

# Sustainability Report

The Company believes in sustainability in all spheres – social, environment and value creation. With this aim, the Company has adopted and implemented various mechanisms, programs and taken multiple steps to improve the lives of people around its operations and also become a green Company.

The Company has historically provided commentary on its Corporate Social Responsibility (CSR) initiatives and Green initiatives its Annual Report, corporate presentations and media interviews since its inception. This section of the Annual Report represents the Company's first standalone Sustainability Report. It shall provide deeper insight on the various mechanisms and the steps taken by the Company to improve the lives of people in some of the of the most deprived regions and its workplaces, reduce environmental impacts and to have environment friendly operations. The report also highlights the goals and targets set by the Company for the longer-term.

With operations across two distinct jurisdictions, the Company's CSR activities are mainly focused on its operations in Madagascar, where the needs of the communities and society are greatest and where the Company's efforts are most impactful.

Being the Company's inaugural Sustainability Report, it encompasses activities undertaken since the Company's inception up to 31 March 2020, in line with the Company's financial year end. Going forward, the Company plans to adopt an annual reporting cycle for its CSR and Environmental reporting. All financial figures are quoted in GBP unless otherwise noted.

This report forms part of and should be read in conjunction with the Company's Annual Report 2020.

## Social Development – Shakuntalam

### Overview

The Company is strongly committed with its Corporate Social Responsibility and has adopted a social development program, called Shakuntalam (symbolising motherhood). At the outset, the Company engaged with the local communities near its projects and developed a deep understanding of their needs. 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 program 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.

These determine a strong will for high performance in the way the Company's operations positively contribute to the lives of people, the environment and the society. These goals are incorporated to the Company's responsibility plans, which are implemented in Madagascar through its Shakuntalam Programme, which is led by the Company's corporate and in-country senior management team alongside community representatives. 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. To date as an unlisted company, TG has invested approximately £40,000 in these activities, not including investments in shared infrastructure which is commonly used by both the Company and the community.

### Our Communities

The Company is dedicated to being a responsible corporate citizen and is aware of its responsibilities as the most relevant productive player in its area within Madagascar. Though well connected to external infrastructure, the projects of the company are located in a region that reflect the poverty of the people around it and provide an opportunity to improve the state of earning potential and quality of life of the people. The Company looks at this as an opportunity alongside developing world class projects contributing to the progress of the country and the deprived communities.

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Madagascar has been named as one of the poorest nations by the United Nations and the communities are some of the most deprived in the world. This circumstance highlights the importance of a well-tuned channel of communication with its stakeholders, in order to add value to its operations in accordance with the expectations and needs of its communities.

The Company's strategy to support the establishment of sustainable, long-standing operations is strongly 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 trust, and an appropriate degree of interaction is undertaken and encouraged alongside improving lives of the people.

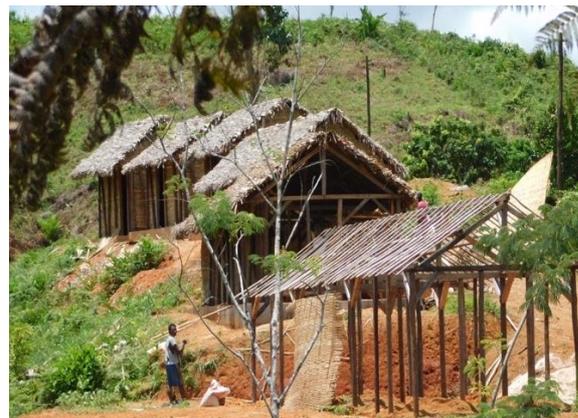
The community's response, level of engagement and active feedback from the ongoing dialogue established with the Company's stakeholders regarding the economic, social and environmental impact of the Company's operations in Madagascar has been consistently very positive. Notwithstanding this, it is the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

## Executed Activities

### Employment & Infrastructure

With ground activities ongoing at its project sites, the Company's operations are a source of new and regular employment for the local population. Approximately 120 people have direct and regular employment and a further 50-100 people are 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 (i.e. excavators and loaders) and other technical skills. With the onset of the creation of the fabrication centre at the project site, there has been further opportunity for the local population to gain technical skills which positively contributes to empowerment and increasing the pool of semi-skilled labour available to the Company. Over 95% of the employees in Madagascar are locals.

