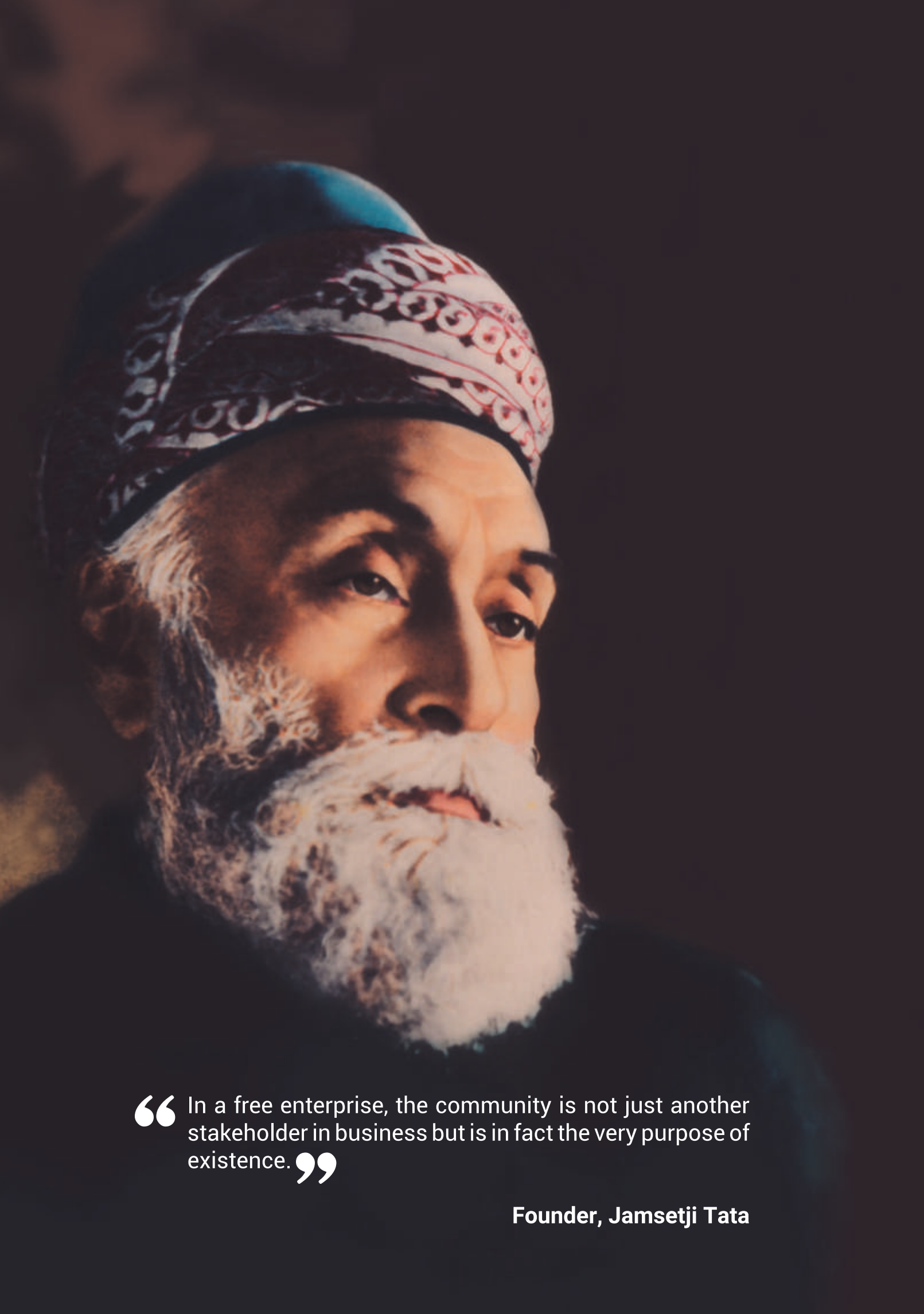
TATA MOTORS

FUTUREADY

TATA

SUSTAINABILITY REPORT
FY 2016-17



“In a free enterprise, the community is not just another stakeholder in business but is in fact the very purpose of existence.”

Founder, Jamsetji Tata

Contents

1

About The Report.....1

Message from CEO & MD.....3

Message from COO & ED.....5

About Tata Motors Limited.....7

Governance..... .14

Message from Head (SHE & Sustainability).....28

Sustainability Highlights & Awards.....29

Sustainable Mobility Solutions.....32

Helping the Customers.....36

Product Stewardship.....39

Sustainability Priorities.....52

Business with Responsibility [3Ps].....70

Economic Performance.....71

Protecting the Environment.....76

Workforce.....120

Workplace Safety.....136

Value Chain Sustainability.....145

CSR.....156

Independent Assurance Statement.....169

GRI Index.....174

NVG Mapping.....189

UNGC-COP Mapping..... 189

SDG mapping.....191

Alignment with <IR>.....192

Abbreviations..... 193

About
The Report

Our Approach to Sustainability Reporting

Tata Motors Limited publishes the sustainability report on yearly basis[1], disclosing the performance and initiatives in the economic, environmental and social space. Resulting from the introduction of GRI standards, we have made the transition from GRI-G4 and this year we have published our thirteenth sustainability report for FY 2016-2017 as per GRI Standard "in accordance – comprehensive" criteria. The report is aligned to 'Ten Principles of United Nations Global Compact' (UNGC), 'Sustainable Development Goals' (SDG's) and the National Voluntary Guidelines on Social, Environmental and Economic (NVG-SEE) Responsibilities of Businesses in India issued by the Ministry of Corporate Affairs, Government of India and is prepared in compliance with the 'Business Responsibility Report' Clause 55 of the equity listing agreement with stock exchanges in India.

This report provides insights into our approach to sustainability, along with strategy, objectives and performance.

Our Principle for Defining Report Content and Context

At Tata Motors Limited, we believe that broader and inclusive stakeholder engagement provides valuable inputs for identification of our material topics.

Our materiality assessment provided sustainability context and helped us prioritize strategies, policies and action plans in the area of the economy, environment and society. In this sustainability report, we have disclosed on all the material issues, including issues that are identified as low, high and critical in the materiality matrix, in line with the GRI topic specific standard. In addition to the identified material topics, we have included effluent, waste and water as material topics in this year's sustainability report.

While developing the content of the report, we have aligned our sustainability report as per the disclosure requirements of GRI standards by applying the reporting principles of materiality, stakeholder inclusiveness, sustainability context and completeness.

Scope and Boundary

Our 2016-17 report highlights the performance of Tata Motors Limited, India operations located at Pune, Jamshedpur, Lucknow, Sanand, Dharwad and Pantnagar. We have also included the sustainability performance of three of our subsidiaries and one joint venture (JV)[2] namely,

[1] *The reports for years 2004-05 and 2005-06 were limited to internal circulation. Reports from 2006-07 onwards are publicly accessible and can be accessed from http://www.tatamotors.com/about-us/sustainability-approach-reports/*

[2] *For a complete list of our subsidiaries and joint ventures, please refer to annual report 2016-17*

- Tata Technologies Ltd., Pune;
- TAL Manufacturing Ltd., Nagpur
- Tata Marcopolo Motors Ltd., Dharwad
- TAL Manufacturing Solutions Ltd., Pune;
- TML Drivelines Ltd., Jamshedpur
- Tata Marcopolo Motors Ltd., Lucknow.

Key Exclusions

In sustainability report of 2016-17, the main exclusions are mentioned as below:

- The economic performance of subsidiaries.
- Product innovations and customer service of the subsidiaries.
- Information on the local community engagement and CSR activities of the subsidiaries.

Other exclusion related to the specific disclosure has been mentioned in the materiality mapping table and GRI index section.

Report Assurance

The content and data disclosed in this report has been independently verified and externally assured. The conformance of our Sustainability Report 2016-17 with "in accordance - comprehensive" requirements of the GRI Standard has been verified by DNV-GL, an independent third party assurance provider. They have conducted the assurance engagement as per Type 2 moderate level as set out in the AA1000 Assurance Standard 2008 and have provided assurance, at a 'limited level', the statement of which forms a part of this Report. The assurance statement by DNV-GL covers the summary of the work performed, the manner in which the assurance engagement has been conducted, the extent to which TML has applied GRI Standard and the conclusions on the Report. The overall responsibility of sustainability report assurance is with SHE committee supported by Safety, Health and Environment council and plant level apex committees.

Cautionary Statement: *This report contains "forward-looking statements" describing the Company's objective, projections, estimates and expectations. Actual results could differ materially from those expressed or implied. Important factors that could make a difference to the Company's operations include, among others, economic conditions affecting demand / supply and price conditions in the domestic and overseas markets in which the Company operates, changes in the Government regulations, laws and other statutes and incidental factors*

Message From **CEO & MD**

> **Sustainability is core to the 'Triple Bottom Line - (TBL)' approach for organizations in current times. While we continue to focus on improving our economic performance, it is equally important to address social and environmental concerns, going beyond statutory compliances, physical boundaries, & addressing ESG (Environmental, Social, Governance) of entire value chain is the need of the hour.**

Dear Colleagues,

I am pleased to present to you our thirteenth annual sustainability report titled 'FUTUREADY', which summarizes our performance and commitment towards the 'Triple Bottom Line'. This year we have made the transition from GRI G4 to GRI standard "in accordance – comprehensive" criteria. The report is also aligned to 'Ten Principles of United Nations Global Compact', 'Sustainable Development Goals' and 'National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business' of the Ministry of Corporate Affairs, Government of India.

The world is going through the early stages of the Fourth Industrial Revolution and with growing implications from rapid technological advancements like artificial intelligence, a holistic approach to sustainable growth is critical. At Tata Motors Limited, we innovate mobility solutions with passion to enhance the quality of life, and strive to institutionalize sustainable practices in every aspect of business, in order to not just face emerging challenges but stay ahead of the curve in the era of continuous change.

Financial year 2016-17 has been a dynamic year for Indian automotive industry, from the ban on diesel cars to demonetization, followed by recent shift of sale and registration of BS III to BS IV vehicles by Indian Supreme Court. To address the challenges in the regulatory environment, we are ready with SCR (Selective Catalytic Reduction) and EGR (Exhaust Gas Recirculation) technologies for BS IV compliant engines.

We consider Climate Change as one of our material issues. To address this risk, we have our Climate Change policy and developed strategies in line with this policy for our passenger and commercial vehicle business units. Our approach towards climate change mitigation and pursuing low carbon growth is three-fold. We are working towards developing cleaner and more efficient vehicles, reducing environmental impact from manufacturing operations, and building awareness among all stakeholders. In our effort to reduce our green-house gas (GHG) emissions, we are continuously striving to increase the share of renewable energy, improve our operational energy efficiency through ENCON, producing energy efficient products and diligently monitoring GHG emissions due to our business. In our effort to meet the growing needs of mobility solution and reiterating our commitment towards smart and sustainable technology, we have launched, in FY 2016-17, the STARBUS ELECTRIC 9m, the STARBUS ELECTRIC 12m and the STARBUS HYBRID 12m buses, designed, developed and powered by alternate fuels. We have also showcased the country's first Fuel cell bus (12m), LNG Powered bus (12m), and 18m Articulated bus. Developed indigenously, these buses are viable 'MADE IN INDIA' solutions ensuring safe, comfortable, economical and sustainable mass transport solutions.

We are the second Indian company to join RE100 initiative, a drive led by the Climate Group, and we have increased the share of Renewable Energy from 8.44% in 2015-16 to 16.34% in 2016-17 of the total electricity consumption.

Safety & Health is of paramount importance to us and we are committed to provide our employees with safe and healthy working environment. During the year, we have achieved a reduction of 11.8% in 'Lost Time Injury Frequency' rate and 5.36% reduction in Total Recordable Cases frequency rate as compared to last year, but are saddened by the three unfortunate fatalities that occurred at Pune and at Jamshedpur. The incidents leading to the fatalities were thoroughly investigated and we have introduced new policies in relation to lone working, CCTV installations, use and replacement of vehicles for business purpose (for travel safety) and industrial hygiene, in addition to the existing 18 safety standards to address the root cause of the fatalities. We have set the safety targets to decrease the total recordable cases by 65% by 2020 from the identified base year of 2016-17. All our commercial and passenger vehicles manufacturing plants are OSHAS 180001 certified and we have implemented robust second party safety audit.

In view of the complexity of our operation and dependency on our supply chain, Tata Motors has taken up the sustainable supply chain initiative for mitigating the environment, social and governance (ESG) risks in the supply chain. We continuously engage with our suppliers to provide inputs and assess their performance on economic, environmental and social dimensions. This year we have with engaged with 105 top suppliers who have reported on their ESG performance. We have assessed 52 of them through on-site sustainability assessment and reported on their ESG performance in our Sustainability Report 2016-17. The overwhelmingly positive response from our suppliers has been encouraging; within 3 to 5 years we aspire to cover 100% of our critical Tier 1 suppliers in the process of sustainable supply chain engagement.

Derived from the values of corporate citizenship in the Tata Group, the focus of our community development programs is to meet the needs of our stakeholders and is strategically tied to competencies and business needs of our organization. Health (Arogya), Education (Vidhyadhanam), Employability (Kaushalya), and Environment (Vasundhara) continue to be the four pillars of our community development agenda. We have also introduced mechanism for capturing the value creation from our community development programs by assessing the social return on investment (SROI) for all our long duration (5 years or more) programs. Our intention has always been to help the disadvantaged section of society and we continue to strive to bring in positive impact on the society through our Affirmative Action initiatives.

To conclude, I would like to reiterate our commitment towards sustainable development while being responsible to our business. I would like to take this opportunity to express my gratitude to all our stakeholders for contributing and partnering with us in our journey of sustainability. Your views and suggestions in this journey are important to us and we welcome your feedback.

Guenter Butschek
CEO & Managing Director
Tata Motors Limited

Message From
COO & ED

> **Since the inception, under the guidance of Tata Group philosophy, sustainability and responsible business has always been of utmost importance to us.**

This is our thirteenth sustainability report and we sincerely hope that this report provides insight into our business operations and sustainability performance.

We are publishing this report as per GRI standard and disclosing on all the identified material topics and relevant goals. Additionally, waste and water have been included as the material topic in our Sustainability Report 2016-17. With the help of our established sustainability governance structure and close integration among all departments, we intend to work towards achieving our set targets and aspirational goals assigned to energy, environment, health, safety, value chain and social areas.

Tata Group sustainability policy had been formulated in June 2015. In harmony with Tata Group sustainability policy and Tata Code of Conduct, our business strategy and decisions are taken considering the environmental and social impact on communities and contribute to sustainable development of the nation as a whole.

Despite the challenges due to the changing dynamics in the global and national business environment, owing to change in the regulatory environment and stakeholder expectations, we have produced a total number of 521943 vehicles in 2016-17, an increase of 6% from 2015-16 production numbers. Delighting our customers with our service and innovative products is vital to our business. During 2016-17, we have spent INR 21 billion in Research and Development (R&D) and achieved 22 patents granted. To fulfil our commitment towards sustainable mobility solutions, we have introduced alternate fuel and hybrid buses and shall continue to innovate environment friendly and safe technologies.

We, at Tata Motors, acknowledge climate change as a critical risk and to demonstrate our commitment towards reducing Green-house Gas (GHG) emission reduction, we have become a signatory of RE100 initiative. In this context, renewable energy is a thrust area for us at Tata Motors and we aspire to source 100% of our energy from renewable energy source by 2030. We are also working towards achieving "Zero Waste to Landfill" and "Water Positivity" in near future. Safety continues to be a critical area and we continue to push the safety envelope further with our stringent processes, safety standards, trainings and involved leadership.

Our diverse and multi-tiered supply chain is an integral part of our business and has been identified as crucial feature for our business continuity. To integrate Environmental, Social and Governance (ESG) aspects in supply chain for mitigating plausible risks, we have initiated focused engagement with our selected critical suppliers to monitor and enhance their ESG performance. We shall continue our engagement with suppliers for ensuring sustainable supply chain.

As we continue our voyage towards "FutuReady", imbibed with our strong ethos and values, I would like to express my gratitude to our stakeholders for being a part of Tata Motors Limited's sustainability journey.

Satish Borwankar
COO & Executive Director
Tata Motors Limited

About **Tata Motors** Limited

Sustainability Report 2016-17 | **About Tata Motors Limited**

Our **History, Business & Key Statistics**

Tata Motors is a part of Tata Group founded by Jamshetji Tata in 1868 and is the largest manufacturer in Indian automotive industry, with a wide range of portfolio covering cars, sports vehicles, buses, trucks and defence vehicles. Established in 1945, today Tata Motors operates from 163 countries, globally, employing 60,000 work-forces and having more than 6600 service points.

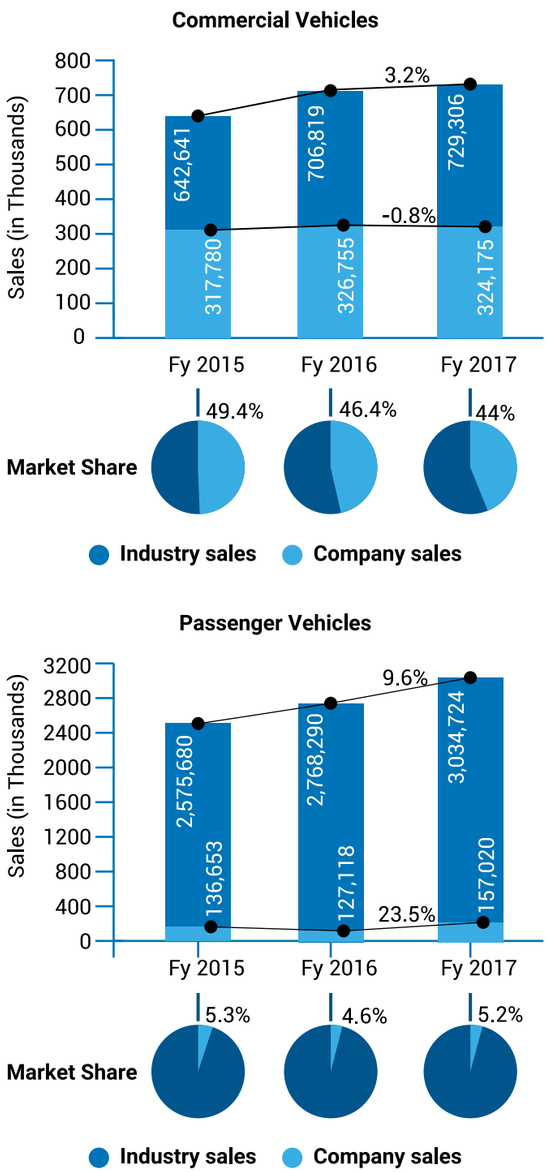
Tata Motors became an international brand in 1961 and currently our international market presence spans across several countries in Europe, Africa, the Middle-east, Southeast Asia, South America, Australia, CIS and Russia. Subsidiaries and associate companies have helped the company to expand its operations to UK, South Korea, Thailand, South Africa and Indonesia.

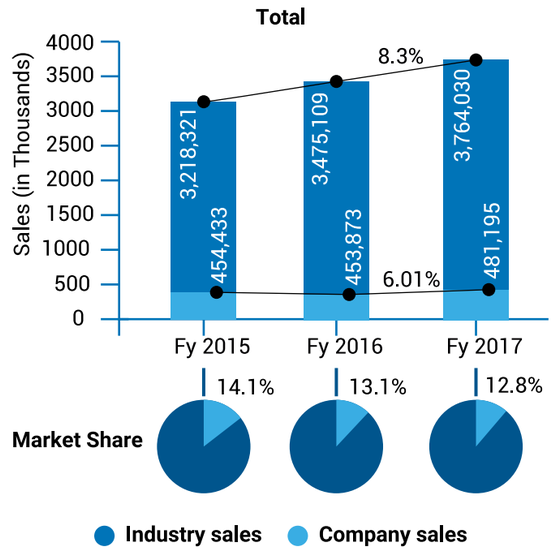
In India, we have manufacturing facilities located at Jamshedpur, Pune, Lucknow, Pantnagar, Sanand and Dharwad. We have 18 subsidiaries of which the performance of 4 of the subsidiaries namely, TAL Manufacturing Solutions Ltd. (TAL), TML Drivelines Limited, Tata Marcopolo Motors Ltd. (TMML) and Tata Technologies Ltd. (TTL), have been included in this report.

During fiscal year 2017, sales in the domestic CV industry registered a growth of 3.2% in volumes and the domestic PV industry registered a growth of 9.6%, supported by growth in both passenger cars and utility vehicles. Followed by demonetization in November 2016, auto industry has witnessed significant decline in sales for a short period of time[3].

During fiscal year 2017, our CV segment has shown declined performance as compared to last fiscal year 2016. Domestic CV market has been facing significant challenges resulting from tighter financing, over capacity in the market and increasingly competitive freight rate. In view of the tough domestic CV market, it is evident that key purchase criteria continue to be on payload and fuel efficiency with specific focus on total cost of ownership.

Product Categories





Source: Society of Indian Automobile Manufacturers report & Company Analysis

Mission, Vision & Values

We are a company that constantly innovates across passenger and commercial vehicles to provide sustainable mobility solutions for people and goods. With a deep urge to address customer needs, we offer the widest portfolio of products. In our efforts to make a substantial contribution to the uptake of innovative and green urban mobility solutions, we bring in the most advanced technologies to offer relevant solutions. As a part of the Tata group, we believe in making a difference for our employees, for the communities we are part of and for the country. Our Mission statement clearly defines our purpose of existence and our passionate commitment to bring sustainable innovation into everything we do to enhance the quality of life.

We aspire to be among Top 3 in global commercial vehicle markets and domestic passenger vehicle markets in next 3 years while achieving sustainable performance and delivering exciting innovations and same has been mentioned in our vision statement. Faster time-to-market new technologies will be our key goal to find new and agile ways of innovating and experimenting. To compete in the market, our approach will be targeted to reduce complexity, provide for future technologies and ensure global relevance. We aim not only to comply with the emerging regulations but to be ahead of the curve to manage ESG risks. We are constantly looking at proactively converting these risks into opportunities by developing and delivering sustainable mobility solutions.

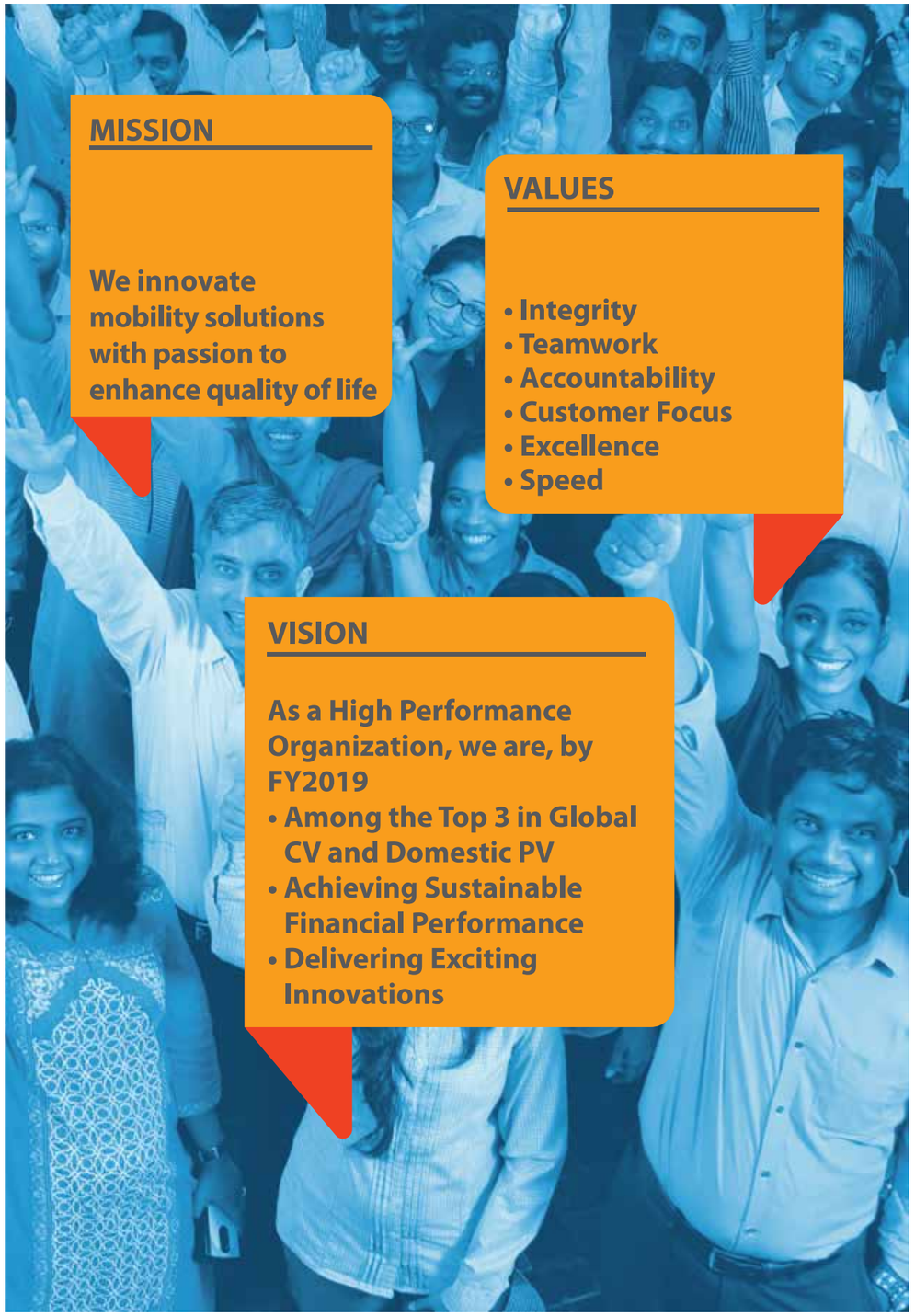
Short-Term Strategy for Growth in Market Share

- Leverage on our new products such as Ace Mega, Prima LX, Signa range
- Specific initiative to increase TML's reach in micro segment
- Provide customized products with value added service
- Improvement in customer service & better customer engagement
- Continue to strengthen after sale strategy through various customer focussed initiatives such as Tata Alert, Tata Kavach & Tata Priority First

Medium to Long-Term Strategy to Maintain Leadership Position in Domestic Market

- Continue our effort for delivering class leading products
- Strenthen product portfolio to address key gaps in the segment
- Identify opportunities and introduce value added technologies

[3] *http://economictimes.indiatimes.com/articleshow/56791316.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst*



FUTUREADY

TATA MOTORS

Governance

> No success or achievement in material terms is worthwhile unless it serves the needs or interests of the country and its people and is achieved by fair and honest means.
>
> **J.R.D. Tata**

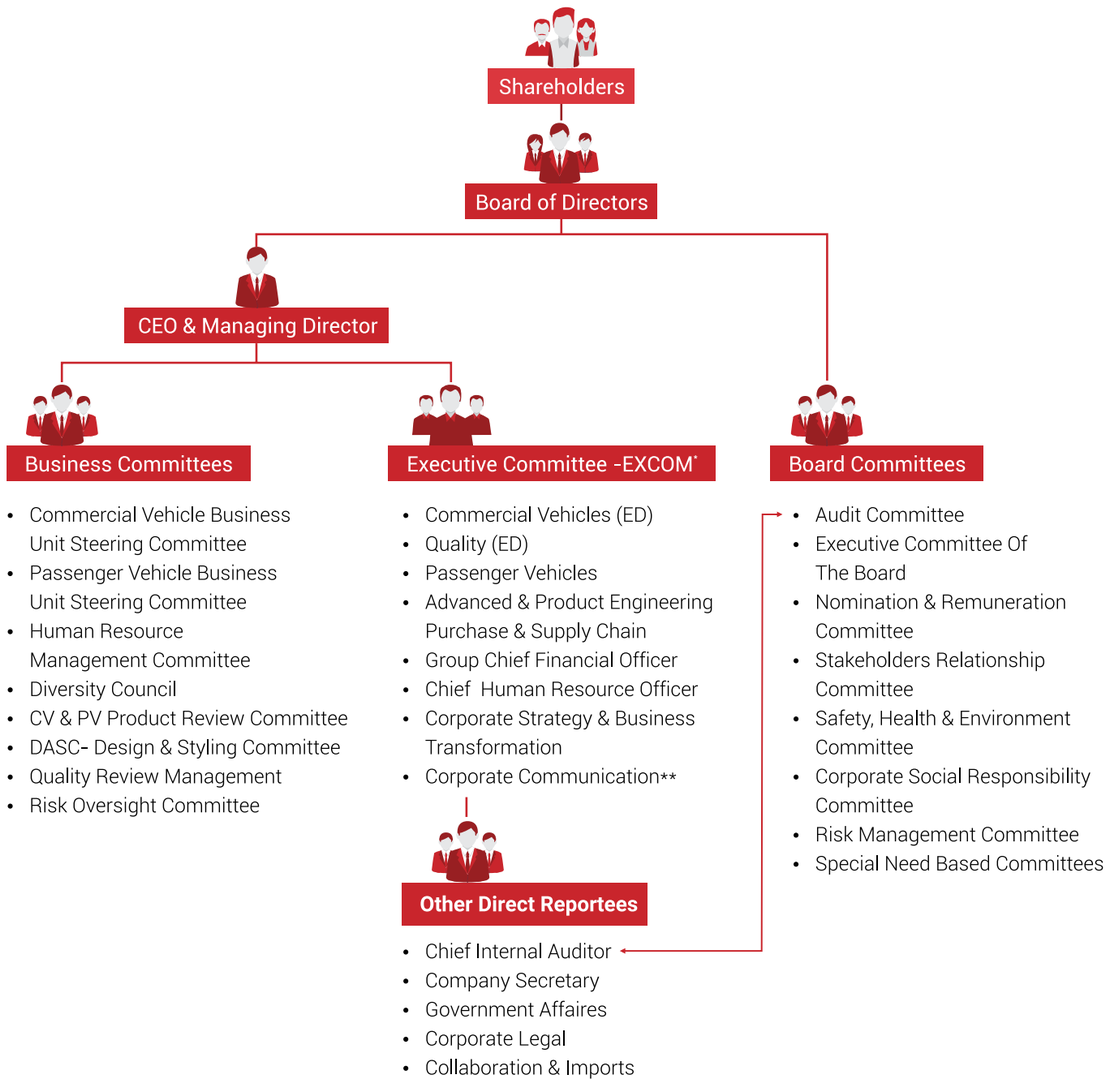
Sustainability Report 2016-17 | **Governance**

Corporate Governance

We at TML, strongly believe that good corporate governance is fundamental to the success of any organization and ensures inclusive and sustainable growth. Good corporate governance leads to effective decision making and it supports formation of robust operations, financial, risk and information management systems. Our philosophy on corporate governance is in line with the Tata group philosophy which is further strengthened with the adherence to the Tata Business Excellence Model as a means to drive excellence. We have been practicing the principles of good corporate governance since our inception and have laid strong emphasis on independence, responsibility, transparency, professionalism, accountability and code of ethics to ensure adherence to the Tata ethics and value system.

Our current Organization Chart depicting the relationship between the Board of Directors, the Committees and the Senior Management functions as on March 31, 2017, is illustrated below:

Corporate Governance Structure



The Board of Directors at Tata Motors Ltd. comprises of ten Directors of which seven are non-executive, including one Woman Independent Director. The Board, under the able guidance of Mr. Guenter Butschek (CEO and Managing Director), periodically reviews the organizational policies, procedures and performance conducted by the Board. For details regarding the composition of governance body, please refer to our 72nd Annual Report 2016-17[4] .

Managing Business Risk

The Board is responsible for the overall process of risk management throughout the organization. Through our Enterprise Risk Management program, the Company's business units and corporate functions address opportunities and the attendant risks through an institutionalized approach aligned to the Company's objectives. This is also facilitated by internal audit.

The Business risk is managed through cross-functional involvement and communication across businesses. The results of the risk assessment and residual risks are presented to the senior management. The Audit Committee reviews business risk areas covering operational, financial, strategic and regulatory risks.

The Board has constituted a set of Committees with specific terms of reference/scope to focus effectively on the issues and expedite appropriate resolution of diverse matters. The Committees operate as empowered agents of the Board as per their Charter/terms of reference. Targets set by them as agreed with the management are reviewed periodically and midcourse corrections are also carried out. The Board of Directors and the Committees also take decisions by circular resolutions which are noted during the following meeting.

Board Committees and Their Functions

Board Committees	Functions
Audit Committee	The objective of the Audit Committee is to review the quarterly/annual financial statements before submission to the Board. The committee also reviews the adequacy of internal control systems with the management, external auditor and internal auditor and recommends improvements to the management. For further details, please refer page no. 173-174 of Annual Report 2016-17.
Stakeholder's Relationship	The Committee oversees and reviews statutory compliance relating to all security holders. It further considers and resolves the grievances of security holders of the company including complaints related to transfer of securities, non-receipt of annual report / declared dividends / notices / balance sheets. The Company has a designated email id: inv_rel@tatamotors.com for contacting the Compliance Officer. For further details, refer to page no.178-179 of Annual Report 2016-17.
Nomination and Remuneration	The Committee recommends to the Board the setup and composition of the Board and its Committees including the "formulation of the criteria for determining qualifications, positive attributes and independence of a director". For details of the remuneration of Directors, Key Personnel and Employees, please refer to page no. 106 of Tata Motors Ltd. Annual Report 2015-16. For further details, refer page no. 174-178 of Annual Report 2016-17.
The Safety, Health & Environment	The Committee was constituted with the objective of reviewing Safety, Health, Environment and Sustainability practices and performance. The Committee comprises of two Independent Directors and two Executive Directors. For further details, refer page no. 179 of Annual Report 2016-17.

[4] *http://www.tatamotors.com/investor/annual-reports/*

Board Committees	Functions
Corporate Social Responsibility Committee	The Committee formulates and recommends to the Board, a CSR Policy which shall indicate the activities to be undertaken by the Company as specified in Schedule VII. The Committee also recommends the amount of expenditure to be incurred on the activities referred to in clause (a) of the CSR rules. It also monitors the CSR Policy of the Company from time to time. For further details, refer page no. 180 of Annual Report 2016-17.
Risk Management Committee	The committee assists the Board in overseeing the Company's risk management process and controls, risk tolerance, capital liquidity and funding etc. and its periodic update thereof to the Board. It is also responsible for reviewing the Company's risk governance structure, assessment, practice, guidelines etc. The Committee comprises of 4 Independent Directors. For further details, refer page no. 180 of Annual Report 2016-17.
Executive Committee of the Board	The Executive Committee of the Board reviews capital and revenue budgets, long-term business strategies and plans, the organizational structure of the Company, real estate and investment transactions, allotment of shares and/or debentures, borrowing and other routine matters. The Executive Committee of Board presently comprises of 1 Independent Director, 1 Non- Executive Director and 3 Whole-time Directors. For further details, refer page no. 179 of Annual Report 2016-17.

Visit our website: http://www.tatamotors.com/about-us/leadership/

Ethics And Integrity

Tata Motors has an Ethics Framework in place in line with Tata Group values to ensure ethical standards by its vendors and contractors through appropriate clauses in its work contracts. This framework includes Board oversight of ethics programs and activities. The Company also has a whistle-blower mechanism, for ensuring confidentiality and protecting the whistle-blower from any harassment/ victimization. The policy covers instances pertaining to any unfair practice like retaliation, threat or intimidation of termination/suspension of service, disciplinary action, transfer, demotion, refusal of promotion etc. The Policy is directly monitored by the Chairman of the Audit Committee and the Chief Ethics Officer.

At Tata Motors Limited, we have conducted an ethical assurance survey in 2016 to gather views from our employees, dealers and vendors. This survey helps us understand the changing business environment and aligns our ethical code of conduct, if necessary.

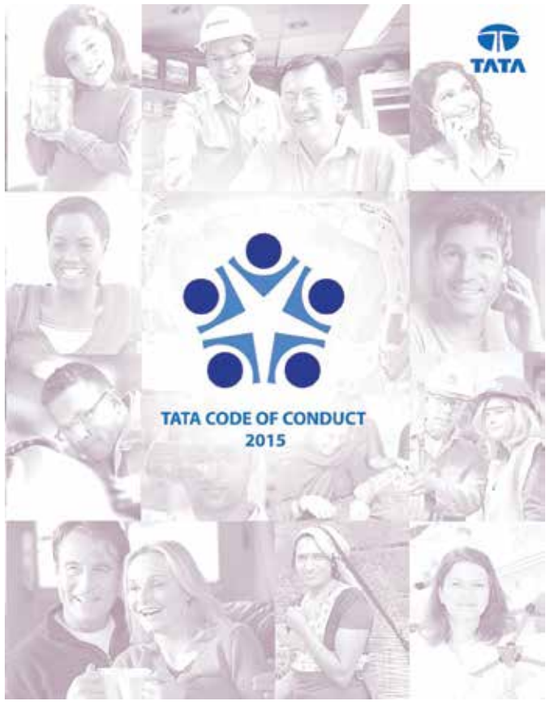
Chief Ethical Counsellor is responsible for management of overall business ethics.

The Company has an ethics helpline where employees can place anonymous complaints against ethics violations and can be reached through **Ethics Hotline Number (1800 224440 / 022-2287 1839)** or oral reports. All concerns can be reported to Chief Ethics Counsellor/ Chairman of the Audit Committee in Hindi, English or any regional language.

TATA Code of Conduct

The Tata Code of Conduct (TCoC) represents the values and core principles that guide the conduct of every Tata business and is followed throughout the organization to monitor aspects including anti-bribery, corruption, equal opportunities and human rights. TCoC, developed at Tata Group level, accounts for all our stakeholders i.e. employees, customers, communities in which we operate, value chain partners, joint venture partners, financial stakeholders, the government of countries in which we operate and other group companies, and guides towards highest moral and ethical standards. It lays emphasis on striving to balance the interests of our stakeholders, and provide avenues for them to raise concerns or queries in good faith, or report instances of actual or perceived violations of our Code. The primary objective of the TCoC is to ensure effective implementation and adherence to the group's mission on environmental, labour practices, societal and code of conduct aspects. The procedures for addressing and resolving issues related to conflicts of interest are stated in the TCoC for the relevant personnel, which includes employees, Executive, Directors and Chief Executive Officer/Managing Director. For all the employees other than Executive Directors, the Chief Executive Officer / Managing Director is the competent authority for decision making, who in turn reports such cases to the Board of Directors on a quarterly basis. In the case of the Chief Executive Officer / Managing Director and executive directors, the Board of Directors of our company has been designated as the competent authority for decision making and resolving the issue through appropriate means.

The Code is also dynamic and has been periodically refreshed in order to remain contemporary and contextual to the changes in law and regulations. However, it remains unaltered at its core. It was last refreshed in FY 2015-16 to enhance its alignment with the global business environment.

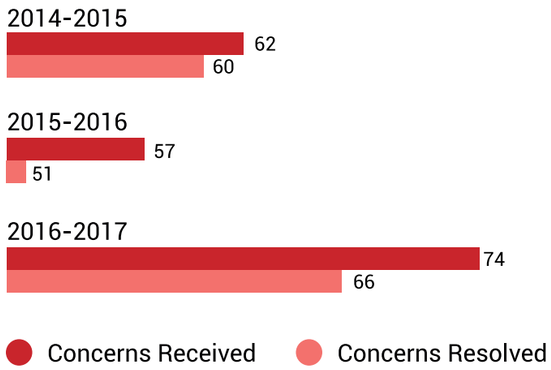


A defined Code of Conduct is available and applicable for independent directors of the company under the responsibility of Company Secretary. Training and awareness on TCoC are provided to all employees and relevant stakeholders are also made aware of the same from time to time.

Ethical Concerns

We have a robust mechanism to receive and resolve all ethical concerns. Our TCoC provides overall guidance for operating our business. The status of the TCoC concerns is reviewed by the Audit Committee every quarter. During the year 2016 – 17, following are the concerns received and resolved by TML:

Trend in Concerns Received/Resolved by TML



Concerns Received/Resolved by TML in FY 2016-17

Investigation of 8 TCoC concerns at TML and 2 of TMML are in progress as per TML's Management of Business Ethics.

Our established grievance redressal mechanism provides access to all the stakeholders for conveying their concerns and getting the necessary attention from TML's management. Our grievance handling mechanism captures concern covering all the key areas of environment, health and safety, compliance, human resource, product responsibility and social responsibility.

