



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 CEB grid and consolidate our position as a major player in the production of renewable energies.

POWER BUSINESS MODEL

VALUE DRIVERS		CONTEXT AND OUTLOOK
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.	<ul style="list-style-type: none"> Supply to one major client, CEB, and also to Terra’s sugar mill. With the 20th anniversary of our Power Purchase Agreement with the CEB in June 2020, we have signed an agreement for the extension of our agreement for 5 more years. Terragen runs an efficient and reliable plant and produces power for the country at a very competitive rate.
Cost Driver (Price) Raw material cost	Increasing the renewable energy portion of electricity production to meet Government’s decarbonisation plan, while maintaining cost competitiveness.	<ul style="list-style-type: none"> As our plant currently works close to its peak capacity, opportunity for additional revenue generation derives primarily through optimising the efficiency of Terra’s sugar mill, thereby reducing their share of energy usage and releasing further capacity for sale to the CEB network. We are continually looking for opportunities to substitute coal with <i>bagasse</i>, cane straw and other biomass sources, while recognising that the costs of production will be slightly higher. We remain fully aligned with Government’s roadmap to move towards a greener Mauritius and to reduce its carbon emissions, while maintaining our competitive rate and moving towards a higher rate of renewable energy generation, as outlined in our energy transition strategy.
Cost Driver (Price) Material cost efficiencies	Efficiency gains and safe and clean production processes.	<ul style="list-style-type: none"> 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 dust emissions.

MATERIAL RISKS

- Strike along the supply chain of coal causing disruption of coal supply.
- Severe sugar mill breakdown causing disruption of the supply chain of *bagasse* and cane straw.
- Severe cyclone (Class 3 and 4) disrupting operations or damaging plant.
- Severe machinery breakdown at Terragen stopping the operations.

CAPITAL	MATERIAL INPUTS (2019)	ACTIVITIES TO SUSTAIN VALUE	MATERIAL OUTCOMES (2019)
PEOPLE 	<p>Employees with the appropriate technical skills and motivation 47</p>	<ul style="list-style-type: none"> Reinforced our health and safety message with sub-contractors through communication and consultation. Introduced a 15-minute weekly safety session in the plant. 	<p>Fatalities 0</p> <p>Injury rate 10</p> <p>Lost day rate 0.14</p> <p>Training hours 24/person/Yr</p>
MANUFACTURED 	<ul style="list-style-type: none"> One generation plant of 450 GWh capacity. Two units of 35MW operating on three types of fuel: coal, bagasse, cane straw. 	<ul style="list-style-type: none"> Overhaul maintenance of the turbine 1. Replacement of the boiler grid unit 1. Replacement of the boiler air heater unit 1. 	<p>426.8 GWh produced, constituting around 15 % of the national energy mix.</p>
NATURAL 	<p>Coal 188,085 T (v2%)</p> <p>Sugar cane straw 9,639 T (v17%)</p> <p>Bagasse 311,544 T (v23%)</p> <p>Water 1,522,596 m³ (v7%)</p>	<ul style="list-style-type: none"> Made improvements to the effluent retention pond. Implemented better controls on water leakages and plant cleaning. Increased recycling of coal fly ash. 	<p>CO₂ (Coal) 436,637 T (v3%)</p> <p>Biogenic CO₂ (Bagasse) 263,525 T (v23%)</p> <p>Biogenic CO₂ (Cane straw) 14,104 T (v15%)</p> <p>Environmental emergency situations 0</p>
SOCIAL AND RELATIONSHIP 	<p>Our business model depends on maintaining quality relationships with key stakeholders including: CEB, Terra Milling, regulatory authorities, small-scale planters, suppliers and employees.</p>	<ul style="list-style-type: none"> Partnership with Terragri for the plantation of eucalyptus on marginal land. Collaborated in the development of a biomass framework submitted to Business Mauritius. Outlined an energy transition strategy. 	<p>Employee turnover rate 13% (2018: 10%)</p> <p>Payment in taxes MUR 23.4 M</p> <p>CSR Contribution MUR 4.5 M</p>
INTELLECTUAL 	<p>First Mauritian firm to be granted in 2014 an AFNOR certified integrated management system certificate based on ISO 9001, ISO 14001 and ILO OSH 2001.</p>	<ul style="list-style-type: none"> QSE recertification for 3 years. 	<p>Availability on CEB network 92%</p> <p>Reliability Only 4 Plant trips</p> <p>Specific coal consumption 603 g/kWh</p>
FINANCIAL 	<p>Terragen total equity (Jan 2019) MUR 1,468.7 M</p> <p>Total borrowings MUR 0.2 M</p> <p>Capital expenditure MUR 43.3 M</p>	<ul style="list-style-type: none"> Actively managed the financial performance through monthly management meetings and quarterly Board meetings. 	<p>Turnover MUR 1,294.7 M (v11%)</p> <p>Profit MUR 160.4 M (v24%)</p> <p>Terragen total equity (Dec 2019) MUR 1,440.8 M</p>

