

Environmental stewardship – inherent in the Tata group's DNA

Farah Dada and Munira Patel highlight the environmental stewardship actions and initiatives by a clutch of Tata companies for the sustainable use and management of resources

The global scale of current environmental issues – whether related to land, air or water bodies – reflects the urgency to protect, care for and responsibly use the scarce natural resources for a productive and sustained relationship with

the biosphere. At the World Environment Day 2019, air pollution was the predominant theme.

Worldwide air pollution causes around 7 million premature deaths every year; of which 4 million are in the Asia-Pacific region alone. Besides diseases, air pollution is also known to lower IQs. The issue is grave and the data, pressing enough to take and promote actions towards environmental stewardship.

Within the Tata group, environmental stewardship is an intrinsic core value, as we continue to be responsible to the communities and environments in which we work. And, the Tata Sustainability Policy guides group companies in their journey to steward the environment, with efforts spanning diverse actions from reducing CO₂ emissions to adopting renewable energy to minimising industry effluents, to recycling organic waste and water, to preserving the biodiversity in their areas of operation.

Laying a strong foundation

That environmental stewardship is at the heart of the group ethos is demonstrated in a letter the Founder Jamsetji Tata wrote to his son Dorab about his vision for a model township: "Be sure to lay wide streets planted with shady trees, every other of a quick-growing variety. Be sure that there is plenty of space for lawns and gardens. Reserve large areas for football, hockey and parks. Earmark areas for Hindu temples, Mohammedan mosques and Christian churches."

Tata Steel (formerly TISCO – Tata Iron and Steel Company Limited) was established as Asia's first integrated private steel company in 1907, and the township developed as India's first industrial city of Jamshedpur.

Large egret at the Tata Chemical's Biodiversity Park at Mithapur, Gujarat

A steely resolve

By pioneering breakthrough steelmaking technologies to reducing CO2 emissions; adopting renewable energy and increasing the use of scrap in steel manufacture, Tata Steel is steadfast in its contribution to India's commitment towards the Paris Agreement on climate change signed in 2016.

GREENER ENGINEERING

Steel production results in greenhouse gas (GHG) emissions, waste water contaminants and solid wastes that adversely affect the environment. Tata Steel is committed to minimising this impact through its four pillars: emissions control, water management, circular economy and biodiversity. At its manufacturing sites it has invested in air pollution control equipment resulting in ~20% reduction in dust emission since FY05. The company has used the best technology available to recover waste heat and use product gases for power generation; besides initiatives aimed at improving efficiency and reducing its carbon footprint.

RESILIENCE TOWARDS SCARCITY

Steel making is a water intensive process. The Jamshedpur steel plant is located at the confluence of the Subarnarekha and Baitarani rivers with close proximity to the Dimna reservoir. Despite the strategic advantage, Tata Steel has put a long-term plan in place for enhancing water efficiency and creating resilience towards scarcity.

The company has initiated a river basin study to ascertain the watershed level risks. Apart from

implementing better water management practices with rainwater harvesting structures to recharge the groundwater table. A sewage treatment plant was commissioned to recycle the sewage water, thereby reducing fresh water consumption by ~18 percent.

TOWARDS A CIRCULAR ECONOMY

Steel is 100% recyclable. The by-products generated across the value chain of the steelmaking process can be reused in-house and in the construction industry. Tata Steel has achieved 100% slag utilisation across its operations and its products such as Tata Nirman and Aggreto are now used in road construction, fly ash brick and clinker making.

With Tata Steel's scrap processing unit at Rohtak (Haryana) beginning commercial production in early FY20, the processed scrap will be used for downstream steel products. The company is also collaborating with the government to formalise the scrap industry, promote policy advocacy and resource efficiency.

ACCOLADES

Tata Steel has been commended for its responsible environmental performance by The World Steel Association, which recognised Tata Steel as one of the Steel Sustainability Champions of 2018; the Global Water Institute (GWI) and Confederation of Indian Industries (CII) for achieving the GreenPro certification for Pravesh doors and windows, tubes, pipes and structures which are also the first steel products in India to get this eco-label.



A view of the Pimpri Rooftop Solar Project in Pune

Driving change to new mobility

Tata Motors is leading a major transformation in the automotive industry by facilitating faster adoption of electric vehicles (EVs) to build a sustainable future in mobility. Through its electric vehicles and hybrid engines portfolio, it aims to reduce GHG emissions.

