



Sustainability Report 2021



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# **Tirupati Graphite Plc**Sustainability Report 2021



## ABOUT THE REPORT

This is the Company's maiden Sustainability Report covering the Financial Year  $2021(1^{st} \text{ April } 2020 - 31^{st} \text{ March } 2021)$ . The report describes the approach, principles and activities across the Company's projects and at the corporate levels with respect to Environment, Social and Governance practices and initiatives.

The report defines the different parameters based on which the Company has structured its intensive ESG activities. It further describes how the Company's products and technologies help in reducing global carbon emissions and the crucial role they play in a green economy. The report lays the foundation for the Company's objectives of going to Net-Zero Emissions and Zero-Waste across its projects. The Company has further outlined its efforts towards its people and the local communities it is working with to alleviate the lives of some of the most deprived in the world. It also elaborates on the long-term social development programs that the Company has built to improve the lives of people in the regions it is operating in. This is followed by the Company's governance principles, risk mitigation strategies and stakeholder engagement activities. The Company has voluntarily adopted the QCA code for maintaining the highest standards of governance.

This report has been prepared in accordance with the GRI Standards: Core option. A GRI index, linking the report content to the standard's indicators, can be found at the end of the report.

The report is a supplement to the Company's Annual Report for FY21 which was released on 17<sup>th</sup> September 2021 where the Company has disclosed audited financial results for the given year. The Company further intends to release the Sustainability Report on an annual basis, as a supplement to its Annual Report. The company has not sought external assurance for this report. The report has however been reviewed by an external sustainability consultant.

For any questions regarding the report and its content, you may please send an email to <a href="mailto:admin@tirupatigraphite.co.uk">admin@tirupatigraphite.co.uk</a> or leave a query on our website at <a href="mailto:www.tirupatigraphite.co.uk/contact-us/">www.tirupatigraphite.co.uk/contact-us/</a>

Sustainability Report 2021 ABOUT TIRUPATI

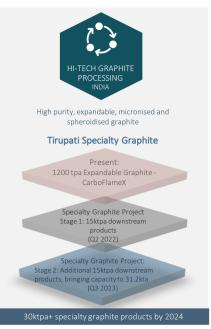


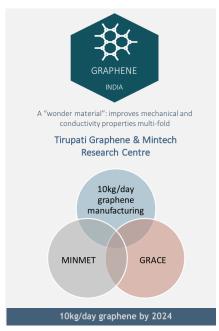
# 1. ABOUT TIRUPATI



Listed on the standard segment of the main market on the London Stock Exchange (LON:TGR), and headquartered in London, Tirupati Graphite Plc ("Tirupati" or the "Company") is developing a suite of graphite and graphene products, which are materials of significant contribution in the green economy. Simultaneously, it is developing technologies for utilisation of low and lean grade resources and waste reduction in the resource sector. The Company is contributing towards a more sustainable world by being integrated across the value chain with the following projects and development plans:









Sustainability Report 2021
ABOUT TIRUPATI



#### 1. Primary Mining & Processing - Madagascar





Through two 100% owned subsidiaries, Company is developing Sahamamy and Vatomina flake graphite which projects, interconnected by a road and located 70km from Taomasina, the main port city of Madagascar. The Company also has an office in Antananrivo, the Capital city and an office and warehouse facilities in Tamatave to manage shipments. Internal infrastructure at the project sites include laboratories, engineering centre, production plants and residential blocks.



#### 2. Downstream Processing - India

The Company's projects in India are held under Tirupati Specialty Graphite ("TSG"), which is under a binding agreement for 100% acquisition by the Company subject to regulatory approvals.

TSG houses the Company's downstream projects, which produce specialty graphite products including high-purity, expandable, micronized and spherical graphite for high-tech applications such as EVs, energy storage, thermal management etc. using proprietary processing technologies developed by the Company.

The 1,200 tpa (tonnes per annum) Patalganga Project, which was designed as a starter project within TSG, is producing expandable graphite products under the Company's trademark brand "CarboflameX" and "GrafEN 45545" for flame retardant applications.

The large-scale 30,000 tpa Specialty Graphite Project is being developed in two equal stages, with first stage development initiated in April 2021 and is expected to complete in the second half of 2022.

# 3. Graphene, Technology & Product Development - India

The Company's third business division/unit is set-up to capture the cusp of the graphite value chain – graphene. Tirupati Graphene & Mintech Research ("TGMRC") centre is being developed in India under TSG, with stage 1 completed. The activities of TGMRC include graphene manufacturing using the zero-chemical process developed in-house, research and product development ("R&D") using graphite and graphene with different materials, and mineral processing technology development consultancy services. TGMCR also provides the technological backbone to the Company and aims to develop materials and technologies to reduce emissions and waste in applications and processes to support the green revolution.



#### **EXECUTIVE STATEMENT**

We firmly believe: scientific knowledge, its development and application are the mother of innovation. Innovation is a necessity to combat the most glaring global threats of climate risk, disparity in quality of life and responsible human activities. The opportunities of value creation in these challenges are immense and we as a global corporate citizen find ourselves bestowed with these opportunities. Our areas of specialisation; flake graphite, a critical material and essential element in a green economy, new age 2D materials – graphene and its derivatives have the potential to evolve the world of materials to reduce energy consumption, improve efficiency and improve the life cycle of materials; our location provides us with the opportunity to improve the quality of life of some of the most deprived and the extensive depth and diversity in our human capital helps us contribute the mitigating the threats.

At Tirupati, we are proud to be working in this exciting sector; evolving and developing eco-friendly processes, green materials, technologies, and strategies with a focus on reducing emissions and waste to deliver long-term value creation for the globe.

Mother earth is the source for everything around us and responsible utilisation of these resources is our paramount duty. While we have no option but to rely on her for the resources we need, as part of our sustainable mining strategy, targeting low emissions and waste generation at our mining and processing operations in Madagascar, we maintain a key focus on the continued optimisation and reduction of our energy requirements and make the most of the resources we mine. Not only do we attain industry high recoveries of >85% of the graphite from the ore by utilising innovative technologies, but we also extract waste material in the ore as by-products to make our processes more efficient and deliver zero-waste. For our energy needs, we are developing renewable alternatives as much as mother nature provides the opportunity for, hydropower facilities that will significantly reduce our overall emissions, which we shall follow with other renewable opportunities. Recycling and reusing principles including for water and packaging materials amongst others are deeply embedded in our core and implemented at the first opportunity. In our drive to achieve a net-zero carbon footprint, while making the most of what we mine from mother earth, we are engaged in continued green cover development. In as much as our leaders have set timelines for the net zero journey, we are on the path with efforts to evolve faster.

Another string to our bow is our drive to develop processing technologies that are greener and cleaner than those conventionally used in our activities. This inclination has resulted in the development of zero-chemical process for manufacturing graphene, and development of our zero-hydrofluoric ("HF"), zero-waste flake graphite purification technology, which we believe sets us apart from peers. To drive green technologies across our ecosystem and leverage the knowledge gained for use by others in mineral processing, our technology centre provides services for increasing efficiency and reducing waste generation for processing for various other minerals and ores.

We also firmly believe that the Company's success shall be defined by its people and stakeholders; our management and operations leaders, technocrats and scientists, employees and local communities, and stakeholders and shareholders are our most valuable assets. In Madagascar, where we have the opportunity to improve the quality of lives of some of the most deprived, having first gained an understanding of their needs, we structured a community engagement programme called "Shakuntalam", symbolising motherhood, aimed at addressing some of the community's main concerns on livelihood, health, hygiene and safety, infrastructure and connectivity, education, skills development and sports and recreation for the upliftment of the local communities. Today, we directly employ over 500 people in Madagascar and have created indirect employment for several hundred more. We are a significant contributor to the Madagascan economy and positively impacting the lives of thousands of people in one of the most deprived regions of the world.

Throughout the pandemic, we played an active role in the Madagascan community by being a continuous source of income and by providing medical facilities that dispensed basic medicines through our community medical centre, provided access to oxygen concentrators, doctors, and transfers to hospitals amongst other support. On the wider front, the Company conducted regular testing as part of its operating protocols across each of its divisions in both Madagascar and India, and engaged in promoting vaccination drives amongst its people.

The principle of zero-harm, equality, unity in diversity and operations with safety and care have been nurtured in each team member over the years. As well as having had no fatalities since inception, we engage in programmes that emphasise employee health wellbeing in and out of the office and workplace.

On the corporate side, we regularly engage with stakeholders by updates to the markets, investor engagements, live presentations, interviews and participations in conferences and many more activities. We have voluntarily adopted the QCA Code of Governance for small and medium companies, as far as is practicable considering the size and nature of our company and are engaged in its implementation in true spirit. As operations and teams are expanding, the Company has adopted a goal-setting framework that helps define and track each employees' objectives and is embarking on a journey of 100% digitalisation. Manuals and codes are being developed for each activity and department to facilitate coordinated operations and smooth expansion of our activities for which we have set goals further.

We acknowledge that we are at the start of our journey and that as we grow, our strategies and plans will also evolve. However, ultimately, our ESG vision remains the same: to create a benchmark for the highest standards of ESG focusing on green materials, green technologies, social development and good governance to help build a better, happier and healthier world in which we live.



Puruvi Poddar Chief of Corporate & Business Development



Sustainability Report 2021 ESG APPROACH



# 3. ESG APPROACH

Since inception, the Company has provided relevant disclosures and commentary on our corporate social responsibility ("CSR") and Green initiatives through our Annual Reports, corporate presentations listing document and media engagements. This being the first year as a quoted company, adopting our best practices approach, we are releasing a standalone Sustainability Report formulated along the guidelines and reporting principles of the Global Reporting Initiative ("GRI") Index. This report provides deeper insights on the various processes, strategies and steps taken by us aimed at improving the lives of our people and the communities in which it operate, and reducing environmental impacts. It also highlights the goals and aspirations set by us for the longer-term and the green technologies we have developed.

The principles of sustainable value creation, which form the basis our environmental, social and governance (ESG) objectives, and which we set out in the year of our inception include:

#### • Value creation for the planet and for future generations:

By developing unique materials which have numerous 'green' applications contributing towards a more sustainable and greener planet for future generations and developing technologies and processes to

minimise emissions and waste generation.

#### • Value creation for our employees:

By providing opportunities for performance and learning, achieving corporate goals and personal development, to inspire quality and delivery on the objectives and values we strive for.

#### Value creation for the local communities we operate in:

By looking after our employees and their families through the provision of health care, education, and recreational facilities and practical as well as financial support to the local communities helping to bring communities together and improving their quality of life.

#### Value creation for our shareholders:

Through well considered and prudent execution of our business strategies and plans, implemented with persistence and determination, and adopting a culture of cost prudence, hard work, and delivering on targets.

#### The Company's guiding **ESG** principles include:

Develop and evolve
environment friendly
processing technologies
& materials

Minimise use of energy and use green energy options

Minimise waste generation and optimise resource utilisation

Engage and improve livelihoods

Provide quality employment, training and skill development

Communicate extensively with stakeholders and shareholders



Sustainability Report 2021 ESG APPROACH



Evolve ethical working culture and inculcate in the management & employees

Sync growth with industry dynamics and expected demand growth, mitigate risks

Provide equal opportunities to all and without any gender bias

Keeping in mind the principals stated, we have identified parameters that shall influence our achievement of the approach considering those that shall have an immediate reduction on our environment impacts, shall help us improve quality of life of communities around us in the near term and those constructively impacting our corporate journey in terms of governance, as critical and the rest of the parameters identified as very important. In identifying the parameters, extensive consultations and analysis were made within the board and management, stakeholders including elected leaders of the communities around us and our advisors. The classification is based on the GRI reporting principles which the Company has adopted for its vision and mission in defining its sustainability values. Accordingly, the chart below summarises the parameters identified under these principles into 'Critical' and 'Very Important' categories. The Company has prioritised its ESG efforts in these arenas which are further detailed through this Sustainability Report.