- Environment: Our environmental grievance handling mechanism covers all aspects of the environment, namely biodiversity, energy, emission, water, waste and environmental compliances as covered under TCoC. Head (SHE) is responsible for addressing the grievance related to the environment, supported by SHE team at the plant level. Furthermore, every plant is equipped with a requisite mechanism to receive and deal with grievances from the stakeholders.
- Procurement and Supply Chain: We have a dedicated supplier code of conduct which provides the overall guidance on the procurement, supply chain and for reporting violations in our supply chain. Corporate SHE team and Procurement and Supply Chain team are equipped with mechanisms to receive and deal with grievances from interested parties at a plant level.
- Human Resource: Human Resource department is the first level of contact for receiving and dealing with grievance related to employees. In the case of escalation, Ethics Counsellor is responsible for addressing and resolving the concerns. We have Sexual Harassment Avoidance and Redressal (SHAR) Policy in-line with Tata Code of Conduct and within the legal framework to prevent and address Sexual Harassment at the workplace. The Sexual Harassment Avoidance and Redressal System includes various locational SHAR committees and in addition, an APEX Corporate SHAR committee based in Mumbai. This acts as an Appellate Body and is responsible for disseminating SHAR policy and taking effective steps for its propagation amongst employees and for fostering a free and fair reporting of all the issues. Any complaints of sexual harassment can be reported at SHAR@tatamotors.com.
- Occupational Health and Safety: TCoC provides overall guidance on receiving and dealing with grievances related to health and safety. There is a dedicated online safety portal for reporting and it is a part of a regular review. In addition to the SHE Committee and Apex and sub committees, there

Subsidiaries:

Ethical Concerns for Subsidiaries:

Trend in Concerns Received/Resolved by TML Subsidiaries

Ethical Concerns for Subsidiaries[5]								
TCoC Concerns	TTL		TAL		TMLDL		TMML	
	Received	Resolved	Received	Resolved	Received	Resolved	Received	Resolved
2015-16	5	5	2	2	4	4	1	1
2016-17	0	0	0	0	6	6	10	8

Ethical Concerns Received/Resolved by Subsidiaries in 2016-17

TCoC Concerns Types	Concerns in Numbers (FY2016-17)			
	TMML		TMLDL	
	Received	Resolved	Received	Resolved
Employee Relations	8	6	0	NA
Environment, Health & Safety	0	0	0	NA
Diversity, Equal Opportunity & Respect in the Workplace	2	2	1	1
Sexual Harassment	0	0	3	3
Financial Impropriety	0	0	1	1
Legal Compliance	0	0	0	NA
Unfair Business Practices Followed	0	0	1	1
TOTAL	**10**	**8**	**6**	**6**

No ethical concerns are received for TAL and TTL during the year 2016 -17.

[5] *We have initiated reporting on ethical concerns for our subsidiaries from 2015-16.*

are divisional committees which represent all the operational levels and meets at regular intervals to address the grievances.

- Product: We have dedicated TCoC for dealers, which provides guidance for handling grievances related to customers and marketing of products. All the complaints are registered through customer helpline and can be tracked on daily basis. The complaints can be escalated to the President, Managing Director and Chairman's offices till the closure of the complaint.
- Corporate Social Responsibility: TCoC provides guidance on handling local community grievance. CSR Committee at the BoD level is responsible for CSR activities, supported by corporate CSR team. At plant level, CSR/AA Committee is equipped to deal with grievances received from stakeholders.

Anti-Corruption

Prevention of corruption and commitment to fair competition is one component of compliance efforts. TML has an Ethics Framework in place in line with Tata Group values, as outlined in Tata Code of Conduct, supports the development and operation of competitive open markets and the liberalization of trade and investment in each country and market in which we operate.

As a member of the Advertising Standards Council of India (ASCI) we follow its Code for Self-Regulation in Advertising and Marketing Communications. None of our advertisements and promotions mislead in terms of claims and representations. We abstain from any kind of offensive alignment or anti-social content in our marketing communications. The National Fair Trade Regulator – Competition Commission of India (CCI) had initiated legal actions for alleged anti-competitive behaviour against 17 car manufacturers including Tata Motors[6]. The matter is currently subjudice before the Delhi High Court which has stayed the penalty imposed by the CCI.

There have not been any incidents of corruption and anti-competitive behaviour in FY 2016-17. We have a process in place to take appropriate disciplinary action proportionate to the gravity of misconduct in line with the principles of natural justice which is taken against the erring employees. We provide regular training to all our employees on anti-corruption and anti-competitive as per the TCoC for TML.

Regulatory Compliance

Appropriate systems are devised to ensure compliance with the provisions of applicable laws and that such systems are operating effectively. "Legatrix" has been implemented which is an online compliance tool that helps us to track and manage compliance of various regulatory and legal requirements. We comply with new and existing laws, regulations and policies regarding increased fuel economy, reduced greenhouse gas and other emissions, vehicle safety, taxes and pricing policies. We adhere to all regulatory requirements pertaining to emissions, safety, product labelling and other clauses of the Central Motor Vehicle Rules of India and Bureau of Indian Standards. The product and service information are in compliance with all the standards that govern us.

[6] *http://www.livemint.com/Industry/Ud6svtc3PU707BWV3fQdEJ/Delhi-HC-reserves-judgment-in-auto-makers-plea-against-pena.html*

Sustainability

Management & Initiatives

At TML, we believe that sustainability is an integral part of strategic management and corporate planning, therefore incorporate environmental and social factors into the identification of material topics and prioritization of KPIs.

The Board has also constituted a set of committees with specifically assigned areas to focus effectively on strategies leading to the integration of sustainability issues into the core business.

Board of Director Committee Alignment with Sustainability

Sustainability Policies

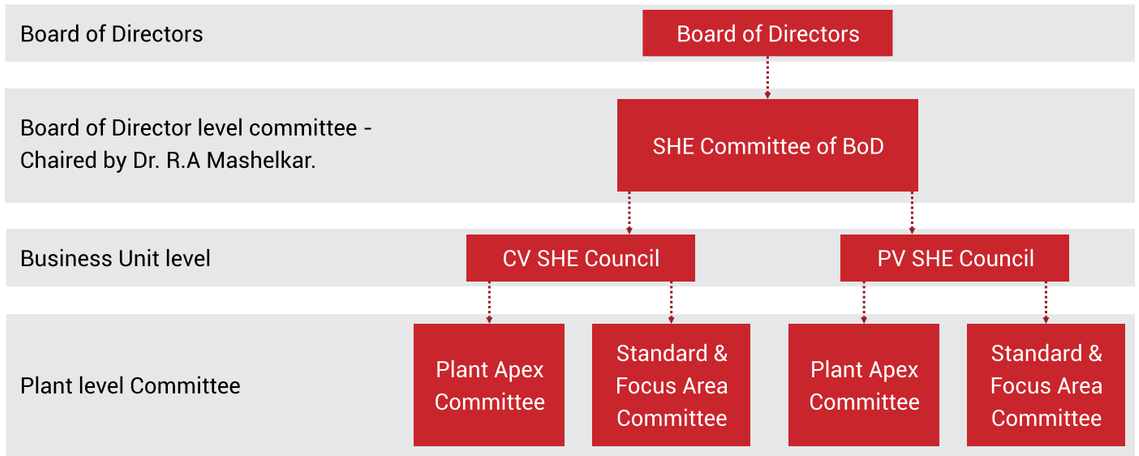
In line with Tata Group Sustainability policy, we, Tata Motors Limited, are committed to integrating environmental, social and ethical principles in our business. The policy guides us in establishing sustainability governance that is responsible for developing our sustainability strategy, goals and targets and identifying the relevant material issues. In addition to Sustainability policy, we consider Tata Code of Conduct as an overall guiding principle. We have in all 11 policies aligned to sustainability:

- Climate Change Policy
- Environmental Procurement Policy
- Environmental Policy
- Safety & Health Policy
- Human Rights Policy
- Affirmative Action Policy
- Quality Policy
- Energy Policy
- Sexual Harassment Avoidance & Redressal Policy
- CSR Policy
- Water Policy

Our Sustainability Governance

Our sustainability governance comprises of SHE Committee at the board level which in turn is supported by the SHE Council at the business unit level. The SHE Apex Committee at our plants is supported by various focused departments such as safety, energy and environment.

Sustainability Management Structure



Sustainability is an integral part of our Safety, Health and Environment governance and management structure. The overall sustainability performance of Tata Motors Limited is reviewed by the SHE Committee and SHE council on quarterly and monthly basis respectively.

The Safety, Health and Environment (SHE) Committee has been constituted with the objective of reviewing Safety, Health, Environment and Sustainability practices and performance. The terms of reference of the Committee include:

- to take a holistic approach to safety, health, environmental and sustainability matters in decision making;
- to provide direction to Tata Motors Group in carrying out its safety, health, environment and sustainability function;
- to frame broad guidelines/policies with regard to safety, health, environment and sustainability;
- to oversee the implementation of these guidelines/ policies; and
- to review the policies, processes and systems periodically and recommend measures for improvement from time to time

The Committee comprises of two Independent Directors including the Chairman of the Committee and three whole-time Directors. During the 2016-17, two meetings of the Committee were held on 27 May 2016 and 4 October 2016 wherein all the members were present at the said meeting.

Tata Motors Limited, under the guidance Tata Group, has always strived to grow while being socially and environmentally responsible. In this context, we have the Tata Group level policy to explore and assess the natural capital value for our business and aligning our overall business strategy with SDG and NVGs. Over the years, we have established robust sustainability governance mechanism, developed policies for all the relevant material topics and from FY 2016-17 onwards, we have started engaging with our supply chain to establish a sustainable supply chain. We have also developed and published policies related to most of our material issues and have set goals and targets for the future. The details on the same are provided in the relevant sections.

Furthermore, we constantly engage with our employees and Board members to develop and enhance knowledge in economic, environmental and social sustainability.

Management Systems

Our corporate governance philosophy is further strengthened with adhesion to the Tata Business Excellence Model (TBEM) to improve our overall performance with higher levels of efficiency in our businesses and contribution towards sustainability initiatives.

Our state-of-the-art Enterprise Resource Planning system, Supplier Relations Management and Customer Relations Management connect the company's different locations, dealers and vendors for reliable, consistent and accurate data exchange.

CRM-DMS (Customer Relationship Management – Dealer Management System): Our CRM-DMS is a unique initiative, implemented through a centralized online system and deployed at all our dealerships and offices across the country. This helps us integrating our systems across the value chain to deliver better service quality.

Enterprise Risk Management Program: Through the enterprise risk management program, business units and corporate functions address opportunities and risks through an institutionalized approach aligned to the Company's objectives. This is facilitated by internal audit. The business risk is managed through cross functional involvement and communication across businesses.

Standards Certifications: All our manufacturing divisions are certified for ISO 14001:2004 – Environmental Management System Standard and OHSAS 18001:2007 - Safety and Occupational Health Management System Standard. All our CV manufacturing plants are also certified for ISO 50001:2011 Energy Management System namely, Pune CVBU, Jamshedpur, Lucknow, Pantnagar and Dharwad. In order to ensure reliable and responsible suppliers for automotive production and service parts, we have mandated that all our suppliers adopt the ISO 9001/ TS 16949 quality management system frameworks. We also encourage our dealers to adopt quality, environmental and safety management systems.

Policy Advocacy

With a view to integrate and align existing sustainability issues with the public policy, we are actively involved in advocating for a better policy framework. We partner with policy makers/ industry associations and regulators on these issues through our representations in several industry and trade associations.

Adhering to Tata Code of Conduct, we do not offer or give any company funds or property or other resources as donations to any specific political party, candidate or campaign and preclude any activity that could be interpreted as mutual dependence/favour with any political body or person. Any financial contributions considered by our Board of Directors in order to strengthen democratic forces through a clean electoral process shall be extended only through the Progressive Electoral Trust in India, or by a similar transparent, duly-authorised, non-discriminatory and non-discretionary vehicle outside India.

List of Membership Association

We actively participate in National Committees, listed below, which are working on formulating policies and regulations for improvement of environment throughout the country.

Engagements

We continually work with the steering committee of **National Hydrogen Energy Board** to find ways to harness hydrogen - potential energy of future.

Our experts are actively participating in **World Forum of United Nations of Economic Commission (UNECE) for Europe** for Harmonization of Vehicle Global Technical Regulations related to pollution control and safety.

We, at TML actively take part in all **WP29 UNECE** group activities and prepare in advance for any emerging opportunities.

Representations

TML, has representations in significant number of National Committees as members which are working on formulating policies and regulations for improvement of environment including GHG reduction throughout the country;

- Standing Committee on Emissions (SCOE)
- Sub-committee on CO2 emission norms of Union Ministry of Shipping, Road Transport and Highways of India, along with Automotive Research Association of India (ARAI).
- Expert committee to define "Heavy Duty Vehicle Fuel Economy Norms for India under Ministry of Shipping, Road Transport and Highways of Government of India (GoI) & Petroleum Conservation Research Association (PCRA).
- Expert committee on Fuel Economy Labelling of Passenger Cars under Bureau of Energy Efficiency under Ministry of Power (GoI).
- Inter-ministerial committee for upcoming emission norms (BSV, BSVI) for Motor Vehicles of Ministry of Shipping, Road Transport and Highways, Ministry of Heavy Industries, Ministry of Petroleum & Natural Gas (GoI).
- Working group on Quadricycle Emission Norms for India.
- Working Group on Energy for Subgroup on DST's XIIth plan on Technology Development Program (TDP).

- Ministry of New & Renewable Energy, GoI, is promoting and assisting technology development for GHG reduction by way of increased usage of biodiesel. We are engaged in this initiative of GoI and currently running number of engine and vehicle programs to commercialize usage of biodiesel as soon as the same is made available to the general public by oil marketing companies.

- National Electric Mobility Mission Plan - We have been actively taking part in forming hybrid performance criteria along with SIAM-FTG group and assisted government to launch Faster Adoption and Manufacturing of Hybrid & Electric vehicles in India (FAME) scheme.

Our Way
Forward

Tata Motors Limited is committed to continue the journey of sustainability by improving efficiency and effective utilization of the resources and capitals. We have aligned our sustainability strategy keeping in mind our business vision of 2019 and shall continue to approach sustainability in an all-inclusive approach. We have established targets for all our key issues and have developed the action plans for achieving the same. The details on the same have been provided in the relevant sections addressing the issues.

We are committed to contribute positively towards climate change mitigation and reducing our carbon footprint as well as overall environmental footprint. In this context, we shall continue our efforts towards sustainable transportation system and increased energy contribution from renewable energy sources. We seek to continue our practice and status of Zero Water Discharge and we aspire to achieve Zero Waste to Landfill Status. We are a signatory of RE100 initiative and aspire to operate on 100% renewable energy in coming future.

Safety and employee development is of immense importance to us and we shall continue to enhance our employees' safety and overall health index. We have taken up specific safety targets to reduce Total Recordable Cases (TRC) to 0.62 and reduction of unsafe behaviour of operators by 50%. We have identified the relevant focus areas for achieving our safety and health related goals.

To ensure employee development and continuous learning, we have established Learning Advisory Council and have appointed a Chief Learning Officer who shall ensure continuous learning and development of our employees. Though we aspire to establish a holistic charter on diversity, we shall continue to channel our focused effort towards developing and improving gender diversity.

Acknowledging the criticality of our diverse supply chain, we have initiated the journey of building a sustainable supply chain and we are going to continue our engagement with suppliers, covering 100% of our critical Tier 1 suppliers in next 3 to 5 years.

Under the core guiding principle of Tata Group, we shall continue to engage with local community through our CSR programs. We have developed a 5 year plan for community engagement programs addressing our focus areas and Affirmative Action plan.

Message from
Head (SHE & Sustainability)

Embedded with Tata's core principle of enhancing quality of life, we endeavour to manage our operations and run our business responsibly, minimize environmental impact and have positive effect on society.

We have set an aspiration to move our operations to 100% renewable, achieve zero waste to landfill and become water positive in a time bound manner. We continue our emphasis on biodiversity and in 2016-17, we have completed biodiversity assessment of three of our plants and implementation of selected biodiversity management plan is in process. Our integrated circular economy strategy addresses today's crucial need – resource optimization. Through our partners, Tata Prolife, Tata Assured and Tata OK, we continuously endeavour to increase the usable life of our vehicles.

One of our noteworthy efforts, initiative for sustainable supply chain, has been prompted by Environment Social and Governance, including climate change, issues and risks that subsist in our diverse supply chain. This not only mitigates risk of business continuity in relation with supply chain but also ensures overall positive impact on environment and society.

Throughout the sustainability report, 2016-17, we have presented our initiatives, performance and our engagement with suppliers for sustainable supply chain, which exemplify our commitment towards holistic sustainability. While we are pleased with our accomplishments in renewable energy, sustainable supply chain initiative and our continuous community engagement, we acknowledge there is more we can do to achieve our targets and aspirational goals. As we continue our effort towards building sustainable business, we, at Tata Motors Limited, consider sustainability as everyday business and every individual's responsibility and so, practice sustainability in our day to day operations.

Mr. Arvind Bodhankar
Head (SHE & Sustainability)

Sustainability

Highlights and Awards

Highlights

Environmental Protection:
₹558.63 Million
invested towards
environmental protection.

Corporate Social Responsibility:
₹259.4 Million
spent on CSR initiatives.

Technology Stewardship:
₹21 Billion
invested in Research and Development.
22 granted patents in 2017.

Local Economic Growth:
50.88%
procurement from local sources

Clean Energy:
10%
of total energy sourced from
renewable energy electricity

Workplace Safety:
11.8%
reduction in Lost Time Injury Frequency
Rate compared to previous year

Sustainable Supply Chain
Engaged with top 200 Tier 1 suppliers
ESG site assessment conducted for 52 suppliers

MEMBER OF
Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM
Among 10 Indian companies
selected on Dow Jones Emerging
Markets Index[7]

SIAM
Society of Indian Automobile Manufacturers
Top bus brand in India by SIAM

[7] *http://www.tata.com/aboutus/articlesinside/leading-sustainably*

Awards

Pantnagar Plant accomplished
Golden Peacock, EHS.

CII North Zone, National award for excellence in energy
along with Frost & Sullivan's "Safety Excellence Award.

Lucknow plant achieved Silver rating under
CII GreenCo in 2016.

Lucknow Plant Won
Good Green Governance Award.

Jamshedpur Plant won "Excellent Energy Efficient Unit"
by CII in 17th National Award for Excellence in Energy
Management 2016.

Dharwad plant achieved Gold rating under
CII GreenCo in 2016.

Sustainable Mobility Solutions

Sustainability Report 2016-17 | **Sustainable Mobility Solutions**

Sustainable
Mobility Solution

Improving quality of life through providing sustainable mass transportation and mobility solution has always been the focus of Tata Motors Limited. In this section, we introduce our stakeholders to our management approach, innovations and initiatives towards mass transportation and personnel transportation as well as share our customers' feedback.

Dashboard of TML for 2016-17: Sustainable Mobility Solution

- **2nd rank** in the industry in the JD Power Customer Satisfaction Index in India
- **3** new alternate fuel buses launched
- LCA of **3** products & **2** processes
- Domestic Regulation Forecast Matrix & Export Regulation Forecast Matrix in Emission & Safety
- Recognised as **top bus brand** in India by SIAM, 2016-17
- Well-defined product recall process
- **22** Patents granted
- **26** Designs granted
- R&D expenditure **₹ 21 billion**
- Tata Zest scored **4 STARs** in Global NCAP
- **End of life** treatment for bumper, dashboard & trim parts of Tata cars

Role of Transportation and Tata Motors in **India's Economic Development**

Transportation in Context of India's Economic Development

Transportation sector of India is vital for the economic development of the country. It is the vehicle of sustained economic growth of the country. It's greening therefore is imperative to India's transition to global leader. Transport routes are like economic arteries and transport systems are controllers of economy and provide the vital links between production and consumption.

India is poised in edge of massive growth by 2025 to be the second most powerful economy with our nominal GDP rising to estimate $7 trillion in 2025 as opposed to $2 trillion in 2015[8]. India of 2025 will be very different from what it is now. It will have 18 megacities as compared to 4 currently. Urbanization will increase and manufacturing sector shall be contributing to 6% of total world trade as opposed to 2.2% currently. The market growth is rooted in rising number of middle class population with increasing income levels.

For better understanding, the transport sector can be divided into five major sub-sectors namely railways, roads, ports & shipping, civil aviation and urban transport. The transport sector in India today faces an onerous task of meeting the mobility demands of a population of more than 1.2 billion people spread over an area of 3.3 million square kilometres (Census 2011)[9]. This is projected to increase to 1.39 billion in 2025.

TML in India's Economic Development

For TML, two areas of transport subsectors are of relevance – roads translating to logistics related commercial goods vehicles, freight trucks, buses and urban transport pertaining to light goods vehicles and cars and public transportation buses. The remarkable growth of this sector poses both challenges as well as tremendous opportunity for the automotive sector. Rapid urbanization and increasing higher middle class poses a great market, but challenges like increasing congestion and pollution due to dramatic increase in personal vehicles makes urban cities a virtual gridlock.

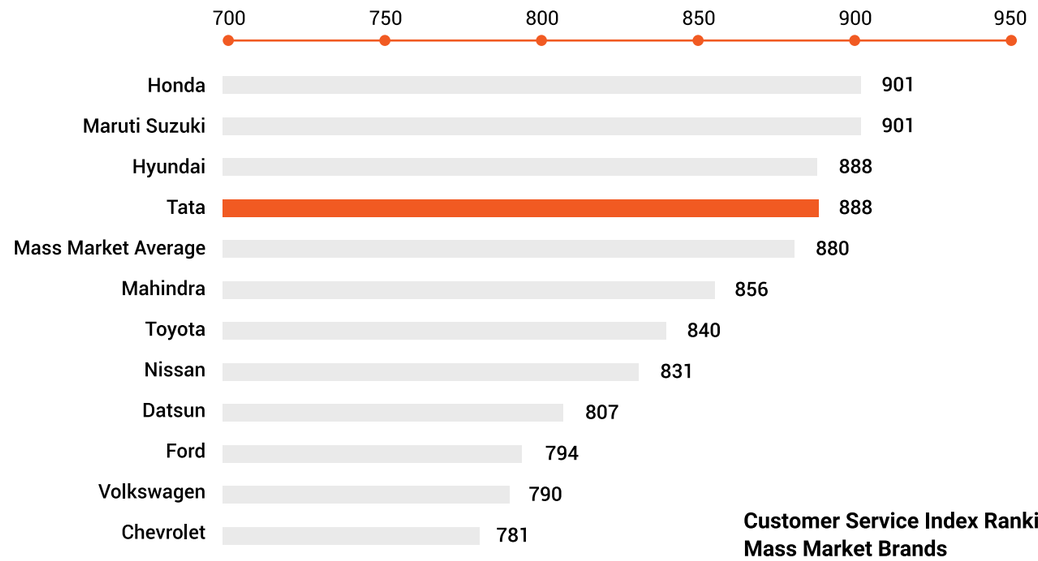
Private sector has been increasingly providing leadership into the problem of green logistics and urban mobility. Key trends that will impact the roadmap of automotive sector are:

- Electric vehicles – Poised for tremendous growth in India backed with pro-electric government policies.
- Light weighting - ultra-light, ultra-efficient vehicle is an efficiency measure which has major positive impact on bottom line as well as reduction in on-road carbon emissions
- Self-driving cars: Still nascent in India but on top of minds of automotive companies globally,
- Vehicle sharing: With arrival of technology to enable this, car ownership is a thing bygone. This creates an opportunity in the market for vehicles that can be used as shared resources.
- Big - data driven freight optimisation: Open source platforms will make data analytics flexible, reliable and relatively affordable for companies. This will lead to route and capacity optimisations, and collaborations between various third party providers.

[8] *Supply Chain 2025 – Trends and Implications for India*
[9] *http://www.censusindia.gov.in/2011-common/census_2011.html*

Helping The **Customers**

J. D. Power 2016 India Customer Service Index (CSI) Study℠



Customer Service Index Ranking - Mass Market Brands
(Based on a 1,000-point scale)

Our vision, 2019, is to be considered among top 3 recognized brands in the global commercial vehicle and domestic passenger vehicle development. In this context, customer centricity is intrinsic to our culture – develop, deliver, delight. We continuously strive to provide best services to enhance our customer engagement.

Approach and Performance in Customer Engagement

Customer service quality is met through assimilation of our Customer Relationship Management and Dealer Management System (CRM – DMS). Our TCoC for dealers and overall quality policy, formulated in October 2016, provides the guiding approach towards customer service.

Regular customer surveys and understanding customers' expectations help us advance in the quality of products we develop. In view of providing consistent service, we have integrated feedback systems across the life cycle stages of customer satisfaction. We have benchmarked our performance with the industry peers by using **J. D. Power Survey.** The survey is a street recruitment and face-to-face interview done from May to August every year over a spread of 30 cities. The survey samples are owners with 12-24 months of ownership and who have serviced their vehicle at least once in the last 6 months. We have improved our J. D. Power Survey score for passenger vehicles to 888 in 2016 from 849 in 2015.

2nd
Rank in the industry in the JD Power Customer Satisfaction Index in India.

The data security of our customers is ensured through a robust consumer privacy policy which tracks and measures key aspects of customer dissatisfaction. All the complaints are assessed for root cause analysis through the Complaint Management Process. We have a daily dashboard shared with the regional teams where Turnaround Time (TAT) adherence is measured along with closure percentage and aging of open complaints. There is a mechanism in place to internally escalate complaints to various members of the process chain if

a complaint remains open beyond TAT. We drive closure of complaints from dealers end on the same day or the very next day with the customer and this number is also monitored daily. Daily tracking of complaints is escalated to the Chairman, President and Managing Director offices till the closure of the complaint. If there are any complaints open for a long duration the same is investigated by the CE team and resolution intervention offered wherever required/possible. Monitoring of key performance metrics (CPTV, TAT adherence and Same Day Closure) is done by customer experience. Details of resolution, root cause analysis and service load based analysis and performance are tracked by the customer support team. We provide feedback to the customers on the resolution of the complaint.

Product Recall

TML has a well-defined Recall Process which was reviewed & approved in principle by CSC members on Feb 15. Head of Engineering Research Centre of TML is overall responsible for managing product recall. The Recall Process has been framed based on global benchmark practices and recall related regulatory aspects of various countries.

The Recall Process is aimed at providing the framework to address the vehicle recall due to Safety Defect in the vehicle due to design, manufacturing or assembly problem undue risk to the safety of vehicle or user and incorrect product labelling.

There have been no cases of non-compliance or violation in regards to customer privacy during the reporting year.

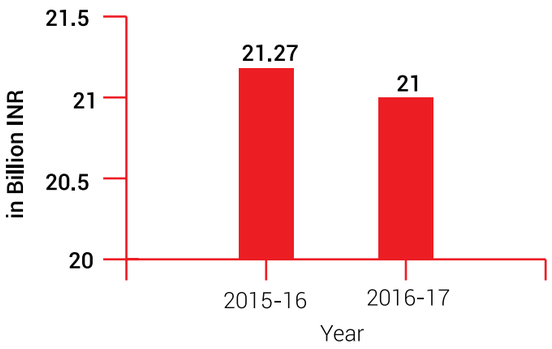
Product
Stewardship

TML has played an active role in India's vision of sustainable mass transportation by developing viable, cost-effective and sustainable solutions including alternate fuel powertrains and supplying and maintaining Biggest CNG fleet of the world for Delhi since 2009. This is a clear example of our commitment towards development of sustainable mass transportation. Furthermore, during 2016-17, we have developed prototype of most powerful Prima truck of 1000 Brake horsepower (bhp)[10]. Our vision to mark our place in the domestic passenger vehicle and global commercial vehicle reiterates our intention towards technical stewardship.

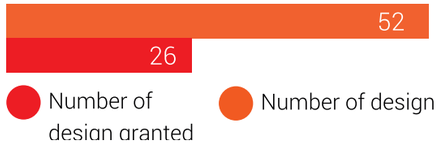
Approach and Performance

Globalization and competition in the automotive sector have increased the need to innovate products that are more efficient, provide comfort to customers and are economical. To strategically stay ahead of the curve during the time of ever-changing global dynamics, we give prime importance to innovation and are continuously innovating new products keeping in mind the customer preference and regulations.

R&D expenditure



Information on Innovation for 2016-17



With the growing need for fuel efficiency and reducing on-road emission for vehicles, innovative technologies are needed to support the changing scenario and achieving targets. We are evaluating several xEV options through different technologies as part of its long-term strategy. The technologies vary from mild hybrids in one segment to a fuel cell in others, which we have demonstrated in Auto Expo from time to time.

We continue our R&D efforts in developing vehicles which are powered by alternate fuels like CNG, LPG, Biodiesel, electric and Hydrogen. We are also working on LNG and Dual fuel technologies which provide an alternative to pure diesel technologies. Our R&D expenditure for the year 2016-17 was 21 Billion INR, with reduction of 1.3% from the year 2015-16.

We also engage with various prestigious scientific and educational institutions, like Indian Institute of Technology and Indian Institute of Science, Bangalore to support our cause of developing technologies suitable for Indian context and thereby, creating value to our customers. At an organization level, TML's Engineering Research Centre is overall responsible for product development and innovations. Furthermore, we have introduced a new sub-brand named TAMO which acts as an incubating center of innovation towards new technologies, business models and partnerships in order to define future mobility solutions by providing a digital eco-system granting access to new trends, innovations and ideas for designing new products and solutions. In March 2017, Tata Motors has showcased a concept sports car under our sub-brand TAMO – RaceMo at the Geneva International Motor Show, where 3D printing technology has been used to create replicas of the concept car and distributed to the visitors at the show[11].

We support research projects by premier research institutions in India in alternate powertrain technologies funded through Uchhatar Avishkar Yojana (UAY) and Impacting Research Innovation and Technology (IMPRINT) programmes by the MoHRD.

[10] http://www.tatamotors.com/media-press-coverage/tata-motors-develops-its-most-powerful-truck-ever/
[11] http://www.tatamotors.com/media-press-coverage/3d-string-in-carmakers-bow/

We have been recognised as top bus brand in India by SIAM, 2016-17.

Key initiatives and Outcomes in Alternate Fuel

At TML there are several initiatives to develop alternate fuel vehicles which reduce the impact of vehicles on the air pollution as well as climate change. A list of the major initiatives is given below:

Mass Transportation and Last Mile Connectivity

With approximately 67.4% of the sales volume from commercial vehicles, we have always prioritized our efforts towards enhancing the effectiveness and efficiency of mass transportation vehicles.

- In FY 2016-17, we have launched the STARBUS ELECTRIC 9m, the STARBUS ELECTRIC 12m and the STARBUS HYBRID 12m buses, designed, developed and powered by alternate fuels. We have also showcased the country's first Fuel cell bus (12m), LNG Powered bus (12m), and 18m Articulated bus.
- TML has received an order to deliver 25 Diesel Series Hybrid buses to the city of Mumbai, India to be operated in the city center of Bandra-Kurla Complex as well as for connecting BKC to the Airport. These hybrid buses, whose delivery will commence from mid-2017, give up to 40% higher fuel economy compared to conventional automatic transmission bus.
- TML is developing an electric bus based on the 9m and 12m bus platforms which will result in zero tail-pipe emissions. The vehicle would be ideally used as feeder services to Metro rail and BRTS routes.
- TML is also developing an electric trolley bus based on the series hybrid platform targeted for BRTS routes for zero emission mass mobility application.
- Tata Motors is developing a fleet of fuel cell buses, again based on the series hybrid platform which can provide clean public transportation in cities where hydrogen infrastructure will be available. Several prototypes of the fuel cell buses are under testing within TML premises.
- TML is developing electric vehicles based on small commercial vehicles like Tata Iris and Tata Magic, which are intended for last-mile public transportation applications.

Personal Mobility

TML recognizes the importance of alternate fuel vehicle in personal transportation and significance of the same in combating climate change and air pollution. At the company level, approximately 32.6% of our sales volume is from passenger vehicle (PV) which significantly contributes to the overall on-road emissions. In this context, we have initiated to channel our effort towards improved tail-pipe emission, energy efficiency and technological intervention to introduce alternate fuel vehicles. TML is developing hybrid versions of its

passenger car products like Hexa, Tiago and Nano for application in personal mobility.

Reducing Climate Change Impact of Refrigerants

- UNEP Program: The European Union has phased out High Global Warming Potential (GWP) refrigerant HFC-134a from mobile air conditioning systems from January 2017. This is applicable to all new M1 vehicle category models

  In 2016, India as a signatory of the Montreal Protocol Amendment had agreed to phase down production and consumption of HFC's with 2028 as freeze year and 85% reduction by 2047. In this regard, TML is proactively exploring the use of alternate low GWP refrigerants like HFO 1234yf, HFC-152a in mobile air conditioning systems.

  TML has been granted funds from United Nations Environment Program to work with a vendor and demonstrate the commercial and technical viability of alternate low GWP, mildly flammable HFC-152a and HFO-1234yf refrigerants in secondary-loop mobile air conditioning systems. The total duration of this demonstrator project is 2 years. The project started in May 2016 and will be completed by April 2018.

- Reduced Quantity of Refrigerants in Buses: In LPO1618 buses for Middle East market, implementation of a compact and new type of heat exchangers in roof AC system has resulted in the reduction in the quantity of high GWP refrigerant by 5500 grams/ bus.

Developing Safe Mobility Solutions

Ensuring product safety is of prime importance to TML. We are committed to developing safe products incorporating latest technologies to ensure vehicle occupant and pedestrian safety.

TML's safety development team ensures that product design meets latest regulatory norms, consumer group norms and due care norms in the area of safety. Our Integrated Safety Centre is fully equipped to carry out different types of tests like, full vehicle crash tests, sled tests, Pedestrian protection tests, BIW (body in white) strength and anchorage tests, interiors evaluation tests, material characterization tests, commercial vehicle tests, security systems evaluation tests, Advanced Driver Assist System (ADAS) evaluation tests. Head of Engineering Research Centre (ERC) is responsible for reviewing and implementing safety initiatives in the products.

We also have dedicated CAE group who is responsible for developing vehicles structures and occupant restraint systems (airbags, seatbelts) meeting target crash safety performance requirements. All projects under development are routed through a physical and digital validation process. Our facility is accredited by VCA (Vehicle Certification Agency), UK as well as ARAI wherein both agencies witnesses the tests at the facility and provide compliance certificate.

Our Achievements Towards Improving the Safety of Vehicles:

Passenger Vehicle Projects

Tigor VCA Certification for Export Markets

Nano GenX ARAI Certification for Second Row 3 Point SBA

Tiago VCA Certification for Export Markets

Tigor ARAI certification for safety

TATA Zest Scored 4 STAR Rating in Global NCAP (GNCAP)[12]

Safari Armoured ARAI Certification for Bumper Assessment

Safari Storme ARAI Certification for Safety

Hexa ARAI Certification for Safety Tests

[12] *http://auto.ndtv.com/news/tata-zest-scores-4-star-rating-in-global-ncap-crash-test-1627013*

Commercial Vehicle projects:

MMRDA Bus Rollover ARAI Certification

709 Cab with Tilt + Telescopic Steering System Certification for Frontal Pendulum

UPD certification of Ultra 1518, 1412, M&HCV platforms, SE 1613, LPT 709 water tanker.

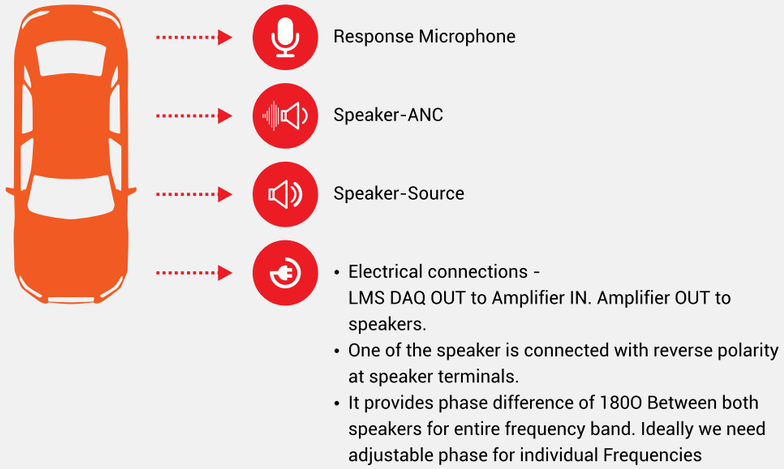
Seating System Certification for Signa Cab, Winger 15+D, LPG Bus FES, Xenon Compact, SFC 407

ACE IRIS Electric GSL Certification

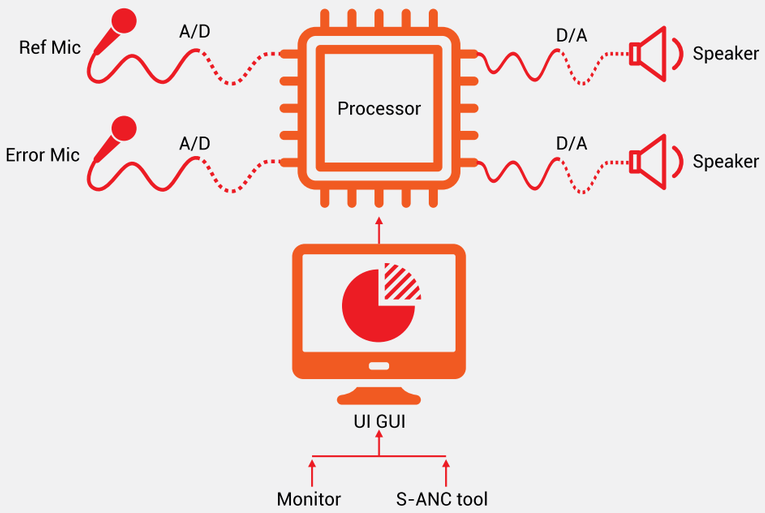
ACE Magic Close Van Grab Handle Certification

Case Study: Improving Health and Safety of Driver

In order to cancel a boom inside a passenger car or a pick up at a particular speed of driving on road, a simple cost effective speaker is explored. This speaker will receive a signal of out of phase with the sound measured by a microphone at Driver's ear level.



An attempt is made to develop a cost effective solution. Work is in progress to align this with a simple feed-forward DSP [digital signal process] controller.



If this becomes successful to kill a known boom or body resonance felt by the vehicle passengers at a particular speed, then cost saving can be attempted to eliminate other costly counter-measures.

Environmental/Social Benefits	Cost Benefit Analysis / Investment vs. Returns.
Improves comfort for Passengers of a vehicle running at various speeds; elimination of the boom at Driver's ear will assure his / her safety and health .	Cost saving through elimination of other components like a Torsional Vibration Damper on a Pick-up need be explored by a simple ANC kita.

Meeting Homologation Requirements

Adherence with the applicable regulation is recognized as one of most critical requirements to ensure business continuity. Our Passenger and Commercial Vehicles fulfil all the applicable regulatory requirements in the domestic market as per CMVR Certification. Our Passenger and Commercial vehicles fulfil the regulatory requirements of the export markets as per the applicable national requirements.

Starting with the ban on diesel cars followed by the recent shift of sale and registration of BS III to BS IV vehicles by Indian Supreme Court and CAFÉ norm, emission norms continue to get stringent. In view of this, it has become important to assess and forecast the upcoming regulatory changes applicable to the automotive industry.

Staying Prepared with Forecasting

We have developed Domestic Regulation Forecast Matrix (DRFM) and Export Regulation Forecast Matrix (ERFM) which provide updates on various forthcoming regulations and their applicability, implementation etc., pertaining to Emissions and Safety for the PV and CV products manufactured by TML.

DRFM is prepared and uploaded at designated portal by Regulations Team every month and the regulatory updates are also sent through departmental communication across the organization on monthly basis. The Export Regulation Forecast Matrix is prepared and uploaded by homologation team for the applicable PV and CV markets indicated by International Business on a periodic basis. In addition, periodic communications are also being sent by Regulations team to provide updates on various developments on the domestic regulatory front to TML stakeholders. This system acts as forecasting trigger for Marketing, International Business, CoCs, PATs, developmental agencies to initiate various design and developmental actions upfront for the PV & CV existing and new models targeted for launch, sales and registration in India and abroad.

Addressing Regulatory Changes

Shift to BS IV: To address the challenge of shifting from BS III to BS IV[13], we have, in April 2017, announced our readiness of SCR (Selective Catalytic Reduction) and EGR (Exhaust Gas Recirculation) technologies for BS IV compliant engines, powering its range of Commercial Vehicles and introduced two BS IV engines. We have a few thousands of vehicles as per BS III of which a portion has been converted to BS IV engine. The remaining volume has been sold in export where there are no regulatory constraints or is disposed of through another medium.

