

Welcome to your CDP Climate Change Questionnaire 2023

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Tata Motors Limited is one of India's biggest automobile manufacturing companies. Our diverse portfolio includes an extensive range of cars, sports utility vehicles, trucks, buses and defence vehicles. Tata Motors Limited (TML) is one of India's largest OEMs offering an extensive range of integrated, smart and e-mobility solutions.

Founded in 1945 as a manufacturer of locomotives, TML manufactured its first commercial vehicle in 1954 in a collaboration with Daimler-Benz AG, which ended in 1969. TML entered the passenger vehicle market in 1991 with the launch of the Tata Sierra, becoming the first Indian manufacturer to achieve the capability of developing a competitive indigenous automobile. In 1998, Tata launched the first fully indigenous Indian passenger car, the Indica, and in 2008 launched the Tata Nano, the world's cheapest car. Our international footprint was established with our first export in 1961. Today, we have operations in India, the UK, South Korea, South Africa, China, Brazil, Austria and Slovakia through a strong global network of subsidiaries, associate companies and Joint Ventures (JVs), including Jaguar Land Rover in the UK and Tata Daewoo in South Korea.

Tata Motors is playing a leading role in proactively driving the electric mobility in India. The company is closely working with other Tata Group companies including Tata Power, Tata Chemicals, Tata Autocomp, Tata Motors Finance and Croma, to create an e-mobility ecosystem, "Tata uniEVerse". For more details please refer following source:

<https://www.tatamotors.com/about-us/>

<https://www.tatamotors.com/media/press-releases/>

TML has 88 direct and indirect subsidiaries, 11 associate companies, 4 joint ventures and 2 joint operations. While the Annual <Integrated Report> presents performance of the TML Group as a whole, JLR also discloses its non-financial performance (such as energy consumption, GHG emissions etc.) separately. This CDP disclosure is for Tata Motors India operations alone i.e. scope of this response covers our manufacturing Plants at Jamshedpur, Pantnagar, Lucknow, Sanand, Dharwad, and Pune (Pimpri, Chikhali, Chinchwad and Maval) only.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

April 1, 2022

End date

March 31, 2023

Indicate if you are providing emissions data for past reporting years

Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for

2 years

Select the number of past reporting years you will be providing Scope 2 emissions data for

2 years

Select the number of past reporting years you will be providing Scope 3 emissions data for

Not providing past emissions data for Scope 3

C0.3

(C0.3) Select the countries/areas in which you operate.

India

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

INR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-T00.7/C-TS0.7

(C-T00.7/C-TS0.7) For which transport modes will you be providing data?

- Light Duty Vehicles (LDV)
- Heavy Duty Vehicles (HDV)

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, another unique identifier, please specify Corporate Identity Number (CIN)	L28920MH1945PLC004520

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	<p>Tata Motors has robust governance mechanism for safety, health, environment and sustainability where reviews are undertaken at multiple levels. The Safety, Health and Sustainability (SHS) Committee of Board is an apex review body, which reviews performances quarterly. SHS Committee reviews the Company's performance on SHS aspects, including Climate Change and other ESG topics. It oversees the implementation of relevant policies and strategies. The SHS Committee comprises of 1 Independent Director, 1 Non-Independent Non-Executive Director and Executive Director. The Chairperson of the SHS also attends the Annual General Meeting of the Company. The terms of reference of the Committee include the following:</p> <ul style="list-style-type: none"> • to take a holistic approach to safety, health and sustainability matters in decision making; • to provide direction to Tata Motors Group in carrying out its safety, health and sustainability function;

	<ul style="list-style-type: none"> • to frame broad guidelines/policies with regard to safety, health and sustainability; • to oversee the implementation of these guidelines/policies; and • to review the safety, health and sustainability policies, processes and systems periodically and recommend measures for improvement from time to time. <p>In line with the Tata Group Policy on Climate Change, Tata Motors has articulated its Climate Change Policy, signed by then CEO/MD which guides the organizational efforts towards mitigating and adapting to climate change.</p>
Chief Sustainability Officer (CSO)	CSO heads the Sustainability Function. The role includes Sustainability Strategy, Roadmap design and Target setting and reporting on ESG topics including climate change, for all relevant functions at Tata Motors and reports to the executive committee of the company. The CSO also reports to the SHS committee of the Board mentioned above and report progress on a periodic basis.

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan	The Safety, Health and Sustainability Committee comprising of 1 Independent Director, 1 Non-Independent Non- Executive Director and the Executive Director reviews Climate Change related risks, targets, initiatives and performance on a quarterly basis. During these quarterly meetings, the Committee reviews the policy, strategy, initiatives and action plans. The climate change strategies, objectives and targets are aligned to minimize carbon emissions from the products, operations and value chain (Upstream and Downstream). Additionally board meetings and other board committees also oversee specific climate related issues on a need basis.

	<p>Monitoring the implementation of a transition plan</p> <p>Overseeing and guiding scenario analysis</p> <p>Overseeing the setting of corporate targets</p> <p>Monitoring progress towards corporate targets</p> <p>Overseeing and guiding public policy engagement</p> <p>Overseeing value chain engagement</p> <p>Reviewing and guiding the risk management process</p>	
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C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	The Safety, Health and Sustainability (SHS) Committee of Board reviews the Company's performance on SHS aspects, including ESG & Climate Change and oversees the implementation of relevant policies and strategies. Some members of SHS Committee of Board have held climate change related portfolios in their previous roles.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

- Other C-Suite Officer, please specify
- Executive Committee (Body of CXOs)

Climate-related responsibilities of this position

- Managing annual budgets for climate mitigation activities
- Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D)
- Managing climate-related acquisitions, mergers, and divestitures
- Providing climate-related employee incentives
- Developing a climate transition plan
- Implementing a climate transition plan
- Integrating climate-related issues into the strategy
- Conducting climate-related scenario analysis
- Setting climate-related corporate targets
- Monitoring progress against climate-related corporate targets
- Managing public policy engagement that may impact the climate
- Managing value chain engagement on climate-related issues
- Assessing climate-related risks and opportunities
- Managing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The responsibilities of Executive Committee for climate related issues include reviewing and guiding strategy, risk management policies, annual budgets, business plans, performance targets. It also includes monitoring and overseeing progress against goals and targets on climate change. The Safety, Health and Sustainability Committee comprising of 1 Independent Director, 1 Non-Independent Non- Executive Director and the Executive Director reviews Climate Change related risks, targets, initiatives and performance on a quarterly basis. During these quarterly meetings, the Committee reviews the policy, strategy, initiatives and action plans. The climate change strategies, objectives and targets are aligned to minimize carbon emissions from the products, operations and value chain (Upstream and Downstream). The Executive Committee periodically reviews and monitors progress of targets, public commitments and strategies related to climate, circularity and Biodiversity and other ESG topics. The Executive Committee also identifies in consultation with the CSO, opportunities that Sustainability presents including ensuring targets for value chain partners (supply chain, channel partners, etc.) are met.

Position or committee

Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position

- Managing annual budgets for climate mitigation activities
- Developing a climate transition plan
- Implementing a climate transition plan
- Integrating climate-related issues into the strategy
- Conducting climate-related scenario analysis
- Setting climate-related corporate targets
- Monitoring progress against climate-related corporate targets
- Managing value chain engagement on climate-related issues
- Assessing climate-related risks and opportunities
- Managing climate-related risks and opportunities

Coverage of responsibilities

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

Quarterly

Please explain

The responsibilities of CSO for climate related issues include managing and assessing climate related risks and opportunities, conducting scenario analysis, reviewing and providing inputs to guide strategy, plans for action, risk management policies, performance targets. It also includes monitoring and overseeing progress against goals and targets on climate change. The Safety, Health and Sustainability Committee comprising of 1 Independent Director, 1 Non-Independent Non- Executive Director and the Executive Director reviews Climate Change related risks, targets, initiatives and performance on a quarterly basis. During these quarterly meetings, the Committee reviews the policy, strategy, initiatives and action plans. The climate change strategies, objectives and targets are aligned to minimize carbon emissions from the products, operations and value chain (Upstream and Downstream). The CSO monitors closely with the Executive Committee, the SHS committee of the board and the leadership of the company to cascade targets, review plans and progress in achieving the targets.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Provide incentives for the management of climate-related issues	Comment

Row 1	Yes	We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes reduction in GHG emissions as one of the metrics along with other metrics under Environmental, Social and Governance pillar. Performance against annual targets determines the annual compensation of every employee including the Executive Committee.
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C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Salary increase

Performance indicator(s)

Board approval of climate transition plan

Progress towards a climate-related target

Reduction in emissions intensity

Increased share of revenue from low-carbon products or services in product or service portfolio

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes GHG emissions as one of the metrics. Performance against annual targets determines the annual compensation of every employee including the Executive Committee.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Performance against targets determines the annual compensation of every employee thereby incentivizing and motivating proactive contributions to the implementation of Company's climate commitments and transition plans.

Entitled to incentive

Chief Sustainability Officer (CSO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Salary increase

Performance indicator(s)

Progress towards a climate-related target
Reduction in emissions intensity
Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)
Implementation of employee awareness campaign or training program on climate-related issues

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes GHG emissions, the metrics. Performance against annual targets determines the annual compensation of every employee including the Executive Committee. The goals of the company are cascaded into the goal sheets of the CSO and is reviewed monthly with the leadership.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Performance against targets determines the annual compensation of every employee thereby incentivizing and motivating proactive contributions to the implementation of Company's climate commitments and transition plans. The CSO's compensation is directly linked to the achievement of goals agreed annually.

Entitled to incentive

Environment/Sustainability manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Salary increase

Performance indicator(s)

Progress towards a climate-related target

Reduction in emissions intensity

Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)

Implementation of employee awareness campaign or training program on climate-related issues

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes GHG emissions as one of the metrics. Performance against annual targets determines the annual compensation of every employee including the Executive Committee. Every Sustainability manager has his/her compensation linked to his goals, reviewed periodically for progress.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Performance against targets determines the annual compensation of every employee thereby incentivizing and motivating proactive contributions to the implementation of Company's climate commitments and transition plans.

Entitled to incentive

Energy manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Salary increase

Performance indicator(s)

Progress towards a climate-related target

Implementation of an emissions reduction initiative

Reduction in emissions intensity

Energy efficiency improvement

Increased share of renewable energy in total energy consumption

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes GHG emissions as one of the metrics. Performance against annual targets determines the annual compensation of every employee including the Executive Committee. Every Energy manager has his/her compensation linked to his goals, reviewed periodically for progress.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Performance against targets determines the annual compensation of every employee thereby incentivizing and motivating proactive contributions to the implementation of Company's climate commitments and transition plans.

Entitled to incentive

All employees

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary
Salary increase

Performance indicator(s)

Progress towards a climate-related target
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

We have a Balanced Score Card approach at the Corporate level (ExCom) which is cascaded across the organization structure to monitor performance on key business KPIs. Sustainability is one of the key business KPI in the Balanced Score Card, and includes GHG emissions as one of the metrics. Performance against annual targets determines the annual compensation of every employee.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Performance against targets determines the annual compensation of every employee thereby incentivizing and motivating proactive contributions to the implementation of Company's climate commitments and transition plans.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	
Medium-term	5	15	
Long-term	15	25	

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

At Tata Motors, to define substantive financial or strategic impact, we monitor the external environment to capitalize on emerging opportunities and proactively undertake measures to mitigate associated risks. We have established a robust risk governance framework that not only evaluates the nature of risks, but also dynamically assesses their likelihood and significance on our value creation abilities.

At Tata Motors, we have a strong enterprise risk management framework for identifying, assessing, managing, and monitoring principal risks that could affect our business.

Our Governance framework includes periodic review with Board and cascades to Risk Management Committee (RMC), Management Oversight Committee(MOC) and Chief Risk Officer(CRO). Our Chief risk Officer also collaborates with our Strategic Review Committee, Technical Review Committee, Product Review Committee, Steering Committee and Product Committee.