Sustainability Report 2021 ESG APPROACH



#### The Company has further aligned its efforts in accordance to the following standards:

- 1. World Bank Environment & Social Standards
- 2. UN Sustainable Development Goals
- 3. Green Economy Mark by FTSE Russel (in Appendix)
- 4. Madagascar Environment Management & Reporting Standards
- 5. The QCA Code

# Corelating to The UN Sustainable Development Goals:

The Company has analysed the United Nations Sustainable Development Goals ("UN SDG") and has assessed how its activities are contributing towards achieving these. The Company is further aligning itself to increase its contributions to these goals, operating in some of the most deprived regions in the world.



#### SDG1: No Poverty

TG is working in some of the remotest parts of the world where people do not have access to clean water and food. TG's operations have transformed thousands of lives and uplifted the standard of living around the regions.



#### SDG9: Industry, Innovation & Infrastructure

TG is actively operating and expanding industries for green materials in remote and underdeveloped parts of the world. It has developed infrastructure connecting multiple villages to the cities. TGMRC is the hub for innovation, developing green materials and green processing technologies.



#### SDG3: Good Health & Wellbeing

TG has established free of cost 24\*7 health centres for the local population in regions where free medicines, consultancy with doctor and emergency transfer facilities are available.



#### SDG11: Sustainable Cities & Communities

Graphite & Graphene are providing solutions for sustainable cities by halogen free flame retardants, eco-friendly concrete, metal graphene composites, reducing urban pollution by adoption of clean energy and EVs, energy efficient steel making and copper wire drawing and many more.



#### SDG4: Quality Education

TG facilitates education in remote areas of Madagascar by providing the infrastructure, stationery, education materials and holds awareness campaigns for education for all. TGMRC is providing skill development facilities in different technical fields, filling a huge gap.



#### SDG12:Responsible Consumption & Production

TG has developed multiple new processing for manufacturing graphite and graphene in more efficient, green manner, minimising waste and emissions. TG manufactures a lot of equipments in house, to maximise efficiencies of its operations. We also focus on local manufacturing and procurement.



#### SDG6: Clean Water & Sanitation

Graphene based filters are being used for extracting clean water and can provide the next generation of water filtering technologies to address the expected drinking water crisis. TG also provides clean drinking water to local people and schools



#### SDG12: Climate Change

TG's activities are focused to provide materials which can address climate change issues . The Al-Gr Composite also holds huge potential to provide sustainable solutions for conductive metals composites.



#### SDG7: Affordable & Clean Energy

Graphite is a key and critical material in clean energy generation from fuel cells. Natural graphite anodes for Li-ion batteries have made energy storage and hence clean energy accessible and affordable. TG is also developing hydropower plants to meet its energy requirements.



#### SDG14: Life Under Water

Graphite and graphene based materials are used for cleaning water bodies in case of oil spillage



#### SDG8: Economic Growth

Graphite and graphene are expected to grow exponentially in demand, boosting economies through new assets being developed. TG has embarked on a plan to develop the largest and the benchmark company in this space. Our operations are largely contributing to Madagascar's GDP and assisting its economic growth.



#### SDG14: Life on Land

TG engages in sustainable architecture for its projects, afforestation activities, restoration, soil management etc. TG's process for getting construction sand as by-product has generated about 0.1 million ton of sand until date, further, at full capacity it will generate 1.6 million ton sand annually, replacing as much river bed sand.

#### The Company identified the following groups key stakeholders:

- Employees (Permanent & Daily Wage Workers)
- Shareholders
- Suppliers & Customers
- Local Communities
- Governments of UK, Madagascar and India
- London Stock Exchange





# 4. GRAPHITE & GRAPHENE

## **MARKETS & APPLICATIONS**

There is a bit of Flake Graphite in our day to day lives



















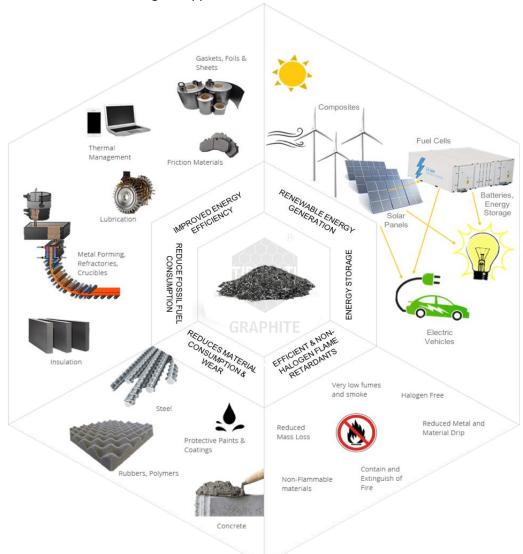




# Sustainability Report 2021 MARKET AND APPLICATION OF GRAPHITE AND GRAPHENE



Flake graphite has been classified as a critical material by the EU, USA and other nations. It has over 150 applications central to which are energy storage, fire safety, thermal management and advanced materials related applications, making it a material of special importance in the green economy. Most uses of flake graphite are consumptive in nature leading to continuous demand for this material. There are numerous environmental benefits by use of flake graphite: improved energy efficiency, reduced energy & fossil fuel consumption, and contribution to a greener footprint across an extensive range of applications.



Over the last century, flake graphite has transformed processes in metal forming, making them more energy efficient by reducing materials and energy required for metal forming, wire drawing, steel continuous casting, refractories, lubrication, friction materials and many more. The primary processed flake graphite is graded as per the purity and particle size distribution, customised to each application. This also forms the raw material for the downstream processing of flake graphite into expandable graphite, high purity graphite, and micronized and spherodised graphite.

Flake graphite, processed into its downstream products is a key component in electrification of mobility; not only does it form the anode in Lithium-ion batteries used for electric vehicles and green energy storage, it is also used in fuel cells. Furthermore, expandable flake graphite is leading the change in the flame retardant segment by providing halogen-free and more efficient flame retardant and fireproof solutions across different sectors. The Company is supplying these products globally from its operations in India and further developing capacities to serve this growing hi-tech specialty materials market

Graphene on the other hand, is leading the new generation of materials focused on reducing emissions and improving delivery of materials across industries and applications. Its use in composites is expected to reduce emissions by reducing material consumption, improving longevity, and adding additional properties to existing



Sustainability Report 2021 TG's GREEN TECHNOLOGY



# 5. TG's

# **GREEN TECHNOLOGIES**

We remain conscious that the development of innovative technologies is key to the continued ability to reduce the environmental impact caused by our operations. This is the fundamental principle driving our investment in research and human capital and continues to yield fruitful results. We consider our technology development initiatives core to sustainability and are focused on the following achievements:

- Reduce GHG emissions & energy consumption
- Utilise waste for extracting its useful content
- Minimise use of damaging chemicals
- Maximise efficiencies in terms of energy consumption and outputs

#### Technologies developed and adopted for Primary Processing Operations:

The technologies we have developed for our primary processing have resulted in reducing the volume of mining by maximising the recovery of graphite from the ore resulting in industry leading **recoveries of >85%** at commercial scale. Since retention of larger flake size is critical for graphite processing, the process and equipment designed and developed specifically help to maximise flake size retention (i.e. retaining large flakes in the ore in the finished product); reduce loss of graphite from underflow of equipment; and maximise the purification of graphite using fewer processing steps (i.e. leaner process flow). These include:

#### 1. Self Attrition Graphite Extractors (SAGE)

Recognising that the ROM to be processed is a mix of graphite, sand and clay, SAGE was developed as a precursor and separates sand from the ore at the first stage of processing. It was installed at the 3000 tpa plant set up by the company and scaled up for the 9,000 tpa plant successfully. The significant outcome of commercialisation of this technology are:

- Recovery of c. 50% of ROM feed as by product in the form of construction sand;
- Reduced circuit load, therefore reduced energy consumption in processing by c. 30%;
- Reduced number of steps required in processing;
- Reduced tailing waste and opportunity to use the clay-based tailing waste;
- Reduce riverbed sand mining with the by-product sand being used.

#### 2. Tailor made crushing milling and flotation equipment

The crushing, milling and flotation equipment, primarily developed by our principal founder over years of experience in graphite processing have been tailored to suit the run of mine type from our operations.

#### 3. Hot Air based gas fired drying system

We have adopted a drying system using LPG as fuel using a technology which minimises energy consumption for drying of the finished product.



Sustainability Report 2021
TG's GREEN TECHNOLOGY



#### Technologies developed and adopted for Specialty Graphite products:

Our speciality graphite development projects are held by Tirupati Speciality Graphite Pvt Ltd (TSG) in India which was promoted by our founders and we have entered into a binding acquisition agreement for TSG, the completion of which is awaiting regulatory approvals. While working in tandem with TSG, we have developed various new technologies to produce value added specialty graphite products which are categorised as:

High-purity graphite – used as pre-cursor for expandable, micronized and spherical graphite.

Expandable graphite — used in flame retardant, fire safety, thermal management etc.

Micronized graphite – used in composites, lubricants, electronics, alkaline batteries etc.

Spherical graphite – used in EVs and various rechargeable battery types.

## SPECIALTY GRAPHITE - TIRUPATI'S GREEN SOLUTION



Environmentally friendly, high purity processing utilising specialist in-house developed technology to produce high purity graphite products customised to suit customer needs

	EXISTING TECHNOLOGY		TIRUPATI TECHNOLOGY
	Hydrofluoric Acid	Pyrometallurgy Purification	High Purity Graphite
	Most common in China	Chlorination roasting and high- temperature ash up to 3000° Used by some companies in Europe and the United States	Refined with bulk testing and is proven to pilot scale. Samples approved by customers as preferred material
Benefits	<ul> <li>✓ Small-scale infrastructure investment,</li> <li>✓ Easy implementation</li> <li>✓ Strong universality</li> </ul>	✓ Effective purification	<ul> <li>✓ Eco friendly</li> <li>✓ Purify flake graphite up to 99.95% TGC</li> <li>✓ Zero HF Required</li> <li>✓ All inputs achieved as product/by-product or recycled in process.</li> <li>✓ Cost-Efficient Process</li> </ul>
Negatives	<ul> <li>X Highly hazardous</li> <li>X Big environmental impact</li> <li>X Detrimental to Human Life</li> </ul>	<ul> <li>Highly energy intensive</li> <li>Expensive</li> <li>Large carbon footprint</li> </ul>	

To replace the hazardous Hydrofluoric acid or alternative energy intensive pyrometallurgical process, a new purification technology to produce >99.95%C flake graphite has been developed by TSG. This technology combines the process of physical beneficiation methods to remove impurities by weakening physical bonds within the graphite flakes and impurities and attain the desired high-purity graphite. The process was first conceptualised and developed choosing to evolve an environmentally friendly path as opposed to the simple but damaging hydrofluoric acid ('HF') purification process realising the significant hazards and damaging impacts that the HF purification process had. The new purification technology does not use any HF, it is efficient and cost effective and scalable with zero-waste generation. Having proven the process at a tons scale, the new technology is being adopted at our first 15,000 tpa specialty graphite production module and will used by the company for all its high purity purification projects.