CAFE: Government of India has promulgated CAFÉ Norms for M1 category vehicles applicable from 1st April 2017 and 1st reporting from April 2018 onward. This calls for establishing a robust mechanism at a strategic level to review, track & modify the domestic product plans towards ensuring the sustainable compliance at the overall organizational level. In response to the mandate for the declaration of fuel economy values to the certification agency and conformity of production for declared fuel economy, we have formulated Cross Functional Teams to finalize the declared fuel economy values by considering the type approved fuel economy values, Confirmation of Production values and audit data.

Efficient Transport

Fuel Efficiency Improvement Initiatives:

- In-house developed, Gear Shift Advisor (GSA) has been implemented on specific category of CVs. Development of GSA includes proprietary algorithm and control module development, validation on Hardware-in-Loop and on actual vehicle. TML internal on-road trials have demonstrated the benefit of 8% in fuel economy on a specific range of CVs.

- Advanced formulation of engine oil[14], in collaboration with Hindustan Petroleum Corporation Limited, has enabled fuel efficiency gain of more than 3% maintaining TML USP of best-in-class fuel economy. Similar initiative for axle and transmission oil has been taken up targeting overall fuel economy gain by more than 6% including engine oil

- Software features in engine management system and vehicle level parameter optimization have resulted in fuel efficiency improvement. One such feature is the Multi-Drive Economy mode feature in Tiago and Tigor leading to 1-2% gain in fuel economy compared to normal mode

- Automated Manual Transmission (AMT) driveline for Ultra range of vehicles powered by new generation

[13] *http://www.tatamotors.com/media-press-coverage/sc-ban-auto-industry-stuck-with-inventory-worth-rs-12k-crores/*
[14] *http://profit.ndtv.com/news/auto/article-tata-motors-hindustan-petroleum-corp-join-hands-to-launch-lubricants-1467555*

engines is being rolled out. This will enhance driver comfort and fuel economy.

- Gasoline engines with advanced technologies such as intelligent valve and cam train, all aluminium, variable oil pump have been introduced on Tiago and Tigor platforms.

Light-weight diesel engines with contemporary engine hardware have been introduced on Tiago and Tigor platforms.

Enhancement in Oil Drain Interval:

- New oil formulation viz; API CI4+ SAE 15W40 engine oil has been released to the market, enhancing oil drain interval by 50%, leading to enhanced customer delight. Improvement in engine oil leads to increase oil drain interval helps the customer to reduce the cost of ownership. It also helps in reducing downtime and less oil is discarded reducing environmental impact. This oil has been introduced on all commercial vehicles offered by TML. Considering BS-6 emission norms on the anvil with a lot of exhaust after-treatment systems on board for a given vehicle, further enhancements in API CI4+ oil are being carried out.

- For TATA CNG engines, doubling engine oil drain interval is being explored through new chemistry in association with vendors. Once proved, this will be the game changer in CV industry with CNG for city transport applications.

Advanced Optimization Methods for Engine Development:

- The team participated and won accolades in TATA Innovista and presented new methods for engine development. This method will be unique for TML reducing overall engine development time by 5-8% with similar complexities.

Advanced Automotive Materials

With a view to embedding sustainability, we have taken initiatives for use of green and sustainable materials. Our noteworthy technology projects in this area are:

- Green Plasticizer: TML is working on using plasticizer manufactured by the green catalyst for PVC plastisol. Initial results are encouraging and fine tuning in the composition is being carried out. TML is planning to introduce this material (PVC with the green plasticizer) on PV and CV platforms.

- Primer-less Windshield Glass Sealant: TML has also initiated the use of windshield glass sealant with primer deletion. This would result in reducing VOC (Volatile organic compound) on vehicles and on the manufacturing line.

- Composite Brake Drum and Leaf Spring: Use of advanced composites for brake drum application replacing cast iron and leaf screen replacing steel is under exploration, offering approx. 30% of weight reduction.

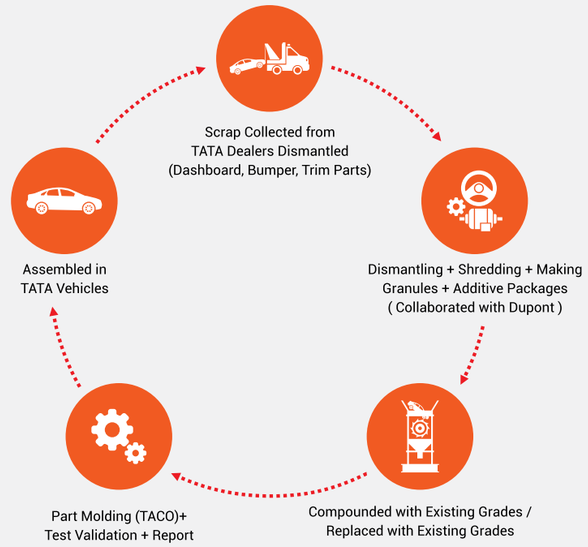
In 2015-16, our ERC Paint shop team has implemented a new chromium-free Eco-friendly Chrome finish paint. Parts like bumper grills, mascots, fog lamps bezels, inner door handles that were chrome plated by suppliers for final production, can be painted in-house, with cost, time benefits and with a comparatively very safe process for prototype and show car applications.

Case Study: Closed Loop Plastic Recycling

TML has initiated project on treating and recycling plastic generated at the end of useful life of the vehicle. The recycled plastic is used in the Tata vehicles, making the initiative a closed-loop plastic recycling.

Typically, 69% of the weight of a utility vehicle is contributed by ferrous followed by 7% contribution by thermoplastic material. Approximately, 80% of the thermoplastic is polypropylene which is recyclable.

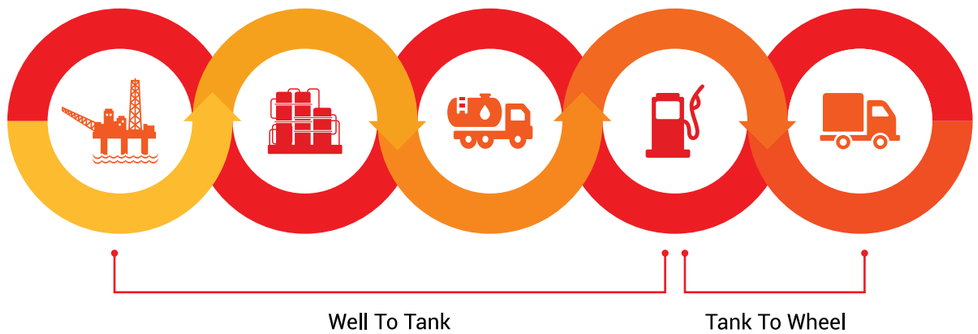
In coordination with Banyan Nation, we have identified service dealership, dismantlers, compounder, moulder and customer for the collection of vehicle parts such as bumper, dashboard and trim parts. We have collaborated with DuPont for dismantling, shredding and further processing. A pilot level project has been successfully completed by carrying out component level moulding trials using recycled and virgin material with different proportions.



Life Cycle Assessment

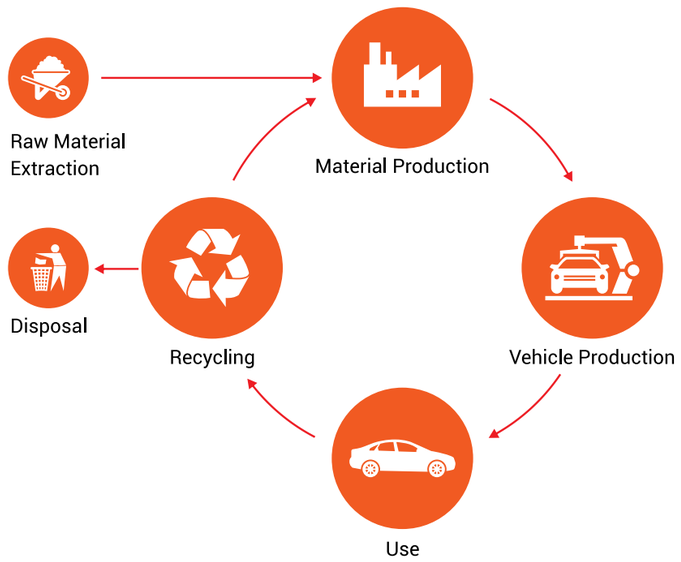
One of our key initiatives toward holistic improvement in sustainability performance of our products is the introduction of Life Cycle Assessment approach for our product development. In this approach, we give specific importance to the energy and perform fuel life cycle analysis. Through Fuel Life Cycle analysis, we evaluate the energy efficiency of various pa thways and routes for energy and fuel delivery.

Fuel Life Cycle Assessment



Our product and fuel Life Cycle Assessment (LCA) approach allows us to evaluate the energy efficiency, carbon footprint and other ecological impacts from our products. This helps us in addressing and mitigating the negative impacts and improve overall environment performance of the product on life cycle basis

Product Life Cycle Assessment



During the FY 2016-17, we conducted three cradle to grave LCA products studies, which includes Tigor-Diesel, Tigor-Petrol and C-Cube and few part/process studies namely petrol engine and paint process.

We conducted LCA study for future vehicles to understand material impact and provide input for environmental performance improvement. For C-Cube we evaluated product footprint of alternative materials to steel for BIW (body in white) structure. Results show that alternative material has lower GHG footprint than steel, hence overall vehicle production footprint can be brought down.

We have achieved best in Class rating by GreenCo assessment for demonstrating best practices in life-cycle assessment at our Dharwad manufacturing location.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

TATA MOTORS

Sustainability Priorities

> “The most significant contribution organised industry can make is by identifying itself with the life and problems of the people of the community.”
>
> **J.R.D. Tata**

Sustainability Report 2016-17 | **Sustainability Priorities**

Key Challenges

Faced and Emerging

The automotive industry and the demand for automobiles are determined by general economic conditions, rates of economic growth, credit availability, disposable income of consumers, interest rates, environmental and tax policies, safety regulations, freight rates and fuel and commodity prices. At TML, risks and opportunities are prioritized based on frequency of occurrence, potential of recurrence and its history of occurrence. Also, risks and opportunities are analysed on their potential impact to the company and their external influence. Potential impacts are measured by a number of variables including reputation, operation, revenue etc.

We have identified risks and opportunities in three spaces – economic, social and environmental. Understanding our risks help us in tackling and mitigating them though the identified opportunities.

Risks		
Risk Area	**Identified Risks**	**Potential Impact**
Economic	• Rising inflation and interest rates coupled with muted industrial growth; • Intensifying competition in the premium automotive categories; • Underperformance of the Company's distribution channels and supply chains • Increase in input prices of raw materials and shortage • Deterioration in the performance of any of the subsidiaries, joint ventures may have a substantial adverse effect on the Company's sales and financial condition	• Increase in capital cost; • Decline in business growth; • Business continuity risk.
Environmental	• Increasing awareness among customers and social vigilance for environmental friendly vehicle and increase in demand for more fuel-efficient and environmentally-friendly vehicles. • Increased government regulation (Corporate average fuel economy norms, shift to BS IV), rising fuel prices, and evolving environmental preferences of consumers. • Compliance with new and current laws, rules, regulations and government policies regarding increased fuel economy, reduced GHG and other emissions and vehicle safety. • Risks associated with climate change in terms of regulatory risks, change in physical climate and socio-economic risks resulting from climate change. The regulatory risk includes air pollution limits, product efficiency, changing taxation on fuel, product labelling and emission reporting obligations. In terms of risk associated with the change in physical climate, we have identified risks related to change in precipitation and resulting drought, or floods which have the potential to impact TML operations • To ensure compliance with ESG regulations, the Company incurs additional costs to (i) operate and maintain its facilities as per regulations and standards, (ii) install new emissions controls technologies, (iii) obtain allowances to emit greenhouse gases, (iv) manage the Company's emissions programme, and (v) invest in research and development to upgrade products and manufacturing facilities.	• Increase in the cost of operation; • Unable to continue business due to violation of regulations/ norms; • Decline in business due to inability in meeting environmentally conscious customer expectations
Social	• People increasingly use public modes of transportation other than the automobiles • Heightening traffic density in major cities and environmental awareness. • Shift in India's consumer preferences away from private automobiles especially the younger generation do not aspire to own a car due to rise of shared cab services like OLA, UBER • Obligations under the World Trade Organization agreement could reduce the present level of tariffs on imports of components and vehicles which could result in increased competition. • Labour unrest and other factors like terrorist attacks, civil disturbances, regional conflicts and other acts of violence may disrupt or otherwise adversely affect the markets in which the Company operates its business and profitability.	• Decline in sale of passenger vehicles; • Increase in competition in the business; • Discontinue in the business operation due to labour unrest.

Opportunities		
Opportunity Areas	**Identified Opportunities**	**Potential Impact**
Economic	• Initiatives to make Tata Motors Limited a more agile and lean enterprise to address the changing global business scenario; • Various initiatives in the area of energy and resource optimization such as recycling and reuse and implementation of ENCON projects to ensure effective cost management and cost competitiveness; • Engagement with Company's distribution channels and supply chains for sustainable performance and business continuity; • Increased emphasis in research and development (R&D) for new safer, environment and customer friendly products resulting to launch of new products in 2016-17 to meet the increase and changing demand of customers; • Initiation of end of life treatment of various parts of Tata vehicle to avoid increasing cost of virgin material. • The Company is focusing on increasing its offerings in the defence sector from providing only pure logistics solutions to tactical and combat solutions.	• Increase in product portfolio • Alignment to changing customer preferences • Increased business growth; • Reduced cost of operation and capital cost.
Environmental	• Launch of hybrid buses for mass transportation and development of fuel efficient vehicles to reduce on-road fuel consumption and overall fleet emission. Introduction of cleaner fuel CNG variants of the vehicles also help reduce environmental load on ambient air quality and meet the product emission related regulations. • The Company further strengthened its clean vehicles portfolio by launching the Tata CNG eMax range of vehicles – Indigo eMax, Indica eMax and Nano eMax. Our products represent the Horizonext philosophy with best-in-class offerings. • Our futuristic electric vehicle, Magic Iris Electric, a clean, eco-friendly passenger commercial vehicle comes with a segment-first solar charger. • Our various ENCON projects reduce energy consumption and thereby, reduce GHG emissions. Increase in the share of RE, also, significantly contributes towards reduction of GHG emission in our operations. Establishment of rain water harvesting and reverse osmosis system for sustainable water supply. • Implementation of integrated circular economy strategy has resulted to reduced consumption of virgin material and increased the useful life of the products.	• Increase demand and wider acceptance of vehicle; • Greener operations - Reduced cost of operation and optimized material usage; • Increased social acceptance of the company due to greener vehicle portfolio for mass transportation and commercial vehicles;
Social	• TML received order for hybrid buses for mass transportation. The launch of Small Commercial Vehicles (SCV) and Pickup range – The SCV range of Ace, Ace Zip and Pickup range Super Ace have been game changers in enabling the customers to deliver last mile goods and services. The unique quality and price proposition of these vehicles have inspired and enabled many to become entrepreneurs. • Engagement with suppliers for sustainable supply chain enhances the ESG performance of suppliers, thereby reducing the risk of labour unrest in supply chain, and ensures continued goods and service supplies from our local suppliers. • Continuous engagement with our employees and stakeholders provides upcoming issues and concerns of our business and help us maintain our social license to operate.	• Wider acceptance and increased business; • Avoidance of loss of business due to social issues; • Enhanced ESG performance in supply chain and avoidance of disruption in business.

Engaging with **Stakeholders**

Engaging with Stakeholders

Stakeholders play an important role in the success of our organization and we continuously strive towards effective engagement for inclusion of inputs and concerns. We engage with a diverse set of stakeholders formally and informally to discuss the Company's sustainability performance and ensure business sustainability. Our stakeholders' views, concerns and key expectations have always been essential in shaping our strategy and future aspirations.

We identify our stakeholders based on the following criteria:

- Who may be affected by our decisions and/or
- Who can regularly influence the implementation of our decision.

To understand our stakeholders' needs and concerns we engage with our stakeholders on regular basis through our formal stakeholder engagement process. This process involves direct and detailed consultation with different stakeholder groups such as our employees, communities, suppliers, opinion leaders (road safety experts), media, customers, investors and shareholders, government authorities, dealers and service stations. This helped us in identifying the critical issues and has enabled us to focus on the topics that are of utmost importance to our stakeholders.

We have multiple communication/engagement channels (refer Stakeholder engagement framework), which provide us with valuable feedback.They are incorporated in our business decisions and results of these are shared openly. We evaluate a variety of sources in order to obtain a precise picture of our stakeholder's concerns. This involves evaluating reader feedback, customer and employee surveys, specialist unit workshops and discussions with individual stakeholder groups.

Apart from the continuous stakeholder engagement via various channels, we have conducted detailed stakeholder engagement for understanding our key material topics in 2013. Our approach towards identification and prioritisation of stakeholders is based on the time-tested values of Tata Group along with our business approach.

Stakeholder Engagement at TML

Stakeholder Groups	Engagement Mechanisms	Frequency of Engagement	Key Concerns	Feedback Assessment
Employees	Sunrise and Sunset meetings; Horizontal Communications; Horizontal deployment; Weekly/Monthly reviews improvements Displays; HR Forum; Q12 Tool; Skip Level Meets; Town Halls; Focused Group Discussions	Annual; Quarterly; Monthly; Weekly	Communicating policy decisions and seeking feedback; communicating performance; Media Reports, Labour Issues	Employee satisfaction survey; Appraisals; Internal Surveys
Communities	Meetings with local community; public hearing	Quarterly; Daily	Community development initiatives communication; capturing societal concerns	Minutes of meeting; action plans; feedback letters
Suppliers/ Service Providers	Technology Days, Supplier meets, Joint programmes, Kaizen events, Participation in NPI, Competitor data and analysis; Vendor Council; Vendor mentoring	Annual; Quarterly	Delivering quality products; time management; compliance to Tata Motor's code of conduct and other policies;	Vendor rating; Board reviews; Vendor Satisfaction Surveys
Opinion Leaders	One-to-one meetings	Need based	Following the regulations, complying with the industry standards	Minutes of meeting, action plans
Media	Regular interactions	Ongoing	Communicating company's performance and seeking feedback	Minutes of meeting, action plans
Dealers and Service Station	Dealer meets, Joint programmes, Kaizen events, Participation in QFD and NPI, Competitor data and analysis, Special training Programmes; Dealers Council; Dealer visits; Audits	Annual; Quarterly; Daily	Building capacity and technical know-how; improving and delivering better response to customers;	Dealer Satisfaction Survey
Customers	Customer meets; Key account process; Surveys; Feedback calls; Training Forums; Direct Visits	Need based	Understand product feedback; redress complaints; suggestions on product development;	Customer Satisfaction Index; JD Power Survey
Investors and Shareholders	Investor meets; Investor calls; Road Shows, Shareholder / Investors Grievance Forum, Ethics Committee	Annual; Quarterly; Need based	Financial performance; broad future strategies; feedback and addressal of concerns	Minutes of meeting; action plans
Government Authorities	One-to-one meetings; Meetings in Industry Forums	Need based	Relationship building; appraising the government on industry constraints; discussions on way forward	Minutes of meeting; action plans

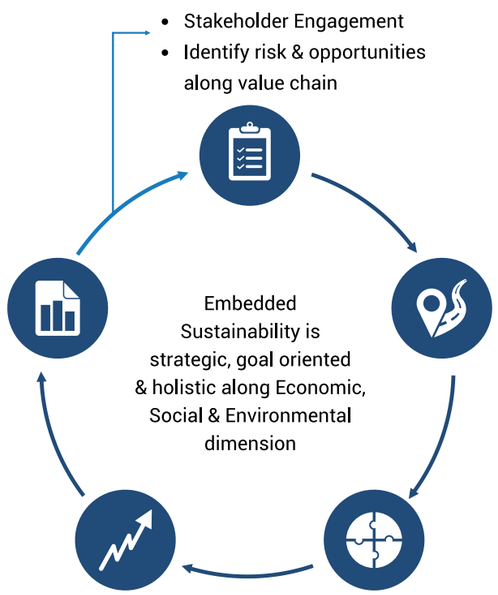
Materiality Assessment

We use materiality assessment for identification of key issues relevant to our business. The perceptions of our identified stakeholders helped us in prioritization of strategy, policies and action plans in the area of economy, environment and society. We conducted an extensive materiality assessment process in FY 2014-15 to identify and prioritize topics based on the Reporting Principle and Guidance for Defining Content in the GRI Standard. This report reflects the material issues which have significant Economic, Environmental and Social impacts that can influence the decisions of our stakeholders.

Materiality assessment process adopted by TML is as follows:

1. Identification of topics relevant to the company through various channels.
2. The assessment was against six materiality filters of financial impacts & risks, legal drivers, internal policy drivers, peer performance, stakeholder concerns & opportunity for innovation with inputs from the senior management.
3. The assessment process gathered inputs from all the stakeholders through focused discussion & questionnaires.
4. Topics relevant to TML were categorized based on 2 import criteria
   a. How impactful is a topic to the business & sustainability of TML-i.e. impact on business.
   b. How important is a topic to stakeholder in assessing of TML performance : based on feedback from stakeholders.
5. These criteria were then measured on a criticality scale (Low-high-critical : as shown in the materiality matrix below) which helps in isolating & prioritizing the key material topics
6. Following prioritisation, the material topics are reviewed by TML senior management & the process of embedding the material topics while making strategic business decisions is as represented in the visual below

Process Of Embedding Material Topics At TML



Materiality Assessment
- Gap Assessment
- Prioritize actions based on business values
- Define key issues & metrics along 3 dimension

Sustainability Strategy & Roadmap Development
- Policies
- Smart Goals
- Governance (RAM, RACI)
- Budget & Action Plan

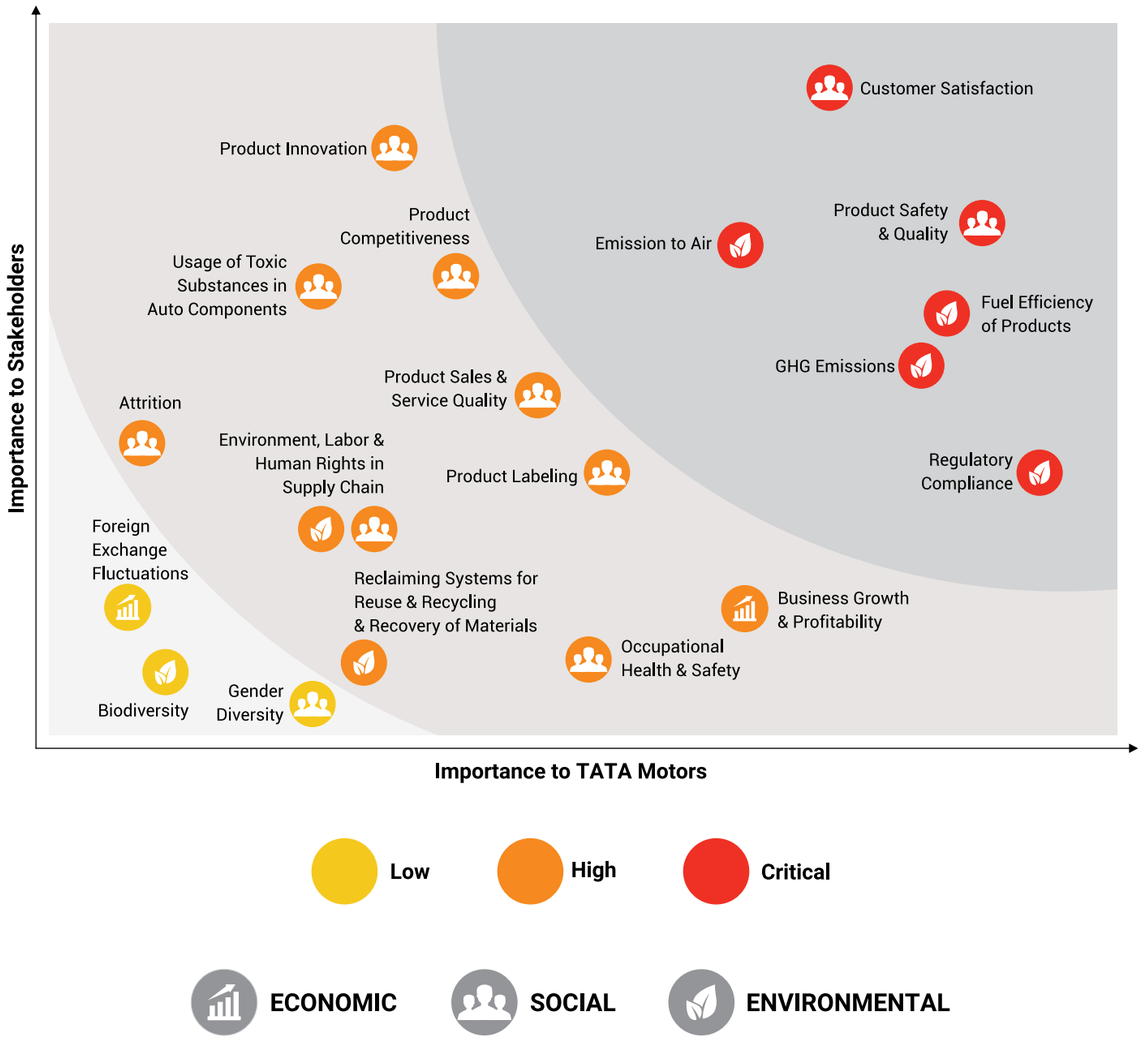
Implementation
- Process change through new policies
- Initiative implementation & project management

Organizational Performance Assessment
- Manage organizational data
- Monitor Progress

Sustainability Reporting
- Report and Manage disclosures
- Third party Audits

Materiality Matrix

The matrix below is a representation of the outcome of our materiality assessment. Topics have been rated on a scale of low, high and critical for the impact on business and importance as perceived by the stakeholders.



Material Topics

For each material topic identified in the materiality matrix, the mapping to GRI topic along with reporting boundary for TML as well as the subsidiaries has been presented. For each material issue, key material topics, as per GRI standard, along with its GRI indicators have been identified. The reporting boundary for each material topic has been defined from the materiality assessment as well as the decision by the management.

Materiality Topics Mapping Table

GRI Dimension	Material Issues	Material Topic (As per GRI Standard)	GRI Indicators	Boundary of Impact for TML	Organisation's Involvement in Impact	Relevant Stakeholder	Coverage of the Topic
Economic	Business Growth and Profitability	Economic performance	201-1 201-2 201-3 201-4	Within TML.	Direct impact	Investors, Shareholders, employees	Tata Motors Limited, India
	Foreign Exchange Fluctuations		201-1 to 201-4				
	Anti-Competitive Behaviour	Anti-competitive Behaviour	206	Within TML.	Direct impact	Investors, Shareholders, Supply chain, Dealers, Employees	Tata Motors Limited, India
Environmental	Biodiversity	Biodiversity	304-1 304-2 304-3 304-4	Within TML	Direct Impact	TML, Communities, Media	Tata Motors Limited, India
	Waste	Effluent and Waste	306-1 306-2 306-3 306-4 306-5	Within and Outside TML	Direct Impact	TML and Employees, Community, Government Authorities, Media	TML, India Partial Coverage for TAL, TTL, TMLDL, TMML (Details Provided in GRI Index)
	Water	Water	303-1 303-2 303-3	Within and Outside TML	Direct Impact	TML and employees, community, Government Authorities, Media	TML, India Partial coverage for TAL, TTL, TMLDL, TMML (Details provided in GRI Index)
	Regulatory Compliance	Environmental Compliance	307	Within TML	Direct Impact	TML, Government Authorities, Media	TML, India, TTL, TMLDL, TMML, TAL
	Fuel Efficiency of Product	Energy	302-1 302-2 302-3 302-4 302-5	Within and Outside TML	Direct Impact	TML, employees, Customers, Investors, Opinion Leaders and Media	TML, India Partial Coverage for TAL, TTL, TMLDL, TMML (Details Provided in GRI Index)
	GHG Emission	Emission	305-1 305-2 305-3 305-4 305-5	Within and Outside TML	Direct Impact	TML, Employees, Customers, Investors, Government Authorities, Opinion Leaders and Media	TML, India Partial Coverage for TAL, TTL, TMLDL, TMML (Details Provided in GRI Index)
	Air Emission		305-6 305-7				
	Reclaiming Systems for reuse and recycling and recovery of Materials	Material	301-1 301-2 301-3	Within TML	Direct Impact	TML, Suppliers	TML, India. The disclosure is not applicable for TTL. Partial Coverage for TAL, TMLDL, TMML (Details provided in GRI Index)

Dimension	Material Issues	Material Topic (As per GRI Standard)	GRI Indicators	Boundary of Impact for TML	Organisation's Involvement in Impact	Relevant Stakeholder	Coverage of the Topic
Environmental (Continued)	Environment, Labour, Human Rights in Supply Chain	Supplier Environmental Assessment	308-1, 308-2	Outside TML	Indirect Impact.	TML, Suppliers	TML, India.
Social		Child Labour	408				
		Forced or Compulsory Labour	409				
		Freedom of Association and Collective Bargaining	407				
	Occupational Health and Safety	Occupational Health and Safety	403-1	Within TML	Direct Impact	TML and Employees	TML, India Partial Coverage for TAL, TTL, TMLDL, TMML (Details provided in GRI Index)
			403-2				
			403-3				
			403-4				
	Attrition	Employment	401-1	Within TML	Direct Impact	TML and Employees	TML, India Partial coverage for TAL, TTL, TMLDL, TMML (Details Provided in GRI Index)
			401-2				
			401-3				
	Gender Diversity	Diversity and Equal Opportunity	405-1	Within TML	Direct Impact	TML and Employees	TML, India
			405-2				
	Local Communities	Local Communities	413	Outside TML	Indirect Impact	TML, Communities, Government Authorities, Opinion Leaders, Media	TML, India.
	Product Safety & Quality	Customer Health & Safety	416-1, 416-2	Outside TML	Direct Impact	TML, Customers	TML, India
	Product Innovation						
	Product Competitiveness						
	Customer Satisfaction	Marketing & Labelling	102-43, 102-44	Within & Outside TML	Direct Impact	TML, Customers, Dealers & Service Stations, Investors, Government Authorities	TML, India.
	Product Labelling		417-1				
	Usage of Toxic Substances in Automobile Components		417-2				
	Product Sales & Service Quality		417-3				

In our sustainability report for FY 2016-17, we have disclosed on all the material issues, which includes critical, high and low as per the materiality matrix, in line with the GRI topic specific standard. In addition to the identified material topic in sustainability report of FY 2015-16, we include effluent and waste and water as material topics.

As per the ESG rating report, 2016, by MSCI ESG Research Inc. the two major risks for Tata Motors Limited, as identified, are Labour Management and Product Safety and Quality. Both of the topics have been categorised as critical and high importance topic in our materiality matrix and are addressed in the sustainability report 2016-17.

Details on the management approach, monitoring mechanisms and performance indicators for the topics have been provided in the relevant sections. The relevant section name is mentioned in the GRI Index.

Sustainability Strategy

Our extensive materiality assessment helped us identify key issues, while continuous internal performance management and monitoring mechanism helps us to strategize our actions on identified material issues for integrated sustainable development and adhere to our ethical principles. In line with our material issues and continuous self-assessment of our performance, we have established short-term and long-term goals for environmental and social material topics.

The monitoring the progress of our performance compared to established goals facilitates us to calibrate our course of action and achieve our target.

Goals and Targets			
Topic	**Goals**	**Time frame**	**Status**
Biodiversity	1. To complete Biodiversity study of Sanand, Dharwad and Pantnagar in 2017-18. 2. Implementation of selected Biodiversity management plan at Pune, Lucknow and Jamshedpur in 2017-18	Target year - 2017-18	Initiated
Effluent and Waste	1. 50% reduction in Hazardous waste to landfill 2. 100% disposal of biodegradable waste through composting/biogas. 3. 5% increase in treated effluent recycling	Target year – 2017-18	On track
	Tata Motors aspires to become Zero Waste to Landfill or incineration.	Aspirational target for near future	
Environmental Compliance	Zero non-compliance	Continuous	On track
Water	Year on year 5% reduction in water consumption.	2017-18	On track
	Tata Motors Limited aspires to become water positive.	Aspirational target for near future	On track
Energy	5% reduction over previous year.	Target year 2017-18	Initiated
	Tata Motors Limited aspires to meet 100% of energy demand from renewable energy.	Aspirational target year – 2030.	
Emission	15% reduction in GHG emission over the previous year.	Target year- 2017-18	Initiated
Material	Continue to manufacture 85% recyclable passenger cars as per R-R-R European regulation	Continuous	On track
Supply Chain - Environment, Labour, Human Rights	1. Conduct site assessment for 60 numbers of suppliers.	Target year: 2017-18	On track
	2. Engage with 100% critical Tier 1 suppliers.	Within 3 to 4 years.	On track

Goals and Targets			
Topic	**Goals**	**Time frame**	**Status**
Occupational Health and Safety	Reduction of Total recordable cases by 20% from baseline of 1.41	Target year: 2017-18	On track
	Reduction of Total Recordable Cases by 65% over next 3 years.	Target year: 2019-20	On track
Employment and Diversity	Increase of women at shop-floor to 20% from existing 3% over next 2 years.	Target year: 2018-19	On track
	Increase number of women to 1000 number at the leadership role.	By 2020.	On track
Local Community Engagement	We have developed 5 years plan for social responsibility in 2013-14 to touch more than 1 million lives by means of our identified focused areas: a) Employability, b) Education, c) Health, d) Environment.	2017-18	On track
Customer Health and Safety	To adhere to all the customer safety and sustainability compliance.	Continuous	On track
Marketing and Labelling	To be among top 3 in customer satisfaction.	Continuous	Achieved in 2016-17.

Integration of **Sustainable Development Goals [SDGs]**

To combat the massive economic, environmental and social challenge, UN Conference on Sustainable Development, in June 2012, laid down the foundation for Sustainable Development Goals for 2030 where the UN Member States worked to create follow on from the Millennium Development Goals. To achieve the ambitious target by 2030, a meaningful partnership between different stakeholders is essential and business plays an integral part in this journey.

Tata group's philosophy centres on improving the quality of life of the communities and enhance long-term value for our stakeholders. We continue to relentlessly strive in our endeavour of nation-building, sustainable development, accelerated inclusive growth and social equity. Tata Motors Limited is working on 15 out of 17 sustainable development goals which are strategically aligned with the Tata Group philosophy as well as our business priorities.

Our Alignment and Programs Supporting SDGs

We engage with the deprived sections of the society through our CSR programs. Our skill development program, "Kaushalya" aims to build the capacity of unemployed youth by providing vocational training in automotive and other industrial trades. This helps the youth in earning their livelihood, increase employability and increase earning capability. Improving the quality of life is one of our commitments and we continuously attempt to eradicate poverty in the society by ensuring fair wages for all our employees and contractors. We have also initiated engagement with our supply chain to assess their compliance with labor rights which include adhering to norms of minimum wages for all their employees. For further details, please visit:

http://www.tatamotors.com/programs/employability-skill-development/

Further details in "CSR", "value chain" and "Workforce" sections.

We have identified health as one of focus areas in our corporate social responsibility initiatives. "Aarogya", our CSR program for health, focuses on maternal and child health by adopting a holistic approach and striking a balance between 'preventive healthcare' and 'curative healthcare' interventions. For details on the program, please visit: http://www.tatamotors.com/programs/health/

At the organization level, health and safety of our employees are of utmost importance to us and it is an integral part of our business. We enhance work-related safety of employees through various safety initiatives and safety standards. We are regularly conducting training on road safety and defensive driving to improve road safety. We also engage with associates, local communities and workers during National road safety week and national safety week. We ensure to adhere to air quality norms. For more information, please refer to "Workplace water safety" and "Energy and emission" section.

Education is one of focus areas identified in our Corporate Social Responsibility policy. At Tata Motors we encourage 'holistic engagement' with the entire spectrum of formal education for needy, deserving and marginalized students. Under our Education program "Vidyadhanam", key CSR projects taken up are:

- Scholarships
- Financial aid to engineering students of IITs and government engineering colleges
- Coaching classes
- Special coaching for IIT-JEE and other competitive examinations
- School infrastructure improvement
- Co-curricular activities

For more details, please refer to our website:

http://www.tatamotors.com/programs/education/

At organization level, we have dedicated structure to continuously enhance our employees' skill sets. Further details in "CSR" section.

Gender equality is one of our key issues and we are continuously working towards the same. Our commitment towards gender diversity is reflected in Tata Code of Conduct and Tata values of understanding and unity. We have target to increase the number of women at the shop-floor level to 20% from the current 3% by next 2 years. We have initiated program like "GearUP", a skill development program, to facilitate women in leadership position. We have developed a holistic charter for inclusive programs which is centered on gender diversity and equality. We also engage with our suppliers and encourage them to improve gender diversity and promote gender equality. For further details, please refer to "Gender diversity" in "Workforce" section and "Value chain sustainability" section of this report.

Water scarcity and water inequality is one of the major concerns in Indian society. To address the water issue, we have initiated program "Amrutdhara", a programme conceived and deployed with the support of Sumant Moolgaokar Development Foundation (SMDF) focused on addressing the 'drinking-water' needs of needy and deserving communities. The program aims to touch 0.1 million peoples' lives through providing 25 litres of water per day per person. For details, please refer to our website: http://www.tatamotors.com/programs/amrutdhara/

At TML level, we have an aspirational target to become water positive in near future. In this context, we have taken initiatives such as rain water harvesting and storage, water pooling and water recycling. Further details are provided in "Water and effluent management" section of this report.

We contribute to sanitation through our product usage for the cause of "Swachh Bharat Abhiyan". We aspire to achieve "Zero waste to Landfill" and strive to dispose our operational waste in the most environment friendly option.

Please refer to "Waste Management", "Water and effluent management" and "CSR" section for more details.

Tata Motors is committed to RE100 and aspire to achieve 100% renewable energy for our operation by 2030. We have invested in wind power and solar roof top for developing renewable energy generation capacity. We have signed power purchase agreement with renewable energy producers; this in turn helps in enhancing competitiveness of renewable energy and affordability of renewable energy. Please refer to "Energy and emission" section for further details.

We contribute towards Indian economic growth through our operations and engagement with our stakeholders. We are committed to provide decent work environment to all our employees and this commitment is reflected in our Tata Code of Conduct. We provide equal opportunity for all and adhere to our strict policy of non-discrimination and no child labour. We have a dedicated Tata Code of Conduct for our dealers and suppliers. Please refer to "Economic Performance", "Workforce", "Workplace Safety", "Value Chain Sustainability" and overall environment section for further details.

Delivering exciting innovations is one of our visions for 2019 and we have established procedure and governance mechanism for research and development. Our new sub-brand TAMO acts as a center of innovation towards new technologies, business models and partnerships in order to define future Sustainable Mobility Solutions. Please refer to "Sustainable Mobility Solutions" section for further details.

Our dedicated programs under Affirmative Action strive to reduce inequalities in the community. Our program, Aadhaar, is aimed at serving the socio-economically backward and disadvantaged Scheduled Caste (SC) and Schedule Tribe (ST) communities. For further details, please visit: http://www.tatamotors.com/programs/aadhaar/ and "CSR" section of this report.

At organizational level maintain non-discrimination as detailed in "Workforce" section.

Our core philosophy of enhancing the quality of life acts as our guiding principle in the ways we do business. We, through our different community programs, are working closely with Government, industries and NGOs to address and mitigate the social challenges. Through our innovative electric and hybrid buses we provide a safe, economic and sustainable solution to mass transportation. Please refer to "Sustainability Mobility Solutions" section for further details.

We adhere to the European regulation of R-R-R and all our passenger cars are 85% recyclable. Our refurbishment initiatives through Tata Prolife, Tata Assured and Tata OK aims to extend the life of vehicles and ensure vehicles compliance with the applicable norms. To assess the environmental impacts of our products we undertake life cycle assessment of our vehicles which also helps us in strategizing overall sustainability of our products. Furthermore, we are gradual shifting toward co-processing for hazardous waste disposal. Disposing hazardous waste through co-processing is not only environment friendly but also results to material and energy recovering.

Please refer to "Raw Material" and "Waste Management" section of this report for further details.