We identify and classify our risks in four broad categories

- Operational:
 - Supply Chain disruptions

- Distribution channels, retailer network and customer service delivery
- IT Systems and Security
- Human Capital

2. Strategic

- Global economic and geopolitical environment, COVID-19 pandemic and manufacturing operations
- Brand Positioning, innovation and rapid technology change
- Climate change
- Other Sustainability topics within Environmental, Social and Governance

3. Financial:

- Growth strategy and competitive business efficiency

4. Legal & Compliance

- Environmental regulations and compliance

We prioritize our actions on the above identified risks basis Probability of Occurrence and Severity of Impact

Quantifiable Indicators:

% reduction Y-o-Y in GHG Emissions

Market Share of low-carbon products introduced in Passenger and Commercial segment

Revenue from low carbon products introduced in Passenger and Commercial segment

% Reduction in specific water consumption

% Reduction in Waste disposed in operations

Safety Index of Plants

are amongst many quantifiable indicators that Tata Motors monitors.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term

Medium-term

Long-term

Description of process

Tata Motors conducts assessments of the climate-related transition risks and opportunities which will impact TML from a climate, strategic and financial material perspective.

Tata Motors has a commitment to be Net Zero by 2045 for both of our business units.

This ambition has aligned ourselves with the Paris Agreement of keeping the temperature below 2DC and will contribute to Nationally Determined Contributions.

With Net Zero at the heart of climate strategy, we have inventorized our carbon footprint from our activities as per GHG protocol. This has helped us in identifying the focus areas as well as associated risks to our ambition.

Upon inventorization, we have defined below as having the maximum impact on our entire value chain:

1. Scope 1+2 emissions from our direct operations
2. Scope 3 Category 11 : Use of sold products (Tailpipe emissions)
3. Scope 3 Category 1 : Purchased goods and Services
4. Scope 3 Category 14 : Channel partner emissions

The above contributors generate more than 95% of our emissions and pose as risk towards achievement of our net zero target.

As per of our net zero ambition, we are also committed to SBTi and RE100.

While Net Zero strategy is the centerpiece of our climate action, a comprehensive framework on Circular Economy to assess our material footprint, End of Life disposal, new business model to improve utilization, working with suppliers to reduce embodied emissions, reduce and responsibly dispose waste and reduce our freshwater consumption are also in advanced stages of deployment.

We have assigned short term, medium term and Long term targets to all the levers and in the process of defining key metrics to track our progress and ensure our alignment to commitment.

We have also developed a strategy around Biodiversity to assess our impact and identify opportunities to promote Biodiversity not only in our premises but also our value chain.

Apart from our Internal ambition, Transportation sector is highly regulated which impacts both our finances and strategy.

1. Implementation of CAFE norms
2. Disclosures related to use of materials (AIS129)
3. Scrappage policy

4. Upcoming regulations related to BS6 phase 2 (Real world Driving Emissions Norms) among many others.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>We are subject to a rapidly evolving regulatory landscape with associated laws, regulations and policies that all impact the production facilities and vehicles we produce. The increasing pace of that transition creates particular compliance challenges, in particular tailpipe emissions for automotive companies and wider compliance requirements for carbon emissions produced during manufacturing and other operations.</p> <p>Example of risk: The Corporate Average Fuel Economy (“CAFÉ”) standards applicable to M1 category vehicles required the Company to demonstrate CAFE compliance for the Company’s Passenger Vehicles, Commercial Vehicles and Electric Vehicles M1 models.</p>
Emerging regulation	Relevant, always included	<p>Tata Motors periodically assess upcoming regulations having strategic and financial implications.</p> <p>Example of risk: The next round of regulations on Real Driving Emissions (RDE) norms will require cars to achieve emission targets even in real world conditions, as opposed to just a laboratory environment. This second phase of BS6 (or BS6.2), then, is set to make the emission limits a lot harder to scale for automakers than before.</p>
Technology	Relevant, always included	<p>Technology has always been a key differentiator in any industry and Tata Motors has always leveraged our capabilities to introduce new technologies. Technologies like digitization as a high priority and can help create competitive advantage</p> <p>With Net Zero as our target , we are developing products to prioritize efforts towards green mobility and has been working on battery electric and hydrogen fuel cell technologies for application on PVs and CVs. This technology transition will reduce our dependence on fossil fuel based vehicles and will help us in aligning our efforts to our commitment towards SBTi.</p>
Legal	Relevant, always included	<p>Tata Motors production facilities are subject to a wide range of increasingly strict environmental, health and safety requirements. These requirements address, among other things, air emissions,</p>

		<p>wastewater discharges, releases into the environment, human exposure to hazardous materials, the storage, treatment, transportation and disposal of wastes and hazardous materials, the investigation and clean-up of contamination, process safety and the maintenance of health and safety conditions in the workplace. All of the Company's operations require permits and controls to monitor or reduce pollution. Tata Motors has incurred, and will continue to incur, substantial on-going capital and operating expenditures to ensure compliance with current and future environmental, health and safety laws and regulations or their more stringent enforcement.</p> <p>Example of risk: Violations of these laws and regulations could result in the imposition of significant fines and penalties, the suspension, revocation or non-renewal of the Company's permits, production delays or limitations, imprisonment, or the closure of the Company's plants.</p>
Market	Relevant, always included	<p>New technologies, climate change concerns, increases in fuel prices and certain government regulations have resulted in changes in customer preferences and have encouraged customers to look beyond standard purchasing factors (such as price, design, performance, brand image and features).</p> <p>Example of risk: Demand for electric vehicles in India has more than doubled in the last 3 years. While this has largely been concentrated in the two and three wheeler category, significant demand growth is projected in the passenger cars and heavy duty vehicles categories under a transition risk scenario. As a result of these trends Internal Combustion Engine vehicles will experience a fall in market share.</p>
Reputation	Relevant, always included	<p>Climate related violations can lead to severe loss of reputation as we have witnessed in case of some OEMs.</p> <p>At Tata Motors, we track the possible risks that can transpire and affect our presence at national as well as international level. We assess reputational risks in all our decisions and commitments and ensure oversight on all our decisions.</p> <p>Example of risk: We have committed to SBTi as part of our climate change strategy. Failing to fulfil our commitment will lead to loss of reputation.</p>
Acute physical	Relevant, sometimes included	<p>Tata Motors has conducted assessments of the material climate-related transition and physical risks and opportunities which will impact TML from a climate and financial material perspective. The rise of extreme weather was identified as one of the macro environmental trends which will impact Tata Motors.</p> <p>Example of risk: Due to concentrated supply chains and resilience on</p>

		single sources of supply as well as small enterprises, extreme weather events could limit access to key raw materials and components, potentially delaying production schedules.
Chronic physical	Relevant, sometimes included	<p>Tata Motors has conducted detailed assessments of the material climate-related transition and physical risks and opportunities which will impact TML from a climate and financial material perspective. The rise of extreme weather was identified as one of the macro environmental trends which will impact Tata Motors.</p> <p>Example of risk: In the long term, extreme heat stress at TML India operations could affect labour productivity.</p>

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Current regulation

Mandates on and regulation of existing products and services

Primary potential financial impact

Other, please specify

Increased overheads due to penalties on not meeting regulation

Company-specific description

The Corporate Average Fuel Economy (CAFE) Standards applicable to M1 category vehicles in India require us to demonstrate compliance for the M1 models within our Passenger Vehicles, Commercial Vehicles and Electric Vehicles. Any non-compliance could lead to penalties, product recalls and/or other punitive measures. Punitive measures have already enacted through an Act of Govt. of India, called, 'The Energy Conservation Act, 2022', however, the mechanism for enforcement is yet to be put in place but is virtually certain in the near future.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

50,000,000,000

Potential financial impact figure – maximum (currency)

100,000,000,000

Explanation of financial impact figure

The financial impact considered above is for a scenario where there is a non-compliance to the CAFE norms for our current annual sales volumes which under the punitive measures described in the Energy Conservation Act, 2022 calls for minimum and maximum penalty per vehicle sold basis the magnitude of non-compliance multiplied by the short-term period of five years.

Cost of response to risk

163,743,000,000

Description of response and explanation of cost calculation

The cost of response to risk considers our continued investment into electric passenger vehicles where we intend to consolidate our leadership position through investments to the tune of USD 2 billion up to 2027.

Comment

The financial impact does not consider cost of CAFE credits that may come under a CAFE market and allow companies to trade the credits to those with a shortfall and avoid penalties.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

The cost of renewable electricity generation is currently lower than fossil fuel based energy generation and is forecast to continue to fall. In addition, with the rise of fossil fuel prices, we anticipate further increase in grid power cost. Active interventions in renewable energy will lead to essentially reduced cost of electricity for the company, thus reducing the indirect operating cost.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

8,000,000,000

Potential financial impact figure – maximum (currency)

12,000,000,000

Explanation of financial impact figure

- A cross functional team was formed to draft the roadmap of achieving RE100.
- The team looked at power consumption pattern of every 15 min for past 1-2 years to understand the required mix of Wind and Solar.
- Various RE procurement options evaluated in view of Cost, Regulatory Framework & Technical feasibility
- State specific policy analysis was done to understand the opportunities and the roadblocks.
- Location wise, year wise interventions were identified and road mapped.
- Different scenarios (Opex/Capex/Part Capex) of business models were evaluated
- Cost benefit was evaluated after understanding the landed price of power in case of renewable energy and the cost of grid electricity.
- The cash flow of investments and savings was analyzed as part of business case. A hurdle rate was used to evaluate the NPV.
- The range of impact mentioned corresponds to different scenarios of business case evaluated.

Cost to realize opportunity

8,000,000,000

Strategy to realize opportunity and explanation of cost calculation

The strategy is to maximize onsite solar (in Opex model) and offsite Wind (with capex). By 2030 a total intervention of about 350 MW of renewable power has been planned to meet the demand requirement of the company operations. Yearly actions have been identified and budget allocated for the project. Annual goal setting exercise of the stake holder is done keeping in view the planned interventions for that year.

Comment

This is part of our strategy toward our commitments to RE100, SBTi and Net Zero.

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

Our organization is committed to SBTi V4.2 for Scope 1, 2 & 3.
 Yes, we have plans to develop a 1.5°C aligned transition plan after release of SBTi guidance for Auto OEMs.

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Use of climate-related scenario analysis to inform strategy	
Row 1	Yes, qualitative and quantitative

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios IEA B2DS	Company-wide		<p>Our organisation is committed to setting Science Based Targets for emission reduction.</p> <p>Science based Targets incorporate, amongst others, B2DS Scenarios outlined in IEA's ETP 2017 analysis report. The below sections briefly touch upon the i) Parameters ii) Assumptions built into these scenario& iii) Analytical Choices:</p> <p>i) Parameters: Key Parameters in the ETP 2017-Mobility Model for the IEA B2DS scenario include Gross Domestic Product (GDP), population growth, vehicle technology characteristics affecting costs and fuel economies, fuel costs, etc.</p> <p>ii) Assumptions: GDP will more than triple between 2017 and 2060, Continuous increase in Global Energy Demand is translated into higher prices for Energy and Fuels.</p> <p>iii) Analytical Choices: Industry forecasts for Demand Growth up to 2050, World Energy Outlook report by IEA, Regulations forecast, India's NDC targets and Pledges, India's Central Energy Agency's forecast for Grid Emission Factors and Industry knowledge on technology maturity and cost competitiveness and our own ambition of market share.</p>

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

1. In the mid to long term, how much emission reduction is expected in our Scope 1+2 and in our Scope 3 Category 11 so as to align to a B2DS world ?
2. In the mid to long term, how much emission reduction is expected in our Scope 1+2 and in our Scope 3 Category 11 so as to align to a 1.5 degree world ?

Results of the climate-related scenario analysis with respect to the focal questions

Our organisation is committed to setting Science Based Targets for emission reduction. Science based Targets incorporate, amongst others, B2DS Scenarios outlined in IEA's ETP 2017 analysis report.

1. The results of the scenario analysis for B2DS Scenario expects us to reduce the Scope 1+2 emission intensity by ~79% by 2037 and reduce Scope 3 Category 11 emission intensity by 51% by 2037 against a 2022 baseline.
2. The results of the scenario analysis for 1.5 degree Scenario expects us to reduce the absolute Scope 1+2 emissions by ~45% by 2032 and reduce Scope 3 Category 11 emission intensity by 51% by 2032 against a 2022 baseline.