# **Tirupati Graphite Plc**Sustainability Report 2021 TG's GREEN TECHNOLOGY

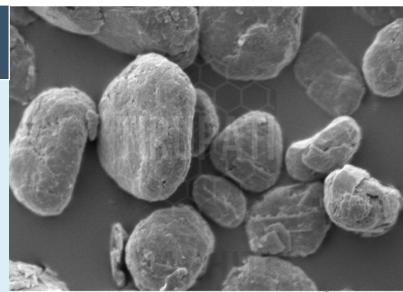


For the **spherodization of graphite flakes** for use in anodes of Lithium-ion batteries, the Company chose to work with a German equipment manufacturer to optimise this process for its flake graphite and achieved:

- High efficient 3-step process compared with an up to 12 step conventional process using Chinese technologies;
- Reduced waste, and high yields of up to 68% (compared to c.35-40% average yields process using Chinese technologies); and
- Lower energy consumption, as a result of a leaner process and higher yields achieved.

## Spherodization Technology

- ✓ 3-step process, using German technology
- ✓ High yields achieved, up to 68%
- ✓ All customer specifications met



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## Commonly used Equipment

- Multi-step process (>10)
- Low yields, c. 35-40%
- High energy consumption

The Company is working with a German equipment manufacturer to undergo bulk testing for commercial scale production using its processing technologies and equipment.





Sustainability Report 2021
TG's GREEN TECHNOLOGY



#### TSG: Graphene & Technology Centre, India:

Tirupati Mintech and Graphene Research centre ("TGMRC") forms the technological backbone of the Company providing the facilities to develop new technologies and materials to meet the objectives of reducing carbon emissions and minimising climate impact. TGMRC has developed unique processes to manufacture graphene, which it expects to help catalyse the commercialisation of the material and is developing new age materials using graphene. It is further developing the processes we use in our primary and speciality graphite divisions, and leveraging the expertise in mineral processing technologies to provide solutions to reduce waste and utilise low and lean grade ores in an environment friendly and cost effective manner for other minerals.

The graphene manufacturing process developed by TGMRC is environment friendly, as depicted below:

#### Hummer's or Similar Process (ROW)

- Stringent chemical treatment
- Low compatibility
- Commercial feasibility is a challenge

#### Tirupati's Technology

- ✓ Zero-chemical process
- ✓ High quality & compatibility
- ✓ Cost Efficient & Scalable

The graphene manufactured from this process is being used by the Company to develop new revolutionary green materials such as metal graphene composites including a ground-breaking Aluminium-Graphene Composite ("Al-GR Composite"), graphene coatings, graphene polymer composites and others. These materials have the potential to reduce emissions significantly in applications by substituting, replacing and/or enhancing other materials currently in use, thus is expected to contribute to a sustainable globe.

The Mintech (short for mineral technologies) arm of this division provides consultancy services to the mineral processing industry for applications such as:

- Using low grade iron ore, reducing waste and improving efficiencies of extracting iron
- Titanium dioxide yield from complex ores and ore types
- Other processing technologies for different mineral commodity types

#### TSG: Other Green Technologies

#### Halogen-free Flame Retardants for Sustainable Construction:

The Company's range of expandable graphite products including trademark branded CarboflameX® and GrafEN™ 45545 products, are providing sustainable solutions for flame retardance and enhance fire resistance in the construction and transportation industries. Expandable graphite-based flame retardants compared to existing products which are largely bromine based, are demonstrably more efficient, environmentally friendly and effective at:

- Reducing fire hazards
- Retarding fire spread
- Reducing toxic fumes and smoke
- Reducing melt dripping and material burn
- Being free of halogens





Sustainability Report 2021 TG's GREEN TECHNOLOGY



#### **Al-Gr Composite:**

The Company developed a ground-breaking composite of aluminium and its graphene product with the objective of creating a lighter conductive material for use in weight sensitive applications. The properties achieved from this Al-Gr Composite are as follows:

PROPERTIES	Cu	Al	Al-Gr Composite
Thermal Conductivity (W/mK)	402	205	>100% of Copper
Electrical Conductivity (106 S/m)	59.6	36.9	>90% of Copper
Density (g/cm3)	8.96	2.7	$\sim$ 100% of Aluminium
Micro-Hardness (VHN)	100 ± 10	45 ± 5	~ 150% of Copper
Scalability	Yes	Yes	Yes
Chemical Composition	Cu	Al	Negligible Aluminium Carbide & Oxidation

The Company is now manufacturing a few kilograms Al-Gr Composite for specific testing with a number of industrial partners with a view to commercialising this exciting product. The Al-Gr Composite is being tested for applications such as cable wires for use in transmission systems, EVs, aerospace, satellite technology, thermal conductivity applications in electronics amongst others. The Al-Gr Composite, if successfully commercialised, will help reduce carbon emissions from multiple applications by reducing the amount of energy required to attain a certain conductivity/power.



Sustainability Report 2021 ENVIRONMENT & SUSTAINABILITY



# 6. ENVIRONMENT & SUSTAINABILITY





















**7,630 m² area** Revegetated



**14,900 m<sup>2</sup> area** developed for Anti-Soil Erosion Channels



**10300 m² area** developed for Tailing Dams





Up to 68% Yield for Spherical Graphite











Sustainability Report 2021
ENVIRONMENT & SUSTAINABILITY



# "Zero-Carbon is only a part of the story; there is a need to look at processes holistically along the whole supply chain." - Shishir Poddar

With the efforts to drive sustainability into processes, operations and materials, we have worked on a number of concepts to develop new technologies, green materials and to make our operations green. Across the three business legs we strive to:

- (i) Develop green materials to drive the next generation of materials
- (ii) Reduce & Utilise Waste
  - a. improve efficiencies and recoveries
  - b. waste to wealth technologies
- (iii) Energy Optimisation & Use Green Energy
  - a. Reduce total energy requirement and hence emissions
  - b. Shift to 100% renewable energy

The expansive operations of the Company are being developed in a sustainable way to reduce the environmental impacts of its mining and processing activities with an aim to achieving a net-zero GHG footprint, zero-waste and reduced environmental impact. With most of our operations currently based in Madagascar, this is the focus of our environmental activities at present. The following sections detail the Company's environment stewardship activities happening on the ground in Madagascar.

"We owe it to the environments in which we operate to contribute towards a greener globe and garner this as an opportunity for value creation." - Shishir Poddar

# MADAGASCAR PROJECTS

### 6.1 Energy & Carbon

The Company has developed various strategies and systems to reduce energy requirements and total emissions from its mining and processing operations in Madagascar with a target to achieve net-zero GHG emissions:

#### **6.1.1 GHG Emission Calculations:**

The Company has appointed an in-country environment consultant accredited by the government for the management of its environment reporting and recording activities. As a first step, the in-country government approved consultants identify all points and activities where energy is used. These are then classified as per the type of input used for generating this energy after which it collects all the details of purchase of fuels, or any other type of input used to calculate the quantities and calculate GHG emissions.

The Company used two types of inputs for energy generation in FY21.

Oil Gas: In the form of diesel & petrol, for activities including operation of Diesel Generator set for
processing energy requirement and for powering local village, mining and transportation fleet and
road and infrastructure development fleet. With use of hydropower generation facilities, this shall
reduce by >50%, reducing overall CO2 emissions by 50%.



# Sustainability Report 2021 ENVIRONMENT & SUSTAINABILITY



• Natural Gas: The Company uses highly efficient natural gas-powered drying system instead of oil systems for drying of finished product improving the efficiency and reducing emissions.

These are recorded as per the European standards of GES emissions report, classifying CO2 emissions under three categories:

Scope 1: direct emission from combustion of gas, oil, diesel etc.

Scope 2: indirect emissions from energy e.g., electricity

Scope 3: indirect emissions from employee travel

Total CO2 emissions =  $\sum$  Types of Inputs (Total Consumption X Factor Emission)

GHG Emissions	CO2 emission (Ton)	Intensity Ratio CO2 emission (Kg/MT of Prod)
Scope 1	706.82	411
Scope 2	27	15
Scope 3	46	26

#### Note:

- Carbon footprint covers two operational sites in Madagascar
- Approx. 5% of Scope 1 emissions are from providing lighting to local village.
- The Company is simultaneously expanding its production capacity; hence emissions also include energy used for development and expansion purposes which shall become zero once development plan is completed.
- The Company is also carrying out exploration activities as per its staged plan, emissions from drilling activities are also included which shall become zero in due course.
- Scope 3 emissions include those from employee travels for business related activities
- The above covers Madagascan operations only. In India, the Company's energy requirements are met by grid supply which is mostly source from hydropower. Detailed disclosures shall be compiled in future reports.

#### Low Scope 3 Emissions – Prudent Logistics:

In addition to high quality resources, Madagascar also offers advantages with respect to logistics. As an island country, Madagascar has excellent global shipping connections, allowing more energy efficient transportation around the world. Further, Madagascar is close to India, separated only by the Arabian sea, where the Company's downstream projects are being developed. India is the hub for shipment of input materials and equipment for the operations as these are not available in-country in Madagascar.



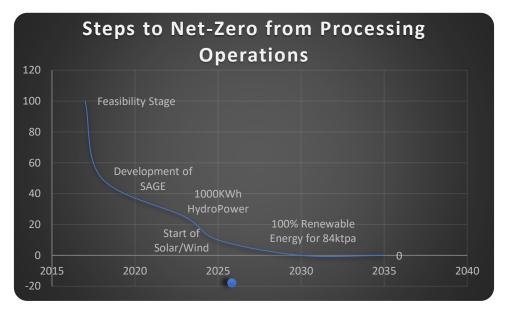
Sustainability Report 2021 ENVIRONMENT & SUSTAINABILITY



The Company has chosen its projects diligently analysing the logistics: both projects are connected to each other by a 30km road and are further connected to the main seaport Tamatave by the national highway, 70km from the port.



#### **6.1.2 Steps to Net-Zero Emissions from Processing Operations:**



We have a detailed plan to reach zero operational (scope 1 and 2) carbon emissions at our Madagascan operations, some of the key advances are highlighted below.

#### a. Process Optimisation:

The company optimised its processes to maximise energy efficiency by use of highly efficient processing equipment which are designed by the founders over years of experience and expertise. The company's technology is established to achieve industry high recoveries of 85-90% of the graphite from the ore reducing the per ton emission and waste significantly.

#### b. Development of SAGE:

The company developed a new process during the pilot beneficiation tests of its graphite ore from Madagascar. This was set up for the first time at the 3ktpa plant in Sahamamy. The process reduces the energy requirement of a processing plant by around 30%, owing to 50% of the waste from the graphite ore being extracted at the first stage of the process in the form of a by-product - construction sand. This reduces the further circuit load by 50% and hence making the process very lean and energy efficient.



# Sustainability Report 2021 ENVIRONMENT & SUSTAINABILITY



This also reduces the overall emissions from Madagascar projects as the company doesn't need to source river-bed sand for its construction and is able to meet its construction sand requirement with no added emissions and will help the company offset some of its emissions in the future.

c. Hydropower to meet Processing Energy Requirement up to 30ktpa:

In our bid to transition to renewable energy, we identified multiple perennial streams in the hills across the two projects and conducted a feasibility study to set up a 100KW hydropower generation plant to meet the processing energy requirements for the first 3,000tpa module at Sahamamy, to replace the previous facility which had been set up by the previous owners and become dilapidated. Construction of the 100KWh hydropower plant is in progress and is targeted to be commissioned during Q1 2022. We have further initiated feasibility studies for setting up additional hydropower generation facilities with up to 900KW capacity, which may be used to meet the processing energy requirements of the 2nd and 3rd modules across the two projects. This facility would pave the way for us to establish renewable energy capabilities to meet our substantial processing energy requirements up to the 30,000tpa production capacity.