THE OPERATING CONTEXT

MATERIAL ISSUE IMPACTING VALUE CREATION OUR RESPONSE

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.

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.

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

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 and reduce the use of coal by increasing the use of cane straw and other biomass sources in the energy mix.

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.

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 2019 PERFORMANCE

This year we generated 426 GWh of electricity, at 92% availability, contributing to profitability of MUR 160.4 million, down from MUR 211.7 million in 2018. Terra's sugar mill benefited from the Medine plant closure and produced more bagasse from the excess cane, resulting in more electricity. We had one incident where the power plant had to be shut down for 1.5 days due to contaminated condensate return from sugar mill, with a slight reduction in availability from the year before.

Our Power Purchase Agreement with the CEB

We have signed an agreement to extend for five years, at revised conditions, our Power Purchase Agreement with the CEB, and we remain committed to meeting the Government's roadmap towards a greener Mauritius and to reduce 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. To improve on our contribution to renewable energy, significant investment will be needed. A major achievement in the year was producing an energy transition strategy that sets out our plan to increase our share of renewable energy. 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.

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 biomass, with continued emphasis on further increasing the use of cane straw. Improved weather conditions enabled us to increase the collection, compacting and transportation of cane straw by 20% and we continued to work collaboratively with Terragri's field teams. Following implementation of important maintenance work, the cane straw crusher was operational for the full crop season, resulting in more availability of this alternative raw material input. As a result, we generated 9.2 GWh using 9,639 tonnes of cane straw, up from 8,247 tonnes in 2018. With the improved crop season in the north we also increased the use of bagasse by 15%.

We have also been exploring the viability of growing and burning eucalyptus as an additional source of biomass and this year we defined a partnership with Terragri for the plantation 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. In collaboration with industry stakeholders we assisted in the development of a biomass framework, submitted to Business Mauritius towards the end of the year, to support their engagement with the Government on promoting renewable energy production from local biomass sources.

OUR 2019 PERFORMANCE (CONT'D)

We made significant progress this year with our carbon burnout project, a joint venture between Terragen and Omnicane that is aimed at collecting ash, a by-product of coal combustion, and passing this through a re-burning process that will transform this into raw material for the production of cement. This year 57% of our coal fly ash (6,241 tonnes), up from 35% in 2018, was sent to the plant. 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

During the year we secured a successful recertification audit for our integrated management system on Quality, Health and Safety, and Environment (QSE) for another three-year period. While our strong culture on safety has resulted in a high level of awareness and low injury rate over the years, we reinforced this culture through several measures. We increased safety awareness in preparation for our annual scheduled shut-down, whereby large-scale equipment maintenance poses safety risks to a significant number of workers. We supported

