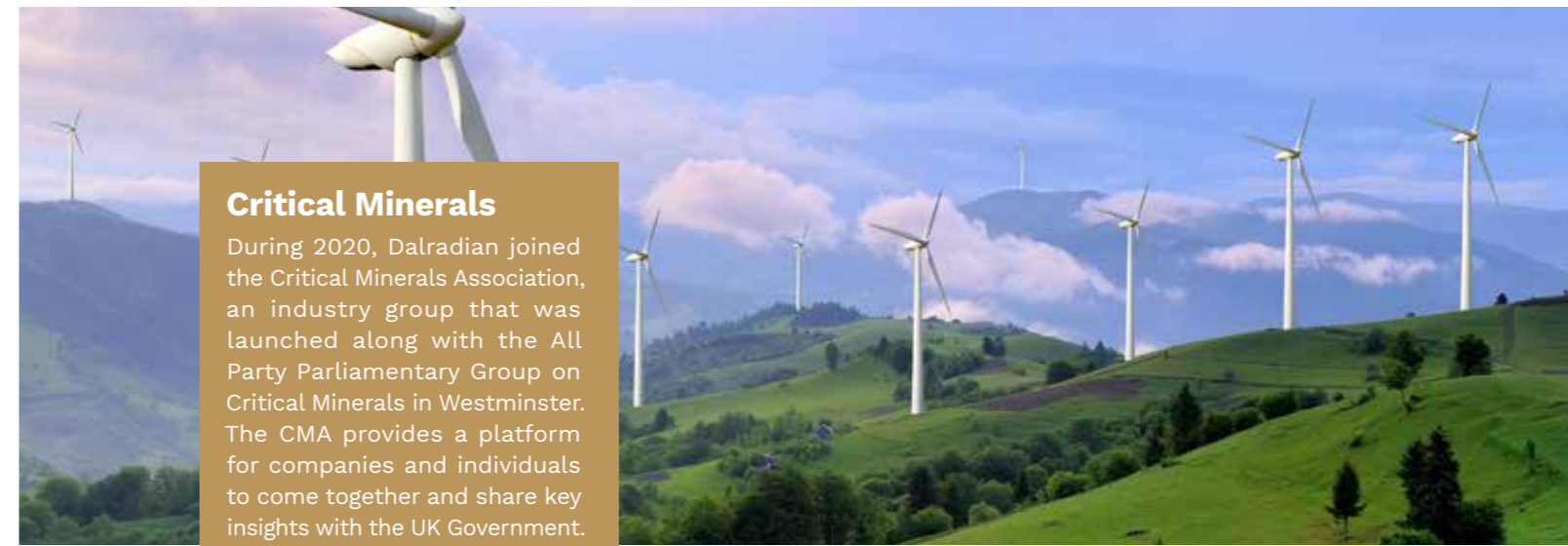
Dalradian has achieved Carbon Neutral Plus status for 2019 and 2020. We are committed to continue this programme

during construction, operations and closure. That will include proactively minimising emissions each year for each specific area of our business. We go above and beyond to reach Carbon Neutral Plus status by planting trees in Northern Ireland each year. We also actively engage with our suppliers to see how their approach to climate can help to minimise climate impacts and to encourage more progress in this area.

In Northern Ireland, peat is an important store of carbon and assists in managing water flow during heavy rainfalls, as well as maintaining good water quality. Northern Ireland has 24.6% peat coverage and 86% of peatlands are in a degraded state due to drainage, overgrazing, afforestation, burning and extraction. (Source: NI Assembly Research Briefing Paper NIAR 117-2021). Peat that is degraded releases its carbon into the atmosphere, accelerating climate change. Thus, peat rehabilitation is a key action to lower emissions and fight climate change. Peat loss will be minimised in construction of the project and unavoidable peat loss will be offset by

peat restoration in the local area. Details on peat management are contained in the 2017 Ecological Mitigation and Management Plan submitted with the planning application. The mine development will have an overall net gain for biodiversity.