#### RENEWABLE PUSH

Green approach for green materials



Strategy to use green technologies to meet 100% of the power requirements for the Madagascan projects



- Initial 100Kw hydropower facility to complete end
- Planning additional hydropower capacity following
   earlier conducted prefeasibility studies



 PFS Prospects Feasibility underway for additional hydropower capabilities

## ESTIMATED BENEFITS

Ongoing Saving of c.10% in the operating cost per tonne of output

Circa 50% reduction in carbon emissions

"Zero carbon at use is just part of the story; there is a need to look holistically at the processes along the whole supply chain." Shishir Poddar

#### d. Other Alternative Energy Sources:

The Company is exploring opportunities of generating and utilising wind energy, hydropower and solar energy to meet its energy requirements for follow on modules as Madagascar has high potential of both wind and solar power being located close to the equator in high-wind zones. The Company is also currently using solar energy to partially meet the energy requirements of the admin and residential blocks at the projects.

#### e. Offsetting Emissions from Mining:

To achieve the net zero objective, the remaining emissions primarily from the operations of the mining fleet, will be offset by tree plantations. We aim to become Zero-Carbon at operational levels



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ENVIRONMENT & SUSTAINABILITY



## 6.2 Sustainable Mining:

Mining is an essential activity to meet the demand for materials, metals and minerals of the growing population. The company believes that it is essential that the mining activities are performed with utmost care and follow the following objectives to attain sustainability, in line with industry best practice:

- Zero-overexploitation
- Maximise utilization of resources extracted
- Minimise waste
- Health & safety
- Reduce environment impact
- Restoration and waste disposal
- Data & digitalisation for high efficiency

We have carefully chosen resources to reduce the environmental impact from mining activities with the above factors in mind. Resources should have a/be:

- Saprolitic profile, free dig mining
- Hilly contour
- Located close to infrastructure
- Located in a low green cover non forest region

The features that help us achieve sustainable mining practices are as follows:

#### a. Reduced Mining Fleet Requirement:

The Saprolitic nature of the ore across the mining permits provides a weathered profile of the deposit. This makes the extraction process easier and hence the mining fleet required for the process is comparatively leaner than that of hard rock deposits, reducing the fuel requirement for mining.

#### b. Zero-Blasting Requirements:

As the deposit is of soft nature, no blasting is required in the mining activities.

#### c. Free Dig Mining:

The nature of the deposit makes it possible to conduct free dig open pit mining which is much safer and less energy intensive compared to underground and hard rock mining.

#### d. Low Strip Ratio:

Our mining permit areas are located outside the reserved national forests and do not have a thick green cover with minimal wildlife. Thus the Company is able to maintain an average strip ratio of 2:1::Overburden:Ore.

#### e. Land Reclamation & Restoration:

The project areas in Madagascar are located within a moderately undulating area and our mine planning takes this into consideration taking advantage of the topography. The nature of the deposit and pit design is such that rehabilitation and restoration of mining areas is an ongoing and concurrent activity. Actions:

- Mining overburden is used to reclaim land in swamps and wasteland areas located near the mining pits, which would otherwise remain as unproductive land areas.
- Ongoing re-vegetation programme working in conjunction with the local communities to harvest new tree plantation areas across the local communes to ensure any green vegetation areas which are impacted by the Company's operations are replaced by new trees and vegetation.
- In FY21, the company further performed soil restoration activities including embankment formations over a total area of 3400 m<sup>2</sup>.

#### f. Plantations:



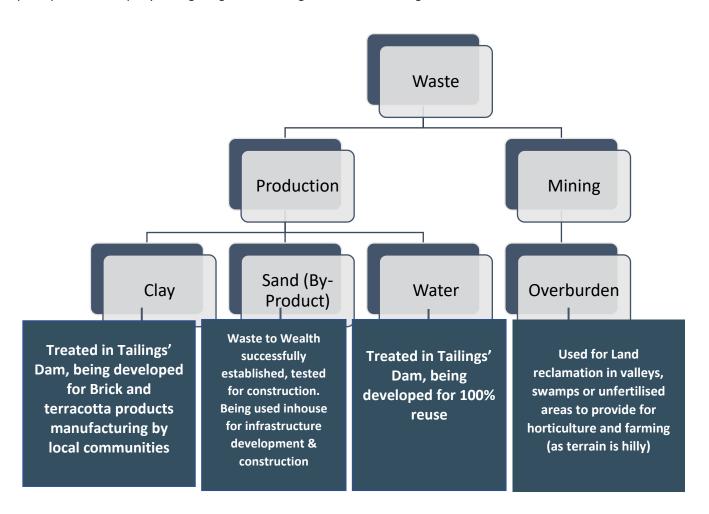
Sustainability Report 2021
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We have chosen areas where the green cover mostly constitutes shrubs and bushes small trees to minimise removal due to mining. Further, it implies that there is minimal deforestation and loss of wildlife habitats. We supplement the vegetation removed in overburden by planting more large trees, which can also benefit local populations. These include fruit trees like pineapple, mango, leche etc which are easy to grow in the Madagascan ecosystem.

## 6.3 Waste and Water Management:

We have adopted a 'Waste to Wealth' policy across our operations. With this objective, we continuously strive to reduce waste generated and utilise every resource to minimise negative environmental impacts. With this principle, the Company is targeting zero-waste generation in Madagascar.



#### 1. Treatment of Overburden:

The overburden is utilised for land reclamation, land restoration and rehabilitation purposes as detailed in the sustainable mining section.

#### 2. Treatment of Processing Waste:

The processing plant utilises the mined ore, water and flotation catalysts to upgrade the flake graphite from 5% purity to up to 95% purity. The ore, in the Company's deposits in Madagascar, majorly is made of three types of constituents - Sand, Clay and Graphite.



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The Company has inherited processing technologies developed over decades of experience, which provides maximisation of utilisation of all three constituents by:

- attaining record high recoveries of >85% for the graphite
- extracting 50% of the waste at the first stage of processing as a by-product construction sand
- treating the clay, along with water from the process, in the tailing dam and further testing it for brick manufacturing

The water used in the process is sourced from local streams within the projects. The used water is treated alongside clay in the tailings dam with a target to reuse 100% of these.

#### a. Tailing Dam:

The Company has developed sustainable tailing dams at both its projects in Madagascar to treat all the processing waste by utilising low lying non-mineralised zones. All the tailings, which constitute majorly clay and water, are directed into the tailings dam and treated using natural methods like settlement of impurities and use of vegetation for purification of water etc. The Company does not use any stringent or damaging chemicals in the processing plant in Madagascar. The tailings dams are constructed using natural materials like locally available stones, sand sacks and water plants.

The Company currently utilises the gravitational force to separate the clay and other impurities from the water by gravitational settlement method. For the larger tailing dams pertaining to 18ktpa modules, the Company shall install thickeners to fasten the process of settlement of solid impurities.

The solid impurities (mainly clay) is fertile in nature and is being provided to locals for use as top soil in cultivation lands. The Company is also testing these for use in terracotta based products and in brick manufacturing. These shall be provided to the locals for these applications once tests are completed.

The water from the tailings dam is tested to be of good quality and is reused for agricultural processes and in the processing plant.

#### b. Sand as By-Product:

The Company has developed a novel technology in mineral processing of flake graphite for the deposit in Madagascar known as SAGE, which treats the ore in the first step after feeding the material into the processing plant. The ore is separated into two parts through this treatment – (i) sand and (ii) graphite + clay + water.

The sand, from the underflow of the process, has been tested to be suitable for construction and is being used by the Company for its infrastructure development at the two projects and also in the construction of new building and plant modules. This has saved the Company thousands of tons of carbon emissions from its supply chain by replacing use of river mined sand by this internally produced sand as a by-product. The Company has produced and used >38,000 tons of construction sand up to FY21 from its 3ktpa plant in Sahamamy. The overflow of the blend goes into further processing for extraction of graphite flakes.



Sustainability Report 2021

#### **ENVIRONMENT SUSTAINABILITY**



#### 3. Steps to Zero-Waste:



## 6.4 Biodiversity

Madagascar is rich in natural resources and biodiversity. We believe it is our responsibility to protect these natural resources, minimise our impact and restore the areas we have impacted. Our operations are outside reserved national forests, with a lower coverage of plant and minimal wildlife, meaning our impact on local ecosystems is lowered. To support biodiversity and restoration around and affected by our operations we are taking a number of actions:

#### **Plantations & Reforestation:**

- The Company has set nurseries at both its projects to grow saplings for regular and continuous plantation drives.
- The Company also participated in plantation drives organized by the local governments and other government bodies.
- The Company follows a standard procedure for plantations, starting with surface cleaning, peg making, collection and transportation of seedlings, tree plantation, and regular control and monitoring to ensure the plants are well protected and growing.
- o The Company planted a total of 18,623 trees in FY21.
- All the internal roads are being planted with trees on both sides.
- The Company has chosen a few species of trees like pineapple, mango, leche, palm, which complement the food chains and ecology of the area and can further benefit the local people by providing fruits or other useful materials.

#### **Revegetation & Slope Stabilisation:**

- Slopes and bare soil areas are planted and covered with grass and shrubs compatible with local ecology and reinforcing biodiversity.
- A total area of 7,630 m2 has been revegetated with local grass and shrub species.
- This helps in reduction of soil erosion, reduced maintenance hence reduced diesel consumption and further adds a green surface area making smaller contributions to achieving a net-zero GHG emissions. It also improves the safety in the hilly regions.
- A further 14,900 m2 area has been developed in the form of erosion channels across the projects to reduce erosion and increased safety.

#### **Awareness Campaigns and Trainings for Locals:**



Sustainability Report 2021

#### **ENVIRONMENT SUSTAINABILITY**



- The Company organises training and awareness campaigns for the local population for protection and preservation of national forests, avoid overexploitation of resources and sensible utilisation of resources from the forest
- The Company is structuring training campaigns on horticulture, afforestation etc.
- The Company provides fruit trees to the local population for plantation at their homes.





# 6.5 LONG-TERM GOALS OF ENVIRONMENT SUSTAINABILITY

The Company is growing its production capacity to 84ktpa by 2024 in Madagascar with the aim to serve our customer fully and meet demand for applications in green technologies. The Company's policy of sustainability in all spheres defines the way it operates and envisions implementation of environment sustainability. The Company has set the following goals to be achieved by 2030:

- Develop new materials to contribute to global GHG emission reduction targets
- Use 100% renewable energy for meeting processing energy requirements
- Achieve net-zero emissions at its processing operations
- Achieve zero carbon at corporate level
- Utilise 100% of the resources extracted, under waste to wealth policy

The Company has also participated in external initiatives for environment sustainability as follows:

- Contributed to the maiden report on ESG Report by Critical Minerals Association, UK, which was submitted to the UK government for forming the basis of ESG related policies and requirements
- Participated in Madagascar Government organised plantation drives
- Provided inputs for building ESG standards for assessing graphite companies to Benchmark Minerals
   Intelligence
- Accredited with the Green Economy Mark by the London Stock Exchange
- Participated in multiple ESG forums and conferences



Sustainability Report 2021 SOCIAL: OUR PEOPLE

ELEV ECONOTHY

# 7. SOCIAL:

#### 7.1 OUR PEOPLE







**100% Employees Vaccinated**with minimum 1<sup>st</sup> dose against Covid-19 at the Corporate & TSG levels.





**100% increase** in direct employment



All Employees at projects provided with safety gear and equipment

"Our people are our biggest assets; we inspire our people to grow with us." - Shishir Poddar

We focus on creating new local jobs through our expansion plans, developing skillsets, maintaining high levels of health & safety standards, equality and inclusivity across operations. The key values inculcated in all our people include:

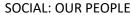
- Health & Safety
- Commitment & Cooperation
- Integrity & Respect for all people and resources
- Responsibility, Accountability & Transparency
- Innovation & Growth
- Sustainability in All Spheres
- Efficient Data & Task Management to achieve Targets and Objectives as per the vision and mission of the company
- Human Rights
- Inclusivity & Equality
- Relationship Building

We consider our employees as our biggest asset and accredit the Company's success to our people, making job creation and employment a critical topic in our growth. We further recognise the efforts of all individuals in addressing the various challenges faced in this financial year with the onset of Covid-19 pandemic and understand that our employees enabled the Company to achieve the our goals and milestones in these difficult times.

