Natural Capital

CEAT recognises the responsibility towards people and the planet that accompanies its wide reach. The Company's environmental vision is centered on minimising its impacts on the planet and geographies that it exists and works in, and sources from. It has, therefore, prioritised the preservation and efficient management of natural resources while conducting its business, in addition to undertaking interventions related to waste management and the streamlining of business operations. The Company is leveraging its R&D capabilities to take it one step further in the journey towards a safer, smarter and more sustainable future. It has defined strategic priorities such as management of compliances, risks and sustainability in operations.

1,427 GJ
Renewable energy consumed

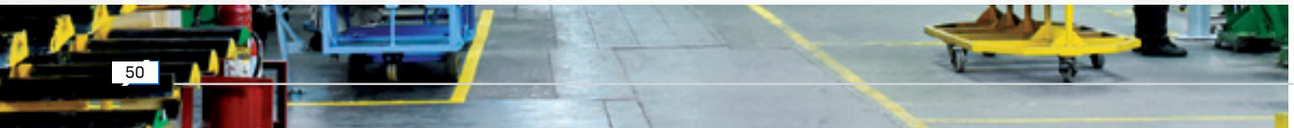
6,906 tCO_2e
Emissions avoided

₹ 4.18 Cr.
Spend on energy-saving equipment

~744 TJ
Total energy consumption

8,92,886 m^3
Water consumption

19,413 m^3
Wastewater discharge



INPUTS
- Green procurement
- Energy management
- Water management
- Environment management system
- Waste management

OUTPUTS
- Total material recycled
- Specific energy consumption: **0.21 GJ per tyre produced**
- Waste generated and recycled: **15,634 MT waste disposed**
- Specific water consumption: **0.26 m^3 per tyre produced**
- GHG emission reduction: **7% (Scope 1 + Scope 2)**

OUTCOMES
- Reduced environmental footprint
- Proactive environmental sustainability plan
- Cost saving due to sustainability initiatives
- Improved relationships with communities and neighbouring industries

Interlinkages with other capitals:

Financial

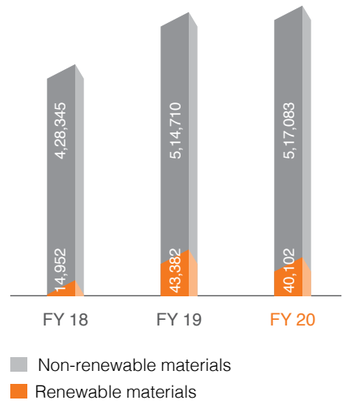
Manufactured

Areas of focus in FY 20:
- Materials management
- Environmental impacts
- Energy and emissions management

MATERIALS MANAGEMENT

CEAT's material procurement process is carefully designed to provide a high value, cost-optimised proposition to its customers. This is done by continuously engaging with key vendors through joint developments and the use of advanced characterisation techniques. The continuous focus on sustainability resulted in increased usage of green materials like silica and recycled materials. Introduction of new products optimised with advanced engineering tools like simulation, design of experiments and Taguchi Robust Design approach led to the conservation of materials while improving product performance.

Material Consumption (MT)



All of CEAT's operational plants are ISO 14001:2015 (Environmental management systems) certified

Natural Capital

ENERGY AND EMISSIONS MANAGEMENT

In line with global agreements such as the Paris Accord, CEAT endeavours to contribute to the mitigation of climate change through a combination of initiatives on renewable energy usage and energy efficiency. Owing to the nature of its operations, energy costs contribute to business expenses. Hence, energy management is vital to the Company. It is also putting in dedicated efforts to move to less carbon-intensive energy sources.

Energy Performance

Energy consumption is primarily governed by production, which is directly related to materials consumed. As seen in the graph below, the energy consumption trend follows that of materials consumption. While calculating energy consumed, CEAT made use of the calorific values for various fuels, as mentioned in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Additionally, CEAT made use of energy from biomass and solar energy to reduce its non-renewable energy consumption. It plans to expand activities in this domain in the near future.