Climate change is increasingly being addressed by the management team in budgeting, risk assessments and forward planning. Even though we are pre-operational and have a small staff, we have one manager dedicated to sustainability and a team of managers that meets monthly to move forward sustainability projects. We are currently assessing alternatives to diesel (i.e., Hydrotreated Vegetable Oil), increasing bio-diesel content, as well as using solar power to provide electricity for our company fleet vehicles.



### Critical Minerals

During 2020, Dalradian joined the Critical Minerals Association, an industry group that was launched along with the All Party Parliamentary Group on Critical Minerals in Westminster. The CMA provides a platform for companies and individuals to come together and share key insights with the UK Government.

**“Industry needs to have confidence that it can access the raw materials it needs to be able to invest in the United Kingdom...We are well aware of the critical place that minerals have and how essential they are if we are to become that net zero nation by 2050.”**

Minister for Business & Industry, Nadhim Zahawi, 10 March, 2020.

## Our Business

**Dalradian has been working in West Tyrone since 2010 and holds exploration licences from the Department for Economy. Our team explores for a range of base and precious metals as well as rare earth elements.**

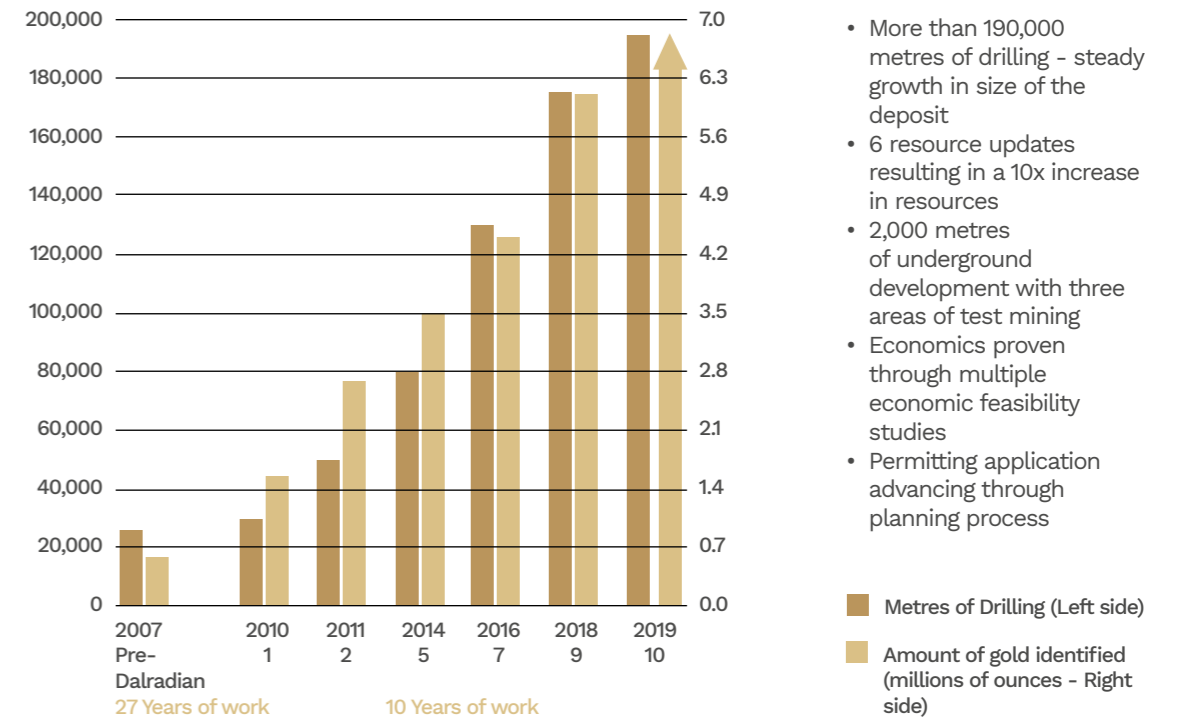
The company is focussed on advancing its project near Greencastle which contains a mineral deposit of gold, silver and copper. We have invested more than £130m to define the deposit, and develop environmental, engineering and economic feasibility studies. Dalradian currently employs nearly 40 people at its Omagh and Gortin offices in Co. Tyrone. In 2017 the company submitted a planning application to develop a long-term underground mine at Curraghinalt - the planning process is ongoing with the Minister for Infrastructure having referred the application to a public local inquiry in September 2021.

