

Through its joint venture interest in GCO and TTI, MDL is invested in the creation of robust sustainable development policies and activities attuned to the needs, aspirations and sensitivities of key stakeholders. The joint venture facilitates positive economic, social and environmental objectives and outcomes through culturally sensitive engagement with employees, governments, local communities, civil society organisations and other stakeholders. MDL's oversight of the joint venture's governance and sustainability performance is administered via TiZir's board and committee structure and strengthened through regular shareholder site visits.



Area Manager Daour Dieng oversees GCO's Community & Environment department and is a longstanding member of the GCO team.



## Health, safety & security

GCO operates on the basis of a 'zero incident' ethos and aims to manage and minimise health and safety risks through the development of a sound safety culture focused on prevention, elimination of unsafe acts and conditions, and continuous monitoring and improvement. In 2017, GCO recorded one lost time injury (LTI) compared to zero in the prior period and registered a total reportable injury frequency rate (TRIFR) of 0.64 (2016 – 4.17).<sup>1</sup> Since recording this LTI in March as well as a medical treatment injury in June, GCO's renewed efforts on safety produced five consecutive months without injury from August until the end of the period.

GCO operates an on-site, well equipped medical clinic staffed by a medical doctor, four state-registered nurses and a medical administrative assistant. The clinic provides critical occupational health management support in addition to primary preventative activities including pre-recruitment medicals, annual medical examinations and food hygiene inspections, as well as support to medical facilities and communities in surrounding areas.

The operation is serviced by a dedicated emergency response team (ERT), available 24/7, which trains on a continuous basis. The ERT along with GCO's security personnel are important components of the company's safety and security framework which incorporates the Voluntary Principles on Security and Human Rights. This framework is strengthened by ongoing liaison with embassies, West African security agencies and Senegalese emergency services departments, including personnel in the newly completed Diogo gendarmerie station. Constructed and equipped with the assistance of GCO in 2017, this station is an important contribution to security services in the local region.

Continuous improvement initiatives and training programs are critical to the health and safety of GCO's employees and contractors. Members of the safety and training departments work with other departments to identify training needs

and establish effective training solutions to ensure safe and sustainable operations. Health & safety training programs are predominantly conducted in French (supplemented with Wolof, the dominant local language, where deemed appropriate) and English.

## Employment & human resources

GCO's aim is to have a safe, healthy and high-performing workforce committed to working collectively to achieve company objectives. In keeping with this aim, 2017 activities continued to prioritise the development of training programs, incentivisation schemes and capacity building opportunities for GCO personnel. In October, GCO had the privilege of commemorating 84 employees and stakeholders celebrating 10 years of employment or participation with the company.

### GCO's direct employee workplace profile as at 31 December 2017:

**715** TOTAL EMPLOYEES

**659** NATIONAL EMPLOYEES

**56** EXPATS

**9.5%** FEMALE EMPLOYEES

**Recruitment and training:** The worker preselection recruitment committee and training program implemented during GCO's construction phase remains an important part of the company's human resources program. This committee – comprising two municipal commissions – continues to facilitate equitable local community representation and employment opportunities at GCO. Through partnership with this committee and the Office National de Formation Professionnelle (National Vocational Training Office), GCO facilitates training of local community members to enhance employment opportunities with GCO and other potential employers across Senegal. This joint initiative provides students with skills training in 12 different professions across various operational disciplines such as mining and environmental management.

GCO continues to partner with educational institutions such as Thiès Ecole Polytechnique, Cheikh Anta Diop University and the Ecole Supérieure Polytechnique de Dakar (ESP). In partnership with Thiès Ecole Polytechnique, in 2017 GCO welcomed 20 student work-placements in various departments across the organisation. Since 2016, eight ESP students have completed MSP metallurgical and laboratory internships, with another eight students placed in 2017. Two former interns are now employed by GCO as metallurgical technicians.

GCO's staff training program continues to grow, with its primary aim being the development of a safe, skilled, participatory and well-informed workforce. GCO continues to progress its partnership with the Centre National de Qualification Professionnelle (National Centre for Professional Qualification) to strengthen technical and managerial capacity building within its workforce and to provide opportunities for employees to have their training, skills and experience formally accredited through the Validation des Acquis de l'Expérience degree program. Positions currently targeted for inclusion in this program include locomotive conductors, dredge operators, emergency response technicians and metallurgical technicians.



**Employee housing cooperative:** The employee housing cooperative aims to promote and support access to reduced-cost family housing for local GCO employees, retain staff and encourage settlement in local community areas. These aims are strengthened through financing partnerships with the Banque Nationale de Developpement Economique and the Banque De L'Habitat. Sites have been identified for development in Diogo and Dakar, with options being explored in Tivaouane and Thiès. Earthworks at the Diogo site were completed in 2017 and a ceremony to allocate plots to participating workers is anticipated in early 2018.

## Social responsibility & stakeholder engagement

GCO's socio-economic development strategy is underpinned by a series of stakeholder approved plans and committees developed through ongoing community, government and NGO consultation and participation. Crucial to ongoing stakeholder engagement is a commitment to enhancing opportunities and aligning expectations while simultaneously minimising concerns and negative outcomes. Comprising a fully nationalised team, GCO's social & environment department is at the forefront of this engagement.

During the year, GCO received four awards for its community and social programs. The IEF of Tivaouane (a decentralised branch of the Senegalese Ministry of Education) and the town of Darou Khoudoss formally recognised GCO's contribution to educational infrastructure and funding. Further, the Department of Tivaouane awarded GCO a good citizen award in recognition of the company's overall contribution to community health & safety, clean water supply, education and other socio-economic areas. GCO was also recognised as an 'icon' at the Icônes 2017 event organised by Thièsinfo and Senegalinfos, for its innovative corporate social responsibility activities and in recognition of its contribution to the social and economic development of Thiès.

**In broad terms, GCO's financial social responsibility commitment comprises:**

## \$500,000

on **social development programs** for local communities during pre-production

## \$400,000 PER YEAR

on **social development programs** for local communities during the production period

## \$50,000 PER YEAR

for the **training and equipment** needs of the Department of Mines & Geology during production

These commitments are additional to the economic stimulation and associated benefits stemming from tax payments, royalties, 'production-share contributions' and support of local supply chains. GCO will pay a yearly 5% gross production royalty to the Government of the Republic of Senegal in addition to a 10% production share contribution.

GCO's social responsibility activities focus on enhancing local economic development opportunities, strengthening local community infrastructure, supporting community capacity building and entrepreneurship programs in agriculture and small business development (particularly for women and young people) and building company-community relationships.

**Health:** GCO engages with regional health authorities and local community representatives to:

- enhance the effectiveness of health promotion strategies;
- reinforce health infrastructure and equipment; and
- provide support to particularly vulnerable sectors of the community.

In keeping with these aims, GCO's activities to date have included providing support to malaria reduction and material health programs as well as the provision of medical equipment and technical support to health posts in surrounding communities. GCO also participates in government health initiatives through its partnership with organisations such as AFRIVAC which aims to increase child immunisation rates across Africa.

**Water:** The quality of and access to drinking water is a significant community concern. GCO's activities in this area aim to improve drinking water access and quality alongside building capacity with respect to the management of water resources and facilities. Having completed the project associated with extending Diogo's water supply network to 13 villages in the GCO active area, a new water distribution network project involving three villages was initiated in 2017.

**Transport:** Transport initiatives during 2017 focused on road and railway safety education programs and participatory community consultation. These programs are aimed at ensuring community safety as well as enhancing community access to neighbouring villages, markets and trade routes. During the reporting period a traffic survey was conducted to identify high risk areas and identify opportunities to improve traffic control measures.

**Education:** Opportunities for educational enhancement are a priority for GCO and the communities impacted by its activities. GCO drives this objective through programs that increase access to schooling and strengthen educational infrastructure and resources. Since project inception, GCO has:

- built a kindergarten, three primary and two secondary schools;
- rehabilitated seven primary schools and three secondary schools; and
- assisted in the provision of educational resources such as desks, chairs and chalkboards.





**L'Amicale des Femmes de GCO AFGCO (Women's Association of GCO) has become an active force in the community**



These projects were identified and prioritised in a participative way through a community committee involving local authorities and council members as well as village and hamlet representatives.

**Waste management:** Originally established during GCO's construction phase and involving 13 villages, the aim of this community project is to establish and support sustainable waste management programs that are run by local communities with the support of local health services, local councils and GCO. This project has generated six permanent employment positions within participating communities.

**Agriculture:** Following substantive community and government consultation, GCO's agriculture-based community development programs focus on communities impacted by GCO's activities. The first program, established in partnership with Enda LEAD AF (a West Africa focused non-government organisation) in 2016, is a microfinance community cooperative program targeting farmers engaged in market gardening in the Niayes. The second program, yet to be launched, is a community pilot farm based on innovative and sustainable agricultural techniques dedicated to communities living alongside the Diogo to Meckhe railway corridor. These programs aim to:

- encourage the development of agricultural cooperatives;
- augment knowledge and skills development in areas such as accounting, farming and animal husbandry;
- encourage environmentally appropriate farming techniques; and
- contribute to employment opportunities for young people.

These aims are consistent with recently released government agricultural policies as well as the government's Plan Senegal Emergent, an economic and social development plan launched by the government in 2014 with the goal of establishing Senegal as an emerging

economy by 2035. Five small business groups have been supported by GCO in different ways through the provision of technical assistance and advice, quality seedlings and fertilisers, infrastructure, training and microfinance loans. To date, the program has 437 members, 33% of whom are women.

**Small business development:** Since project inception, GCO has directly supported the development of 11 small community businesses. Six of these businesses are contracted by GCO as service providers in various areas such as camp general maintenance, nursery and rehabilitation works, railway crossing security, community traffic safety in active mining and haulage areas, and site pest control. In addition to assisting in establishing the development of these businesses, GCO provides ongoing training in safety and business entrepreneurship. The remaining five businesses are outlined in the agricultural section of this report.

**Other community infrastructure projects:** Assisting community identified initiatives to stimulate local and regional economies, GCO has contributed to the construction of community market infrastructure, including the Tivaouane market in 2014, the Ndoucoure market (in the municipality of Meouane) in 2015, and the Mboro market in 2017. The Mboro market is an important commercial centre for farmers active in the Niayes in GCO's surrounds. Infrastructure to support a fifty stall arts and crafts market run by female entrepreneurs in the commune of Meckhe was also provided by GCO in 2017.

As part of its lighting program, 60 solar street lights were installed in the commune of Meckhe during the reporting period. This initiative supports a local women's association responsible for assembly of the lighting equipment.

**Company-stakeholder support & engagement:** Maintaining and fostering strong relations and dialogue with the Senegalese government – its ministers, departments, officers and other representatives – is of paramount importance

to GCO. Two government representatives hold a seat on GCO's board and periodic site visits by government representatives are encouraged. GCO also supports initiatives driven by the Senegalese government, such as Senegal's participation in the Extractive Industries Transparency Initiative (EITI), wherein GCO is represented on the multi-stakeholder cooperative tasked with implementing the EITI's principles and achieving reporting directives.

As a local community member, GCO is dedicated to ongoing community engagement and participation as well as providing financial and logistical support for local events, celebrations, councils and cooperatives. To the maximum extent possible, GCO also supports local suppliers and service providers and is committed to ensuring that local communities are well informed as to its operating activities.

GCO's social and community department and its leadership team continue to build strong community relationships through regular visits to village elders and other community stakeholder representatives. Additionally, GCO's employees actively participate in community events which, in 2017, included a walk to improve road safety awareness on the World Day of Remembrance for Road Traffic Victims, as well as a blood donation drive with the support of the St Jean de Dieu Hospital and L'Amicale des Cadres de GCO (GCO's senior staff association). Established during the period, L'Amicale des Femmes de GCO (AFGCO, Women's Association of GCO) has also become an active force in the community. In addition to organising clinic workshops on issues such as breast cancer awareness and the conditions of pregnant women in mining, the AFGCO also encouraged and coordinated employee and joint venture partner donations of clothing, shoes, toys and educational materials to children living in GCO's surrounds.



**Following mining and the shaping of tailings, GCO's rehabilitation program is designed to stabilise dune systems, re-establish state forest and successfully cultivate a variety of plant species including additional crop sources for local communities**



An important event for GCO in 2017 was the inauguration of the company's first resettlement village



## Environment

GCO's environmental management strategy is framed by the knowledge of local communities, environmental experts and other relevant stakeholders. The key objectives of this strategy are to:

- minimise adverse environmental impacts while operating the project successfully;
- monitor and control environmental risks by adopting best practices in waste management, environmental monitoring and rehabilitation of mined or disturbed sites;
- at a minimum, comply with applicable national regulations and relevant international standards;
- engage in constructive dialogue with all relevant stakeholders; and
- continuously progress through annual improvement plans, training programs and effective corrective action systems.

An environmental management system complying with ISO 14001 has been developed but is not certified.

In keeping with the nature of mining activities at GCO, the company's rehabilitation program – developed in consultation with the relevant authorities and neighbouring communities – is progressive in nature and designed to ensure restoration to original or improved condition as well as maintaining biodiversity and benefitting the local community. During the reporting period, an extensive study of dredge path biodiversity for the coming five years was completed and rehabilitation activities progressed according to plan. These activities built on the success of prior year activities which have been officially recognised by the National Department of Forest, Fauna & Social Conservation, and commended by the Environmental Planning and Monitoring Division Director of the Ministry of Environment and Sustainable Development during a site visit in August. A total of 274ha of land has been revegetated since production began in 2014, representing 85% of the area available for rehabilitation. In addition to the successful re-establishment of vegetation, it has been pleasing to see an increase in wildlife tracks and burrows in rehabilitated areas, illustrating the successful recolonisation of these sites.

GCO's environment team has undertaken extensive trials to test the effectiveness of different approaches to rehabilitation in mined areas and assess species survival rates of

different trees and plants. Tree and plant species have been selected for their benefits in stabilising the dunes, re-establishing impacted state-owned forest areas and providing additional crop and food sources for local communities. Preliminary results from vegetable species trials in rehabilitated sites are encouraging, with 2017 vegetable yields being particularly promising. If conclusive, implementation of these programs will provide additional farming development opportunities within areas of the dune system previously identified by local farming communities as unsuitable for agricultural purposes.

Management of water used by the operation occurs through dedicated resources and a management system developed to ensure efficient use, lowest possible impact and high standards of reporting.

GCO complied with its environmental monitoring and reporting requirements, with zero reportable breaches during the period.

## Land access & resettlement

An important event for GCO in 2017 was the inauguration of the company's first resettlement village. This occasion represented the completion of the first phase of the resettlement program for residents affected

by the mine path and followed intensive community consultation, engagement and participation. Resettlement activities were undertaken in partnership with Agence Nationale des Éco-Villages, a Senegalese government agency focused on the development of eco-villages overseen by a resettlement committee comprising project affected people, local administrative officials, rural council members and GCO employees. The resettlement village involved the construction of 35 family homes and important community infrastructure (such as a mosque, primary school, health unit, potable water supply), installation of solar power supply solutions and bio-digesters (to produce organic fertiliser and bio-gas), as well as the establishment of a cattle trail and agricultural plots for community members.

GCO is using this important experience to inform activities associated with its second resettlement project of the village of Foth, involving 79 households (approximately 629 people). Relocation activities progressed in earnest during 2017, following issuance of a decree to establish the Foth village resettlement committee by the Prefect of Tivaouane in April.

GCO has adopted compensation rates that are above Senegalese official rates and comply with World Bank standards.

## Resettlement, Livelihood Restoration & Community Development Superintendent Ibrahima Diop supports the successful delivery of GCO's resettlement programs







TTI monitors dust precipitation & production, air & sea emissions and waste treatment



### Employment & human resources

As with GCO, TTI's aim is to have a safe, healthy and high-performing workforce united in achieving company objectives. TTI is committed to creating capacity building jobs by maintaining an active apprenticeship program, increasing employment opportunities for women at the facility and investing in its research and development department. This department has an office at the Norwegian University of Science and Technology and provides postgraduate supervision and support.

Elected by their colleagues, three TTI employees are members of the company's board.

### TTI's workplace profile as at 31 December 2017:

**181** TOTAL EMPLOYEES

**12** APPRENTICES

**15%** FEMALE EMPLOYEES

### Health, safety & environment

TTI's health and safety culture is a crucial element of the facility's success and longevity and testament to the daily efforts of TTI's workforce. The company's integrated health, safety and environmental management system is ISO 9001 and 14001 certified and independently audited annually. In 2017, audits were conducted by Det Norske Veritas (quality), Miljødirektoratet (environmental outlet control) and GCO (safety).

Unfortunately, TTI sustained two LTIs in 2017 (2016 – four), contributing to a TRIFR of 11.3 (2015 – 24.9).<sup>1</sup> While 2017 safety performance was an improvement on 2016 results, continuous improvement is sought for 2018 and beyond and has been resourced accordingly.

TTI rigorously monitors dust precipitation and production, emissions into air and sea, and waste treatment. In addition to complying with the regulations of environmental authorities, TTI sets reduction targets and continuously identifies areas for improvement in these fields.

TTI has also instituted a practice of recycling hot water generated in the smelting process. The water is used for heating buildings in the district (such as a nearby hotel and museum) and supplying a local trout farm, illustrating a number of community benefits arising from this

recycling policy. The company also reduces its waste production by providing residual dust generated during production to Boliden Odda, a smelting company that extracts zinc from this material. TTI has also been a member of RENAS (a recycling company for commercial electrical and electronic equipment) since 2000 and maintains a partnership with Bellona, a non-government agency specialising in the identification and implementation of sustainable environmental solutions.

In 2015, TTI received funding from Enova, a Norwegian government agency promoting energy efficiency and the use of environmentally friendly technology, providing TTI with the opportunity to investigate the development of an innovative upgrading process (replacing coal with hydrogen to reduce TTI's CO<sub>2</sub> emissions). Research to progress the development of this technology continued during the reporting period.

### Social responsibility & stakeholder engagement

As one of the area's largest employers, TTI's goal is to sustain its position as an active and responsible member of the local community.

Over the years, the company has provided assistance to local clubs and organisations such as the Tyssedal Sport and Athletics club and the Red Cross. In keeping with its role as an active member of the community, TTI regularly lends company equipment to community members and arranges social events for employees (both current and retired) and their families.

The company ensures that its neighbours and key stakeholders are informed of its activities via the distribution of reports published in Norwegian and English and at least one annual community meeting.

TTI also maintains a complaints register to ensure that neighbourhood concerns are appropriately and adequately addressed in a timely manner. Complaints during the reporting period were largely related to dust and, in 2017, TTI dedicated considerable effort toward reducing dust exposure by neighbours near the facility and also met with impacted residents. Changes to ship loading equipment and chloride fines storage implemented in 3Q 2017 generated improvements in this area, but work continues.

1. TRIFRs reported in prior years have incorrectly included first aid injuries. TRIFR is the number of lost time and medical treatment injuries per million hours worked by employees and contractors.



TTI recycles hot water generated in the smelting process to heat its offices as well as buildings in the local district