This scenario analysis has helped us sign up to a decarbonization pathway resulting in interventions for our products strategy and plan, selection of technologies, setting up teams and cascading targets through a systematic Balanced Scorecard approach that connects the compensation of employees to achievement of climate targets.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Climate related risks and opportunities influence the choice of Products that we develop and introduce into the market leading to prioritized efforts towards green mobility and are currently the front runners in the Indian Automotive industry. Tata Motors is spearheading the transition to sustainable, connected and safer mobility.

		<p>We have committed to a comprehensive decarbonization strategy based on Science Based Targets (SBTi). To accomplish this, a robust product strategy has been adopted for transitioning to a greener portfolio. In CV Deliveries of ACE EVs, and e-buses intended for CESL tender have commenced.</p> <p>Consolidating our leadership position in the Indian Passenger Car EV market and to support our EV growth journey, we strengthened our collaboration with Tata Power and scaled-up public charging infra by ~1.9X, to ~3800 chargers in priority geographies across the country. In addition, over 900 common charging points were installed in residential complexes across 5 metro cities and home charging expanded to 170+ cities to enhance customer convenience and experience.</p> <p>At Tata Motors, transition to sustainable mobility extends beyond green fuel options to developing charging infrastructure, fuel cell technology and material substitution. The Company continues to explore every new technology that can decarbonise mobility and promote circularity with the goal of achieving Net Zero emissions by 2040 and 2045 for our Passenger and Commercial vehicles business respectively.</p>
Supply chain and/or value chain	Yes	<p>Value Chain: Through Sustainable Supply Chain Initiative and Dealers Sustainability Initiative, suppliers and dealers are encouraged to improve energy efficiency, reduce carbon emissions and promote renewable energy at varied levels of the supply chain. The Company in collaboration with its suppliers endeavor for capacity building, sensitizing and reducing carbon emissions.</p>
Investment in R&D	Yes	<p>Being committed to holistic sustainability & net zero carbon emission goals, Tata Motors set the direction for the Automotive industry by showcasing 14 vehicle demonstrators & powertrain at the Auto Expo 2023. All of these concept vehicles/technology demonstrators were dedicated towards pathways of emission reduction, New & alternative energy along with cutting edge solutions for Connectivity, Safety, Comfort & Convenience.</p> <p>Advanced design engineering, further reduction in vehicle out emissions, efficiency improvements CNG/ LNG based powertrains, battery electric vehicles, Hydrogen based fuel cell propulsion systems and Internal Combustion engine technologies are an indicator to TML accelerating the adoption of sustainable mobility.</p>

		<p>Tata Motors is redefining the ecosystem partnership model in the clean mobility space through shared portfolio of efforts (towards net zero), de-carbonization expertise and advocacy, and an active projects pipeline.</p> <p>Some of the key areas where features were added aiming to improve fuel economy, to lower cost of ownership and the footprint of conventional powertrains are - extension of BS6 automotive technology to engines used in industrial and genset applications, proprietary engine oil formulation to double oil change intervals and fuel economy by 1-3%, improved diagnostics of powertrain components through connected vehicle platform technology.</p> <p>Some of the forward-looking R&D programs that the Company is concentrating on are</p> <ul style="list-style-type: none"> • Electrification of vehicle sub - systems/auxiliaries for electric buses. • Development of advanced electric power train architecture suitable for SCV segment. • Ways and means to recover waste heat from existent systems & and harness solar energy • 5G connectivity & its applications for infotainment, vehicular communication & other areas • Alternative, light weight materials for Commercial vehicle applications • New Technology initiatives such as - Hydrogen IC engine. Flex fuel engine. Design & development for other emerging fuels such as blends of Methanol, LNG, synthetic fuel. • Light-weighting and improved strength of components by use of advanced materials for oil sump, connecting rod, crankshaft and catalyst substrate. Fuel economy improvement through liner coating and other measures. • Dynamic spark advance in gasoline engine.
Operations	Yes	<p>Our Operations are guided by Net Zero target for the long term and RE100 and Science Based targets in the short to medium term. Towards this all manufacturing plants have focused strategy to work on energy conservation, maximizing use of renewable energy thereby reducing carbon emissions.</p> <p>Having pledged to source 100% Renewable Electricity by 2030, we are well on track to beat the deadline, helping us not only with significant reductions in our emissions but by its very nature also helping us reduce our expenses. Our approach includes investment in captive wind power as well as power purchase agreements with renewable energy producers and in-house generation through rooftop solar</p>

		<p>power to increase the percentage of renewable energy utilised.</p> <p>Beyond GHG emissions, from a resource sustainability perspective, dedicated work streams have been actioned to establish the Circularity Framework with experts across Design and Development beyond merely material circularity and exploring pillars like Utilization, Lifetime improvement and Energy. This work stream is being extended to all parts of the organisation to ensure a holistic integrated approach to the Circular Economy principles. Towards Circularity we already have strong foundations in our operations around responsible use of fresh water and aiming for water positivity and disposal of waste aiming for Zero Waste to Landfill.</p>
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C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Indirect costs Capital expenditures Access to capital	<p>Revenues:</p> <p>Revenue from Passenger Cars - Electric vehicles increased to 6952 crores in FY2022-23 . Tata Motors has been the front runner in the EV segment in India. Tata Motors is presently a market leader in the electric vehicle segment and has a market share of 85 per cent. During FY23, we strengthened our position in the EV segment, driven by new product launches, strong acceptance and positive word-of mouth from existing customers, offering exciting fleet mobility solutions, strengthening sales and service network, delivering comprehensive home and public charging solutions and enhancing supplies expeditiously.</p> <ul style="list-style-type: none"> • Cell development and local manufacturing • Technical partner for evaluating establishment of Lithium-ion cell manufacturing plan • Operation for pilot plant for Li-ion battery recycling <p>Our EV sales continued to witness a rapid growth in demand where we sold 50,043 units of EVs in 2022-23 a growth of 154% vs FY22. The Tiago EV launched in FY 2022-23 has accelerated the EV adoption by making it accessible to masses and received strong response with around 10,000 bookings on the first day. We also unveiled products across the Gen 2 and Gen 3 architecture with the Harrier EV, Sierra EV, Avinya, which will make EVs more aspirational. We have also announced our plans to have 10 new battery electric vehicles (BEVs) in our domestic product portfolio by 2025.</p>

		<p>Indirect Costs: In FY 2022-23, the Company generated / sourced 137.22 million kWh of renewable electricity for its manufacturing operations which is 25.9% of the total power consumption. This contributed to avoidance of 97,564 tCO₂e and financial saving of 33.87 crore.</p> <p>ENCON efforts in FY2022-23 have resulted into - energy savings of 55,958 GJ (32,859 GJ from power + 23,098 GJ from fuel), avoided emission of 9,262 tCO₂e and cost savings of 970 lakh.</p> <p>Capital Expenditure: In FY 2022-23, the Company has invested 4.25 crore in various energy conservation projects.</p> <p>Access to Capital: In October 2021, we announced a partnership with TPG Rise Climate, whereby, TPG Rise Climate along with co-investors have committed to investing `7,500 crores in compulsory convertible instruments to acquire an equity interest of between 11% to 15% in Tata Passenger Electric Mobility Ltd ("TPEM"), incorporated as a wholly owned subsidiary of TML, which corresponds to an equity valuation of up to US\$9.1 billion. The new company is expected to leverage all existing investments and capabilities of TML and channelize the future investments into EVs, dedicated BEV platforms, advanced automotive technologies and catalyze investments in charging infrastructure and battery technologies. The total amount of investment of `7,500 crores is bifurcated into two instruments CCPS A1 and CCPS A2 of investment of `5,000 crores and investment of `2,500 crores, respectively. The remittance of the first tranche of `3,750 crores (50% of each instrument) has been received on March 29, 2022. The second tranche of investment of `3,750 crores was remitted in January, 2023.</p>
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C3.5

(C3.5) In your organization’s financial accounting, do you identify spending/revenue that is aligned with your organization’s climate transition?

Identification of spending/revenue that is aligned with your organization’s climate transition	
Row 1	No, but we plan to in the next two years

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Intensity metric

Other, please specify

tCO₂e per Equivalent Vehicle

Base year

2022

Intensity figure in base year for Scope 1 (metric tons CO₂e per unit of activity)

46.4

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

226.5

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

272.8

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

65.5

Intensity figure in target year for all selected Scopes (metric tons CO₂e per unit of activity) [auto-calculated]

94.116

% change anticipated in absolute Scope 1+2 emissions

33.6

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

44.3

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

194.5

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for total Scope 3 (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO₂e per unit of activity)

238.8

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

19.0280047458

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

This target is for our Commercial Vehicle (CV) Business Unit. Target coverage is complete Scope 1+2 emissions in 5 CVBU locations of TML India Operations Pune CV - (Pimpri Chinchwad and Maval), Jamshedpur, Lucknow, Pantnagar and Dharwad. These are No Exclusions in terms of Scope 1+2 coverage. Equivalent Vehicle is used as denominator for target setting, which is an internal measure of productivity based on Standard Man Hours.

Plan for achieving target, and progress made to the end of the reporting year

We plan to increase in renewable electricity consumption and undertake energy conservation initiatives for our operations. At Tata Motors, decarbonization in operations will be primarily driven by transitioning to renewable energy sources. We are

collaborating with power companies to drive our renewables initiatives forward. We are focusing our renewable energy strategy in mainly 3 areas

1. On-site renewables through In-house generation through rooftop solar power
2. Off-site renewables through investments in captive wind power
3. Renewable Power Purchase Agreements with Renewable Energy Producers

List the emissions reduction initiatives which contributed most to achieving this target

Target reference number

Int 2

Is this a science-based target?

Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

Target ambition

1.5°C aligned

Year target was set

2022

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

Intensity metric

Other, please specify

tCO₂e per Equivalent Vehicle

Base year

2022

Intensity figure in base year for Scope 1 (metric tons CO₂e per unit of activity)

45

Intensity figure in base year for Scope 2 (metric tons CO₂e per unit of activity)

256.6

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO₂e per unit of activity)

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

301.5

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3,

Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

84.02

Intensity figure in target year for all selected Scopes (metric tons CO₂e per unit of activity) [auto-calculated]

48.1797

% change anticipated in absolute Scope 1+2 emissions

33.6

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO₂e per unit of activity)

41.2

Intensity figure in reporting year for Scope 2 (metric tons CO₂e per unit of activity)

178.1

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO₂e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

219.3

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

32.4490378387

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

This target is for our Passenger Vehicle (PV) Business Unit. Target coverage is complete Scope 1+2 emissions in 2 PVBU locations of TML India Operations (Pune Chikhali and Sanand). These are No Exclusions in terms of Scope 1+2 coverage. Equivalent Vehicle is used as denominator for target setting, which is an internal measure of productivity based on Standard Man Hours.

Plan for achieving target, and progress made to the end of the reporting year

We plan to increase in renewable electricity consumption and undertake energy conservation initiatives for our operations. At Tata Motors, decarbonization in operations will be primarily driven by transitioning to renewable energy sources. We are collaborating with power companies to drive our renewables initiatives forward. We are focusing our renewable energy strategy in mainly 3 areas

1. On-site renewables through In-house generation through rooftop solar power
2. Off-site renewables through investments in captive wind power
3. Renewable Power Purchase Agreements with Renewable Energy Producers

List the emissions reduction initiatives which contributed most to achieving this target

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production
Net-zero target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2016

Target coverage

Other, please specify
TML India operations

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2016

Consumption or production of selected energy carrier in base year (MWh)

36,116

% share of low-carbon or renewable energy in base year

8.3

Target year

2030

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

25.9

% of target achieved relative to base year [auto-calculated]

19.1930207197

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes. Achieving RE100 directly impacts our Scope 2 and makes it zero.

Is this target part of an overarching initiative?

RE100

Science Based Targets initiative

Please explain target coverage and identify any exclusions

Target coverage includes TML India operations.