Advancing the proposed mine to operation will create a new industry for Northern Ireland. The project will be economically transformative for this rural area and, based on the experience from other mines in developed countries, Dalradian is aiming for a 90% local employment rate during operations. Tyrone is already recognised as one of the world's leading regions for the production of mineral extraction equipment.

Dalradian has designed a project to meet or exceed strict regulatory standards. Rehabilitation will commence during operations and the site will be returned for use as farmland / grazing upon closure. Dalradian has achieved the status of Carbon Neutral Plus for 2020, the second year in a row. In 2019 the company committed to building and operating the first carbon neutral mine in Europe.



## Our progress at Curraghinalt (2010-2019)



- More than 190,000 metres of drilling - steady growth in size of the deposit
- 6 resource updates resulting in a 10x increase in resources
- 2,000 metres of underground development with three areas of test mining
- Economics proven through multiple economic feasibility studies
- Permitting application advancing through planning process



Our current exploration site, where test mining took place, blends into the local landscape

## Dalradian in numbers

**£130m+**

project investment to date

**200+**

Employed a total of more than 200 people to date

**Net Zero**

Certified net zero/carbon neutral for 2020

**10,000**

Comprehensive 10,000-page planning application submitted covering environment, health, social and economic studies

**539**

suppliers in Northern Ireland have contributed to the project to date

**500+**

community groups supported with more than £900k from 2015-2020

**4k**

More than 4,200 letters of support for the project

**1,000**

total jobs to be created, including direct, indirect and induced, across a range of skill sets

**£15m**

initial training package over 3 years to maximise local employment

**£750m**

planned expenditure on supply chain aligned to Tyrone's world-renowned mining and quarrying equipment manufacturing sector

**£4m**

minimum committed to future community projects

**100%**

of water for mine operations will be sourced onsite, recycled and treated to agreed environmental quality standards before release

**20+yrs**

anticipated life of mine. Resource is still 'open' in all directions

**3.5m ounces**

gold to be extracted

**850k ounces**

silver to be extracted

**15k tonnes**

copper to be extracted



## The Project

**Environmental responsibility underpins every aspect of the proposed mine. The project will extract the mineral opportunity under the ground while leaving the landscape as close to its current condition as possible.**

The site's rehabilitation will begin during the mine's operations and continue after mining has finished. The key to fulfilling this commitment is a dry stack facility to store the mine's tailings. Instead of using a traditional settling pond or wet tails method, Dalradian will return roughly half the tailings underground to backfill and reinforce the mine's workings. An engineered facility of crushed, compacted rock - the dry stack facility - will store the remainder and will be progressively restored. It is a landscaped feature: covered with topsoil, planted with native trees and vegetation, designed for stability and shaped to fit the local landscape's rolling hills.

The mine will protect groundwater and local rivers through careful water management. Water used in the mine's operations will be sourced on-site, including captured rainwater. Water will be extensively recycled within the site.

A water treatment facility using ultra-filtration and reverse osmosis technology will treat any water to agreed environmental quality standards prior to release.

We are adopting a process used elsewhere in the UK to produce a partially-refined material using purely mechanical means. This material will be sent for further refining at established processing sites elsewhere. The first step in the process is to crush the rock. This crushing will take place underground, inside the mine.