Tata Motors has successfully delivered the first set of Tigor EVs to Energy Efficiency Services Ltd, Tata Starbus hybrid electric buses to Mumbai Metropolitan Region Development Authority in FY18. It has initiated supply of electric buses to Lucknow City Transport Services Ltd and West Bengal Transport Corporation Ltd.

The company is committed to green material initiatives, having invested over ₹20 billion in R&D in FY18 alone and receiving 80 patents in that year.

GOING THE GREEN WAY

As Tata Motors' plants are vertically integrated, energy use, GHG emission mitigation, water use, effluent recycling, waste disposal and reuse are closely tracked and reviewed. All Tata Motors plants have been assessed on CII's GreenCo Rating system, with two plants winning platinum ratings in FY19.

#RENEWABLES

A signatory of RE100, a global corporate leadership initiative committed to 100% renewable electricity, Tata Motors aspires to source 100% renewable electricity by 2030. The company used 94.2 million units of renewable electricity in its operations; signed third-party power purchase agreements

(PPA) for sourcing renewable energy from wind and increased its rooftop solar photovoltaic (PV) installation capacity. All Tata Motors plants are united in their resolve to lower water consumption in operations.

VALUE FROM WASTE

Through improvements in manufacturing process, waste or scrap conversions and supply chain optimisation, Tata Motors aims to reduce the environmental burden caused by landfill and incineration. The 'Value from Hazardous Waste' initiative has resulted in savings of ₹24 crore with 1,074MT and 73.7L of hazardous waste disposal avoidance in FY19.

To minimise use of flexible plastic packaging in its operations, the company is working towards returnable packaging and is deploying this approach at suppliers' sites as well. The company's employees repurposed wooden pallets into 700 desks for students.

CASCADING SUSTAINABILITY

To implement a sustainable supply chain initiative, Tata Motors is sensitising its critical suppliers on environmental, social and governance aspects through guidelines, workshops and onsite sustainability assessments.

Tata Motors is thus working towards an inclusive, sustainable and transformational approach to mobility through its products and processes.

Steering towards sustainability

From manufacturing hybrid and electric vehicles to developing cutting-edge technology for reducing its carbon footprint, Jaguar Land Rover (JLR), a subsidiary of Tata Motors, is continually looking at ways to be more sustainable and reduce its carbon footprint.

All of JLR's manufacturing sites in the UK have Carbon Neutral certification and are on track to meet the European Union's vehicle fleet average CO2 emissions target. The company has reduced its overall environmental impact, with a 27% reduction in water use per vehicle in manufacturing, and a 30% improvement in the impact each car has on the environment compared with those made in 2007.

MATERIALS MATTER

JLR is also closing the loop on its precious materials, recycling and reusing them as part of its circular economy. Project Reality will see aluminium recovered from existing Jaguars and Land Rovers being reformed into new high-grade material for use in next generation vehicles. Even battery packs are being readied to see what second life potential with energy storage trials planned for later this year.

JLR's Responsible Business team is determined to reach its target of zero waste. Currently no waste goes directly to the landfill. The team at Solihull (UK) has eliminated 1.1 million m2 of plastic, equivalent to 154 football pitches, from the final assembly areas

of the Land Rover plant. Their success has led to employees getting inspired and implementing the same across sites. J

RENEWABLE ENERGY

JLR is in the process of completing UK's largest electric car charging facility at Gaydon, while installing 82 public chargers across South Africa's frequently-travelled, long-distance holiday routes called the Jaguar Powerway. JLR's sites in the UK and Slovakia purchase 100% renewable, zero carbon electricity. Solar panels are fitted at JLR's UK engine and manufacturing operations, while its plant in China generates more than 11MWh of electricity.

TARGET 2030

JLR's aim to do more with less has enabled its employees to be more agile, even as the company sets environmental targets and measures for 2030. It is also taking and promoting actions to steward the environment in five areas: embracing the circular economy, advancing environmental innovation, creating value beyond boundaries, improving education and developing technology for good.

Each imperative will play a pivotal role in getting JLR into overdrive mode and making it reach its destination of a responsible future that it has envisioned.

The medical team with the JLR Discovery Red Cross emergency response vehicle





*Aquatic birds at the TCS
Hyderabad campus*

Doing more with less

Tata Consultancy Services' (TCS) environment policy focuses on integrating environmental considerations into business processes, going beyond compliance and adopting a lifecycle approach across its value chain.