The Company believes that its human capital is vital to the techno commercial advantages leading to its low CAPEX intensity, lowest quartile OPEX intensity, in house design and EPC capabilities, exploration and



Sustainability Report 2021





evaluation expertise, product and capital markets engagement and other areas which are required to continue creating value to shareholders. Accordingly, the Company remains conscious of suitably rewarding its employees in line with its continuing successes.

The principles of employment are focused on skillset, expertise, leadership, dedication, growth appetite, experience and the ability to deliver. The Company has formalised an HR department at the corporate and incountry levels to ensure fair and efficient employment. The Company has also begun formalising a manual for the code of employment and adopted various policies to ensure inclusive, non-discriminatory, zero-harm and responsible treatment for all its employees. Various health and safety practices and policies have been adopted to ensure the safety of our people.

The Company remains focused on identifying skills and passion in its people and cultivating those to resonate with its vision and mission. The Company believes in developing relationships, understanding the aspirations of its employees, and inspiring them to grow sustainably. Our team works hard to identify, attract, employ and retain dedicated, hard-working and visionary people, who are today forming the base for the growth of the Company as the benchmark and leader in flake graphite and graphene.

Over the decades, key relationships were forged by the founders with industry leaders and top-end specialists in their respective fields around the world. Following the Company's listing, in order to strengthen and support its rapid growth plans the Company was able to formalise its relationships by making several strategic appointments across all of its business divisions.

#### **Employment Generation:**

The Company is undergoing an expansion of its projects in all locations of operation and at the corporate level. This means we are creating new jobs and employment opportunities in the communities where we operate, supporting the local economy as well as our business development plans.

On the corporate side, the Company has expanded its Board and the Management team for various departments like marketing and sales, research, development and technology, finance and accounts, compliance, HR, investor and public relations etc. The Company has also expanded the leadership and senior management team for all its projects.

Over the last year, the Company has expanded its capacity in Madagascar from 3ktpa to 12ktpa flake graphite having commissioned the second plant in September 2021. It has strengthened other aspects of developments in Madagascar like mining, processing, construction, exploration, quality control, engineering, shipment and sales, ESG etc.

The development of the downstream specialty graphite project for stage 1 15ktpa capacity has also been initiated, adding to the employment generation for various technical aspects.

Stage 1 of TGMRC was commissioned in FY21, recruiting and expanding the team of high-end experts and scientists on graphene, composites, green materials, mineral processing and more.

Our Employees		
Division/location	Division/location Employment Type FY 21	
Corporate	Corporate & Expats	11
Madagascar	Permanent	175
	Daily Wage Direct	362
	Female employees	11
	New Employees Hired	53
	Leavers	6
	Permanent	24



Sustainability Report 2021 SOCIAL: OUR PEOPLE



India (TSG)	Daily Wage Direct	12
	Female employees	5
	New Employees Hired	10
	Leavers	4

The daily wage workers perform various activities like construction, infrastructure development and maintenance, plantations, transportation etc. The number of daily wage workers varies as per the construction activities. The company is undergoing continuous expansion and expects to have ongoing infrastructure and construction activities. The mining and processing operations are performed by trained permanent employees who are all employed on a full-time basis and work on a shift rotation system.

The monthly total employment including permanent and daily wage employees in Madagascar and India for FY21 is displayed in the chart below. In Madagascar, the increase in employment from January 2021 is due to recruitments starting for the second plant as installations began. In India, the company is setting up the downstream plant and the tech centre for which recruitments were initiated in Jan 2021. All permanent employees are bound by employee contracts made in accordance with the in-country law and basic ethics of operations.





The percentage of female employees in our Madagascan operations was 6% in FY21. The low number is due to unavailability of women for operational and industrial work. In India, the percentage of female permanent employees is higher at 20%. Overall, women make up 8% of total permanent employees. The Company has initiated skills development and awareness campaigns to promote female employment in our industry in Madagascar. The Company is also working on developing brick making, horticulture and pottery making skills etc. to promote women entrepreneurship in the region. As the Company expands its corporate team, it is focusing on increasing its percentage of female employees.

#### **Local Employment:**

The Company's operations are located in some of the most under-developed regions of the world, hence means of livelihood there are minimal. The Company prefers to include people from the local communities in its register to be able to upskill them and provide an opportunity to improve their family's quality of life. This helps the Company understand and cater to the expectations of the local communities, improve lives of thousands of people and have the ease of operations at all times.

In Madagascar, for all activities below the supervisor level, the Company has 100% local employment. For highly skilled, experienced and lead management roles, the Company has mostly employed expats who have experience and understanding in their area of expertise. To support development of our employees and increase in skills in the local area, we are also providing local training opportunities to to help develop these skill within the local workforce. Overall, >90% of the employment is local in Madagascar.



Sustainability Report 2021 SOCIAL: HEALTH & SAFETY



The projects and services in India under Tirupati have 100% local employment from across the country.

#### **Employment Benefits:**

The Company provides multiple benefits to its employees across the globe with the added opportunity and space to grow, learn and lead as the company progresses on its business development plans. The following benefits are provided to the employees of the company:

Employment Location/Type	Benefits Provided		
	<ul> <li>Health Insurance for individual and immediate family</li> </ul>		
Madagascar Expats	- Life Insurance		
	- Annual Travel Insurance		
Madagascar Permanent	- In house medical facilities		
	<ul> <li>Paid medical cards for treatment in</li> </ul>		
	nearby hospitals (Equivalent to health		
	insurance as per government regulations)		
	<ul> <li>Benefits from Community Engagement</li> </ul>		
	Program		
	- Retirement Fund		
	- Retirement Fund		
TSG	- Health Insurance for individual and family		
	- Gratuity		

The above have been structured as per the laws of the land. The Company also provides various facilities under its CSR initiatives in Madagascar such as drinking water, electricity to nearby villages, school development for children, road infrastructure, transfer facilities in medical emergencies and many more. We provide bonuses to our employees before the country's main festival, and at the end of the year, after assessing the performance of the employee, performance related bonuses are given to all who have performed well.

The Board and Lead Corporate Management team receive benefits, which have been disclosed in the prospectus of the Company.

#### **Policies and Codes:**

The Company has adopted various policies and codes for structuring the corporate culture through the group. A few policies adopted by the Company include:

- Ethical Code of Conduct: Basic work ethics like no drinking alcohol at work, no smoking, obeying safety guidelines etc are defined in this code
- No-Harassment Policy: The company has adopted a policy to avoid any sexual harassment at its operations
- Labour Rights Policy: A policy to protect rights of our workers and their interest.

The Company is also in the process of adopting an employee code manual, which formalises the various procedures like process of induction, taking leave of absence, behavioural code, dress code, expectations from employees, data and task management code etc. The Company is working on this draft and plans to execute this over the next quarter.



Sustainability Report 2021 SOCIAL: HEALTH & SAFETY



#### 7.2 HEALTH & SAFETY

The health, safety and wellbeing of employees, contractors and visitors is at the forefront of everything the Company does across all aspects of our operations. It implements the highest standards to mitigate risks. The Company has adopted a policy for health, safety and environment, striving for a zero-harm workplace which is everyone's responsibility regardless of job title or role.

In the last year, the activities occurring on site at the Company's Madagascar projects included drilling and exploration, mine development, construction activities, road infrastructure development, engineering and fabrication, quality control, plant construction and operations, hydropower development, packaging, transportation, social work and environment sustainability activities along with ongoing environmental monitoring (energy consumption, CO2 emissions, water management, waste generation and updating the environmental database).

To carry out these activities, the Company has geologists, mining technicians, engineers, field assistants and labourers who have the appropriate training and education to perform their functions and carry out activities with oversight by the Company's sustainability personnel, ensuring compliance with safety principles and environmental legislation.

The Company ensured a safe working environment for its employees and contractors. In the last year no worker has acquired any occupational illness or suffered any accident that would prevent them from carrying out their activities. The Company has a seen zero fatalities at operations since inception. The accident frequency rate at operations is 0.5/year. Company policy requires that health and safety measures are complied with at all its operations. The Company provides its workers with work clothes and PPE including safety shoes, socks, safety helmets, clothes, safety jackets, face masks and other safety equipment required for carrying out their jobs safely. In addition, the Company organises regular health and safety camps for educating and training of its workers as well as locals to adopt and comply with health and safety measures in and around the Company's sites.







**Training Camps and Health & Safety Camps Organised Regularly** 

The Company has created a team of the senior in-country management and the junior management teams which are responsible for enforcing the Health and Safety standards at projects at all times. Instructions are also printed in the form of signs across the projects. No worker is allowed to work without the safety equipment which is provided and a check is maintained at the entry of the plant. Action is taken against any worker disobeying health and safety rules, the severity of the action depends upon the rule violated and to the extent that it was violated – this is determined by the health and safety policy of the Company and the terms of employment. The workers are also provided with the sponsored treatment card for availing free medical facilities in local hospitals. Training is given to each employee on the health and safety requirements to be followed and regular camps are conducted for further training and feedback from employees. Based on



Sustainability Report 2021
COMMUNITY AND SOCIAL DEVELOPMENT



the feedback received, assessments provided by the in-country consultant and according to the safety measures required around any new equipment or activity, the regulations are evaluated, updated and adopted further.





**Health Care Centre** 

**Happy Employees** 

For protecting our employees from Covid-19 across all operations of the Company, masks have been provided to all and operational rules guidelines have been set and implemented to comply with preventive measure guidelines set by the government. Further, equipment like thermal scanner, oximeter, sanitisers etc have been provided at both Madagascar and Indian Operations of the Company. Oxygen generators were also procured and kept as standby at the projects for use in case the need arose.

The following policies are in place in India and Madagascar for health & safety related aspects:

- Covid-19 related Code of Conduct: The Company implemented code of conduct at all its operations and offices pertaining to the WHO guidelines on management of Covid-19 in workplaces
- Health & Safety Policy & Training: The Company has adopted a code of conduct to ensure health and safety at operations. Each employee is trained for maintaining these and the company has also put instructions across operations for the same.

#### 7.3 COMMUNITY & SOCIAL DEVELOPMENT

With operations across two distinct jurisdictions, the Company's CSR activities are mainly focused on its operations in Madagascar, which has been named as one of the poorest nations by the United Nations, where the needs of the communities and society are greatest and where its efforts are most impactful. As the Company expands its operation in India, it shall increase its CSR activities in the country.

#### **Our Communities**

At the outset, the Company interacted with the local communities and later government bodies around the areas of its projects to gain an in-depth understanding of their needs. A committee, which meets on a regular basis and is led by the Company's corporate and in-country senior management team and community representatives, was then created to devise a standard mechanism for land settlement in accordance with the Malagasy law and deliver a CSR programme called Shakuntalam, symbolising motherhood.