Gold will not be poured on site. Instead, we will produce a metallic concentrate, also containing copper and silver and ship it overseas for final refinement. It's a process that Scotland has approved for a similar mine operating in a UK national park.

We will not process material from other mines.



## How does a mine work?

There are six stages to Dalradian's environmentally responsible mining project.



### 1. Narrow Vein Mining

Precision drilling and blasting excavates c.1m-wide seams of gold, silver and copper bearing rock.



### 2. Processing

Rock is crushed and sorted underground. The portion containing valuable metals is milled into a finer substance at the surface. Flotation tanks further separate the minerals, creating a metal concentrate (no cyanide is used).



### 3. Rock Management

Majority of rock is returned underground to backfill cavities. The remainder goes into a Dry Stack Facility. With an average thickness of 17m, this is engineered, replanted and contoured into the landscape on an ongoing basis.



### 4. Water Treatment

All water used in operations is captured, recycled and treated in a state-of-the-art reverse osmosis water treatment plant. This is regulated by the Northern Ireland Environment Agency.



### 5. Shipping & Final Processing

Concentrate from Curraghinalt is shipped overseas for final processing into gold, copper and silver.



### 6. Rehabilitation

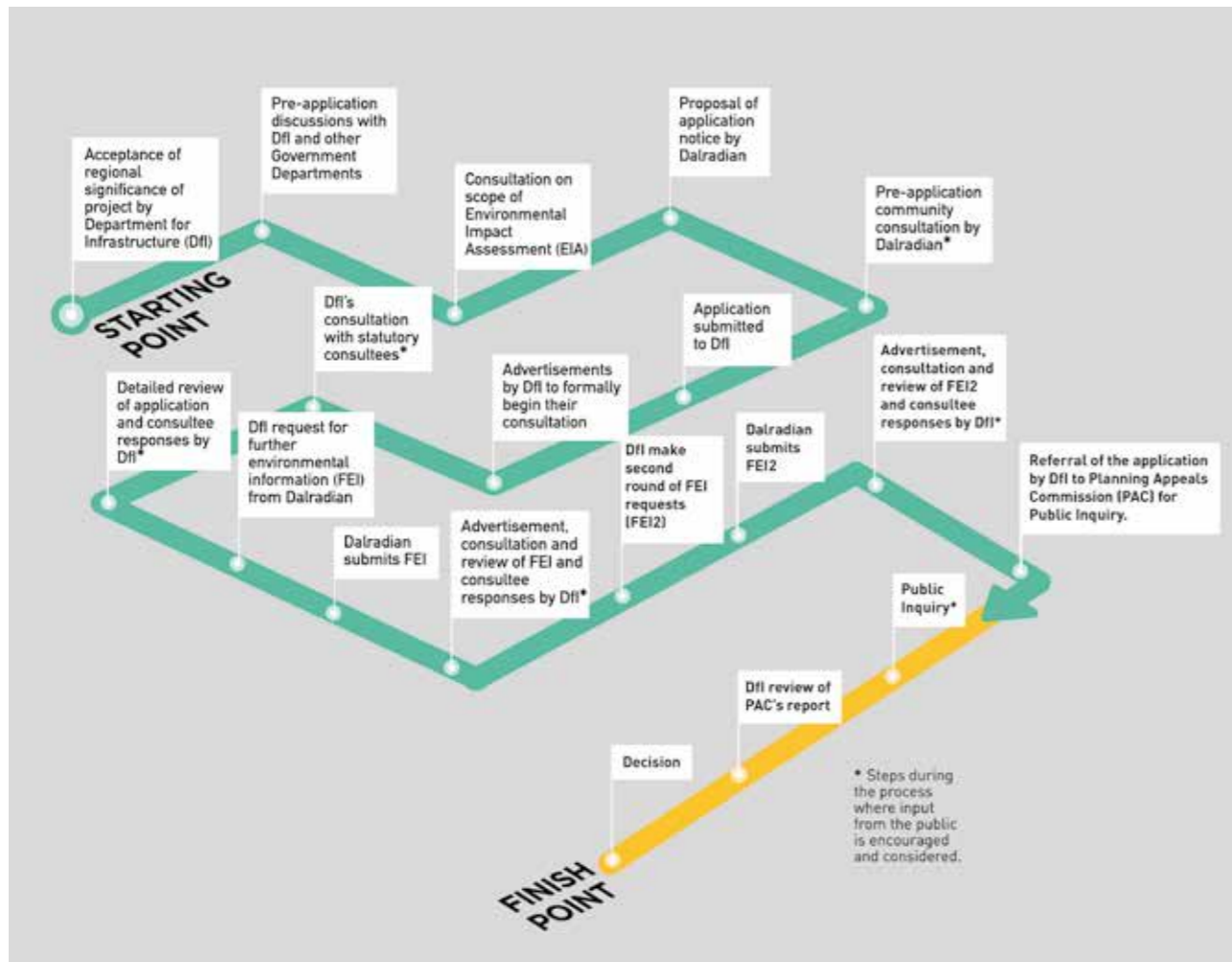
A closure plan (agreed during planning) will return the area to farmland. A financial guarantee to cover these costs will be provided up front by the company.