The Company's mining activities generates overburden which consists of topsoil cover. The fertile overburden is being used for land filling in barren and non-mineralized areas which promotes horticulture and farming in the region and will further be provided to the Company's employees for housing purpose. The Company has also made drinking water arrangements for nearby settlements.



### Employment generation & Redevelopment of Housing for Employees

The Company has built internal access roads which have connected interior and remote villages to developed areas giving 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.



**Internal Roads built by the Company**

The Company also rehabilitated the local marketplace in collaboration with NGOs to offer locals a central area to buy and sell their products.



**Market Place for Locals**

In 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 surface occupants who were devoid of official registration and recognition of their land rights were hand held and formal issue of documentation catalysed bringing extensive happiness and smiles.



**Land Certification for the Locals**

### **Health, Hygiene & Safety**

The health, safety and wellbeing of our employees, contractors and visitors is at the forefront of everything we do across all aspects of our operations. We implement the highest standards to mitigate risks. The Company has also 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.

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In the last year, the activities occurring on site at the Company's Madagascar projects included drilling and exploration, mine development, construction activities, plant commissioning and operations, packaging and transportation 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 three years no worker has acquired any occupational illness or suffered any accident that would prevent them from carrying out their activities. 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 and other safety equipment. 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**

There have been zero incidents that lead to loss of productive work in the form of absenteeism (LTI), and zero fatalities throughout the Company's operation time. Furthermore, there have been no incidents which resulted in material damage.

The Company built a dedicated Community Health Centre at Sahamamy which is stocked with general medicines and manned 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 expecting 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 free of cost to the community by the Company.



**Health Care Centre**



**Happy Employees**

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For protecting our employees from Covid-19 across all operations of the Company, masks have been provided to all employees and operational guidelines have been set and implemented to comply with preventive measures and guidelines set by the government. Further, equipment including thermal scanner, oximeter, sanitizers have also been provided at both Madagascar and Indian operations of the Company.

## Education & Sport

The Sahamamy School building was old and dilapidated and generally, not fit for use. The Company decided to replace this with a brand-new school building with individual five classrooms which has significantly increased the capacity and functionality of the school giving more children in the area the opportunity to be educated. 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 Sahamamy School Old (Left) and New (right) Building**

The Vatomina School is located on a hillock which did not have a dedicated approach road which meant that the students and teachers had to scale up and down the hill each day on rudimentary pathways through the brush. The Company constructed new, dedicated all-weather road leading up to the 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.



**Vatomina School Road Development**

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.

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In addition to fitness and sports programmes, the Company regularly distributed healthy foods to the schools to promote healthier eating and nutrition for the children and the community. The Company also provided stationary and other study materials to the schools for the benefit of the students and teachers.



**Organised football matches**



**Distribution of stationary, books, food items in local school**

## Vocational Training & Skill Development

The Company has 95% local employment in Madagascar including all in-country employees. Various activities such as admin, finance and accounting, mining, operation of mining fleet, processing, fabrication of engineered equipments/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 provided training for people interested in gaining new skills to help them develop capabilities which will benefit them in a long term.

## Other Community Engagement Activities

As a part of our efforts to improve the life of the local community, the Company also believes in engaging with the community deeply. It participates in the national festivals/celebrations in Madagascar, for e.g., Independence day parade and celebrations, Christmas and Diwali celebrations etc. and enjoys high repute and regards amongst the local people.

The Company's investment and revenues are also contributing to the GDP of the country and as its operations grow, is expected to represent a meaningful and welcome contribution to the nation's economy.