Environment and climate change are among our key identified issues and we have developed policies for addressing the same. Our approach to climate change is three-fold comprising of building awareness among stakeholders, reducing the environmental impact of manufacturing and developing cleaner vehicles.

Under our environment program "Vasundhara" we have taken up tree plantation for developing carbon sinks; promoting renewable energy and building awareness in the communities. For further details, please refer to "CSR" and "Economic Performance, Energy and Emissions", "Value Change Sustainability" sections of this report and visit:

http://www.tatamotors.com/programs/vasundhara/

In addition to our environmental programme "Vasundhara", Tata Motors have identified biodiversity as one the key issues and continuously attempt to avoid and mitigate negative impacts and enhance positive impacts on biodiversity. Tata Motors Manufacturing Plants in India include Township / Residential Areas at Jamshedpur and Pune and significant area under Green Belt within Plant at all locations. All Plants have also created lakes / wetlands as a part of their storm-water management system. This has led to a focused approach to biodiversity conservation and management. For more details, please refer to "Biodiversity", "Energy and Emissions" and "CSR" section of this report.

Tata Code of Conduct, representing our values and principles, guides our every business. Our core principles address our commitment towards conforming to highest moral and ethical standards, inclusive growth as an integral part of our business plan, respect to human rights and dignity of stakeholders and conducting our business with honesty and integrity. We have a strict policy to adhere to our anti- bribery and anti-corruption norms as mentioned in Tata Code of Conduct. Please refer to Tata Code of Conduct" and "Value Chain Sustainability" section for details.

For more details on TCoC, please refer to:

http://corp-content.tatamotors.com.s3-ap-southeast-1.amazonaws.com/wp-content/uploads/2015/10/tata-code-of-conduct.pdf

Meeting the ambitious sustainable development goals by 2030 requires a partnership between Government, the private sector and civic society. At Tata Motors Limited, we engage with communities through NGOs and civic societies and bring in the required change in the life of deprived sections of our society. Through our international initiative, with help of our distributor partners in various countries, Tata Motors continues to take significant steps to mitigate the distress of marginalized communities.

Please refer to "CSR" and "Environmental Stewardship" section for details on our investment in environment.

Business with Responsibility [3Ps]

> The Tata philosophy of management has always been and is today more than ever, that corporate enterprises must be managed not merely in the interest of their owners, but equally in those of their employees, of the consumers of their products, of the local community and finally of the country as a whole.

J.R.D. Tata

Sustainability Report 2016-17 | **Business with Responsibility [3Ps]**

Economic
Performance

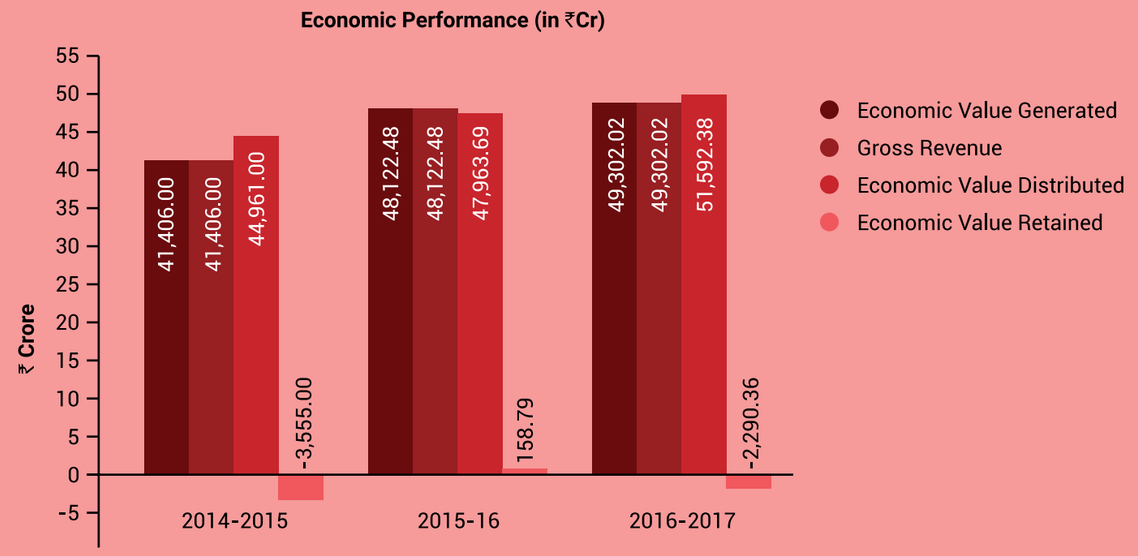
At Tata Motors Limited, we aim to create inclusive and sustainable economic growth through contributing in nation building beyond the profits generated for our shareholders. In this section, we address our management approach and key economic performance data for the year 2016-17.

8 GOOD JOBS AND ECONOMIC GROWTH

13 CLIMATE ACTION

TATA MOTORS

Dashboard of TML for 2016-17: Economy



Our Climate change risk & mitigation action :

Regulatory risks mitigation through R&D & product innovation

Mitigation measures for Physical climate change risks- Energy efficiency, Rain water harvest

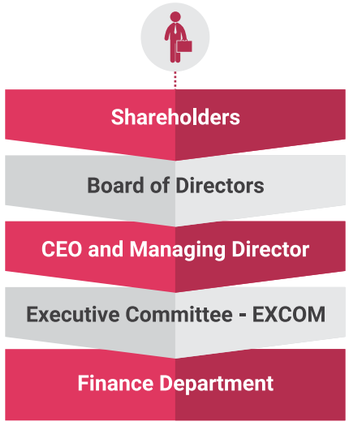
Mitigation measure for Changing Socio-Economic condition – Investment in clean & sustainable mass transportation.

Economic
Performance

We contribute to the nation building beyond the profits generated for our shareholders. While we generate direct economic value through our operations, products and services, we also contribute to significant indirect economic impacts which culminate to increased economic activity and enhance the quality of life. We help transport people and goods, thereby enabling people, enterprises and institutions to realize new possibilities. The vast value chain of automobile companies supports numerous jobs. Our community development agenda empowers communities to carve a path for economic and societal prosperity. The management approach and grievance mechanism for economic performance have been addressed in our Annual Report 2016-17.

Our Management for Economic Performance

Finance department is responsible for the financial management of the organization in compliance with the financial rules and the financial guidelines acting in this company. While the Board of Directors is accountable for oversight of the overall governance process, Group Chief Financial Officer is responsible for TML's financial management and implementation of the financial policies and procedures within the organization.



Our finance department, comprising of managers and executives, working under the leadership of Group Chief Financial Officer drive efforts towards fulfilling TML's financial commitments by enhancing shareholder value. We are committed to comply with all the applicable financial laws and regulations that govern shareholder rights, by keeping them informed about relevant aspects and by maintaining accurate records of our activities and disclosing in accordance with applicable law and industry standards.

Finance department serves staff, managers, the Board of Directors and stakeholders towards securing the financial health of the company. The Department manages the flow of finance to ensure that the company operates within financial regulations and satisfies various external financial requirements. It also ensures that the corporate financial records comply with internal and external audits.

Key Initiatives and Performance in 2016-17

Economic Performance Table

Economic Performance (in INR cr)	2014-2015	2015-16	2016-2017
Economic Value Generated	41,406.00	48,122.48	49,302.02
Gross Revenue	41,406.00	48,122.48	49,302.02
Economic Value Distributed	44,961.00	47,963.69	51,592.38
Operating Costs	36,760.00	38,975.39	42,045.58
Employee Benefits and Wages	3,091.00	3,048.71	3,401.34
Payments to providers of capital	1,612.00	1,541.54	1,629.90
Payments to government	3,498.00	4,398.05	4,515.56
Economic Value Retained	-3,555.00	158.79	-2,290.36

The financial accounting for fiscal year 2016-17 has been done under new IND AS standards.

In line with our risk identification and prioritization process, climate change has been identified as one of risks. We have identified climate change risks and opportunities driven by regulatory, physical parameter change and other climate related development.

a) Regulations : Product efficiency standards, increasingly stringent air pollution norms and energy regulations can result to increase in expense and risk of business continuity. We have proactively invested in R&D for innovation and development of our product portfolio to address these risks and generate opportunities, thereby, stay ahead of the curve. We have spent INR 21 billion in R&D for development of clean technology vehicles and INR 50,000 per vehicle for shifting from BS III to BS IV and implementing mandatory safety features.

b) Physical parameter change: Potential change in precipitation and drought due to extreme weather change can result to water scarcity and increase in cost of electricity. At TML, we have invested INR 100 million in rain water harvesting and INR 41.3 million in various energy efficiency projects.

In light of other climate related development such as increasing environmental consciousness and changing socio-economic conditions, we have done significant investment in development of clean and sustainable mass transportation such as hybrid buses and Small Commercial Vehicle (SCV) for last mile connectivity.

Protecting
The Environment

> “Uncommon thinkers reuse what common thinkers refuse.”
>
> **J.R.D. Tata**

Sustainability Report 2016-17 | **Business with Responsibility [3Ps]**

Protecting
The Environment

Dashboard of TML for 2016-17: Protecting The Environment

Energy & Emission

16.34% of Total Electricity from Renewable Energy

Energy saving from ENCON initiatives **58,686 GJ;** **8,293 tCO_2** Emission Reduction.

Total energy consumption **2,720,084 GJ**

Total GHG Emission (Scope 1 & Scope 2) **385,878 tCO_2**

Energy consumption **5.22 GJ/vehicle** produced

GHG emission **0.74 tCO_2/vehicle** produced;

Environmental Stewardship

Expenditure towards environmental protection increased by **36%** to **₹559** million

Raw Material

85% Product Recyclability

43.97% Recycled Metal used

24,281 equivalent vehicles reused/replaced by Tata Prolife

20.8% Reduction in Metal Consumption

Waste

Hazardous Waste to Landfill reduced to **17.02%**

Non-Hazardous Waste to municipal landfill reduced to **3.36%**

Co-processing of Hazardous Waste increased to **24.06%**

Recycling for Material Recovery in Hazardous Wastes increased to **4.03%**

Water

Total Water Withdrawal: **5,906,428 m^3;** **13.3%** increase

Specific Water Consumption: **11.31 m^3/vehicle** produced; **6.97%** increase

Water Recycling increased to **13.98%**

Protecting
The Environment

Tata Code of Conduct provides us with the guiding principles of our overall approach towards the environment and environmental stewardship. We pursue to conserve natural resources through reduce-recycle-recover and refurbishment. We are committed to improving the environment, particularly with regard to the emission of greenhouse gases, consumption of water and energy, and the management of waste and hazardous materials. We continuously strive to offset the effect of climate change in our activities.

Our Management for Environmental Topics

All the key environmental issues, namely, emission, waste, water, energy, environmental compliance and biodiversity are managed by our SHE department. SHE council at the Board of Director level is responsible for Tata Motors Limited's environmental performance (Please refer to Sustainability Governance structure). SHE committee is responsible for monitoring and reviewing environmental performance across Tata Motors Limited on a quarterly basis and is also responsible for approving and overseeing the deployment of an action plan for environmental focus areas.

At business level, SHE Council is responsible for reviewing of environmental performance on monthly basis and the council is supported by SHE Apex Committee, chaired by respective Plant Heads, at the plant level. All plants have a dedicated environment department who is overall responsible for energy and environmental issues, including biodiversity management.

Energy and Emissions

For two consecutive years, The World Economic Forum has identified climate change as one of the top global risks in their 2015 and 2016 risk assessment reports. Climate change is directly related to energy consumption and the means by which required energy is produced. Acknowledging the risk of climate change, Indian Government has voluntarily set a goal of reducing the emissions intensity of its GDP by 20–25%, over 2005 levels, by 2020, despite having no binding mitigation obligations as per the Convention. In this context, promoting renewable energy and enhancing energy efficiency are the two major mitigation mechanisms outlined in the NDC.

Tata Motors is one of the signatories of RE100, a global collaborative initiative of influencing business committed to 100% renewable electricity, and we aspire to source 100% of our energy from renewable energy source by 2030.

RE 100

We have increased our RE contribution to 16.34% in 2016-17 from 8.44% in 2015-16. The cumulative renewable energy installed capacity of Tata Motors Limited, as of 2016-17, is 3.85 MW of solar power and 21.95 MW of wind power plant at Pune.

Energy

Our approach to energy and resulting emission is at two levels – a) at operation level; b) at the product level.

- Energy usage at operation level : In line with our Energy Policy, Tata Motors is committed to reduce dependency on fossil fuel and our energy strategy focuses on adopting renewable source of energy through a grid, in-house renewable energy generation and collaborating with power utilities for renewable energy for meeting its energy demand. We adhere to all the applicable legal and other requirements and committed to purchase and use of energy efficient equipment, services and eco-friendly technologies.

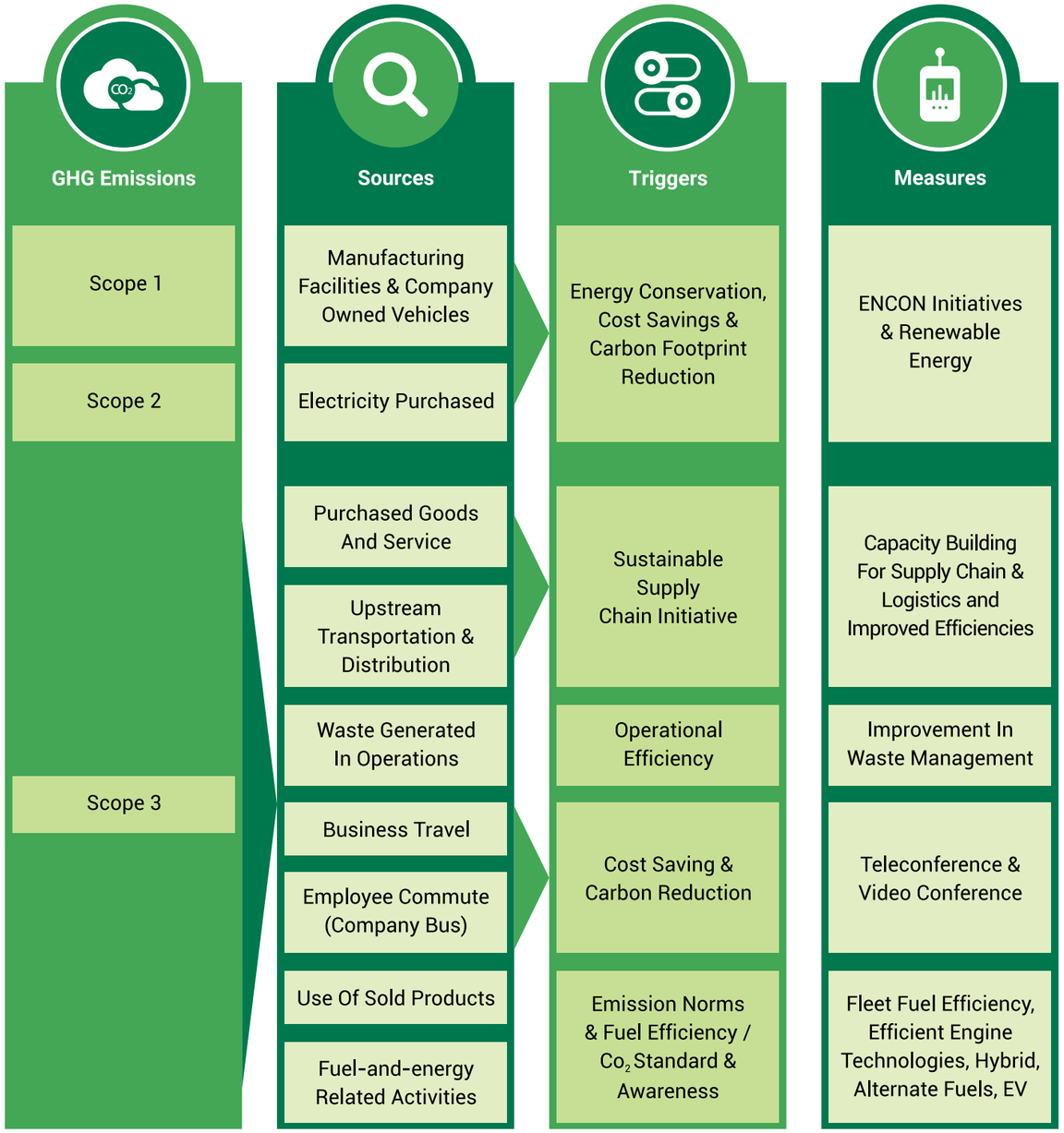
  All CV Manufacturing Plants in India are certified to ISO 50001 - Energy Management System (EMS) and through our ENCON programs; we continuously attempt to enhance our operational energy efficiency.

- Energy Efficiency Of Our Product: We continuously strive to comply with all the environmental laws and manufacture environmentally sustainable products. Our commitment towards product energy efficiency is centrally managed through TML's R&D Establishment – Engineering Research Centre at Pune. Our Engineering Research Centre has the sole responsibility for performing the environmental impact assessment of our products and ensuring energy efficient design during the product development. The detail on our product initiatives is provided in "Product Stewardship" section.

GHG Emission

Climate change has been identified as one of our key strategic areas and we have formulated our climate change policy in 2010. As per the policy, we are committed to reducing our carbon footprint at the operational level as well as at the product level. In view of the fact, that GHG footprint is closely linked with the energy consumption and source of energy, we have adopted three-fold approach:

We strongly believe that awareness, reduction and development of cleaner and efficient vehicles can, collaboratively, make a significant positive impact in mitigating climate change.



Our drivers to Climate Change strategy are spread in three broad areas – Operations, Products and Supply Chain.

- Operations: Through enhancing energy efficiency, meeting our energy demand from renewable energy and possible offsetting mechanism we aim to reduce and mitigate our direct emissions, namely, Scope 1 and Scope 2 emissions. Cross-functional teams at plants implement climate change action plans. There are trained climate change champions across operations to steer forward the climate change agenda.

- Products: In general, more than 70% of the total GHG emissions of an automotive industry are contributed by emission from the use of sold products. Our products adhere to all the current emission norms and we strategize our action plans in line with any upcoming regulations or changes. We have focused

effort in reducing on-road emissions from our vehicles through the introduction of fuel cell buses and hybrid buses used for mass transportation. Further details have been provided in "Product Stewardship" section.

- Supply Chain : Emissions due to purchased goods and services are also a major contributor to our overall GHG emission and hence, we have initiated engagement with our supply chain to encourage energy efficiency, usage of renewable energy and monitoring their individual operations' GHG emission. Through our supply chain engagement, we provide a platform for sharing best practices in terms of energy conservation, energy efficiency and in-house generation of renewable energy. Details on our supply chain performance is provided in "Sustainable Supply Chain" sub-section of this report.

Key Energy and Emission Initiatives at Operation Level in 2016-17

Increase in the share of renewable energy consumption and energy conservation is vital in reducing our energy demand and reduction in emission. During the financial year 2016-17, ENCON initiatives have resulted to 58686 GJ of energy saving and 8292.75 tCO_2e emission reduction through various means of fuel use optimization and electrical energy-saving measures.

At Tata Motors Limited, we acknowledge that monitoring and performance is closely linked. We have implemented SCADA control system in Lucknow plant. Improvement of lighting efficiency has been one of our major ENCON initiatives for this fiscal year, 2016-17, at our Pune, Jamshedpur and Pantnagar plant. The table below lists the initiatives at various locations undertaken in the year 2016-17 and the impact of the same.

Initiatives in Energy Conservation and Their Impact

Location	Initiative	Impact
Pune	Replaced approximately, 6000 fluorescent tube-lights with energy efficient LED tube-lights and nine high masts fitted with conventional sodium-vapor lamps were replaced with LED fittings. We have gradually replaced all light fittings in offices and shops with LED fixtures.	This initiative has led to energy saving of 2635.2 GJ and emissions avoidance of 600 tCO_2.
Jamshedpur & Pantnagar	Installed around 2500 and 1325 energy efficient LED lights respectively in areas such as streetlights, vehicle storage pads, office and shop floor areas.	This has led to energy saving of 3292.2 GJ and 749.89 tCO_2 of emission avoidance.
Jamshedpur	Installed 20 light pipes to harness natural day - light in manufacturing areas which has result to energy saving of 290.15 GJ and 66.09 tCO_2 of emission avoidance.	Achieved energy saving of 290.15 GJ and 66.09 tCO_2 of emission avoidance.
Lucknow	Implemented SCADA Control for high bay lights and man coolers in Paint Shop	The effective control mechanism has reduced operating hours of the high-bay lights and coolers, thereby, resulting to energy saving of 1532.54 GJ and 349.08 tCO_2 of emission avoidance.

"Climate Action is one of the Sustainable Development Goals (SDGs). It is our responsibility, individually and collectively, to identify every possible opportunity to minimize conventional energy consumption and maximize clean and renewable energy usage and help cutting down the GHG emissions."

Mayank Pareek
Business Unit Head
Passenger Vehicle Business Unit(PVBU)

TML Dharwad Leading The RE Journey

As a part of our Go Green initiative, in September 2016, our Dharwad plant has signed wind power purchase agreement with M/s Doddanaver Global Energy Private Limited (DGEPL). The wind plant of installed capaptiy of 77 MW is situated at a distance of 110 km from TML Dharwad. With this, the renewable energy contribution has increased to around 85% of the total energy consumption at Dharwad.

Provision of swiveling lid on MF Furnace to avoid heat loss & thereby reducing melting power consumption

Scrap is fed into the medium frequency (MF) furnace to provide molten liquid metal to molding line. It is called medium frequency as the mains frequency (50HZ) is converted to medium frequency (140 HZ to 225HZ) by converters & inverters. At present, in foundry there are 3 furnace shells & 2 power units. Hence at any time 2 furnaces are running. This being a high power density furnace & heat loss to the surroundings is maximum when whole bath is semi liquid (1000 deg C) & then heated up to 1540 deg C, we have implemented a swiveling type lid to reduce the heat loss.
In order to realize the benefits from the utilization of lid the energy performance of MF-03 furnace was monitored, comparing the data with lid & without lid for 15 days. The saving came out to be 19kwh/Lmt, resulting to annual power saving of 316.67 MWh.

Energy and GHG Performance of TML 2016-17

Fuel consumption (direct energy) and direct (Scope 1) GHG emission[15]

Energy Sources (fuel types) Name of Fuel	Energy (GJ)	GHG Emission (tCO_2e)
CNG	2,047.80	114.88
Diesel[16]	268,122.1	19,867.85
HFO	2,243.74	173.67
Natural Gas	218,188.82	12,240.39
Petrol	33,962.87	2,353.63
Propane	455,545.97	28,744.95
LPG	72,060.51	4,547.02

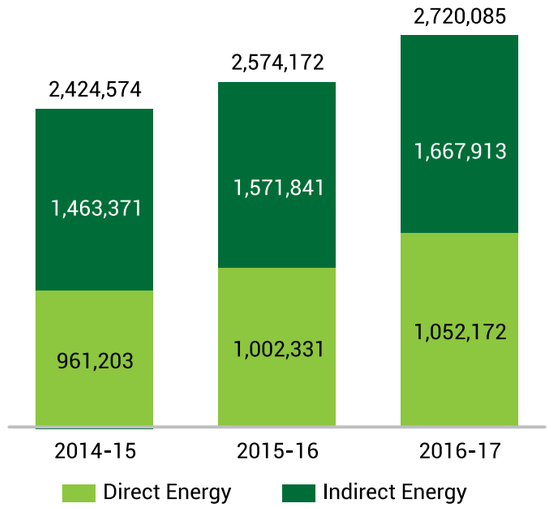
Electricity Consumption (Indirect Energy) & Indirect (Scope 2) GHG Emission

Energy Sources	Energy (GJ)	GHG Emission (tCO_2e)
Electricity from grid -non-renewable	1,395,378.90	317,836.31
Electricity from the renewable source/ RE power	272,533.60	GHG emission is not applicable

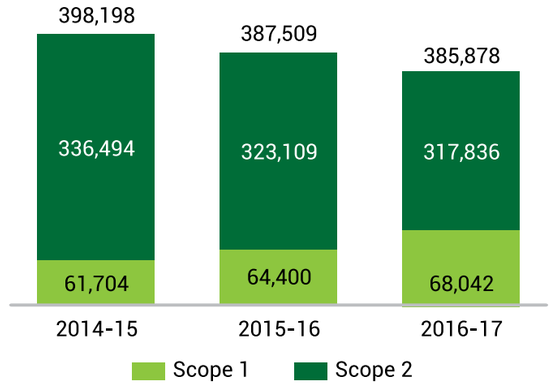
The consumption of total energy from fuel and electricity has increased in 2016-17 by 6%, mainly, due to increase in the number of M&HCV by 3% of the total commercial vehicles as compared to the previous year. The energy consumption of per M&HCV manufacturing is higher than Small Commercial Vehicle and thus, the increase in the number of M&HCV has resulted in to an overall increase in energy consumption in 2016-17. However, we have been able to reduce our overall scope 1 & scope 2 GHG emission by 0.43% due to increase in the contribution of renewable energy in the total energy. We have a target of year- on-year reduction of GHG emission from scope 1 & scope 2 by 15%. Renewable energy sourcing and energy saving initiatives shall be vital in achieving the target reduction.

[15] *We have initiated to disclose each fuel type energy consumption and emission from this reporting period.*
[16] *Including LDO and HSD.*

Energy Consumption in GJ within TML



Scope 1 and 2 Emission (tCO_2e)



Indirect energy consumption has increased by 6.11% whereas scope 2 emission has decreased by 1.6% from 2015-16. This is due to the increase in share of renewable energy from 8.44% in 2015-16 to 16.34% of total electricity consumption in 2016-17.

In addition to the energy usage and emission from fuel and electricity consumption, our manufacturing operations also generate process emissions from welding and metal cutting operations. These have been quantified separately as their quantum is directly proportional to manufacturing activity and does not offer scope for mitigation.

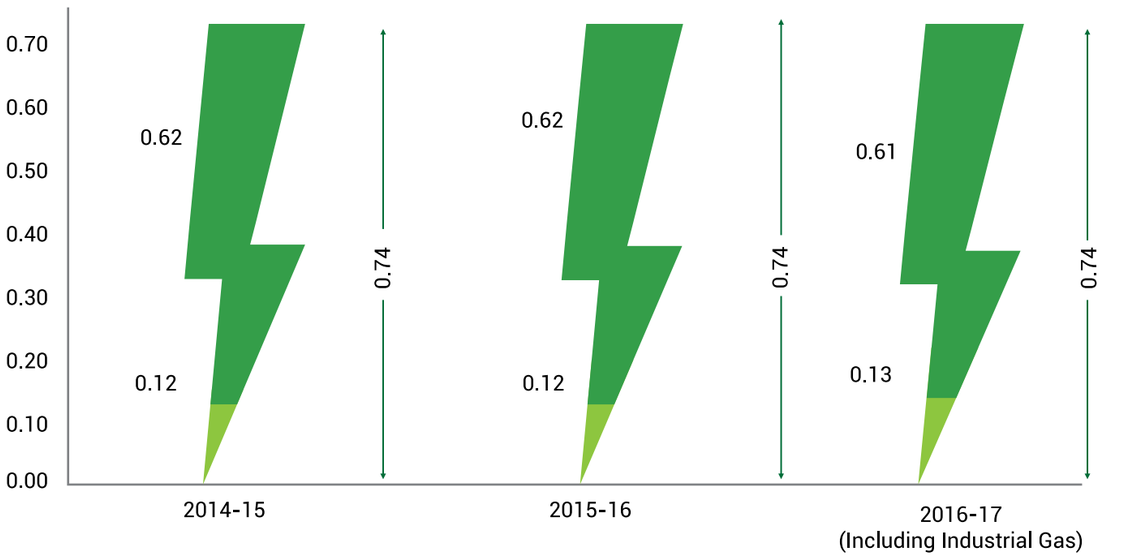
Other Gas Consumption by TML

Material Description	2015-16		2016-17	
	Energy (GJ)	GHG Emission (tCO_2e)	Energy (GJ)	GHG Emission (tCO_2e)
Dissolved Acetylene	2954	206.9	4241.35	292.72
Carbon-dioxide		761.5		451.75

Energy and GHG emission intensity have been calculated based on the number of vehicles produced in 2016-17 and energy and emission from fuel and electricity consumption. Energy consumption per vehicle has increased by 5.3% from last fiscal year whereas specific GHG emission per vehicle has reduced by 0.09% in this fiscal year as compared to last reporting period due to increase in renewable energy. During the reporting period, the energy and GHG emission intensity, including dissolved acetylene and CO_2, has been 5.22 GJ/vehicle and 0.741 tCO_2e/vehicle respectively.

Energy Consumption Per Vehicle Produced (GJ/Vehicle)

GHG Emission Per Vehicle Produced (tCO_2e/Vehicle)



Energy Consumption Outside TML and Scope 3 Emissions

This year we have extended the scope 3 emission reporting and have reported a total of seven Scope 3 categories, including use of sold products. Until 2015-16, we were calculating GHG emission from only employee commute. GHG emission in the category "Purchase goods and services" and "Upstream transportation and distribution" have been calculated based on the collected data from 52 suppliers assessed under our initiative in sustainable supply chain. These 52 suppliers contribute to energy consumption of 540322.54 GJ outside TML's operational boundary.

Scope 3 Emissions Accounted for at TML		
Scope 3 Category Number	**Description of Scope 3 Categories**	**GHG Emission (tCO_2)**
1	Purchased goods and services	95,315.84
3	Fuel-and-energy related activities (not included in Scope 1 or 2)	89,726
4	Upstream transportation & distribution	7,775.51
5	Waste generated in operations	3,630.45
6	Business Travel	9,265
7	Employee commute (Company Bus)	14,221.8
11	Use of sold products[17]	3,057,178
	Total scope 3 emission	**3,277,112.6**

The calculation of emission from use of sold PV products has been done as per the data submitted to SIAM on the number of passenger vehicle sold, engine specification, useful life and efficiency or mileage of the vehicle. GHG emissions from Business travel has been calculated for international travel and is based on DEFRA emission factor data base.

Approximately 93% of the total Scope 3 emissions are contributed by the use of sold products. This shows the need for efforts required towards improving vehicle efficiency through innovations. As aforementioned, Tata Motors Limited has introduced alternate and hybrid buses for mass transportation and has initiated developing alternative fuel passenger vehicles.

[17] *Includes only Passenger Vehicles sold.*

Energy and GHG Performance of Subsidiaries 2016-17				
TAL				
Direct Fuel Consumption and Scope 1 GHG Emission				
Energy sources (Fuel types)	**2016-17**		**2015-16**	
	Energy (GJ)	**GHG Emission (tCO_2e)**	**Energy (GJ)**	**GHG Emission (tCO_2e)**
HSD	5212.12	386.22	2,895	214.5
Diesel	61.12	4.53		
Total	5273.24	390.75		
Electricity Consumption and Scope 2 GHG Emission				
Electricity Purchased (Grid)	37065.2	8442.63	26,968	6,143
TMLDL				
Direct Fuel Consumption and Scope 1 GHG Emission				
Energy sources (Fuel types)	**2016-17**		**2015-16**	
	Energy (GJ)	**GHG Emission (tCO_2e)**	**Energy (GJ)**	**GHG Emission (tCO_2e)**
LDO	2547.9	188.8	2,28,906	15,226
Propane	183825.3	11599.5		
Total	186373.23	11788.3		
Electricity Consumption and Scope 2 GHG Emission				
Electricity Purchased (Grid)	276904.8	63072.76	3,43,713	78,290

Energy and GHG Performance of Subsidiaries 2016-17				
TMML				
Direct Fuel Consumption and Scope 1 GHG Emission				
Energy sources (Fuel types)	**2016-17**		**2015-16**	
	Energy (GJ)	**GHG Emission (tCO_2e)**	**Energy (GJ)**	**GHG Emission (tCO_2e)**
Propane	5505.247	347.38	9,418	648.73
Total	5505.247	347.38	9,418	648.73
Electricity Consumption and Scope 2 GHG Emission				
Electricity Purchased (Grid)	2457.36	559.73	29,743	6,774.80
Electricity from the Renewable Source/RE Power	24480	0		
TTL				
Direct Fuel Consumption and Scope 1 GHG Emission				
Energy sources (Fuel types)	**2016-17**		**2015-16**	
	Energy (GJ)	**GHG Emission (tCO_2e)**	**Energy (GJ)**	**GHG Emission (tCO_2e)**
HSD: For Gensets	220.58	16.35	101	7.52
Diesel for Company owned vehicles	771.776	57.189		
Total	992.36	73.53		
Electricity Consumption and Scope 2 GHG Emission				
Electricity Purchased (Grid)	11333.27	2581.47	12,364	2,816

TAL, TMLDL and TTL have no renewable energy power consumption during the reporting year. Dissolved acetylene and CO_2 is used by our subsidiaries for welding and metal cutting purposes. Carbon-dioxide does not react with oxygen and thus, energy generated from CO_2 has not been considered.

Other Gases Consumption by Subsidiaries				
Gas used	**Unit**	**TAL**	**TMLDL**	**TMML**
Dissolved Acetylene	Energy (GJ)	62.63	89.41	34657.46
	GHG Emission (tCO_2)	4.32	6.17	2393.72
CO_2	GHG Emission (tCO_2)	0.18	NA	NA

Energy and GHG Emission Intensity per Workforce for TML Subsidiaries				
GHG Emission Intensity (tCO2e per Employee) 2016-17				
	TAL	**TMLDL**	**TMML**	**TTL**
Total Energy Consumption within organisation (GJ)	42401.07	463367.4	67100.06	12325.62
Direct and Indirect Emission (Scope 1 + Scope 2) in tCO_2e	8837.88	74860.94	3300.84	2655
tCO_2e per Workforce	7.53	21.99	1.23	0.54
GJ per Workforce	36.12	136.08	25.03	2.5

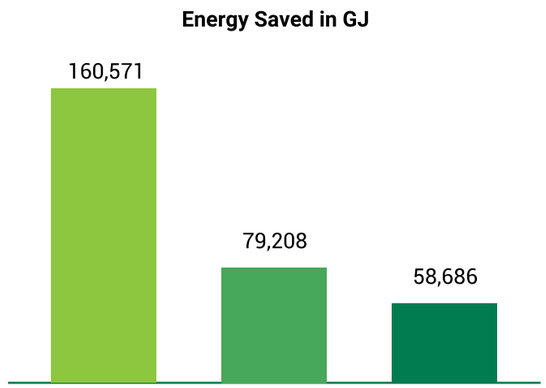
Energy Conservation and GHG Avoidance at TML

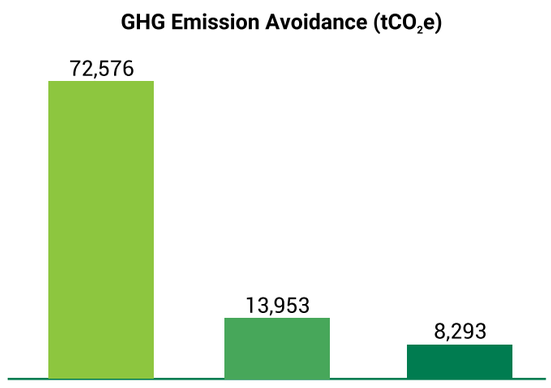
Reduction of energy consumption & GHG emission in 2016-17

Energy Source	Electricity (kWh)	Propane	Natural Gas
Unit	**kWh**	**MT (ton)**	**MT (ton)**
Quantity Saved	10,517,703.70	159.01	277.10
Energy Saved (GJ)	37,863.73	7,521.173	13,300.80
Quantum of tCO_2e avoided	8,624.51	474.59	15.59

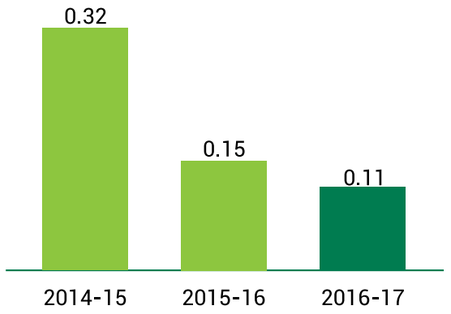
Through various ENCON initiatives, as mentioned we have saved fuel and electricity. This has resulted to avoidance of GHG emissions. The reduction in energy consumption is calculated based on the baseline energy consumption of the respective initiative and is a function of numbers of initiatives undertaken during the reporting year. The overall energy saving shows a decreasing trend from past 2 years. This is attributed to the fact that most of the feasible energy saving measures have already been implemented and thus, the quantum of energy saved has shown a decreasing trend. However, we are constantly seeking to identify the scope of energy conservation and energy efficiency.

Trends in Energy Saved and Emission Avoided





Energy Saved Per Vehicle Produced (GJ/Vehicle)



During the year 2016-17, we have not generated RECs due to lack of REC demand in the market. The banked RECs, from 2015-16, have been sold and used by our Pantnagar plant to meet its Renewable Purchase Obligation in this fiscal year. In line with our commitment to RE 100, we are continuously seeking to increase the contribution of renewable energy in our energy demand. During the reporting year, we have significantly increased the use of renewable energy.

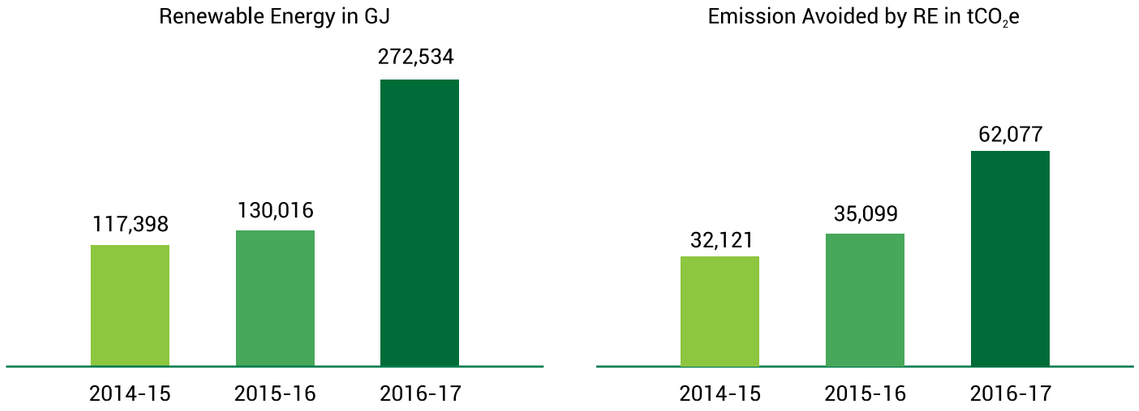
Benefit Achieved Through REC

0 REC Generated in 2016-17

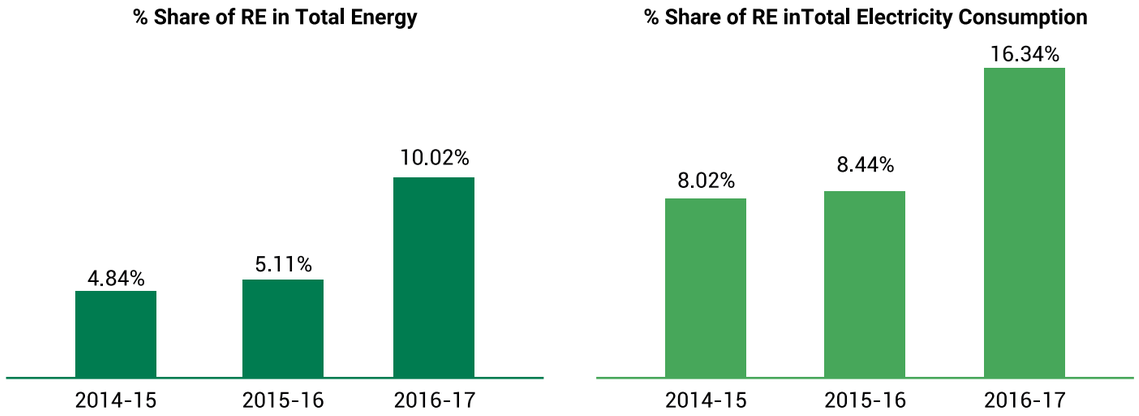
9,493 REC Sold in 2016-17

₹7.25 Crore Cumulative Benefit

Renewable Energy Consumed and Associated GHG Emissions Avoided by TML



Renewable Energy Share



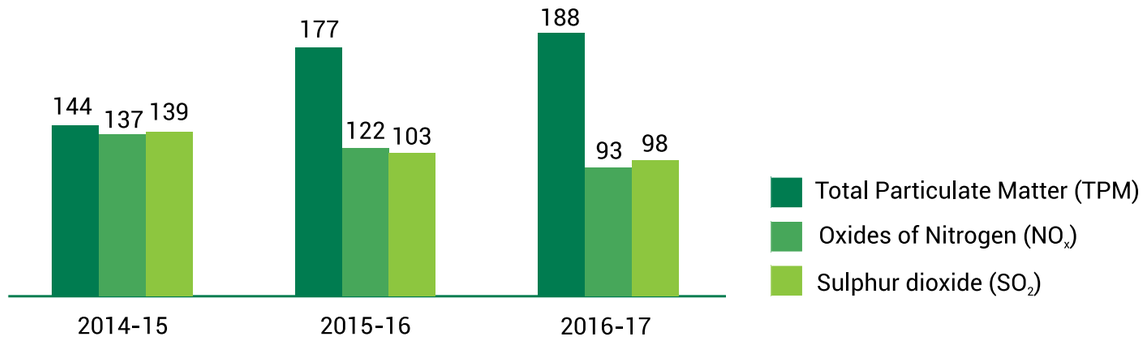
Till fiscal year 2016-17 we had a total renewable energy installed capacity of 3.85 MW of solar power at five of our manufacturing sites and 21.95 MW of wind power plant at Pune. This has reduced our grid electricity demand and brought down carbon footprint of our operations.