## Our application is nearing the end of the planning process

In 2021 our planning application to build an underground gold-silver-copper mine in Tyrone was referred to the Planning Appeals Commission for a public local inquiry by the Minister for Infrastructure. This major step forward was preceded by extensive consultation with stakeholders on the main application and two rounds of further environmental information.



## Key topics covered by the Environmental Impact Assessment in the planning application



- Landscape and visual
- Surface water
- Groundwater
- Soil and geology
- Ecology
- Air quality
- Noise and vibration
- Traffic and transport
- Radon
- Archaeology and cultural heritage
- Economic & social/community
- Health (human and animal)



Consents Required for Operations	as of 31 Dec 2020	
	Submitted	Received
Planning Permission	✓	✓
Water Discharge Consent	✓	✓
Explosives Storage Consent	✓	✓
Planning Permission	✓	
Powerline	✓	
Road Abandonment	✓	
Abstraction Licences (2)	✓	
Water Discharge Consents (2)	✓	
Explosives Storage Consent	✓	
Schedule 6 (Culverting)	✓	

● Underground Exploration ● Mine

### What is a public local inquiry?

The inquiry is a standard stage toward the end of the planning process for regionally significant projects and provides an opportunity for independent scrutiny in an open and transparent forum. It gives all interested parties the chance to have their voices heard.

The process kicks off when the planning application is referred by Minister for Infrastructure to the Planning Appeals Commission (PAC) for a public inquiry. After an exchange of evidence between the participants, the public hearing takes place, overseen by Planning Commissioners.

The participants are the applicant, the Department for Infrastructure and interested third parties. The public can attend and follow the proceedings, which typically last a week or two. Following the hearing, the PAC prepares a report, making a recommendation to the Minister for Infrastructure on whether the project should be approved.