One of the pioneers in the IT sector to be certified as ISO 14001 compliant for its Environment Management System (EMS) as early as 2003, TCS has successfully migrated to ISO 14001:2015 this year under the enterprise-wide certification, covering 120 locations globally.

CONSERVING ENERGY & MANAGING CARBON

With focus on energy reduction and carbon mitigation, TCS has reduced its specific carbon footprint by ~56% over the baseline year FY08. Its combined GHG emission was 1.31 tCO₂e/FTE (full-time equivalent), which was achieved by adding more green buildings to its real estate portfolio, placing roof top solar panels across offices, optimising IT system power usage, and improving operational efficiency through machine learning based cognitive algorithms on its IoT platform.

Over 50% of the total office space currently occupied by TCS is certified as green buildings. TCS'

corporate head office, TCS House in Mumbai, was awarded the highest Platinum rating by the Indian Green Building Council under the Existing Building category. TCS became the first IT services company in India to achieve the ISO 50001:2011 Energy Management System certification for its campus at Pune, Sahyadri Park.

TCS' Remote Energy Management programme connects 135+ sites from India and other geographies to monitor energy usage on a real time basis, leveraging technology and identifying opportunities for improvement. The IoT platform has been enhanced to acquire indoor air quality data on CO₂ levels, temperature and relative humidity.

Renewable energy use in TCS offices stands at 10.1%. This year the company added 1.7MW of solar rooftop systems across four locations. The open car park at TCS Deccan Park, Hyderabad, is covered with a canopy of solar photovoltaics.

TCS has continuously innovated and improved its energy efficiency through initiatives like data centre/server room consolidation, rack cooling solutions, airflow management, UPS load optimisation through modular UPS solutions and

centralised monitoring. These efforts have improved power utilisation efficiency (PUE) across 23 data centres to 1.67, against the industry average of 1.8.

SAVING WATER

TCS' new campuses are built for 50% higher water efficiency, 100% treatment and recycling of sewage and rainwater harvesting. In FY18, consistent water management measures helped the company to reduce its water consumption by 19% compared with FY08, the baseline year.

Rooftop collection systems, storage tanks, and recharge trenches and pits have helped in 22% of rain water percolating back to the land surface. TCS continues its efforts towards community watershed management and surface water body rejuvenation projects by scaling up its work at Siruseri (Chennai) Tamil Nadu; Kasalganga (Solapur) and Malguzari ponds (Vidarbha) in Maharashtra.

REDUCING & REUSING WASTE

TCS' waste management practices seek to maximise segregation at source, as well as reuse and recycle waste wherever possible. All the regulated waste is sent to government authorised recyclers. TCS campuses, owned offices and leased offices – having the required space – are provided with onsite food waste management facilities.

Dry waste is categorised, segregated and sent for recycling. In FY19, over 42% of the total food waste generated was treated using onsite composting methods or bio-digester treatment.

SOURCING RESPONSIBLY

Through its responsible sourcing programme, TCS motivates its suppliers to adhere to 100% regulatory compliance and strive for better sustainability performance. TCS' Supplier Code of Conduct is included as a part of the contract with all vendors. Pre-qualification compliance assessments and site audits are carried out for high risk vendors with periodic reviews during the contract period.



World leader in responsible tourism

The Indian Hotels Company (IHCL) has steered environmental stewardship by efficiently managing its assets and resources. The company integrates environment considerations into all its business decisions, processes and products and services lifecycle. It's sustainability imperative is driven by its sustainability champions, constituting the Green Teams.

TARGETING SUSTAINABILITY

Every IHCL hotel, based on the size and location, has specific annual targets (with the baseline average figure for the past 3 years as the benchmark), ranging between 2% and 7% for



IHCL encourages responsible tourism by organising Game Drive for tourists to enjoy the natural reserves. They rope in the local communities to be the guide on these tours

reducing carbon, energy and water intensity. Maximising the use of renewable energy in its total energy mix is a company-wide priority. In the past 3 years, IHCL has increased its renewable energy quotient from 7% to 23%.

CHAMPIONING THE CAUSE

IHCL has an audit and certification partnership with Earth Check, the world's leading scientific benchmarking, certification and advisory group for travel and tourism. The monitoring system comprises monthly tracking of environmental performance data, annual reviews, onsite audits, and certification of hotels that fulfil all Earth Check requirements.