sub-contractors to further develop internal safety procedures and we put in place a 15-minute weekly safety session in the plant, conducted by our QSE Coordinator. Despite all these measures, we unfortunately had an accident in late 2019 – the first employee accident in three years. The employee was driving the telescopic handler when the machine overturned on the inclined side of the effluent pond. He was injured on the head and the arm and had 14 injury days leave; we are consequently taking steps to continue to drive improved safety performance, reinforcing our safety culture at all levels with an emphasis on external providers. We had another very good year in terms of environmental performance. Once again there were no material environmental incidents, and we achieved 100% compliance in terms of regulated atmospheric emissions. We reworked the effluent retention pond to prevent infiltration into the soil and we decreased our water consumption by 7% through better controls on water leakages and improved processes for cleaning the plant. We continue to pay particular attention to maintaining good communication with neighbouring residents regarding any potential environmental issues.

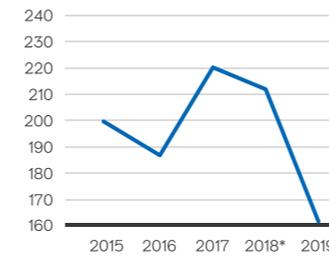
OUR STRATEGIC OUTLOOK

Our strategic focus is to maintain our high levels of availability, reliability and cost effectiveness. In line with this focus, we will maintain production levels of cane straw; any further increase will require investment in more collection equipment, which is not feasible until an appropriate contract with CEB is in place, offering long-term certainty. We will develop another source of biomass with the planting of 30 hectares of eucalyptus in 2020, which will be ready for harvesting in 2024. Planned initiatives in safety and health include: continuing to strengthen the safety culture in the company and enhancing reporting; reinforcing control measures for scaffolding; upgrading lightning and surge protection; and upgrading our systems for fire protection. Planned initiatives in environmental performance include continuing to increase the recycling of coal fly ash through efficient optimisation of fly ash uploading and reducing water consumption and chemical use.

POWER (CONT'D)

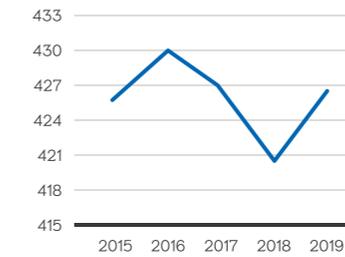
PERFORMANCE GRAPHS

Profit after Tax (MUR'M)

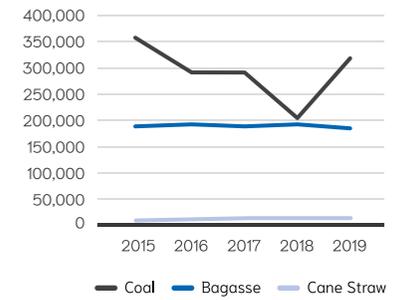


*: The profit after tax for 2018 has been restated.

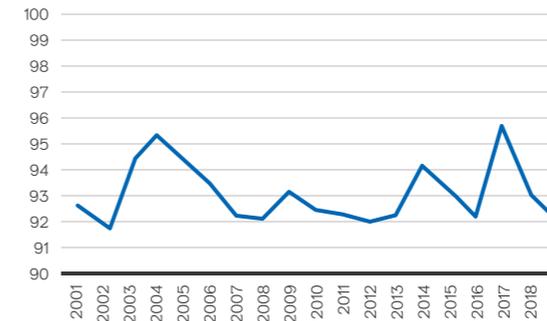
Energy Produced (GWh)



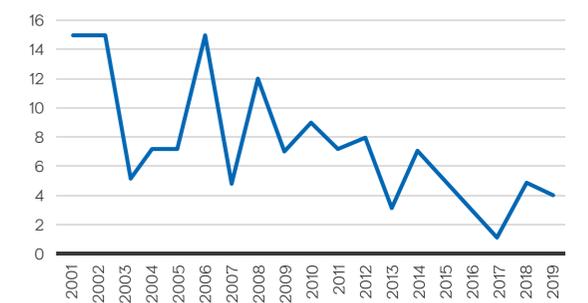
Fuel Consumption (Tonnes)



Availability (%)



Reliability (Number of plant trips)



Efficiency - Coal Ratio (kg/kWh)