### Informative Meet the Buyer events

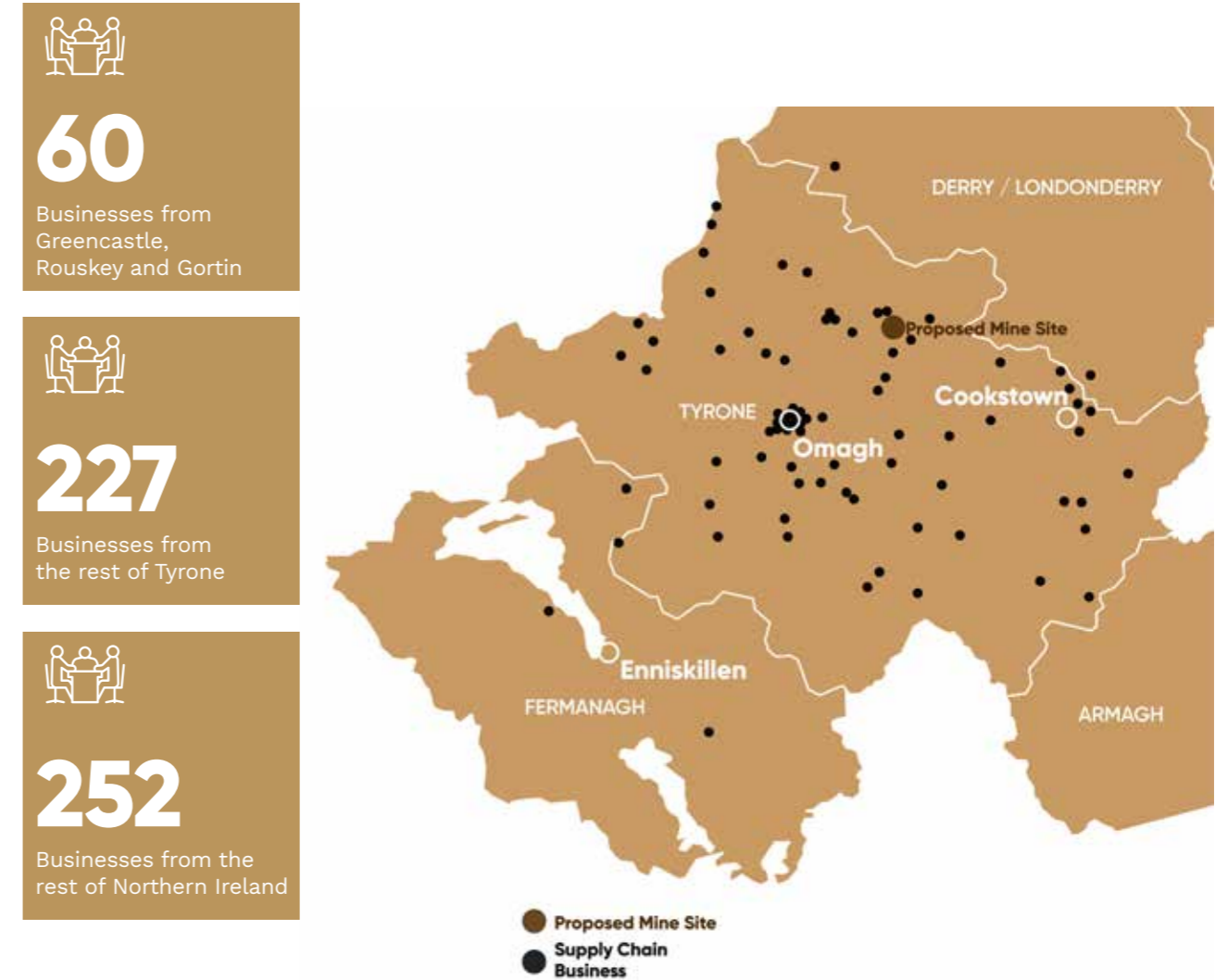
In early 2021, we held several successful Meet the Buyer events to shed more light on the opportunities to work with us post planning approval. Over 100 businesses attended the virtual events, two of which were held through Chambers of Commerce in Belfast and Derry/Londonderry.

After presenting a summary of the project, we focussed on the supply chain. With a total spend of £750 million over the 20-25-year project life, our project will be one of the largest private sector investments in the region. Many business owners were surprised to learn of the wide range of suppliers and contractors needed at a modern mine: IT/automation, accounting/legal/HR/office equipment, laboratory supplies, construction,

heavy equipment, conveyors, fencing, furniture, fuel, water treatment, security, hospitality, laundry, health and safety equipment, environmental consulting and testing equipment, and engineering.

We plan to follow up with additional events focused on a more detailed look at specific segments of the supply chain closer to the start of construction.