## 2021 Workstreams & Long-Term Goals

Shakuntalam symbolizes motherhood. The Company have been consciously aware of its social responsibility and believes in conducting business ethically as well as are sensitive towards the social, cultural, economic and environmental issues. Our Madagascan mines are located in an underdeveloped state having substantially poor living conditions of people with lacking infrastructure, poor or no healthcare facilities, no means of securing life necessities etc. The Company takes it as their social responsibility to improve the quality of lives of people surrounding the project area alongside the development of the Company. This has led to a stream of philanthropic activities wherein a Community development centre is to be set up at the project sites dedicatedly working on the following aspects on community development.

### *Health & Hygiene improvement in the locality*

- Health and Hygiene Centre where a full-time primary doctor will be appointed by the Company with sufficient supply of free medication distribution.
- Immediate care unit for emergency First Aid and primary health care.
- Primary health care to expecting mothers of workers and villagers in mine area, free distribution of supplements and nutrients etc.
- Arrangements of clean drinking water in the entire community around us.

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- Conduct regular meetings 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

### *Sports Development Centre, Catalysing Education and other*

- A Sports Development Centre shall be developed with a view to encourage and promote various sports in the surrounding area with Football & Volleyball grounds development for workers and surrounding people, a Badminton court development and allied facilities of different indoor and outdoor games.
- Catalysing education shall be the primary activity for child development and the education programme which shall include providing transport to schools, education inputs, study materials etc and improving school infrastructure to support local schools for improvement of child attendance and overall promote educational awareness and importance.
- The vocational training centre shall include an agriculture and horticulture training
- centre, Dairy products development centre and artificial insemination for improvement of cattle breed. The centre shall simultaneously host training for skill development in various other vocations like fabrication related activities and basic technical skills development for both internal employees and externally for people looking for providing services in the sectors as entrepreneurs.

### Long Term

- Develop local investment strategy to ensure appropriate investment decisions
- Become a partner to local government to aid economic development of the region
- Adopt an international standard for occupational health and safety (e.g. OHSAS 18001, ISO 45001, BSI) 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

### **Environmental Sustainability**

With the aim to develop a unique one-stop solution benchmark company for graphite, the company also aimed at developing advanced technologies to promote sustainable development. The Company has taken various steps at all its projects to make them environment friendly and sustainable.

At Tirupati Graphite, our primary objective is to minimize potential environmental impacts by implementing environmental management controls and procedures that will be tailored to meet the individual needs of our operations in their unique environmental settings. It also aims to contribute to reducing the global carbon footprint by providing green materials and solutions across industries through its products.

We aim to achieve this through effective use of environmental impact assessments to identify, quantify, and eliminate or mitigate impacts; integration of environmental controls within our operations, with monitoring to evaluate their reliability and effectiveness, and to identify potential opportunities for improvement; employment of industry standard risk assessment and management techniques to minimize the potential for unforeseen environmental impacts or incidents; and routine checking and continuous improvement through the annual environmental audit processes.

2020 marked first year of operations for the Company and we are in the process of implementing our environmental management plans which primarily entailed baseline data collection and determination of key risk factors and relevant statistics which will be used as the benchmark for ongoing improvements in our management and active monitoring processes as the Company's operations expand.

Over the course of the year we have been collecting energy consumption, monitoring air quality through sampling, refining our water usage, noise monitoring and continuous particulate monitoring and management of mining and non-mining waste.

The key activities steps and impact areas and measured results which form the baseline data going forward are as follows:

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**1. Madagascar Projects:**

Energy consumption:

GHG Emission Scopes	CO2 emission (Ton)	Intensity Ratio CO2 emission (Kg/MT of Prod)
Scope 1	631/Ton	0.478
Scope 2	0/Ton	0.000
Scope 3	31/Ton	0.024

The Company has reduced its energy requirements across its processing requirements by the following activities:

- By choosing a resource that is saprolitic in nature. This has led to:
  - Zero Blasting Requirements
  - Reduced Mining Fleet Requirement
  - Reduced processing circuit by 2 steps – 1 more milling and 1 crushing
- Development of a new process which extracts sand at first stage of processing. This has led to:
  - Reduced circuit load, hence reducing capacity of each equipment by 20-50%, varying between equipments and hence total energy requirement of processing
  - It has reduced the number of additional steps required in processing by 3 steps –2 additional floatation cells and 1 additional screening process.
- Development of Renewable Energy Source:
  - The Company has completed a definitive feasibility study for establishment of a hydropower generation plant
  - The Company plans to establish this in 2021-2022 and shall meet all its energy requirements from the same.
  - The company has also installed solar power generation units for meeting its energy requirements for admin/residential facilities at the project sites
- The Company uses high efficiency equipments, motors etc to improve its energy efficiency across its operations.

Waste management

- From Processing:
  - The Company has reduced its processing waste by 45-50% by using its newly developed processing technology, extracting sand as a by-product
  - A tailing reconditioning dam has been set up which helps in management of waste from processing
  - The remaining solid waste from processing constitutes mainly clay. The Company is using this for social development activities and plans to provide skill development for manufacturing bricks using this.
- From Mining:
  - Mining generates two kinds of materials – ore and overburden, the mining strip ratio achieved is 2:1 (Overburden:Ore)
  - From the ore which is 30% of mined materials, the Company has achieved >85% recovery of the constituent graphite. Remaining waste from ore have been utilised as mentioned above.
  - The topography of the region is hilly. The remaining 70% is the mined overburden which the Company is using for land filling in non-mineralised regions which shall be used for CSR activities like settlements, horticulture etc.
  - The green cover in the mining areas is not very dense. The loss in greenery is compensated by plantations across the projects and alongside government initiatives

Water Management:

- The water required for processing are sourced from natural sources available across the Company’s projects
- 80-90% of the water in the circuit is recycled, remaining 10-20% water is lost in drying.

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Air quality:

- The DG sets used for producing energy are installed with high quality air filters which are regularly maintained and changed, filtering gases produced.
- The Company has incorporated a natural gas based drying system massively reducing emissions from processing and improving the quality of air.
- The Company follows a zero-dust policy under which it has installed dust collection mechanisms in operations and uses automated and closed finishing technologies reducing generation of dust.

Sustainable Construction:

- The Company uses naturally available materials and its by-product sand to develop the internal infrastructure like residential & admin blocks, roads etc. Further, traditional and environment friendly materials used for construction.
- The Company has used geotextiles in construction to ensure sustainable and long-lasting structures.
- The Company also uses local breeds of plants to control soil erosion on slopes.

Other Activities:

- The Company also participates in plantation activities organised by NGOs and the government.

**2. Indian Projects:**

- The company has developed unique proprietary green processes for manufacturing hi-tech graphite products like high purity graphite:  
Currently, two processes are used across the globe for manufacturing high purity graphite - by use of Hydro Fluoric acid (HF) or by intensive heat treatment. The company has developed a Zero-HF, non-heat intensive process for purification achieving 99.95% plus purity levels. This makes it highly environment friendly and also reduces carbon footprint of the material.
- The high purity process developed has Zero waste generation. All inputs in the process are achieved as products or by-products.
- The company's projects are all incorporated with plans to have large green belts of plantations. Plantations have also been done at the Patalganga Project.
- Dust control systems mechanisms are installed at the Patalganga Project.
- Energy is sourced from the grid at the Patalganga Project which constitutes a mix of electricity generated from hydropower and conventional sources.
- The water required in processing of the specialty graphite products shall be recycled and reused.
- The graphene manufacturing process is also a zero-chemical process developed by the company, making it highly environment friendly compared to other processes like Hummer's Process.

Targets for 2020:

The Company intends to continue its focus on reducing its carbon footprint by implementing its strategy of using sustainable energy sources. It has completed a feasibility study on the use of hydro power at Sahamamy and will commence the approvals process to commence the transition.

Long Term

Undertake full feasibility study on the use of sustainable energy at Vatomina.

This report was approved by the board of directors on 4 October 2020 and signed on its behalf by

**Mr Shishir Poddar**  
Executive Chairman and Managing Director

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