TML became a signatory to RE100 in FY 2015-16. RE100 is a coalition of influential businesses with a public commitment to achieving 100% renewable electricity. We aspire to use 100% renewable electricity by 2030.

Plan for achieving target, and progress made to the end of the reporting year

TML continued to add on-site Renewable Energy (solar) generation capacity in FY 2022-23, which brings the total installed capacity to:

- 21.7 MWp Roof-top Solar PV installation at Pune (Pimpri, Chinchwad & Chikhali);
- 4.07 MWp Roof-top Solar PV installation at Lucknow;
- 7.5 MWp Roof-top Solar PV at Jamshedpur;
- 7 MWp Solar PV installation at Pantnagar;
- 1 MWp Solar PV installation at Dharwad;
- 2 MWp Roof-top Solar PV installation at Sanand

TML also sources off-site renewable energy at its Pune, Sanand and Dharwad and Pantanagar works through Power Purchase Agreements (PPA) with Third Party Wind & Solar Power Generators, Off-site Captive wind farm, Green Energy purchase from exchange and Discom and I-RECs. TML plans to continue to source off-site renewable power in line with regulatory policies / frameworks and tariffs in the States where the Company operates. These efforts will continue to help offset greenhouse gas emissions

in the coming years.

In FY 2022-23, TML generated / sourced 137.2 million kWh of renewable electricity for its manufacturing operations which is 25.9% of the total power consumption. This contributed to avoidance of 97,564 tCO₂e in FY2023.

List the actions which contributed most to achieving this target

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Int2

Target year for achieving net zero

2045

Is this a science-based target?

No, but we anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

Target coverage includes TML India operations with the goal of achieving Net Zero emissions by 2040 and 2045 for our Passenger and Commercial Vehicles business respectively. There are no exclusions.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Unsure

Planned milestones and/or near-term investments for neutralization at target year

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	2	106,826
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes

Other, please specify

Includes all energy conservation initiatives for fuel and power consumed in TML India Operations

Estimated annual CO2e savings (metric tonnes CO2e)

9,262

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

97,000,000

Investment required (unit currency – as specified in C0.4)

42,500,000

Payback period

<1 year

Estimated lifetime of the initiative

3-5 years

Comment

Energy Conservation (ENCON) projects have been implemented at all Plants of TML India Operations in a planned and budgeted manner. Some of the major ENCON Projects in FY 2023 across locations include:

- Jamshedpur: Elimination of baking oven operation through Quick Dry Paint implementation in Frame Factory, operation of cooling tower pump motor of CCHF furnace through VFD in Heat Treatment-Transmission.
 - Pimpri : VFD, LED, HVLS fan projects in manufacturing areas, fuel saving by process temperature optimization for manufacturing area.
 - Chinchwad and Maval Foundry : Commonisation of pump room, cycle optimisation of decoring machine, yield improvement & diesel consumption reduction in ladle preheater area.
 - Lucknow : Top coat booth balancing at paint shop and installation of VFD for wash pump of beam washing machine.
 - Pantnagar: Pressure scheduling in paint shop by installing IFC unit ,New ED paint implementation having low baking temperature.
 - Dharwad: Monitoring power consumption through Industry 4.0 digitalisation and LED migration projects.
 - Chikhali: LED migration projects, VFD implementation,
 - Sanand:LED migration projects, reduction in compressed air requirements
- These ENCON efforts in FY 2023 have resulted into - energy savings of 55,958 GJ (32,859 GJ from power + 23,098 GJ from fuel), avoided emission of 9,262 tCO₂e and resulted in cost savings of INR 970 lakhs. In FY 2023, TML has invested INR 425 lakhs in various energy conservation projects.

Initiative category & Initiative type

Low-carbon energy consumption

Other, please specify

Includes renewable electricity consumed by manufacturing plants of TML India Operations

Estimated annual CO₂e savings (metric tonnes CO₂e)

97,564

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

338,700,530

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

11-15 years

Comment

TML continued to add on-site Renewable Energy (solar) generation capacity in FY 2022-23, which brings the total installed capacity to:

- 21.7 MWp Roof-top Solar PV installation at Pune (Pimpri, Chinchwad & Chikhali);
- 4.07 MWp Roof-top Solar PV installation at Lucknow;
- 7.5 MWp Roof-top Solar PV at Jamshedpur;
- 7 MWp Solar PV installation at Pantnagar;
- 1 MWp Solar PV installation at Dharwad;
- 2 MWp Roof-top Solar PV installation at Sanand

TML also sources off-site renewable energy at its Pune, Sanand and Dharwad and Pantanagar works through Power Purchase Agreements (PPA) with Third Party Wind & Solar Power Generators, Off-site Captive wind farm , Green Energy purchase from exchange and Discom and I-RECs. TML plans to continue to source off-site renewable power in line with regulatory policies / frameworks and tariffs in the States where the Company operates. These efforts will continue to help offset greenhouse gas emissions in the coming years.

In FY 2022-23, TML generated / sourced 137.2 million kWh of renewable electricity for its manufacturing operations which is 25.9% of the total power consumption. This contributed to avoidance of 97,564 tCO₂e in FY2023.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for other emissions reduction activities	Budgeting is done, based on technical and commercial feasibility and emission reduction projects are implemented.
Dedicated budget for energy efficiency	Budgeting is done, based on technical and commercial feasibility and emission reduction projects are implemented.
Dedicated budget for low-carbon product R&D	Low emission products are pursued as per plan of decarbonization

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Group of products or services

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Road

Other, please specify

Alternate drive train vehicles- Battery Electric Vehicles (BEVs) and Compressed Natural Gas (CNG) Vehicles

Description of product(s) or service(s)

Alternate drive train vehicles- Battery Electric Vehicles (BEVs) and Compressed Natural Gas (CNG) Vehicles within our Passenger Vehicle fleet are considered low-carbon product(s) when compared to conventional Petrol/Diesel internal combustion engine passenger vehicle.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify

Well-to-Wheel emissions in use phase. Avoided Emissions (tCO₂e difference of BAU Petrol/Diesel fleet and BEV & CNG fleet). Calculated using $\Sigma [(Annual\ Sales\ Volume\ in\ No.\ of\ PV\ Units) \times (150,000\ km) \times (Vehicle\ Model\ \&\ Fuel\ specific\ EF\ in\ tCO_2/km)]$.

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

Operating an passenger BEV and CNG vehicle for a lifetime of 1,50,000 km vs. a similar-Petrol/Diesel internal combustion engine passenger vehicle for a lifetime of 1,50,000 km. Avoided emissions reported in tCO₂e.

Reference product/service or baseline scenario used

Petrol/Diesel internal combustion engine passenger vehicle for a lifetime of 1,50,000 km.

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

873,257

Explain your calculation of avoided emissions, including any assumptions

We have considered Well-to-Wheel emissions in use phase of vehicles. Avoided Emissions (tCO2e difference of BAU Petrol/Diesel fleet and BEV/CNG fleet) is calculated by using formula $\Sigma [(Annual\ Sales\ Volume\ in\ No.\ of\ PV\ Units) \times (150,000\ km) \times (Vehicle\ Model\ \&\ Fuel\ specific\ EF\ in\ tCO_2/km)]$. With the calculation methodology, we avoided 873257 tCO2e for passenger vehicles in FY2023.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

7.87

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology	During the year ended March 31, 2023, the Central Electricity Authority of India have published revised grid emission factors for FY 2020-21 and FY 2021-22. Further, in one of our Plants the ownership of green attributes was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated.

C5.1c

(C5.1c) Have your organization’s base year emissions and past years’ emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years’ recalculation
Row 1	Yes	Scope 2, location-based	During the year ended March 31, 2023, the Central Electricity Authority of India have published revised grid emission factors for FY 2020-21 and FY 2021-22. Further, in one of our Plants the ownership of green attributes was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated. The significance threshold considered is +/- 5%.	Yes

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

54,793

Comment

Scope 2 (location-based)

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

281,098

Comment

During the year ended March 31, 2023, the Central Electricity Authority of India have published revised grid emission factors for FY 2020-21 and FY 2021-22. Further, in one of our Plants the ownership of green attributes was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated

Scope 2 (market-based)

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

0

Comment

In FY2022, we have consumed 395,356 MWh from grid, for which we have used the revised location-based emission factor of 0.711 tCO2e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 281,098 tCO2e. We also consumed 79,964 MWh of Renewable Energy (7,607 MWh through Solar PPA; 23,100 MWh through Wind PPA; 27,468 MWh through Onsite Solar PV; 21,281 MWh through Captive wind farms and 508 MWh through purchase of green energy from Exchange & DISCOM). Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

Scope 3 category 1: Purchased goods and services

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

65,364

Comment

Based on engagement with 108 suppliers in FY2022.

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO₂e)

86,438

Comment

This category includes upstream emission associated with (1) Purchased fuels (used in TML India operations) and (2) Transmission & Distribution losses associated with purchased electricity (used in TML India operations).

Scope 3 category 4: Upstream transportation and distribution

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO₂e)

21,441

Comment

Based on engagement with 108 suppliers in FY2022.

Scope 3 category 5: Waste generated in operations

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

2,580

Comment

Includes emissions from composting of biodegradable waste, incineration & landfill of hazardous waste.

Scope 3 category 6: Business travel

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

2,124

Comment

This category includes emissions from the transportation of employees for business related activities in vehicles owned or operated by third parties, that is aircraft, trains, buses, and passenger cars.

Scope 3 category 7: Employee commuting

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

13,711

Comment

This category includes emissions associated with employee commute by company facilitated bus transport for TML India operations.

Scope 3 category 8: Upstream leased assets

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO₂e)

1,051

Comment

This category includes emissions associated with Area Offices (AO)/ Regional Offices (RO) of TML India Operations, which are operating out of leased properties.

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3 category 11: Use of sold products

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO₂e)

7,153,468

Comment

This category includes direct use phase emissions from passenger vehicles.

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3 category 14: Franchises

Base year start

April 1, 2021

Base year end

March 31, 2022

Base year emissions (metric tons CO2e)

7,253

Comment

This category includes emissions from our 73 Channel Partners covered under FY2022 Channel Partner Assessment. Channel Partners include Dealers & Authorized Service Stations located in India.

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Tata Motors is tracking emissions from following relevant upstream activities: (1) Purchased Goods and Services; (2) Fuel and Energy Related Activities; (3) Upstream Transportation and Distribution; (4) Waste Generated in Operations; (5) Business Travel (6) Employee Commuting (7) Upstream Leased Assets. Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard any other upstream emissions to be of significance because of these 2 criteria and hence is considered irrelevant.

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO₂e)

Comment

Tata Motors is tracking emissions from following relevant downstream activities: (1) Use of Sold Products; (2) Franchises. Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard any other downstream emissions to be of significance because of these 2 criteria and hence is considered irrelevant.

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019

India GHG Inventory Programme

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

The Greenhouse Gas Protocol: Scope 2 Guidance

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO₂e?

Reporting year

Gross global Scope 1 emissions (metric tons CO₂e)

63,728

Start date

April 1, 2022

End date

March 31, 2023

Comment

Emissions on account of fuel combustion within reporting boundary

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

54,793

Start date

April 1, 2021

End date

March 31, 2022

Comment

Emissions on account of fuel combustion within reporting boundary

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)

41,882

Start date

April 1, 2020

End date

March 31, 2021

Comment

Emissions on account of fuel combustion within reporting boundary

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

In FY2023, we have consumed 391,653 MWh from grid, for which we have used location-based emission factor of 0.711 tCO₂e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 278,465 tCO₂e. We also consumed 137,220 MWh of Renewable Energy (17,008 MWh through Solar PPA; 13,001 MWh through Wind PPA; 41,532 MWh through Onsite Solar PV; 22,423 MWh through Captive wind farms, 18,633 MWh through purchase of green energy from DISCOM and 24,623 through purchase of I-REC). Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO₂e?