The Company's strategy to support the establishment of sustainable, long-standing operations is attached to dealing with the environmental and social impact of its activities in a conscientious, thoughtful and systematic manner. This is achieved through ensuring that relations with governments, regional or local authorities, media, workforce, contractors and providers, and the society in general, are led by transparency and mutual



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COMMUNITY AND SOCIAL DEVELOPMENT



trust, and an appropriate degree of interaction is undertaken and encouraged alongside improving lives of the people.

The community's response, level of engagement and active feedback from the ongoing dialogue established with the Company's stakeholders regarding the economic, social and environmental impact of the Company's operations in Madagascar has been consistently very positive. Notwithstanding this, it is the Company's responsible approach to align with the goals and aspirations of its communities.

#### **Principles of CSR**

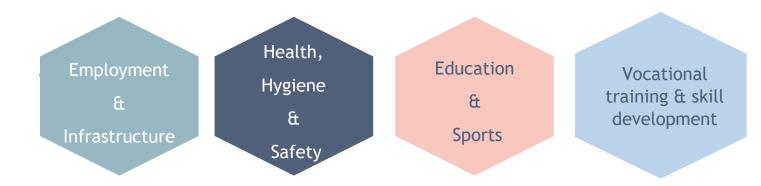
The Company understands that the most relevant goals are the efforts devoted to job creation, local development, and diversification of the area. Accordingly, it carved its social care and engagement programme with defined objectives below:

- Enhance earnings through direct and indirect employment
- Catalyse education improve infrastructure, provide materials and support teaching staff
- Improve health by various measures and promoting family planning
- Catalyse happiness promote sports, hand holding for land rights, engage, facilitate.

While having drawn a long-term strategy to achieve these goals, the Company is continuously taking measures to improve the lives and standard of living of the people.

#### **Company's Approach and Activities Performed**

The Company has divided its CSR activities under four pillars:



The various CSR activities performed in the reporting year are listed below:

#### a. Employment & Infrastructure:

With ground activities ongoing at its project sites, the Company's operations have been a source of new employment for the local population. >500 people have direct and regular employment and many are further indirectly employed through the project. These activities have provided new employment opportunities and improved the livelihood of the local commune and has also led to development of skills in various arenas including driving, drilling, other exploration activities, construction, welding, equipment fabrication, operation monitoring and control, testing and analysis, heavy equipment operations (excavators and loaders) and other technical skills.

Various infrastructure development activities have been performed by Company. The Company has built internal access roads which have connected interior and remote villages to developed areas giving



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the local community better access to schools, markets and improving the lifestyle of the villagers, their overall quality of life and created new commerce opportunities for the local communities. The Company also completed development of the connecting road between its two projects which has connected tens of villages to the national highway, external infrastructure and provided new opportunities for livelihood.

- Directly employing >500 people
- 35 km road built connecting the two projects and multiple villages
- >30 km internal roads built connecting multiple villages to schools, markets, etc.
- Redeveloped the local marketplace
- Construction material and manpower provided for commune office and guest house
- Daily electricity supplied to 50+ houses
- Drinking water facilities constructed in four villages
- Sand from production provided for house constructions to local people and commune
- 10 solar power based street lights donated to the commune







Drinking water distribution for Sahamamy village and Ambodiriana village

#### b. Health and Hygiene:

The Company's projects are located in remote regions, around some of the most deprived parts of the world. It has been our continuous effort to uplift the health and hygiene standards in these areas to improve the standards of health and livelihood of the communities. The Company has initiated multiple awareness campaigns to educate local communities on healthy practices, nourishment of children and



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pregnant women, first aid measures, and birth control, etc. It has also created medical facilities and arrangements for the local population. The various activities performed include:

- 24X7 health centre for local population providing free of cost medicines and consultancy
- Transfer facilities for medical emergencies
- Distribution of clean drinking water in various villages
- Medical awareness camps for locals and employees
- Free health check-ups for locals
- Awareness camps on waste management, personal hygiene and hygiene for women

The Company has proactively worked in fighting Covid-19 in local areas along with the commune and local people in the following ways:

- Provided hand sanitisers and masks
- Provided precautionary medical equipment like oximeter and infrared thermometers
- Provided oxygen generators for use by employees and locals at the peak of second wave when there
  was global shortage of these equipment
- Delivered proactive education of local people on Covid-19, precautionary measures, symptoms and importance of vaccination

The Company built a dedicated Community Health Centre at Sahamamy in Madagascar, which is stocked with general medicines and staffed full-time by a qualified medical practitioner. The Centre is open to the community year-round, 24 hours a day, 7 days a week offering immediate care unit for emergency First Aid and primary health care, health care services to expectant mothers of workers and villagers in mine area, free distribution of supplements and nutrients and also arranges transfers to local hospitals when required. The centre also facilitates arrangements for the provision of clean drinking water to the communities in the area. All of these facilities are provided to locals by the Company free of cost.

#### c. Education and Sports

The Company has focused on developing and promoting education and sports among the local population. Its activities include:

- The Company replaced the old Sahamamy School building, which was old and dilapidated, with a much larger new building that has five classrooms. Additionally, the connectivity to the school was vastly improved by the Company with the redevelopment of an approach road which made the school more accessible to the community.
- The Company constructed a new, all-weather road leading up to the Vatomina school to make it more accessible to the community, which provided more incentive to attend and reduced risk of accidents and injury from the daily commute to the school, especially during times of wet weather.
- o The Company established Youth Skill Training Centres
- The Company organises games and participates in regional and local festivals on independence days each year and awards lanterns, sports shirts, balls and cups to the young people and the community. It also organises regular sporting events in the local school promoting sports including football, volleyball and badminton as well as improving the health and fitness among the students and the wider community.
- The Company provides drinking water facilities for schools, distributes healthy food items and supplies stationary items to the schools.
- The Company levelled the football field in the local school and installed infrastructure like goal post etc.



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o The Company undertakes awareness campaigns for the education of women.





Handover of the school building to Fetraomby commune



Primary school of Sahamamy made by Ets Rostaing

#### i. Vocational Training and Skill Development

In Madagascar 95% of our employees are Madagascan. Various activities like admin, finance and accounting, mining, operation of mining fleet, processing, fabrication of engineered equipment/spares, analytical testing and laboratory works, road development, construction, shipment, packing etc are performed at the various locations of operations in the country. The Company has trained people to gain these skills to support the company in these areas and provide development opportunities to the individuals.

#### ii. Land Rights

At the Vatomina project, the Company commissioned a survey by a government authorised surveyor and formed a committee constituting members from the local community, company representatives and the mayor. A uniform methodology for land settlement was structured and executed. Further, the occupants who did not have official registration and recognition of their land rights were support to get these documents.

#### **Supply Chain:**

The Company's primary operations are in Madagascar while the downstream operations are being developed in India. As Madagascar is an under-developed nation, basic inputs like steel etc are harder to source. The Company has hence developed its supply chain in the one of the nearest neighbouring countries, India, where these were readily available. The Company's management have deep in-roots into the supply chain in India and the heart of the processing plant is manufactured by the Founders in India. The Company does have a component of local procurement in Madagascar for inputs that are available locally with 140+ registered



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suppliers in Madagascar and a total amount of US\$ 1.27m spent on procurement in Madagascar in FY21. Further, the Company uses the services of TSG to perform procurement activities in India. A total of approx. US\$ 1.14m was spent on procurement in India in FY21.

#### **Economic Contribution:**

The Company is boosting the Madagascan economy in multiple ways. A few indicators in terms of direct economic impacts for FY21 are listed below:

Madagascar - Economic Indicator	Amount Spent (in million US\$)
Foreign Exchange Earnings to Madagascar	2.745
- From Investments	1.718
- Revenues from Sales	1.026
Direct Earnings To Exchequer (VAT+TAX+ROYALTY)	0.487
In-Country Spends	1.955
- Salaries	1.081
- Local Procurement & Services	0.873

#### **Land Rights:**

The Company has detailed land settlement steps and status previously in detail in its annual reports. Further, the committee formulated engages with the land occupier to settle the land as per the mechanisms devised according to the Malagasy Law. No land right violations have happened at the projects till date.

#### 7.4 LONG-TERM GOALS FOR PEOPLE AND COMMUNITIES

To support, protect and develop our people, we have the following long-term aims:

- Regular meetings will be conducted involving employees' representatives to discuss aspects of safety improvement conditions for employees to improve operational standards and KPIs.
- Increased training for all employees in preparation for expansion of operations.
- Adopt an international standard for occupational health and safety (e.g. ISO 45001) or equivalent
- Extend "at work" safety measures to support health and wellbeing of employees and their dependents by performing regular medical examinations for all employees to ensure they are fit and healthy for their role.

To support the local community I Madagascar, the Company is constructing a community centre at its Vatomina Project, which will be a base for health & wellness, sport, education/training, activities, including:

- Health and Hygiene Centre, which will provide a full-time primary doctor, free medication, a care unit
  providing emergency First Aid and primary health care, and primary health care to expectant mothers
  including free distribution of supplements and nutrients etc.
- Clean drinking water for the local community.

#### Sport & Education/Training

- **Sports Development Centre** to encourage and promote various sports including football, volleyball and badminton, for workers and surrounding people.
- Support for children's education, including providing transport to schools, education inputs, study materials and support to improve the school infrastructure.



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 A vocational training centre, including vocational and technical skills development, an agriculture and horticulture training centre, dairy products development centre and artificial insemination for improvement of cattle breed.

#### Other Long-Term Goals:

- Develop local investment strategy to ensure appropriate investment decisions
- Become a partner to local government to aid economic development of the region



Ets Rostaing soccer team



Surrounded village of Sahamamy soccer team



Inter-department soccer tournament 1st May 2021



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# 8. GOVERNANCE AND STAKEHOLDER ENGAGEMENT

#### **Basic Principles of Corporate Governance:**

Chairman's Statement on Corporate Governance:

Alongside Environment and Sustainability, Corporate Governance holds a vital role in the evolution of corporate entities. We have voluntarily decided to adopt the Quoted Companies Alliance Corporate Governance Code ("QCA Code") as the guiding principle for Corporate Governance so far is practicable given the Company's size and nature.

Tirupati operates in a specialist area. We are fortunate to have the extensive expertise and experience of the principal founder and Executive Chairman directing the business. He is supported by the leadership including the Board who bring their own experience in helping the company achieve its goals.

Earning trust, while building the business is our core ethic and every member of the Company's Board and Management is dedicated to this. Our endeavours to earning trust shall span across our ecosystem and, though not limited to, includes:

- earning trust of our shareholders by effectively communicating with them;
- earning trust of regulators by remaining compliant and demonstrating an ethical corporate culture;
- earning trust of the communities by improving the quality of their lives;
- earning trust of our human capital by providing opportunities to deliver, proactively meeting their reasonable expectations, and rewarding performance and recognisable services to the Company.

We shall evolve our business by developing sound strategies, prudent business plans and striving to execute them to achieve value creation for our shareholders, the communities where we operate, our human capital and other stakeholders thus, delivering growth of the Company and all those that are associated with it.

To achieve the objectives of earning trust and delivering growth, we shall maintain a dynamic management framework guided by the principles of good governance under the QCA Code and evolve our team to meet the principles of:

- 'teamwork works' at all levels of the corporate and business unit management;
- promoting entrepreneurship, acquire and develop skill sets required for achieving the Company's business objectives;
- evaluating performance of the Board, its members and the executive management;
- evolving and promoting a culture of understanding, responsibility and ethical working; and
- maintaining a management structure that supports prompt and effective decision making with effective communication and coordination.