The organisation is largely dependent on electricity (~60%) and natural gas (~25%) to meet its annual energy requirements. A breakdown of energy consumption for the last three years can be found below:

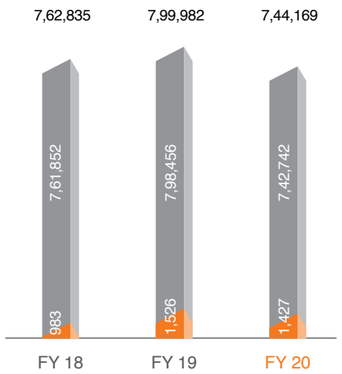
GHG Emissions

Energy consumed within CEAT governs its Scope 1 and Scope 2 GHG emissions. As seen in the graph, these two trends follow each other. The emissions factors and Global Warming Potentials used in these calculations were taken from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Electricity emissions factor was assumed to be 0.82 tCO_2e/MWh, as per the CO_2 Baseline Database for the Indian Power Sector User Guide – June 2018, developed by the Central Electricity Authority, Government of India.

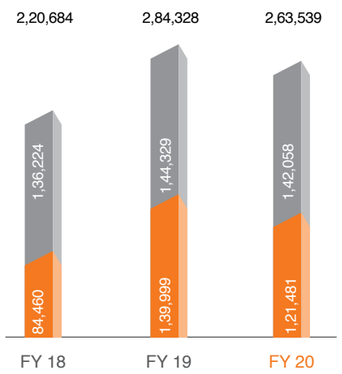
Since electricity accounts for a majority of the Company's non-renewable energy consumption, its Scope 2 emissions are consistently high. Natural gas consumption is the most significant component of Scope 1 GHG emissions.

CEAT used The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard to calculate its Scope 3 GHG emissions. Components of Scope 3 emissions included employee commute, business travel, inbound logistics, outbound logistics and electricity sold to distribution centres. Of these, inbound logistics form the most significant component (>95%). The Company's Scope 3 GHG emissions over the last three years can be found below:

Energy Component (GJ)

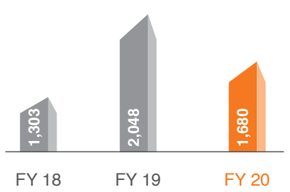


GHG Emissions Scope (tCO_2e)



GHG Emissions Scope (Mn. tCO_2e)

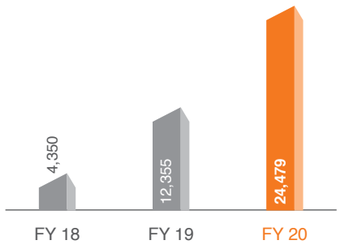
Scope 3 GHG Emissions



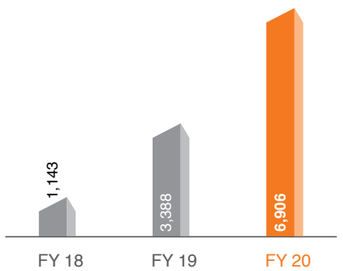
Energy Savings and Emissions Avoided

During the year, CEAT invested in and implemented a range of energy conservation initiatives. This comprised of retrofitting of old equipment, in addition to the utilisation of energy-efficient equipment and lighting, and alternate fuels (such as piped natural gas). Through such stewardship, the Company has nearly doubled its Y-o-Y energy savings, over the last three years. The base for energy savings calculation for any given year is the corresponding energy consumption of the previous year. Owing to these efforts, the avoided emissions have also seen a proportional rise. It was assumed that all initiatives would have run on grid electricity, and the corresponding emissions factor was considered.

Energy Savings (GJ)



Emissions Avoided (tCO_2e)



Steam-Saving Initiatives at Halol Plant

Action: To reduce the utilisation of HP and LP steam, the Halol plant increased insulation applied, installed a steam flow meter, removed an extra HPS steam header from the curing process, and replaced a steam-VAM with an electric chiller. The plant also set up steam traps and leakage correction systems.

Outcome: The total steam savings achieved was 13 MT/ day.

Other Emissions

Over many years, CEAT has installed, maintained and upgraded air pollution control equipment at all its manufacturing plants. Last year, six upgrades were implemented across various locations. These included electrostatic precipitators, dry scrubbers, enhancements in briquette boilers, catalytic converters and advanced air filters. Consequently, there has been a downward trend in its emissions over the years.

Other emissions for CEAT constitute SOx, NOx and Particulate Matter (PM). The monitoring of these is based on third-party stack emissions reports. Based on the flow rates from these, the total values for the entire year are arrived at. The figures for the last three years are:

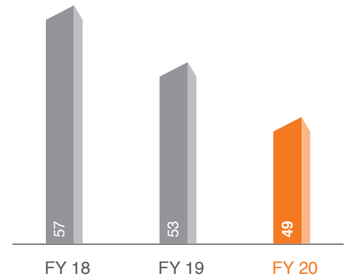
Other Emissions Component

	SPM	NOx	SOx
FY 18 (MT)	207	13	241
FY 19 (MT)	167	18	211
FY 20 (MT)	197	16	168

Ozone-Depleting Substances

As a policy, CEAT does not use Ozone-Depleting Substances (ODS) in any of its manufacturing processes. However, ODS is used for refilling during maintenance of cooling equipment, such as air-conditioners, refrigerators, water coolers and other cooling units. The Company has gradually phased out ODS in favour of new coolants that do not damage the ozone layer. Hence, there has been a Y-o-Y decrease in ODS consumption.

