

Power

Terragen is a power producer that supplies electricity to the Central Electricity Board (CEB), as well as electricity and steam to Terra's sugar mill, through two 35 MW thermal power plants.

Operating in a joint venture partnership with French company Albioma, we generate electricity and steam by burning *bagasse* and cane straw during the crop season (from July to December), and imported coal, mainly from South Africa, during the intercrop season.

Our purpose is to supply reliable and low-cost electricity to the country, be available on the CEB grid, and consolidate our position as a major player in the production of renewable energy.

POWER BUSINESS MODEL

VALUE DRIVERS

REVENUE DRIVER (VOLUME)

Regular and reliable supply of electricity

Energy available on demand, responding quickly and efficiently to calls for production and maintaining a reliable supply by avoiding breakdown incidents.

COST DRIVER (PRICE)

Raw material cost

Increasing the renewable energy portion of electricity production to meet Government's decarbonisation plan, while maintaining cost competitiveness.

Material cost efficiencies

Efficiency gains and safe and clean production processes.

CONTEXT AND OUTLOOK

- Supply to one major client, CEB, and also to Terra's sugar mill.
- With the 20th anniversary of our Power Purchase Agreement (PPA) with the CEB in June 2020, we signed an agreement for the extension of our PPA, as amended, for five more years.
- Terragen runs an efficient and reliable plant and produces power for the country at a very competitive rate.

- The current energy mix in Mauritius is 76% fossil fuel and 24% renewable energy and we produce around 12% of the country's renewable energy supply. We are continually looking for opportunities to increase energy efficiency and substitute coal with *bagasse*, cane straw and other renewable energy sources, such as wood biomass and solar, while recognising that the costs of production will be slightly higher. With the increase in the price of coal, stress on raw material supply chains during pandemic periods such as the Covid-19 crisis, and the move toward energy autonomy in Mauritius, we foresee more opportunities for local biomass.
- We remain fully aligned with Government's roadmap to a greener Mauritius and its commitment to reduce its carbon emissions, while maintaining our competitive rate. A biomass / renewable energy framework is pending agreement by authorities. This will determine which of our projects get delivered.

- We remain the most efficient, reliable and cost-effective operator in Mauritius, with a strong focus on safety and health; continually identify opportunities to improve our environmental management, particularly water consumption and ash management.

Power (cont'd)

RESIDUAL RISKS

The main residual risks for the Power cluster as at 31 December 2020 are summarised in the list below.

RISK	CONTRIBUTING FACTORS	RISK MITIGATING ACTIVITIES	YEAR ON YEAR TREND
R1 Disruption in the supply of raw materials and/or spare parts.	<ul style="list-style-type: none"> Labour strikes in coal producing countries. Disruption to the sugar mill activities leading to non-availability of <i>bagasse</i> or cane straw for power generation. Pandemic disrupts supply and availability of spare parts and foreign consultants for timely completion of plant maintenance. 	<ul style="list-style-type: none"> Terragen has a buffer stock of 12,000 tonnes of coal on site, corresponding to 15 days of production. The Coal Terminal (Management) Co Ltd sources coal from several suppliers who can in turn source their needs in other countries. Using local biomass (cane trash) as alternative sources of fuel to <i>bagasse</i>. Ongoing discussions with authorities to secure a sustainable biomass price for producers. 	Increased
R2 Unplanned and prolonged disruption to production of electricity.	<ul style="list-style-type: none"> Unexpected breakdown of a critical item of equipment. A fire outbreak due to the presence of important amounts of combustible material. 	<ul style="list-style-type: none"> Performing regular preventive maintenance and inspection of plant and equipment by specialist consultants. Experience and expertise of Albioma (shareholder and operator of Terragen) in managing numerous power plants around the world. Investing in plant upgrades and the procurement of critical equipment items. 	Unchanged
Changes to the terms of the Power Purchase Agreement (PPA) resulting in difficult operating and financial conditions.	<ul style="list-style-type: none"> Lack of visibility on the terms that will apply to the next PPA (July 2025). Reduction or stoppage of coal importation, resulting in the power plant not operating at full capacity. 	<ul style="list-style-type: none"> Engaging closely with the authorities and the CEB. A new energy business model has been presented to the Government and the CEB that incorporates a higher share of renewable energy. Continue to be a reliable and very competitive supplier of electricity to CEB. 	Unchanged
R4 Severe climatic conditions adversely impacting power production.	<ul style="list-style-type: none"> Located in a tropical cyclone prone region. A thunderstorm strike leading to the destruction of electrical and automation systems. Severe and prolonged drought resulting in interruptions in water supply. 	<ul style="list-style-type: none"> The power plant is designed to withstand cyclonic gusts of 260 km/h. Protocols are in place to cater for emergency situations like cyclones. Terragen can store 900 m³ of spare water, and measures are taken to optimise water consumption. The Central Water Authority prioritizes water supply to the power plant as electricity production is essential to the country. 	Unchanged