Reporting year

Scope 2, location-based

278,465

Scope 2, market-based (if applicable)

0

Start date

April 1, 2022

End date

March 31, 2023

Comment

In FY2023, we have consumed 391,653 MWh from grid, for which we have used location-based emission factor of 0.711 tCO₂e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 278,465 tCO₂e. We also consumed 137,220 MWh of Renewable Energy (17,008 MWh through Solar PPA; 13,001 MWh through Wind PPA; 41,532 MWh through Onsite Solar PV; 22,423 MWh through Captive wind farms, 18,633 MWh through purchase of green energy from DISCOM and 24,623 through purchase of I-REC). Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

Past year 1

Scope 2, location-based

281,098

Scope 2, market-based (if applicable)

0

Start date

April 1, 2021

End date

March 31, 2022

Comment

In FY2022, we have consumed 395,356 MWh from grid, for which we have used the revised location-based emission factor of 0.711 tCO₂e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 281,098 tCO₂e. We also consumed 79,964 MWh of Renewable Energy (7,607 MWh through

Solar PPA; 23,100 MWh through Wind PPA; 27,468 MWh through Onsite Solar PV; 21,281 MWh through Captive wind farms and 508 MWh through purchase of green energy from Exchange & DISCOM). Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

During the year ended March 31, 2023, the Central Electricity Authority of India have published revised grid emission factors for FY 2020-21 and FY 2021-22. Further, in one of our Plants the ownership of green attributes was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated.

Past year 2

Scope 2, location-based

211,614

Scope 2, market-based (if applicable)

0

Start date

April 1, 2020

End date

March 31, 2021

Comment

In FY2021, we have consumed 302,305 MWh from grid, for which we have used the revised location-based emission factor of 0.7 tCO₂e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 211,614 tCO₂e. We also consumed 63,942 MWh of Renewable Energy (2,540 MWh through Solar PPA; 23,911 MWh through Wind PPA; 16,902 MWh through Onsite Solar PV and 20,589 MWh through Captive wind farms. Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

During the year ended March 31, 2023, the Central Electricity Authority of India have published revised grid emission factors for FY 2020-21 and FY 2021-22. Further, in one of our Plants the ownership of green attributes was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

326,061

Emissions calculation methodology

Supplier-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions from our upstream value chain i.e. Scope 1 + Scope 2 GHG emissions from supplier operations in India. Inventorization method used is: Supplier specific method. It includes Scope 1 and Scope 2 emissions from suppliers. Activity data (fuel and power consumed by suppliers) was collected from 134 suppliers covered under FY2023 Supplier Assessment. EF for fuels- IPCC Guidelines 2006. EF for electricity- CO2 Baseline Database for the Indian Power Sector, Version 18.0, December 2022. Net Calorific value of fuels- IPCC Guidelines 2006. Density of fuels- DEFRA Conversion Factor Set 2022. Our share of emissions is apportioned using the supplier's share of revenue from Tata Motors during the reporting period. Quantity of fuel (in mass or volume terms) is converted to energy (GJ) and emissions from fuel (tCO2e) = (Fuel consumed in GJ) x (EF for fuel in tCO2e/GJ). Emissions from electricity consumed (tCO2e) = (Electricity consumed in MWh) x (EF for electricity in tCO2e/MWh). Total Emissions (tCO2e) = \sum [(Revenue contributed by TML divided by the Total revenue of the supplier) x (Total Scope 1+2 Emissions of the supplier from Fuel + Electricity in tCO2e)].

References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Capital goods

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2)

Influence of TML on emission reductions. We do not regard this category to be of relevance because of these two criteria

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

108,446

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes upstream emission associated with (1) Purchased fuels (used in TML India operations) and (2) Transmission & Distribution losses associated with purchased electricity (used in TML India operations). Inventorization method used is: Average-data method. Activity data- Fuel and power consumed in operations (same as used for calculating our Scope 1 and Scope 2 emissions). Well to Tank EF for fuels- DEFRA Conversion Factor set 2022. T&D loss percentage for electricity- CEA General Review Report 2021 (20.46%). EF for electricity- CO₂ Baseline Database for the Indian Power Sector, Version 18.0, December 2022. Upstream emission of fuels (tCO₂e) = $\Sigma[\text{Fuel quantity} \times \text{WTT EF of fuels (tCO}_2\text{e/unit of fuel)}]$. Emissions from T&D losses (tCO₂e) = Electricity lost in T&D (MWh) x EF for Electricity (tCO₂e/MWh). Total emissions (tCO₂e) = [Upstream emission of fuels (tCO₂e) + Emissions from T&D losses (tCO₂e)].

References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

25,317

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions from transportation and distribution of products purchased in the reporting year, between company's tier 1 suppliers and TML India operations in vehicles not owned or operated by the reporting company. Inventorization method used is: Distance-based method (only mode of transport & distance considered). Activity data- On road distance covered by vehicles transporting components/parts from their operations to Tata Motors India manufacturing locations was collected from 134 suppliers covered under FY2023 Supplier Assessment. EF: India Specific Road Transport Emission factor, Version 1.0. Mode of transport considered is Road transport and vehicles used for transportation are considered to be Heavy Duty Vehicles (HDVs) (>12T), Medium Duty Vehicles (MDV) (3.5T to 8T), Light Duty Vehicles (LDV) (<3.5T). While computing emissions, i.e. two way distance covered by the vehicle is considered. Total emissions (tCO₂e) = $\Sigma [(Annual\ distance\ travelled\ (two\ way)\ in\ km) \times (EF\ for\ road\ transport\ in\ tCO_2e/km)]$.
References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

1,512

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes emissions from third-party disposal and treatment of waste generated in TML India operations in the reporting year. Inventorization method used is: Average-data method. Activity data- Quantity of waste by disposal method. Activity data is collected from the Environment management team of TML India Operations. It includes emissions from composting of canteen waste, incineration of hazardous waste and landfilling of hazardous waste. EF for composting of canteen waste and incineration of hazardous waste- IPCC Guidelines 2006. EF for landfilling of hazardous waste- DEFRA Conversion Factor set 2022. Total emissions (tCO₂e) = $\Sigma [(Waste\ quantity\ by\ disposal\ method\ in\ MT) \times (EF\ by\ waste\ disposal\ method\ in\ tCO_2e/MT)]$.
References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2,354

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions from the transportation of employees for business related activities in vehicles owned or operated by third parties, that is aircraft, trains, buses, and passenger cars. Inventorization method used is: Distance-based method. Activity data- total number of travel requests made by employees for business related activities, together with distance travelled and mode of travel is collected from service provider (Quest2Travel). EF for Air travel - DEFRA Conversion Factor Set 2022. EF for Road & Rail travel - India Specific Road Transport Emission factors, Version 1.0, 2015. For road travel by car, average emission factor of all gasoline models is considered. Emissions from Air travel (tCO2e) = [Distance (km) x No. of passengers x EF (tCO2e/Pax.km)]. Emissions from Road travel by car (tCO2e) = [Distance (km) x Average EF (tCO2e/km)]. Emissions from Road travel by bus (tCO2e) = [Distance (km) x No. of passengers x EF (tCO2e/Pax.km)]. Emissions from Rail travel (tCO2e) = [Distance (km) x No of passengers x EF (tCO2e/Pax.km)]. Total emissions (tCO2e) = Emissions from [Road + Rail + Air].
References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

14,004

Emissions calculation methodology

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions associated with employee commute by company facilitated bus transport for TML India operations in the reporting year. Inventorization method used is: Fuel-based method. Activity data- quantity of fuel consumed (kL) by company facilitated buses for each manufacturing location during the reporting period is collected from Admin team of TML India Operations. EF for fuels (Diesel and CNG)- IPCC Guidelines 2006. Net Calorific value of fuels- IPCC Guidelines 2006. Density of fuels- DEFRA Conversion Factor Set 2022. Quantity of fuel (kL) is converted to energy (GJ). Total emissions (tCO₂e) = $\Sigma [(Fuel\ consumed\ in\ GJ) \times (EF\ for\ fuel\ in\ tCO_2e/GJ)]$. References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Upstream leased assets

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

1,886

Emissions calculation methodology

Asset-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions associated with Area Offices (AO)/ Regional Offices (RO) of TML India Operations, which are operating out of leased properties in the reporting year. Inventorization method used is: Asset-specific method. Activity data: quantity of fuel and electricity consumed by the Area Offices (AO)/ Regional Offices (RO) is collected from the Admin & Facilities management teams. EF for fuel- IPCC Guidelines 2006. Net Calorific value of fuels- IPCC Guidelines 2006. Density of fuels- DEFRA Conversion Factor Set 2021. EF for electricity- CO₂ Baseline Database for the Indian Power Sector, Version 17.0, October 2021. As per UNFCCC document "Small scale Methodology: Renewable electricity generation for captive use and mini grid, Version 3.0, 2014", emission factor for diesel generator of capacity greater than 200kW is 0.8 tCO₂/MWh. Emission factor for electricity consumption as per CEA Version 18 is 0.711 tCO₂/MWh. For locations where DG set consumption units is available as activity data, it has been added along with the grid electricity consumption units as the emission factors have negligible difference. Quantity of fuel (kL) is converted to energy (GJ) and emissions from fuel (tCO₂e) = (Fuel consumed in GJ) x (EF for fuel in tCO₂e/GJ). Emissions from electricity consumed (tCO₂e) = (Electricity consumed in MWh) x (EF for electricity in tCO₂e/MWh). Total Emissions (tCO₂e) = Emissions from [Fuel + Electricity].

References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and

Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Use of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

9,841,571

Emissions calculation methodology

Methodology for direct use phase emissions, please specify

Includes Tank-to-Wheel (TTW) emissions from Passenger Vehicles (PV) alone.

Total Emissions (tCO₂e) = \sum [(Annual Sales Volume in No. of Units for each PV vehicle model by fuel type) x (150,000 km) x (Vehicle Model & Fuel specific EF in tCO₂/km)]

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

This category includes direct use phase emissions from passenger vehicles sold in domestic and international market. Inventorization method used: Direct use-phase emissions. Includes Tank-to-Wheel (TTW) emissions from Passenger Vehicles (PV) i.e. Cars & Utility vehicles alone. Activity data- Sales volume of Passenger Vehicles (for Indian domestic market & exports) for each vehicle model (by fuel type) in the reporting

year. Emission Factor (tCO₂/km) is taken from the standard test data which is certified. Average mileage over the life-cycle of Cars and UVs is considered as 150,000 km. Total Emissions (tCO₂e) = Σ [(Annual Sales Volume in No. of Units for each PV vehicle model by fuel type) x (150,000 km) x (Vehicle Model & Fuel specific EF in tCO₂/km)]. Greenhouse gases (GHG) other than CO₂ have a negligible impact and therefore are not included.

References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these 2 criteria.

Franchises

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

14,130

Emissions calculation methodology

Franchise-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

This category includes emissions from our Channel Partners i.e. Dealers & Authorized Service Stations located in India. . It includes Scope 1 and Scope 2 emissions from

Channel Partners. Inventorization method used: Franchise-specific method. Activity data (fuel and power consumed) was collected from 417 channel partners covered under FY2022 Channel Partner Assessment. EF for fuels- IPCC Guidelines 2006. EF for electricity- CO2 Baseline Database for the Indian Power Sector, Version 18.0, December 2022. Net Calorific value of fuels- IPCC Guidelines 2006. Density of fuels- DEFRA Conversion Factor Set 2022. Quantity of fuel (in mass or volume terms) is converted to energy (GJ) and emissions from fuel (tCO₂e) = (Fuel consumed in GJ) x (EF for fuel in tCO₂e/GJ). Emissions from electricity consumed (tCO₂e) = (Electricity consumed in MWh) x (EF for electricity in tCO₂e/MWh). Total Emissions (tCO₂e) = Σ [(Scope 1 Emissions from Fuel in tCO₂e) + (Scope 2 Emissions from Electricity in tCO₂e)].

References: GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard and GHG Protocol- Technical Guidance for Calculating Scope 3 Emissions.