ODS Consumption (kgCFC-11eq)



Natural Capital

ENVIRONMENTAL IMPACTS

Aside from impacts related to materials, energy and emissions, as captured in the previous sections, CEAT acknowledges environmental impacts arising from its water consumption and waste generation. The Company has deployed modern technology to reduce its water and waste burdens.

It did not identify any non-compliance with relevant environmental laws and regulations during the reporting period.

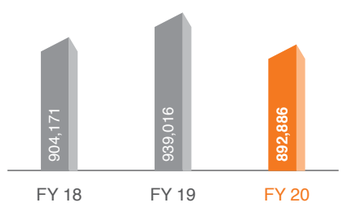
Water Management

The organisation understands the criticality of water, which is used in all its operations and manufacturing processes, as a natural resource. To maximise its water-use efficiency, CEAT employs best-in-class technology. Its main source of water is the direct supply received from the Maharashtra Industrial Development Corporation (MIDC). Like energy, water also follows the consumption trend of materials.

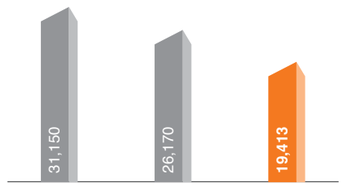
Except for the Bhandup plant, all plants do not discharge any wastewater. The water is treated and used for domestic purposes such as horticulture. As a policy, the Bhandup plant has set its discharge limits to 50% of permissible legal limits. Care is also taken to ensure that the water discharge does not significantly affect the surrounding environment.

CEAT has set a 10% Y-o-Y reduction target for its water consumption. Targets are set as per the Company's Integrated Management System Manual. Emphasis is given to set quantitative targets for reduction or improvement, and corresponding monitoring protocols are developed.

Water Consumption (m^3)



Wastewater Discharge (m^3)



Zero Liquid Discharge (ZLD) System at Nagpur Plant

Action: To eliminate water discharge, the Nagpur plant installed a state-of-the-art ZLD system with a 20 kL/day capacity. To maximise efficiency, this system was designed to separately process effluents and sewage.

Outcome: The specific water consumption of the plant reduced from 5.4 kL/Ton in FY 18 to 4.03 kL/Ton in FY 20.

Reduction in Water Consumption at Bhandup Plant

Action: To reduce overall water consumption for domestic purposes and sanitation, the Bhandup plant undertook activities such as replacement of old water storage containers, installation of level transmitter and retrofitting of stop-jacket cooling system.

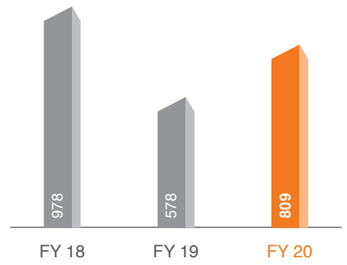
Outcome: Water consumption of the plant reduced from 737 kL/day in FY 18 to 562 kL/day in FY 20, and treated effluent discharged reduced from 89 kL/day in FY 18 to 64 kL/day in FY 20.

Waste Management

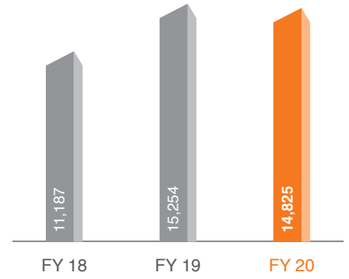
In line with the 3Rs of waste management, CEAT strives to minimise waste at the source by stringently monitoring processes that lead to its generation. A small proportion of the annual waste generated is hazardous in nature, while the rest is non-hazardous. During the year, initiatives such as reduction in naphtha consumption and recycling of packaging materials brought down overall waste generation. The trend of non-hazardous waste generation has largely been in sync with material consumption.

All hazardous waste is handled as per relevant government guidelines and regulations. Hazardous waste is only disposed of through government-authorised recyclers or agencies.

Hazardous Waste Disposed (MT)



Non-Hazardous Waste Disposed (MT)



Zero Liquid Discharge (ZLD) Effluent Treatment Plant