CAPITAL

PEOPLE



MATERIAL INPUTS (2020)

EMPLOYEES WITH THE APPROPRIATE TECHNICAL SKILLS AND MOTIVATION
48

ACTIVITIES TO SUSTAIN VALUE

- Safety risk assessments and site visits conducted with the management team on a weekly basis.
- Refresher training conducted throughout the year to reinforce health and safety practices.
- Near-miss reporting rolled out.
- Key safety protections installed for roads, the perimeter walkway and *bagasse* conveyer-belt.
- The health and safety management system successfully transitioned from ILO OSH 2001 to ISO 45001.
- We conducted psychology stress tests to ensure employees were not close to burnout.

MATERIAL OUTCOMES (2020)

TOTAL RECORDABLE INJURY RATE (TRIR)
19.9 (-101%)

LOST TIME INCIDENT RATE (LTIR)
19.9 (+101%)

SEVERITY RATE
55.6 (-101%)

TRAINING HOURS
58 / Person / Year
(24 in 2019)

MANUFACTURED



One generation plant of 450 GWh capacity.

Two units of 35MW operating on three types of fuel: Coal, *bagasse*, cane straw.

- Safety measures and procedures in place in response to Covid-19.
- Annual shut-down for maintenance despite Covid-19 constraints.

ENERGY PRODUCED
376 GWh

SHARE OF NATIONAL ENERGY MIX
12%

NATURAL



COAL
180,883 T (-4%)

SUGAR CANE STRAW
4,171 T (-57%)

BAGASSE
259,850 T (-17%)

WATER
1,494,788 m³ (-2%)

- Implemented better controls on water leakages.
- Usage of alternative water-treatment chemicals.
- Maintained high recycling rate of coal fly ash.




CO₂ (COAL)
421,714 T (-3%)

BIOGENIC CO₂ (BAGASSE)
218,575 T (-17%)

BIOGENIC CO₂ (CANE STRAW)
6,274 T (-56%)

ENVIRONMENTAL EMERGENCY SITUATIONS
0

Power (cont'd)

CAPITAL	MATERIAL INPUTS (2020)	ACTIVITIES TO SUSTAIN VALUE	MATERIAL OUTCOMES (2020)
SOCIAL AND RELATIONSHIP 	Our business model depends on maintaining quality relationships with key stakeholders including: CEB, Terra Milling, regulatory authorities, small-scale planters, suppliers and employees.	<ul style="list-style-type: none"> Partnership with Terragri for the plantation of eucalyptus on marginal land. Renewal of our Power Purchase Agreement with the CEB. Outlined an energy transition strategy, introduced it to CEB and involved various ministries. 	EMPLOYEE TURNOVER RATE 0% (2019: 13%) PAYMENT IN TAXES MUR 34.5 M CSR CONTRIBUTION MUR 4.4 M
INTELLECTUAL 	First Mauritian firm to be granted in 2014 an AFNOR certified integrated management system certificate based on ISO 9001, ISO 14001 and ISO 45001.	<ul style="list-style-type: none"> External Quality, Health and Safety, and Environment (QSE) audit successfully performed without any non-conformities. 	AVAILABILITY ON CEB NETWORK 93% RELIABILITY 4 plant trips SPECIFIC COAL CONSUMPTION 612g/kWh
FINANCIAL 	TERRAGEN TOTAL EQUITY (JAN 2020) MUR 1,440.8 M TOTAL BORROWINGS Nil CAPITAL EXPENDITURE MUR 43.3 M	<ul style="list-style-type: none"> Actively managed the financial performance through weekly executive meetings, monthly management meetings and regular Board meetings. 	TURNOVER MUR 1,131.2 M (-13%) PROFIT MUR 35.8 M (-78%) TERRAGEN TOTAL EQUITY (DEC 2020) MUR 1,335.6 M

THE OPERATING CONTEXT

MATERIAL ISSUE IMPACTING VALUE CREATION

Dependency on a primary client – Being heavily dependent on a single client, it is critical to maintain a strong relationship based on mutually beneficial outcomes.