### Dalradian's existing suppliers across the region totalled 539 at the end of 2020



## Governance

**Having the right systems and policies in place sets a solid foundation for operating responsibly.**



Management update the company’s policies each year and share them with staff and contractors for their review and consent. The current set of 31 policies provide guidance for our staff and contractors in ethical business practices, environmental responsibility, people management, health and safety, community relations and communications. They also describe Dalradian’s approach to flexible work, a family friendly workplace and protection of human rights. Only three of the 31 policies are a statutory requirement.

Having these policies and systems in place also allows us to measure and improve our performance. Major policies are listed below:

- Business Conduct & Ethics
- Health & Safety
- Environmental
- Carbon Neutral
- Anti-Corruption & Bribery
- Whistleblowing
- Equal Opportunities
- Employee Data Privacy
- Business Travel & Expenses
- Bullying and Harassment
- Family Friendly (Maternity, Paternity, Shared Parental Leave, Adoption)
- Drug and Alcohol
- Dignity at Work
- Flexible Working

**Dalradian are members of the following associations:**



## SASB Metals & Mining Standard

The table below cross-references our results to the Sustainability Accounting Standards Board (SASB) framework. The SASB Metals & Mining Standards identify the environmental, social and governance (ESG) issues most relevant to our industry.

Topic/Code	Requirements	Page number(s)	Notes
<b>Greenhouse Gas Emissions</b>			
EM-MM-110a.1	Gross global Scope 1 emissions, Scope 2 emissions, Scope 3 emissions; percentage covered under emissions-limiting regulations	P. 21	0%
EM-MM-110a.1	Discussion of long-term and short-term strategy or plan to manage Scope1 emissions, emissions reduction targets, and an analysis of performance against those targets	Partially reported on p. 22	
<b>Air Quality</b>			
EM-MM-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)		Not reported
<b>Energy Management</b>			
EM-MM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	P. 21	65,430 kWh 100%
<b>Water Management</b>			
EM-MM-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress		0 cubic metres 0 cubic metres 0%
EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations		0
<b>Waste &amp; Hazardous Materials Management</b>			
EM-MM-150a.1	Total weight of tailings waste, percentage recycled		0 tonnes not applicable
EM-MM-150a.2	Total weight of mineral processing waste, percentage recycled		159 tonnes 0%
EM-MM-150a.3	Number of tailings impoundments, broken down by MSHA hazard potential		0

Topic/Code	Requirements	Page number(s)	Notes
<b>Biodiversity Impacts</b>			
EM-MM-160a.1	Description of environmental management policies and practices for active sites	P. 20-25	Ecological Impact Assessment included in planning application includes the mitigation actions that are required for the construction and operations phases
EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation		0% for all three
EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat		100% for both
<b>Security, Human Rights &amp; Rights of Indigenous Peoples</b>			
EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict		0% for both
EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land		0% 0%
EM-MM-150a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Engagement processes on p. 9-10, 16, 18, 32, 34 policies on p. 37	Not applicable (site not in or near areas of conflict or indigenous land)
<b>Community Relations</b>			
EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	P. 9-10, 12, 16, 18	
EM-MM-210b.2	Number and duration of non-technical delays		0 days
<b>Labour Relations</b>			
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees		0%
EM-MM-310a.2	Number and duration of strikes and lockouts		0 days
<b>Workplace Health &amp; Safety</b>			
EM-MM-320a.1	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees		0 0 2.32 25 hours 0 hours
<b>Business Ethics &amp; Transparency</b>			
EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain		Have an anti bribery and corruption policy that is compliant with UK Bribery Act
EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index		0 tonnes
<b>Production</b>			
(1) Metal			0 tonnes
(2) Finished metal products			0 tonnes
<b>Workers</b>			
Employees			38
Contractors (percentage)			15.6%



DALRADIAN  
GOLD

THIS REPORT  
WAS PRINTED ON  
FSC CERTIFIED  
PAPER