Other Air Emissions

Particulate Matter (PM), Oxides of Nitrogen (NOx) and Sulphur Dioxide (SO_2) constitute major other air emissions arising due to our manufacturing activities. We continually work towards reducing these emissions through efficient manufacturing processes and use of cleaner fuels. Various steps are taken to effectively monitor air emissions from the production facilities including an on-line monitoring and alarm system for incinerator emissions.

At our Indian manufacturing locations, paint shops are designed for usage of solvent based automotive paints. Paint shops are equipped with appropriate emission control equipment to control emissions from painting and paint baking operations. Going forward, we intend to determine and quantify the extent and significance of Volatile Organic Compound (VOC) emissions using methodologies as appropriate to each plant. There has been increase of 6.2% in total particulate matter in 2016-17 as compared to 2015-16. This increase has been mainly due to increase in fuel and direct energy consumption by 5%

Air Emissions at TML (ton)



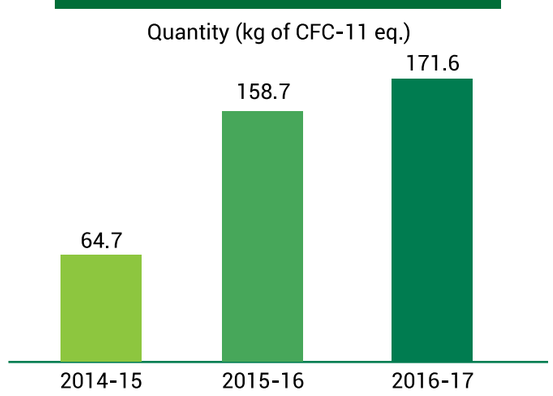
Air Emission by Subsidiaries for 2016-17

Parameters	Units	TAL	TMLDL	TMML	TTL
Total Particulate Matter (TPM)	tons	0.14	38.06	26.126	0.00865
Oxides of Nitrogen (NOx)	tons	0.000000864	0.81	0.00070	0.05685
Sulphur Dioxide (SO_2)	tons	0.0054	4.69	0.00014	0.02275

Ozone Depleting Substance

R22 is used by TML, TTL and TMLDL for refrigeration. During the year, TML, TMLDL and TTL has used 154.11kgs, 16.5kgs and 1.017kgs of CFC-11 equivalent of ODS respectively. No other subsidiaries of TML have used ODS in 2016-17.

ODS Consumption (TML & Subsidiaries)



Waste Management

We are committed to continuously improve our management of waste and hazardous materials. As per our policy, we attempt to manage waste through our 3 prong approach:

We dispose of waste as per the norms of waste disposal methods prescribed by Government of India.

Tata Motors Limited is a vertically integrated manufacturing plant, comprising of

- Pressing / Stamping
- Fabrication
- Painting
- Machining
- Assembly & testing of aggregates to final assembly of vehicles

Our requirement of critical-to-quality castings (both iron and aluminium) are met in-house through captive foundries at Pune and Jamshedpur.

With a strong strategic drive to divert hazardous wastes away from landfill and incineration, which adds to environmental burden, a number of recycling options have been explored and implemented. Going forward we are committed to increase this quantum and aim for "Zero waste to Common Waste Disposal Facilities".

Key Initiatives in Waste Management:

Initiatives in 2016-17 for our journey towards "Zero Waste to Landfill" have primarily been our drive for waste minimization at shop floor level and co-processing of hazardous waste.

Drive at Shop floor: We have imparted exclusive training and workforce engagement on effective waste management. Targets have been set at the shop floor level at each plant and adequate waste segregation method has been implemented. Resulting from adequate segregation method at waste generation level and central collection facility, we have been able to initiate effective cleaning process for small paint tins and sealant bags and drums. These cleaned drums are reused for hazardous waste transportation and also reduce our overall waste disposal quantity under hazardous category.

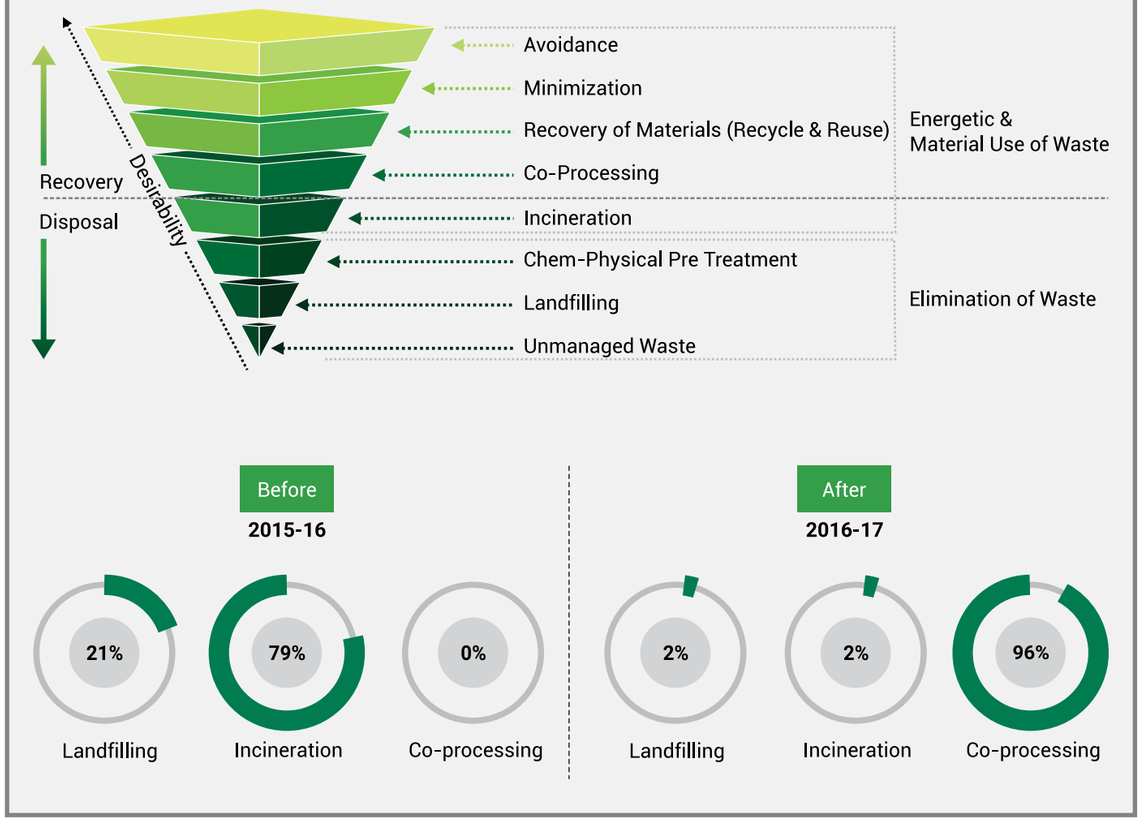
Co-processing, as an effective and environment friendly disposal method, has been accepted and adopted by all TML's plants. We are gradually increasing the quantity of hazardous waste disposed through co-processing. During the year 2015-16, 700 tons of hazardous waste at Pantnagar were disposed to landfill which has reduced to 24.53 tons in 2016-17 resulting from increase in co-processing at cement plant. In 2016-17, Pantnagar has only 2.67% of total hazardous waste disposed through landfill.

At Dharwad, we have identified vendors and diverted paint chips and paint dust for co-processing and have collaboration with Ultratech Cements, Gulbarga. Our Jamshedpur and Sanand plants have also reduced hazardous waste to landfill by diverting to co-processing by collaborating with ACC Chaibasa and Ultratech Kutch respectively.

Case Study: Migration from Disposal to Recovery as a Sustainable Way for Hazardous Waste Disposal at TML Pantnagar

Tata Motors Ltd. adopted 3R (Reduce, Reuse & Recycle) practices in its day-to-day operations. In reference to waste hierarchy, TML moved towards the higher level of desirability from disposal to recovery.

Earlier, at TATA Motors Pantnagar, disposal of hazardous waste was happening through landfilling of ETP and Phosphate sludge; incineration of Paint sludge and Waste and residues. TML Pantnagar has stopped landfilling, incineration and has moved towards the energy and material recovery from waste by co-processing. Now, TML Pantnagar has 2.67% as landfil. This has resulted to 630.57 tons of hazardous waste being diverted from landfill in 2016-17.

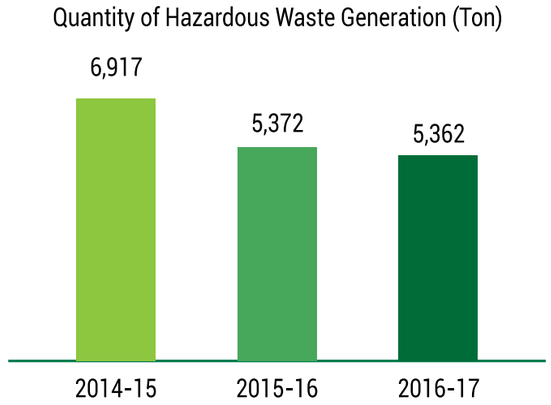


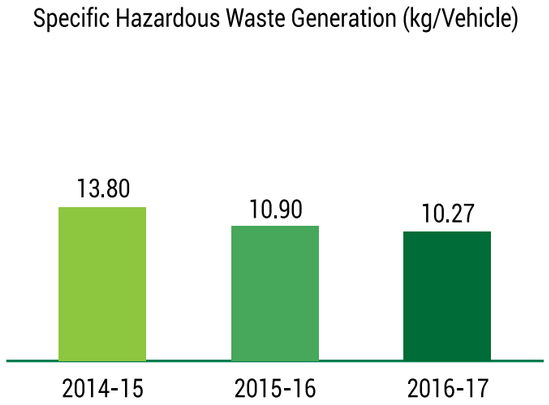
TML's Performance in 2016-17

TML - Hazardous Waste Generation Data				
Waste Category[18]	Waste Description	2014-15	2015-16	2016-17
		Quantity (Ton)	Quantity (Ton)	Quantity (Ton)
5.1	Used/Spent oil	179	202.17	181.85
5.2	Oily wastes and Residues	438	380.77	668.866
12.5	Phosphate sludge	220	200.99	237.61
15.1, 15.2	Asbestos containing scrap	2.15	2.21	0.55
20.1, 20.2	Contaminated/Spent thinners and solvents	204	162.96	190.09
21.1, 23.1	Paint sludge and Residues, Sealant residues, Pattern waste from R&D activity	1844	2825.54	2410.095
33.1	Discarded containers of Hazardous Chemicals[19]	-	98.91	162.9
35.1	Chimney soot	0.89	0.76	0.3
35.2	Spent DM plant resins	1.50	18.82	1.63
35.3	ETP sludge	905	955.43	827.115
35.4	Oil and grease skimming residues from waste water treatment[20]	-	21.3	44.43
38.1	Spent catalyst from heat treatment shop	0.68	0.1	0
37.2	Incineration ash	362	38.59	57.44
As per schedule II	Shot-blasting dust	16	20.45	15.41
As per schedule IV	Non-ferrous metal scrap	174	144.73	220.9
As per schedule IV(Cat. 5.1)	Used oil for recycling	181	8.32	88.66
-	Scrap lead acid batteries[21]	164	141.47	183.07
-	E-waste[22]	102	148.89	69.77

[18] *As per The Hazardous Wastes (Management, Handling & Trans-boundary Movement) Rules, 2008 as amended*
[19] *Included the category from 2015-16*
[20] *Included the category from 2015-16*
[21] *As per The Batteries (Management and Handling) Amendment Rules, 2010 as amended*
[22] *As per The E-waste (Management and Handling) Rules, 2011 as amended.*

Total Hazardous Waste Generation At TML





Through our waste minimization initiatives, we have reduced the total quantity of hazardous waste generation by 0.2% from last year though our production number has increased by 6% in 2016-17. This shows an overall reduction in hazardous waste generation intensity by 5.75% in 2016-17 as compared to the previous year.

TML - Non-Hazardous Waste Generation Data for 2016-17

Waste Description	Quantity in 2016-17 (Ton)	Specific Non-Hazardous Waste Generation (Ton/Vehicle)
Biodegradable Waste (Canteen Waste + Gardening Waste)	3597.81	0.18
Waste Foundry Sand	60973.05	
Scrap (all types)	29004.77	

For last two years, 2014-15 and 2015-16, we have been disclosing combined quantity of non-hazardous waste generation along with our subsidiaries. This year we have disclosed the quantity separately for TML and subsidiaries.

During the reporting year, 2016-17, we have total non-hazardous waste generation of quantity 93575.63 MT which is 14.09% less than the quantity of non-hazardous waste disposed by TML in 2015-16. The reduction in the non-hazardous waste generation has been mainly contributed by our initiatives at a shop-floor level, replacement of one-time use corrugated boxes and wood with reusable plastic box and metals for packaging and employee engagement in reducing waste generation.

Total Waste Disposed by End Disposal Method at TML							
Types of Waste (Combination of Waste Categories)	Disposal Method	Quantity in Tons		Percentage of Total Waste Disposed Through End Disposal Method (%)		Performance with Respect to Disposal Method in 2016-17 as Compared to 2015-16	
		2015-16	2016-17	2015-16	2016-17	Direction of Change	Status
Hazardous Waste							
Grinding Sludge, Phosphate Sludge, ETP Sludge, Shot Blasting Dust	CHWTSDF - Landfill	1291.06	919.75	23.79%	17.02%	Decrease in Landfill	Good
Paint Sludge, Hazardous Garbage, Scrap Sealants, DM Resins, Prototyping Waste	CHWTSDF - Incineration	2566.18	1712.118	47.29%	31.68%	Decrease in Incineration	Good
Paint Sludge, Hazardous Garbage	In-house Incineration	271.28	290.6	5.00%	5.38%	No Significant Change	No Change
Conversion of Paint Sludge to Primer, Reclamation of Dirty flushing thinner, Re-use of ETP Sludge / Incineration ash in pavers/building products	Recycle for Material Recovery	129.33	217.57	2.38%	4.03%	Increase in Metal Recovery Through Recycling	Good
Paint Sludge, Hazardous Garbage	Co-processing (Energy Recovery)	261.07	1298.88	4.81%	24.06%	Increase in Co-Processing	Good
Phosphating Sludge	Co-processing (Material Recovery)	38.59	81.87	0.71%	1.52%	Increase in Co-Processing	Good
Scrap Lead Acid Batteries, Scrap Lead Tire Balancing weights, All types of non-ferrous scrap LOTS, All types of Used / Waste Oil LOTS, e-waste, empty containers	Sale to Authorized Re-cyclers	869.14	883.04	16.02%	16.34%	No Significant Change	No change

Non-Hazardous Waste							
Types of Waste (Combination of Waste Categories)	Disposal Method	Quantity in Tons		Percentage of Total Waste Disposed Through End Disposal Method (%)		Performance with Respect to Disposal Method in 2016-17 as Compared to 2015-16	
		2015-16	2016-17	2015-16	2016-17	Direction of Change	Status
Canteen Waste	Composting	285.95	344.56	0.26%	0.37%	No change in percentage of waste for each disposal method.	
Canteen Waste	Biomethanation	1257.80	1136.468	1.15%	1.21%		
Canteen Waste	Municipal Landfill/ piggery	2900.08	2116.782	2.66%	2.26%		
All Scrap LOTS Sold to Scrap Dealers	Sold to Scrap Dealers	37874.94[23]	29004.77	34.73%	31.00%	Decrease due to less scrap generation	Good
Waste Burnt Foundry Sand	Landfill to Stone Quarry	66725.8[24]	60973.05	61.19%	65.16%	Increase in landfill	Bad

During reporting year 2016-17, we have aggressively taken initiatives towards our journey to achieve "Zero waste to common waste disposal site" and have reduced hazardous waste disposal to landfill and incineration as indicated in the table above. We have significantly increased hazardous waste co-processing for energy and material recovery as well as increased the quantity of material recovery through recycling activity at various manufacturing sites.

[23] *We are reporting on quantity of scrap lots sold to scrap dealer for the first time in 2016-17.*
[24] *We are reporting on quantity of waste burnt foundry sand disposed through landfill to stone quarry for the first time in 2016-17.*

Subsidiaries' Performance in 2016-17

Hazardous Waste

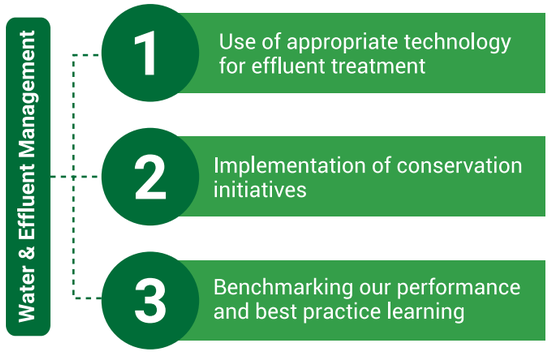
Hazardous Waste Generation and Disposal at Subsidiaries (2016-17)			
Hazardous Waste Types	**Unit**	**Quantity**	**Disposal Method**
TAL			
Paint Sludge (Oily Cotton Waste)	tons	3.2	Incineration by MEPL
Grinding Sludge	tons	1.68	Landfill by MEPL
Sludge	tons	68.34	
Process Residue	tons	79	
E-Waste	No.	58	Sale to Authorised Recyclers
Empty Paint Thinner Tins	Lot	1	
TMLDL			
Used/Spent Oil	KL	62.6	Authorised recycling
Grinding Sludge	tons	243.23	Co-processing
Paint Sludge and Residues	tons	224.19	
Oil Soaked Cotton Waste	tons	163.46	
Lead Acid Batteries	tons	0.35	Authorised recycling
E-Waste	tons	0.52	
TMML			
Waste Thinner	tons	7.98	Sale to Authorised Recyclers
Paint Sludge (Semi Solid)	tons	197.51	Incineration
Paint Filter, Painted Paper and Painting Cloth (Solid)	tons	1.8	Sale to Authorised Recyclers
Empty Paint Containers	Nos	24088	
E.T.P. Sludge (Semi Solid)	tons	44.98	Landfill
Used/Spent Oil	tons	0.18	Incineration
TTL			
Used/Spent Oil	tons	0.2	Sale to Authorised Recyclers
E-waste	No.	117	

Non-Hazardous Waste

Non-Hazardous Waste Generation and Disposal at Subsidiaries (2016-17)			
Non-Hazardous Waste Types	**Unit**	**Quantity**	**Disposal Method**
TAL			
Canteen Waste	tons	3	Municipal Landfill/piggery
Garbage	tons	84	Sold to Scrap Dealers for recycling
Aluminium Scrap	tons	162	
Titanium Scrap	tons	62.2	
Wood Waste	tons	69.5	
Plastic Waste	tons	0.4	
Metallic Scrap	tons	910.4	
Electrical Scrap	tons	4.8	
Paper, Corrugated Box etc.	tons	6.2	
TMLDL			
Plastic Waste	tons	9.73	Recycling
Metallic Scrap	tons	8308.6	
Other Waste (Paper, Corrugated Box etc.)	tons	1398.42	
Wood Waste	tons	1827.6	
Scrap Rubber, PVC Items	tons	12.27	
Misc. Electrical Scrap	tons	12.48	
Scrap Electrical Cables	tons	9.54	
TMML			
Plastic Waste	tons	53.92	Recycle
Metallic Scrap	tons	1414.02	
Wood Waste	tons	391.15	Reuse
Scrap Rubber	tons	52.05	Recycle
Scrap Fibre	tons	2.05	
Other Waste (Paper, Corrugated Box etc.)	tons	2	
TTL			
Canteen Waste (Food)	tons	23.464	Composting

Water and Effluent Management

We are committed to reducing our water footprint through continuous improvement in water efficiency, through our 3-pronged approach:



Our water policy, formulated in December 2012, is our guiding principle for water management and in line with our policy, we attempt to continuously improve on our water performance. At Tata Motors Limited, water conservation features among the key selected parameters while evaluating any new technology and we aim to make maximum positive impact from the inception stage in order to derive greater benefits. We have conducted a detailed water footprint study in 2014 where we have established our water consumption baseline and identified key areas of water consumption. We are continuously working on reducing our water demand and striving to increase awareness among our workforce and suppliers towards the need of water conservation.

We have celebrated World Water Day on 22 March 2017 throughout all the plants of Tata Motors and reiterated our commitment towards water efficiency and conservation. Through attractive posters and banners displayed at key locations such as washrooms, we have tried to communicate the message regarding the need to conserve water and steps to achieve the same. We even encourage people at our manufacturing facilities to report any observed leakage through a formal complaint management system which is then attended on a priority basis by a dedicated team.

World Water Day 2017

Awareness Poster Display

Launching of PCMS
Plant Complaint Management System

Engineering Student ETP-STP-RO Plant visit

Key Initiatives in Water Management:

Initiatives in Water Conservation and Their Impact

Location	Initiative	Impact
Lucknow and Jamshedpur	We have created Rain Water Harvesting structures to recharge ground water table.	These initiatives ultimately increase in the water table in and around the plant premises and also diminishing flooding during peak monsoon.
Dharwad	An artificial lake for rainwater storage has been constructed. Harvesting of rain water has reduced overall water withdrawal from other sources.	
Sanand	We have implemented water retention ponds for accumulating rain water and run-off water from the plant. We are currently increasing the storage capacity of rain water harvest at Pune plant, which shall result to additional 70,000 m3/year of harvested rain water consumption. This will reduce our dependency on other water sources.	
Pune	In collaboration with OEM, we have set up a containerized Reverse Osmosis Plant which uses patented plate and tube type of membrane instead of conventional spiral wound membrane. Permeate from RO plant is blended with raw water from utility and re-used in manufacturing process.	In FY 2016-17, a total of 825891 m^3 of water had been recycled back into the process leading to significant cost savings.
At Various TML Plants	We have implemented localized water pressure boosting system which enables us to supply water at lower pressure and increase the water pressure where needed. We have also initiated to closely monitor the water consumption at our canteens and for horticulture.	This has helped TML to minimize water loss due to any leakage in the pipeline as well as tracking of water consumption at our canteens and for horticulture.

TML's Performance in 2016-17

Water Sourcing

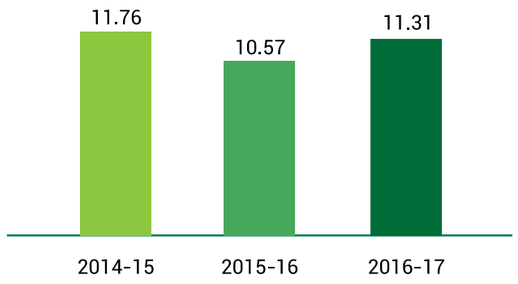
The manufacturing locations of TML receive water from various sources. Water at Pune is supplied completely by municipality while for Sanand and Jamshedpur, we draw water from rivers/surface water sources. At Pantnagar and Lucknow, we are dependent on groundwater for our water requirements. In order to reduce our dependence on precious groundwater resource, we have established rainwater harvesting facilities at Pantnagar, Lucknow and Jamshedpur. At Dharwad, water is sourced from mixed sources which include municipal supply, ground water withdrawal and harvested rainwater through an artificial lake.

Water Consumption at TML (m^3)

Water Withdrawal (m^3)	2014-15 (m^3)	2015-2016 (m^3)	2016-2017 (m^3)	% of Total Water Demand in 2016-2017	Overall % Variation in 2016-17 from 2015-16
Municipal	Total water consumption 5,869,155[25]	Total water consumption 5,211,337[26]	3,215,446.12	54.44	13.3%
Surface Water			868,043.7	14.70	
Ground Water			1,780,465	30.14	
Rain Water			42,473	0.72	
Total			5,906,427.82		

In 2016-17, our total water withdrawal and specific water consumption per vehicle produced has increased by 13.3% and 6.97% respectively from previous year resulting largely due to higher volume in production and major maintenance and overhauling of paint shops. We have achieved a significant reduction in surface water withdrawal due to rain water harvesting and storage.

Specific Water Consumption Per Vehicle Produced (m^3 / Vehicle)

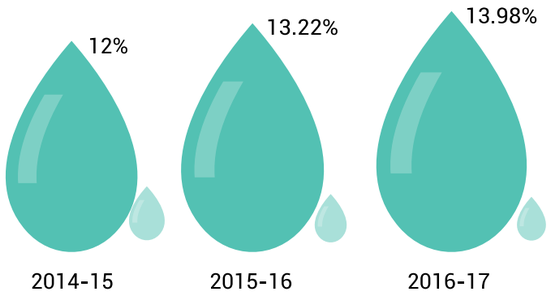


Water Recycling and Effluent Management

We are committed to minimizing the negative impact of our operations on the environment and conserve natural resource. Water is a precious resource and discharging wastewater is detrimental to the quality of surface water bodies. Another approach for reducing the withdrawal of fresh water is by recycling and reusing the effluent generated from processes and domestic use.

With the onset of regulatory compliance of "Zero Liquid Discharge" for industries, Tata Motors Limited has proactively attempted to achieve "Zero Liquid Discharge" status for all our manufacturing locations. Currently, all our TML manufacturing sites and subsidiaries, have achieved "Zero Liquid Discharge" status except TML Jamshedpur where treated wastewater is partly used for cooling tower makeup/gardening and rest is discharged outside the plant premises to natural water stream. The wastewater discharge from TMLDL Jamshedpur is sent to the common effluent treatment plant (CETP) of TML for further treatment.

Water Recycled at TML



[25] *Including water abstraction for recovery well at Jamshedpur in 2014-15*
[26] *Including water abstraction for recovery well at Jamshedpur in 2015-16*

Total Water Discharge -TMLDL

Units	Total water discharge FY 2016-17	Treatment method prior to discharge
m^3	472270.285	ETP and STP

Subsidiaries' Performance in 2016-17

Water Consumption at TML Subsidiaries

Subsidiary Name	Source	Unit	Quantity in 2015-16	Quantity in 2016-17
TAL	Municipal Water	m^3	120719	137789
TMLDL	Surface Water	m^3	515254	555612.1
TMML	Ground Water	m^3	125376	105046
	KIADB water		16890	Not applicable
TLL	Municipal Water	m^3	149767	1,09,011.00

Percentage and Volume of Water Recycled and Reuse

Total Volume of Recycled and Reused Water in m^3	Total Volume of Recycled and Reused Water as a % of Total Withdrawal
TAL	
35784.8	25.97%
TMLDL Jamshedpur	
921.1	0.17%
TMML	
21125	20.11%
TTL	
17793.75	16.32%

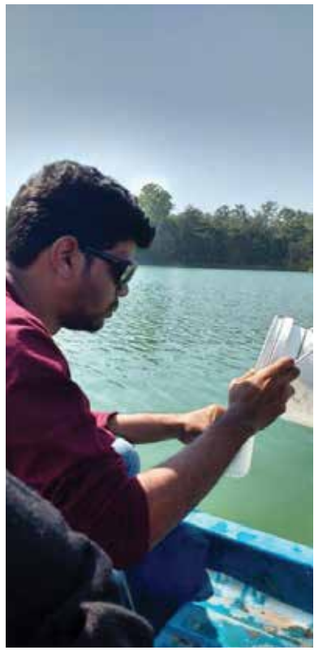
Biodiversity

Tata sustainability policy at the group level guides all the Tata companies to undertake natural capital valuation for all the business. In this context, Tata Motors Limited assesses the natural capital, including biodiversity, for all its locations. We are committed to avoid and mitigate the negative impacts and enhance positive impacts on biodiversity through TML's Biodiversity management plan and social responsibility initiatives.

Key Initiatives and Performance in 2016-17:

Our manufacturing locations in India are not located within the vicinity of any identified/notified biodiversity hotspots or protected water bodies. We have created water bodies/ wetlands within our manufacturing locations using storm water runoff as a water conservation measure. A variety of avian fauna are seen throughout the year and migratory birds are seen in the winter.

At Pune Plant, a colony of Painted Stork (Mycteria leucocephala) nest throughout the year at the wetland created adjacent to plant. At Lucknow Plant, Bluebuck (neelgai), wild boar, common jackal and Indian porcupine are seen as they are commonly found in that region. The presence of this fauna within and adjacent to our plant premises is an indicator of the protected and undisturbed conditions within the Plant area. While the animal species observed at Lucknow are classified as 'Least Concern' <LC> in the IUCN Red List, the Painted Stork is classified as 'Near Threatened' <NT>.

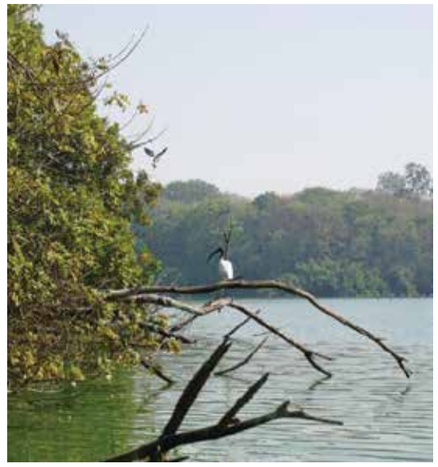










In our attempt to understand the impact of our operations on biodiversity, we have conducted Biodiversity Assessment Study for three of our oldest and largest plants, namely Pune, Lucknow and Jamshedpur in 2016-17.

Going forward, some selected Biodiversity Management Plans, will be taken up for implementation as we believe in enhancing the biodiversity in areas of operation. These projects would be aimed at enriching the diversity of species and conservation of habitat of the endemic species.

There is no significant negative impact on biodiversity due to our operation. It has been concluded through Biodiversity Assessment Study that no species are under the LC/ Near Threatened as per IUCN classification.

Environmental Stewardship

Environment conservation has always been a key priority for TML and we have consciously strived to minimize the impact of our operations on the environment. In line with our Environmental Policy, we are committed to complying with all the legal, regulatory and other environmental requirements. All Manufacturing Plants in India are certified to ISO 14001 - Environment Management Systems and we are aiming for a transition to the new 2015 version of ISO-14001 progressively at all plants over the coming 2 years.

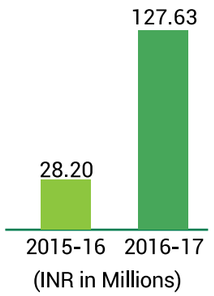
TML and the subsidiaries had no non-compliance and there were no significant environmental fines or sanctions during the reporting period.

Key Initiatives in Environmental Stewardship in 2016-17:

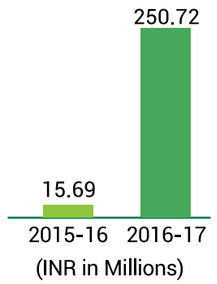
At all plants level, we have undertaken several initiatives for resource conservation such as recycling of treated effluents back to process, energy and material recovery from hazardous wastes and rainwater harvesting. Our manufacturing plants also generate in-house renewable power and source off-site green power where available.

Environmental Protection Activity Breakup[27]

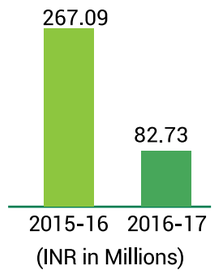
Treatment and Disposal of Waste



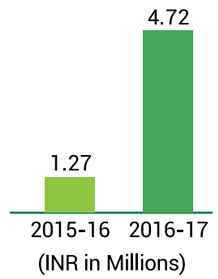
Depreciation & Maintenance Cost Of Equipment Used In Pollution Control



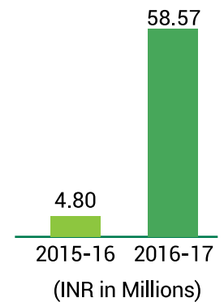
External Services for Environmental Management



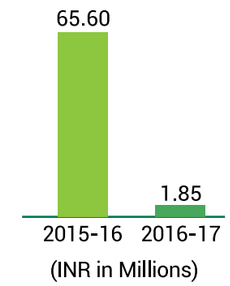
External Certification of Management Systems



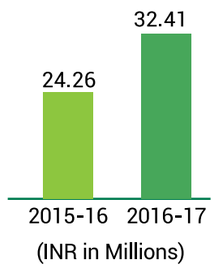
Personnel for General Environmental Management Activities



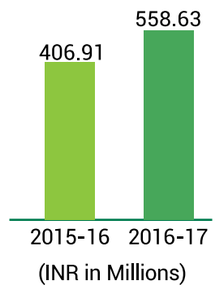
Extra Expenditures for Installing Cleaner Technologies



Other Environmental Costs



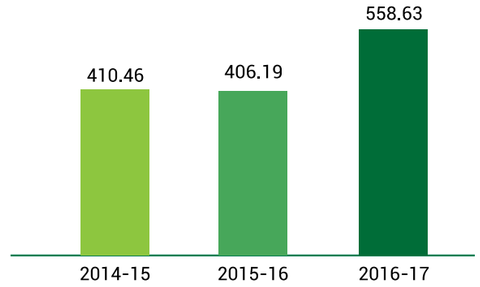
Total Expenditure



[27] *We have initiated disclosing environmental expenditure as per activity from 2015-16.*

Our expenditure towards environmental protection amounts to INR 558.63 million in FY 2016-17 which is 36% higher than previous years. Though there has been decrease in expenditure related to external service, the cost of treatment and disposal of waste has increased significantly. In addition, due to increasing pollution norms and monitoring equipment installation and depreciation, the cost of maintenance of pollution monitoring equipment has considerably increased

Expenditure in Million INR



Raw Material

As per our Environment policy, we are committed to conserve natural resources by minimising their consumption and reducing wastage. Tata Code of Conduct also guides us to continuously seek to prevent wasteful use of natural resource.

The raw materials we consume include metals in the form of sheets and plates, castings and forgings. Other components include tyres, fuel injection equipment, batteries, electrical items, rubber and plastic parts, paints and thinners for manufacturing the vehicles. Our internal production processes entail the use of consumables such as lubricants, welding consumables etc. Apart from in-house manufacturing, we also source auto components from our subsidiaries and suppliers which consist of axles, engines, gear boxes and cabs.

Management Approach for Raw Materials Management and Conservation:

We adhere to the European regulation of Reduce-Reuse-Recover and thus, we manufacture our products with 85% recyclability. Our Research & Development team, at organization level, is overall responsible for adhering to this Reduce-Reuse-Recover regulation. The corporate R&D team is also responsible for continuously monitoring the recyclable percentage of our products and the same is verified by European VDA agency on a quarterly basis. The R&D team is supported by purchase and supply chain team for sourcing of environment-friendly material and monitoring and verification for the Reduce-Reuse-Recover requirement.

Tata Motors is continuously striving towards the principle of circular economy by means of reduce – reuse – recover initiatives. In addition, we seek to reduce the weight of vehicles which leads to significant improvement in fuel efficiency which in return results in reduction in GHG emissions.

Alignment with Circular Economy

Dedicated branches of Tata Motors Limited, namely, Tata Prolife, Tata OK and Tata Assured have made noteworthy initiatives towards reconditioning and refurbishment of products. Our integrated approach to circularity addresses all four key strategic areas of circular economy:

- We reduce **risk** associated with limited source of virgin material by reducing the dependency on virgin material;
- We create positive **socio-economic impact** through generating employment opportunities at our dedicated refurbishment workshops and vehicle reconditioning. In addition, we help our customers to upgrade their mode of conveyance at affordable option;
- We create positive **environmental impact** through ensuring adherence with the applicable emission norms by the vehicles in use and reducing environmental impact by extending the life of vehicle thereby, avoiding additional disposal and adverse impact in the manufacturing process;
- We increase the **quality and value of product** by improving useful life of the product while ensuring optimum operational performance and minimizing usage of virgin materials.

Tata Prolife

Tata Prolife business division works in the area of reconditioning and remanufacturing auto components which have reached the end of their useful life. Dedicated for commercial vehicle (CV) owner, Tata Prolife aims at extending the life of vehicles and aggregates through systematic overhauling leading to improved efficiency and optimum performance while also ensuring several added years to the life.

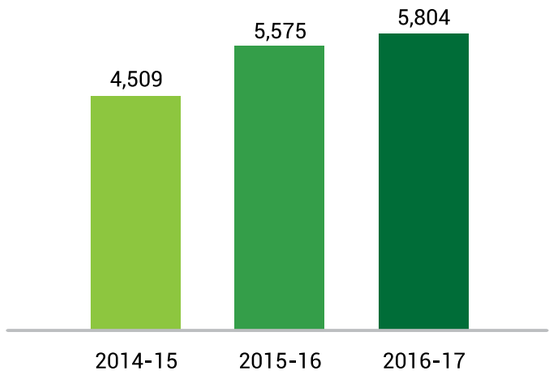
On 25 February 2017, Tata Prolife has expended further by commissioning their 4th reconditioning plant at Hyderabad, exclusively for reconditioning TM SCV engines.

In reconditioning activity, our main focus is to avoid scrapping of old parts. In order to achieve this, a separate function called 'Salvaging' has been created and is headed by a Divisional Manager. Reconditioning is done on vehicular aggregates which have run one life, and by reconditioning they are infused with new lease of life, otherwise they would have gone scrap. Reconditioning is done in a factory-like atmosphere, with original specifications, so that these aggregates run again with designed efficiency levels. Apart from engines, gearboxes, clutch pressure plates, Brake components, truck cabins etc. are also reconditioned.

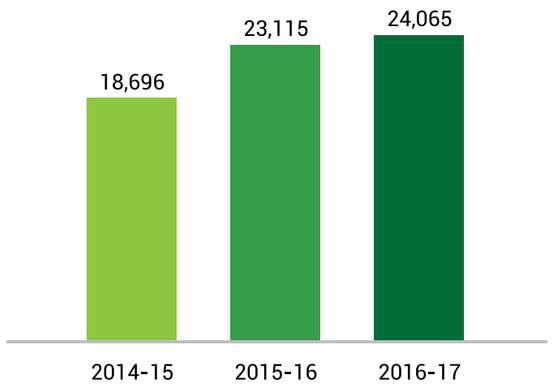
Packaging Recycling: The reconditioned engines are packed and transported in the wooden boxes. The wood used in these boxes is also recycled by Prolife. An equivalent engine needs 7 ft^3 of wood for packaging, but in Prolife we have used only 1.8ft^3 of wood per equivalent engine in last year while remaining old wood was recycled. In the past five years, we have been able to bring down this fresh wood consumption by nearly 33% through recycling practices.

During 2016-17, a total of 24281 equivalent vehicles has been reused or recycled under our take-back program resulting in revenue generation of INR 171.26 cr. In terms of energy consumption, prolife business has utilized 47 kWh electrical energy per equivalent engine in 2016-17 for reconditioning. This is a reduction of 33% over past five years.

Recycled Metal Scrap & Forgings (t)



Equivalent Engines Reconditioned (numbers)



Tata Assured

Tata Motors Assured is the Pre-Owned vehicle brand from TML providing a one-stop solution to customers by facilitating in:

- Buying and selling of preowned cars at right value and with requisite documents.
- Exchanging the existing car of any brand with new or used Tata vehicle at affordable price based on the chosen option by the customers
- All service is provided under one roof, including valuation of existing car, assessment of road readiness through our robust 100 check point's certificates and providing necessary documentations.