Potential regulatory changes – Changes in environmental regulation could require significant investment in new equipment and possible changes to current processes.

Unplanned disruption to generation or transmission activities – Unplanned outages, associated for example with a fire, mechanical breakdown, cyclone occurrence or disruption in the coal and biomass supply chain, could impact the ability to deliver energy.

OUR RESPONSE

We continue to invest in maintaining our ability to provide a regular and reliable supply of energy. This has been another pleasing year, with exemplary availability levels and competitive pricing contributing to a sustained positive client relationship.

We engage regularly with authorities to keep abreast of potential regulatory changes and ensure that appropriate measures are taken. We are identifying opportunities to minimise our emissions, increase our energy efficiency and reduce the use of coal by increasing the use of cane straw, *bagasse* and other biomass sources in the energy mix. Our energy transition strategy sets out our plan to increase the share of renewable energy in our production while maintaining a competitive price per kWh, including energy efficiency improvement and solar energy as a possible investment.

We have a preventative maintenance programme and clear risk management processes and response measures in place. We have a safety bulk storage of coal onsite and have diversified to two coal suppliers. The power plant is designed to withstand cyclonic gusts of up to 260 km/h and we have a cyclone emergency plan in place.

OUR 2020 PERFORMANCE

This year we generated 376 GWh of electricity, at 93.3% availability, contributing to profitability of MUR 35.3 million, down from MUR 160.4 million as restated in 2019.

Terragen was considered an essential service at the start of the Covid-19 pandemic and we ensured continuity of production throughout the lockdown period. Due to the reduction in the electricity demand in Mauritius for approximately six months of the year, we reduced production from our plant by 30%. We had one major incident during the year where half of the power plant had to be shut down for the month of December due to a problem with a steam turbine. This had a significant impact on our production during the sugar cane harvest. On identifying a solution to produce steam with a boiler only, we were able to ensure continuity of steam supply for the sugar milling operation, but electricity production for the CEB was reduced by 50% during this period. Despite this breakdown, our overall availability improved from the year before, due to a reduced annual maintenance period, with a works programme mitigation plan in place taking into account the Covid-19 restrictions. This was essential given the borders of the country remained closed, excluding foreign experts for major works.

included a significant increase in the renewable energy share in our production, this would ultimately require a higher tariff. To switch our current plant to a state-of-the-art hybrid power plant using several types of renewable energy sources, including *bagasse*, cane straw, and solar, requires substantial investment. We have certainly seen interest from the authorities, on our energy transition strategy and we remain committed to meeting the Government's roadmap towards a greener Mauritius and to reducing its carbon emissions. The ability to do so is contingent on ensuring a competitive cost and price structure, and on maintaining the sustainability of the cane industry, including the effective participation of small planters. We will continue discussions with the CEB and Government stakeholders on our energy transition strategy, which sets out our plan to increase as a first step the share of renewable energy in our production from 27% to 40%, with a competitive price per kWh. The Government has shown some initial positive signs to support the cane sector and remains committed to the development of cleaner and more sustainable energy sources.

Our Power Purchase Agreement with the CEB

We signed an agreement to extend our Power Purchase Agreement (PPA) with the CEB for five years, with revised conditions, including an official integration of our cane straw energy and a slight reduction in tariff. While our original proposal to the CEB

Power (cont'd)

OUR 2020 PERFORMANCE (CONT'D)

Increasing our production of renewable energy

We have maintained a strong focus on delivering on our commitment to decarbonise our energy mix by shifting from coal to renewable sources, in particular biomass, with continued emphasis on further increasing the use of *bagasse*, cane straw and other renewable energy technologies. With the reduced crop season in the North due to drought conditions this year, the combustion of *bagasse* declined to 259,850 tonnes (311,544 in 2019), producing 79.6 GWh for export on the grid. We also had a reduction in our cane straw electricity production, mainly due to major breakdowns with our balers, which are used to collect cane straw in Terragri's fields, and also to the decrease of cane yields and the marked increase in the sugar cane fire outbreaks. As a result, we generated 4.1 GWh using 4,171 tonnes of cane straw, down from 9,639 tonnes in 2019. This was partially offset, however, by lower overall energy demand locally.