# Sustainability Report 2021 GOVERNANCE AND STAKEHOLDER ENGAGEMENT



In line with the principles set above and derived from the QCA Code, it is applied across the Company's management and guides our decision making processes. A commentary of the application of the ten principles of the QCA Code is detailed in the Appendix.

#### **Meetings of the Board of Directors:**

The Directors meet regularly and are responsible for formulating, reviewing and approving the Group's strategy, budgets, performance, major capital expenditure and corporate actions, both in formal Board meetings and otherwise to ensure development of the Company's business. All Directors have access to advice from independent professionals at the Company's expense. All Directors have access to the extensive database of the Quoted Companies Alliance of which the Company is a member. Training is available for new and existing Directors as necessary.

Seven Board meetings were held during the year. The Directors' attendance recorded during the year are as follows:

Director	Number of meetings attended	% of Attendance
Mr Shishir Kumar Poddar	7	100
Mr Christian G St. John-Dennis	7	100
Mr Hemant Kumar Poddar	7	100
Mr Rajesh Kedia	7	100
Mr Lincoln John Moore*	6	100

<sup>\*</sup> Joined the Board after the first Board meeting for the year

In addition to the members on the Board, invitees to meetings of the Board included, as appropriate, advisors and corporate management team members of the executive management of the Company.

#### **Insurance Cover:**

The Company maintains insurance with a limit of £5 million to cover its Directors and Officers against the cost of defending themselves against civil legal proceedings taken against them. To the extent permitted by law the Company also indemnifies its Directors and Officers. Neither protection applies in the event of fraud or dishonesty.

#### Committees at the Corporate Level

To facilitate the activities of the Board further, the Company has adopted and created the following three committees at the corporate level which constitute Board members and senior lead management team members:

- Audit Committee
- o Remuneration Committee
- Nomination Committee

#### Management of Environmental, Social and Governance Activities:

The key values and ESG principles were founded by our Chairman in accordance with his long-term vision of the Company. These were since approved by the Board as a part of the Company's Annual Report in FY20.

The Company has structured its long-term goals for environment sustainability and identified itself as a key contributor to the green economy. The Company's corporate management team lay the foundations of steps to reach the long- term environment goals which are then communicated to the wider management team at the Projects to execute these steps. In Madagascar, the Company consults with a government approved environment consultant to meet the in-country standards. The company has also hired consultants for feasibility and execution of its green energy initiatives. A local team has also been formed for management of the plant nurseries and plantation activities at the projects. The technology and materials division arm in India also has a waste to wealth policy and focus on developing materials which can reduce emissions, this forms the core of the centre's activities.



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For Social development, the Company founded these programmes based on four pillars after understanding the needs of the people of Madagascar. A team was formed in country constituting the local senior management, mayor and the local people to understand and address social concerns. This body meets at regular interval to discuss the immediate needs of the people like road access, drinking water, requirements related to education etc. The Company then performs these as a part of the CSR activities under its four pillars. The Company has also incorporated a long-term social development plan under its 'Shakuntalam' program.

#### **Stakeholder Engagement Activities:**

The Board is committed to maintaining effective communication and having constructive dialogue with its shareholders. During the year 1 April 2020 to 31 March 2021, the Company extensively engaged with both its current and prospective, private and institutional shareholders through meetings and presentations, and for them to have the opportunity to discuss issues and provide feedback at meetings with the Company. In addition, all shareholders are encouraged to attend the Company's AGM.

The company has continuously kept the markets and its shareholders updated on the progress of its development by multiple ways. A few activities being performed for engaging with shareholders are as follows:

#### **Investor Presentations**

Engaging with shareholders through public presentations in conferences and online platforms:

Benchmark Minerals EV Fest
Mines & Money Online
Investor Meet
Optiva Clients' Call
Interviews
Calls on Requests by
Investors/Shareholders

#### **Regulatory News Flow**

Regular updates provided for various workstreams across the three business legs.

News flow being distributed through various channels like LSE, the Company's website and to all stakeholders subscribed to Company newsletter.

IRPR advisors, social media managers appointed for market communications

# Investor Requests Addressed

The company has a dedicated section on its website for investors to leave their questions. The company has answered all queries received through the website and email.

**Requests for Calls Completed** 

Questions Answered

Reading Materials Provided

For engagement with the local communities, the Company has incorporated an in-country body which discusses and addresses concerns and needs of the local communities on a regular basis. For employee engagement, HR departments have been formed in each region as described in section 7.1. The Company engages with the LSE and the different governments through its advisors as and when required. The customers and suppliers are dealt with by the sales marketing and procurement teams formed at the corporate and in-country levels, any concerns raised are dealt by these departments and senior management. Any concerns raised by shareholders are addressed by emails, RNS and management interviews.

#### **Risk Mitigation:**

The Company has adopted unconventional principles for developing a mining business and has further integrated itself across the entire chain of this material to the extent of innovating and working on new advance green materials. Through the strategies of these developments, the company has continuously worked on risk mitigation in various ways. A few key strategies developed and adopted by the company include:



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- 1. Modular Development: The concept of modular development in the mining industry was introduced by to the industry by our Chairman and adopted by the company since inception. This has been designed in sync with the dynamics of the niche graphite and graphene industry. The modular strategy has helped the Company create values and helped in mitigation of various risks as follows:
  - Technology Risks
  - Financing Risk
  - Market Risk
  - Execution Risk
  - Commercial Risks

#### 2. Integration Across the Value Chain:

Integration across the value has helped the Company structure independent yet complementary avenues of business, diversifying risks and reducing its dependence on one product or business leg. This also helps in realising the most benefits from the entire value chain of the materials.

#### 3. Resource & Country:

The Company has worked on strategic acquisitions to secure primary resources required for producing graphite and its derivatives through two projects in Madagascar. It has also applied for more permit areas in Madagascar for expanding its resource base. Further the company has entered into a binding agreement for acquisition of graphite assets in Mozambique with ASX listed Battery Minerals Ltd.

#### 4. Innovation and R&D:

The Company gives a lot of emphasis on innovation, green technology and green materials development and industry focused R&D. This helps the company address risks around technology and support its customers better.

#### **Corporate Structure and Policies:**

The Company has an efficient corporate structure with Chiefs of each Business Leg and further layers of management in each department and operation. The Company has further strengthened its team over the last year to be able to support its ongoing growth plans.

The Company is also in the process of document the processes and workflows for each department in the manuals for each of these activities in accordance with the expertise of the team and the technologies developed over years for graphite and graphene, like process management, mining, HR etc.

#### **Data and Task Management:**

The Company has adopted methods of data management, task management and monitoring systems to help in improving the efficiency of working, structuring the way of working as the Company expands, mitigate risk of change in employees, evaluate employees for performance, develop the corporate culture as it expands, ensure that all employees can resonate with the vision and mission of the company and break down their roles towards achieving the targets of the company in a given period. A few tools that the Company has adopted for these are as follows:

- G-Suite for Email Management: For categorisation of emails, labelling, reminders and calendars
- Objective and Key Results (OKRs) for Corporate Activities: The Company has broken down its
  mission into goals for each department which have further been broken down into tasks for all
  employees with expected timelines, giving an organised task management system, ensuring no
  tasks are missed and maintaining timelines.



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#### GOVERNANCE AND STAKEHOLDER ENGAGEMENT

- Xero: For all accounting purposes across all projects making the process of auditing, reviewing and data capturing easy and organised
- Google Drive for Corporate Activities: Alongside the OKRs, google drive is being used for management and storage of data
- Pragyaam: For data management and data analytics from operations, the company has adopted a customisable ERP cum analytics software called Grid by Pragyaam which is being implemented across all legs of operations.



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**GRI INDEX** 



## 9. GRI INDEX MANDATORY DISCLOSURES

1. Organisational Profile

DISCLOSURE	Section/Comment
102-1 Name of the organisation	About Tirupati
102-2 Activities, brands, products, and services	About Tirupati
102-3 Location of headquarters	About Tirupati
102-4 Location of operations	About Tirupati
102-5 Ownership and legal form	About Tirupati, Annual Report
102-6 Markets served	Graphite & Graphene
102-7 Scale of the organisation	Our People, About Tirupati, Annual Report (for audited financials)
102-8 Information on employees and other workers	Our People
102-9 Supply chain	Our Communities – Supply Chain

# 2 Strategy & Values

DISCLOSURE	Section/Comment
102-10 Significant changes to the organisation and its supply	N/A - First report
102-11 Precautionary Principle or approach	Tirupati applies precautionary approach by managing risk related to our critical topics
102-12 External initiatives	Environment Sustainability – Sec 6.5
102-13 Membership of associations	
102-14 Statement from Senior Decision Maker	Executive Statement
102-15 Key Impacts, Risks and Opportunities	Environment Sustainability, Our People, Our Communities, Annual Report, Graphite & Graphene
102-16 Values, Principles, Standards & Norms of Behaviour	ESG Approach, Our People

## 3. Governance

DISCLOSURE		Section/Comment
102-18 Governance Structure		Governance & Stakeholder Engagement
102-22 Composition of Highest Governance Body Committees	&	Annual Report
102-23 Chair of Highest Governance Body		Chairman, Shishir Poddar

# 4. Stakeholder Engagement

DISCLOSURE	Section/Comment
102-40 List of Stakeholder Groups	ESG Approach
102-41 Collective Bargaining Agreements	None in Place
102-42 Identifying and Selecting Stakeholder	ESG Approach
102-43 Approach to Stakeholder Engagement	Governance & Stakeholder Engagement
102-44 Key Topics & Concerns Raised	Governance & Stakeholder Engagement

# **5. Reporting Practices**

DISCLOSURE	Section/Comment
102-45 Entities Included in Consolidated Financials	Annual Report
102-46 Defining Report Content & Topic Boundaries	About the Report, ESG Approach
102-47 List of Material Topics	ESG Approach



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102-48 Restatements of Information	N/A - First report
102-49 Changes in Reporting	N/A - First report
102-50 Reporting Period	About the Report
102-51 Date of Most Recent Report	N/A - First report
102-52 Reporting Cycle	About the Report
102-53 Contact Point for Questions Regarding the Report	About the Report
102-54 Claims of Reporting in Accordance to GRI Standards	About the Report
102-55 GRI Content Index	GRI Index
102-56 External Assurance	About the Report

# 6 Material Topics Disclosures:

### A. Economic Performace

DISCLOSURE	Section/Comment
Management Approach 103-1, 103-2, 103-3	Annual Report FY21
201-1 Direct Economic Value Generated & Distributed	Community & Social Development, Annual Report FY21
201-4 Financial Assistance from the Government	None

## **B.Job Creation - Employment**

DISCLOSURE	Section/Comment
Management Approach 103-1, 103-2, 103-3	Our People
401-1 New Employee Hires & Turnover	Our People
401-2 Benefits Provided to Full time employees that are not provided to temporary or part time employees	Our People

## C.Health & Safety

DISCLOSURE	Section/Comment
Management Approach Disclosures 103-1, 103-2, 103-3	Health & Safety
403-6 Promotion of Worker Health	Health & Safety
403-9 Work related Injury	Health & Safety
403-10 Work related III Health	Health & Safety

## D.Community investment

<u></u>	
DISCLOSURE	Section/Comment
Management Approach 103-1, 103-2, 103-3	Community and Social Development
203-1 Infrastructure investments and services supported	Community and Social Development
411-1 Incidents of violations involving rights of indigenous peoples	Community and Social Development
413-1 Operations with local community engagement, impact assessments, and development programs	Community and Social Development
413-2 Operations with significant actual and potential negative impacts on local communities	Community and Social Development



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204-1 Procurement Practices	Community and Social Development