Through Tata Assured, we have established stringent certification norms on make, age, mileage, previous owners and retrofitting for vehicles in order to ensure that prospective customers have the best vehicles to select from. We ensure optimum efficiency of the refurbished vehicles and adherence to the applicable emission norms. On average, the useful life of the vehicle is extended by 3 to 4 years through routine refurbishment.

In the year 2016-17, we have taken numbers of initiatives to increase our customer base, thereby enhancing the overall quality of old and on-road vehicles. Our key initiatives are:

- We have conducted specific campaigns for upgrading existing customers by exchanging old vehicle with new model of the cars.
- Best price challenge
- Mobile campaigns to reach out to larger mass for exchanging cars.

Number Of Vehicles Refurbished And Sold – **14,058**

Total Volume Of Product Recycled/reused In Take-back Program – **44,069**

Revenue generated from take back program – **INR 8.5 Cr.**

Tata OK

TATA OK is a platform providing single window solution for all those customers who want to exchange, sell or buy pre-owned commercial vehicles at the affordable price. Through a scientific way, proper processes and refurbishment, TATA OK has proven beneficial to customers by ensuring increased safety, better fuel efficiency and compliance with the norms. TATA OK is a dedicated refurbishment and exchange service for commercial vehicles. The refurbishment is done through Tata OK's 412 channel partners spread across India and quality of the refurbishment is ensured by Tata OK.

TATA OK

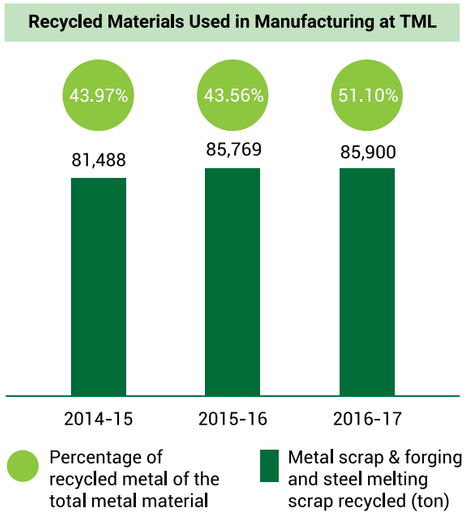
TATA MOTORS Certified
PRE-OWNED COMMERCIAL VEHICLES

Total Number of Refurbished Vehicle Sold			
Types of vehicles	**Number of vehicles Sold till FY 15-16**	**Number of Vehicle in FY 2016-17**	**Number of Vehicles Sold till FY 2016-17**
SCV	43530	8357	62640
LCV	6450	530	51887
HCV	3100	253	6980
Total	53080	9140	3353
Network Spread		412	
Exchange Volume		1712	

TML's Performance in 2016-17

Material Consumption at TML					
Material name consumed	**Type of material- Renewable/ non-renewable material**	**Units**	**Quantity in 2014-15**	**Quantity in 2015-16**	**Quantity in 2016-17**
Steel	Non-renewable	Tons	96,882	1,04,432	75,707
Steel Tubes	Non-renewable	Tons	12	6	5
Non-Ferrous Alloys	Non-renewable	Tons	3,548	3,237	3,679
Ferrous Alloys	Non-renewable	Tons	3,408	3,449	2,802
Steel Melting Scrap (recycled)	Non-renewable	Tons	59,185	63,436	62,256
Paints, Oils and Lubricants	Non-renewable	Tons	2,078	2,353	2,409
		Kilo Liters	9,131	8,475	12,729
Tires, Tubes and Flaps	Non-renewable	Numbers	32,49,683	36,27,759	38,98,472
Engines	Non-renewable	Numbers	1,05,182	1,18,911	1,26,972
Sand	-	Tons	51,468	66,726	50,451

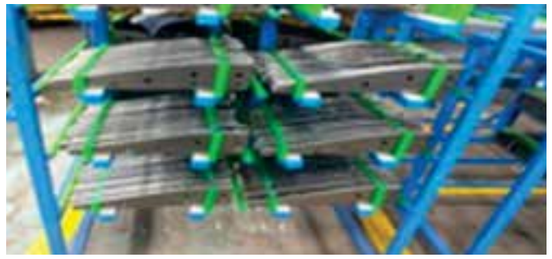
Trends in direct material consumption such as steel sheets and plates, castings, forgings, etc. are largely determined by volumes and the number of material conversion operations carried out in-house. We have achieved a significant reduction in steel and ferrous alloy consumption in FY 2016-17 as compared to FY 2015-17 even though there has been an increase in production by 6%. We are continuously seeking to optimize material usage and recycling to avoid virgin material consumption through initiative such as using high strength steel and alternate engineering plastic to reduce the weight of product and thereby reducing the overall raw material consumption. During 2016-17, we have recycled 23644.19 tons of metal scrap and forging, internally, at our manufacturing locations and used the same in our manufacturing process. We also use recycled steel melting scrap in our manufacturing process.



The percentage of recycled input material (metal scrap and forging and Steel melting scrap) has been calculated based on the total metal material input, ferrous and non-ferrous metal, consumed during 2016-17

Material Packaging

We are yet to initiate process to reclaim packaging material at TML level. We, however, are fully aware of the impact of packaging materials on the environment and we have been undertaking several interventions to reduce our packaging requirements. We have been traditionally using wood for packaging in form of crates and pallets. This has now been substituted with either reusable plastic or metal cases. We are further looking to minimize the use of corrugated boxes and increase the use of reusable packaging materials, such as plastic bins with no poly bags, which can be utilised a multiple number of times. For internal movement of parts and components we have nearly done away with non-reusable packaging options and this has helped us cut down on packaging waste which is generated at our manufacturing locations.



In collaboration with our suppliers, logistics partners and rental Packaging companies, we have replaced expandable packaging with returnable FLC packaging which not only results to reduced waste generation but also has low lifetime cost, faster turnaround time and eliminates mishandling during material handling.

Subsidiaries' Performance in 2016-17

TTL, being a design firm, does not procure or consume raw material.

Material Consumption at Our Subsidiaries

TAL

Material Consumed	Type of Material- Renewable/Non-Renewable Material	Units in tons	Quantity in 2015-16	Quantity in 2016-17
Steel including Forgings	Non-renewable	tons	62.85	65
Casting	Non-renewable	tons	332	50
Paints and Thinner	Non-renewable	KL	16.95	13
Oil and Lubricants	Non renewable	KL	15	31
Wood	Renewable	CFT	32452	30806.56
Composite Material	Non-renewable	tons	59.223	85.737
Titanium	Non-renewable	tons	33.78	84.042
Aluminum	Non-renewable	KL	24.8	34.788

TMML

Material Consumed	Type of Material- Renewable/Non-Renewable Material	Units	Quantity in 2015-16	Quantity in 2016-17
Galvanized Steel	Non-renewable	tons	10,724	15,215
FRP (Fibre Reinforced Plastic)	Non-renewable	tons	248	1,336
Plywood	Renewable	m^2	1,88,886	2,59,848
Glass	Non-renewable	tons	59,037	2,446
Plastic	Non-renewable	tons	27,49,644	5,40,145
Aluminium	Non-renewable	tons	225	453
Thinner	Non-renewable	L	73,529	1,91,153
Paint Used	Non-renewable	L	2,13,888	1,19,806

TMLDL				
Material Consumed	**Type of material- Renewable/non-renewable material**	**Units**	**Quantity in 2015-16**	**Quantity in 2016-17**
Steel	Non-renewable	tons	342.92	261.68
Paints	Non-renewable	KL	29.65	36.26
Oil	Non-renewable	KL	587.67	405.65
Lubricants	Non-renewable	tons	576.21	139.1
Steel Shot	Non-renewable	tons	131.38	158.96

All the materials are externally sourced. Material usage optimization is a key concern for all our subsidiaries.

Case Study: Wood Recycling at TAL

At TAL Pune, the materials are received in wooden packing boxes. The empty wooden boxes are either kept separately for reuse or are disassembled and new boxes are made as per the packaging requirement.

With this wood recycling initiative, we have not just reduced our wood consumption under CCI but also have recycled 3496 CFT of wood in 2016-17 and were also able to achieve cost reduction up to 60% against ordering new wooden boxes.

Case Study: Hazardous Waste Reduction and Resource Conservation Through Colour Change Optimization in Paint Shop

TML Pantnagar is manufacturing about 22 models of commercial vehicles in more than 12 colours, leading to around 530 colour model mix in the paint shop. This has a direct impact on hazardous waste generation from painting process and energy consumption in the paint shop. Colour changes, as high as 150 nos. in a day, were leading to poor productivity and paint and thinner wastages.

Before

Coding Based on Models					
Line 1	Ace	Ace	Ace	Ace	Ace
Line 2	Sumo	Sumo	Sumo	Sumo	Sumo
Line 3	Magic	Magic	Magic	Magic	Magic
Line 4	1-Ton	1-Ton	1-Ton	1-Ton	1-Ton
Line 5	Iris	Iris	Iris	Iris	Iris

After

Color Wise Segregation					
Line 1	1-Ton	Ace	Sumo	Ace	Ace
Line 2	Sumo	1-Ton	Sumo	Sumo	Ace
Line 3	1-Ton	Magic	Ace	Sumo	Magic
Line 4	1-Ton	1-Ton	Sumo	1-Ton	1-Ton
Line 5	Iris	Ace	Iris	Sumo	Iris

We migrated from Model wise painting strategy to COLOR wise painting process. Key modifications include:

1. Process change w.r.t. material flow,
2. Revised strategy from PPC dept. (Production, Planning and Control),
3. Body buffer storage planning, and
4. Real time coordination with internal customers as well as necessary infrastructure changes such providing body buffer zones at different points of painting.

Benefits Achieved:

Colour change project has reduced hazardous waste generation of paint and thinner to significant limit. The thinner and paint consumption has reduced by 100 ml/robot/instance of flushing and 50 ml/robot/instance respectively. This also reducing our power consumption by 7.8 kWh/vehicle and propane consumption by 0.7 kg/vehicle thus, reducing carbon emissions.

Workforce

> Factories are not built by investments in buildings and machinery alone. But, investment in men, in employees is more important when building an industry.
>
> **S. M. Moolgaokar**

Sustainability Report 2016-17 | **Business with Responsibility [3Ps]**

Workforce

Our workforce is what makes our organisation one of the best. We want to encourage our employees by implementing our systemic career management strategy. We ensure they work with benefits, dignity, safety and human rights.

Dashboard of TML for 2016-17: Workforce

Performance based Wage Structure introduced for blue collared employees at Pune

"Gear Up" Women leadership program launched

52.31% of total permanent workforce unionized

23,993 blue collar employees trained on human rights policies

1,700 females recruited in the shop-floor till July, 2016 as part of Gear Up program

4.4% reduction in attrition of permanent employees

Average man hours trained:

46.81 Senior Management,

53.87 Middle Management,

43.53 Junior Management

Workforce

Dedication and technical expertise of our employees is the root of our success. We put our best efforts to attract and retain the best people. In order to achieve this, we offer our people attractive and secure jobs, comprehensive development and training opportunities, and good long-term prospects. Our systematic career management for high-potential and managerial staff fosters and enhances the professional development, enabling us to fill key positions throughout our locations with qualified specialists.

We have initiated an organizational restructuring[28] process in FY 2016-17 to improve organizational effectiveness and ensure lean and agile business operations. One of our key highlights, during the fiscal year 2016-17, is the landmark agreement signed with our Pune blue collared employees to introduce performance based wage structure[29]. This change in the wage structure has been settled for 3 years. Approximately 10% of the worker's salary has been converted as variable and is linked to performance. Going forward, we intend to bring in the similar performance linked wage structure at Sanand, Lucknow and Jamshedpur plants.

Approach Towards Employees

We are committed to providing an appropriate conducive environment for all our employees to explore and grow in their individual career path. In line with our Affirmative Action Policy, we adhere to our commitment to non-discrimination and recruit solely based on merit and opportunity for career growth is provided based on individual merit. As part of our human resources (HR) planning, we annually determine the skill sets we need based on our corporate and locational strategies and we align our young talent and further training programs as well as our hiring plans accordingly.

Benefits: We offer all statutory benefits to our employees such as pension, gratuity, insurance and health benefits. The remuneration for any employee is strictly based on merit and is governed by the pay scale of a particular grade. TML employees can also avail accommodation in plants where we maintain our own townships. At Jamshedpur, for example, we operate schools, hospitals and other public amenities which can be availed either for free or at a nominal cost by TML employees and their family members. Furthermore, Tata Motors Limited ensures that all contract workforce is entitled to benefits such as provident fund and insurance.

Dignity and Collective Bargaining: We respect the dignity of every individual. Our code of conduct and Human Rights Workplace Policy embody our company's policy to deal fairly and honestly with our associates. We fully recognize the freedom of association, the right to organize, and the right to collective bargaining. We communicate major changes in our management to the labour union as agreed to in the collective agreement or relevant legislation. The union and management discuss key issues through a management-labour council meeting to find solutions. We also hold management briefings on a regular basis to keep the labour union up to date on the market situation and business practices.

During the reporting year 2016-17, 52.31% of total permanent workforces in TML are unionized employees.

Human Rights: We strictly adhere to our policy of having no child labour and forced labour. All the security personnel have been trained to ensure no underage workers enter the plant premises and even our contractors are given strict instructions which prohibit them from employing underage workers. For any operation, the only exceptions to the 18 years age bar are those who are part of the government approved apprenticeship schemes and internships. We conduct training on human rights periodically for all employees and security personnel.

Total hours of training on human rights policies

2016-17 | **25,551**

Percentage of employees trained on human rights policies & concern

2016-17 | **67%**

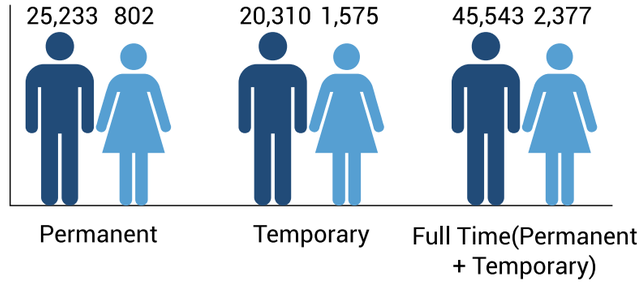
A total of 23993 blue collar employees have been trained, which includes TML's permanent employees, temporary employees and apprentices.

[28] *http://economictimes.indiatimes.com/articleshow/58812402.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst*
[29] *http://www.tatamotors.com/media-press-coverage/tata-motors-signs-crucial-wage-pact/*

All our security personnel are trained on TCoC including human rights aspects before they begin their duties as part of their induction procedure, a process managed by the Employee Relations (ER) department.

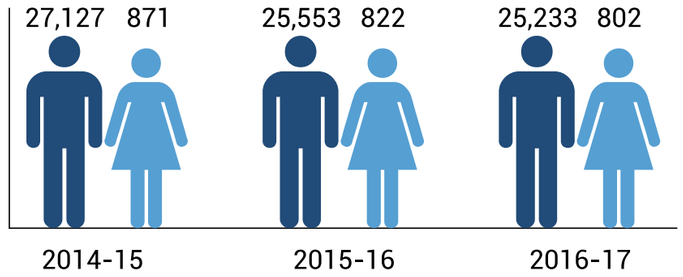
Workforce Breakup at TML

Employees by Categories Male/Female as on 31.03.2017



Our permanent workforce headcount at the end of FY 2016-17 was 26,035 as compared to 26,375 during the last fiscal year (2015-16).

Permanent Workforce by Gender for TML



Workforce Breakup at Subsidiaries

Workforce as of 31 March 2017

	TAL		TMLDL		TMML		TTL	
Employee by Categories	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Permanent	839	57	2097	30	1742	19	3916	570
Temporary	272	6	1193	85	104	2	376	87
Full time	NA	NA	NA	NA	320	24	NA	NA
Part time	NA	NA	NA	NA	467	3	NA	NA

Permanent Employees for Subsidiary				
	TAL	TMLDL	TMML	TTL
2014-15	649	2203	79[30]	Not disclosed
2015-16	718	2217	1804	4189
2016-17	896	2127	1761	4486

New Hires and Turnover

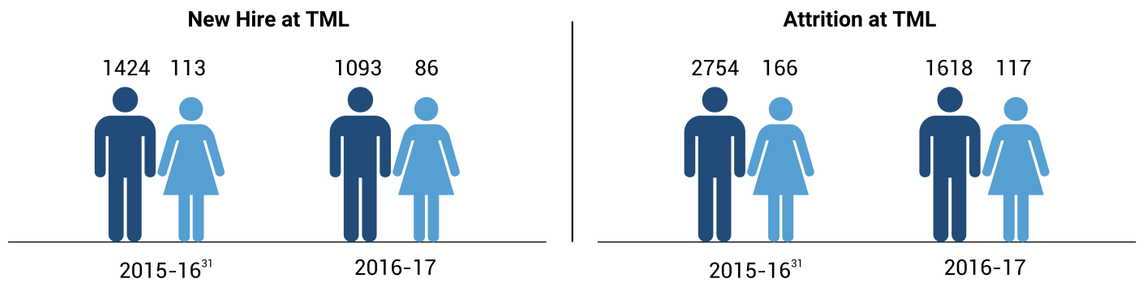
New Hires						
1st April 2016 to 31st March 2017 at TML						
Employee Category	Male			Female		
	<30 years	30-50 years	>50 years	<30 years	30-50 years	>50 years
Senior Management	0	24	5	0	2	0
Middle Management	600	140	2	72	5	0
Junior Management	55	8	0	3	2	0
Non-Management	36	190	33	0	2	0
Total	691	362	40	75	11	0

Attrition at TML						
1st April 2016 to 31st March 2017 at TML						
Employee Category	Male			Female		
	<30 years	30-50 years	>50 years	<30 years	30-50 years	>50 years
Senior Management	0	31	42	0	5	1
Middle management	475	349	129	75	17	1
Junior management	66	28	57	4	3	2
Non- management	17	40	384	0	3	6
Total	558	448	612	79	28	10

The rate of hiring represented as total permanent employees hired as the percentage of total permanent employees for 2016-17 is 4.5% while the rate of attrition was 6.6%. In the previous year (2015-16), the rate hire had been 5.8% while the rate attrition was 11%.

[30] *Includes permanent employee numbers for Senior, Middle and Junior management for TMML Lucknow. Data for TMML Dharwad is not included.*

Trend in New Hires & Attrition at TML



In FY 2016-17, 115 female employees of TML took maternity leave while 109 female employees resumed work from maternity leave. This includes employees who had gone on leave in the previous year. Of the total number of employees who returned from maternity leave, 109 are still employed after 12 months of resuming, indicating 100% retention rate amongst employees who took maternity leave.

[31] *We have initiated to report on New hire at TML from 2015-16.*

New Hires and Turnover of Subsidiaries

New Hires at TAL					
TAL (New Hires)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	0	21	0	20	1
Middle Management	4	52	1	56	1
Junior Management	410	62	0	437	35
Non-Management	278	3	0	256	25
Total	692	138	1	769	62

Attrition at TAL					
Attrition (TAL)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	2	5	5	12	0
Middle Management	5	43	1	49	0
Junior Management	76	24	0	91	9
Non-Management	13	0	8	21	0
Total	96	72	14	173	9

The rate of new hire at TAL is 92.7% of the total employees and rate of turnover (attrition) is 20.3% of the total employee count during the reporting year.

New Hires at TMLDL					
New Hires (TMLDL Jamshedpur)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	0	0	0	0	0
Middle Management	18	4	0	22	0
Junior Management	5	0	0	5	0
Non-Management	0	0	0	0	0
Total	23	4	0	27	0

Attrition at TMLDL					
Attrition (TMLDL)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	0	0	0	0	0
Middle Management	11	4	5	19	1
Junior Management	2	1	9	12	0
Non-Management	0	3	57	60	0
Total	13	8	71	91	1

The employee count at TMLDL has been steady during the reporting year. Rate of new hire has been 1.2% and employee turnover was 4.3% of the total employee count.

New Hires at TTL					
New Hires (TTL Pune)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	0	9	1	10	0
Middle Management	2	60	0	60	2
Junior Management	675	122	0	648	149
Non-management	260	29	8	237	60
Total	937	220	9	955	211

Attrition at TTL					
Attrition (TTL Pune)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	NA	2	5	7	NA
Middle Management	NA	84	2	80	6
Junior Management	358	155	2	447	68
Non-Management	248	67	6	266	55
Total	606	308	15	800	129

At TTL, during the reporting year, overall employee count has remained steady. Though the employee turnover rate has been 25.9%, the new hire rate for the same period was 20.7% of the total employee count in 2016-17

New Hires at TMML					
New Hires (TMML)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	0	7	0	7	0
Middle Management	8	5	0	13	0
Junior Management	4	2	0	5	1
Non-Management	0	0	0	0	0
Total	12	14	0	25	1

Attrition at TMML					
Attrition (TMML)	1st April 2016 to 31st March 2017				
	<30 years	30-50 years	>50 years	Male	Female
Senior Management	1	2	2	5	0
Middle Management	6	8	0	13	1
Junior Management	17	17	1	34	1
Non-Management	7	9	0	16	0
Total	31	36	3	68	2

The rate of new hire and employee turnover was 1.47% and 3.97% of the total employee count respectively, at TMML, during the reporting year.

Gender Diversity

We are committed to providing equal opportunities to all our employees. We do not discriminate on any ground including gender, race, caste, colour, marital status, nationality and disability. At Tata Group level, diversity and inclusion are considered to be of paramount importance to shape our future business perspective. This has resulted into the launch of our flagship D&I initiative program called Tata LEAD in 2014 and one of the major area of focus had been identified as Gender Diversity.

Approach Towards Diversity

Our mission statement is "To facilitate a work environment that encourages diversity and is inclusive, respectful and appreciative towards all our employees". We also have a stringent policy against any sexual harassment and TML is committed to ensuring that none of the employees face any sexual harassment.

With the aim to double women workforce and have 1000 women leader by 2020, TML's Diversity Council has been formed which comprises of the board of members, ExCom and other senior management representatives. They constantly review the change in the diversity ratio and analyse the factors responsible for the alteration whether positive or negative. Also, diversity related issues are tackled by the council which includes the complaints registered as well as measures implemented to sort out the issues. Though we envisage to go beyond gender diversity and improve overall diversity, our immediate focus is on ensuring and attempting for a healthy gender diversity at all employee categories.

Approach to Gender Diversity is Three-Fold :

Key Initiative and Performance in 2016-17 for Gender Diversity

Our initiatives for the reporting year were focused on increasing the number of women employee across the organisation and hierarchy.

- **"GearUp"** program has been initiated to develop women managers and thereby increase number of women in leadership role. The program is designed to provide management development inputs focused on building Individual development plan while providing continuous mentoring support to the women managers as they get ready to take charge.

The program is targeted for women managers who are nominated by their seniors. GearUp has four dimensional approaches:

- **Management Development Programme (MDP)** is designed to create a sense of understanding of various business functions and their interdependent nature for organisational impacts, while providing inputs for enhancing behavioural competencies. This is a 5-day residential course organised at Tata Management Training Center, Pune.
- **Individual Development Plan (IDP)** is a continuous development process to enable women managers to make best use of their skills and advance in individual's plan as well as strategic goals of the organisation.
- **We Mentor,** a women mentorship program, aimed to create and ensure mutually beneficial relationship between mentors and mentee that enables career development for the mentee.
- **Power of You** is a day-long workshop addressing the critical enabler of gender inclusion by leveraging the power of women employees to drive change. This workshop aims to help participant take charge and challenge the status quo at TML with regards to gender inclusion.

During the reporting year, 14 number of women managers have been identified for "GearUp" programme.

- To encourage more female employees in manufacturing plants, TML has decided to hire 10th and 12th pass students directly instead of relying on ITIs. TML has signed a memorandum of understanding (MoU) with the government-recognized Automotive Skill Development Council (ASDC) for a collaborative skill development program in the automotive sector. We have enrolled girls from economically weak households through the NEEM (National Employability Enhancement Mission) scheme by the Indian Government and trained them. After vigorous efforts for changing views and overcoming initial qualms from, primarily, male workforce, we saw acceptance of our female colleagues. Our efforts included meeting with team, recruitment of female supervisors and guards, construction of infrastructure for comfortable working space, etc. Alongside skill training, the new women employees were provided

sessions in prevention of sexual harassment policies, safety and healthcare, and were made aware of the Tata code of conduct and Tata history.

Through this initiative, we have been able to recruit 1700 females in the shop-floor till July 2016. This has resulted to increase in the number of women in shop floor by 14% during the reporting year.

We maintain equal remuneration for all our employees irrespective of gender.

During 2016-17, approximately 3.08% of TML's total employees were female employees. Our initiatives towards improving diversity have set the path towards increasing the number of women in our workforce across organisation and hierarchy.

Total Male and Female Employees by Employee Category at TML

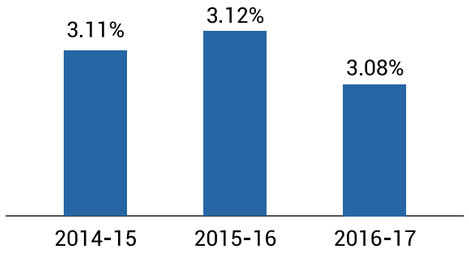
Attrition (TML)	Male				Female				% female of Total Male
	Total men	<30 Years	30-50 Years	>50 Years	Total Women	<30 Years	30-50 Years	>50 Years	
Senior Management	998	1	697	300	35	0	28	7	3.39%
Middle Management	7485	1918	4900	667	432	211	211	10	5.46%
Junior Management	2821	875	1589	357	218	88	102	28	7.17%
Non-Management (Permanent Blue Collar)	13929	1766	9371	2792	117	17	73	27	0.83%
Total	**25233**	**4560**	**16557**	**4116**	**802**	**316**	**414**	**72**	**3.08%**

The total number of female employees has reduced by 1.12% in 2016-17 as compared 2015-16. This is largely due to the lack of new female hire at the shop floor and significant female attrition. We realised that diversity in the workforce will create more productive teams on the shop floor. However, India's traditional outlook on suitable jobs for women deemed working in a manufacturing sector unfit for women. Thus their decision to recruit more women in the manufacturing plants faced opposition from workers, some unions and even some line managers.

There were many reasons why women were scarce on the shop floor, such as:

- Lack of access to technical training for women
- A majority of the men on the floor still believed that assembling vehicles was not a woman's job.
- Women were typically taken on as temporary workers for a period of 6 to 7 months on support jobs. Hence ROI (hiring, training, etc.) was not enough to break even.

Percentage of Female Employee of The Total Employee



- Women are not encouraged to work outside home or do mechanical work, particularly in rural and semi-rural areas.

To overcome these challenges, we, at TML, have taken various initiatives and attempts to create women friendly working environment, change in perception of our male colleagues and inspire women.

- The HR heads and plant heads in each plant, along with their teams, adopted an approach of intense communication with emphasis on convincing male employees through meetings and discussions

- Adequate infrastructure for ease of operation and women line managers were provided.
- Women employees were provided sessions in prevention of sexual harassment policies, safety and healthcare, and were made aware of the Tata code of conduct, Tata history, etc.
- Sessions with senior leaders, women role models and supervisors were organised on a regular basis to inspire women workers.



Through this, Tata Motors is building a balanced, diverse and inclusive work culture on the shop floor while helping build a strong society by providing skill development and employment to young women, aligned with the Skill India mission, building a strong talent pool. We have targeted trainees from villages and small towns especially from economically undeveloped regions.

Having trainees on the shop floors for a period of two years has helped in saving time and resources. It significantly improved quality and reduced the number of defects and resulted in over 30% improvement of productivity in the model line.

Training and Skill Development

Skill development of our employees and meeting the changing demand of business is key to our business continuity. Our training and skill development are driven by the business needs and strategic decisions.

Management of Training and Skill Development

As a means of ensuring business relevance and value of learning offered, efforts are taken to closely align learning & development with business needs and priorities through a learning governance body called as **Learning Advisory Council (LAC).** LACs play a threefold role namely – designing, implementing and reviewing the learning agenda and is overall responsible for skill development. During the reporting year LAC has been reconstituted and aspires to meet every 6 months to set direction and review progress. The training needs are driven by different business needs and relevance and are assessed through **6Ds** (Define, Design, Deliver, Drive, Deploy and Document) program, which provide disciplines of learning. We adhere to our strict policy of non-discrimination while selecting the employees for undergoing training and skill development.

Blue Collar: To enhance the skill set of our blue-collar employees, we have established Functional Skill Training at each plant level and have deputed National Employability Enhancement Mission (NEEM) agent to initiate training and enhance the knowledge of the employees. The effectiveness of the training and skill development exercise is assessed through improvement in performance index and knowledge index.

White Collar: The skill development and training needs of our white collar employees are managed through academy concept with dedicated Chief Learning Officer as overall responsible for the same. The specific training needs are assessed through inputs from People Managers on leadership behaviour and various sessions with managers on strategy and technology. The learning is conducted in four major functional areas:

Operational excellence
Technofunctional training on manufacturingexcellence

Product leadership
Focused training to ERC team on product functions & excellence

Customer excellence
Techno functional training on marketing, sales & service

Management education
Focused on behaviour & leadership skills.

The effectiveness of the learning and skill development programs are assessed through feedback on the trainings from participant, instructor, superior and overall program evaluation process. We have an established Learning Management System (LMS) platform for overall management of training and skill development.

Tata Motors Academy launched E-learning offerings for our managerial population and dealer personnel to drive a culture of self-learning and make the learning process more inclusive and efficient. Our workforce undergoes formal performance management and development reviews on an annual basis. The remaining number of employees has access to a range of opportunities aimed at developing a workforce with the right skills, experience and training. Performance management among this segment is largely team-based. We also provide adequate assistance to superannuating employees in order to help them better manage career endings.

During the reporting year, we have conducted programs on vehicle integration are conducted which are approved by Govt. (DGTT) for our blue collar employees. For our white collar employees, we have conducted three noteworthy programs, namely,

a) Leadership+, a focused program for techno-functional skill development of leaders.

b) "i Teach" is a train the trainer program to provide support to convert trainers' knowledge in training material.

c) "B-HR" and "HR-VP" programs, related to Human Resource, focused on conceptual learning on workforce management and TML's way of working.

Average Training Man-Hours at TML

Category of employment	Total Male employees	Total Female employees	Training Man-Hours				Number of employees receiving regular performance feedback as per category	
			Male	Female	Total	Average	Male	Female
Senior management	998	35	47010	1341	48351	46.81	1028	37
Middle management	7485	432	399812	26690	426502	53.87	7735	439
Junior Management	2821	218	121405	10888	132293	43.53	3247	230
Non- management (permanent blue collar workforce)	13929	117	88327	941	89267	6.36	650	0

Average Training Man-hours at TML Subsidiaries

Subsidiaries	Category of employment	Senior Management	Middle Management	Junior Management	Non-management
TAL	Male	838.50	2232.25	5020.00	67.40
	Female	8.00	46.00	426.50	0.00
	Total	846.50	2278.25	5446.50	67.40
	Average training man-hours	47.03	23.73	21.44	33.70
TMLDL	Male	628.50	41291.50	4004.75	2150.00
	Female	45.25	182.50	187.50	19.00
	Total	673.75	41474.00	4192.25	2169.00
	Average training man-hours	23.23	193.80	10.72	1.46
TMML	Male	1282.00	5328.00	4892.00	7538.00
	Female	0.00	202.00	408.00	337.00
	Total	1282.00	5530.00	5300.00	7875.00
	Average training man-hours	91.57	67.44	21.29	4.59
TTL	Male	NA	NA	NA	NA
	Female	NA	NA	NA	NA
	Total	1587	20011	171472	4981
	Total (Per employee)	12.80	26.40	51.85	10.40
	Average training Man-hours(Per Employee)	0.103	0.017	0.016	0.022

Average training man-hours have been calculated on the basis of total count of males and females and total training hours.

Tata Technologies Limited does not disclose the training information on gender basis due to legal restrictions on TTL's operations in Europe and North America.

Workplace
Safety

> “Where a question of safety is concerned and there is difference of opinion between yourselves and your executives or advisors, I think that your judgement should prevail only where it weighs on the side of still greater safety.”
>
> **J.R.D. Tata**

Sustainability Report 2016-17 | **Business with Responsibility [3Ps]**

Workplace
Safety

Workplace security is of utmost priority to our company as we want to provide safe working place for productive efforts from our workforce. We have ensured all CV and PV manufacturing plants in India are certified to OHSAS 18001 – Occupational Health & Safety Management System and a robust first party, second party and third party audit mechanism is in place. This section gives an overview of the safety performance and management approach

TATA MOTORS

Dashboard of TML for 2016-17: Workplace Safety

- TRC-FR improved by **5.36%**
- Lost mandays Male: **12,853**; Female: **162**
- LTI-FR reduced by **11.8%**
- **50%** workforce representation in the Safety Committee
- Lost Time Injuries (no.) for employees Male: **23** & Female: **2**
- **21** Safety Standards as of FY 2016
- All plants **OHSAS 18001** certified
- **1,800** workshops of Jagruti program
- **950** women trained as part of “SenSHEtise”
- **+1,000** employees engaged in Safe **20** Road Safety sessions
- **+19,100** employees trained in i-Drive Safe
- **3** fatalities in FY 2016

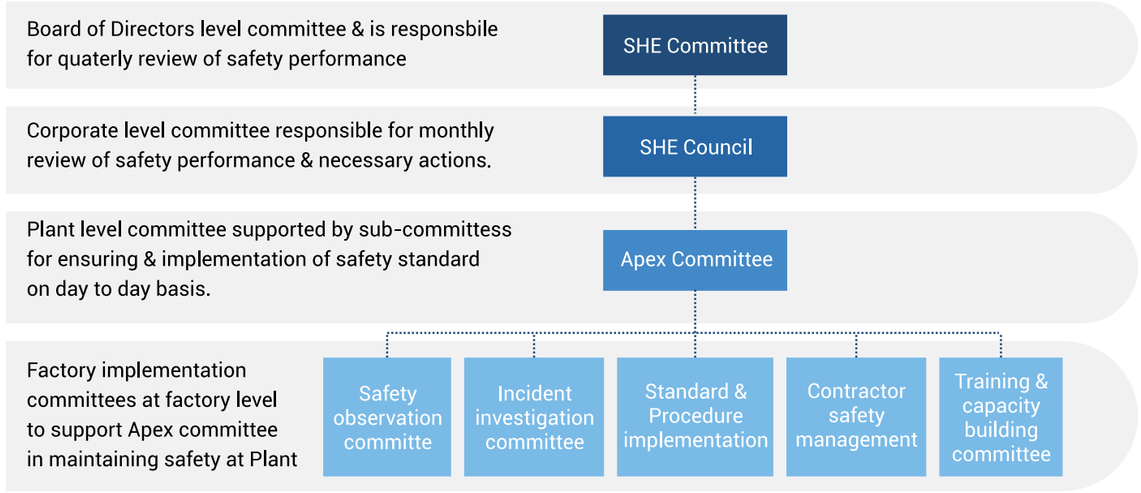
Workplace
Safety

We are committed to provide a safe and healthy working environment for our employees and associates. We ensure that none of our employees or workers are subjected to high incident or high risk disease related to their individual occupation. A company-wide occupational health and safety policy exists in order to ensure increased vigilance and awareness on health and safety. We recognise that to achieve our target in safety is crucial to internalise safety and engage with our employees.

Management Approach Towards Safety

Ensuring workplace safety is of paramount importance to us. We have dedicated committees and various functional teams to ensure safety and implementation of our safety standards. SHE committee at the Board of Director level isoverall responsible and reviews TML's safety performance every quarter.

Plant level sub-committees for safety are formed, who functionally, report to corporate level sub-committees. SHE reviews happens at three levels starting from factory level by Factory Implementation committee followed by plant level Apex committee or sub-committee subsequently by SHE council and finally by the SHE committee.



CVBU plant head leads the corporate level sub-committee. A total of 100 safety Factory Implementation committees have been institutionalized across all the CV plants that meet on a monthly basis to review and improve the safety management system. Similarly, for PVBU there are 27 committees in action to take on safety culture transformation agenda. Safety audits are conducted on regular basis as per the plan by the Safety coordinators/ line managers which are in turn reviewed by the Safety Committees respectively as well as in the Steering Committees.

At every plant, we have 50% workforce representation in the safety committee.

We have a robust investigation mechanism for any major safety incidents and necessary corrective actions are implemented as necessary. TML has a total of 18 safety standards developed in relation to managerial, cultural, behavioural and technical aspects of safety. The safety standards and procedures are available in centralized portal for ease of availability. There has been introduction of three new safety standard/policies in FY 2016-17 to address and avoid the occurrence of unfortunate fatalities we encountered in this financial year, namely, lone working policies, CCTV use and replacement of vehicles for business purpose (for travel safety), industrial hygiene.

All CV and PV Manufacturing Plants in India are also certified to OHSAS 18001 – Occupational Health & Safety Management System and robust first party, second party and third party audit mechanism is in place. The results of 2nd party audit is also monitored by Corporate Standards and Procedures Sub-Committee and SHE Council. The canteen at our Pune plant has been certified to ISO 22000. Furthermore, health and safety parameters are such as Performance Based Payment Scheme (PBMS), Discipline - Use of PPEs (Personal Protective Equipment), medical facilities - Coverage under Employees State Insurance (ESI) Act, Training, Development and Morale of Workmen, Work-men Compensation, Safety and Environment, and Joint Committees and Grievance Procedure are also covered under various local agreements with trade union.

Key initiatives in 2016-17

Our key initiatives in 2016-17 have been centred on enhanced governance, awareness and further internalising safety. The initiatives are as follows:

- Through second party audits, which involve auditors from other TML plants, we have initiated process of enhancing robustness in governance mechanism for monitoring implementation of level of safety standards through second party audit.
- TML has introduced "SenSHEtise", a women safety awareness campaign, in pan India. A total of 950 women employees' undergone training focused on women's Safety and Self-defence in 14 sessions across Offices and Plants.

- Jagruti – An awareness campaign for building capability of dealers' workshop manager with regards to workplace safety. This programme is collaboration of the Company, Castrol and training partner ICECD. We have covered more than 1800 workshop through this program and we seek to continue and enhance safety culture at our dealers' locations.

- I-Drive safe is our existing safety training for drivers. This year we have extended it to fleet customer drivers by training of Tata bus drivers. Through this initiative we intend to encourage a safe driving culture amongst our employee and associates and have trained them on Defensive Driving. In excess of 19,103 employees and associates till date have been trained under this campaign, initiated few years ago.
- 'My Road My Discipline' Road Safety Week campaign during January 11 to 17 included Road Safety Celebrations conducted in all location including all Plants, Offices, Dealerships, Warehouses, Vendors and Social Awareness messages were aired on FM on Road Safety in 8 cities across India.
- Safe20 is a 20 minutes for safety engagement program, which involves taking safety at work place. Sessions on Road Safety were conducted at 9 offices across India engaging tunes of 1,000+ employees along with mentoring of Flexi Work Force under "MY BUDDY" program by Permanent BlueCollar Work force / Group leaders.

- We have celebrated National Road Safety week and National Safety week in the month of January 2017, where we engage not only workers, but also associate with social set-up around local community. Posters and banners on safety, containing social message for people on road safety, were published for creating awareness.

This year, we have initiated safety audits for our dealers' workshop. We have categorised the audits into short term and long term addressing 7 critical points of safety and overall SHE adherence respectively. Through this engagement, we seek to provide support and influence safety at focused vendors (FBV).

Safety Performance For all employees at TML (2016-17)								
Location Name		**Pune**	**Jamshedpur**	**Lucknow**	**Pantnagar**	**Dharwad**	**Pune PV**	**Sanand**
Lost time injuries (Nos.)	Male	11	6	1	1	0	0	4
	Female	0	2	0	0	0	0	0
Lost time injury rate (per million manhours)	Male	0.21	0.15	0.06	0.04	0	0	0.31
	Female	0	0.48	0	0	0	0	0
Total recordable cases (Nos.)	Male	64	16	20	24	6	26	75
	Female	1	4	1	0	0	1	0
Total recordable cases frequency rate (per million manhours)	Male	1.21	0.46	1.17	1.01	1.49	2.30	5.84
	Female	0.66	0.48	3.09	0	0	1.17	0
Fatalities	Male	0	2	0	0	0	0	0
	Female	0	0	0	0	0	0	0
Mandays lost	Male	374	12442[32]	11	18	0	0	7
	Female	0	162	0	0	0	0	0
Occupational disease rate	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
Lost day rate	Male	0.21	17.79	0.62	0.78	0	0	0.55
	Female	0	66.54	0	0	0	0	0
Absentee rate (in %)	Male	2.99	2.19	3.09	2.38	1.72	2.85	2.07
	Female	4.32	3.93	5.15	9.18	5.62	3.76	7.40

[32] *Manday loss of 6000 per fatality has been accounted. One of the fatalities has occurred during business travel and outside TML Jamshedpur plant premise.*

Safety Performance for all workers (excluding employees) at TML (2016-17)								
Location Name		**Pune CV**	**Jamshedpur**	**Lucknow**	**Pantnagar**	**Dharwad**	**Pune PV**	**Sanand**
Lost time injuries (Nos.)	Male	3	1	0	1	0	1	0
	Female	0	0	0	0	0	1	0
Lost time injury rate (per million manhours)	Male	0.24	0.07	0.00	0.14	0	0.28	0.00
	Female	0.00	0.00	0.00	0.00	0	1.06	0.00
Total recordable cases (Nos.)	Male	11	2	3	3	1	6	7
	Female	0	1	0	0	0	1	0
Total recordable cases frequency rate (per million manhours)	Male	0.90	0.21	0.51	0.41	0.53	1.69	1.99
	Female	0	0	0	0	0	4.75	0
Fatalities	Male	1	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
Mandays lost	Male	6064	280	0	18	0	11	0
	Female	0	0	0	0	0	66	0
Occupational disease rate	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0

Our Lost Time Injury Frequency rate (LTI-FR) has reduced from 0.17 to 0.15, showing an overall reduction of 11.8% as compared with 2015-16 safety performance. Similarly, Total Recordable Case Frequency rate (TCR-FR) has reduced to 1.41 from 1.49, showing an improvement in performance by 5.36%.

Subsidiaries' performance in 2016-17

Safety Performance for Employees (2016-17)								
Indicators	TTL		TAL		TMLDL		TMML	
	Male	Female	Male	Female	Male	Female	Male	Female
Lost time injuries (Nos.)	3	0	0	0	3	0	7	0
Lost time injury frequency rate including fatalities (per million man-hours)	0.15	0	0	0	0.23	0	2.52	0
Total recordable cases (Nos.)	9	3	4	0	20	0	24	0
Total recordable cases frequency rate (per million man-hours)	0.61[33]		4.29	0	1.55	0	24.28	0
Mandays lost	19	0	0	0	201		4.67	0
Absentee rate	NA	NA	NA	NA	NA	NA	51.03	0
Occupational disease rate	0	0	0	0	0	0	0	0
Fatalities	0	0	0	0	0	0	0	0

Safety Performance For all Workers(Excluding Employees) (2016-17)								
Indicators	TTL		TAL		TMLDL		TMML	
	Male	Female	Male	Female	Male	Female	Male	Female
Lost Time Injuries (Nos.)	0	0	0	0	0	0	4	0
Lost Time Injury Frequency Rate Including Fatalities (per million man-hours)	0	0	0	0	0	0	2.51	0
Total Recordable Cases (Nos.)	0	0	3	0	1	0	15	0
Total Recordable Cases Frequency Rate (per million man-hours)	0	0	22.35	0	0.43	0	9.75	0
Fatalities	0	0	0	0	0	0	0	0

[33] *TRC-FR at TTL is not monitored as gender.*

Value Chain
Sustainability

Due to our scale of operations, we interact with a large base of vendor and suppliers in the entire length of our value chain. We take care to monitor our relations based on supplier performance and market demand. This section covers our strategies regarding the entirety of our value chain starting from sourcing raw materials to dealers who manage our end products.

TATA MOTORS

Dashboard of TML for 2016-17: Value Chain Sustainability

Conflict Minerals Policy implemented

Integrated **CRM-DMS** for dealers

Streamlined material receipt though Consolidation Centres

Identification of top **200** suppliers for ESG Assessment

50.88% Procurement from Local Sources

Conducted Sustainability Site Assessment of **52** Suppliers

Implementation of Phase-1 of Sustainable Supply Chain Initiative

Released Sustainability Guidelines for Supplies

Baseline Data Mapping Initiated

Value Chain
Sustainability

Value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use.

Tata Motors Value Chain

Product Development
- Concept to launch
- In-house design of Vehicles, Aggregates & Integration
- Excludes design of proprietary parts

Parts & Aggregates & Raw Materials
- Source between 70-80% of parts fitted in vehicles
- Supplier base includes Direct, Indirect Material Suppliers & Service Providers.
- 2 Dedicated Vendor Parks at Pantnagar & Sanand

Manufacturing
- 7 manufacturing plants within India
- Press, Weld, Paint, Aggregate Manufacture, Assembly

Sales & Distribution
- Customer touch points across India
- Domestic Business - Dealers, Direct Sales
- International Business - Distributors

After Sales Service
- Service - Dealers and Tata Authorized Workshops
- Includes - spareparts, aggregates, Annual Maintenance Contracts, Prolife (Aggregate Re-conditioning)

Our large and diverse supplier base is periodically rationalized on the basis of performance and market requirements. We engage with our supply chain on a range of issues through our R&D (ERC), Strategic Sourcing (SS) and Procurement & Supply Chain (P&SC). P&SC communicates and transacts business with suppliers through a dedicated internet portal called Supplier Relation Management. TML engages with dealers through an integrated CRM-DMS, which enables us to monitor finances and inventory at dealer level, and services, spares and complaints at the customer end.

Our supply chains are characterized by technology driven suppliers of proprietary components (fuel pumps, tires, adhesives, sealants, electronic controls etc.) and well-established tier structure inherent to manufacturing sector and large number of Small & Medium Enterprises (SME's).

TML has a comprehensive environmental management system in place which enables the company to produce high quality vehicles while minimizing the environmental impacts of its activities, product and services. About 92% of our supplier base is located in India. A significant part of the supply chain is manufacturing companies that are technology driven and energy intensive. Continuous efforts are undertaken to increase the fuel efficiency and develop innovative mobility solutions to reduce the GHG emissions. Dealers are supported to the fullest extent to build their knowledge and capacity to perform sales and also communicate to customers efficiently about our product and brand. TML places strong focus to improvise its logistics system which leads to reduced cost and improved efficiency.

Conflicts Mineral Management

The United States Dodd-Frank Act, Section 1502, is a landmark legislation that requires manufacturing companies to identify and disclose to the U.S. Securities and Exchange Commission (SEC) the source of 3TG minerals (tin, tantalum, tungsten and gold) used in their products when those minerals originate from or around the war-torn region of the Democratic Republic of the Congo (DRC).

As a Securities Exchange Commission (SEC) registrant, we need to be in compliance with the requirement of the aforesaid section. In this regard, we have developed company-wide Conflict Minerals Policy and have a Conflict Minerals Compliance Program in place to implement our Conflict Minerals Policy. This is necessary auto components/sub-systems sourced by TML may have 3TG minerals.

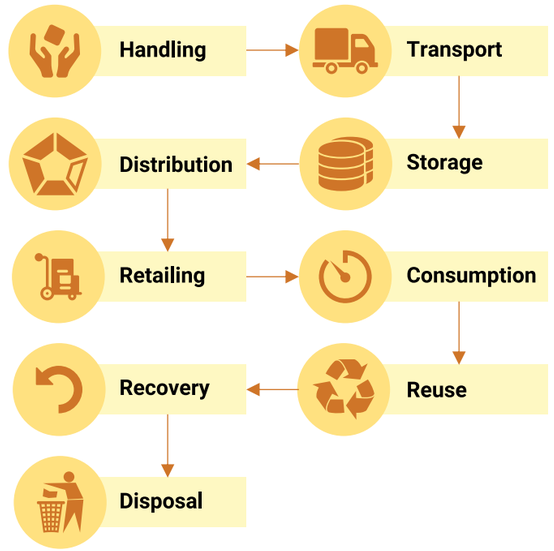
Packaging & Logistics Management

Integrated packaging, known as packaging logistics, process arises as one key factor that could contribute in increasing the efficiency and sustainability of supply chains.

Integrated packaging includes

1. Process of planning,
2. Implementing and controlling the coordinated packaging system of preparing goods

Objective of this function is to maximise consumer value and sales by ensuring secure, safe, efficient and effective process for the following:



P&SC has initiated global actions centrally for optimizing logistics, packaging, cost, and reducing damages to auto components. Several factors such as labour, material flow, pull systems, layout, cost, safety, ergonomics etc. are considered before finalising the design of packaging and labelling. Returnable type of packaging such as polypropylene boxes is gaining more importance over single use type of packaging. This is done to achieve reduction of expendable packaging dunnage for components such as fender, rear wall, dashboard, fuel tanks etc. For heavier components, returnable and foldable steel bins, pallets, trolleys, plastic bags are used. Also, wood packing is replaced by steel rack packing design.

Other step in this direction included setting up of consolidation centres at key geographical locations

across the country to streamline material receipt in-line with production plans. 'Milk Runs' for local runs transportation were established (Kolhapur region for Pune CV, Pune PV, TML Dharwad from Pune etc.), in which transport vehicles collect components from suppliers as per requirement and transport to our manufacturing plant, which avoids use of multiple vehicles and material handling. To optimize number of trucks entering the manufacturing plants, special containerized vehicles (32' and 52') were introduced for optimum payload utilization.

Value Chain Engagement

With the launch of Tata Motors Integrated Supplier Quality Manual, the supply quality process is further strengthened. The manual provides a common 16 step process to ensure that TML requirements are complied with by all partners and highest quality standards are achieved. TML have also established vendor councils in 4 regions-North, South, East and West of India. These councils provide a platform for top level management and suppliers to interact. Periodic vendor meets are also held at every location to communicate on key issues like-supply schedules, quality and vendor ratings.

Location wise Local Procurement

Pune (PV,CV)- % of local sourcing

2014-15	71.98%
2015-16	75.61%
2016-17	68.44%

Jamshedpur - % of local sourcing

2014-15	53.11%
2015-16	55.86%
2016-17	56.27%

Lucknow - % of local sourcing

2014-15	24.52%
2015-16	25.53%
2016-17	24.85%

Sanand - % of local sourcing

2014-15	53.44%
2015-16	39.51%
2016-17	35.99%

Pantnagar - % of local sourcing

2014-15	68.82%
2015-16	50.60%
2016-17	48.68%

Dharwad - % of local sourcing

2014-15	49.97%
2015-16	23.63%
2016-17	21.90%

TML has a dedicated code of conduct for suppliers as well as dealers. All the suppliers are expected to adhere to the Principles of TCoC such as products and services, regulatory compliance, bribery and corruption, human rights, gifts and hospitality, health and safety, environment, conflict of interest, third party representation, protecting company assets and reporting violations mentioned under the Supplier Code of Conduct. In addition to all the above mentioned principles, Dealer code of Conduct includes the aspect of Fair competition as well. TCoC has been communicated to dealers and suppliers and are expected to ensure compliance. Dealers and suppliers can notify TML about their ethical concerns and grievances to ethicsoffice@tatamotors.com.

On-site vendor audits are carried out in which safety, health and environmental issues are taken into account. Engagement with dealers is done through periodic National Dealer Council, Regional Dealer Councils and Annual Dealer Conference and these interactions serve as a platform for discussing strategic and tactical plans for business growth.

Local Sourcing

Procurement is a strategic function to help improve profitability. Our seven manufacturing plants across India source material from hubs located in north, west and south of the country and hence promote the local industry and community. To establish the supply chain base at green-field locations, vendor parks were set up at Sanand and Pantnagar.All these steps have resulted in the growth of the local economy, promote local procurement, reduce logistic complexities and have minimized packaging and transportation. In FY 2016-17, our manufacturing plants sourced 50.88% of materials and services by suppliers based within the state where our plants are located.

TATA MOTORS

Sustainable Supply Chain

Due to the nature of our business, we have diverse and complex supply chain. We have been engaging with supply chain through Project Sankalp targeting those Supplier Partners who are at the bottom of the pyramid in terms of quality, productivity and profitability through capability building, elimination of waste (rework, rejections, transit damages, etc.) conservation of resources and a better work environment, hygiene and safety thereby ensuring the business continuity. Experts from different functions such as Quality, Manufacturing, Technical Services, Production Engineering and Kaizen are nominated as a Supplier Improvement Team (SIT) to closely engage and work with identified suppliers. The program continued to focus on its basic approach of transformation through 6 pillar approaches of Cleanliness, Safety, Health and Hygiene, Data Management, Quality, Supplier issue resolution. Knowledge enhancement at the foundries is done through "Project Vihaan".

In the year 2016-17, we have taken focused effort towards making our supply chain sustainable.

Management Approach Towards Sustainable Supply Chain

In line with our Environmental Procurement Policy and Tata Group Sustainability Policy, we are committed to adopt a procurement process, which is sustainable in nature. We are engaging with our suppliers to sensitize them on issues of environmental impact, social impact and ethical conduct of the business which can intangibly pose a threat to our business continuity and brand dilution.

To make the upstream supply chain sustainable and increase the awareness among suppliers for Environmental Social Governance (ESG) issues, a focused initiative in 2016-17 has been taken up to sensitise our suppliers. Our corporate SHE team, with support from plant level purchase and supply chain teams are responsible for enhancing and ensuring sustainable supply chain. The management structure of corporate SHE team is as described in section "Our Sustainability management"

We have taken up the Sustainable Supply Chain Initiative which is being implemented in phases. In Phase I, during 2016-17, we have built the foundation for engaging and sensitizing our supply chain on ESG issues. We have started the activity with the identification of our top 200 suppliers based on share of business. We have adopted systematic approach for supply chain engagement, which includes formulating the guidelines, preparation of baseline data template, conducting workshops for suppliers and training sessions for local TML's purchase and supply chain team, data collection from suppliers and on-site sustainability assessment for suppliers.

"We have a huge, multi-tiered supply chain and it is one of the key sustainability issues for us. We need to ensure ESG (Environment, Social and Governance) compliance of supply chain, and avoid business continuity and reputational risk. We have taken up the sustainable supply chain initiative to track and improve ESG performance of the supply chain."

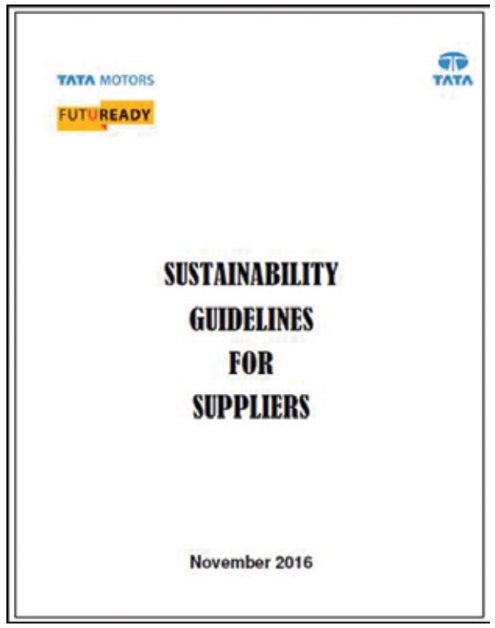
Thomas Flack
Chief Purchasing Officer

Phase 1 Sustainable Supply Chain initiative Step by Step process:

- Screening of top 200 suppliers on the basis of share of revenue (80/20 rule)
- Awareness & capacity building of shortlisted suppliers & P&SC teams on ESG practices (Policies & sustainable supply chain guidelines & expectations from suppliers)
- Baseline mapping of 100 shortlisted suppliers wrt ESG (legal compliance, carbon footprint,water & waste management, social aspects like minimum wages, child labour, etc)
- Site assessment of 52 critical (ESG based) suppliers in phase-1 on pilot basis.

The details on the major activities taken in Phase I are given as follows:

- TML has formulated "Sustainability Guidelines for Suppliers" for our suppliers covering key topics like governance, legal compliance, TCoC, management system certification, transparency and reporting, Occupational Health and Safety, labour and human rights including child labour and forced labour. Furthermore, TML's policies related to environment, safety and health, climate change and environmental procurement are also shared with suppliers as a part of this guideline. This guideline and baseline data template has been communicated to all 200 identified suppliers.



- We have prepared template for baseline data collection from our suppliers. The template covers information and topics on organisational profile, roles and responsibilities, review mechanisms, legal compliance related to economic, environmental and social, TCoC - suppliers code of conduct, management system certification -ISO 14001, ISO 18001, ISO 9001, ISO 50001 and SA 8000. The template also seeks information on transparency and reporting, audit mechanism and availability of any sustainability disclosure related to CDP, GRI etc. In addition, our sustainable supply chain baseline data collection template ask for data related to energy and GHG emission, environmental including waste, water and hazardous chemical, labour condition, health and safety, packaging and logistics and social responsibilities. We also engage with our Tier 2 supply chain through our Tier 1 suppliers on management systems, TCoC and awareness on "Sustainability Guidelines for Suppliers".

- Workshops and training sessions were conducted to sensitize our suppliers and TML's local purchase and supply chain team on the importance of sustainability and threat posed by ESG factors on business continuity. Through these workshops, we also provide a platform for our suppliers to share their success stories and exchange best practices. In the 2016-17 workshops were conducted on Sustainable Supply Chain for our suppliers at Pune, Pantnagar, Jamshedpur, Dharwad, Tata Marcopolo Dharwad and Lucknow plant wherein more than 200 suppliers attended and approximately 100 employees from TML. These workshops were conducted to make suppliers and TML's purchase and supply chain team aware on the Environmental, Social and Governance aspects of the business.

- During the year 2016-17, around 105 suppliers shared their sustainability related data, for the year 2015-16, with us which was followed by TML's site assessment at supplier's premise to verify the data provided by them. A total of 52 Suppliers were assessed on their site till end of March 2017.

1 NO POVERTY
8 DECENT WORK AND ECONOMIC GROWTH
13 CLIMATE ACTION
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

TATA MOTORS

Supply Chain Performance in 2016-17

As aforementioned, we have conducted site assessment of 52 suppliers and the combined performance is as below:

Resulting from our sustainable supply chain engagement, 8 and 5 of our Tier 1 suppliers have initiated the process for implementation of ISO 14001 and OHSAS 18001.

There were no incidents of labour and human rights violations and non-compliance with environmental and social regulations. The adherence with TCoC – Supplier code of conduct and legal compliance with economic, environmental and social norms and regulations has been assessed by TML. There have been no instances of strikes and grievances reported by 52 suppliers assessed in Phase I.

The 52 suppliers have even shared TML's "Sustainability Guidelines for Suppliers" with more than 400 Tier 2 suppliers and assessed them, through questionnaire, on management system certifications, namely, ISO 14001, OHSAS 18001, ISO 50001 and TCoC.

Way Forward with Our Supply Chain

In 2017-18, we shall initiate the Phase II of our sustainable supply chain engagement where in, we shall perform site assessment for 60 additional suppliers. Based on the learning from Phase I, we have revised "Sustainability Guidelines for Suppliers" and baseline data template. We also envisage to reward and recognise our noteworthy sustainability performers of our Phase I suppliers.

We shall continue to conduct work-shops and provide platform to suppliers to share their best practices based on outcome from Phase I engagement. We are also seeking to establish the mechanism for capturing the value derived by our suppliers from sustainable supply chain engagement. In coming 3 to 5 years we are planning to engage with all of our critical Tier 1 suppliers.

Post commencement of our sustainable supply chain initiatives; we selected 2 of our suppliers and helped them in the process of implementation of GreenCo requirements and the same have been assessed and certified by CII.

Case Study: Sustainability at MAHLE BEHR India Private Limited

Mahle, one of our critical Tier 1 suppliers, who has been evaluated as a part of our on-site sustainable supply chain assessment, is making commendable progress towards environmental sustainability. Mahle has more than 50% of its total energy demand supplied by renewable energy and has benefitted from energy efficiency implementation such as VDF and LED lighting across the facility. Online energy monitoring system has also been implemented for better control.

In addition to progress in green energy, Mahle has also made advancement in waste reduction through establishment of lean manufacturing process to eliminate waste generation and recycling of waste at the recycling yard for aluminium, plastic and paper. By implementing returnable packaging system, 40% of the corrugated packaging waste has been reduced.

CSR

> Businesses need to go beyond the interests of their companies to the communities they serve.
>
> **Ratan Tata**

Sustainability Report 2016-17 | **Business with Responsibility [3Ps]**

CSR

The Tata culture of giving back flows from the tradition of nation and community building sowed more than a century back by Jamsetji Tata, the Founder of the group. We are involved in a wide variety of community development and environment preservation projects to help solve social issues through our business. Our social activities focus on health, primary education, skills training and entrepreneurship, livelihoods, women empowerment and strengthening services for the differently-abled.

TATA MOTORS

Dashboard of TML for 2016-17: CSR

11,130 employees
participated in Volunteering

47,151 working hours,
participated as Volunteers

₹259.4 million spent
for CSR in FY 2016-17

₹1 of CSR investment gives
SROI ₹4.1 by 2024

+24% recruits from SC/ST
category in Apprentice Training
& NEEM Program

Scholarships given to **870**
AA (Affirmative Action) students

Extended business of
₹67.7 million to
AA vendors till November, 2016

40% of CSR Budget for
development of **SC/ST** societies

CSR

The values of corporate citizenship for TML are derived from the parent Tata Group. The journey of our community development programs began with the commencement of our first manufacturing operations at Jamshedpur in 1950s. Going ahead on the same path, we facilitate various developmental projects for the communities in which we operate. In line with our TCoC and values of Tata group, we are committed to build responsible business that meets the needs of our stakeholders.

Management Approach Towards Community Engagement

In line with our CSR policy, we believe in actively assisting in the improvement of the quality of life of the people in the communities, giving preference to local areas around our business operations. We seek to relentlessly strive in our endeavour of nation-building, sustainable development, accelerated inclusive growth and social equity. We continuously attempt to strategically align social responsibility with our pursuit of Business excellence.

Our Community Engagement Management:

Board of Direct level committee	CSR Committee
Business/Corporate level team	Corporate CSR team
Plant /Location level commitee	CSR & Affirmative Action Committee

The CSR committee at the highest level comprises of 5 members from Board of Directors who meet 3 to 4 times a year to approve policy and budget related to CSR activities. The selection of the community engagement activities is done on 5 key criteria: a) proximity of the local community; b) alignment with our four focus areas; c) deprived section of the society (SC/ST) under our Affirmative Action; d) innovation in our value chain and e) measurable and clear outcome.

Total CSR Spent in ₹ million

We see employee volunteering as character building activity that helps all our employees be socially responsible individuals. Our implementing partners are experts in their domain and we rely heavily on them for programme execution. Guided by the motto of More from Less for More, we collaborate with them to take our message of social good to a larger base. As a global company, we are conscious of our responsibility towards the international community and we involve them in our skilling programme for international students.

In FY 2017, 11,130 number of Employees, contributing for 47151 working hours, participated as volunteers

Through regular consultation with internal and external stakeholders and participatory approach, we develop comprehensive sustainable solutions for the communities. Our community intervention aims to solicit active participation from local communities, government and NGOs. To achieve this, we form multi-stakeholder partnerships which help us in developing robust and high impact CSR programs. Our strong commitment to CSR is further visible from our Affirmative Action program. It is primarily focused on facilitating direct/indirect employment for the SC/ST personnel thus encouraging their positive discrimination.

We calculate Social Return on Investment (SROI) for our long-duration projects, which are in operation for more than 5 years, to assess the social benefit of such community projects. The SROI calculation of our projects is externally assured to ensure the reliability of the assessment.

For every rupee of investment by TML in the Skill Development Program at RKM, INR 3.1 of social value attributable to TML is created as on 2014. The same is calculated to increase to INR 4.1 by 2024.

Communities

The presence of our manufacturing plants at six different locations across the country gives us an opportunity to work and interact with diverse set of people. Diversity is not only in their language, food habits and cultural beliefs but also in developmental challenges, education levels and community needs. Each region has its own set of unique problems and the needs of the community at each location is deep rooted within the socio-cultural environment of the region.

The CSR teams across the locations work in tandem with the implementing agencies to bring the disadvantaged communities in the areas surrounding our manufacturing plants and corporate office at equal footing. Our location - specific programmes ensure that we develop customised solutions to cater to the needs of each community based on their geographical location and cultural beliefs.

We work with the most deprived communities to raise their standard of living by investing heavily in health, education and skill development. Community members are consulted at each stage of the project development and encouraged to participate in its execution, monitoring through the formation of committees like water user group. The community members are also trained to ensure the sustainability of the project through soft and technical skills training.

Case Study: TANDA (DNT community): An Educated Tomorrow for Denotified Tribes Members

Project TANDA (Towards Advocacy Networking and Developmental Action) is Tata Institute of Social Sciences (TISS) field action project which works for the upliftment of the members of Denotified Tribes. Historically, members of these tribes were branded as criminals under the British rule and they continue to face social exclusion. They are condemned to live a life of social isolation and are often denied education and formal employment opportunities.

We support the project through sponsoring the Community Learning Centres at three locations in Navi Mumbai – Sathe Nagar, Ganpatipada and Mahaveer Quarry. The centre caters to the educational requirements of students of class 1 to 10. Students of standard 8, 9 and 10 are taught through e-learning tools which facilitate concept clarity and higher subject retention.

Almost all the students at the centre are first generational learners. The centre also encourages a deeper engagement of parents in their child's education. Regular parent teacher meetings are held where the parents are updated of their child's progress. This has also helped in improving interpersonal relationship between parents and the children.

Aadhar

Our Affirmative Action (AA) programme aims to mainstream Scheduled Castes / Scheduled Tribes communities through focused programmes in the domain of Employment, Entrepreneurship, Employability and Education.

18% of population around our manufacturing location is from SC/ST communities but their participation in the company's direct or indirect workforce is just 10%. To bridge this gap, we have developed business-linked programs which are implemented across the country in partnership with our dealers and NGOs/Technical training agencies. Every year we recruit around 5,000 youth under Apprentice Training and NEEM Program. In FY 2016-17 more than 24% of the recruits were from the SC/ST category (1846 recruits out of the total 7695 recruits).

In line with our philosophy of 'More from Less for More', we have also partnered with various State Governments, such as Bihar Mahadalit Vikas Mission and West Bengal Scheduled Castes & Scheduled Tribes Development and Finance Corporation for skill development of SC/ST youth in automotive trades.

As high as 50% of the students belonging to SC/ST backgrounds drop out of schools due to insufficient funds and through our financial aid through scholarships and special coaching programmes, we help them complete their education. In FY 2016 - 17, we have given scholarships to 870 AA students. We have increased our outreach of special coaching classes and presently, 6,199 AA students across locations are enrolled in it.

Enterprising SC/ST youth are also trained, mentored and encouraged to start business enterprises. Our Strategic Sourcing Team has undertaken several initiatives to include the SC/ST entrepreneurs in its vendor base. The team identifies AA vendors who can supply auto components and on clearing the initial verifications and quality checks they are registered in the TML database. Efforts are then taken to build capacity of Tier 2 AA vendors to enable them to become Tier 1 suppliers. Currently, 26 AA Vendors are associated with our Tier 1 supply chain and their share of business has progressively increased over the years. In FY 17, we have added 4 new vendors in our supply chain. And extended business of 677 lakhs to AA vendors till Nov 2016.

40% of the CSR budget is earmarked for Affirmative Action programmes.

Case study: Skill Development at Nangia Motors

The dealership collaborates with PACE (Pratham Centre for Education) to provide vocational training to tribal youth in Nagpur. The technical training is imparted by PACE and the on-the-job training is facilitated by Nangia Motors. During the OJT stipend housing and food is also taken care by the dealership. So far 6 candidates have been taken on payroll and 12 candidates are enrolled as interns.

Our Four PILLARS Initiatives and Programs

Our CSR programme, Ankur has four pillars – health, education, employability and environment. The programmes are designed to promote our involvement at every stage of an individual's life. Our four pillars of community development have been strengthened in this year by increasing the scope and reach of our CSR programs. These programs are aimed at building human capital and bringing in an inclusive growth for the communities. The focus of our programs has been to increase the efficiency and effectiveness of the CSR programs through inclusive innovation. The projects are designed and implemented to make the rural areas self-reliant to meet their basic needs and lead a quality life. Through Aadhar, our affirmative action programme we reach the historically marginalised groups – scheduled castes and scheduled tribes. 40% of our CSR budget is earmarked for programmes towards their upliftment through education, employment employability and entrepreneurship.

Arogya (Health)

Aarogya focuses on enhancing the health of infants, adolescent girls, pregnant women and lactating mothers. Additionally we hold awareness sessions for community members on preventive measures for better health. We tie-up with anganwadis and nutrition rehabilitation centres to ensure better nutrition and health awareness for children, pregnant women and lactating mothers. At some locations, we have set up malnutrition treatment centres where infants suffering from severe acute malnutrition are looked after and efforts are directed to improve their health status. Our initiatives also focus on holding awareness sessions for adolescent girls to address their queries on puberty, health and hygiene.

Malnutrition Treatment

2,085

Lives Touched

Health Awareness Sessions

34,974

Lives Touched

Preventive & Curative Health

2,76,464

Lives Touched

Case Study: Towards a Healthy Tomorrow

Zohar Shaikh, 8 months old was admitted at Chota Sion hospital (Mumbai) and was diagnosed with severe acute malnourishment. She weighed only 4.86 kg at the time of admission and was a passive child. The doctors started her treatment with feeding her the MNT (Medical Nutrition Therapy) paste. She consumed 104 units of the MNT packet throughout the course of her treatment. As oral feeding is often rejected by the child, the doctors administered it through the gastrostomy tube. On the 14th day her weight increased to 5.67 kg and the end of the treatment her weight was at a healthy 6.80 kg. Improvement in her weight has also transformed her to an active and responsive child. Her parents mentioned that up on gaining weight she looks cheerful. She is now able to achieve developmental milestones according to her age.

Health care is a growing industry. Ideal nurse -patient ratio stands at 1 nurse for every 500 people. India faces a shortage of 2.5 million nurses and our programme aims to fill this gap. Majority of the requests for bedside attendants come from families who want a fulltime caretaker for geriatrics. We acted on this insight and TML in partnership with Wockhardt Health developed a course for General Duty Assistant. Through this course, the participants can offer their services at hospitals, nursing homes and at private homes. The infrastructural support for the training in form of laboratory, classroom furniture and scholarships for students was sponsored by TML.

Vidyadhanam (Education)

According to UNESCO, 47 million students in India drop out of higher secondary school. Ministry of Human Resource Development reported that the national drop-out rate of students in higher secondary education is 17.86%. A major reason for the students to discontinue their education is lack of funds. Our education initiatives ensure that students receive support at every stage of their educational journey. Along with Avanti Fellows we coach standard 12 students to crack IIT – JEE (joint entrance examination to secure admission at Indian Institute of Technology). This coaching facility was availed by 161 students. Need based scholarships are also awarded to engineering students for them to continue their studies.

Our programmes also focus on their overall personality development and the deserving students are mentored by known figures in their area of interest. We also work to upgrade the school infrastructure and promote digital learning.

School Infrastructure Development

15,843

Scholarships & Financial Aid

2,731

Special Coaching Classes

37,937

Life Skills & Co-Curricular Activities

30,411

Case Study: Tata Education Excellence Programme (TEEP)

TEEP enables schools in the semi urban and rural areas to standardize their processes and achieve a minimum level of maturity. The structured framework of TEEP and checklist of questions help the schools to identify gaps and align its processes to develop a system for focused growth of school in all respects. The Pearl, Pankh and InnoTeaching initiatives of TEEP have encouraged teachers and students to brainstorm new and unique ideas which promote quality education and improve educational performance.

The schools at village undergo formal training by TBeX post by which they streamline their processes like housekeeping, record keeping, monitoring the attendance of students, checking the quality and timely service of midday meals. Other dimensions include introduction of co-curricular activities like environmental education, health checkup, sports, various competitions at the school, teacher's workshop and regularization of parent teachers meetings. The schools are duly assessed by TBeX against the set parameters on application for TEEP and if they are successful the school graduates from 'Saral' to 'Basic' level. This initiative helped to improve the rate of attendance among the students. The attendance rate rose to 85% at school, 100% for the enrolment of children graduating from Anganwadi Kendras to the Primary School and 100% for enrolment of students graduating from the Primary School to Middle Schools.

Introduction of TEEP has ushered a positive transformation among parents, members of the school managing committee, representatives of the Panchayati Raj Institution (PRI)

IIT - FAP Programme

Financial Aid Programme has a unique sustainable structure at Indian Institute of Technology (IIT). Students donate back to the program the support received when they graduate and get a job thus keeping the program self-perpetuating. The support of TML has been critical in expanding both the scope and the scale of the program. 47% of the students supported through the programme belong to the backward (SC, ST and OBC) communities.

The support of TML also enabled IITBAA (Alumni Association) expand the scope of FAP with the introduction of a number of value added services including mentoring, industrial visits, leadership training workshops, communication and soft skills training counselling etc.

The students are personally mentored by senior leaders at TML and other organisations according to their area of interest. The objective is to improve their confidence employability skills and make FAP an aspirational program for students rather than only a means for financial aid.

Collaborating with Reputed Academic Institutions

To incorporate fresh perspectives in our programmes we partner with reputed academic institutions like Tata Institute of Social Sciences, Indian Institute of Management and Indian Institute of Science. Students are awarded fellowships to cover causes close to their heart and develop sustainable solutions for social issues. These projects are mentored by the faculty at the institution.

Two projects undertaken by TISS graduates are focused on improving the educational status of children in Bihar (of the Musahar community, most backward castes) and naxal affected region of Dantewada.

In Khushinagar district, Bihar, only 52 children of the Musahar community (population 90,000) are studying up to senior secondary. The numbers are fewer for Dome and Dhangar community. As a part of the project, education awareness campaigns were undertaken in the district. Parents were counselled and funds were mobilized to set up a resource centre that can help the underprivileged children with their study related expenses. Based on a small test, students were identified and encouraged to enrol in professional/vocational courses. 39 academically bright students were also identified for special coaching.

The education initiative at Dantewada has a three pronged approach - to combat high drop-out rate among the students, to improve the quality of education in the district – PadheDantewada, LikheDantewada and to interest school students in agriculture. Along with BachpanBanao, the technique of Combination of Activities for Maximised Learning (CAMal) is adopted to improve the learning level of the students. Through an extensive survey, drop-out students were identified and counselled by BachpanBanao/ iThought /Childline teams. The principal of the institutions, these students were studying at were requested to admit them. 20 such students were re-enrolled in their schools. Agriculture is a part of course curriculum in some schools but they do not have a dedicated staff member for the subject. Rural agriculture extension officers are requested to conduct agriculture demonstrations for students.

Kaushalya (Employability)

Ministry of Skill Development and Entrepreneurship reports that only 2.3% of the workforce in India has undergone formal skill training. Absence of formal skills renders population largely unemployable. Labour Bureau's fifth employment-unemployment survey reported that 13.2% of people between 18 - 32 years of age were unemployed.

To address this skill gap, under our Kaushalya initiatives we partner with skill development centres and support the students financially and with technical expertise. We collaborate as knowledge and technical partners with centres for automotive trades like driver training and mechanic courses. Non-automotive, market driven courses such as electrician training, computer skills and beautician training are also promoted by the centres. Agriculture and allied training in the field of horticulture, floriculture, dairy development and animal husbandry helps the cultivators earn supplementary income for the household.

Automotive & Allied Automotive Trades
82,169 People Trained

Non-Automotive Trades
3,465 People Trained

Agriculture & Allied Trades
1,388 People Trained

Entrepreneurship Development
729 People Trained

Case Study: Ideal for others in the Community

Yasmini, 22 years old lives with her family of five in Ahmedabad. After the death of her father, her mother has been the primary breadwinner in the family. Her mother works as a sweeper and on an monthly income of Rs 8000 was not able to support her family. Yasmini dropped out of graduate school in the first year due to lack of funds. She learnt of the retail training from the mobilisers and decided to enrol for it. She found the course to be useful and completed it successfully. Up on course completion she was offered a job at Friends Care Foundation where she works as the tele caller and earns Rs 6,500 per month.

She feels confident than before and has been trying to improve her English speaking skills. To supplement her efforts, she also joined English speaking classes and plans to resume her college education in the future. Young girls in her community look up to her and have expressed their desire to join the retail training course. Her family is very happy with her progress and believe that with the economic improvement, her personality has undergone a positive transformation.

Autotech fest was conducted for students. Five events, Automobile Quiz, Project Expo, Junkyard Wards, Auto Expo, Battle of Trainers, were held and the students participated enthusiastically in these.

Vasundhara (Environment)

Native forests in India are disappearing at a rate of up to 2.7 percent per year and the forest cover still stands still below the mandated 33%. Forest wealth is dwindling due to overgrazing, over exploitation, encroachments, unsustainable practices, forest fire and unplanned urbanisation. Depletion of forests disturbs the delicate ecological balance and also contributes to climate change. Our initiatives under the environment aim to promote environmental consciousness among communities especially students. We also promote large scale plantation drives and support the development of community infrastructure. Devices that function on renewable sources of energy- solar lamps are also promoted by our team and distributed among underprivileged community members who need them the most.

Environmental Awareness Sessions
40,908 People Reached

Promotion Of Renewable Energy
2,638 People Reached

Plantation Drive
1,00,468 Saplings Planted

Case Study: Catch Them Young - Environmental Consciousness Among School Going Children

Our implementing partner Bombay Natural History Society held sessions for school students of Municipal schools in Mumbai and Thane to promote environmental consciousness among students. The students were educated on - solid waste management, sustainable development, judicious use of water and electricity and kitchen gardening techniques. Booklets on these topics were developed in the regional language to drive the message in an efficient manner. These booklets were visually appealing and the information was imparted as an interaction between two young characters. The students were also taken out on nature trails so that they can better connect the environment conservation concepts in their everyday life. Based on the sessions conducted, the students were encouraged to develop science projects based on one of the five themes. They were mentored on this project by a school faculty.

Amrutdhara

India ranks dismally on the 120th spot out of 122 nations for its water quality and 133rd out of 180 nations for its water availability. Only about one-third of rural households in India are reached by piped water supplies. The balance two-third of rural households is still living 'beyond the pipe'. More than half of the pipes in rural areas in India deliver untreated water (Safe Water Network Report). Although the country has made improvements over the past decades to both the availability and quality of municipal drinking water systems, its large population and rural areas are left out.

Our initiative "Amrutdhara", flagship programme undertaken by Sumant Moolgaonkar Development Foundation, facilitates sustainable drinking water solutions.

In our society, the deep-seated patriarchy manifests itself in a number of ways; one of them is the gendered division of water consumption and procurement. Indian women have always borne the brunt of water shortages. The responsibility of fetching water primarily lies with women. This unequal distribution of labour means that women travel great distances, walking over uneven terrain to fetch water, irrespective of the season or their physical health. For young girls, it means dropping out of school or managing water collection duties along with their education and other household chores.

SMDF (Sumant Moolgaonkar Development Foundation) through its Amrutdhara programme aims to provide safe drinking water to water stressed villages across the country on a sustainable basis. The diversity in the geographical landscape gives SMDF an opportunity to innovate on water solutions. Depending up on the terrain, the water solution could be installing RO plant, developing percolation wells or rebuilding water reservoirs.

Case Study: Building Water Solution at 5,000 ft

The Pantnagar team developed a low cost sustainable drinking water system in hills at an altitude of 5000ft-6000ft. The residents of Gumodi Village, Dwarahat Block, Ranikhet have been facing water crisis due the reduction in the forest cover and. The drying up of traditional sources of water and non- availability of alternative source of water meant that the women in the village had to walk great distances to fetch water. Majority of the residents of the village belong to scheduled castes and also face social exclusion from accessing other water points.

Along with Pan Himalayan Grassroots Development Foundation the CSR team built an infiltration well that serves as a protected intake structure for drinking water systems and collects water from subterranean water capillaries, which are located deeper than traditional nallas. Along with the 24X7 availability of water, the villagers were also gainfully employed for two months for project execution. Along with reducing the distance women have to walk for fetching water, the project has also encouraged conservation of bio diversity and tree plantation at the project site.

DNV·GL

INDEPENDENT ASSURANCE STATEMENT

Scope and approach

DNV GL represented by **DNV GL Business Assurance India Private Limited ('DNV GL')** has been commissioned by the Management of Tata Motors Limited (TML or 'the Company') to undertake independent assurance of the Company's Sustainability Report 2016 -17 in its printed format (the 'Report') for the Financial year ended 31 March' 2017. The sustainability disclosures in this Report are prepared by the Company in accordance with the GRI Standards: Comprehensive option of the Global Reporting Initiative (GRI) Sustainability Reporting Standards 2016 ('GRI Standards'). Our responsibility in performing this work is regarding verification of Sustainability performance disclosed in the Report and in accordance with the agreed scope of work with the management of the Company. The intended users of this assurance statement are the management of the Company.

We performed our work using DNV GL's assurance methodology VeriSustain™[1], which is based on our professional experience, international assurance best practice including International Standard on Assurance Engagements (ISAE) 3000 Revised*, along with AccountAbility's AA1000 Assurance Standard 2008 ((AA1000AS (2008)) and with the Global Reporting Initiative (GRI) Reporting Principles. Our assurance engagement was planned and carried out during May to August '2017.

Our scope of work was limited to the verification of the qualitative and quantitative information on sustainability performance disclosed in the Report covering Economic, Environmental and Social performance of the activities undertaken by the Company over the Reporting period 1st April'2016 to 31st March'2017 and based on the GRI Standards.
We understand that the reported financial and CSR expenditure data and information are based on data from Tata Motors Limited- Annual Report for year ending 31st March' 2017, which are subject to a separate independent audit process. The verification of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing a Type 2, moderate level of assurance based on AA1000AS and no external stakeholders were interviewed as part of this assurance engagement.

Responsibilities of the management of Tata Motors Limited and of the Assurance Providers

The Management team of Tata Motors Limited have sole responsibility for the preparation of the Report and responsible for all information provided in the Report as well as the processes for collecting, analysing and reporting the information presented in the printed Report.

In performing our assurance work, our responsibility is to the management of Tata Motors Limited; however, our statement represents our independent opinion and is intended to inform outcome of our assurance to the stakeholders of Tata Motors Limited.

DNV GL provides a range of other services to Tata Motors Limited, none of which constitute a conflict of Interest with this assurance work. This is the 8th year that we have provided assurance of the full Report.

DNV GL's assurance engagements are based on the assumption that the data and information provided by Tata Motors Limited to us as part of our review have been provided in good faith. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

[1] The VeriSustain protocol is available on dnvgl.com.

* Assurance Engagements other than Audits or Reviews of Historical Financial Information.

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Basis of our opinion

A multi-disciplinary team of sustainability and assurance specialists performed verifications at corporate office and selected sites of Tata Motors Limited. We undertook the following activities:

- Review of the current sustainability issues that could affect Tata Motors Limited and are of interest to identified stakeholders;
- Review of Tata Motors Limited approach to stakeholder engagement and recent outputs although we have no direct engagement with stakeholders;
- Review of information provided to us by Tata Motors Limited on its reporting and management processes in accordance with the GRI standards related to Stakeholder Inclusiveness, Sustainability context, Materiality and Completeness;
- Interviews with selected Leadership team, and Senior managers responsible for management of sustainability issues and review of selected evidence to support issues discussed. We were free to choose interviewees and interviewed those with overall responsibility for the programmes to deliver the Tata Motors Limited Sustainability targets for medium and long term Vision, Mission and milestones;
- Site visits were conducted in Tata Motors Limited Corporate Office at Mumbai, Pune Plant (both Commercial Vehicle & Passenger Vehicle Business Unit), including TAL Manufacturing Solutions Limited and Tata Technologies Ltd., Pune, Jamshedpur plant including TML Drivelines Limited, Jamshedpur and Pantnagar Plant (Commercial Vehicle Business Unit), two Tier-1 Suppliers each at Pune and Jamshedpur to review process and systems for preparing site level sustainability data and implementation of sustainability strategy. The sites we visited were selected on the basis of their materiality to the group for economic, environmental and social impacts as well as to give a geographical and divisional spread;
- Review of supporting evidence for qualitative and quantitative disclosures presented and reported data in the Report. Our verification processes were prioritised according to relative materiality of identified topics and were based for prioritisation on the materiality of issues at a consolidated corporate level;
- An independent assessment of Tata Motors Limited reporting against the GRI Standards and the reporting requirements for GRI Standards: Comprehensive option.

Opinion

On the basis of the verification undertaken, nothing came to our attention to suggest that the Report does not properly describe sustainability performance of **Tata Motors Limited** including adherence to GRI Standards: Comprehensive Option of reporting covering GRI 102: General Disclosures 2016, GRI 103: Management Approach 2016, and disclosures related to the following topic-specific standards for the material topics:

Economic

- GRI 201: Economic Performance 2016 – 201-1,201-2,201-3 & 201-4;
- GRI 204: Procurement Practices 2016- 204-1;
- GRI 205: Anti-corruption 2016 – 205-1,205-2,205-3;
- GRI 206: Anti-Competitive Behaviour 2016 – 206-1.

Environmental

- GRI 301: Materials 2016 – 301-1,301-2,301-3;
- GRI 302: Energy 2016 –302-1,302-2,302-3,302-4,302-5;
- GRI 303: Water 2016 – 303-1,303-2,303-3;
- GRI 304: Biodiversity 2016 – 304-1,304-2,304-3,304-4;
- GRI 305: Emissions 2016 –305-1,305-2,305-3,305-4,305-5,305-6,305-7;
- GRI 306: Effluents and Waste 2016– 306-1,306-2,306-3,306-4,306-5;
- GRI 307: Environmental Compliance 2016 – 307-1;
- GRI 308: Supplier Environmental Assessment – 308-1,308-2;

Social
Labour Practices and Decent Work
- GRI 401 : Employment 2016– 401-1,401-2,401-3 ;
- GRI 403 : Occupational Health and Safety 2016 – 403-1,403-2,403-3,403-4;
- GRI 404 : Training and Education – 404-1,404-2,404-3;

Human Rights
- GRI 408: Child Labor 2016- 408-1;
- GRI 409: Forced or Compulsory Labor 2016 – 409-1;
- GRI 412: Human Rights Assessment 2016 – 412-2,412-3;

Society
- GRI 413: Local Communities 2016 –413-1,413-2;
- GRI 419: Socio Economic Compliance 2016 – 419-1;

Product Responsibility
- GRI 416: Customer Health and Safety 2016- 416-1,416-2;
- GRI 417: Marketing & Labelling – 417-1,417-2,417-3;

Observations

Without affecting our assurance opinion, we also provide the following observations. We have evaluated the Report's adherence to the following principles on a scale of **'Good', 'Acceptable' and 'Needs Improvement':**

AA1000AS (2008) Principles

Inclusivity
The participation of stakeholders in developing and achieving an accountable and strategic response to Sustainability.
The stakeholder engagement process is well established to identify sustainability challenges and concerns of diverse stakeholder groups considering the Tata Motors Limited Operations businesses and the Report brings out key concerns of diverse stakeholders like Employees, Customers, Investors and Shareholders, Government Authorities, Opinion leaders, Suppliers/Service Providers, Dealers and Service Stations and Media. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

Materiality
The process of determining the issues that are most relevant to an organization and its stakeholders
The materiality determination process was revalidated based on inputs from key stakeholders including employees, customers, suppliers, NGOs, governments, regulatory bodies, local communities and senior management of Tata Motors Limited and has reported key material topics from the Automobile Sector. The process of materiality assessment has considered inputs from diverse sources such as needs and concerns of external and internal stakeholders, media reports and impacts of material topics and has established internal assessment process for monitoring and management on a continual basis for their long term organisational sustainability. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

Responsiveness
The extent to which an organization responds to stakeholder issues.
The Report has brought out response to key stakeholder concerns, through the Company's policies and management systems including governance are fairly reflected in the Report. In the reporting period, Tata Motors Limited has initiated assessments on select Tier 1 suppliers and has committed to expand the programme to include other significant suppliers to assess the impact of supply chain; this will help in bringing out significant supplier related challenges and risks in future reporting periods. In our opinion, the level at which the Report adheres to this principle is '**Acceptable**'.

Reliability
The accuracy and comparability of information presented in the report, as well as the quality of underlying data management systems.
The majority of data and information verified at the Corporate Office, four operational sites and four Tier 1 Suppliers were found to be accurate and nothing came to our attention to suggest that reported data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate. Some of the data inaccuracies identified during the verification process were found to be attributable to transcription, interpretation and aggregation errors and the errors have been communicated for correction. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

Specific Evaluation of the information on Sustainability Performances
We consider the methodology and process for gathering information developed by the Company for its sustainability performance reporting to be appropriate and the qualitative and quantitative data include in the Report was found to be identifiable and traceable; the personnel responsible were able to demonstrate the origin and interpretation of the data and its reliability. We observed that the report presents a faithful description of the Company's sustainability activities.

Additional Principles as per DNVGL's VeriSustain Protocol

Completeness
How much of all the information that has been identified as material to the organisation and its stakeholders is reported
The Report has fairly attempted to disclose the General Disclosures, Management Approach and Topic-Specific Standards for the identified reporting boundary. The report brings out Management commitment to disclosures on supply chain partners to identify and report on responses to potential impacts. Hence in our opinion, the level at which the Report adheres to this principle is '**Acceptable**'.

Neutrality
The extent to which a report provides a balanced account of an organization's performance, delivered in a neutral tone.
The disclosures related to sustainability issues and performances are reported in a neutral tone, in terms of content and presentation. In our opinion, the level at which the Report adheres to this principle is '**Good**'.

Opportunities for Improvement

The following is an excerpt from the observations and opportunities for improvement reported to the management of the Company and are not considered for drawing our conclusions on the Report; however, they are generally consistent with the management's objectives:

- Future reports may further bring out the impacts of material topics and TML strategy and management approach to Sustainable Development in the value chain, supply chain partners and Joint Ventures and Subsidiaries.
- Sustainability performance may be disclosed for the identified short-term and long-term goals across geo-locations for review and monitoring based on long term Sustainability strategy.

DNV·GL

Our Competence and Independence

We are a global provider of sustainability services, with qualified environmental and social assurance specialists working in over 100 countries. We were not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV GL maintains complete impartiality toward any people interviewed.

For and on behalf of DNV GL

Ramesh Rajamani Lead Verifier, Project Manager- Sustainability Services DNV GL – Business Assurance India Private Limited	Vadakepatth Nandkumar Assurance Reviewer, Regional Sustainability Manager – Region India Subcontinent and Middle East, DNV GL – Business Assurance India Private Limited

Bengaluru, India, 21st August' 2017

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GRI Index

GRI CONTENT INDEX			
GRI Standard	**Disclosure**	**Section Name**	**Page Number**
UNIVERSAL STANDARDS			
GRI 102: General Disclosures 2016	**ORGANIZATIONAL PROFILE**		
	102-1 Name of the Organization	About Tata Motors Limited	9-10
	102-2 Activities, Brands, Products, and Services		9-10
	102-3 Location of Headquarters		End cover page
	102-4 Location of Operations		9-10
	102-5 Ownership and Legal Form		9-10
	102-6 Markets Served		9-10
	102-7 Scale of the Organization		9-10
	102-8 Information on Employees and Other Workers	Workforce	140-146
	102-9 Supply Chain	Supply Chain	164-166
	102-10 Significant Changes to the Organization and It's Supply Chain	Sustainable Supply Chain	167-171
	102-11 Precautionary Principle or Approach	Governance	15
	102-12 External Initiatives	Sustainability Strategy and Management Goals	63-64
	102-13 Membership of Associations	List of Membership Association	24-25
	STRATEGY		
	102-14 Statement from Senior Decision-maker	Message from CEO & MD	3-4
	102-15 Key Impacts, Risks, and Opportunities	Key challenges: faced and emerging	54-55
	Ethics and Integrity		
	102-16 Values, Principles, Standards, and Norms of Behaviour	Mission, Vision and Values Ethics & Integrity	12, 17-20
	102-17 Mechanisms for Advice and Concerns About Ethics	Ethics & Integrity	17-20

GRI Standard	Disclosure	Section Name	Page Number
GRI 102: General Disclosures 2016	**GOVERNANCE**		
	102-18 Governance Structure	Corporate Governance	15-21
	102-19 Delegating Authority		15-21
	102-20 Executive-Level Responsibility for Economic, Environmental, and Social Topics	Governance	22
	102-21 Consulting Stakeholders on Economic, Environmental, and Social Topics	Engaging with Stakeholders	56-57
	102-22 Composition of the Highest Governance Body and It's Committees	Corporate Governance	16-17
	102-23 Chair of the Highest Governance Body		15
	102-24 Nominating and Selecting the Highest Governance Body		16-17
	102-25 Conflicts of Interest	Tata Code of Conduct	18
	102-26 Role of Highest Governance Body in Setting Purpose, Values and Strategy	Corporate Governance	16-17
	102-27 Collective Knowledge of Highest Governance Body		15-21
	102-28 Evaluating the Highest Governance Body's Performance		15-21
	102-29 Identifying and Managing Economic, Environmental, and Social Impacts	Key Challenges: Faced and Emerging Our Sustainability Governance	23, 53-55
	102-30 Effectiveness of Risk Management Processes	Key Challenges: Faced and Emerging	53-55
	102-31 Review of Economic, Environmental and Social Topics	Our Sustainability Governance	23
	102-32 Highest Governance Body's Role in Sustainability Reporting		23
	102-33 Communicating Critical Concerns	Ethics & Integrity	17-20
	102-34 Nature and Total Number of Critical Concerns		19-20
	102-35 Remuneration Policies	Annual Report	110-111
	102-36 Process for Determining Remuneration		110-111
	102-37 Stakeholders Involvement in Remuneration		110-111
	102-38 Annual Total Compensation Ratio		112
	102-39 Percentage Increase in Annual Total Compensation Ratio		112

GRI Standard	Disclosure	Section Name	Page Number
GRI 102: General Disclosures 2016	**STAKEHOLDER ENGAGEMENT**		
	102-40 List of Stakeholder Groups	Engaging with Stakeholders	56-57
	102-41 Collective Bargaining Agreements		140
	102-42 Identifying and Selecting Stakeholders		58
	102-43 Approach to Stakeholder Engagement		58
	102-44 Key Topics and Concerns Raised		59-61
	REPORTING PRACTICE		
	102-45 Entities Included in the Consolidated Financial Statements	About the Report	6-7
	102-46 Defining Report Content and Topic Boundaries	About the Report: Scope & Boundary	2
	102-47 List of Material Topics	Material Topics	60,61
	102-48 Restatements of Information	No restatement is applicable.	NA
	102-49 Changes in Reporting	About the Report	1-2
	102-50 Reporting Period		1-2
	102-51 Date of Most Recent Report		1-2
	102-52 Reporting Cycle		1-2
	102-53 Contact Point for Questions Regarding the Report	End Cover of the Report	End Cover of the Report
	102-54 Claims of Reporting in Accordance with the GRI Standards	About the Report	1-2
	102-55 GRI Content Index	GRI Index	191-206
	102-56 External Assurance	Independent Assurance Statement	186-190

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
TOPIC SPECIFIC STANDARDS					
ECONOMIC PERFORMANCE					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Economic Performance Independent Assurance Statement	59-61, 73, 186-190	TML, India	Annual reports of each of the subsidiaries are published separately and economic performance of each of subsidiaries is available in individual annual report. Since all the annual reports are not published at the same time as that of Tata Motors Limited, we have not included economic performance of the subsidiaries in TML's sustainability report.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Economic Performance	73		
	201-2 Financial implications and other risks and opportunities due to climate change	Economic Performance	74		
	201-3 Defined benefit plan obligations and other retirement plans	Economic Performance	73		
	201-4 Financial assistance received from government		73		
PROCUREMENT PRACTICES					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Value chain Sustainability Independent Assurance Statement	59-61, 164, 186-190	TML India	TML has started engagement with suppliers for sustainable supply chain in 2016-17. We are in process to include all our critical Tier 1 suppliers in coming 3 to 5 years. Currently, we are not engaging with our subsidiaries' supply chain. We intend to do the same in near future.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Value Chain Sustainability	166		

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
ANTI CORRUPTION & ANTI-COMPETITIVE BEHAVIOR					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Independent Assurance Statement	59-61, 186-190	TML India	This is not a part of our materiality matrix however, TML chose to voluntarily disclose on anti-competitive behaviour. All the Tata companies needs to adhere to Tata Code of Conduct for business ethic and integrity. Since this is not a part of the materiality matrix we chose not to include the disclosure for our subsidiaries in the sustainability report. We shall evaluate the intensity of linkage of each indicator with the subsidiaries and based on our study, we shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 205: Anti-corruption	205-1 Operations assessed for risks related to corruption 205-2 Communication and training about anti-corruption policies and procedures 205-3 Confirmed incidents of corruption and actions taken	Anti-Corruption	21		
	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices				
ENVIRONMENTAL					
MATERIALS					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for Environmental topics Raw material - Key initiatives Independent Assurance	59-61 63 -64, 79, 110 -118, 186-190	TML India	TTL being in design development, raw material consumption is not applicable. The amount of recycled material used in the process of manufacturing are not been completely tracked for the subsidiaries. Currently, evaluating the intensity of linkage of each indicator with packaging materials are not reclaimed by our subsidiaries. We shall initiate the process of the subsidiaries. Based on our study, we shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 301: Materials 2016	301-1 Materials used by weight or volume	Raw material	114-117	TML India, TAL, TMLDL, TMML	
	301-2 Recycled input materials used		115	TML India	
	301-3 Reclaimed products and their packaging materials		122	TML India	

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
ENERGY					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for Environmental topics Energy and emission - Key initiatives Independent Assurance Statement	59-61 63 -64, 79 186-190	TML India	Energy consumption outside the organisation is applicable for all our subsidiaries however, currently the mapping of the energy consumption outside the organisation is not tracked. TML shall support all the subsidiaries in implementation of process for tracking the indicator and gradually include it in our future disclosure. The reduction of energy consumption within each of the subsidiaries is not currently tracked. We shall initiate the process of assessing the sub-sidiaries for tracking the relevant information and gradually include the dis-closure for subsidiaries.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Energy and Emission	85-93	TML India, TAL, TTL, TMLDL, TMML	
	302-2 Energy consumption outside of the organization		88	TML India	
	302-3 Energy intensity		87, 91	TML India, TAL, TTL, TMLDL, TMML	
	302-4 Reduction of energy consumption		91	TML India	
	302-5 Reduction in energy requirements of products and services		92		
WATER					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for Environmental topics. Water and effluent management - Key initiatives Independent Assurance Statement	59-61 63 -64, 79, 104, 186-190	TML India	Since water is not a part of materiality matrix and considering the relevance, we have not included the disclosure on significant water source affected by our subsidiaries' operations in our sustainability report for 2016-17. We shall evaluate the intensity of linkage of each indicator with the subsidiaries and based on our study, we shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 303: Water 2016	303-1 Water withdrawal by source	Water and effluent management	105, 106	TML India TAL, TTL, TMLDL, TMML	
	303-2 Water sources significantly affected by withdrawal of water		105	TML India	

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
WATER					
	303-3 Water recycled and reused		105, 106	TML, India TAL, TTL, TMLDL, TMML	
BIODIVERSITY					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Our management for Environmental topics independent Assurance Statement	59-61 63 -64, 79, 186-190	TML, India	Biodiversity has been identified as the least critical topic as per our materiality assessment. TML has voluntarily decided to include biodiversity as a material topic for Tata Motors Limited. As per Tata Group sustainability policy, all the Tata companies are to assess the natural capital, including biodiversity, for all its locations. Since the biodiversity has not been identified as medium or high critical issue, we have opted not to include this disclosure for our subsidiaries. We shall initiate the process of evaluating the intensity of linkage of each indicator with the subsidiaries. Based on our study, we shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 304: BIODIVERSITY 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity	107, 108		
	304-2 Significant impacts of activities, products, and services on biodiversity		107, 108		
	304-3 Habitats protected or restored		107, 108		
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations		107, 108		

GRI Standard	Disclosure	Section Name	Page Number	Perfor-mance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
EMISSIONS					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies and Management Goals Our management for Environmental topics Energy and emission – key initiatives Independent Assurance Statement	59-61 63 -64, 79, 83-84, 186-190	TML India	Since the energy consumption outside the organisational boundaries of subsidiaries are not tracked, we are unable to calculate the Scope 3 GHG emission for each of the subsidiaries. Since the reduction of energy consumption is not tracked, the reduction of GHG emission could not be calculated. We shall initiate the process of assessing the subsidiaries for tracking the relevant information and gradually include the disclosure for subsidiaries.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 305: EMISSIONS 2016	305-1 Direct (Scope 1) GHG emissions	Energy & Emissions	85-93	TML, India TAL, TTL, TMLDL, TMML	
	305-2 Energy indirect (Scope 2) GHG emissions		85-93		
	305-3 Other indirect (Scope 3) GHG emissions		88	TML India	
	305-4 GHG emissions intensity		87, 91	TML, India TAL, TTL, TMLDL, TMML	
	305-5 Reduction of GHG emissions	Energy & Emissions	92	TML India	
	305-6 Emissions of ozone-depleting substances (ODS)	Energy & Emissions: Ozone Depleting Substance	94	TML India TAL, TTL, TMLDL, TMML	
	305-7 Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions	Energy & Emissions: Air Emissions	93-94		

GRI Standard	Disclosure	Section Name	Page Number	Perfor-mance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
EFFLUENTS AND WASTE					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for Environmental topics Waste management - key initiatives Independent Assurance Statement	59-61 63 -64, 79, 95 186-190	TML India	NA
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 306: Effluents and Waste	306-1 Water discharge by quality and destination	Waste management, Water and effluent management	105	TML India, TAL, TTL, TMLDL, TMML	
	306-2 Waste by type and disposal method		97-102		
	306-3 Significant spills		No incident of significant spills		
	306-4 Transport of hazardous waste		No international transportation of hazardous waste.		
	306-5 Water bodies affected by water discharges and/or runoff		115		
ENVIRONMENTAL COMPLIANCE					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for Environmental topics Environmental stewardship - key initiatives Independent Assurance	59-61 63 -64, 79,109 186-190	TML India	NA
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	Environmental Stewardship	109-110	TML India, TTL, TMLDL, TMML	

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
SUPPLIER ENVIRONMENTAL ASSESSMENT					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Our management for supply chain Sustainable supply chain initiates Independent Assurance Statement	59-61 63 -64, 167, 168 186-190	TML, India.	We have started the process of engaging TML supply chain in the financial 2015-16 and we are targeting to cover 100% of TML's critical tier 1 suppliers. Engagement with supply chain is a continuous process and we shall continue to increase the coverage of the engagement gradually and increase our coverage to subsidiaries. We have already started engaging with supply chain of TMML. For TTL, TAL and TMLDL the number of suppliers are insignificant as compared to TML and thus, are not included in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Value chain sustainability	164		
	308-2 Negative environmental impacts in the supply chain and actions taken		167-170		
SOCIAL					
EMPLOYMENT					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Workforce Independent Assurance Statement	59-61 63 -64 140, 146, 147, 186-190	TML India	We have not covered benefits and parental leaves for our subsidiaries for the financial 2016-17 sustainability report. Employee benefits at our subsidiaries are as per Tata Group's policy. We shall include the disclosure on employee benefits and parental leave applicable to our subsidiaries in our future sustainability report.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Workforce		TML India, TAL, TTL, TMLDL, TMML	
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees		140	TML India	
	401-3 Parental leave		143	TML India	

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
OCCUPATIONAL HEALTH AND SAFETY					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance Statement	59-61 63 -64, 156, 157 186-190	TML India	Worker with high rate incident and high risk related to occupation and health and safety topic covered in formal agreement have not been disclosed in this year's sustainability report. TAL, TMLDL, TMML are manufacturing companies and have proper representation of the workers. All our subsidiaries have proper safety standards. Since this is our transition from GRI G4 to GRI standard, we have prioritised to align our sustainability report as per GRI standard and provide maximum disclosure coverage for Tata Motors Limited. We shall gradually start covering this indicator for our subsidiaries in our future reporting.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 403: Occupational Health and Safety 2016	403-1 Workers representation in formal joint management– worker health and safety committees	Management Systems Workplace Safety	156	TML India	
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities		158-160	TML India TAL, TTL, TMLDL, TMML	
	403-3 Workers with high incidence or high risk of diseases related to their occupation		158-160	TML India	
	403-4 Health and safety topics covered in formal agreements with trade unions		156-157	TML India	
TRAINING AND EDUCATION					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance Statement	59-61 63 -64, 149, 150 186-190	TML India	This is a voluntary disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Workforce	150, 151	TML, India TAL, TTL, TMLDL, TMML	This is a voluntary disclosure.
	404-2 Programs for upgrading employee skills and transition assistance Programs		149, 150	TML	
	404-3 Percentage of employees receiving regular performance and career development reviews		150	TML	
CHILD LABOR (For Supply Chain)					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance Statement	59-61 63 -64, 167, 168 186-190	TML India	We have started the process of engaging TML supply chain in the financial 2015-16 and we are targeting to cover 100% of TML's critical tier 1 suppliers. Engagement with supply chain is a continuous process and we shall continue to increase the coverage of the engagement gradually and increase our coverage to subsidiaries. We have already started engaging with supply chain of TMML. For TTL, TAL and TMLDL the number of suppliers are insignificant as compared to TML and thus, are not included in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Sustainable Supply Chain	170		

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
FORCED OR COMPULSORY LABOR (for supply chain)					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance	59-61 63 -64, 167, 168 186-190	TML India	We have started the process of engaging TML supply chain in the financial 2015-16 and we are targeting to cover 100% of TML's critical tier 1 suppliers. Engagement with supply chain is a continuous process and we shall continue to increase the coverage of the engagement gradually and increase our coverage to subsidiaries. We have already started engaging with supply chain of TMML. For TTL, TAL and TMLDL the number of suppliers are insignificant as compared to TML and thus, are not included in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Sustainable Supply Chain	170		
HUMAN RIGHTS ASSESSMENT (For Supply Chain)					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance	59-61 63 -64, 167, 168 186-190	TML India	We have started the process of engaging TML supply chain in the financial 2015-16 and we are targeting to cover 100% of TML's critical tier 1 suppliers. Engagement with supply chain is a continuous process and we shall continue to increase the coverage of the engagement gradually and increase our coverage to subsidiaries. We have already started engaging with supply chain of TMML. For TTL, TAL and TMLDL the number of suppliers are insignificant as compared to TML and thus, are not included in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 412: Human Rights Assessment 2016	412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening		170		

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
LOCAL COMMUNITIES					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies CSR Independent Assurance Statement	59-61 63 -64, 176 186-190	TML, India.	This is not a part of our materiality matrix however, TML chose to voluntarily disclose on our community engagement and impact of business to the local communities. Since this is not a part of the materiality matrix we chose not to include the disclosure for our subsidiaries in the sustainability report. We shall evaluate the intensity of linkage of each indicator with the subsidiaries and based on our study, we shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 413: Local Communities 2016	413-2 Operations with significant actual and potential negative impacts on local communities		176-185	TML, India	
CUSTOMER HEALTH AND SAFETY					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance Statement	59-61 63 -64, 36, 39-41 186-190	TML, India	The magnitude of the direct customer dealing for our subsidiaries is xx% of the total direct customer of the TML. Furthermore, all our subsidiaries follows Tata Code of Conduct and quality assurance for the products. We shall start the process of evaluating the intensity of linkage of each indicator with the subsidiaries. Based on our study, TML shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Helping the customers, Product stewardship	40-45		
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services		37		

GRI Standard	Disclosure	Section Name	Page Number	Performance Disclosure Coverage	Justification for Exclusions of Subsidiary Information
MARKETING AND LABELING					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality Mapping Sustainability Strategies and Management Goals Independent Assurance Statement	59-61 63 -64, 36, 39-41 186-190	TML, India.	All our subsidiaries follows Tata Code of Conduct and quality assurance for the products. We shall start the process of evaluating the intensity of linkage of each indicator with the subsidiaries based on our study, TML shall gradually include applicable indicators in the disclosure.
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 417: Marketing and Labelling 2016	417-1 Requirements for product and service information and labelling	Sustainable Mobility Solutions	37		
	417-2 Incidents of non-compliance concerning product and service information and labelling		37		
	417-3 Incidents of non-compliance concerning marketing communications		37		
SOCIOECONOMIC COMPLIANCE					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundaries	Materiality assessment Sustainability Strategies Corporate governance Independent Assurance Statement	59-61 63 -64 15-20 186-190	TML India TAL, TTL, TMLDL, TMML	NA
	103-2 The management approach and its components				
	103-3 Evaluation of the management approach				
GRI 419: Socioeconomic Compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	Corporate Governance	19-21		

NVG Mapping

Principle	Description	Page No
Principle 1	Businesses should conduct and govern themselves with Ethics, Transparency and Accountability.	15-20
Principle 2	Businesses should provide goods and services that are safe and contribute to sustainability throughout their life cycle.	39-49
Principle 3	Businesses should promote the wellbeing of all employees.	140-151
Principle 4	Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalized.	65-68
Principle 5	Businesses should respect and promote human rights.	65-68
Principle 6	Business should respect, protect, and make efforts to restore the environment.	65-68
Principle 7	Businesses, when engaged in influencing public and regulatory policy, should do so in a responsible manner.	79-118
Principle 8	Businesses should support inclusive growth and equitable development	24-25
Principle 9	Businesses should engage with and provide value to their customers and consumers in a responsible manner.	39-49

UNGC-COP Mapping

Area	Advanced Criteria	Page Reference
Strategy, Governance and Engagement	**Criterion 1:** The COP describes key aspects of the company's high-level sustainability strategy in line with Global Compact principles	Details on our high-level sustainability strategy can found in Managing Director's Statement (Page 3) and Material Issues (Page 58) sections of the report.
	Criterion 2: The COP describes effective decision-making processes and systems of governance for corporate sustainability	Details on effective decision-making processes and systems of governance for corporate sustainability can be found in Corporate Governance (Page 15) of the report
	Criterion 3: The COP describes engagement with all important stakeholders	Details on engagement with all important stakeholders can be found in Stakeholder Engagement section (Page 56) of the report.
UN Goals and Issues	**Criterion 4:** The COP describes actions taken in support of broader UN goals and issues	We have implemented Policy on Human Rights, Policy on Equal Opportunity and Non-Discrimination in Employment, Environmental Policy, Green Building Policy, Policy on Bribery and Corruption in support of broader UN goals and issues. Actions taken in support of broader UN goals and issues can be found in Corporate Governance (Page 15), Economic Performance (Page 73) Product stewardship (Page 39), Energy and emission (Page 81), Environmental Stewardship (Page 109), Workforce (Page 140) and CSR (Page 176) sections of the report.
Human Rights Implementation	**Criterion 5:** The COP describes robust commitments, strategies or policies in the area of human rights	We have implemented Policy on Human Rights, Policy on Equal Opportunity and Non-Discrimination in Employment, Environmental Policy, Green Building Policy, Policy on Bribery and Corruption in support of broader UN goals and issues. Details on Human Rights Implementation can be found in Corporate Governance (Page 15) and Workforce (Page 140) sections of the report.
	Criterion 6: The COP describes effective management systems to integrate the human rights principles	
	Criterion 7: The COP describes effective monitoring and evaluation mechanisms of human rights integration	
	Criterion 8: The COP describes key outcomes of human rights integration	
Labour Principles Implementation	**Criterion 9:** The COP describes robust commitments, strategies or policies in the area of labour	Details on Labour Principles Implementation can be found in Corporate Governance (Page 15) and Workforce (Page 140) sections of the report.
	Criterion 10: The COP describes effective management systems to integrate the labour principles	
	Criterion 11: The COP describes effective monitoring and evaluation mechanisms of labour principles integration	
	Criterion 12: The COP describes key outcomes of integration of the labour principles	
Environmental Stewardship Implementation	**Criterion 13:** The COP describes robust commitments, strategies or policies in the area of environmental stewardship	Details on Environmental Stewardship Implementation can be found in Corporate Governance (Page 15), Product Stewardship (Page 39), Energy and emission (Page 81) and Environmental Stewardship (Page 109) sections of the report.
	Criterion 14: The COP describes effective management systems to integrate the environmental principles	
	Criterion 15: The COP describes effective monitoring and evaluation mechanisms for environmental stewardship	
	Criterion 16: The COP describes key outcomes of integration of the environmental principles	

Area	Advanced Criteria	Page Reference
Anti-corruption implementation	**Criterion 17:** The COP describes robust commitments, strategies or policies in the area of anti-corruption	We have implemented Policy on Bribery and anti-Corruption in support of broader UN goals and issues. Details on implementation can be found in Corporate Governance (Page 15) section of the report.
	Criterion 18: The COP describes effective management systems to integrate the anti-corruption principle	
	Criterion 19: The COP describes effective monitoring and evaluation mechanisms for the integration of anticorruption	
	Criterion 20: The COP describes key outcomes of integration of the anti-corruption principle	
Value chain implementation	**Criterion 21:** The COP describes implementation of the Global Compact principles in the value Chain	Details on Value Chain Implementation can be found in Corporate Governance (Page 15), Stakeholder Engagement (Page 61) and Value Chain Sustainability (Page 164) sections of the report.
Transparency and Verification	**Criterion 22:** The COP provides information on the company's profile and context of operation	Details on company's profile and context of operation can be found in About Tata Motors Limited (Page 9) and Corporate Governance (Page 15) sections of the report.
	Criterion 22: The COP incorporates high standards of transparency and disclosure	This report uses GRI Standard "in accordance – comprehensive" Reporting Guidelines.
	Criterion 23: The COP is independently verified by a credible third party	This report is independently assured by M/s DNV GL

SDG Mapping

Sustainable Development Goals (SDGs)	Section name	Page number
No poverty	" CSR", "Value Chain Sustainability, "Workforce" .	176 - 185, 164 – 170, 140-151
Good Health and Well-Being	"Workplace safety", & "CSR" , "Energy and emissions", "Water and effluent management"	156-161, 176-185, 81-94, 103-106
Quality Education	"CSR"	176-185
Gender Equality	"Gender diversity"	146-149
Clean Water and Sanitation	"CSR", "Water management" and "Waste Management"	176-185, 103-106, 95-102
Affordable and Clean Energy	"Energy and emissions"	81-94
Decent Work and Economic Growth	"Economic performance", "Tata Code of Conduct", "Energy and Emissions","Workforce", "Workplace safety", "Value Chain Sustainability"	73-74, 18, 81-94, 140-151, 156-161, 164-170
Industry, Innovation and Infrastructure	"Sustainability Mobility Solutions"	35-49
Reduce Inequality	"CSR", "Workforce"	176-185, 140-151
Sustainable Cities and Communities	"Sustainability Mobility Solutions"	35-49
Responsible Consumption and Production	"Raw material" and "Waste Management"	111-118, 95-102
Climate Action	"CSR", "Energy and emissions", "Value Chain Sustainability'"	176-185, 81-94, 164-170
Life On Land	"CSR" and "Biodiversity", "Energy and Emissions".	176-185, 81-94, 107-108
Peace, Justice and Strong Institution	Tata Code of Conduct Value Chain Sustainability	18, 164-170
Partnerships for Goals	"CSR", "Environmental Stewardship"	176-185, 109-110

Alignment with <IR>

Content Elements	Section Name	Page Number
Organizational Overview and External Environment	"About Tata Motors Limited"	9-10
Governance	"Corporate Governance"	15-21
Business Model	"Governance" and "About Tata Motors Limited"	15-27, 9-10
Risk and Opportunity	"Key challenges: faced and emerging"	53-55
Strategy and Resource Allocation	"Sustainability strategies and Management approach for each material topic.	63-64, 36, 39, 73, 79, 140, 156, 165, 167
Performance	"Sustainable Mobility Solutions" and "Business with Responsibility [3Ps]"	35-49, 71-185
Outlook	"Message from CEO and MD", "Message from COO and ED" and "About Tata Motors Limited"	3-4, 5, 9-10
Basis of Preparation and Presentation	"Materiality Assessment"	58-61

Capitals	Section	Page number
Financial	The financial input, economic value generated and retained has been mentioned in "Economic performance" section	73-74
Manufactured	Description of our assets, manufacturing plants and productions is provided in "About the report" and "About Tata Motors Limited". The material used for the production is provided in "Raw material" section.	1-2, 9-10, 111-118
Intellectual	Our intellectual capital, mainly, comprises of Tata Code of Conduct, ethics manual, R&D, patents and other new products and technical stewardship. This is addressed in "Ethics and Integrity" and "Product Stewardship" section.	15-21, 39-49
Human	Our workforce and their development is key to our success. Details on our total workforce, gender diversity and training and development are provided in "Workforce" section. Safety of our workforce is of utmost importance. Our strategy and performance in safety of our workforce is provided in "Workforce safety" section.	140-151
Social and Relationship	Business with responsibility has been one of our core principles. Our interaction with our internal stakeholder (employees) and external stakeholder (communities) have been described in "Workforce", "Value Chain Sustainability" and "CSR"	140-151, 164-171, 176-185
Natural	Energy and environment, including water, waste, biodiversity and climate change are identified as key issues for TML. Details are provided in "Protecting Environment" section.	79-118

Abbreviations

AA	Affirmative Action
ADAS	Advanced Driver Assist System
ARAI	Automotive Research Association India
BS III	Bharat Stage III
BS IV	Bharat Stage IV
BS V	Bharat Stage V
BS VI	Bharat Stage VI
BIW	Body in white
CAE	Computer Aided Engineering
CAFE	Corporate Average Fuel Economy
CCI	Competitive Commission of India
CDP	Carbon Disclosure Project
CFC	Chlorofluorocarbon
CFT	Cubic Feet
CHWTSDF	Common Hazardous Waste Treatment Storage and Disposal Facility
CII	Confederation of Indian Industries
CMVR	The Central Motor Vehicle Rules, 1989
CNG	Compressed Natural Gas
CRM	Customer Relationship Management
CSC	Corporate Steering Committee
CSR	Corporate Social Responsibility
CV	Commercial vehicles
DDT	Defensive Driving Training
DMS	Dealer Management System
DRFM	Domestic Regulation Forecast Matrix
EMS	Energy Management System
ENCON	Energy Conservation targets
ESG	Environment, Social and Governance
ETP	Effluents Treatment Plant
ERC	Engineering Research Centre
ELV	End of Life Vehicle
FLC	Foldable Large Container
FO	Furnace Oil
FY	Financial Year
GJ	Gega joule
GHG	Greenhouse gas
GRI	Global Reporting Initiative
HCV	Heavy Commercial Vehicle
HR	Human Resource
HSD	High speed diesel

IIT	Indian Institute of Technology
IR	Integrated Reporting
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
ITI	Industrial Training Institute
JV	Joint venture
KL	Kilo litre
LAC	Learning Advisory Council
LCA	Life Cycle Assessment
LCV	Light Commercial Vehicle
LDO	Light Diesel Oil
LTIFR	Lost Time Injury Frequency Rate
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MCV	Medium Commercial Vehicle
M&HCV	Medium and Heavy Commercial Vehicle
MW	Mega watt
NCAP	New Car Assessment Programme
NDC	Nationally Determined Contribution
NGO	Non Governmental Organization
NVG SEE	National Voluntary Guidelines on Social, Environmental and Economic
NOx	Oxides of Nitrogen
ODS	Ozone Depleting Substance
OEM	Original Equipment Manufacturers
OHSAS	Occupational Health and Safety Assessment Series
PCBU	Passenger Car Business Unit
PCRA	Petroleum Conservation Research Association
PM	Particulate matter
PV	Passenger Vehicles

RAM	Responsibility Assignment Matrix
RACI	Responsible, accountable, consult and inform
R&D	Research and Development
REC	Renewable Energy Certificate
RRR	Recovery, Recycling and Reuse
SBA	Seat Belt Anchorage
SCOE	Standing Committee on Emissions
SDG	Sustainable Development Goal
SHE	Safety Health Environment
SIAM	Society of Indian Automobile Manufactures
SMDF	Sumant Mulgaonkar Development Foundation
SO2	Sulphur Dioxide
SRM	Supplier Relationship Management
SRoI	Social Return on Investment
STP	Sewage Treatment Plant
TAL	TAL Manufacturing Solutions Ltd
TAT	Turn Around Time
TBEM	Tata Business Excellence Model
TCoC	Tata Code of Conduct
TDP	Technology Development Programme
TML	Tata Motors Limited
TMLDC	Tata Motors Limited Distribution Company
TMLDL	Tata Motors Limited Drivelines Limited
TMML	Tata Marcopolo Motors Ltd
TPM	Total Particulate Matter
TTL	Tata Technologies Limited
VCA	Vehicle Certification Agency
VOC	Volatile Organic Compound

At Tata Motors, we value our stakeholders, & your views are important to us.
Please send in your valuable feedback to:

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