We progressed with our exploration on growing and burning eucalyptus as an additional source of biomass, in partnership with Terragri, and planted 7.5 hectares of eucalyptus on marginal land. Our drive to increase the use of *bagasse*, cane straw and other biomass provides a valuable opportunity to enhance the 'greening' of energy generation in Mauritius, and to reduce the island's coal imports. This became a critical concern during the lockdown in Mauritius, with disturbances to the import of coal from South Africa. Utilising local biomass enhances energy security and also helps to develop the local economy, but this requires a fair value for *bagasse* and other biomass sources. A biomass renewable energy framework, officially presented to the Government in July 2020, is pending agreement by the authorities and this will determine which of our projects get delivered.

We achieved similar performance in our carbon burn-out (CBO) project this year, a joint venture between Terragen and Omnicane aimed at collecting ash, a by-product of coal combustion, and passing this through a re-burning process that transforms it into raw material for the production of cement. This year, 62.81% of our coal fly ash (7,140 tonnes) was sent to the CBO plant, a slight improvement from the previous year (6,241 tonnes). Through this process, we can reduce the carbon content from around 20% to less than 5% and reuse the energy released to produce electricity.

Reinforcing the health and safety culture and environmental performance

During the year we updated our integrated management policy on Quality, Health and Safety, and Environment (QSE) and conducted a management review of our integrated management system. While our strong culture on safety has resulted in a high level of awareness and low injury rate over the last three years, we had to reinforce our safety action plan this year. We unfortunately had three employee accidents and minor injuries during 2020, including back pain from an employee lifting a 40kg can of sulphuric acid and an employee falling from a fixed ladder causing injuries to the knee. We took steps to continue to drive improved safety performance, reinforcing our safety culture at all levels. This involved safety risk assessments and site visits with the management team on a weekly basis, as well as refresher training, near-miss reporting being rolled out, and key safety protections installed. Following an external audit in December 2020, the health and safety management system has successfully transitioned from ILO OSH 2001 to ISO 45001. We also conducted psychology stress tests in our cluster this year to ensure employees were not close to burnout.

On the environmental front, during 2020, Terragen maintained high performance in terms of water quality discharges into the environment, despite five cases of non-compliance with legal requirements. Management is investigating the non-conformities in accordance with the Group's QSE policy, with action and surveillance in progress.

Terragen demonstrated satisfactory performance on air emissions with respect to the national air emission standards. Previous projects, such as the installation of a dust suppression system and covering the *bagasse* conveyor belts, have considerably reduced the dust emission levels. No exceedances were noted in 2020. The PM₁₀ for Terragen was at its lowest compared to previous years and there were also no exceedances in parameters such as NO_x, CO and SO₂ in stack emissions for both units.

OUR STRATEGIC OUTLOOK

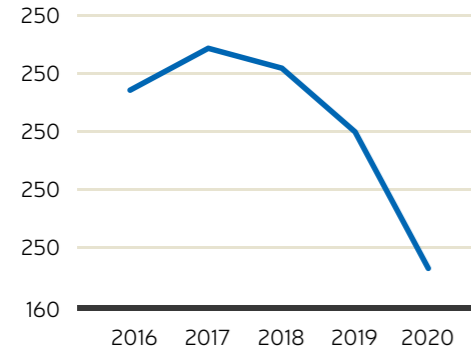
Our strategic focus is to maintain our high levels of availability, reliability and cost effectiveness. In line with this focus, we will continue discussions with the CEB and Government stakeholders to extend the share of renewable energy in Terragen's production mix from 27% to 40%, with a competitive price per kWh. We will make improvements to the cane straw supply chain at the field level, ensuring baler reliability, and plant a further 15-20 hectares of eucalyptus in 2021, as an alternative source of renewable biomass, which will be ready for harvesting in 2023. We also plan a trial on wood chip production from local wood waste. Planned initiatives in safety and health include continuing to strengthen the safety culture in the company and enhancing reporting to return accident rates to zero. Planned initiatives in environmental performance include continuing the optimisation of our water consumption, reduction of chemical treatment costs and improvements in our water discharge quality.