Of the 80 hotels that participated in the Earth Check programme in FY18-19, 8 received platinum certification, 63 were gold certified and 8 received

Waste to Gold

Taj MG Road Bengaluru in collaboration with the Mahatma Gandhi Institute of Rural Energy and Development crafted a circular economy project called 'Waste to Gold'. Through the transesterification process waste cooking oil is converted to biodiesel and the by-product glycerin is distributed free of cost to the nearby community for use in soap making.

silver certification, making IHCL a worldwide leader in responsible tourism.

FORBIDDING PLASTIC USE

IHCL, which forbids single-use plastics and promotes 100% recycling, is creating awareness

Walk with the Pardhis

Through Taj Safaris – located on the outskirts of some of the country's famous national parks – IHCL is not only creating an immersive experience for guests but also promoting inclusive growth by ensuring participation of local communities in its nature trail programmes. IHCL in partnership with the Last Wilderness Foundation, an organisation devoted to wildlife conservation, developed a novel tourist experience 'Walk with the Pardhis'. Here, a trained Pardhi guide takes nature enthusiasts on a wildlife trail and helps them see the forest through their lens. For the Pardhi community members, who were hired as assistants by the Indian royalty during their *shikar* (hunting) trips, this is an opportunity to use their skill sets gainfully.

against plastic use in its hotels through guest engagements and community sessions.

IHCL replaced 2 million plastic straws across all its properties with paper and bamboo straws, and plastic bottles were replaced with glass bottles in Taj Samudra Colombo, Taj Exotica Maldives and Taj Andaman.

PROMOTING GREEN TOURISM

The Taj Exotica Resort & Spa, set amidst 46 acres of verdant forests and mangroves on the Havelock island in the Andamans, is a shining example of sustainable luxury. Committed to making the island plastic free, the hotel forbids single-use plastics and has partnered with the Pollution Control Board to keep the island plastic free.

A biogas facility, a water bottling plant, a reservoir for rainwater harvesting and solar panels for partially harnessing solar energy are the dedicated sustainability commitments of the hotel, which did not fell a single tree to construct its luxury villas. The resort also offers a host of fun and environment activities for its guests, engaging them in the marine and terrestrial ecology of the island.

RESPONSIBLE SOURCING

IHCL continues to integrate environmental consciousness in its supply chain. All IHCL suppliers adhere to the Tata Code of Conduct, which requires them to prohibit child labour, ensure the rights of workers and integrate principles of environmental sustainability into their businesses.

IHCL has revamped its sourcing and distribution model to a unified warehousing and distribution management system. This initiative has helped the company improve its supply chain efficiency and lower its carbon footprint, reduce stock inventories and optimise logistics by serving the hotel needs through regional hubs. Most products are sourced locally from small and medium scale businesses. The regional procurement teams make efforts to actively reach out to small scale enterprises, farmers' groups and vendors from disadvantaged sections that include less privileged women, artisans, the differently abled and cancer afflicted people.

IHCL has spent years perfecting its craft, decades earning a reputation and centuries building a culture which it calls 'Tajness'. Its commitment towards responsible hospitality is another step towards this.

43 hotels achieved 100% recycling of organic waste where by preventing **~5700 tonnes** of organic waste from reaching the landfill

1,769,293,882.9kl of water recycled and reused through rainwater harvesting and grey water treatment across IHCL properties

Sources products and **services** of **local farmers**, less privileged vendors and women self-help groups



Peafowl at the Tata Chemicals Biodiversity Park, Mithapur, Gujarat

Conserving Biodiversity

Tata group companies have always practiced responsible environmental performance.

They have added a new dimension to sustainability by integrating biodiversity conservation in their business process. Tata companies take concerted steps towards not only preserving the flora and fauna in the vicinity of their areas of operations but also enlist support of local communities in their bid to promote inclusive growth and social inclusion.

Impressed by Tata Chemicals' efforts in conserving the flora and fauna in its 150-acre Biodiversity park in Mithapur, Gujarat, the district forest officer invited the company to train their frontline forest department staff in the conservation activities. Here are some of the key initiatives taken by some of the group companies in conserving biodiversity.

DIVERSIFIED LANDSCAPES

The biologically diversified landscapes at TCS' facilities are home to 432 species of flora and a variety of fauna. The company's flora conservation practices include:

- Protecting native and endangered plant species, transplanting trees, growing medicinal plants and building nurseries and gardens.