E.Biodiversity and restoration

DISCLOSURE	Section/Comment		
Management Approach 103-1, 103-2, 103-3	Sustainable Mining, Biodiversity		
304-2 Significant impacts of activities, products, and services	Sustainable Mining, Biodiversity		
on biodiversity			
304-3 Habitats protected or restored	Biodiversity		

# F. Waste and water management

DISCLOSURE	Section/Comment	
Management Approach 103-1, 103-2, 103-3	Waste and water management	
306-1 Waste generation and significant waste-related impacts	Waste and water management	
303-1 Interactions with water as a shared resource	Waste and water management	
303-2 Management of water discharge-related impacts	Waste and water management	

## G. Carbon and energy

DISCLOSURE	Section/Comment	
Management Approach 103-1, 103-2, 103-3	Energy & Carbon	
305-1 Direct (Scope 1) GHG emissions	Energy & Carbon	
305-2 Energy indirect (Scope 2) GHG emissions	Energy & Carbon	
305-4 GHG emissions intensity	Energy & Carbon	



#### Tirupati Graphite Plc Sustainability Report 2021 APPENDIX



# Green Economy Mark - FTSE Russel

The identification and recognition of companies quoted on the London Stock Exchange under the Green Economy Mark recognizes companies who earn 50% or more of their revenues from activities that contribute to the green economy as determined under the parameters set by FTSE Russel for the purpose. We were accredited with the Green Economy Mark upon admission to trading. As per the reporting requirements of this, we hereby disclose the percentage contribution of our revenues from qualifying applications:

SI.	A 11 - 41 -	% Share of		Explanation of Green
No.	Application	Revenue	Code	Quotient
1	Batteries & Energy Storage	2.7%	MS04	Refers to LiBs, 100% going towards green technologies. Key component for shift from conventional to renewable energy and electric vehicles
2	Thermal Management, Fuel Cells	3.12%	EM03, EM02, EE01	Fuel cells for clean energy, energy efficient thermal management
3	Flame Retardants, Insulation materials & Composites	26.65%	EE02, EE01	Halogen-free low smoke flame retardants, insulation materials and composites for multiple applications
4	Energy Efficient Copper wire drawing	20.5%	EE03	Reduces energy loss, slag formation in copper wire drawing

<sup>\*</sup>Please note revenue shares % include revenues from TSG along with the Company's audited accounts for FY2021.



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Principle One: Establish a strategy and business model which promotes long-term value for shareholders

The Company is engaged in developing an integrated flake graphite and graphene and advanced materials business. Towards this business purpose the Company has evolved a well-documented medium term development plan which encompasses the strategies adopted by the Company that is carefully crafted to align with the market dynamics of the materials it is engaged in working on. The plan has undergone rigorous and extensive analysis within the lead management team and the Board and is supported by appropriate independent market assessments which are conducted on an ongoing basis by subscription to independent market research and extensive internal market analytics. Additionally, the Company has evolved its strategy for diversification of its resource base to further strengthen its basket of flake graphite resources, mitigate against risks of relying on one source and jurisdiction for its base resource supply, and prepare itself with increased resources for future opportunities. One of the agenda items at all board meetings, except those which are for specific corporate activities, is the review of business development and the Board is constantly engaged on the progress in the evolution of the plan.

Principle Two: Seek to understand and meet shareholder needs and expectations

Prior to its admission on the LSE, the Company actively interacted with its shareholders both individually and in groups and continued to coordinate with its sole brokers for both dissipation of information and receiving feedback from its shareholders. The prospectus dated 14 December 2020 provided extensive information about the Company's resources for development of its business, the plans under which the Company intended to develop its business, its performance from existing operations, the risks associated and measures for mitigating them. Post its admission the Company has constantly informed shareholders of its progress through RNS, emails sent to shareholders and prospective investors through its brokers and directly and extensively dissipated information on social media. The Company maintains a dedicated email id for any shareholders to connect to the Company, and has a team of officials and advisors whom any shareholder may contact by telephone. The Executive Chairman and management team members have held both one to one meetings with major shareholders and group meetings through video conferencing providing information on the Company's activities through a presentation and answering every question received as far as practicable and permissible within the bounds of confidentiality. The Board members joined the management team members on such events including at the annual general meeting for firsthand interaction with shareholders. Thus, the Company has maintained a robust ecosystem for ongoing dialogue with its shareholders.

**Principle Three:** Take into account wider stakeholder and social responsibilities and their implications for long-term success

The Company has adopted a win-win approach of earning trust and extensive support of all stakeholders in the growth and prosperity of the Company. It is focussed to develop extensive support of its customers and prospective customers by building sustainable relationships providing comfort of source diversity and adapting to the expectations, evolving its operations to meet them. It maintains extensive support earning priority and preferential cost from its suppliers of goods and services, developing long lasting relationships. It maintains deep engagement with its leadership team, to ensure their happiness and thus earning dedication to the services of the Company working extended hours by choice and with a sense of responsibility. The extensive engagement is visible in the outcomes of the business development in as much as the Company continues to receive repeated orders from its current buyer and support of the prospective buyers for its products and services, delivered stringent timelines in building its projects with support of its suppliers and dedicate efforts of its human capital in spite of limitations caused by the pandemics and continues to grow its business.

The Company formulated its community connect program "Shakuntalam" symbolising motherhood for its community engagement in Madagascar for its primary flake graphite projects and has extensively engaged with the local community understanding their needs, and formulating programs for improving the quality of



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#### **APPENDIX**



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their lives. Extensive support has been provided by the Company for health, education, vocational training and skill development and infrastructure access, more fully described in its Sustainability Report, resulting in a community licence for development of its projects gaining support from the community. It also has extensively engaged with the local & regional Governments providing support for their basic needs, and extensively engaged with Governmental authorities providing extensive information on its activities and while remaining compliant, earning support for its development.

**Principle Four:** Embed effective risk management, considering both opportunities and threats, throughout the organization

While remaining conscious and identifying opportunities thus building its business remain an ongoing activity for the Board and management of the Company, the evaluation, mitigation and management of risks also remain an ongoing activity in the Company's activities. The Board and management review and extensively engage for the purpose, and collectively work to mitigate any negative impacts of potential risks. An in-depth and extensive exercise of risk mapping was undertaken prior to the admission in the Prospectus document and under the leadership of the chair and in consultation with the Company's advisors, the Company continues to actively assess, mitigate and manage its potential risks. The potential acquisition of primary graphite projects in Mozambique to diversify and enhance its resource base and extensive management team development activities to expand its team are some of the visible actions by the Company since the publishing of its prospectus.

Principle Five: Maintain the Board as a well-functioning, balanced team led by the Chair

The Board of the Company is composed of five members led by the Executive Chairman with four Non Executive Members. The balance of the members on the Board in relation to the concert party as recognised by the Takeover Panel is maintained with a majority of members being outside the concert party. With the three founding Directors continuing on Board, the Company appointed its fourth Director in mid of 2018 and a fifth in August 2020. The Executive Chairman, being the mentor of the Company, continues to provide effective leadership to the Board shaping the Company and visible in its growth. The Company and its Board have severally recognised that the Executive Chairman has provided effective leadership to the Board and the Company as a whole, is the only member on the Board who meets all the criteria set for the role of the chair and his leadership is key to the success of the development of the Company's business. Hence this variance from the guidance of the QCA code is considered appropriate for the Company.

The Board of the Company provides effective collective leadership to the Company, and are constantly engaged in overlooking the development of the Company's business. The Board is scheduled to have a minimum of four formal meetings every year. During the year under reporting, seven meetings of the Board were held and appropriate decisions taken. Three Board committees have been established which include the Nomination, Audit and Remuneration committee with appropriate terms of reference and the committees hold at least one meeting annually to execute their respective area of business. Majority of members in the committees are non executive members. A detailed note of the activities of the Board and its committees and identification of independent directors is provided in this chapter.

**Principle Six:** Ensure that between them, the directors have the necessary up-to-date experience, skills and capabilities

The Board and the Nomination committee have evaluated the mix of experience and skill sets within the members of the Board and on the basis that:

- three members on the Board have previous executive and/or non executive board position on listed company boards; and
- collectively, the board possesses decades of experience in the area of business of the Company; and
- two members on the board are qualified accountants; and



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#### **APPENDIX**



- collectively the members on the board have more than five decades of financial markets experience;
   and
- collectively the board possesses all the skill sets that it considers necessary for the conduct and evaluation of the Company's business.

As the Company is growing, the nomination committee and the board are conscious that it may need to review and take appropriate decisions in due course for expansion of the board.

**Principle Seven:** Evaluate Board performance based on clear and relevant objectives, seeking continuous improvement

Internal evaluation of the members of the Board, is undertaken on an ongoing basis by the Executive Chairman. to determine the effectiveness and performance as well as the Directors' continued independence. As a part of the appraisal the appropriateness and opportunity for continuing professional development whether formal or informal is assessed. The evaluation of performance of the Executive Chairman is undertaken on an ongoing basis by the Board collectively and recorded in the minutes where and as appropriate.

Principle Eight: Promote a corporate culture that is based on ethical values and behaviours

The Company has constantly evolved a corporate culture of prudence, ethical working and behaviour at all levels of management. The new Non-Executive Director who joined the Board in August 2020, overwhelmed by his experience as a member on the board in an open forum, appreciated more than once the ethical working of the Company, a testimony to the Company's culture.

The Board seeks to maintain the highest standards of integrity and probity in the conduct of the Group's operations. These values are enshrined in the written policies and working practices adopted by all employees in the Group. An open culture is encouraged within the Group, with regular communications to the Group's workforce regarding progress and feedback regularly sought. The executive leadership team regularly monitors the Group's cultural environment and seeks to address any concerns that may arise, escalating these to Board level as necessary.

The Group is committed to providing a safe environment for its staff and all other parties for which the Group has a legal or moral responsibility in this area. The Group's health and safety policies and procedures encompass all aspects of the Group's day-to-day operations.

Issues of bribery and corruption are taken seriously. The Company has a zero-tolerance approach to bribery and corruption and has an anti-bribery and corruption policy in place to protect the Company, its employees and those third parties to which the business engages with. The policy is provided to staff upon joining the business and training is provided to ensure that all employees within the business are aware of the importance of preventing bribery and corruption. Each employment contract specifies that the employee will comply with the policies.

The Group further participates with the local community for cultural integration across its regions of operation, participating in events like independence days and other cultural festivities building relations with its stakeholders and expressing respect for its communities.

There were no issues to note during the financial year 1 April 2020 to 31 March 2021.

**Principle Nine:** Maintain governance structures and processes that are fit for purpose and support good decision-making by the Board

The Board functions as a vibrant group, with no hesitation in exchange of thoughts, extensive analytics and discussions in terms of the Company's evolved strategy and business development goals leading to further evolution of the Company's business and remains collectively responsible for achieving growth, earning trust



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and effective communications with shareholders. The Board committees' function in terms of their terms of reference. The relationship of the Company with the founders is governed under a relationship agreement providing sufficient leverage for independent assessment. The chair provides effective leadership to the board for the purpose and in terms of the extant principles set out in the memorandum of director's responsibility, the Chairman is considered to be independent and effective leader of the Board providing the required leadership for the growth and development of the Company's business.

**Principle Ten:** Communicate how the Group is governed and is performing by maintaining a dialogue with shareholders and other relevant stakeholders

Continued and effective communication with the shareholders and stakeholders remains a high priority and aims to ensure that all communications concerning the Group's activities are clear, fair and accurate. Full details of how the Company maintains a dialogue with shareholders and other stakeholders is set out in Principle 2 above.