Investments

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard this category to be of relevance because of these two criteria.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors is tracking emissions from following relevant upstream activities: (1) Purchased Goods and Services; (2) Fuel and Energy Related Activities; (3) Upstream Transportation and Distribution; (4) Waste Generated in Operations; (5) Business Travel (6) Employee Commuting (7) Upstream Leased Assets. Tata Motors focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard any other upstream emissions to be of significance because of these two criteria and hence is considered irrelevant.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Please explain

Tata Motors is tracking emissions from following relevant downstream activities: (1) Use of Sold Products; (2) Franchises. Tata Motors focuses on Scope 3 emission categories

which are identified as relevant according to the following two criteria: (1) Share in total TML Scope 3 emissions and (2) Influence of TML on emission reductions. We do not regard any other downstream emissions to be of significance because of these two criteria and hence is considered irrelevant.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO₂e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0000003

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

342,193

Metric denominator

unit total revenue

Metric denominator: Unit total

1,139,183,900,000

Scope 2 figure used

Location-based

% change from previous year

29

Direction of change

Decreased

Reason(s) for change

Change in renewable energy consumption

Other emissions reduction activities

Change in output

Change in revenue

Please explain

In FY2023, Gross Scope 1+2 emissions: 342,193 tCO₂e. Tata Motors revenue: INR 1,139,183,900,000. Intensity figure: $(342,193 / 1,139,183,900,000) = 0.000000300$ tCO₂e/INR. In FY2022, Gross Scope 1+2 emissions: 335,891 tCO₂e (Scope 2 restated- details in C.6.2). Tata Motors revenue: INR 798,445,500,000). Intensity figure $(335,891 / 798,445,500,000) = 0.000000421$ tCO₂e/INR. Gross Scope 1+2 emissions per unit revenue in FY2023 is 29% less than that in FY2022.

Although there has been an increase of 30% in our number of vehicles produced (954,261 vehicles produced in FY2023 compared 731,401 vehicles in FY2022), however, various energy conservation initiatives resulted in avoiding 9,262 tCO₂e in FY2023. Also there has been an increase in renewable energy consumption by 72% (in MWh terms) in FY2023 compared to FY2022 that resulted in an additional emission decrease of 40,709 tCO₂e in FY2023 compared to FY2022.

Restatement for FY2021 (Scope 2 restated details in C6.2): In FY2021, Gross Scope 1+2 emissions: 253,496 tCO₂e. Tata Motors revenue: INR 470,314,700,000. Intensity figure: $(253,496 / 470,314,700,000) = 0.000000539$ tCO₂e/INR.

Intensity figure

0.36

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO₂e)

342,193

Metric denominator

vehicle produced

Metric denominator: Unit total

954,261

Scope 2 figure used

Location-based

% change from previous year

22

Direction of change

Decreased

Reason(s) for change

- Change in renewable energy consumption
- Other emissions reduction activities
- Change in output
- Change in revenue

Please explain

In FY2023, Gross Scope 1+2 emissions: 342,193 tCO₂e. Vehicles produced: 954,261 units. Intensity figure: $(342,193 / 954,261) = 0.36$ tCO₂e/vehicle produced. In FY2022,

Gross Scope 1+2 emissions: 335,891 tCO₂e (Scope 2 restated- details in C.6.2).
 Vehicles produced: 731,401 units. Intensity figure: $(335,891 / 731,401) = 0.46$ tCO₂e/vehicle produced. Gross Scope 1+2 emissions per vehicle produced in FY2022 is 22% less than that in FY2022.

Although there has been an increase of 30% in our number of vehicles produced (954,261 vehicles produced in FY2023 compared 731,401 vehicles in FY2022), however, various energy conservation initiatives resulted in avoiding 9,262 tCO₂e in FY2023. Also there has been an increase in renewable energy consumption by 72% (in MWh terms) in FY2023 compared to FY2022 that resulted in an additional emission decrease of 40,709 tCO₂e in FY2023 compared to FY2022.

Restatement for FY2021 (Scope 2 restated details in C6.2): In FY2021, Gross Scope 1+2 emissions: 253,496 tCO₂e. Vehicles produced: 479,186 units. Intensity figure: $(253,496 / 479,186) = 0.53$ tCO₂e/vehicle produced

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO ₂ e)	GWP Reference
CO ₂	63,728	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO ₂ e)
India	63,728

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

By facility

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Commercial Vehicle Business Unit (CVBU)	42,200
Passenger Vehicle Business unit (PVBU)	21,528

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Pune CV (Pimpri, Chinchwad, Maval)	15,709	18.645165	73.818765
Jamshedpur	16,853	22.764617	86.240117
Lucknow	2,959	26.910615	81.0554
Pantnagar	6,236	29.031244	79.424388
Dharwad	442	15.517709	74.930432
Sanand	6,126	23.010273	72.266344
Pune PV	15,402	18.645165	73.818765

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Transport OEM activities	63,728	Gross Scope 1 emissions has been calculated covering our seven manufacturing locations in India: Pune CV, Pune PV, Jamshedpur, Lucknow, Dharwad, Pantnagar, and Sanand.

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
India	278,465	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By facility

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Commercial Vehicle Business Unit (CVBU)	185,394	0
Passenger Vehicle Business Unit (PVBU)	93,071	0

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Pune CV (Pimpri, Chinchwad, Maval)	46,193	0
Jamshedpur	109,367	0
Sanand	28,131	0
Dharwad	0	0
Lucknow	10,251	0
Pantnagar	19,583	0
Pune PV	64,940	0

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

No

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Transport OEM activities	278,465	0	In FY2023, we have consumed 391,653 MWh from grid, for which we have used location-based emission factor of 0.711 tCO2e/MWh provided by the Central Electricity Authority (CEA). Thus our Scope 2, location-based emissions is 278,465 tCO2e. We also consumed 137,220 MWh of Renewable Energy (17,008 MWh through Solar PPA; 13,001 MWh through Wind PPA; 41,532 MWh through Onsite Solar PV; 22,423 MWh through Captive wind farms, 18,633 MWh through purchase of green energy from DISCOM and 24,623 through purchase of I-REC). Since we have Power Purchase Agreements with energy generators for Renewable Energy, emission factor for computing market based emissions is taken as 0.

C-TO7.8

(C-TO7.8) Provide primary intensity metrics that are appropriate to your indirect emissions in Scope 3 Category 11: Use of sold products from transport.

Activity

Light Duty Vehicles (LDV)

Emissions intensity figure

0.0000759

Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO2e

9,841,571

Metric denominator

p.km

Metric denominator: Unit total

129,676,376,250

% change from previous year

-4.92

Vehicle unit sales in reporting year

538,635

Vehicle lifetime in years

15

Annual distance in km or miles (unit specified by column 4)

10,000

Load factor

1.6

Please explain the changes, and relevant standards/methodologies used

Calculation of emission intensity metric for FY 2023:

Metric Numerator (emissions from use of sold products): 9841571 tCO₂e

Metric Denominator (passenger.km) = Units sold in FY 2023 x Vehicle lifetime x Annual distance in km x Passenger load factor = 538635 x 15 x 10000 x 1.6 = 129676376250 p.km

Emission intensity = 9841571 /129676376250 = 0.0000759 tCO₂e/p.km

Calculation of emission intensity metric for FY 2022:

Metric Numerator (emissions from use of sold products): 7153468 tCO₂e

Metric Denominator (passenger.km) = Units sold in FY 2022 x Vehicle lifetime x Annual distance in km x Passenger load factor = 372259 x 15 x 10000 x 1.6 = 89621354250 p.km

Emission intensity = 7153468 /89621354250 = 0.0000798 tCO₂e/p.km

We have taken load factor of 1.6 for calculation. As per Science-Based Target setting guidance for Transport sector, average occupancy rate of light duty vehicles is in the range of 1.59 to 1.62 people per vehicle km. During reporting period, there has been 4.92% decrease in emission intensity when compared to FY 2022.

This is mainly due to an increase in the share of alternate drive train vehicles (BEV and CNG) sold in total PV volumes in FY2023 (16.5% share) as compared to 8% share in FY2022.

Please note that emissions reported under Scope 3, Category 11: Use of sold products is from Passenger Vehicles alone. In the above calculations, volumes considered is the number of passenger cars and utility vehicles sold in the respective years.

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	40,709	Decreased	12.1	In FY 2022, Company consumed 79,964 MWh of renewable electricity for its manufacturing operations, which contributed to avoidance of 56,855 tCO2e (Refer FY2022 re-statement in C6.2). In FY 2023, Company consumed 137,220 MWh of renewable electricity for its manufacturing operations, which contributed to avoidance of 97,564 tCO2e. Thus an increase in renewable energy consumption by 72% in FY2023 compared to FY2022 resulted in an additional emission decrease of 40,709 tCO2e in FY2023. This represents a 12.1% decrease in emissions compared to FY2022 renewable energy consumption (FY2022 Scope 1+2 = 335,891 tCO2e).
Other emissions reduction activities	9,262	Decreased	2.8	In FY2023, various energy conservation efforts have resulted into energy savings of 55,958 GJ (32,859 GJ from power + 23,098 GJ from fuel) and avoided emission (combined Scope 1+2) of 9,262 tCO2e. Calculation: Scope 1+2 emissions in FY2022 = 335,891 tCO2e. Percentage change = $[(9,262/335,891) \times 100] = 2.8\%$. This represents a 2.8% decrease in

				emissions due to emissions reduction activities.
Divestment	0	No change	0	-
Acquisitions	0	No change	0	-
Mergers	0	No change	0	-
Change in output	56,273	Increased	16.8	In FY2023, there has been an increase of 30% in our number of vehicles produced (954,261 vehicles produced in FY2023 compared 731,401 vehicles in FY2022). This represents a 16.8% increase in emissions due to increase in output.
Change in methodology	0	No change	0	-
Change in boundary	0	No change	0	-
Change in physical operating conditions	0	No change	0	-
Unidentified	0	No change	0	-
Other	0	No change	0	-

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	283,802	283,802
Consumption of purchased or acquired electricity		137,220	391,653	528,873
Total energy consumption		137,220	675,455	812,676

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes

Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

Comment

Not consumed in the reporting year.

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

Comment

Not consumed in the reporting year.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

0

Comment

Not consumed in the reporting year.

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

0

Comment

Not consumed in the reporting year.

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

0

Comment

Not consumed in the reporting year.

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

235,756

Comment

This includes following fuels: Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG), Natural Gas, Propane

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

48,046

Comment

This includes following fuels: Diesel, Petrol

Total fuel

Heating value

LHV

Total fuel MWh consumed by the organization

283,802

Comment

This includes all fuels consumed by the nine operational sites of Tata Motors India Operations.

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

India

Consumption of purchased electricity (MWh)

506,450.5

Consumption of self-generated electricity (MWh)

22,422.6

Is this electricity consumption excluded from your RE100 commitment?

No

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

528,873.1

C8.2h

(C8.2h) Provide details of your organization's renewable electricity purchases in the reporting year by country/area.

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Purchase from an on-site installation owned by a third party (on-site PPA)

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

41,532

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2015

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2015

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

13,001

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2023

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2023

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Since there are multiple Power Purchase Agreement (PPAs) that are active in FY2023, commissioning year, vintage and supply arrangement start year are reported as 2023 (FY2023).

Re-statements: As reported in C.5. and C6.2, in one of our Plants the ownership of green attributes of Wind PPA was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated as below.

FY2022 re-stated Wind PPA: 23,100 MWh ; Total Renewable Electricity: 79,964 MWh

FY2021 re-stated Wind PPA: 23,911 MWh ; Total Renewable Electricity: 63,942 MWh

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Physical power purchase agreement (physical PPA) with a grid-connected generator

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

17,008

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2023

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2023

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Since there are multiple Power Purchase Agreement (PPAs) that are active in FY2023, commissioning year, vintage and supply arrangement start year are reported as 2023 (FY2023).

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Retail supply contract with an electricity supplier (retail green electricity)

Renewable electricity technology type

Renewable electricity mix, please specify

Solar, Wind, Hydro, etc. as per generation mix offered by electricity distribution company

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

18,633

Tracking instrument used

Contract

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2023

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Supply arrangement start year reported as 2023 refers to FY2023.

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

22,000

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2023

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Supply arrangement start year reported as 2023 refers to FY2023.

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Unbundled procurement of Energy Attribute Certificates (EACs)

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

2,623

Tracking instrument used

I-REC

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

No

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2023

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

Supply arrangement start year reported as 2023 refers to FY2023.