- Organic fertilisers, procured through its waste management practices, are used to develop the landscapes.

Steps for fauna conservation include:

- Preserving butterfly zones; conserving bird and snake habitats, as well as bat colonies at its facilities
- Sterilising street dogs and wildlife rescue and release
- Collaborating with local NGOs – as part of its community-based biodiversity conservation programme – to save the olive ridley turtle and the Indian white-backed vulture
- Afforestation efforts include planting 10,000 teakwood trees on degraded agriculture lands of subsistence farmers in Tamil Nadu

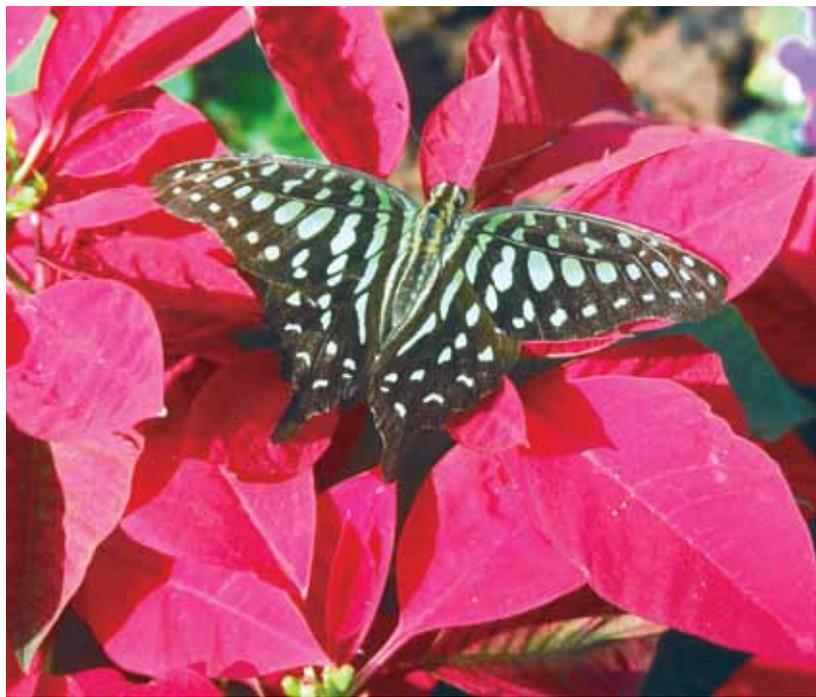
CONSERVING INDIGENOUS FLORA

In a bid to conserve indigenous flora, Tata Steel's mining operations division has collaborated with the International Union for Conservation of Nature to:

- Plant native plant species across its raw material locations and remove invasive species
- Install nest boxes in the hills of Noamundi mines in Jharkhand to minimise the impact on flora and



(Left) The bamboo straws used across IHCL properties in a bid to reduce use of plastic; (below) Butterfly zone at a TCS campus



fauna due to its mining operations. Tata Steel has been commended for its responsible environmental performance by The World Steel Association, which recognised Tata Steel as one of the Steel Sustainability Champions of 2018.

AT HOME WITH FLORA AND FAUNA

Mithapur in Gujarat, where Tata Chemicals’ salt and soda ash production are located, is home to diverse marine and terrestrial life. Its beaches welcome marine turtles for nesting and its forests and wetlands provide shelter to wildlife and birds. Much of this biodiversity, however, stands threatened by the rampant spread of the weed gando baval (*Prosopis juliflora*) that stifles the native flora. In 2004, Tata Chemicals set up a Biodiversity Park to preserve the flora and, in turn, the fauna that depends on it.

- Spread across 150 acres, the park is home to many endangered species of animals and birds like the star tortoise, Indian pangolin, Eurasian marsh harrier and houbara bustard along with the barn owl and spotted owl.
- It is also abode to jackals, hyenas and leopards.
- The presence of 11 species of raptors – predators at the top of the food chain – is evidence that the park’s biodiversity is thriving.

MAKING TRAVEL ECOLOGICALLY BALANCED

Taj properties across the country are doing their bit towards maintaining the ecological balance. Their activities include:

- Involving local communities in nature trail tours, thereby promoting inclusive growth
- Seeking local help for plantation drives
- Banning single-use plastics
- Naturalists in Pashan Garh, a Taj Safari in Madhya Pradesh’s Panna Tiger Reserve, have been sensitising children of nearby village schools on the importance of preserving our forests and wildlife. **TR**