IMPACT OF COVID-19

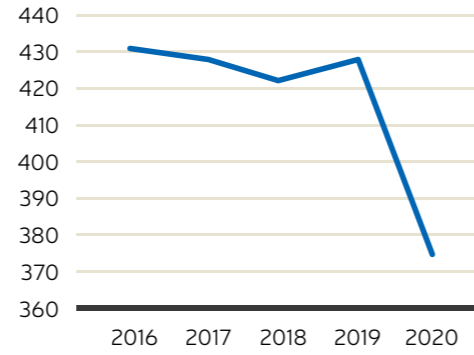
- We defined procedures very quickly to ensure a safe working environment to protect our employees and reorganised our teams to reduce employees on site.
- Our annual maintenance shutdown was reduced from 1.5 months to 15 days due to Covid-19, which led to a better availability rate of 93.3%.
- While we had planned to plant 30 hectares of eucalyptus in 2020, given that these can only be planted during the rainy season (Nov – May) which was during the lockdown period, we could only plant 7.5 hectares.
- We had disturbances in the supply of coal from South Africa during the lockdown. With the increase in the price of coal and stress on raw material supply chains during pandemic periods such as the Covid-19 crisis, we foresee more opportunities for biomass going forward.
- We also saw disruptions in our maintenance work as experts from Europe and South Africa could not travel. We are reintegrating parts of previously sub-contracted work internally, while we had to postpone scheduled major overhaul works to the time when borders will be reopened.

Power (cont'd)

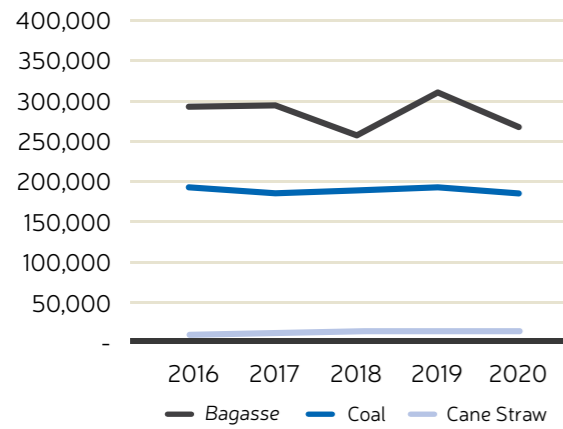
Profit/Loss after tax (MUR' M)



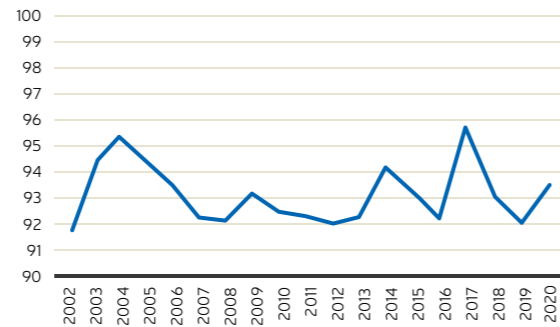
Energy Produced (GWh)



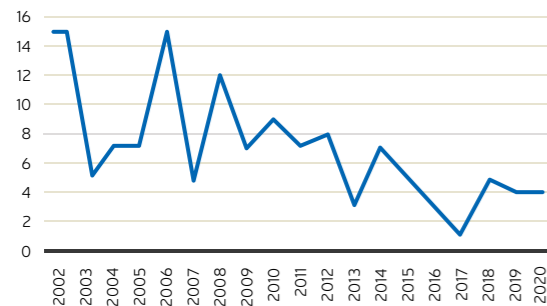
Fuel consumption (Tonnes)



Availability (%)



Reliability (Number of Plant Trips)



Efficiency - Coal Ratio (Kg/kWh)