Country/area of consumption of purchased renewable electricity

India

Sourcing method

Other, please specify

Captive Wind Farm located at Offsite Location and involving Grid Transfers

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

22,423

Tracking instrument used

Other, please specify

This is Captive RE plant, with the attributes claimed by Tata Motors itself.

Country/area of origin (generation) of purchased renewable electricity

India

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2005

Vintage of the renewable energy/attribute (i.e. year of generation)

2023

Supply arrangement start year

2005

Additional, voluntary label associated with purchased renewable electricity

Other, please specify

3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Comment

Vintage of the renewable energy/attribute (i.e. year of generation) : 2023 refers to FY2023.

C8.2j

(C8.2j) Provide details of your organization's renewable electricity generation by country/area in the reporting year.

Country/area of generation

India

Renewable electricity technology type

Solar

Facility capacity (MW)

43.3

Total renewable electricity generated by this facility in the reporting year (MWh)

41,532

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

41,532

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

Other, please specify

Contract

Comment

Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Country/area of generation

India

Renewable electricity technology type

Wind

Facility capacity (MW)

31

Total renewable electricity generated by this facility in the reporting year (MWh)

13,001

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

13,001

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

Other, please specify
Contract

Comment

This line item refers to the 3rd party PPAs with offsite wind power plants.
Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.
“Field capacity” mentioned includes multiple short and medium term PPAs that were active as on 31st March 2023. Some PPAs became active in the interim of reporting period.
Re-statements: As reported in C.5. and C6.2, in one of our Plants the ownership of green attributes of Wind PPA was erroneously considered to be with our Company. Accordingly, the FY 2020-21 and FY 2021-22 figures have been restated as below.
FY2022 re-stated Wind PPA: 23,100 MWh ; Total Renewable Electricity: 79,964 MWh
FY2021 re-stated Wind PPA: 23,911 MWh ; Total Renewable Electricity: 63,942 MWh

Country/area of generation

India

Renewable electricity technology type

Solar

Facility capacity (MW)

18.4

Total renewable electricity generated by this facility in the reporting year (MWh)

17,008

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

17,008

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

Other, please specify

Contract

Comment

This line item refers to the 3rd party PPAs with offsite solar power plants. Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3. “Field capacity” mentioned includes multiple short and medium term PPAs that were active as on 31st March 2023. Some PPAs became active in the interim of reporting period.

Country/area of generation

India

Renewable electricity technology type

Renewable electricity mix, please specify

Solar, Wind, Hydro, etc. as per generation mix offered by electricity distribution company

Facility capacity (MW)

1

Total renewable electricity generated by this facility in the reporting year (MWh)

18,633

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

18,633

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

Other, please specify

Contract

Comment

"Field capacity" mentioned as 1 MW to reflect a numerical value in the field. There is no actual capacity available as these are direct purchases from electricity distribution company done in FY2023.

Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Country/area of generation

India

Renewable electricity technology type

Solar

Facility capacity (MW)

1

Total renewable electricity generated by this facility in the reporting year (MWh)

2,623

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

2,623

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

I-REC

Comment

"Field capacity" mentioned as 1 MW to reflect a numerical value in the field. There is no actual capacity available as these are direct I-REC purchases done in FY2023.

Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Country/area of generation

India

Renewable electricity technology type

Wind

Facility capacity (MW)

1

Total renewable electricity generated by this facility in the reporting year (MWh)

22,000

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

22,000

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

I-REC

Comment

"Field capacity" mentioned as 1 MW to reflect a numerical value in the field. There is no actual capacity available as these are direct I-REC purchases done in FY2023. Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

Country/area of generation

India

Renewable electricity technology type

Wind

Facility capacity (MW)

22

Total renewable electricity generated by this facility in the reporting year (MWh)

22,423

Renewable electricity consumed by your organization from this facility in the reporting year (MWh)

22,423

Energy attribute certificates issued for this generation

Yes

Type of energy attribute certificate

Other, please specify

This is Captive RE plant, with the attributes claimed by Tata Motors itself.

Comment

This line item refers to the captive wind plant.

Certification of RE: 3rd Party verification of Energy and GHG data in accordance with the requirements of GRI Standard, ISAE 3000, Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, and ISO 14064-3.

C8.2k

(C8.2k) Describe how your organization’s renewable electricity sourcing strategy directly or indirectly contributes to bringing new capacity into the grid in the countries/areas in which you operate.

1. Maximize Rooftop solar.
2. Maximize Open Access RE procurement as per prevalent local regulations.
3. Balance RE procurement through direct RE purchases.

C8.2l

(C8.2l) In the reporting year, has your organization faced any challenges to sourcing renewable electricity?

	Challenges to sourcing renewable electricity	Challenges faced by your organization which were not country/area-specific
Row 1	Yes, both in specific countries/areas and in general	1. Inconsistent availability. 2. Fluctuating input costs

C8.2m

(C8.2m) Provide details of the country/area-specific challenges to sourcing renewable electricity faced by your organization in the reporting year.

Country/area	Reason(s) why it was challenging to source renewable electricity within selected country/area	Provide additional details of the barriers faced within this country/area
India	Arbitrary grid usage charges Inability to make exclusive renewable electricity usage claims Lack of credible renewable electricity procurement options (e.g. EACs, Green Tariffs)	Power is concurrent subject in India, with both the State and the Central Government having the authority to regulate the electricity market. This has lead to arbitrary charges for sourcing offsite renewable energy although inter state and intra state open access provisions have been put in place.

		Also, the power market regulations, specifically in the context of renewable energy are constantly evolving causing regulatory instabilities.
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C-T08.5

(C-T08.5) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.

Activity

Light Duty Vehicles (LDV)

Metric figure

0.21

Metric numerator

tCO₂e

Metric denominator

Production: Vehicle

Metric numerator: Unit total

114,599

Metric denominator: Unit total

545,325

% change from previous year

-29

Please explain

In calculation of Emission intensity, under LDV we have included Passenger vehicles alone. Passenger vehicles are being manufactured at our Sanand and Pune PV plants, hence the emissions (Scope 1 + 2) from these plants have been included as metric numerator. Emissions from Pune PV = 80,342 tCO₂e and Sanand = 34,257 tCO₂e.

Metric denominator has been calculated as the sum of number of cars and utility vehicles produced in FY 2023. During the reporting period, we had produced 545,325 nos. of cars and utility vehicles put together.

Emission intensity value (tCO₂e/vehicle) = Total emissions LDV (Scope 1+2) / Total number of vehicles produced (LDV)
 =114,599/545,325
 = 0.21 tCO₂e/vehicle produced

In FY2022, emission intensity was 0.30 tCO₂e/vehicle produced (Restated value, details

of re-statement provided in C5 and C6.2). Thus emission intensity has decreased by 29% in FY2023, when compared to FY2023.

FY2021 emission intensity (Restated value, details of re-statement provided in C5 and C6.2) was 0.35 tCO₂e/vehicle.

Activity

Heavy Duty Vehicles (HDV)

Metric figure

0.56

Metric numerator

tCO₂e

Metric denominator

Production: Vehicle

Metric numerator: Unit total

227,594

Metric denominator: Unit total

408,936

% change from previous year

-11

Please explain

In calculation of Emission intensity, under HDV we have included Commercial vehicles alone. Commercial vehicles (Medium & Heavy CVs, LCVs) are being manufactured at our Pune CV, Dharwad, Pantnagar, Lucknow and Jamshedpur plants, hence the emissions (Scope 1 + 2) from these plants have been included as metric numerator. Scope 1+2 emissions for these 5 plants is given below:

- Pune CV = 61,903 tCO₂e
- Dharwad = 442 tCO₂e
- Pantnagar = 25,819 tCO₂e
- Lucknow = 13,211 tCO₂e
- Jamshedpur = 126,220 tCO₂e

Metric denominator has been calculated as the sum of number of Medium & Heavy CV and LCV vehicles produced in FY 2023. During the reporting period, we had produced 408,936 nos. of Medium & Heavy CV and LCV vehicles put together.

Emission intensity value (tCO₂e/vehicle) = Total emissions HDV (Scope 1+2) / Total number of vehicles produced (HDV)
=227,594/408,936

= 0.56 tCO₂e/vehicle produced

In FY2022, emission intensity was 0.63 tCO₂e/vehicle produced (Restated value, details of re-statement provided in C5 and C6.2). Thus emission intensity has decreased by 11% in FY2023, when compared to FY2022.

FY2021 emission intensity (Restated value, details of re-statement provided in C5 and C6.2) was 0.67 tCO₂e/vehicle.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

0.18

Metric numerator

169,844 MT of Waste Disposed

Metric denominator (intensity metric only)

954,261 Vehicles Produced

% change from previous year

6.3

Direction of change

Decreased

Please explain

This includes total absolute hazardous waste and non-hazardous waste disposed in MT by manufacturing plants of TML India Operations. In FY2022, 138,876 MT of waste was disposed and 731,401 vehicles were produced. In FY2023, our specific waste disposed stands at 0.178 MT/vehicle produced. It has decreased by 6.3% in FY2023 over FY2022. Manufacturing facilities follow the waste management hierarchy of elimination, reduction, re-use, re-cycle, energy recovery and safe disposal.

Description

Energy usage

Metric value

3.07

Metric numerator

2,925,632 GJ Total Energy Consumption

Metric denominator (intensity metric only)

954,261 Vehicles Produced

% change from previous year

13.4

Direction of change

Decreased

Please explain

This is an energy intensity metric: GJ/vehicle produced (total direct and indirect energy consumption by manufacturing plants of TML India Operations measured in GJ per vehicle produced). In FY2022, the energy intensity was 3.54. Compared to FY2022, our energy intensity has decreased by 13.4% in FY2023.

C-TO9.3/C-TS9.3

(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.

Activity

Light Duty Vehicles (LDV)

Metric

Sales

Technology

Battery electric vehicle (BEV)

Metric figure

50,043

Metric unit

Units

Explanation

Our sales of BEVs in Passenger Vehicle segment in FY2023 was 50,043 units. Tata Passenger Electric Mobility Limited (TPEM) was incorporated with a focus to channelize the future investments into electric vehicles, dedicated BEV platforms, advanced automotive technologies and catalyze investments in charging infrastructure and battery technologies. We expanded our product portfolio in FY23. We continued to lead the charge in EVs and crossed 50,000 units sales for FY 2022-23, reflecting a 2.6x growth over FY 2021-

22. In FY 2022-23, Tata Motors introduced Nexon EV Max with a certified range of 453km and Tiago EV with two range options - 250km and 315km. Tata Motors now has widest portfolio of EVs with 5 EVs- Tiago EV, Xpres-T EV, Tigor EV, Nexon EV Prime and Nexon EV Max.

Activity

Heavy Duty Vehicles (HDV)

Metric

Sales

Technology

Battery electric vehicle (BEV)

Metric figure

409

Metric unit

Units

Explanation

Our sales of BEVs in Commercial Vehicle segment in FY2023 was 409 units and consisted of EV Buses and EV Small Commercial Vehicles

Activity

Light Duty Vehicles (LDV)

Metric

Sales

Technology

Other, please specify
Compressed Natural Gas

Metric figure

40,994

Metric unit

Units

Explanation

Our sales of Compressed Natural Gas (CNG) vehicles in Passenger Vehicle segment in FY2023 was 40,994 units.

We introduced advanced iCNG technology in Tiago and Tigor.

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	In FY 2023, INR 4878 Million was invested in the Research & Development of low carbon products for Light duty vehicles.

C-TO9.6a/C-TS9.6a

(C-TO9.6a/C-TS9.6a) Provide details of your organization's investments in low-carbon R&D for transport-related activities over the last three years.

Activity

Light Duty Vehicles (LDV)

Technology area

Battery electric vehicle

Stage of development in the reporting year

Large scale commercial deployment

Average % of total R&D investment over the last 3 years

18.8

R&D investment figure in the reporting year (unit currency as selected in C0.4) (optional)

Average % of total R&D investment planned over the next 5 years

54

Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Our R&D investments are into development of new technologies and new products for the Indian EV passenger car market where we expect to keep increasing our R&D investments as a share of total investments in the passenger car R&D over the next 5 years. The estimated figure of 54% is based on our plans to increase our share of EVs in our passenger car portfolio to 25% in the next 5 years from the current 9%.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Y

 DNV -TATA GHG Verification Statement_TML_FY2022-23_130723.pdf

Page/ section reference

Page 2, Section: Conclusion - under which our verified Scope 1 emissions are reported.

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

Y

 DNV -TATA GHG Verification Statement_TML_FY2022-23_130723.pdf

Page/ section reference

Page 2, Section: Conclusion - under which our verified Scope 2 emissions are reported.

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Scope 3: Upstream transportation and distribution

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Upstream leased assets

Scope 3: Use of sold products

Scope 3: Franchises

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 DNV -TATA GHG Verification Statement_TML_FY2022-23_130723.pdf

Page/section reference

Pages 2&3, Section: Conclusion - under which our verified Scope 3 emissions are reported.

Relevant standard

DNV VeriSustain Protocol/ Verification Protocol for Sustainability Reporting

Proportion of reported emissions verified (%)

100


C10.2


(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Emissions reduction activities	Tata Motors Limited commissioned DNV Business Assurance India Private Limited (DNV) to conduct independent third party verification of sustainability disclosures and key performance indicators disclosed in TML's Integrated Annual Report 2022-23 for the period April 1, 2022 to March 31, 2023. The Report is based on the principles of IIRC Integrated Reporting (IR) Framework and the Global Reporting Initiative (GRI) Standards. This assurance engagement was conducted in accordance with ISAE 3000 (Revised) and DNV's assurance methodology 'VeriSustain' for a "Limited Level" of Assurance.	Emission reduction initiatives reported under C4.3a and C4.3b have been verified by third party. This verification is done on annual basis. Assurance Statement: Page 2, KPIs- GRI 305-5 and GRI 302-4.  1

C8. Energy	Energy consumption	Tata Motors Limited commissioned DNV Business Assurance India Private Limited (DNV) to conduct independent third party verification of sustainability disclosures and key performance indicators disclosed in TML's Integrated Annual Report 2022-23 for the period April 1, 2022 to March 31, 2023. The Report is based on the principles of IIRC Integrated Reporting (IR) Framework and the Global Reporting Initiative (GRI) Standards. This assurance engagement was conducted in accordance with ISAE 3000 (Revised) and DNV's assurance methodology 'VeriSustain' for a "Limited Level" of Assurance.	Direct energy, indirect energy and renewable energy quantities reported under C8.2 have been verified by third party. This verification is done on annual basis. Assurance Statement: Page 2, KPIs- GRI 302-1.  1
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 1IR-Assurance-Statement-22-23.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, but we anticipate being regulated in the next three years

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Currently, we are under CAFE regulation for our passenger cars business to reduce the tailpipe emissions of our products. While the regulation has been imposed and targets set, there is not tax today which is collected from any OEM for non achievement. The government has already announced the intent to introduce a trade based mechanism and penalty for non achievement in due course through compliance markets.

Also, India is getting ready to introduce a cap and trade based carbon markets emerging from the existing PAT scheme. Currently, under the PAT scheme, transport sector is a non obligated entity but we anticipate with the introduction of this new market, all entities will be regulated under these markets for their scope 1 and 2 emissions.

For CAFE regulation, our existing fleet is achieving the targets and all our product plans are aligned to ensure the same. We are leaders in Passenger electric vehicle segment in India and have committed to Net Zero targets and SBTi to ensure that we decarbonize our fleet in line to not just regulations but beyond that.

We have ensured that we meet these CAFE requirements by a substantial margin and are leaders in this space. This has been achieved through investments into programmes aimed at

- Decarbonization through improvement of Fuel economy of our products
- Decarbonization through alternate fuel powertrains
- Decarbonization through Electrification
- Decarbonization through light weighting
- Decarbonization through Sustainable sourcing
- Decarbonization through other engineering interventions.

For Scope 1+2, apart from our commitment to SBTi, we have also committed to RE 100 to reduce our scope 2 emissions to zero by end of this decade and have been implementing EnCon practices in our operations to reduce our scope 1 emissions.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Climate change performance is featured in supplier awards scheme

Other, please specify

Best practice sharing by suppliers during workshops & felicitation. Recognizing suppliers for good sustainability performance during Annual Supplier Conference I

% of suppliers by number

6.29

% total procurement spend (direct and indirect)

14.05

% of supplier-related Scope 3 emissions as reported in C6.5

100

Rationale for the coverage of your engagement

Automobile Sector has a diverse, complex, and multi-tiered supply chain, contributing to significant environmental and social impacts. We embarked upon Sustainable Supply Chain journey in FY 2016-17, aiming to improve the sustainability performance of our supply chain. We are implementing this initiative in a phased manner, which involves sustainability assessments of selected suppliers. TML has formulated "Sustainability Guidelines for Suppliers" and Data template covering key topics like Tata Code of Conduct, Management System Certification, Energy and environment, Health and Safety, Labor and Human rights, Transparency and Reporting. Sustainable Supply Chain Initiative, step by step process: 1. Selection of suppliers. 2. Sharing Sustainability Guidelines and Data template with selected suppliers. 3. Awareness and capacity building of selected suppliers on ESG practices. 4. Data collection and on-site sustainability assessments of suppliers (In FY2023, we had carried out only virtual assessments.) 5. Recognition of suppliers identified with remarkable sustainability performance.

Impact of engagement, including measures of success

In FY 2023, our sustainability assessments were conducted for 134 suppliers. Supplier-related Scope 3 emissions reported in C6.5 (under Categories: Purchased Goods & Services and Upstream Transportation & Distribution) have been calculated using data collected from these 134 suppliers. Outcomes of this Sustainable Supply Chain programme includes: (i) Improved sustainability awareness and safety culture (ii) Suppliers adoption of energy conservation initiatives, adoption of Renewable Energy and Water & Waste Management. As of 31st March 2023, 630 suppliers cumulatively have been covered under sustainability assessments.

Comment

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

In FY 2019, Tata Motors initiated the "Dealers Sustainability Initiative", similar to our "Sustainable Supply Chain Initiative" for engaging with our downstream channel partners and authorized service stations. The Dealer Code of Conduct and the Dealer Sustainability Guidelines were developed to guide dealerships to improve their sustainability practices. As part of our intent to build Channel Partner Sustainability long term strategy, we are developing a baseline for our channel footprint and a score card to assess our partners on the identified

material topics. The Company will collaborate with our partners for capacity building and generate new use cases for incremental value creation.

Channel partner related Scope 3 emissions reported in C6.5 (under Category: Franchises) have been calculated using data collected from 417 channel partners engaged in FY2023 as part of sustainability assessment.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Attach commitment or position statement(s)

1. Tata Motors is committed to the CII Climate Action Charter, a platform that facilitates businesses to lead their sectoral climate actions and showcase best practices for addressing climate risks. (Commitment document is attached, The link that states that Tata Motors is a signatory to this commitment URL : <https://ccac.sustainabledevelopment.in/signatories>)

2. Our climate change policy discloses our commitment to proactively engage with Government, forms and institutions in shaping regulations related to Climate Change. (Policy attached, URL : <https://investors.tatamotors.com/pdf/Climate-Policy-Eng.pdf>)

3. We are a signatory to RE100 and have committed to source 100% renewable power by 2030. (Commitment attached, URL- <https://www.there100.org/re100-members>)

4. We have committed to Net Zero by 2040 for the Passenger Car business and by 2045 for the Commercial Vehicle business (Annual Integrated Report FY2023, Our sustainability pillars for planet resilience, Page 29).

5. We have committed to Science Based Targets Initiative (SBTi) for setting near -term

GHG reduction targets in June 2022. (Commitment attached, URL <https://sciencebasedtargets.org/companies-taking-action#anchor-link-test>)

📎 Climate Action Charter CII_15-Apr-22.pdf

📎 Climate-Policy-Eng.pdf

📎 RE100 Commitment.PNG

📎 annual-report-2022-2023_Page 99.pdf

📎 SBTi Commitment.PNG

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Policy makers: engagement with policy makers are interfaced through Corporate Affairs team of TML India Operations. This team has an appointed champion that works closely with working teams to understand the challenges and required interventions. Industry associations: matter is put before industry association on case to case basis. Also for every matter related to Climate change the Corporate Sustainability team is consulted to ensure alignment with Tata Motors climate commitment and/or climate transition plan.

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

-Open Access policies for offsite renewable energy, Renewable electricity procurement through Green Tariff route

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Renewable energy generation

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

India

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

-Engaging with local regulatory bodies on policy framework on renewable energy.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

-TML has been working with local regulatory bodies for resolving gaps in policy framework which is preventing the company from maximizing the uptake of RE.

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Confederation of Indian Industries (CII)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

CII is a non-government, not-for-profit, industry-led and industry-managed organization, which works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes. CII is involved in providing advisory services to the industry in the various areas including, sustainable development, green buildings, energy efficiency, water management, environmental management, renewable energy, Green business incubation and climate change activities. CII is working with industries and policy makers on formation of regulatory framework on climate change and encouraging promotion of low carbon economy.

CII-ITC Centre of Excellence for Sustainable Development initiated the Climate Action Programme CAP 2.0° for Indian industry with an objective to recognize and drive meaningful corporate action on climate change, and promote the integration of such action into organizational business models and processes. CAP 2.0° aims to help the companies in preparing scenario analysis, aids in implementing Task Force on Climate-Related Financial Disclosures (TCFD) recommendations and calculate internal carbon pricing with a better investor and stakeholder relations due to enhanced clarity on long

term climate change strategy. Tata Motors is a part of CAP 2.0° that enables internal capacity building through trainings and facilitates knowledge transfer across companies through CAP 2.0° assessment framework.

TML participates in the CII organized energy efficiency improvement award functions. In FY2023, (i) Jamshedpur won the top position in Energy Intensive Group at the 15th CII ENCON Awards 2022, organised by CII Eastern Region.; (ii) Pimpri won 23rd “CII - National Award for Excellence in Energy Management-2022”.

In

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

Describe the aim of your organization’s funding

Have you evaluated whether your organization’s engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

 annual-report-2022-2023.pdf

Page/Section reference

Page 28 (Chairman's message), Page 32 (Tata Motors ED's Message), Page 34 (MD TMPV & TPEM Message), Page 27 (Key Performance Highlights), Page 12 - 15 (Value Creation Model), Page 87-88 (Risk Management - Climate Change), Page 98 - 111 (Environment), Page 150 (Board's Report - Energy & Environment), Pages 163 - 164 (Annexure 3), Page 194 - 200 (Principle 6), Page 286 (The Safety, Health & Sustainability Committee)

Content elements

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets
- Other metrics

Comment

Climate change, GHG emissions performance and all the Content Elements for this reporting year has been published in our Annual Integrated Report 2022-23.

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization’s role within each framework, initiative and/or commitment
Row 1	RE100 UN Global Compact	1. We are a signatory to RE100 and have committed to source 100% renewable power by 2030. (Commitment attached, URL- https://www.there100.org/re100-members) 2. We are a participant to the United Nations Global Compact (UNGC).

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity
Row 1	Yes, executive management-level responsibility	We have Safety, Health and Sustainability committee of the Board who oversees the Biodiversity agenda of the company along with other sustainability agenda items.

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	
Row 1	No, but we plan to do so within the next 2 years

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity-sensitive areas in the reporting year?

No

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity-related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water management Other, please specify Biodiversity baselining across all plants and for all the three seasons, Feasibility studies for flagship projects in Biodiversity area, Work on OECM sites

C15.6


(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
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Row 1	No, we do not use indicators, but plan to within the next two years	Pressure indicators
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C15.7

(C15.7) Have you published information about your organization’s response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Other, please specify Approach to Biodiversity Management	Environment, Biodiversity- Page 110.  1

 1annual-report-2022-2023.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Sustainability Officer	Chief Sustainability Officer (CSO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company’s annual revenue for the stated reporting period?

	Annual Revenue
Row 1	

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms