# **Mahindra & Mahindra - Climate Change 2020**

## **C0. Introduction**

## **C0.1**

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

Our story was cast and hewn in India’s steel industry in 1945, and today, we’re a US $20 billion global federation of companies. Famous for our rugged and reliable automobiles, some also know us for our innovative IT solutions, and others for our commitment to rural prosperity.

Befitting our size, we operate in 20 key industries, providing insightful and ingenious solutions that are global in their ramifications. Our companies act as a federation, with an optimum balance of entrepreneurial independence and synergy. From Mobility to Rural Prosperity and IT, from Financial Services to Clean Energy and Business Productivity, we’re empowering enterprise everywhere. Headquartered in Mumbai, India.

We have an operational presence in over 100 countries and employ more than 200,000 people. And though we operate across vast geographies, our governing spirit of "Rise" binds us as one Mahindra, dictating that we empower people everywhere to not only chart new frontiers, but to conquer them too.

Our Purpose: We've made humanity’s innate desire to Rise our driving purpose: we will challenge conventional thinking and innovatively use all our resources to drive positive change in the lives of our stakeholders and communities across the world, to enable them to Rise. Our purpose is why we exist and why we come to work every day, infusing our lives with meaning, and galvanizing us to deliver our promise.

Challenge Conventional Thinking: In thought and deed, we ask for no limits and we accept none. Where people see problems, we see possibilities. Breakthroughs, not barriers. We dare to not only do but dare to disturb the universe itself.

Innovative Use of Our Resources: Our first instinct is not to find the right answer, but to question the question itself. As we relentlessly seek to break fresh ground and solve problems, alternative thinking and the ingenious use of resources drive us forward.

We enable our stakeholders to Rise: We work for the greater good. Advancing humankind. Connecting the world. Reducing its distances. Inhabiting our customers’ world means co-creating lasting, positive change in their lives.

For more details, please refer the following source:

http://www.mahindra.com/about-us

## **C0.2**

### **(C0.2) State the start and end date of the year for which you are reporting data.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Start date** | **End date** | **Indicate if you are providing emissions data for past reporting years** | **Select the number of past reporting years you will be providing emissions data for** |
| Reporting year | April 1 2019 | March 31 2020 | No | <Not Applicable> |

## **C0.3**

### **(C0.3) Select the countries/areas for which you will be supplying data.**

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-TO0.7/C-TS0.7**

### **(C-TO0.7/C-TS0.7) For which transport modes will you be providing data?**

Light Duty Vehicles (LDV)

## **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(s)** | **Please explain** |
| Director on board | Managing Director of Mahindra and Mahindra Ltd. personally drives climate related issues within the organization. In the past he has committed that the organisation becomes Carbon neutral by 2040 Examples : 1. The Managing Director of the Mahindra Group on behalf of the entire Mahindra Group of companies, committing to being carbon neutral by 2040 - ten years ahead of the world Paris Agreement target. 2. M&M Ltd. also became the first company in the world to commit to doubling energy productivity by signing on to The Climate Group’s program EP100 and first Indian company to announce its internal Carbon Price of $10 per ton of carbon emitted to fund investments required to pursue the path of carbon neutrality. |
| Board-level committee | Sustainability at Mahindra is governed by a top-down approach enabling strategic vision and action plan to not just steer grassroots interventions, but also monitor its effectiveness and disclose it transparent. We have a Board Committee for Corporate Social Responsibility(CSR), which overlooks 2 councils: \* CSR Council \* Sustainability Council The CSR Committee is chaired by Lady Independent director and 2 other Independent Directors along with the Chairman, and Managing Director of Mahindra and Mahindra Ltd. are Whole-time Directors and members of the mentioned above Board Committee. The Committee, reviews and monitors the CSR as well as Sustainability initiatives. Under this committee we have 1. Mahindra became the first company in the world to commit to doubling energy productivity by signing on to The Climate Group’s program EP100 and first Indian company to announce its internal Carbon Price of $10 per ton of carbon emitted to fund investments required to pursue the path of carbon neutrality. 2. In 2018 made public commitment at World economic forum, Davos of setting the SBT targets in-line with Paris agreement and lead by example for other corporate, subsequently our SBT targets approved in 2019. 3. Executive Chairman of our Company who is also a Board member of the United Nations Global Compact launched report of the High Level Commission on Carbon Pricing and Competitiveness at the United Nation’s Climate Action Summit in New York on 23rd September, 2019 4. Subsequently, in in 2019 M&M got their SBT targets approved |

## **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** | **Scope of board-level oversight** | **Please explain** |
| Scheduled – all meetings | Reviewing and guiding strategy  Reviewing and guiding major plans of action  Reviewing and guiding risk management policies  Reviewing and guiding annual budgets  Setting performance objectives  Monitoring implementation and performance of objectives  Monitoring and overseeing progress against goals and targets for addressing climate-related issues | <Not Applicable> | Sustainability as core strategic driver is systematically implemented by Business Divisions. We have a Board Committee for Corporate Social Responsibility(CSR), which overlooks 2 councils: \* CSR Council \* Sustainability Council The CSR Committee is chaired by LADY Independent director and 2 other Independent Directors along with the Chairman, and Managing Director of Mahindra and Mahindra Ltd. are Whole-time Directors and members of the mentioned above Board Committee. The Committee, inter alia, reviews and monitors the CSR as well as Sustainability activities including Climate change, Water, etc. Climate-related issues are a scheduled agenda item. During the board meeting all these issues are discuss/debate and then decide within the time allotted on the agenda. At least once in a year these issues gets discussed. The goal setting process follows the policy deployment methodology using balance score card approach. The strategic business priorities are part of President’s goals for the division which are then cascaded to each member of management with agreement with their reporting executives. Periodically Mahindra Business Leadership Council quarterly reviews the progress against main strategic targets. Achieving these targets is directly linked to the variable income component of the concerned team and team members. Strategy: President of Sustainability Council gives a detailed briefing on strategic plan to deal with Climate related issues. Example: President Sustainability Council presented the business case for becoming Carbon Neutral and then a strategic decision was taken to declare Mahindra & Mahindra’s plan to become carbon neutral by 2040 by the Chairman. Major plans of action: President Sustainability Council briefs the board committee on Major actions required to deal with Climate related issues. Example: Signing the Science Based Targets commitment was a major action required to tackle climate related issue and was approved by the Chairman to ensure climate action. Risk management policies: Chief Risk officer updates the board committee on the climate change risks that Mahindra & Mahindra Limited might face in short medium or long term. Example: Based on these identified risks Mahindra & Mahindra Ltd. took a decision of declaring a carbon price. Declaring $10 per ton of carbon produced as a carbon price has helped the business to invest in important low carbon technologies. Setting performance objectives, monitoring implementation and performance of objectives and overseeing progress against goals and targets: Chief Sustainability Officer provides an update on the yearly performance objectives and progress made on the targets. Example: A review of progress on the objectives and targets takes place every month with President of Group Sustainability Council and Chief Sustainability Officer. |

## **C1.2**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of the position(s) and/or committee(s)** | **Reporting line** | **Responsibility** | **Coverage of responsibility** | **Frequency of reporting to the board on climate-related issues** |
| Chief Executive Officer (CEO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Chief Financial Officer (CFO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Chief Risks Officer (CRO) | <Not Applicable> | Assessing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Chief Sustainability Officer (CSO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Risk committee | <Not Applicable> | Assessing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Safety, Health, Environment and Quality committee | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Sustainability committee | <Not Applicable> | Assessing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| Risk manager | <Not Applicable> | Assessing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| President | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | Quarterly |
| Environment/ Sustainability manager | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Business unit manager | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |
| Other C-Suite Officer, please specify (Chief of Manufacturing Operation) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |

## **C1.2a**

### **(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

Sustainability is all pervasive at Mahindra. Over the years, it has percolated deep within the organisaon in a top-down approach, encompassing both vision and execuon, as well as measurement and disclosure. Sustainability at Mahindra is governed by a top-down approach enabling strategic vision and action plan to not just steer grassroots interventions, but also monitor its effectiveness and disclose it transparently. We have a Board Committee for Corporate Social Responsibility(CSR), which overlooks 2 councils:

\* CSR Council

\* Sustainability Council

The CSR Committee is chaired by LADY Independent director and 2 other Independent Directors along with the Chairman, and Managing Director of Mahindra and Mahindra Ltd. are Whole-time Directors and members of the mentioned above Board Committee.

The Committee, inter alia, reviews and monitors the CSR as well as Sustainability activities including Climate change, Water, etc., inter alia, the formulation and recommendation to the Board for its approval and implementation, the Business Responsibility (“BR”) Policy(ies) of the Company, undertake periodical assessment of the Company’s BR performance, review the draft BR Report and recommend the same to the Board for its approval and inclusion in the Annual Report of the Company. The role of this Committee also includes recommendation of the amount of expenditure to be incurred on the CSR & Sustainability activities as per CSR & Sustainability Policy of the Company, as also to monitor the same from time to time.

The role of CSR committee also includes:

· Set directions for promoting the CSR agenda for M&M Ltd. and all Group Companies

· Review the Business Responsible Report and receive Board’s approval for inclusion in the Annual Report of the Company.

· Approve of the amount of expenditure to be incurred on the CSR & Sustainability activities for each financial year.

· Integrating Climate change risk management with the strategy, objectives and culture of the organisation;

· Making necessary resources available for managing sustainability risk;

· Establishing the amount and type of risk that may or may not be taken (risk appetite).

· Determining management accountability, roles and responsibilities

The Board CSR Committee reviews progress of CSR Council and Group Sustainability Council. The Group Sustainability Council is chaired by Group President & CEO (Aerospace & Defense) , and is a member of Group Executive board.

The Sustainability council reviews the sustainability performance on a quarterly basis. The council approves new initiatives and monitors progress on ESG parameters in the business. SUSTAINABILITY COUNCIL Approves new initiatives and monitors progress of integration of the ESG parameters in business & operations

GROUP SUSTAINABILITY CELL Drives sustainability through awareness and knowledge building across the Group. Supports individual businesses in integrang sustainability in strategic business processes and operations. Makes all external disclosures.

SUSTAINABILITY CHAMPIONS Located at all plants/oﬃces to locally drive & monitor various initiatives and collect data for reporting

In line with activities of Group Sustainability, the Sustainability champions are deployed at all divisions, plants/offices to locally drive & monitor various initiatives and collect data for sustainability reporting.

Sustainability as core strategic driver is systematically implemented by Business Divisions. The goal setting process follows the policy deployment methodology using balance score card approach. The strategic business priorities are part of President’s goals for the division which are then cascaded to each member of management with agreement with their reporting executives. Periodically Mahindra Business Leadership Council reviews the progress against main strategic targets. Achieving these targets is directly linked to the variable income component of the concerned team and team members.

M&M is the first company in India to adopt and declare Internal Carbon Price of US$10 per ton of carbon emitted that will be utilised to fund the sustainable initiatives to reduce CO2 emissions. M&M was also the first company globally to commit to doubling the energy productivity by 2030 on a base line of 2009.

## **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 | Sustainability performance is a part of the Balance Score Card of business and is drilled down to the President, of Automotive Division and Farm Division have incentives linked to the company's Balanced Score Card The annual performance management system takes these into consideration, aspects of sustainability like reduction in Carbon footprint, Water footprint as per Promise 2022 commitments, Energy Productivity. |

## **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** | **Type of incentive** | **Activity inventivized** | **Comment** |
| Board/Executive board | Monetary reward | Company performance against a climate-related sustainability index | Sustainability performance is a part of the Balance Score Card of business and is drilled down to the President, CEO of Automotive Division and Farm Division have incentives linked to the company's Balanced Score Card The annual performance management system takes these into consideration, aspects of sustainability like reduction in Carbon footprint, Water footprint as per Promise 2022 commitments, Energy Productivity. |
| Chief Executive Officer (CEO) | Monetary reward | Emissions reduction project  Emissions reduction target  Energy reduction project  Energy reduction target  Efficiency project  Efficiency target | Sustainability performance is a part of the Balance Score Card of business and is drilled down to the President, CEO of Automotive Division and Farm Division have incentives linked to the company's Balanced Score Card The annual performance management system takes these into consideration, aspects of sustainability like reduction in carbon footprint, water footprint, Energy Productivity. |
| Chief Financial Officer (CFO) | Monetary reward | Efficiency project | The President of Automotive Division and Farm Division have incentives linked to the company's Balance Score Card. Sustainability is a part of the performance management system as a Key Result Areas of the CFO. The annual performance management system takes these into consideration while assessing their performance. |
| Director on board | Monetary reward | Emissions reduction project  Energy reduction project  Efficiency project  Company performance against a climate-related sustainability index | The sustainability performance is a part of the Balance Score Card of business. Some part of the business strategy directly/indirectly linked to the Sustainability Performance which is linked to performance of the Directors on board. The annual performance management system takes these into consideration. The sustainability parameters include GHG emissions, Energy reduction and water reduction etc |
| Chief Risk Officer (CRO) | Monetary reward | Other (please specify) (Related to climate change risks) | Some part of the business strategy directly/indirectly linked to the Sustainability Performance which is linked to performance of the Directors on board. The business strategy is formulated considering the organization level risks and opportunities identified in the Climate Change Matrix are prioritized based on Direction (positive or Adverse), Magnitude (high , medium or Low) , frequency of occurrence, nature of severity, how quickly they may materialize, Reversibility , Ir- reversibility and on their potential impact to and of the company in present and future. The annual performance management system takes these into consideration. The sustainability parameters including GHG emissions, Energy reduction and water reduction etc |
| Energy manager | Monetary reward | Energy reduction project  Energy reduction target  Efficiency project  Efficiency target | The energy managers are rewarded for emissions reduction and energy reduction. The targets are part of the performance management system as Key Result Areas which is liked to variable pay. Also energy reduction competition at Business level has additional monetary and Recognition incentives. |
| President | Monetary reward | Emissions reduction target  Energy reduction target  Efficiency target | The President of Automotive Division and Farm Division have incentives linked to the company's Balanced Scorecard. Sustainability is a part of the performance management system as a Key Result Areas of the Executive Officer. The annual performance management system takes these into consideration while assessing their performance. |
| Business unit manager | Non-monetary reward | Emissions reduction project  Emissions reduction target  Energy reduction project  Energy reduction target  Efficiency project  Efficiency target  Supply chain engagement | The Mahindra Sustainability Awards have been in place since 2012-13, which award businesses, unit/locations or employees from the group for their sustainability related performance for the previous year. The awards are divided into 4 categories: 1. The Grand Master Award is a business level award for best overall performance in all 3 bottom lines. 2. The Progressive Performer Award is a unit/location level award for outstanding improvements in sustainability related parameters w.r.t the previous year. 3. The Game Changer Award is a unit/location level award for any path-breaking initiative for improving any of the 3 bottom lines with the desired result (eg: energy/water saving, emission reduction, local sourcing, life cycle assessment). 4. The Change Agent Award is for the most proactive sustainability champion, who has managed to influence senior management to raise the sustainability bar in the organisation. We also carry out the Sustainability Awards for Suppliers which is earmarked to recognize the outstanding contribution by suppliers towards the cause of sustainability. The suppliers are assessed on parameters such as GRI indicator monitoring, availability of Sustainability Roadmaps and key initiatives undertaken. All employees contributing to the annual reporting as per the GRI framework and those involved in any special projects relating to energy efficiency are recognized by the Chairman, Sustainability Council with a certificate. |
| All employees | Monetary reward | Behavior change related indicator | Every year for all employees we conduct Energy saving competition. In which who saves the maximum amount of energy at their residence, we pay entire year's electricity bill to the winner of the competition. And under Rise Prize competition we encourage employees to come up with the innovative ideas of energy saving http://rise.mahindra.com/rise-prize-indias-biggest-innovation-challenge-is-here/ |
| Environment/Sustainability manager | Please select | Emissions reduction project  Emissions reduction target  Energy reduction project  Energy reduction target  Efficiency project  Efficiency target | The Mahindra Sustainability Awards have been in place since 2012-13, which award businesses, unit/locations or employees from the group for their sustainability related performance for the previous year. The Change Agent Award is for the most proactive sustainability champion, who has managed to influence senior management to raise the sustainability bar in the organisation. |
| Other, please specify (Suppliers) | Please select | Environmental criteria included in purchases  Supply chain engagement | We also carry out the Sustainability Awards for Suppliers which is earmarked to recognize the outstanding contribution by suppliers towards the cause of sustainability. The suppliers are assessed on parameters such as GRI indicator monitoring, availability of Sustainability Roadmaps and key initiatives undertaken. Preference is given to such suppliers adhering to award criteria in terms of business. |
| All employees | Non-monetary reward | Behavior change related indicator | All employees contributing to the annual reporting as per the GRI framework and those involved in any special projects relating to energy efficiency are recognized by the Chairman, Sustainability Council with a certificate. |

## **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 | 3 | Mahindra & Mahindra now considers 0-3 year horizon as short term risk horizon. We review Transitional risk (Policy changes, Product performance in terms of response to climate change) and Physical risk (Extreme weather events and changing rainfall pattern) every quarter. Short-term risks are risks that could impact M&M within the three-year time horizon. The most significant short-term climate change risks we observe are: Current regulations; policies in terms of environment, product etc. like BS IV norms for vehicles w.e.f. 1st Apr 2017. Emerging regulations like BS VI norms w.e.f. 1st April 2020 will transform the Auto industry and its products. Other short-term risks like non-availability of water at production facilities due to inadequate monsoon, reliability of supply chain and ability to operate under dynamic conditions. Our short-term strategy aims towards mitigating CO2e emissions both from a) product use and b) the value chain of our production, accounting for indirect risks and opportunities from regulations and changing consumer behaviour and adoption of direct physical risks from CC. a) To improve mitigation and meet regulations and changing consumer demand we continuously Research and Develop the Efficient vehicles to meet fleet emission targets and keep enhancing Electric vehicles portfolio also we educate the users to get best performance of our vehicles and least impact the environment. Our continuous engagement with suppliers to assess their immediate concerns and suggest ways and means to overcome/adapt to the dynamic conditions. These time horizons also apply to other business practices as well. We have Enterprise Risk Management processes which covers the climate change risks their evaluation and prioritization, etc. We monitor risk and opportunities information through various sources such as, - sector associations, - peer company benchmarking, - media monitoring - CDP ,DJSI, WRI reports Our other business risk assessment horizon varies depending on type of the risk. |
| Medium-term | 3 | 6 | Medium Term Risks: are the major risk factors for the company in the next three to six years. We define Medium-term as being risks that are currently major concerns, and existing risks associated with current trends that are anticipated to increase. Some of the medium-term risks are as given below: • Worsening of Climate conditions • Sourcing of raw materials and energy • Product liability • Environmental risks and liabilities • Information Technology • Changes in existing and upcoming laws and regulations • Innovation and identification of major transforming technologies • Attraction and retention of talent on climate change expertise • Production process risks • Managing climate change risks These time horizons also apply to other business practices as well. We have Enterprise Risk Management processes which covers the climate change risks their evaluation and prioritization etc, we monitor risk and opportunities information through various sources such as, - sector associations, - peer company benchmarking, - media monitoring We review Transitional Risk (Emerging technology, Vehicle electrification regulation) and Physical Risk (Availability of water and effect on supply chain and production) every year and monitor trends w.r.t scenarios built with short term risk implementation plans. |
| Long-term | 6 | 15 | Mahindra & Mahindra now considers 6 – 15 years as Long term risk Horizon. We review Transitional Risks (Extended producer responsibility risk, Transition to shared mobility, Risk of raw material procurement), Physical Risk (Increase in average temperature and impact on Production and supply chain) & Brand Reputation Risk (Expectations set by Climate Commitments of Science based Targets and Carbon Neutrality) Our long term Climate change and Business Risk strategy is aligned to same period. |

## **C2.1b**

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

The 2015 Paris Agreement was a tipping point in the global approach to climate change. By agreeing to limit global temperature rises to well below 2°C, governments have committed to transforming to a low-carbon economy. As the manifestation of climate-related opportunities and risks accelerates in both size and scope. Business as usual will not be a good indicator of how companies will perform.

Regulators like Security Exchange Board of India have begun to respond to the risks by emphasizing the link between climate-related risk and financial stability. It is expected that M&M now conducting scenario analysis in line with a 2-degree pathway and then setting out how climate-related issues impact our strategy and financial planning thru comprehensive disclosure of comparable environmental data in their mainstream reports, driving climate-related risk management further into the boardroom.

M&M assesses potential risks and opportunities (R/O) based on Board level Risk committee’s professional judgment, w.r.t. the relevant case laws & regulations, definitions and guidance from the experts and discussions with external auditors. This includes both a quantitative and qualitative assessment.

From a quantitative perspective, M&M considers the risk as a percentage of various financial statement amounts (e.g., assets, liabilities, revenues, earnings, etc.).

From a qualitative perspective, M&M considers all of the relevant circumstances including whether the risk is strategically important to the Company’s business plan, whether the risk will have an impact on future results of operations or financial condition, and whether the risk is important to an understanding of the company’s business.

As a result, risks that we have identified as having a substantive impact will vary from risk to risk in terms of quantitative and qualitative perspectives.

How M&M will be impacted due to operational, financial or strategic effects that undermine the entire business or part of the business can arise due to any of the following combination or individually:

- the proportion of our business units’ operations is affected

- the size of the impact on those business units

- the dependency on that unit

If any Risk/ Opportunity influenced by Change in Climate having 5% impact on the company level current or future revenue is considered as substantive Risk/opportunity.

example of Risk disclosed in Annual report include:

a) Monsoon: A normal monsoon is important for both agriculture as well as the rural economy and sentiment at large. The tractor business in particular and the automotive business to some degree, run the risk of a drop in demand, in case of a significant variation in the monsoon. In addition, an untimely monsoon and uneven spread has the potential of adversely impacting the business. Going into FY 2021, the current forecast by Indian Meteorological Department points towards a normal monsoon.

b)Environment and Alternate Fuels: With concerns over air quality and the need to reduce dependence on fossil fuels, the Government is actively pursuing large scale adoption of EVs, especially for intracity uses in feet application. However, considering the potential market opportunity, all leading OEMs and some new players, are actively pursuing development of EV technologies and products, across vehicle categories. The competition in the EV space is expected to be intense.

Company is a pioneer for Electric Vehicles in India, and is actively pursuing development of the Electric Vehicle (EV) market, products and technology. Specifically, on the front of electric vehicles, your Company is investing over Rs. 500 crores in its Electric Vehicle (EV) Project under the new EV Policy of the Government of Maharashtra.

In the past, success was about getting the right product at the right cost through an efficient channel. Going into the future, the product, the cost and the channel will be

essential, but not sufficient. Much more will be needed to win at the marketplace. The winning mantras are going to be around providing a solution, delivering an experience

and having a purpose. Customers are increasingly assigning value to a company that has a purpose.

Company realises this, and hence has already started the shift from just offering product, to providing a solution and delivering an experience, with the product

becoming an enabler. Rise, is the purpose of our Company

## **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

Upstream

Downstream

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

### **Time horizon(s) covered**

Short-term

Medium-term

Long-term

### **Description of process**

Risk analysis covers all areas where M&M operates and all areas which company is planning to work, M&M Ltd. has a well-deﬁned Risk Management (RM) framework that works at various levels across the enterprise with a robust organisational structure for managing and reporting on risks; processes for identifying, assessing, and managing climate-related issues are integrated into our overall RM. Company has a Board level RM Committee, Chaired by the MD and CEO of M&M ltd. is authorised to monitor and review RM plan and risk certiﬁcate, to review and recommend to the Board the modiﬁcations to the RM Policy. Further, the Board has constituted a Corporate Risk Council comprising the Senior Executives of the Company reviews risks and RM Policy on periodic intervals. The RM Policy, inter alia, includes identiﬁcation of risks, including Climate Change(CC) and related risks and also those which may threaten the existence of the Company. RM process has been established across the Company and is designed to identify, assess and frame a response to threats that affect the achievement of its objectives. The business risk of CC can affect us in multiple ways – regulatory impact on vehicle sale eg. BS-III to BS-IV & BS-VI to BS-VI, physical changes which could affect the operating environment of the vehicles and others. As we operate in a climate sensitive industry, hence, we have taken major steps to identify and address the risks and-or opportunities (R/O) arising from CC. We consider the role of CC as R/O multiplier and the inter-dependencies between different sources of R/O’s. At M&M, we have Chief Risk Officer (CRO), reporting to Head Strategy. The CRO is responsible for M&M's enterprise and operational RM plan and processes including identifying and assessing corporate and asset level risks. Organization Level Process - The CRO and the Chief Sustainability Officer are engaged through a structured process to deliberation on possible R/O from Technology-Economic-Media-Political-Legal-Environmental-Social (TEMPLES) framework. The outcome of the exercise is the CC Matrix which became the strategic input for building our Short term ‘Promise Statement 2019’. Asset Level Process - The R/O matrix is discussed with all the Plant Heads and their feedback is sought to further strengthen the matrix. The Plant Heads discuss and deliberate on the risks/opportunities(R/O) identified by the CRO / CSO and provide details of asset specific R/O related to climate change. The deliberation at the organization and asset level leads to a robust R/O identification process which provides tangible feedback to the organizational strategy for CC. Methods for analysing R/O includes exposure analysis, historical analysis, and scenario analysis. These methods can be expressed qualitatively or quantitatively. Qualitative evaluations describe the types of impacts that might occur during a R/O event. The planning team, subject matter experts, stakeholders, and community members can conduct qualitative evaluations by brainstorming and discussing potential impacts. Quantitative evaluations assign values and measure the potential losses/Gain to the assets from R/O. At the company level the R/O’s identified in the CC Matrix are prioritized based on Direction (positive or Adverse), Magnitude (high, medium or Low), frequency of occurrence, nature of severity, how quickly they may materialize, Reversibility & Irreversibility and on their potential impact to & of the company in present & future. All the R&O’s are assigned weightage based on the complete process. All the Plant Heads are again appraised on the finalized R/O matrix and are expected to formulate strategy and action plans to address the R/O at their assets in terms of 1) What actions are needed? 2) When must actions be completed? to reduce/enhance the R/O impact severity and/or probability of occurrence. Evaluate the status of each action. Determine when each action is expected to be completed successfully. Integrate plans into IMS and re-evaluate the current environment for new R/O or modification to existing R/O register. examples of managing R/O's are: · M&M is also the 1st Indian Company to sign the EP 100 program · First Indian Company to commit & declare a carbon price of $10 per ton of carbon emissions. · M&M has set and got its target’s approved by Science Based Targets Initiatives and aspires to be carbon Neutral by 2040. Any R/O’s with financial impact to the tune of 10% of the company’s revenue is considered to have significant impact. A structured training module on RM principles is delivered periodically, the Office of RM (ORM) conducts specialized seminars with internal manufacturers and suppliers. The ORM also participates in sustainability related risk workshops for all business verticals and pairs businesses with risk mentors to further instil RM principles in those businesses to help guide them through the RM process. The CRO and the ORM are part of the Group Strategy Office or Corporate. All decision making involves consideration of risks, be it project level risks, supply chain, long term strategy or setting up and establishing controls. As with all processes at Mahindra, our Enterprise RM Program strives for thoroughness, breadth, and integrity. The CFO annually reviews and updates the respective risk scales that are used with concerned stakeholders The Internal Auditor and Legal Counsel are part of the Corporate Risk Council of the company. A risk-based approach drives Internal Audit, System and Technology Audit and Compliance Audit. The Council oversees the existence, adequacy, and effectiveness of the RM process and policy to the RM Committee appointed by the Board, periodically. Further, the Council reviews the Quarterly Risk Presentation & Quarterly Risk Certificate to be placed before the Board at every meeting. CFO’s & line managers responsible for implementing mitigation plans of identified R/O’s have financial incentives linked to the successful implementation of the plan in their goal sheets, as these action plans are dovetailed into their KRAs which determine their performance bonus/ incentives and annual increments. eg: Our CRO had identified emerging BS IV to BS VI emission norms w.e.f 1st Apr’20 as potential significant risk for Automotive division, and specific cascading asset level R/O's were also mapped, and impacts Quantified using scenario analysis jointly with the plants heads inputs for the existing offerings of the company. A task force team was prepared, clear roles, responsibilities & ownership of the gateways defined, with schedule of monitoring including the lead and lag indicators deadlines as per Critical success factors for transition. Vendor development strategy & Schedule is planned. As a fall-back plan, migration to BS VI with technology acquisitions for select offerings is planned with predefined target dates similarly transition risk related to mainstreaming EV's by 2030 is identified as R/O

## **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 | Current Regulation Risk is extremely relevant risk when it comes to automobile and component sector as it is extremely important to align the company’s strategies with the current regulation. Example: BS VI emission norms: We identified and included regulatory risk of shift from BS IV to BS VI emission norms. This has helped us to be better prepared and all the automobiles sold by us from current financial year will be BS VI compliant. |
| Emerging regulation | Relevant, always included | Emerging regulations Risk is relevant and included in our risk assessment as in automobile and component sector, understanding emerging regulations helps us prepare the company to be ready in a medium to long term horizon. Example: Electric Vehicle Regulations: We have identified Electric vehicles regulations as one of the important risks to be considered as based on these regulations, the company can build capacity and technology to ensure we meet the required standards. Renewable Energy Regulation: Our target of becoming carbon Neutral by 2040 is driven by move over from fossil fuels to clean energy sources, thus it is extremely important to review the emerging regulation in the clean energy domain. Regulations are evolving to make transportation cleaner and Failure to comply will result in loss of business in the future. |
| Technology | Relevant, sometimes included | Automobile and Components Sector is presently experiencing a lot of technological innovation and we find the technology risk relevant and is included in our risk assessment process. If organization is unable to keep up it will lose competitiveness. Example: Powertrain Electrification: We have identified powertrain electrification as a technology risk and with the focus on reducing the dependence on fossil fuel it is important, to be better prepared with the technology necessary to transition to low/ No emission mobility. Communications and Connectivity: The importance of C&C in automobile is rising and is changing the nature of product being offered. Consumer preference are also changing in this area therefore this has been identified as an important area of tech. risk to address. |
| Legal | Relevant, always included | Legal Risks like ensuring pollution control norms at all operating sites, renewable energy regulations compliances and Electrical vehicle regulations during product development are the risks that are relevant and are included in risk assessment process. Example: Maharashtra RE policy 2015, where in windmill was installed but not allowed for self-use within state, so RPO was complied by procuring REC's and till policy amendment in Dec 2016 our windmill was not delivering power to our plants and started delivering power post amendment of Maharashtra RE policy. |
| Market | Relevant, always included | Market risk like changing consumer preference is relevant and considered in the risk assessment. Example: Shared Mobility: Consumers preference has been shifting towards shared mobility as well as rental vehicles and these risks are important, and we have factored it into risk assessment process. |
| Reputation | Relevant, always included | Reputation is crucial when it comes to consumer perception, consumer trust and brand value. We thus consider this as a relevant risk and include it in our risk assessment. Example: Climate Commitments: We have important climate commitments like EP100, Science Based Targets and Carbon Neutrality. It is important to achieve these targets to ensure we enhance our brand reputation. Thus, we consider these risks during our risk assessment. |
| Acute physical | Relevant, always included | Acute Physical Risk like changing weather pattern has direct effect on the business hence the category is relevant and is always included in Risk assessment process. Example: Changing/ Reduction in Rainfall: Sales of tractors reduces sharply with reduction in rainfall. This was evident in 2016 when the domestic tractor sale was 483,000 units. as compared to 551,000 units in 2015. |
| Chronic physical | Relevant, always included | Chronic physical risk can have direct impact on our production facilities and supplier’s facilities thus the category is relevant and is always included in risk assessment. Example: Flooding Risk: Various Climate model’s analysis by experts indicate North India and East India is prone to flooding if there is 2 Degree Celsius rise the facilities of M&M are in low to moderate damage zones as per Wind and Vulnerability Atlas of India, hence risk is relevant and included in risk assessment and serves as the input for new facility setup or selecting the suppliers in India. Drought Risk: Mahindra and Mahindra Manufacturing facilities at Igatpuri and Nashik, faced severe drought like conditions 6 years ago. This had prompted us to adopt rainwater harvesting and other process improvements to reduce water dependency. Mahindra & Mahindra’s manufacturing facility at Igatpuri was certified water positive. |

## **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?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Emerging regulation | Mandates on and regulation of existing products and services |

### **Primary potential financial impact**

Increased capital expenditures

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

The government has announced the implementation of BS-VI emission norms from 1st April 2020. With this, the concern over the cleanliness of diesel emission will go away, but there is a cost differential involved in meeting BS-VI emission norms for Petrol and Diesel vehicles, with Diesel emission being higher. This differential is likely to put pricing pressure on the diesel-fueled vehicles with BS-VI implementation. Mahindra being predominantly diesel vehicle producing company, a shift towards gasoline-powered vehicles could lead to a loss of volume and market share. The introduction of new emission norms (TREM IV) for tractors w.e.f. 1st Oct 2019 will call for additional investments by OEMs, increasing the significant costs for tractors. This cost of the emission norms/other legislative changes will have to be passed on to the value chain and yet remain competitive will be the other challenge for our industry as a whole.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium-high

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

38000000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

The likely introduction of new emission norms (BS VI) for Automobiles will call for additional investments by OEMs like us, increasing the material costs for Automobiles. BS-VI emission norms will come into effect from April 1, 2020, & prices of both petrol and diesel vehicles are set to go up. This is expected to reduce Auto Sales by approximately 38,000 vehicles. An average of vehicle cost for a Mahindra Vehicle is considered for defining impact figure. However, pricing pressure on diesel vehicles is expected to be higher which could further impact sales of such vehicles in the domestic market.

### **Cost of response to risk**

10000000000

### **Description of response and explanation of cost calculation**

The company invested in R&D system upgradation, talent acquisition for introducing petrol & Diesel engines across most of its products and segments. Progress on the development of Petrol & Diesel power-trains as well as the development of BS-VI emission technologies within the time and cost targets are being done. Company has worked towards building cost-effective BS-VI compliant solutions for our engine portfolio.We have a strong BS VI product pipeline to be rolled out from April 2020 and is continuously investing in new product development, technology upgrades.

### **Comment**

The cost of management involves system up gradation cost. technology, talent acquisition cost, Customer awareness and making affordable offerings for the customers.

### **Identifier**

Risk 2

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Emerging regulation | Mandates on and regulation of existing products and services |

### **Primary potential financial impact**

Increased capital expenditures

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

As disclosed in Annual report: Environment and Alternate Fuels Risk of growing concerns over air quality, need to reduce dependence on fossil fuels, and push from Governments for large scale adoption of Electric Vehicles especially for intra-city uses may impact our business in a larger way. Also the competition in Electric vehicle space in expected to be intense.

### **Time horizon**

Long-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium-low

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

2838836000

### **Potential financial impact figure – maximum (currency)**

14194180000

### **Explanation of financial impact figure**

Automotive Revenue INR 28388.36 Crore Electric Vehicles sold in the year are in the range of 1-5% Hence Potential financial impact from sale of electric vehicles is expected to be approximately 1-5% of IC engine based automotive revenue.

### **Cost of response to risk**

5000000000

### **Description of response and explanation of cost calculation**

With the aim to remain competitive in the market and sustain leadership, M&M continues to invest in Electric Vehicles in India, and actively pursuing the development of the EV market, products, and technology. The company's EV portfolio comprises of the e2o+electric car, eVerito, and Supro EV Cargo Van and e-alfa. Mahindra is also developing EV version of compact SUV KUV100, also investing in next-generation EV technologies, high-efficiency drive train motors, and power-trains. We are also working with Government, both at central and state level on this aspect. Specifically, on the front of electric vehicles, our Company is investing over Rs. 500 crores in its Electric Vehicle (EV) Project under the new EV Policy of the Government of Maharashtra. This investment will be utilised towards product development and capacity enhancement for electric vehicles and related components. On the supplier end, the Company is working closely with its key suppliers to minimise any supply constraints through capacity planning and longer-term contracts. At the same time, opportunities for global sourcing are also being actively pursued.

### **Comment**

The cost of management is associated with transition R&D efforts required, Technology acquisitions, Talent pool development, Customer awareness and making affordable offerings for the customers. Mahindra's Investment to facilitate the transition to EV: https://www.mahindra.com/news-room/press-release/mahindra-to-make-an-additional-investment-of-over-rs-500-crore-for-electric-vehicles-and-electric-vehicle

### **Identifier**

Risk 3

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Chronic physical | Changes in precipitation patterns and extreme variability in weather patterns |

### **Primary potential financial impact**

Other, please specify (Reduced Revenue due to varying monsoon pattern affecting agricultural activity)

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

A normal monsoon is important for both agriculture as well as the rural economy and sentiment at large. The tractor business in particular and the automotive business to some degree, run the risk of a drop in demand, in case of a significant variation in the monsoon. In addition, an untimely monsoon and uneven spread have the potential of adversely impacting the business as observed in the Financial Year 2015 and Financial Year 2016. Direct correlation of changing weather patterns to sales of tractors. Sales of tractors reduce sharply with a reduction in rainfall. This was evident in F16 when the domestic tractor sale reduced 14% compared to in F15. Hence less rainfall is a significant risk to Tractor business. Steps were taken to reduce impact - Promoting drip irrigation through its micro-irrigation systems, 300 Samriddhi Centers across India to provide all Agri inputs such as tractors, implements, seeds, crop care products, irrigation solutions, and Agri knowledge dissemination services like Soil Testing, Agri Counselling, Result and Method Demos, Agri Institution's Visit and Custom Hiring for farm implements for increased productivity. Similar water conservation projects being implemented for Auto Division to reduce dependability on rainfall for plant operations

### **Time horizon**

Short-term

### **Likelihood**

About as likely as not

### **Magnitude of impact**

Medium-low

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

6749860000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

The impact of monsoon estimated by company is based on the reduction of revenue growth by 4%. The Tractor division’s annual growth shrinks by 4% due to improper monsoon and its impact on agricultural activities. Thus, the expected financial impact estimate is the difference between growth rate (8%) in case of proper monsoon and a reduced growth in case of improper monsoon. This difference is expected to be INR 674.9 Crore in 2019-20.

### **Cost of response to risk**

84500000

### **Description of response and explanation of cost calculation**

Steps were taken to reduce impact - Promoting drip irrigation through its micro-irrigation systems, 300 Samriddhi Centers across India to provide all Agri inputs such as tractors, implements, seeds, crop care products, irrigation solutions, and Agri-knowledge dissemination services like Soil Testing, Agri Counselling, Result and Method Demos, Agri Institution's Visit and Custom Hiring for farm implements for increasing the productivity. M&M, at all our locations, has implemented various projects for reducing freshwater intake by building check dams, using water-efficient equipment, conducting water audits creating awareness & training, recycling effluent treated water in gardening after RO treatment, harvesting rainwater. Considering the availability of water for the community, we are working on watershed management projects. Investments made in these projects are helping M&M in abating the climate change risks arising from changing rainfall pattern. With the success of our Damoh Project, M&M ventured with National Bank for Agriculture and Rural Development (NABARD) on Watershed management aspects in the Hatta Block of Damoh. With coverage of 4815 ha of the area, this project is going to impact 13 villages while the Wardha Water Project is taken up in 35 Villages at Aurangabad. We have prepared a water security strategy to reduce dependency on external water sources & achieve Water Neutrality by 50% till 2022.

### **Comment**

The cost of management is associated with transition R&D efforts required, Technology acquisitions, Talent pool development and making offerings understandable by end-users and further enhancing the offerings by innovating using customer feedback.

### **Identifier**

Risk 4

### **Where in the value chain does the risk driver occur?**

Upstream

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Technology | Transitioning to lower emissions technology |

### **Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

As electric vehicles become mainstream, the conventional IC-Engine components will reduce and thus suppliers providing components will be affected severely. However, New opportunities would emerge in electric vehicle part manufacturing such as battery, motors, controllers and microprocessors manufacturing.

### **Time horizon**

Long-term

### **Likelihood**

More likely than not

### **Magnitude of impact**

Medium-high

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

2287374000

### **Potential financial impact figure – maximum (currency)**

22873740000

### **Explanation of financial impact figure**

Cost of goods purchased by Automotive division from its suppliers will be impacted in the range of 1-10% considering the estimated sales of automobiles. Cost of Materials consumed by vehicles manufactured is approximately INR 22,873.74 Crores An estimated 10% of its cost can be assigned to Manufacturing to be INR 2287.37 crore Based on the internal assessments and the spend analysis considering various scenarios it is estimated that revenue impact on the suppliers shall be in the range of 1-10% of cost of manufacturing of electric vehicle

### **Cost of response to risk**

5000000000

### **Description of response and explanation of cost calculation**

Electric vehicle has only 20 moving parts as against 2,000 in an ICE (internal combustion engine) vehicle. From the perspective of component suppliers, large players are likely to adapt to the dramatic changes, however, small firms could be hit the hardest by this disruption. The existing suppliers will not only have to deal with the transition but also face severe competition from the new entrants in the industry such as technology companies and battery producers. Moreover, there will be significant changes in component manufacturers' portfolios with existing ICE Vehicle part suppliers slated to lose market share in an all-EV scenario We plan to develop supplier affected with reduced component demand for the other parts of the vehicle and religiously follow the transition plan and jointly transit to the low carbon vehicle production. Investing in next-generation EV technologies including 380V powertrain, high-efficiency drivetrain motors and local manufacturing of batteries.

### **Comment**

Mahindra's Investment to facilitate the transition to EV: https://www.mahindra.com/news-room/press-release/mahindra-to-make-an-additional-investment-of-over-rs-500-crore-for-electric-vehicles-and-electric-vehicle

## **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**

Products and services

### **Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

The government of India’s scheme of Faster Adoption and Manufacturing of Hybrid and Electric Vehicles, or FAME 2 scheme aims to boost electric mobility and increase the number of electric vehicles in commercial fleets till 2022 The government will offer incentives for electric buses, three-wheelers, and four-wheelers to be used for commercial purposes. For this, infrastructure is set up. This is going to increase the demand for M&M’s electric vehicles. M&M Limited is already in the business of manufacturing of Electric Vehicles. The Sales volume is picking up every year. The sales volume for electric vehicles in FY20 has increased by 42% from FY19 Company has planned to increase the share of EV to at least 30% of product portfolio by 2030 to ensure transition to low emission economy. Change in precipitation extremes and droughts : Agricultural areas in India have been experiencing reduced rainfall and drought in previous years. The shortage in water directly effects the level of agricultural activity. Mahindra provide solutions to farmers in modern scientific water management through customized micro irrigation systems and Agri based support in order to achieve higher crop yields and superior quality. This boost in agricultural activity directly benefits us due to an increase in demand for our farm equipment products. Opportunity for Mahindra: The strategy was worked out to grab this opportunity and EPC - a Mahindra group subsidiary company was formed by acquisition, popularly known as EPC Irrigation is a pioneer of micro-irrigation in India. EPC provides complete solution for agriculture with a focus on Micro-Irrigation, Pumps and inter-related requirements of fertigation and agronomic support.

### **Time horizon**

Long-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium-high

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

8220800000

### **Potential financial impact figure – maximum (currency)**

41588000000

### **Explanation of financial impact figure**

M&M Limited expects to convert 30% of its automobile share to electric by 2030. To do that each year a percentage of vehicle sold must be electric and considering an average cost of vehicle and number of units expected to be sold each year a range of financial implication is derived. Continuous Research and Development is being done to increase EV portfolio and enhance the product features including product efficiency i.e. more kilometer run on a single battery charge, fast charging, product design etc. Our Mahindra EPC (irrigation) business has grown up FOUR times since Sept. 2011 when we have acquired it. the sales of system has registered robust growth and The long term outlook for the Micro Irrigation Industry is postulated to be robust. The real boost to the business is likely to come from the micro irrigation projects launched by various State Governments under the PMKSY Scheme aiming to increase coverage of micro irrigation activities under major government programmes. With the strong brand image of Mahindra, the Company is looking forward to consolidate its position in the market by strengthening after sales services and agronomy support, enhancing product portfolio, intensifying its efforts to increase dealer /distributor network besides exploring opportunities in overseas markets

### **Cost to realize opportunity**

5000000000

### **Strategy to realize opportunity and explanation of cost calculation**

Electric Vehicles and services associated: Cost of realizing opportunity is associated with R&D efforts required, Technology acquisitions, Talent pool development, investing in next-generation EV technologies including 380V powertrain, high-efficiency drivetrain motors, local manufacturing of batteries, setting up infrastructure for manufacturing the offerings and most importantly enhancing product portfolio. The company understands that Electric vehicles right now have not reached a point where we can afford to spend that much money on an electric-only platform. M&M is not betting in a big way on personal use of EVs, in the short-run plan to convert current vehicles to EVs. In 2017-18, E-Alfa mini electric rickshaw was launched followed by Treo - Electric Three-wheeler in 2018-19 and going forward, M&M ltd. plans to launch e-KUV and e-XUV 3OO. Once these are launched customers will have options – For shared mobility which will be a relatively low-cost option and other for personal mobility. Presently M&M is trying to see how its alliance with Ford can be leveraged fully to help reduce product development costs and get a larger economy of scale for purchasing by having a common platform that the companies share across. M&M is also discussing with Central & State Govt. for incentivizing the EV owners by way of reduced taxes & duties during registration etc. Micro irrigation systems: The strategy was worked out to grab this opportunity and EPC - a Mahindra group subsidiary company was formed by acquisition in 2011, popularly known as EPC Irrigation is a pioneer of micro-irrigation in India. EPC provides complete solution for agriculture with a focus on Micro-Irrigation, Pumps and inter-related requirements of fertigation and agronomic support. In the past few years, post-acquisition by M&M, Mahindra EPC Irrigation Limited has more than tripled its topline and grown its PAT by 10X.

### **Comment**

Cost of management is associated with transition R&D efforts required, Technology acquisitions, Talent pool development, Investing in next-generation EV technologies including 380V powertrain, high-efficiency drivetrain motors and local manufacturing of batteries setting up infrastructure for manufacturing the offerings an most importantly enhancing portfolio of product and Services AFFORDABLE for the customers. The cost of management will be mainly for training and co-creation efforts for electric vehicle development. and Marketing Expenses associated with Micro irrigation business to continue the growth momentum.

### **Identifier**

Opp2

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Resource efficiency

### **Primary climate-related opportunity driver**

Other, please specify (Energy Efficient Green Buildings and Renewable energy sources)

### **Primary potential financial impact**

Reduced indirect (operating) costs

### **Company-specific description**

Various Climate models analysis by experts indicate North India and East India is prone to flooding hazards of climate change to the tune of +2deg Celsius happens and most of the facilities of M&M are in low to moderate damage zones as per Wind and Vulnerability Atlas of India, hence risk is relevant but sometimes included for strategic work ahead and also serves as the input for new facility setup and supplier selection in India. As a policy decision in 2016, all of our exiting office buildings are being converted to Green buildings and all new buildings to be by default designed as Green buildings as per IGBC Green building criteria. Government of India had set ambitious target of setting up 175GW of RE power by 2022. In line with NDC's in F16 the company had set up the 2.1MW x 2wind mill to reduction in Operating cost to the tune of INR 8,00,00,000/- and Carbon footprint to the tune of 7000 tons p.a. Thus Reduced companies exposure to future fossil fuel price increases. In F18 added another 2.1MW wind mill & by F20 added 9MWp Solar and has plans to Quadruplicate the RE consumption in coming years.

### **Time horizon**

Medium-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium-low

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

154000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

M&M started its green building journey in 2014, and since then has converted Thirteen existing office buildings to Green buildings (Platinum /Gold) as per IGBC green building criteria for the existing buildings. In the reporting period, 4 office buildings were converted to green building as per strategic roadmap planned to convert all office building to Green buildings. Over the years it has been observed that approximately INR 20,00,000 per building is the expenses for aligning to Green Building guidelines & approximately INR 10,00,000 per annum per building is cost savings. We observed Green buildings conversion not only reduces the operating costs but also: 1) Reduce dependencies on the scares resources 2) Energy and Water efficient usage, thus reduced the carbon footprint 3) Reduced Waste generated - thus reduced cost and space required for Waste disposal and reduced compliance headaches. 4) Enhances Brand Reputation 5) Full fill strategic road map commitments, thus adding to Sustainable development of the organisation. Addition of 4.2 MW Wind & 9 MWp Solar RE power portfolio is showing result in terms of 17,700 tCO2 mitigation & Reduction in indirect operating expenses to the tune of INR 15.4 Cr per annum

### **Cost to realize opportunity**

157000000

### **Strategy to realize opportunity and explanation of cost calculation**

M&M started its green building journey by converting its first office building in 2014 and since then has converted 13 exiting office buildings to Green buildings (Platinum / Gold Ratted) as per IGBC green building criteria for the existing buildings. In the reporting period, 4 buildings were converted to green building as per strategic roadmap planned to convert all office building to Green buildings. We have also initiated the assessments of the other office buildings in 2019-20 in a phased manner, all Office buildings to be converted to Green buildings and we are also encouraging our tier 1 and tier 2 suppliers to adopt the green building criteria’s. Under the Sustainability policy, all new facilities of M&M are to be designed as per Green Factory/ Building criteria. Also, we are spreading awareness through IGBC forums wherein we are sharing our Green Building/Journey experiences. Cost to realize opportunity is calculated using the actual expenses incurred till date. Additional O&M expenses of the Green buildings, Wind & Solar Projects and its monitoring mechanism , Skilled resource required is considered based on the actual expenses incurred and planned by company.

### **Comment**

.

### **Identifier**

Opp3

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Resilience

### **Primary climate-related opportunity driver**

Participation in renewable energy programs and adoption of energy-efficiency measures

### **Primary potential financial impact**

Returns on investment in low-emission technology

### **Company-specific description**

M&M Ltd. has aligned to Carbon Neutrality journey with its SBTi targets and it makes perfect business sense with the impact of adoption of energy efficiency and renewable energy measures on reduction of operating cost and helping business increase its profitability. In 2015-16 M&M joined EP 100 program - Double our Energy Productivity by 2030 w.r.t 2009 base line.

### **Time horizon**

Long-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

165000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

As per SBTi M&M needs to reduce its emissions close to 4% year on year by implementing various Energy efficiency and Renewable Energy measures. This implication would be directly on the reduction of energy cost. Hence if Energy cost of M&M is X it will reduce by 4% and thus reduce the total energy cost annually.

### **Cost to realize opportunity**

270000000

### **Strategy to realize opportunity and explanation of cost calculation**

M&M ltd. has started aggressively implementing various Energy efficiency, Renewable Energy and Energy conservation projects to ensure that they achieve their required rate to emission reduction as per SBTi. Also use its carbon price as a budgetary resource. Cost to realize this opportunity is worked out based on the past years experience that typical weighted average payback period of the energy efficiency and resource conservation project is within 2 years.

### **Comment**

Additionally cost of O&M along with Monitoring infrastructure and resource is considered in calculating the cost to realize the opportunity.

### **Identifier**

Opp4

### **Where in the value chain does the opportunity occur?**

Upstream

### **Opportunity type**

Resilience

### **Primary climate-related opportunity driver**

Resource substitutes/diversification

### **Primary potential financial impact**

Reduced indirect (operating) costs

### **Company-specific description**

By 2033 M&M thru its set Science Based Target is committed to Reduce it scope 3 emissions by 30% w.r.t 2018 baseline. Scope 3 linked to Product use phase emissions, Upstream & Down Stream logistics and Distribution related emissions.

### **Time horizon**

Long-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium

### **Are you able to provide a potential financial impact figure?**

Yes, an estimated range

### **Potential financial impact figure (currency)**

<Not Applicable>

### **Potential financial impact figure – minimum (currency)**

2000000000

### **Potential financial impact figure – maximum (currency)**

20000000000

### **Explanation of financial impact figure**

logistics cost optimisation & better network of Hubs and cluster of docks on pan India basis is like to generate Logistics company opportunity as well as make existing Supply chain robust and more resilient.

### **Cost to realize opportunity**

4000000000

### **Strategy to realize opportunity and explanation of cost calculation**

Product development and Innovation of packaging & logistics optimsation strategies including new supplier parks, and new Supplier hubs creation in conjunct with climate change impacts assessed thru visualistion tool and other Water risk assessment tools like WRI Aqueduct. Use State Action Plans on Climate change as input for robust supply chain strategy.

### **Comment**

Cost of realisation include skilled Climate change Experts, Supply chain Experts and Tools and data base subscription and associate Hub & parks establishment cost.

## **C3. Business Strategy**

## **C3.1**

### **(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

## **C3.1a**

### **(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?**

Yes, qualitative and quantitative

## **C3.1b**

### **(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.**

|  |  |
| --- | --- |
| **Climate-related scenarios and models applied** | **Details** |
| 2DS  Nationally determined contributions (NDCs) | We believe that every business needs to be cognizant and conscious of its use of natural resources, for there is only one planet earth, thus managing them prudently is not only a responsibility but also an obligation for all organisations. The business risk of climate change can affect us in multiple ways – regulatory impact on vehicle sale, physical changes which could affect the operating environment of the vehicles and others. Thus, as we operate in a climate sensitive industry, we have taken major steps to identify and address the risks arising from climate change. The Climate Change risk mitigation process is driven from the top management. We have developed a Climate Change Risk Matrix with intense engagement of our senior management. Based on the risk matrix we have prioritized various projects for investment so that the risk of climate change can be mitigated. We have laid down a comprehensive plan to manage our GHG emissions in line with India NDC’s For NDCs-1) CO2 reduction ; NDC 2) Renewable Energy - We had developed sustainability roadmap with commitment of 25% carbon footprint reduction by 2019 - We by F18 had adopted 5.4MWp Solar power and 6.3MW Wind Power for our manufacturing operations. Our focus on Electric vehicle to increase market share of EVs in India is a major step. In a bid to go green, the government is targeting the year 2030 by which it plans to go all-electric in terms of new car sales in the country. In its National Electric Mobility Mission Plan, the government hopes to get at least six to seven million electric vehicles on the road by 2020 and emphasizes importance of government incentives and coordination between industry and academia. With the Government of India targeting 175 GW of Solar, wind and other RE by 2022, electric vehicles can improve reliability and utilization of renewable by acting as storage, this provides an opportunity (for the company) to materialise in due course. In 2016, We became the first Indian company to announce its internal carbon price of $10 per ton of carbon emissions. The move was in-line with business commitment to reduce its GHG emissions by 25% over the next three years. In F17, we signed up ‘EP100’ campaign led by ‘The Climate Group’, to double our energy productivity by 2030. This is part of our contribution towards achieving the climate goals agreed upon at COP21. Many of these actions are already underway as demonstrated by the Company now uses 63% less energy to produce a vehicle than what was done eight years ago. Mahindra Towers at Worli and Kandivali are Indian Green Building Council (IGBC) Platinum existing buildings. The Mahindra IT Centre at Kandivali is USGBC LEED gold certified green building. 14 Mahindra Group companies including M&M. have also committed for carbon footprint reduction targets as per the SBTi framework Executive Chairman of our Company represented the Corporate World Economic Forum at Davos(F18) and issued a ‘Call to Action’ to all industries and businesses to adopt Science Based Targets is a testimony of Company’s continuing efforts to combat climate change in a collaborative way. NDC 3) Afforestation- We are committed to plant 1 million trees every year through Hariyali program, as on date 15 million trees planted. NDC 4) Investments in Vulnerable areas- We invested in integrated watershed management program at Damoh and Bhopal NDC 5) Capacity building-Baja collaborate with SAE (Society of Automotive Engineers) to promote and accelerate research on climate friendly/eco-friendly technologies for e.g. electric mobility, alternative technologies. The above approaches shall reduce the risk of increasing Input cost, operating cost, Reduction in revenue generation due to products and insulate us against possible business interruptions by 2030. All the above goals are part of MD's KRA's and are reviewed Quarterly in scheduled Mahindra Business Leadership Council and Sustainability Council meets. |
| IEA B2DS | The integration of sustainability and climate change into our business continues to be a focus, and both have been incorporated into our risk management process. These places both topics at the forefront of daily decision-making throughout the company and ensures continuous management and evaluation at the highest levels of the company. As an example of this management, we recently addressed climate change risks and opportunities through a scenario planning exercise. The exercise was based on a key assumption that the by 2030 global emissions needs to be restricted such that global temperatures rise is below 2 degrees Celsius. The exercise brought together a broad, cross-functional team, from strategic risk team, Sustainability teams, public advocacy dept., R&D team & business intelligence. Goals included developing and understanding a range of different world scenarios; identifying risks, opportunities and success factors for Sustainable Development; and making recommendations for M&M to analyse, prepare, adapt and act. The group considered four different scenarios in a maximum 2-degree warmer world and walked through a three-step process. The first step was to explore uncertainties and then to define success in this future world. The final step involved an analysis to determine what M&M should be doing now to influence its future. All four scenarios shared common themes. Within the vehicle market, for example, it was assumed that new passenger & commercial vehicles would be required to make faster and greater adjustments than other users of energy; significant changes in the vehicle ownership paradigm; and a decline in the proportion of single-person vehicle miles. The exercise helped to clarify risks but also highlighted opportunities as well, many of which are already well underway at M&M today. Some examples include: • Adapting new business models aggressively, which is evident as GLYD and its push to commercialise shared mobility and experience the EV’s for adoption in the near future. • Responding to Government of India’s ambitious plans to have 40% EV’s by 2030 & ongoing FAME-II scheme for mass adoption for EV’s (i) To meet the future Indian standard, a mix of EV's is required. (ii) Since 2018, we introduced 4 new all-electric vehicles in India, based on what we have learned from developing the e2O EV: M&M is the pioneer in bringing EV’s to Indian market resulted in 4,040 EV’s produced in reporting period on a pathway to meet future India’s emissions regulations in the future. (iii) Focusing on new technologies by shifting capital resources and talent toward vehicle electrification programs. (iv) Prioritizing renewable power sources and zero carbon footprints for manufacturing of electric vehicles. (v) Adopting SBT targets, BD2S S1+2 targets were approved in 2019 by SBTi committee. All of these moves require M&M, as never before, to think like a market entrant rather than a binding. The exercise underscored the reality that the need to limit global warming is influencing consumer choices and brand perception today. Climate change concerns also are likely to drive new policy and regulations, as well as political and economic pressures to reduce emissions throughout the manufacturing value chain. And, the exercise validated the need for M&M to continue to develop and sustain a comprehensive climate change strategy. |

## **C3.1d**

### **(C3.1d) 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 | Driven by climate change and other related factors such as air quality and energy security, risks to our business such as GHG and fuel consumption standards have become more stringent to meet policy priorities. These could significantly affect our plans for global product development and may result in substantial costs, including civil or penalties. In addition, an evolving but un-harmonized regulatory framework may limit or dictate the types of vehicles we sell and where we sell them, which can affect revenue. Opportunities include the planned launch of new EVs and we are working to reduce production costs associated with EVs. Our R&D spend has increased YoY @ 4% of Sales till F19 and @6.3% for F20. In order to cater to the new product requirements, M&M is into various phases of R&D/ production/ marketing of clean automotive products like full hybrid vehicles, bio-fuel vehicles, electric passenger vehicle, hydrogen combustion engine vehicle, etc. Further, a full-fledged Product Improvement Roadmap is in place for automotive and farm equipment sectors of M&M focuses on a) the reduction in specific fuel consumption, b) weight reduction, c) switching to alternative fuels, enhancing product safety, etc. Innovation has been at the core of Mahindra's ethos. We leveraged our R&D capabilities to lead the transition from BS4 to BS6 with 8 engine platforms, 16 vehicle platforms and 30 vehicle variants. with 30% friction reduction in all diesel platforms (except the new platforms where friction was already at global benchmark level) Approach to BS6 development was redefined to consider Real Driving Emission (RDE) requirements. Accelerated wear test was introduced for upfront evaluation of BS6 technologies to identify potential failure modes within a short time. mStallion- A range of advanced BS6-ready turbo gasoline direct injection (TGDi) engines that will deliver thrilling performance and power several Mahindra vehicles in the future. The most important components of the long-term strategy that have been influenced by climate change In harmony with our Indian and international partners, our R&D team comprising 2500 passionate professionals explores trajectories to introduce future-friendly technologies. Company has approved product specific Science based targets and has developed roadmap of 2019 to 2030 and beyond. |
| Supply chain and/or value chain | Yes | Climate change is influencing consumer behaviour and governmental policies / regulations - both affect our products and manufacturing facilities and hence also our Supply chain. Our strategy enables us to look for opportunities in these changing preferences and policies. • Development of new advanced fleet which should be more fuel efficient, and can run of non-conventional fuels. • Downscaling our engines and using lightweight materials to reduce CO2 emissions. • Strong Influence on 3 Areas mentioned below: 1. Revenue: During the years we have Investment in below climate change initiatives LED Lighting, Waste Management: Co processing of the waste in cement industries, Renewable Energy -Solar Power Plant same is extended to our suppliers chain members. Cost :As a part of our strategy we had promise statement 2019, in which we have asked suppliers to take target of reduction of Carbon & water footprint 3. Risk: During the year, we had re-conducted Climate Change Risk workshop with Sustainability teams & location champions using TEMPLES framework and all climate change identified relevant risks has been incorporated into risk register, Similar Risk mapping thru visualization tool & WRI Aqueduct is also initiated for Critical Tier-1 supply chain members and plan to complete by 2022 for entire supply chain. M&M has collaborated with Fuel Injection supplier for New Gen CRDI and Gasoline systems (Eg Bosch, Continental, Delphi) to meet Sales volume by adopting these Technologies to meet Market contemporary emission and FE regulation and Technology for for BS VI & future development is also acquired thus achieving 5% to 10 % System Efficiency gain by 30 % Reduction in time to Market. Our Executive chairman, is also on the new strategic investment committee and believes that “Climate change is in fact the next century’s biggest financial and business opportunity… There is going to be a $6 trillion opportunity over the next two decades.” and leads by example for other corporate's to adopt low carbon business growth. Our supply chain member's will there fore indirectly influenced in Short, Medium & Long term. To assess the same Sustainability Assessment has 21 of 45 checkpoints liked to Environment & Governance aspect with graded levels to score our suppliers and assess their maturity on Climate change. |
| Investment in R&D | Yes | The most important components of the long-term strategy that have been influenced by climate change In harmony with our Indian and international partners, our R&D team comprising 2500 passionate professionals explores trajectories to introduce future-friendly technologies. We have been working on different platforms of driveable full hybrid vehicles, bio-fuel vehicles, an electric passenger vehicle, a hydrogen combustion engine vehicle and many recyclable materials and reusable technologies. We continue to focus on mitigating CO2 emissions by research and development in conventional power-train technologies, fuel-efficient engines, low friction transmissions and drivelines. Company has committed to Science Based Targets initiatives to adopt low carbon transition growth and has further develop roadmap of 2019 to 2030 and beyond. This shall be updated on need basis as per new insights that may come over the year. M&M invested INR 19,380,000,000 in FY16 for product development. Further, INR 18,860,000,000 investments in R&D was done in F17 continuing the R&D efforts to enhance the product offerings INR 19,919,400,000 were further deployed F18, INR 23460000000 were further invested in F19. INR 29748000000 in F20. M&M is already in the business of manufacturing of Electric Vehicles. Further R&D is being done to enhance the product features including product efficiency i.e. more kilometre run on a single battery charge, fast charging, product design etc. As the pioneer of electric vehicles and integrated mobility solutions in India, it has always been our endeavour to make electric vehicles more accessible and best suited for Indian conditions. The launch of the e-Alfa Mini in F18, Treo range of 3 wheelers in F19 are yet another step to provide an emission free, green mode of safe intra city transportation in the country. At Mahindra, we are aligned to the Government’s vision to become a 100% EV nation by 2030. True to the spirit of ‘Make-in-India’, we shall be at the forefront to lead this change along with the Government. F18 onwards portfolio comprises of: E-Verito: India’s first electric Sedan!, E2O Plus : Zippy, compact and 100% electric – perfect for everyday city drive eSupro: Sturdy and Versatile, India’s first all – electric Cargo and Passenger Van eAlfa Mini: Redefining last-mile connectivity, Treo: Treo range of 3 wheelers commercialised . |
| Operations | Yes | Since our current & Future Products are Directly influenced & Driven by climate change and other related factors such as air quality and energy security, risks to our business such as GHG and fuel consumption standards have become more stringent to meet policy priorities. These could significantly affect our plans for global product development and may result in substantial costs, including civil or penalties. In F16, M&M became the first Indian company to announce its internal carbon price of US $10 per ton of carbon emissions. (i.e. Rs 664/ tCO2e (scope 1+2)) The move was in-line with business commitment to reduce its GHG emissions year on year. M&M is also the 1st Indian Company to sign the EP 100 (Doubling of energy productivity) program and have a target to doubling its energy productivity by 2030 with a baseline of FY 2008-09. Government of India had set ambitious target of setting up 175GW of RE power by 2022. In F16 the company set up the 2.1MW x 2 wind mill at Jath from 1st May 2017 on wards Wind mills have started delivering power to M&M plants. thus resulting in reduction in Operating cost to the tune of INR 4,00,00,000/- and Carbon footprint to the tune of 7000 tons p.a. In F18 the company added 2.1MW wind mill at Aurangabad; resulting in reduction in Operating cost to the tune of INR 4,00,00,000/- and Carbon footprint to the tune of 3500 tons p.a. This will also reduce dependency on the availability of Grid power. Over the years M&M has reduced 130 Lakh units of Thermal power sourced and is constantly adding RE (solar , wind power). By end of F20 M&M has 9 MWp Solar + 6.3MW wind power and in F21 plans to double its Solar power & wind Power consumption. M&M has also approved Science Based Targets for operations. i.e.By 2033 47% reduction in specific Scope 1+2 per Equivalent production w.r.t. 2018(F19) baseline. Thus or Short term, Medium term & Long terms plan of Risk & opportunities in operations were influenced by Climate change |

## **C3.1e**

### **(C3.1e) 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  Direct costs  Indirect costs  Capital expenditures  Capital allocation  Access to capital  Assets  Liabilities | The company adheres to a well institutionalized and structured Annual Planning Cycle whereby the strategy for the following year is formulated and goes past the Office of Strategy & Management. It is then debated in the Strategy War Rooms where risks and opportunities and their associated financial implications are discussed. Climate change has become a major discussion topic identifying the underlying risks and opportunities while defining the strategy. Since our current & Future Products are Directly influenced & Driven by climate change and other related factors such as air quality and energy security, risks to our business such as GHG and fuel consumption standards have become more stringent to meet policy priorities. These could significantly affect our plans for global product development and may result in substantial costs, including civil or penalties. Revenues: Upon implementation of BS IV norms on 1st April 2017, M&M was left with an inventory of around 18,000 BS-III vehicles, ranging from two-wheeler to trucks. Hence forced to give flash sales giving rigorous model wise discounts, M&M could clear more than half of its BS-III inventory by the deadline and converted the rest lot to BS IV and sold in F18. So, it was decided strategically that being future ready much ahead of BS VI deadline will ease the pressure and provide competitive advantage. BVI compliance which is slated for roll out by 1st Apr'2020, M&M had achieved 100% compliance 3-months in advance. Direct Cost: Climate change ("CC") has influenced our short-Medium and long-term business strategy. We recognize that we need to find lower carbon solutions for our products and operations and have publicly stated that we see an economic opportunity by lowering our carbon footprint as well as our product footprint, in line with this 2 Full Life Cycle Assessments are done to make appropriate changes to the materials resulting in influence on the associated Direct Cost of production & distribution as well. In-Direct Cost: Government of India had set ambitious target of setting up 175GW of RE power by 2022, In line with NDC M&M had installed 6.3 wind mills & gradually added Solar which is 9MWp within plant premises and thus helping us reduce our In-Direct cost related to power & fuel required for production actives. M&M has committed to invests $10 per Ton of GHG emissions as operating expense since 2016 in energy savings and carbon reduction projects to save operating cost at all of our manufacturing, and offices Although this is only 0.1% of M&M's net-revenue with a small impact, energy savings equates to carbon savings and when it's done with a reasonable return on investment, has a win/win for our bottom line and the environment. Capital expenditures& capital allocation: In F16, M&M became the first Indian company to announce its internal carbon price of US $10 per ton of carbon emissions. (i.e. Rs 664/ tCO2e (scope 1+2)) to internalize the potential future cost of carbon in the long term. Returns on investments are assessed with the impact of the carbon implication. This enables management to arbitrate between different options and to choose the most virtuous and efficient ones in order to achieve our organization’s strategic goals.The move was in-line with business commitment to reduce its GHG emissions year on year. M&M introduced an internal price on carbon into our capital expenditures approval process, with the aim to redirect investments towards clean technologies, lower-carbon solutions, and renewable energy projects across our operations and supply chain.In the reporting period Investment to the tune of INR 236,195,220/- (Numerator) was made to implement the solar power project along with the other energy efficiency projects. The investment translates to INR 982.45/ tCO2e(scope 1+2). or $14.8/ tCO2e(scope 1+2) (INR 66.4= $1 as per our Carbon price definition ) F20 Scope 1+ Scope 2 emissions Denominator = 240,414 tCO2e Assess to Capital: M&M has been voluntarily disclosing it environmental performance to CDP Climate Change program since 2010 and The Dow Jones Sustainability Indices (DJSI) since past 8 years and in annual report BRR for past 5 years which enable investors and other stakeholders to take informed decisions and thus ensured that M&M has access to capital all the time at discounted rates, Also the governance aspects of M&M has been bench marked by others has also strengthened the position of company to access the capital all the time. Assets: Our manufacturing plants at Igatpuri and Nashik had reduced supplies of water during F16 drought condition, this lead to adoption of Water saving techniques and set of Rain water harvesting system. Today Igatpuri plant has rainwater storage system in place equivalent to 275 days of operation and only draws Municipal water for potable consumption and certified as Water positive plant by BVQI. Similarly across India operations, we had created dedicated Rain Water recharging pits equivalent to 100% to 200% of water requirements and Recharged 644.531 Mega Liter thus, potential financial impact to the tune of INR 53000,000,000/- which is Equivalent to 11.8% of Revenue is avoided and Brand value of M&M is enhanced by investing INR 450,000,000/- M&M acquired micro irrigation business of M/s. EPC industries with long term view of water shortage risk due to climate change and its Rise philosophy to enable its stakeholders to rise. Today EPC industries have grown 4 times w.r.t. the baseline when we acquired. Liabilities: In F16 Renewable Purcahse Obligation (RPO) was compiled by procuring Renewable Energy Certificates (REC's) from open market. In F16 the company set up the 2.1MW x 2 wind mill at Jath to meet its Non solar RPO, from 1st May 2017 onwards Windmills have started delivering power to M&M plants. thus complying RPO and resulting in a reduction in Operating cost (power + REC cash flow avoided) to the tune of INR 4,00,00,000/- and Carbon footprint to the tune of 3500 tons p.a. In F18 the company added 2.1MW wind mill at Aurangabad to meet its Non-solar RPO, from 1st May 2018 on wards Wind mills have started delivering power to M&M plants. thus, complying RPO and resulting in a reduction in Operating cost (power + REC cash flow avoided) to the tune of INR 4,00,00,000/- and Carbon footprint to the tune of 3500 tons p.a. This will also reduce dependency on the 130 Lakh units worth availability of Grid power. |

## **C3.1f**

### **(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

How the business strategy and financial planning has been influenced?

The company adheres to a well institutionalized and structured Annual Planning Cycle whereby the strategy for the following year is formulated and goes past the Office of Strategy & Management. It is then debated in the Strategy War Rooms where risks and opportunities and their associated financial implications are discussed. Climate change has become a major discussion topic identifying the underlying risks and opportunities while defining the strategy.

We have adopted ‘Promise Statement 2019’ whereby we aimed to reduce our water and carbon footprint by 25%. Also we are signatory to the EP 100 program, committing to restrict our energy consumption to the base 2009 level but doubling our production by 2030 in line with the India's NDC's at COP21.

the short term for market based Risk & opportunities , Medium term and long term scenarios are developed to make strategic business transition such ans new products, new business models etc.

For us the major influencing aspects have been the impacts of climate change related to water scarcity, energy costs, emission related regulations, risks to supply chain, raw material availability and customer behaviour. These aspects and our performance is assessed at the Operations War Room. All War Rooms are presided by the Chairman/Managing Director of the company along with the Group Chief Finance Officer, Head of Office of Strategy & Management. Also the Chief Executive –Technology, Product Development and Sourcing of the company is involved in identifying significant risks and opportunities.

3. The most important components of the short-term strategy that have been influenced by climate change The company is investing in new alternate fuel technologies. The company’s investment in a majority stake in the Reva Electric Car Company was a strategic decision to make a good hold in this niche market space of environment friendly cars. This investment serves as an example of strategic decisions being influenced by climate change. Also, company acquired micro irrigation business of M/s. EPC industries with long term view of water shortage risk due to climate change and its Rise philosophy to enable its stakeholders to rise. Today EPC industries have grown 4 times w.r.t. the baseline when we acquired. The water and carbon footprint reduction targets adopted under ‘Promise statement 2019’ are some major strategic initiatives in short term for addressing climate change. Thorough study & analysis of the data & present technology used in manufacturing process, learning from global best practices, helped us conceptualise the project ideas, which shall be key to achieve the EP 100 target to double the Energy Productivity.

We had taken a policy level decision for replacing all our lighting systems with LEDs. Adopt Energy efficient air conditioners, Motors.

4.The most important components of the long-term strategy that have been influenced by climate change In harmony with our Indian and international partners, our R&D team comprising 2500 passionate professionals explores trajectories to introduce future-friendly technologies. We have been working on different platforms of driveable full hybrid vehicles, bio-fuel vehicles, an electric passenger vehicle, a hydrogen combustion engine vehicle and many recyclable materials and reusable technologies. We continue to focus on mitigating CO2 emissions by research and development in conventional power-train technologies, fuel-efficient engines, low friction transmissions and drivelines. On the energy conservation front we are signatory to the EP 100 program to restrict our energy consumption at the 2009 levels, but to double our production by 2030.

Company has committed to Science Based Targets initiatives to adopt low carbon transition growth and has plans to further develop roadmap of 2019 to 2030 and beyond.

5.How this is gaining you strategic advantage over your competitors; Following steps will get us the strategic advantage over our competitors:

• Reducing CO2 footprints by making our conventional fuel engines more fuel efficient and increasing use of alternate fuels like CNG, LPG, & Bio fuels etc.

• Ensuring reduced emission levels against those prescribed by National & International Emission norms. The current vehicle's emission for domestic is BS-IV compliant. Export vehicles are either EURO IV or EURO V compliant.

• We have already developed few concept vehicles with Hydrogen fuel and Bio-Fuels. Some vehicles with Hydrogen & CNG mixture are in the demo phase.

6. what have been the most substantial business decisions made (Outcome of the Process)Climate change is influencing consumer behaviour and governmental policies / regulations - both affect our products and manufacturing facilities. Our strategy enables us to look for opportunities in these changing preferences and policies.

• Development of new advanced fleet which should be more fuel efficient, and can run of non-conventional fuels.

• Downscaling our engines and using lightweight materials to reduce CO2 emissions.

• Strong Influence on 3 Areas mentioned below:

OUTCOME OF THE PROCESS

1. Revenue: During the years we have Investment in below climate change initiatives LED Lighting : INR 210,100,000 .Waste Management: Co processing of the waste in cement industries, Renewable Energy -Solar Power Plants : INR 180,000,000 (4.5 MWp)

Cost :As a part of our strategy we have promise statement 2019, in which we are taken a target of reduction of Carbon & water footprint by 25% by 2019.

3. Risk: During the year, we had re-conducted Climate Change Risk workshop with Sustainability teams & location champions using TEMPLES framework and all climate change identified relevant risks has been incorporated into risk register (Attached are the Templates for the reference)

Our Executive chairman, is also on the new strategic investment committee and believes that “Climate change is in fact the next century’s biggest financial and business opportunity… There is going to be a $6 trillion opportunity over the next two decades.” and leads by example for other corporate's to adopt low carbon business growth.

## **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

### **Year target was set**

2019

### **Target coverage**

Business division

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

*Automotive Division Targets, where in unit of Production is equivalent Vehicles. Automotive division contributed to 63% emissions in the reporting period.*

### **Intensity metric**

Metric tons CO2e per unit of production

### **Base year**

2018

### **Intensity figure in base year (metric tons CO2e per unit of activity)**

0.228

### **% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

63

### **Target year**

2033

### **Targeted reduction from base year (%)**

46.59

### **Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

0.1217748

### **% change anticipated in absolute Scope 1+2 emissions**

-28.11

### **% change anticipated in absolute Scope 3 emissions**

0

### **Intensity figure in reporting year (metric tons CO2e per unit of activity)**

0.254

### **% of target achieved [auto-calculated]**

-24.4763012919721

### **Target status in reporting year**

New

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science Based Targets initiative

### **Please explain (including target coverage)**

This Target is only for Automotive division + MVML Chakan(100% subsidiary of M&M automotive division) + Mahindra Research Valley (MRV - R&D Centre for Auto and Farm Products) which contributes to 63% of total Scope 1+2 emissions of the company. We have similar SBTi approved targets for Farm Division + Swaraj Division + Swaraj Foundry contributing to total 98% of company wide emissions(In line with SBTi guidelines we have excluded 2% from target boundary are from 4 facilities) Here, Vehicle Produced = Equivalent Vehicles of Automotive Division for Financial year and not the calendar year. Base line intensity FY19 = 0.228 tCO2e/ Vehicle Produced Numerator: 2,14,485 Denominator: 9,38,844 Target current status FY20 = 0.254 tCO2e/ Vehicle Produced Numerator: 1,72,842 Denominator: 6,80,585 Target year emissions FY33= 0.1217976 tCO2e/ Vehicle Produced Numerator: 1,54,192 Denominator: 12,63,560 Current emission status = (0.228 -0.254)/0.228 = 11.4% increase w.r.t base line Mainly due to 24% drop in production at Automotive division + MVML Chakan(100% subsidiary of M&M automotive division)in the reporting year compared to previous year. Note: MVML Chakan is not part of the CDP CC reporting boundary but it is covered under SBT targets as per criteria defined by SBTi.

### **Target reference number**

Int 2

### **Year target was set**

2019

### **Target coverage**

Business division

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

*For Farm Equipment sector has Equivalent tractors is the unit of production.It contributes to 35% of the total company wide scope 1+2 emissions*

### **Intensity metric**

Metric tons CO2e per unit of production

### **Base year**

2018

### **Intensity figure in base year (metric tons CO2e per unit of activity)**

0.23033

### **% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

35

### **Target year**

2033

### **Targeted reduction from base year (%)**

46.77

### **Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

0.122604659

### **% change anticipated in absolute Scope 1+2 emissions**

-28.36

### **% change anticipated in absolute Scope 3 emissions**

0

### **Intensity figure in reporting year (metric tons CO2e per unit of activity)**

0.232

### **% of target achieved [auto-calculated]**

-1.55023876879629

### **Target status in reporting year**

New

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science Based Targets initiative

### **Please explain (including target coverage)**

This Target is only for Farm Division + Swaraj Division + Swaraj Foundry which contributes to 35% of total Scope 1+2 emissions of the company. We have similar SBTi approved targets for Automotive division + MVML Chakan(100% subsidiary of M&M automotive division) + Mahindra Research Valley (MRV - R&D Centre for Auto and Farm Products) contributing to 98% (In line with SBTi guidelines we have excluded 2% from target boundary are from 4 facilities) Here, Vehicle Produced = Equivalent Tractors of Farm and Swaraj Division and is for Financial year and not the calendar year. Base line intensity FY19 = 0.23033 tCO2e/ Vehicle Produced Numerator: 1,20,463 Denominator: 5,22,993 Target current status FY20 = 0.232 tCO2e/ Vehicle Produced Numerator: 1,00,752 Denominator: 4,32,606 Target year emissions FY33= 0.1206 tCO2e/ Vehicle Produced Numerator: 84902.0 Denominator: 703879 Current emission status = (0.230 -0.254)/0.230 = 1% increase w.r.t base line 2018. The reason for increase is due to 18% drop in production in the reporting year. Mainly due to 18% drop in production at Farm Division + Swaraj Division + Swaraj Foundry in the reporting year compared to previous year.

### **Target reference number**

Int 3

### **Year target was set**

2019

### **Target coverage**

Business division

### **Scope(s) (or Scope 3 category)**

Scope 3 (upstream & downstream)

*Note: Intensity target is w.r.t. the Sold product and not w.r.t. Equivalent production.*

### **Intensity metric**

Other, please specify (tCO2e per sold product)

### **Base year**

2018

### **Intensity figure in base year (metric tons CO2e per unit of activity)**

27.4847

### **% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

24

### **Target year**

2033

### **Targeted reduction from base year (%)**

30

### **Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

19.23929

### **% change anticipated in absolute Scope 1+2 emissions**

0

### **% change anticipated in absolute Scope 3 emissions**

-5.8

### **Intensity figure in reporting year (metric tons CO2e per unit of activity)**

26.7785

### **% of target achieved [auto-calculated]**

8.5647651238689

### **Target status in reporting year**

New

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science Based Targets initiative

### **Please explain (including target coverage)**

This Target is only for Automotive division + MVML Chakan(100% subsidiary of M&M automotive division) + Mahindra Research Valley (MRV - R&D Centre for Auto and Farm Products) which contributes to 24% of total Scope 3 emissions boundary of the company. Scope 3 targets are on 3 major categories Category 11: Use of sold products Category 4: Upstream Transportation and Distribution Category 9: Downstream Transportation and Distribution Each of the above categories cover 90%, 0.1% and 0.24% respectively of total scope 3 emissions hence included in the scope 3 targets. Here, Vehicle Sold for Financial year and not the calendar year. Base line intensity FY19 = 27.4847 tCO2e/ Vehicle Sold Numerator: 1,51,43,012 Denominator: 5,50,962 Target current status FY20 = 26.7785 tCO2e/ Vehicle Sold Numerator: 1,12,80,025 Denominator: 4,21,235 Target year emissions FY33= 19.23929 tCO2e/ Vehicle Sold Numerator: 1,42,66,350 Denominator: 7,41,522 Current emission status = (27.4847 -26.7785)/27.4847 = 2.57 % decrease w.r.t base line MVML Chakan is not part of the reporting boundary but it is covered under SBT targets as per criteria defined by SBTi.

### **Target reference number**

Int 4

### **Year target was set**

2019

### **Target coverage**

Business division

### **Scope(s) (or Scope 3 category)**

Scope 3 (upstream & downstream)

### **Intensity metric**

Other, please specify (tCO2e per sold product)

### **Base year**

2018

### **Intensity figure in base year (metric tons CO2e per unit of activity)**

150.6324

### **% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

76

### **Target year**

2033

### **Targeted reduction from base year (%)**

30

### **Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

105.44268

### **% change anticipated in absolute Scope 1+2 emissions**

0

### **% change anticipated in absolute Scope 3 emissions**

-6

### **Intensity figure in reporting year (metric tons CO2e per unit of activity)**

147.2604

### **% of target achieved [auto-calculated]**

7.46187407224472

### **Target status in reporting year**

New

### **Is this a science-based target?**

Yes, this target has been approved as science-based by the Science Based Targets initiative

### **Please explain (including target coverage)**

This Target is only for Farm Division + Swaraj Division + Swaraj Foundry which contributes to 76% of total Scope 3 emissions boundary of the company. Scope 3 targets are on 3 major categories Category 11: Use of sold products Category 4: Upstream Transportation and Distribution Category 9: Downstream Transportation and Distribution Each of the above categories cover 90%, 0.1% and 0.24% respectively of total scope 3 emissions hence included in the scope 3 targets. Here, Vehicle Sold for Financial year and not the calendar year. Base line intensity FY19 = 150.6324 tCO2e/ Vehicle Sold Numerator: 4,72,19,941 Denominator: 3,13,478 Target current status FY20 = 147.2604 tCO2e/ Vehicle Sold Numerator: 4,25,53,986 Denominator: 2,88,971 Target year emissions FY33= 105.44268 tCO2e/ Vehicle Sold Numerator: 4,44,86,276 Denominator: 4,21,900 Current emission status = (150.6324 -147.2604)/150.6324 = 2.24 % decrease w.r.t base line FY19

## **C4.2**

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

Other climate-related target(s)

## **C4.2b**

### **(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

### **Target reference number**

Oth 1

### **Year target was set**

2016

### **Target coverage**

Business division

### **Target type: absolute or intensity**

Intensity

### **Target type: category & Metric (target numerator if reporting an intensity target)**

|  |  |
| --- | --- |
| Energy productivity | units of production |

### **Target denominator (intensity targets only)**

MWh

### **Base year**

2009

### **Figure or percentage in base year**

1.464

### **Target year**

2030

### **Figure or percentage in target year**

2.929

### **Figure or percentage in reporting year**

2.752

### **% of target achieved [auto-calculated]**

87.9180887372014

### **Target status in reporting year**

Underway

### **Is this target part of an emissions target?**

Yes. This target is linked and contributes to our set and approved Science Based Target related to Scope 1+Scope 2 emission reduction w.r.t. Equivalent Production (Equivalent Vehicle for Automotive and Equivalent Tractors for Farm Equipment business divisions) SBTi target was set in 2019 and has baseline of 2018 and 47% reduction target by 2033.

### **Is this target part of an overarching initiative?**

EP100

### **Please explain (including target coverage)**

These target is only for Automotive Business division which contributes to 40.5%of the Company wide energy consumption. Due to different nature of the business their out puts can not be compared directly, hence we have bifurcated the Energy Productivity targets at Business division Levels for better management. We have similar target for other Farm Equipment Business division also which contributes to 34.7%of the Company wide energy consumption. Together both targets covers 75.2% of the Company wide Energy consumption.

### **Target reference number**

Oth 2

### **Year target was set**

2016

### **Target coverage**

Business division

### **Target type: absolute or intensity**

Intensity

### **Target type: category & Metric (target numerator if reporting an intensity target)**

|  |  |
| --- | --- |
| Energy productivity | units of production |

### **Target denominator (intensity targets only)**

MWh

### **Base year**

2009

### **Figure or percentage in base year**

1.946

### **Target year**

2030

### **Figure or percentage in target year**

3.891

### **Figure or percentage in reporting year**

2.819

### **% of target achieved [auto-calculated]**

44.8843187660668

### **Target status in reporting year**

Underway

### **Is this target part of an emissions target?**

Yes. This target is linked and contributes to our set and approved Science Based Target related to Scope 1+Scope 2 emission reduction w.r.t. Equivalent Production (Equivalent Vehicle for Automotive and Equivalent Tractors for Farm Equipment business divisions) SBTi target was set in 2019 and has baseline of 2018 and 47% reduction target by 2033.

### **Is this target part of an overarching initiative?**

EP100

### **Please explain (including target coverage)**

These target is only for Farm Equipment Business division which contributes to 34.7%of the Company wide energy consumption. Due to different nature of the business their out puts can not be compared directly, hence we have bifurcated the Energy Productivity targets at Business division Levels for better management. We have similar target for other Automotive Business division also which contributes to 40.5%of the Company wide energy consumption. Together both targets covers 75.2% of the Company wide Energy consumption.

## **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 | 1 | 59000 |
| To be implemented\* | 57 | 12345 |
| Implementation commenced\* | 3 | 2642 |
| Implemented\* | 348 | 10864 |
| 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 (Fuel Switch, Process optimization and Adopting efficient technology) |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

10864

### **Scope(s)**

Scope 1

Scope 2 (location-based)

Scope 2 (market-based)

### **Voluntary/Mandatory**

Voluntary

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

125392489

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

236195220

### **Payback period**

1-3 years

### **Estimated lifetime of the initiative**

6-10 years

### **Comment**

Multiple Emission reduction have been undertaken this year at all the facilities of M&M Ltd. and these projects comprise of Fuel Switch, Process optimization and Adopting new efficient technology. These projects aim to align M&M Ltd. with its Science based targets emission reduction pathway.

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Compliance with regulatory requirements/standards | At Mahindra by default all Compliance with regulatory requirements/standards are to be complied and strict adherence is the norm. So any project / initiative which is meant for Compliance with regulatory requirements/standards is approved for deployment irrespective of cost, Only proper evaluation of the relevant Compliance with regulatory requirements/standards is required to be provided with project request note for budget approval |
| Dedicated budget for energy efficiency | The central energy management team identifies the potential energy saving projects across all the plant locations in collaboration with plants energy managers. The projects are presented to the senior management for approvals and the budget for energy efficiency and emissions reduction is sanctioned based on the principle of Remove, Reduce, Reuse, Recycle and only then dispose: a. Process initiative with defined payback cut-off b. Engineering initiative with defined payback cut-off c. Sustainability Initiative d. Technology up-gradation |
| Dedicated budget for low-carbon product R&D | We have separate budget for the low carbon product R&D. We have engines which runs on CNG, Electric etc. In the current we have launched E-Alpha autorikshaw as a new product launch which is part of this Budget. In line with business strategy, company had provided EESL - Energy Efficiency Services Limited a platform to pilot the Energy efficient Motor program, which was subsequently rolled out to other industries incorporating the findings of the pilot program |
| Dedicated budget for other emissions reduction activities | In 2016, the company has declared an internal carbon price of $10 per tonne, becoming the first major Indian company to take such a step, joining a global group of companies, including biggies such as Google and Microsoft, to have announced internal carbon prices. This is a commitment by us to invest into cleaner technologies to reduce dependence on energy, or to devise greener ways of operating. |
| Employee engagement | At Mahindra we believe that the people who use energy can drive efficiency and effectiveness of the process, hence , employees are encouraged to provide their suggestions that they feel appropriate, which is then screened at central level and shared with all manufacturing sites across India for cross deployment. At the management level as well as operational level we have groups of people who generate various Ideas / Suggestions related to their own processes so that same can be implemented. We have also initiated Energy Efficient project award, for Associate Level “i4” ideas generation drive, where in other awards are also given. Residential Electricity completion, Every year for all employees we conduct Under the umbrella of making sustainability personal we have a Residential Electricity bill competition. In which employee/ associate/ workers/ who saves the maximum amount of energy at their residence, we pay entire year's electricity bill to the winner of the competition. |
| Internal price on carbon | In 2016, the company has declared an internal carbon price of $10 per tonne, becoming the first major Indian company to take such a step, joining a global group of companies, including biggies such as Google and Microsoft, to have announced internal carbon prices. This is a commitment by us to invest in technologies and equipment that will help offset our carbon footprint. Internal carbon pricing does not follow any established models, and is seen as an investment by the company into cleaner technologies to reduce dependence on energy, or to devise greener ways of operating. |
| Internal incentives/recognition programs | The Mahindra Sustainability Awards have been in place since 2012-13, which award businesses, unit/locations or employees from the group for their sustainability related performance for the previous year. The awards are divided into 4 categories: 1. The Grandmaster Award is a business level award for best overall performance in all 3 bottom lines. 2. The Progressive Performer Award is a unit/location level award for outstanding improvements in sustainability related parameters w.r.t the previous year. 3. The Game Changer Award is a unit/location level award for any path-breaking initiative for improving any of the 3 bottom lines with the desired result (eg: energy/water saving, emission reduction, local sourcing, life cycle assessment). 4. The Change Agent Award is for the most proactive sustainability champion, who has managed to influence senior management to raise the sustainability bar in the organisation. We also carry out the Sustainability Awards for Suppliers which is earmarked to recognize the outstanding contribution by suppliers towards the cause of sustainability. The suppliers are assessed on parameters such as GRI indicator monitoring, availability of Sustainability Roadmaps and key initiatives undertaken. All employees contributing to the annual reporting as per the GRI framework and those involved in any special projects relating to energy efficiency are recognized by the Chairman, Sustainability Council with a certificate. |
| Lower return on investment (ROI) specification | In FY2016 we have formulated Green Procurement Policy and developed Green procurement specification sheets for all utilities items, and have mandated energy consumption criteria for purchasing new machines/ equipment's. Purchase team and concerned CME team who are responsible for design of new facilities, they have been provided awareness training and the guidelines have been shared with them and available for use in common shared folder on the intranet of the company |
| Partnering with governments on technology development | In line with business strategy, company had provided EESL - Energy Efficiency Services Limited a company under Ministry of Power-GoI, platform to pilot the Energy efficient Motor program, which was subsequently rolled out to other industries incorporating the findings of the pilot program |
| Other (Partnership with our suppliers) | Partnerships with energy suppliers to incite them to provide the with less emitting energy and to use renewable energy. Partnership with our suppliers to promote energy efficiency initiatives. |

## **C4.5**

### **(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

## **C4.5a**

### **(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

Electrical Vehicles + CNG Vehicles + Gasoline & CNG

### **Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product and avoided emissions

### **Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Climate Bonds Taxonomy

### **% revenue from low carbon product(s) in the reporting year**

1.2

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

Revenue from Electric vehicle 0.7%, CNG Vehicle 0.4% Gasoline + CNG 0.020% equal to total 1.2% of revenue from low carbon product(s) in the reporting year Diesel Vs CNG - Considering for every 10000 Km travel in Mumbai, Diesel Vehicle will Require INR 50000/- for 833.33 Litres of Diesel and emissions will be 2.204 tCO2e; CNG vehicle will require INR 13,700/- for 555.60 Kg of CNG and emissions will be 1.197 tCO2e for every 10000 Km travelled. Diesel Vs Electric - The electric car will require INR 6250/- for 1473 units of electricity and emissions will be only 1.208 tCO2e (avoided emissions 0.996 tCO2e for every 10000 Km travelled).

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

As the water availability is limited we have to derive the methods to optimize its use and at the same time provide more yield to feed the increased population. Drip irrigation maximizes water use efficiency and also productivity. This means that on one hand, we will optimize the use of water and on the other hand, we will be able to produce more. Few benefits of drip irrigation are : Water use efficiency can be increased. Production maximized with minimized water use. Cost of production economized. Waste and fallow lands can be brought under cultivation. The quality of crop production is increased. Poor quality and saline water can be efficiently used. Reduce environmental pollution and improve soil health. Achieve total food security.

### **Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product and avoided emissions

### **Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Climate Bonds Taxonomy

### **% revenue from low carbon product(s) in the reporting year**

0.63

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

M&M is involved in the installation of efficient irrigation systems in a few talukas of Maharashtra, this replaces the dominantly used flood irrigation method which makes use of extensive water quantity, unlike micro-irrigation systems. This will result in - Water saving: 30% - 40%; - Labour saving: 30% - 50%; - Power saving: 20% - 40%; - GHG Saving: 20% - 40%; - Fertilizer and Nutrition saving: 30% - Productivity improvement: 10% - 30% Sample calculation: A 5 hP pump delivering 5 Lps will consume 3.7 units per hour i.e. for every 10000L of water pumped will require 2 units. Micro Irrigation System implemented helps save XX Liter water required for particular crop. XX Liter x 2 / 10000 = Electricity units saved GHG saved (tons) = Electricity saved x 0.82/1000 Revenue has changed from 0.48 % in FY19 to 0.63% in FY20 which is 31% increase.

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

Group of Products 1.Bio-CNG is used for generation of Electricity - Renewable energy 2.Bio-CNG is used as a alternative fuel for diesel in commercial vehicle. 3. Bio-CNG is produced from the Municipal solid waste to support Municipal Corporations & Other uses

### **Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product

### **Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Climate Bonds Taxonomy

### **% revenue from low carbon product(s) in the reporting year**

0.24

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

Emission Avoided 1.Bio-CNG is used for generation of Electricity - Renewable energy - 1,107 tCO2 2.Bio-CNG is used as a alternative fuel for diesel in commercial vehicle. - 27,312 tCO2 3. Bio-CNG is produced from the Municipal solid waste to support Municipal Corporations & Other uses - 15,286 tCO2 Explanation: 1. 2854 Kg of Bio-CNG is used to produce approx. 6900 kwh electricity instead of diesel. Which helped to reduce 11,07,352 Kg of co2 emissions per year. 2. 70393 kg of Bio-CNG is used as fuel in commercial vehicles which reduce 2,73,12,484 kg of co2 emission per year. 3. 1,81,973 kg of Bio-CNG is produced by scientific Anaerobic process of using 7383 Tons of Wet waste generated at Indore and Aurangabad Municipal area. This process is helped to reduce CO2e emission which is estimated/equal to 1,52,85,732 kg of CO2 emission . Total avoided emissions in FY20 - 43,706 tCO2e

## **C5. Emissions methodology**

## **C5.1**

### **(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

### **Scope 1**

### **Base year start**

April 1 2018

### **Base year end**

March 31 2019

### **Base year emissions (metric tons CO2e)**

43672

### **Comment**

Scope 1: Direct GHG emissions Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled Ovens , furnaces, vehicles, forklifts, Diesel used for power generation in case of power outage etc.; emissions from production in owned or controlled process equipment. Direct CO2 emissions from the combustion of biomass are NOT included in scope 1 but reported separately (if applicable)

### **Scope 2 (location-based)**

### **Base year start**

April 1 2018

### **Base year end**

March 31 2019

### **Base year emissions (metric tons CO2e)**

234351

### **Comment**

Scope 2: Electricity indirect GHG emissions Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated. Solar Power from third party is reported here and Solar/Wind Power generated from owned installation is reported under scope 1.

### **Scope 2 (market-based)**

### **Base year start**

April 1 2018

### **Base year end**

March 31 2019

### **Base year emissions (metric tons CO2e)**

204272

### **Comment**

Scope 2: Electricity indirect GHG emissions Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated. Solar Power from third party is reported here and Solar/Wind Power generated from owned installation is reported under scope 1.

## **C5.2**

### **(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

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

The Greenhouse Gas Protocol: Scope 2 Guidance

## **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)**

40654

### **Start date**

<Not Applicable>

### **End date**

<Not Applicable>

### **Comment**

Scope 1: Direct GHG emissions Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled. Ovens , furnaces, vehicles, forklifts etc.; emissions from production in owned or controlled process equipment. Direct CO2 emissions from the combustion of biomass are NOT included in scope 1 but reported separately (if applicable)

## **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**

Scope 2: Electricity indirect GHG emissions Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated. Location based Scope 2 emissions reported considering CEA published Grid Weighted Average Emission Rate for India as 0.82 kg CO2/Kwh (source: http://www.cea.nic.in/reports/others/thermal/tpece/cdm\_co2/user\_guide\_ver14.pdf) Market based Scope 2 emissions reported considering: a) Solar Power from the third party thru PPA arrangements within plant premises b) Wind Power CAPTIVE(Self) generation and consumption from OWNED installation c) Solar Power from CAPTIVE(Self) generation and consumption OWNED installation d) Emission factor for Solar & Wind Power = 0 kg CO2/Kwh

## **C6.3**

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

### **Reporting year**

### **Scope 2, location-based**

214785

### **Scope 2, market-based (if applicable)**

199767

### **Start date**

<Not Applicable>

### **End date**

<Not Applicable>

### **Comment**

Scope 2: Electricity indirect GHG emissions Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated. Location based Scope 2 emissions reported considering CEA published Grid Weighted Average Emission Rate for India as 0.82 kg CO2/Kwh (source: http://www.cea.nic.in/reports/others/thermal/tpece/cdm\_co2/user\_guide\_ver14.pdf) Market based Scope 2 emissions reported considering: a) Solar Power from the third party thru PPA arrangements within plant premises b) Wind Power CAPTIVE(Self) generation and consumption from OWNED installation c) Solar Power from CAPTIVE(Self) generation and consumption OWNED installation d) Emission factor for Solar & Wind Power = 0 kg CO2/Kwh

## **C6.4**

### **(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 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

### **Metric tonnes CO2e**

4372542

### **Emissions calculation methodology**

We have tried to calculate the Purchased good and Services scope 3 emissions using the emission factors sourced from Spehera's (earlier Thinkstep) GABI LCA software/tool. Calculation method: For any purchase types identified by the user(M&M) as Standard Good or Service, the sector of purchase chosen by the user is linked to a 2009 world multi-regional estimate of average environmental impacts by region-sector combined with global warming potential impact assessment (Timmer 2012, IPCC 2007). The reference flow quantity is provided by the user(M&M)in the form of purchase quantity in kg (Mass)

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

0

### **Please explain**

We are the manufacturer of automobile vehicles, most of our emissions get covered and disclosed in our value chain. We capture our inbound and outbound emissions and report also. However, we have tried to calculate the Purchased good and services scope 3 emissions using Quantis Scope 3 evaluator.

### **Capital goods**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

M&M Group focuses on scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M Group scope 3 emissions and 2) Influence of M&M Group on emission reductions. We do not consider this Scope 3 category to be of particular relevance because of our limited influence on these suppliers. The corresponding emissions are estimated to be below 1% of our total Scope 3 emissions in the reporting period. The selection of new equipment or buildings focuses on the use phase (increased resource efficiency, minimized CO2 emissions). Our influence on operations and therefore on CO2 emissions of these kinds of suppliers is less than e.g. for suppliers of production material where we often have closely collaborated for many years. Nevertheless, measures to improve CO2 emissions performance are the same applying for all direct and indirect suppliers which are described in more detail in Q 12.1 (e.g. contractually fixed requirement to install an environmental management system).

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

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

111338

### **Emissions calculation methodology**

We have tried to calculate the Fuel-and-energy-related activities scope 3 emissions using the free scope 3 screening tool (Quantis scope 3 evaluator tool) Calculation method: The Quantis scope 3 evaluator tool uses the Ecoinvent substances database to calculate the Fuel-and-energy-related activities emissions based on Scope 1 & Scope 2 emissions as an input. We had keyed in already calculated Scope 1 and 2 emissions in the tool. The Quantis scope 3 evaluator tool calculates Fuel-and-energy-related activities (not included in Scope 1 or 2)

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

100

### **Please explain**

Transmission & Wheeling Losses happening in Electricity Grid as per CEA - Central Electricity Authority of India

### **Upstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

56528

### **Emissions calculation methodology**

We calculate the emissions arising from inbound logistics to our facilities. The mode of transport (road, rail, sea or air), the distance of the supplier from our facility and the number of trips is reported to our central team on a monthly basis. In the case or transport by road, the vehicle tonnage is also reported. Appropriate emissions factors (Source- IPCC) are used to calculate the total tCO2 from our inbound logistics activities

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

100

### **Please explain**

Inbound logistics are all the processes related to bringing materials and products into your warehouse or facility. It includes receiving, storing and disseminating incoming goods or materials. A business may spend more than 40% of its annual freight budget on inbound delivery. Improving efficiencies in our inbound program can minimize delays, save money and streamline processes. It is a significant area of opportunity. Also this being part of our SBTi approved target this category is relevant and is calculated also, below are the steps we take to improve inbound logistics in our organization: • Find our actual costs – Determine the freight cost for each SKU we order from suppliers. If they’re bundled with the product price, have our vendors break the shipping cost out for us. • Know what to negotiate – Longer term contracts with carriers may help you get deeper discounts but remember that shipping rates are only part of the equation. We need to negotiate a cap on fuel costs as well. Otherwise, fuel surcharges may eat away at our savings. • Streamline our inbound shipping process – Create a predictable inbound shipping process. Start by collecting freight data on the volume, frequency, and cost for shipments delivered to our company. Look for ways to combine the orders from the same geographic areas to qualify for truckload rates. Set up rules for vendors to use when selecting which carriers to use for our shipments. Look at ways to minimize the number of deliveries arriving at once, to simplify the receiving process at our warehouse. • Communicate with suppliers – Once we have a plan in place, we need to clearly communicate it to our suppliers. Send them a written notice and require that they sign off on it confirming receipt. Be sure to also add redundancy to our P.O.’s specifying how our orders are to be shipped. • Emphasize compliance – Make sure our vendors know that you will not pay for shipping selected by them without your approval. This will help enforce compliance with our inbound shipping policies. • Set up a third-party consignee billing account - Have vendors use this account when arranging smaller shipments, under 200-250 kgs.

### **Waste generated in operations**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

51127

### **Emissions calculation methodology**

These are negative emissions, that is we have avoided emissions by our waste management practices. Methodology: The total waste generated from M&M operations is divided into two categories – Hazardous Waste and - Non Hazardous waste. We track waste generation from different streams, including the nature of waste and disposal method. All Non-Hazardous waste is either RECYCLED & REUSED through Authorised RECYCLER approved by the State pollution control board. We report about the waste generated from different sources in our sustainability report. Also in F19- 8 Mahindra manufacturing sites In F20 5 other sites were Certified ZERO Waste to Landfill by M/s. Intertec and Our Farm Equipment division is now not sending any waste to Landfills and soon Auto Divison plants will follow, we have adopted all the learning from this 14 Sites ZWL certification we have plans to make all our manufacturing sites to be Zero Waste to Landfill. Non-Hazardous waste (95 % of total waste) is fed into the Waste Reduction Model given by USEPA. This model returns GHG emissions for the waste data entered. Following is the output from the WARM model for F19: Automotive Sector: 10882 tons of CO2e emissions avoided Farm + Swaraj Division: 4880 tons of CO2e emissions avoided Spare business units + MRV Chennai: 360 tons of CO2e emissions avoided Total M&M Limited: 16122 Tons of CO2e emissions avoided. Also, 80% of our Hazardous Waste is sent for Co-processing either to the Cement industry or to a Co-processing plant wherein the Hazardous waste is treated as raw material to produce different outputs. eg cement, Carbon black, Diesel equivalent oil, etc

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

100

### **Please explain**

These are negative emissions, that is we have avoided emissions by our waste management practices & are part of our Zero Waste to Land fill strategy adopted by business hence are relevant and tracked. • Cost benefits: Enhances financial performance through the identification, implementation, and tracking of financial savings associated with waste management initiatives. • Environmental benefits: Data allows the tracking of environmental benefits. For example, X kgs. of waste recycled reduced our greenhouse gas emissions XX number of tCO2e. Successes breed more successes, ultimately reducing the organization's overall environmental impact through the identification, implementation, and tracking of environmental attributes associated with waste management activities. • Health and safety benefits: Clearly communicate the organization's waste management goals and the progress made. o Encourages staff, leadership and the community to further engage in waste management initiatives. • Quality and outcomes - Metrics are in development to evaluate the performance over time. • For companies like us seeking LEED certification, implementing a commute program makes additional points available. Under the Materials & Resources section, 4 Credits are available for Solid Waste Management: Waste Stream Audit Solid Waste Management- Ongoing Solid Waste Management- Facility Management and Renovation

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

12762

### **Emissions calculation methodology**

As per the Green House Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

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

100

### **Please explain**

An explanation for Relevance: Business air, road, rail travel is done for finding out new technologies, supplier capability building, customer support, etc. Knowing how, where and when employee commutes for business purpose lead us to save for the company. At Mahindra, we strongly believe Happier employees = more productive employees lead to a more profitable company We have robust tracking and recording system in place and records for the business travel are analyzed to make business decisions for introducing Video conferencing facilities, shuttle service facilities so that business travel cost, as well as the cost of it, can be reduced and most importantly the productivity of the individuals traveling is enhanced. It provides additional benefits to retain our best employees and entice future talent. Hence this are relevant and will continued to be tracked and calculated.

### **Employee commuting**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

2017

### **Emissions calculation methodology**

As per the Green House Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

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

80

### **Please explain**

Knowing how, where and when employee commutes to our office lead us to savings for both. Tracking our employees' commute allows us to have a better understanding of their employee’s mindset. Maybe they are all sitting in traffic for 1 to 2 hours and are absolutely miserable and stressed by the time they get in this enabled us to promote Job flexibility in way of Flexi working hours, Work from home and thus provides additional benefits to retain our best employees and entice future talent At Mahindra, we strongly believe Happier employees = more productive employees lead to a more profitable company Who doesn’t want to work for / stay at a company that helps employees spend more of their time with family? Corporate responsibility and carbon footprint reporting have become a number that investors are expecting to see. Having very accurate information on programs to reduce single-occupancy vehicles reduces a company’s carbon footprint. Aggressive commuter programs can reduce commuter carbon emissions by 25% or more, M&M has different programs like carpool, making sustainability personal, cycle to work, Work form Home and even staggering working hours etc considering the traffic scenarios, employees are encouraged to travel through public transport and are provided with bus services. We track these emissions on a Quarterly basis. Employees using carpools are given preferred parking allotment at most of the locations. For companies like us seeking LEED certification, implementing a commute program makes additional points available. Under LEED SS 4.1, Alternative Transportation – Public Transportation Access – there is an extra credit point for creating a ‘comprehensive transportation management plan’ showing a quantifiable reduction in auto use. Under LEED SS 4.2 – Alternative Transportation – Bicycle Storage & Changing Rooms provides another extra point for creating that ‘comprehensive transportation management plan’. An additional point is also available under SS 4.3 – Alternative Transportation – and Low Emitting and Fuel Efficient Vehicles – and SS 4.4 – Alternative Transportation – Parking Capacity.

### **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

We did not have any Upstream leased during the reporting period. hence Scope 3 emissions under Upstream leased assets category is ZERO M&M focuses on Scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M scope 3 emissions and 2) the influence of M&M on Emission Reductions.

### **Downstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

91786

### **Emissions calculation methodology**

We calculate the emissions arising from outbound logistics from our facilities. The mode of transport (road or rail), the distance of the distribution center from our facility and the number of trips is reported to our central team on a monthly basis. In the case or transport by road, the vehicle tonnage is also reported. Appropriate emissions factors (Source- IPCC AR 5 and GHG accounting protocol) are used to calculate the total tCO2 from our outbound logistics.

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

100

### **Please explain**

The explanation for relevance: Outbound logistics can be defined as: “The process related to the movement and storage of products from the end of the production line to the end-user” Product lines are proliferating, Product life cycles are contracting and Technological development in transportation and material handling is compelling companies to shift from manufacturers to the trader’s mindset primarily for 1. Cost reduction 2. Capital reduction 3. Service improvement Tracking downstream transportation and distribution activities provide inputs for • Production planning • centralizing production to gain economies of scale • Maximise Production efficiency • Reduction in inventory • Optimise the transportation & Distribution cost • Reduce and eliminate the damages during Transportation & Distribution • Adopt technology that reduces the handling of goods to enhance the safety • Elevating the service experience to the distributor & end-user • Reduce the carbon footprint • Meet the multi-stakeholders expectations Outbound logistics includes the final step of the delivery process, which is often referred to as one of the key make or break steps in the CRM process. Given its critical role, our planning and approach towards outbound logistics can benefit greatly from quantitative “firm performance data” based research, as well as from insights generated by more qualitative perception-based data Also this are now part of the SBTi approved Targets. Hence relevant and calculated.

### **Processing of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

M&M is an OEM. Hence there is no significant further processing of our sold products required to use them. Only processing to the fit the spare part in the product is needed: M&M focuses on scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M scope 3 emissions and 2) the influence of M&M on Emission Reductions. M&M's core business, mobility products, and services are consumer goods, According to our estimate it will be less than 1% of our Total emissions hence scope 3 category “Processing of sold Products” is not relevant for M&M.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

53677130

### **Emissions calculation methodology**

During the reporting period, 421,235 automotive vehicles were sold and 288,971 tractors were sold, which contributes to Scope 3 emissions under this category. To calculate scope 3 emissions due to the use of sold products: 1) Emissions from Automotive vehicles Sold in FY20 = No. of vehicles x emission factor tCO2e per km x 10000 km running per year = 421235 x 0.000924027 x 10000 = 11,179,813 tons of CO2e 1) Emissions from TRACTORS Sold in FY20 = No. of tractors x diesel consumption (liter) per hour x 1000 hour running per year x diesel CO2 emission factor (kg per litre) = 288,971 x 3 x 1000 x 2.64 kg = 42,497,317 tons of CO2e Total = 11,179,813 + 42,497,317 = 53,677,130 tons of CO2e

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

100

### **Please explain**

Being an automotive industry, Use of Sold products contributes to major emissions. We have started calculating from this reporting period using total sales volume and emission factors as under In FY20: 421,235 automotive vehicles were sold and 288,971 tractors were sold These vehicles will contribute to scope 3 emissions under this category.

### **End of life treatment of sold products**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

38938

### **Emissions calculation methodology**

Similarly, our Bolero maxi truck BMT LCC LCA was conducted with GABI6 software and EOL emission numbers was then multiplied with passenger vehicle retail figures which contribute to 40% of vehicles sold by M&M in F20, to estimate the total CO2-emissions under "End of life treatment of sold products" of M&M. We had conducted LCA study for the product "XUV 500 -W10 model"(highest offering model) by using GABi6 software of M/s. Think Step and its End of Life emission = -1.975 tCO2e per vehicle EoL emissions for passenger Vehciles= Total passenger Vehicles sold in F20 x (-1.975)= 8867.96 tCO2e our Bolero maxi truck BMT LCC LCA was conducted with GABI6 software and EOL emission is =-0.96 tCO2e per vehicle. Total commercial Vehicles sold in F19 x (-0.96)= 12952.93 tCO2e Tractors EoL emissions 17117.3 tCO2e We acknowledge limited accuracy due to the assumptions of “all passenger vehicles sold” has EOL emissions the same as XUV 500 W10 model. and "all commercial vehicle sold " has EOL emissions the same as BMT LCC.

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

100

### **Please explain**

M&M focuses on scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M scope 3 emissions and 2) the influence of M&M on Emission Reductions. According to our estimates the scope 3 emissions of “End of life treatment of sold products” are below 5% of total M&M scope 3 emissions. Furthermore, M&M has limited influence on End of life treatment of sold products for which we do not have operational control. Nonetheless, we started Due to the relatively small amount of total scope 3 emissions in the category “End of life treatment of sold products” and limits to our operational influence we assess “End of life treatment of sold products” as not of relevance concerning M&M's Scope 3 emissions. To get a rough estimate of the scope 3 emissions of “End of life treatment of sold products ” we calculated EOL figure for "XUV 500 -W10 model" sold by M&M through LCA Analysis using GABi6 software. This figure was then multiplied with passenger vehicle retail figures which contribute to 48% of vehicles sold by M&M in F19. Similarly, our Bolero maxi truck BMT LCC LCA was conducted with GABI6 software and EOL emission numbers was then multiplied with passenger vehicle retail figures which contribute to 40% of vehicles sold by M&M in F19, to estimate the total CO2-emissions under "End of life treatment of sold products" of M&M. We acknowledge limited accuracy due to the assumptions of “all passenger vehicles sold” has EOL emissions the same as XUV 500 W10 model. and "all commercial vehicle sold " has EOL emissions the same as BMT LCC.

### **Downstream leased assets**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

8960

### **Emissions calculation methodology**

We have Area offices & Regional stockyards (RSO) on lease and have operational control. Both Area offices and RSO's make use of Electricity for office work & HVAC & Lighting application. Electricity bills for sample area offices & RSO's have been assessed an average usage of electricity per area office & RSO's is calculated and estimated emissions from Downstream leased assets are calculated. i.e. 8,960 t CO2e per annum. The total Carbon footprint from Downstream leased assets = Average area office emissions x No. of area offices on Lease + Average RSO emissions x No. of RSO on Lease.

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

100

### **Please explain**

We did not have full data for Downstream leased assets during the reporting period. hence Scope 3 emissions under Downstream leased assets category is estimated on a higher sampling basis as compared to F19 and plan to calculate the same in detail in the next reporting year M&M focuses on scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M scope 3 emissions and 2) the influence of M&M on Emission Reductions. It is estimated based on internal calculations that scope 3 emissions from this category are less than 1% of total scope 3 emissions.

### **Franchises**

### **Evaluation status**

Not relevant, calculated

### **Metric tonnes CO2e**

2403

### **Emissions calculation methodology**

The total Carbon footprint from Franchisee (Dealerships) = Average Dealership emissions x No. of Dealership; Earlier in FY19 and FY20 sample case dealership CO2 emissions were calculated and found to be in range of 150-200 tons per annum,

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

100

### **Please explain**

According to our estimates the scope 3 emissions of “Franchises” are below 1% of total M&M scope 3 emissions. Furthermore, M&M has limited influence on M&M dealerships, for which we do not have operational control. Nonetheless, we started raising awareness of resource- and CO2-matters among our independent dealer network, by launching a sustainability initiative within the sales and marketing division of the M&M. Part of this initiative is a National dealer competition on ‘sustainability leadership’ among our entire dealer network. Due to the relatively small amount of total scope 3 emissions in the category “Franchises” and limits to our operational influence, we assess “Franchises” as not of particular relevance concerning M&M's Scope 3 emissions. To get a rough estimate of the scope 3 emissions of “Franchises” we calculated the intensity figure for CO2 emissions/per automobile sold in M&M owned dealerships in India, relying on directly monitored information on CO2-emissions. This intensity figure was then multiplied with global retail figures, excluding the retails of M&M owned dealerships, to estimate the total CO2-emissions of M&M's independent dealership network.

### **Investments**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

M&M investments into other businesses are beyond the Operational control boundary for the reporting period hence, considered ZERO. M&M focuses on scope 3 emission categories which are identified as relevant according to the following two criteria: 1) Share in total M&M scope 3 emissions and 2) the influence of M&M on Emission Reductions. According to our estimates, the scope 3 emissions from “Investments” are significantly below 5% of the total M&M scope 3 emissions. Due to the low amount of emissions in relation to the total M&M scope 3 emissions, the scope 3 category “Investments” is not of substantial relevance. To estimate the emissions we analysed in a first step all assets and identified those with material emissions (companies in the transportation and tractor production sector, along with office at Worli (Corporate center) The emissions from the relevant assets were excluded since the emissions are already accounted for in our scope 1 and 2 emissions, respectively in the scope 3 category “use of sold products”

### **Other (upstream)**

### **Evaluation status**

Not evaluated

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Due to limited knowledge of Up-stream emissions which may be classified under Other scope 3 category

### **Other (downstream)**

### **Evaluation status**

Not evaluated

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Due to limited knowledge of Down-stream emissions which may be classified under Other scope 3 category

## **C-CG6.6**

### **(C-CG6.6) Does your organization assess the life cycle emissions of any of its products or services?**

|  |  |  |
| --- | --- | --- |
|  | **Assessment of life cycle emissions** | **Comment** |
| Row 1 | Yes | Stakeholders are increasingly requesting companies like us to measure and disclose their product- and service-related emissions. Emissions are linked to every stage of the product or service life cycle - from raw material acquisition to end-of-life treatment. Understanding and measuring emissions across the life cycle can help us focus emissions reduction efforts on the most energy intensive operations across the whole life cycle, rather than just in the production process or in supply chain alone. |

## **C-CG6.6a**

### **(C-CG6.6a) Provide details of how your organization assesses the life cycle emissions of its products or services.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Products/services assessed** | **Life cycle stage(s) most commonly covered** | **Methodologies/standards/tools applied** | **Comment** |
| Row 1 | Representative selection of products/services | Cradle-to-grave | ISO 14040 & 14044 | We have conducted Cradle-to-grave a full life cycle assessment of emissions including the material acquisition (Cradel) & pre-processing stage, production stage, use stage and end-of-life stage (Grave) for 2 Highest selling models (1 Passenger & 1 commercial). and Few Part LCA's of engines and other vehcile components using GABI software of M/s. Spheres (earlier Thinkstep) The insights from the same are used to improve our current and new products. Similarly, our Bolero maxi truck BMT LCC LCA was conducted with GABI6 software and EOL emission numbers was then multiplied with passenger vehicle retail figures which contribute to 40% of vehicles sold by M&M in F20, to estimate the total CO2-emissions under "End of life treatment of sold products" of M&M. We had conducted LCA study for the product "XUV 500 -W10 model"(highest offering model) by using GABi6 software of M/s. Think Step and its End of Life emission = -1.975 tCO2e per vehicle EoL emissions for passenger Vehciles= Total passenger Vehicles sold in F20 x (-1.975)= 8867.96 tCO2e our Bolero maxi truck BMT LCC LCA was conducted with GABI6 software and EOL emission is =-0.96 tCO2e per vehicle. Total commercial Vehicles sold in F19 x (-0.96)= 12952.93 tCO2e |

## **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**

5.358e-7

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

240414

### **Metric denominator**

unit total revenue

### **Metric denominator: Unit total**

448660000000

### **Scope 2 figure used**

Market-based

### **% change from previous year**

2.56

### **Direction of change**

Increased

### **Reason for change**

Mahindra and Mahindra Ltd. comprises of - Auto Division (AD) - Nashik Plant 2 (AD) - Farm Division (FD) - Swaraj Division(SD) - Swaraj Foundry (SD) - Spares Business Unit(SBU) - Mahindra Research Valley(MRV) - Corporate Centre, Worli Mumbai (CC) - Mahindra Two Wheeler Division (MTWD) F2020 Intensity Metric: 0.0000005358 tCO2e/ INR 2.56% Increased w.r.t. F2019 F2020 Numerator: M&M's Scope 1+2 emissions (Market based) : 240,414 tCO2e F2020 Denominator: Unit total revenue: INR 448,660,000,000/- F2019 Intensity Metric: 0.0000005225 tCO2e /INR F2019 Numerator: M&M's Scope 1+2 emissions (Market based) : 2,80,120 tCO2e F2019 Denominator: Unit total revenue: INR 536,140,000,000/- Rise of 8.43% over previous for year However, not all locations contribute to revenue generation directly, hence metric of Intensity = t CO2e / unit of total revenue is NOT RELEVANT, Hence, we measure the relevant metric as follows: 1) For Automotive division tCO2e /Equivalent Vehicle produced 40.4% of M&M Emissions 2) For Farm +Swaraj Division tCO2e /Equivalent Tractors produced , 32.4% of M&M Emissions

### **Intensity figure**

0.198

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

97087

### **Metric denominator**

Other, please specify (Equivalent Vehicles produced in Automotive division)

### **Metric denominator: Unit total**

490007

### **Scope 2 figure used**

Market-based

### **% change from previous year**

3.7

### **Direction of change**

Increased

### **Reason for change**

F19 Automotive Division contributes to 40.4% of M&M Emissions Reason for increase in Scope 1+2 combined emission: But due to Specific GHG Emissions increased by 3.7% per Equivalent Vehicles produced, mainly due to 24% drop in Equivalent Vehicles produced due to market slow down and covid -19 issue in FY20 Q4 leading to abrupt lock-down. Plus increase R&D testing for BS VI compliance w.e.f. 1st April 2020. Calculations: F19 Automotive Division Metric numerator (Gross global combined Scope 1 and 2 emissions) = 123,060 tCO2e Metric denominator: Unit total = Unit of Production = Equivalent Vehicles produced =644,212 Nos F19 Intensity = 123,060 tCO2e/ 644,212 Nos = 0.198 tCO2e F20 Automotive Division Metric numerator (Gross global combined Scope 1 and 2 emissions) = 97,087 tCO2e Metric denominator: Unit total = Unit of Production = Equivalent Vehicles produced = 490,007 Nos F20 Intensity = 97,087 tCO2e/ 490,007 Nos = 0.198 tCO2e/ Eq. Vehicles Change in F20 against F19= (0.198-0.191)/0.191 = 3.7% i.e. Increase in Specific GHG Emissions by 3.7% per Equivalent Vehicle produced mainly due to 24% drop in Equivalent Vehicles produced due to market slow down, BS VI transition and covid -19 issue in FY20 Q4 leading to abrupt lock-down.

### **Intensity figure**

0.181

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

77806

### **Metric denominator**

Other, please specify (Equivalent Tractors produced in Farm Equivalent + Swaraj division)

### **Metric denominator: Unit total**

428822

### **Scope 2 figure used**

Market-based

### **% change from previous year**

2.6

### **Direction of change**

Increased

### **Reason for change**

F20 Farm Equivalent + Swaraj Division contributes to 32.4% of M&M Emissions Reason for the Increase in Scope 1+2 combined emission: We have implemented Energy efficiency projects and increased the Renewable Power by setting up 2.1MW windmill & 3 MWp Solar added within plant premises for CAPTIVE use. But due to Specific GHG Emissions increased by 2.6% per Equivalent tractors produced, mainly due to 18% drop in Equivalent Tractors produced due to market slow down and covid -19 issue in FY20 Q4 leading to abrupt lock-down. Plus increase R&D testing for TREM IV compliance w.e.f. 1st Oct 2019. Calculations: F19 Farm Equivalent + Swaraj Division Metric numerator (Gross global combined Scope 1 and 2 emissions) = 90,653 tCO2e Metric denominator: Unit total = Unit of Production = Equivalent Vehicles produced = 512739 Nos F19 Intensity = 90,653 tCO2e/ 512739 Nos = 0.177 tCO2e F20 Farm Equivalent + Swaraj Division Metric numerator (Gross global combined Scope 1 and 2 emissions) =77,806 tCO2e Metric denominator: Unit total = Unit of Production = Equivalent Tractors produced = 428,822 Nos F20 Intensity = 77,806 tCO2e/ 428,822 Nos = 0.181 tCO2e/ Equivalent Tractors Change in F20 against F19 = (0.181-0.177)/0.177 = 2.6% i.e. Increase in Specific GHG Emissions by 2.6% per Equivalent tractors produced, mainly due to 18% drop in Equivalent Tractors produced due to market slow down and covid -19 issue in FY20 Q4 leading to abrupt lock-down.

## **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 CO2e)** | **GWP Reference** |
| CO2 | 40654 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| CH4 | 3.09 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| N2O | 0.145 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| HFCs | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| PFCs | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| SF6 | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| NF3 | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |

## **C7.2**

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

|  |  |
| --- | --- |
| **Country/Region** | **Scope 1 emissions (metric tons CO2e)** |
| India  *Scope 1 emissions of 22 M&M sites in India. Haridwar (AD) Igatpuri (AD) Kandivli (AD) Nashik Plant 1(AD) Nashik Plant 2 (AD) Zaheerabad (AD) Worli Mumbai (CC) Jaipur (FD) Kandivli (FD) Nagpur (FD) Rudrapur (FD) Zaheerabad (FD) Chennai(MRV) Pithampur (MTWL) Bhiwandi (SBU) Hyderabad (SBU) Jaipur (SBU) Kanhe (SBU) Vadgoan (SBU) Swaraj Plant 1 (Swaraj) Swaraj Plant 2 (Swaraj) Swaraj Foundry (Swaraj)* | 40654 |

## **C7.3**

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

By business division

By facility

By activity

## **C7.3a**

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

|  |  |
| --- | --- |
| **Business division** | **Scope 1 emissions (metric ton CO2e)** |
| AD-Automotive Divison comprises of following 5 plants Haridwar (AD) Igatpuri (AD) Kandivli (AD) Nashik Plant 1(AD) Zaheerabad (AD) | 14840 |
| FD-Farm Divison comprises of following 5 plants Jaipur (FD) Kandivli (FD) Nagpur (FD) Rudrapur (FD) Zaheerabad (FD) | 11796 |
| SD-Swaraj Division comprises of Swaraj Plant 1 (Swaraj) Swaraj Plant 2 (Swaraj) | 4291 |
| SBU - Spares Business Unit comprises of following: Bhiwandi (SBU) Hyderabad (SBU) Jaipur (SBU) Kanhe (SBU) Vadgoan (SBU) | 182 |
| MRV - Mahindra Research Valley | 7382 |
| Worli Mumbai (CC) | 19 |
| Mahindra Two wheeler Division (MTWD) | 1159 |
| Nashik Tool & Die plant | 41 |
| Swaraj Foundry (Mohali) | 946 |

## **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** |
| Haridwar (AD) | 163 | 29.94791 | 78.16025 |
| Igatpuri (AD) | 902 | 19.69511 | 73.56215 |
| Kandivli (AD) | 5315 | 19.204529 | 72.851995 |
| Nashik Plant 1(AD) | 6276 | 19.98333 | 73.8 |
| Nashik Tool & Die plant | 41 | 20.002469 | 73.726445 |
| Zaheerabad (AD) | 2184 | 17.68068 | 77.61164 |
| Jaipur (FD) | 1099 | 26.92557 | 75.80637 |
| Kandivli (FD) | 2796 | 17.86667 | 73.23333 |
| Nagpur (FD) | 3289 | 21.15707 | 79.08218 |
| Rudrapur (FD) | 2087 | 26.4461 | 83.61473 |
| Zaheerabad (FD) | 2525 | 17.68068 | 77.61164 |
| Swaraj Foundry ( Mohali) | 946 | 30.839594 | 76.670496 |
| Swaraj Plant 1 (Mohali) | 2113 | 30.721123 | 76.710099 |
| Swaraj Plant 2 (Mohali) | 2177 | 30.70347 | 76.659055 |
| Bhiwandi (SBU) | 10 | 19.29711 | 73.0635 |
| Hyderabad (SBU) | 4 | 17.39487 | 78.47076 |
| Jaipur (SBU) | 31 | 26.92557 | 75.80637 |
| Kanhe (SBU) | 130 | 18.727736 | 73.654434 |
| Vadgoan (SBU) | 7 | 18.7419 | 73.63508 |
| Mahindra Research Valley, Chennai | 7382 | 13.08362 | 80.28252 |
| Worli Mumbai (CC) | 19 | 19.016671 | 72.816661 |
| Mahindra Two wheeler Division (MTWD) | 1159 | 22.16616 | 74.73237 |

## **C7.3c**

### **(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

|  |  |
| --- | --- |
| **Activity** | **Scope 1 emissions (metric tons CO2e)** |
| Offices @ Corporate center Worli | 19 |
| Manufacturing @ Auto Division- 5 plants @ Farm Division - 5 plants @ Swaraj Foundry @ Swaraj Division - 2 plants @ Nashik Tool and Die plant @ Pithampur (MTWD) | 33072 |
| Warehouses 5 Warehouses in Spare Business Unit | 182 |
| Research and Development center @ MRV Chennai | 7382 |

## **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** | **Net Scope 1 emissions , metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 14840 | <Not Applicable> | The Reported Gross Scope 1 emissions, 14,840 metric tons CO2e is for the Automotive division which falls under the Transport sector. Automotive division contributes to 36.5% of total Gross Scope 1 emissions, 40,654 metric tons CO2e . Emissions from following Farm Equipment & Swaraj Division contributing to 41.9% + Spares Business Unit 0.4% Mahindra Research Valley 18.2% Nashik Plant 2 (AD) 0.1% Corporate Center + MTWD 2.9% of total emissions are not considered here because this operations are different than Transport sector. |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C7.5**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country/Region** | **Scope 2, location-based (metric tons CO2e)** | **Scope 2, market-based (metric tons CO2e)** | **Purchased and consumed electricity, heat, steam or cooling (MWh)** | **Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)** |
| India | 214785 | 199765 | 261933.39 | 18317.05 |

## **C7.6**

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

By business division

By facility

By activity

## **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)** |
| AD-Automotive Divison comprises of following 5 plants: Haridwar (AD) Igatpuri (AD) Kandivli (AD) Nashik Plant 1(AD) Zaheerabad (AD) | 89452 | 82246 |
| FD-Farm divison comprises of following 5 plants: Jaipur (FD) Kandivli (FD) Nagpur (FD) Rudrapur (FD) Zaheerabad (FD) | 42349 | 36421 |
| SD- Swaraj divison comprises of : Swaraj Plant 1 (Swaraj) Swaraj Plant 2 (Swaraj) | 25298 | 25298 |
| Spares Business Unit comprises of: Bhiwandi (SBU) Hyderabad (SBU) Jaipur (SBU) Kanhe (SBU) Vadgoan (SBU) | 2566 | 2566 |
| Mahindra Research Valley | 24923 | 23928 |
| Worli Mumbai (CC) | 2173 | 2162 |
| Mahindra Two wheeler Division (MTWD) | 3721 | 3721 |
| Swaraj Foundry (Mohali) | 22000 | 22000 |
| Nashik Tool & Die plant | 2303 | 1424 |

## **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)** |
| Haridwar (AD) | 1259 | 1063 |
| Igatpuri (AD) | 4404 | 4153 |
| Kandivli (AD) | 43259 | 41323 |
| Nashik Plant 1(AD) | 32148 | 30025 |
| Nashik Tool & Die plant | 2303 | 1424 |
| Zaheerabad (AD) | 8384 | 5683 |
| Jaipur (FD) | 2439 | 1834 |
| Kandivli (FD) | 13205 | 10586 |
| Nagpur (FD) | 15002 | 13711 |
| Rudrapur (FD) | 4062 | 3927 |
| Zaheerabad (FD) | 7642 | 6363 |
| Swaraj Foundry (Mohali) | 22000 | 22000 |
| Swaraj Plant 1 (Mohali) | 11454 | 11454 |
| Swaraj Plant 2 (Mohali) | 13845 | 13845 |
| Bhiwandi (SBU) | 331 | 331 |
| Hyderabad (SBU) | 26 | 26 |
| Jaipur (SBU) | 779 | 779 |
| Kanhe (SBU) | 1362 | 1362 |
| Vadgoan (SBU) | 67 | 67 |
| Mahindra Research Valley, Chennai | 24923 | 23928 |
| Worli Mumbai (Corporate Center) | 2173 | 2162 |
| Pithampur (MTWD) | 3721 | 3721 |

## **C7.6c**

### **(C7.6c) Break down your total gross global Scope 2 emissions by business activity.**

|  |  |  |
| --- | --- | --- |
| **Activity** | **Scope 2, location-based (metric tons CO2e)** | **Scope 2, market-based (metric tons CO2e)** |
| Offices @ Corporate center Worli | 2173 | 2162 |
| Manufacturing @ Auto Division- 5 plants @ Farm Division - 5 plants @ Swaraj Foundry @ Swaraj Division - 2 plants @ Nashik Tool and Die plant @ Pithampur (MTWD) | 185124 | 171106 |
| Warehouses 5 Warehouses in Spare Business Unit | 2566 | 2566 |
| Research and Development center MRV Chennai | 24923 | 23928 |

## **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** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 89452 | 82246 | The Reported Gross Scope 2 emissions, 82,246 metric tons CO2e is for the Automotive division which falls under the Transport sector. Automotive division contributes to 40.4% of total Gross Scope 1 emissions, 199,767 metric tons CO2e . Emissions from following Farm Equipment & Swaraj Division contributing to 41.9% + Spares Business Unit 1.3% Mahindra Research Valley 12% Nashik Plant 2 (AD) 0.7% Corporate Center + MTWD 3.0% of total emissions are not considered here because this operations are different than Transport sector. |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **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**

0.0000762

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

3130598

### **Metric denominator**

p.km

### **Metric denominator: Unit total**

41085360000

### **% change from previous year**

1.57

### **Vehicle unit sales in reporting year**

171189

### **Vehicle lifetime in years**

15

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

10000

### **Load factor**

We have used load factor of 1.60 persons per vehicle. Default occupancy rate - 2DS (avg. passenger per vehicle) 1.62 - 1.59 as per SBTi Transport tool Version 1.1

### **Please explain the changes, and relevant standards/methodologies used**

The methodology used for calculation is given below: F20 Calculations: Numerator Calculations: No of Passenger Vehicles sold 171,189 Nos Distance travelled in a year 10000 km Vehicle life 15 years emission factor 159.07 gCO2e/km (Tank to Wheel) + Well to Tank 36 gCO2e/km = 195.07 gCO2e/km A load factor of 1.60 persons per vehicle Lifetime emissions = No of Vehicle sold x Distance travelled in a year x vehicle life / load factor persons per vehicle Lifetime emissions 3,130,598 tCO2e ---- Numerator F20 Denominator calculations No of Passenger Vehicles sold 171,189 Distance travelled in a year 10000 km Vehicle life 15 years A load factor of 1.60 persons per vehicle Passenger km covered = No of Vehicle sold x Distance travelled in a year x vehicle life x load factor persons per vehicle Passenger km covered = 41,085,360,000 p.Km ---- Denominator F20 Metric F20 = 0.00007620 tCO2e / p.Km calculated as given above Metric F19 =0.0000750 tCO2e / p.Km calculated as given below % Change F20 vs F19 = (0.00007620-0.0000750)/0.0000750=1.57% F19 Calculations: Numerator Calculations: No of Passenger Vehicles sold 248859 Distance travelled in a year 10000 km Vehicle life 15 years emission factor 156 gCO2e/km (Tank to Wheel) + Well to Tank 36 gCO2e/km A load factor of 1.60 persons per vehicle Lifetime emissions = No of Vehicle sold x Distance travelled in a year x vehicle life / load factor persons per vehicle Lifetime emissions 4,479,354 tCO2e ---- Numerator F19 Denominator calculations No of Passenger Vehicles sold 248859 Distance travelled in a year 10000 Vehicle life 15 years A load factor of 1.60 persons per vehicle Passenger km covered = No of Vehicle sold x Distance travelled in a year x vehicle life x load factor persons per vehicle Passenger km covered = 59,726,160,000 p.Km ---- Denominator F19 Metric F19 =0.0000750 tCO2e / p.Km calculated as given above

### **Activity**

Light Duty Vehicles (LDV)

### **Emissions intensity figure**

0.00030455

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

8395722

### **Metric denominator**

t.km

### **Metric denominator: Unit total**

27567571500

### **% change from previous year**

-12.76

### **Vehicle unit sales in reporting year**

250046

### **Vehicle lifetime in years**

15

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

10000

### **Load factor**

Default load factor - 2DS (avg. metric tonnes per vehicle) 0.69 - 0.78 as per SBTi Transport tool Version 1.1 we have considered load factor of 0.74 avg. metric tonnes per vehicle for calculations.

### **Please explain the changes, and relevant standards/methodologies used**

The methodology used for calculation is given below: F20 Calculations: Numerator Calculations: No. of Commercial Vehicles sold 250,046 Nos Distance travelled in a year 10000 km Vehicle life 15 years emission factor 137 gCO2e/tonne (Tank to Wheel) + Well to Tank 28 gCO2e/tonne= 165 gCO2e/tonne A load factor of 0.740 avg. metric tonnes per vehicle Lifetime emissions = No of Vehicle sold x Distance travelled in a year x vehicle life / load factor avg. metric tonnes per vehicle Lifetime emissions = 8,395,722 tCO2e ---- Numerator F20 Denominator calculations No. of Commercial Vehicles sold 250,046 Nos Distance travelled in a year 10000 km Vehicle life 15 years emission factor 137 gCO2e/tonne (Tank to Wheel) + Well to Tank 28 gCO2e/tonne= 165 gCO2e/tonne A load factor of 0.740 avg. metric tonnes per vehicle Commercial distance covered t.km = No of Vehicle sold x Distance travelled in a year x vehicle life x load factor avg. metric tonnes per vehicle Commercial distance covered t.km = 27,567,571,500 t.Km ---- Denominator F20 Metric F20 =0.00030455 tCO2e / t.Km calculated as given above Metric F19 =0.00034342 tCO2e / t.Km calculated as given below % Change F20 vs F19 = (0.00030455-0.00034342)/0.00034342 =- 12.76% (decrease ) F19 Calculations: Numerator Calculations: No. of Commercial Vehicles sold 254,351 Nos Distance travelled in a year 10000 km Vehicle life 15 years emission factor 158 gCO2e/tonne (Tank to Wheel) + Well to Tank 28 gCO2e/tonne= 186 gCO2e/tonne A load factor of 0.740 avg. metric tonnes per vehicle Lifetime emissions = No of Vehicle sold x Distance travelled in a year x vehicle life / load factor avg. metric tonnes per vehicle Lifetime emissions 9,630,346 tCO2e ---- Numerator F19 Denominator calculations No. of Commercial Vehicles sold 254,351 Nos Distance travelled in a year 10000 km Vehicle life 15 years emission factor 158 gCO2e/tonne (Tank to Wheel) + Well to Tank 28 gCO2e/tonne= 186 gCO2e/tonne A load factor of 0.740 avg. metric tonnes per vehicle Commercial distance covered t.km = No of Vehicle sold x Distance travelled in a year x vehicle life x load factor avg. metric tonnes per vehicle Commercial distance covered t.km = 28,042,197,750 t.Km ---- Denominator F19 Metric F19 =0.00034342 tCO2e / t.Km calculated as given above

## **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?**

Decreased

## **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** | **Emissions value (percentage)** | **Please explain calculation** |
| Change in renewable energy consumption | 2000 | Decreased | 0.68 | In, FY 19 RE consumption = 15,878 MWh= 13,020 MtCO2e In FY 20 RE consumption = 18,317 =15,020 MtCO2e The Change in emissions in FY20 against FY19 = 15,020-13020=2,000 i.e Emission decreased by 2,000 MtCO2e in FY 20. Our Gross global FY 19 Scope 1+2 emissions = 2000/ 293,717 MtCO2e Thus change in RE consumption is 0.68 % of FY19 gross global emission resulted less FY20 emissions. |
| Other emissions reduction activities | 10864 | Decreased | 3.7 | In, FY 20 other emission reduction activities related to energy management = 10,864 MtCO2e in FY 19 Our Gross global Scope 1+2 emissions = 293,717 MtCO2e Thus change due to other emission reduction activities is 3.7% of FY19 gross global emission. Due to various project deployed FY20 emisisons reduce by 10864 tCO2e i.e 3.7% of FY19 Gross CO2 emissions. |
| Divestment | 0 | No change | 0 | No Divestment activities in FY20. |
| Acquisitions | 0 | No change | 0 | No Acquisitions activities in FY20. |
| Mergers | 0 | No change | 0 | No Mergers activities in FY20 |
| Change in output | 39705 | Decreased | 13.5 | Scope 1+2 avoided due to change in output for divisions listed below: Auto Division Farm Division Swaraj Division Swaraj Foundry (Mohali) Nashik Tool and Die Plant Spares Business Unit was calculated using difference in specific GHG emission (Scope 1+2-MtCO2e) for FY 19 against FY 20 MULTIPLIED by Output of all the divisions listed above. Out put reduced by 5% in F20 compared to F19 leading to 13.5% reduction in Absolute emisisons i.e. 39705 tCO2 reduced |
| Change in methodology | 0 | No change | 0 | No change in Methodology for FY20. |
| Change in boundary | 0 | No change | 0 | No change in Boundary for FY20 |
| Change in physical operating conditions | 0 | No change | 0 | Change in physical operating conditions not monitored |
| 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

## **C-CG7.10**

### **(C-CG7.10) How do your total Scope 3 emissions for the reporting year compare to those of the previous reporting year?**

Decreased

## **C-CG7.10a**

### **(C-CG7.10a) For each Scope 3 category calculated in C6.5, specify how your emissions compare to the previous year and identify the reason for any change.**

### **Purchased goods and services**

### **Direction of change**

Decreased

### **Primary reason for change**

Change in output

### **Change in emissions in this category (metric tons CO2e)**

1847526

### **% change in emissions in this category**

29

### **Please explain**

24% Output production was the major reason for reduction in Purchase Good & Services category emissions along with major reduction due to 5% Lessor services availed compared t previous year.

### **Fuel and energy-related activities (not included in Scopes 1 or 2)**

### **Direction of change**

Decreased

### **Primary reason for change**

Change in output

### **Change in emissions in this category (metric tons CO2e)**

25390

### **% change in emissions in this category**

16

### **Please explain**

24% drop in Output was the major contributor. Plus major use of Solar energy with in the Plant Premises directly.

### **Upstream transportation and distribution**

### **Direction of change**

Decreased

### **Primary reason for change**

Other emissions reduction activities

### **Change in emissions in this category (metric tons CO2e)**

14978

### **% change in emissions in this category**

23

### **Please explain**

23% Reduction in F20 compared to F19 due to drop in output plus other Logistic optimisation initiatives deployed by SCM team.

### **Waste generated in operations**

### **Direction of change**

Decreased

### **Primary reason for change**

Other emissions reduction activities

### **Change in emissions in this category (metric tons CO2e)**

14739

### **% change in emissions in this category**

22

### **Please explain**

to changes in Scope 3 emissions that have occurred because of proactive emissions reduction initiatives within your value chain by diverting Hazardous waste ending up to landfill after incineration to Co-processing plant at Cement plant or Pyrolisis plant approved by State Pollution control board. Now 14 Zero Water to Landfill sites compared to 8 earlier.

### **Business travel**

### **Direction of change**

Increased

### **Primary reason for change**

Other emissions reduction activities

### **Change in emissions in this category (metric tons CO2e)**

2641

### **% change in emissions in this category**

17

### **Please explain**

Due to Market slowdown, Management has taken proactive measures and curtailed travel resulting in 17% less business travel related emission in FY20 compared to FY19.

### **Employee commuting**

### **Direction of change**

Increased

### **Primary reason for change**

Other emissions reduction activities

### **Change in emissions in this category (metric tons CO2e)**

828

### **% change in emissions in this category**

27

### **Please explain**

Employee commute related emissions increased by 27% compared to previous year mainly due to inter plant transfers specially from Mumbai to chakan .

### **Downstream transportation and distribution**

### **Direction of change**

Decreased

### **Primary reason for change**

Other emissions reduction activities

### **Change in emissions in this category (metric tons CO2e)**

50310

### **% change in emissions in this category**

32

### **Please explain**

32% Reduction in F20 compared to F19 due to drop in output plus other Logistic optimisation initiatives deployed by SCM team. Plus Waste diverted from Land fill to recycler.

### **Use of sold products**

### **Direction of change**

Decreased

### **Primary reason for change**

Change in product efficiency

### **Change in emissions in this category (metric tons CO2e)**

5523025

### **% change in emissions in this category**

9

### **Please explain**

9% Reduction in emissions due to Use of Sold Product mainly due to 12% -improvement in Commercial Vehicles efficiency and Personal Vehicle remaining almost same. Weighted average of reduction of 9%

### **End-of-life treatment of sold products**

### **Direction of change**

Decreased

### **Primary reason for change**

Change in output

### **Change in emissions in this category (metric tons CO2e)**

5842

### **% change in emissions in this category**

13

### **Please explain**

Change in Output resulted reduced sales hence less emission in this category.

### **Downstream leased assets**

### **Direction of change**

Increased

### **Primary reason for change**

Change in methodology

### **Change in emissions in this category (metric tons CO2e)**

4153

### **% change in emissions in this category**

86

### **Please explain**

Earlier year we had considered sample bills common for all Area offices and vehicle movement due to them. This year we had increase our data collection on actuals, resulting in major change in data.

### **Franchises**

### **Direction of change**

Decreased

### **Primary reason for change**

Change in methodology

### **Change in emissions in this category (metric tons CO2e)**

26435

### **% change in emissions in this category**

92

### **Please explain**

Much improved primary data collected resulting in signification correction to previous estimate.

## **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 | Yes |

## **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 | 177331 | 177331 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 6946 | 243617 | 250563 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 11371 | <Not Applicable> | 11371 |
| Total energy consumption | <Not Applicable> | 18317 | 420948 | 439265 |

## **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 | Yes |
| 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 | Yes |
| 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.**

### **Fuels (excluding feedstocks)**

Diesel

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

49126

### **MWh fuel consumed for self-generation of electricity**

108.07

### **MWh fuel consumed for self-generation of heat**

49017.9

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

0

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

### **Emission factor**

2.64463

### **Unit**

metric tons CO2e per m3

### **Emissions factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2, page 1.18-1.19) for Net calorific value 43.0 (TJ/Gg) and Table 1.4, page 1.21-1.22) for Effective CO2 emission factor 74,100(kg/TJ) Carbon dioxide emissions per L of Diesel consumed were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). i.e. Effective CO2 emission factor (kg/TJ) = Default Carbon content (kg/GJ) x Default carbon oxidation factor x 44 /12 x 1000 = 20.2 kg/GJ \* 1 \*44/12\*1000 = 74,067 kg/TJ Also, 1,000,000 Kg = 1 Gg plus 0.830 kg/l as density of diesel therefore , 43 TJ/1000000 Kg x 4,955,265 x 0.830 kg of Gross Diesel consumption = 176.9 TJ 1 TJ = 1000 GJ 74,067 x 176.9 /1,000 = 13,105 tCO2e emissions for 4,955,265 kl of Gross Diesel consumption i.e. i.e. Diesel emissions tCO2e = Diesel consumption in L x 0.830 kg/L Density x kg CO2e emission factor per kg of Diesel/1000 = 4955265 \*2.64463 /1000 = 13,105 tCO2e

### **Comment**

Diesel used for Industrial process - heating application = 49,017.909 / 49,126 =99.78% Diesel used for Electricity generation during a power outage = 108.077 /49,126=0.22% Note: to avoid double counting Diesel used for generation of Electricity is considered in Scope 1 emissions and electricity generated is not included in Scope 2 emissions reported by us.

### **Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

33555

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

33302

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

253

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

### **Emission factor**

63.067

### **Unit**

kg CO2e per GJ

### **Emissions factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2, page 1.18-1.19) for Net calorific value 47.3 (TJ/Gg) and Table 1.4, page 1.21-1.22) for Effective CO2 emission factor (kg/TJ) = 2.98 tCO2 / ton of LPG Carbon dioxide emissions per ton of LPG were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). i.e. Effective CO2 emission factor (kg/TJ) = Default Carbon content (kg/GJ) x Default carbon oxidation factor x 44 /12 x 1000 = 17.2 kg/GJ \* 1 \*44/12\*1000 = 63067 kg/TJ = 63.067 kg CO2e/ GJ Also, 1,000,000 Kg = 1 Gg therefore , 47.3 TJ/1000000 Kg x 2553844.75 kg of Gross LPG consumption = 121 TJ 1 TJ = 1000 GJ 63,067 x 121 /1,000 = 7,610 tCO2e emissions for 2553844.75 kg of Gross LPG consumption i.e. i.e. LPG emissions tCO2e = LPG consumption in kg x kg CO2e emission factor per kg of LPG consumed /1000 = 2,553,844.75 \*2.98 /1000 = 7,610 tCO2e

### **Comment**

LPG used for Industrial process - heating application (MWh)=33,302/33,555=99.246% LPG used for self-generation of cooling using Heatpump (MWh)=253/33,555=0.754% All LPG related emissions are part of our Scope 1 emissions

### **Fuels (excluding feedstocks)**

Natural Gas

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

61744

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

61744

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

0

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

### **Emission factor**

2.1542

### **Unit**

kg CO2e per m3

### **Emissions factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2, page 1.18-1.19) for Net calorific value 48 (TJ/Gg) and Table 1.4, page 1.21-1.22) for Effective CO2 emission factor (kg/TJ) = 0.0021542 tCO2e / SCM of Natural Gas Carbon dioxide emissions per ton of LPG were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). i.e. Effective CO2 emission factor (kg/TJ) = Default Carbon content (kg/GJ) x Default carbon oxidation factor x 44 /12 x 1000 = 15.3 kg/GJ \* 1 \*44/12\*1000 = 56,100 kg/TJ = Also, 1,000,000 Kg = 1 Gg therefore , 48 TJ/1000000 Kg x 5,788,478 SCM of Gross Natural Gas consumption x 0.68 kg /SCM = 189 TJ 1 TJ = 1000 GJ 56,100 x 189 /1,000 = 12,470 tCO2e emissions for 5,788,478 SCM of Gross Natural Gas consumption i.e. i.e. Natural Gas emissions tCO2e = consumption in kg x kg CO2e emission factor per kg of Natural gas consumed /1000 = 5,788,478 \*2.1542 /1000 = 12,470 tCO2e

### **Comment**

Natural Gas used for Industrial process - heating application (MWh)=61,744/61,744=100% All natural gas related emissions are part of our Scope 1 emissions

### **Fuels (excluding feedstocks)**

Petrol

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

6225

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

6225

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

0

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

### **Emission factor**

2.30249

### **Unit**

metric tons CO2e per m3

### **Emissions factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2, page 1.18-1.19) for Net calorific value 48 (TJ/Gg) and Table 1.4, page 1.21-1.22) for Effective CO2 emission factor (kg/TJ) = 2.3025 tCO2e / m3 of Petrol Carbon dioxide emissions per ton of LPG were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). i.e. Effective CO2 emission factor (kg/TJ) = Default Carbon content (kg/GJ) x Default carbon oxidation factor x 44 /12 x 1000 = 18.9 kg/GJ \* 1 \*44/12\*1000 = 69,300 kg/TJ Also, 1,000,000 Kg = 1 Gg therefore , 18.9 TJ/1000000 Kg x 674,487 Liters of Gross Petrol consumption x 0.75 kg /m3 density = 22.4 TJ 1 TJ = 1000 GJ 69,300 x 22.4 /1,000 = 1,553 tCO2e emissions for Gross Petrol consumption i.e. i.e. Petrol emissions tCO2e = consumption in m3 x kg CO2e emission factor per m3 of Petrol consumed x density of petrol /1000 = 674,487 x2.3024925 /1000 = 1553 tCO2e

### **Comment**

Petrol used 5,870.14 /6,225=94.3% for Engine testing - heating application (MWh) + Petrol used in vehicles owned by company 354.82 MWh = 5.7% reported as heating application =6,225/6,225=100% All petrol emissions are part of our Scope 1 emissions

### **Fuels (excluding feedstocks)**

Propane Gas

### **Heating value**

LHV (lower heating value)

### **Total fuel MWh consumed by the organization**

26682

### **MWh fuel consumed for self-generation of electricity**

0

### **MWh fuel consumed for self-generation of heat**

26682

### **MWh fuel consumed for self-generation of steam**

<Not Applicable>

### **MWh fuel consumed for self-generation of cooling**

0

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

<Not Applicable>

### **Emission factor**

64.167

### **Unit**

kg CO2e per GJ

### **Emissions factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 2, Table 1.2, page 1.18-1.19) for Net calorific value 48.2 (TJ/Gg) and Table 1.4, page 1.21-1.22) for Effective CO2 emission factor (kg/TJ) = 2.98 tCO2 / ton of Propane Carbon dioxide emissions per ton of Propane were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). i.e. Effective CO2 emission factor (kg/TJ) = Default Carbon content (kg/GJ) x Default carbon oxidation factor x 44 /12 x 1000 = 17.2 kg/GJ \* 1 \*44/12\*1000 = 64,167 kg/TJ = 64.167 kg CO2e/ GJ Also, 1,000,000 Kg = 1 Gg therefore , 48.2 TJ/1000000 Kg x 1984115.1 kg of Gross Propane consumption = 96.05 TJ 1 TJ = 1000 GJ 63,067 x 96 /1,000 = 5917 tCO2e emissions for 1984115 kg of Gross Propane consumption i.e. i.e. Propane emissions tCO2e = consumption in kg x kg CO2e emission factor per kg of Propane consumed /1000 = 1984115 \*2.98218/1000 = 5917 tCO2e

### **Comment**

Propane used for Industrial process - heating application (MWh)=26,682/26,682=100% All propane related emissions are part of our Scope 1 emissions

## **C8.2d**

### **(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total Gross generation (MWh)** | **Generation that is consumed by the organization (MWh)** | **Gross generation from renewable sources (MWh)** | **Generation from renewable sources that is consumed by the organization (MWh)** |
| Electricity | 19114 | 18317.05 | 19114 | 18317.05 |
| Heat | 0 | 0 | 0 | 0 |
| Steam | 0 | 0 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 0 |

## **C8.2e**

### **(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.**

### **Sourcing method**

Power purchase agreement (PPA) with on-site/off-site generator owned by a third party with no grid transfers (direct line)

### **Low-carbon technology type**

Solar

### **Country/region of consumption of low-carbon electricity, heat, steam or cooling**

India

### **MWh consumed accounted for at a zero emission factor**

9928.7

### **Comment**

We have 9MWp Solar PV installations within site premises at Chennai(MRV) = 1213 MWh consumption Haridwar (AD) = 239 MWh consumption Igatpuri (AD) = 303 MWh consumption Jaipur (FD) = 737 MWh consumption Kandivli (AD) = 180 MWh consumption Kandivli (FD) = 515 MWh consumption Nagpur (FD) = 291 MWh consumption Nashik Plant 1(AD) = 347 MWh consumption Nashik Plant 2 (AD) = 1072 MWh consumption Rudrapur (FD) = 165 MWh consumption Worli Mumbai (CC) = 13 MWh consumption Zaheerabad (AD) = 3294 MWh consumption Zaheerabad (FD) = 1559 MWh consumption For the reporting period, 9,928.704 MWh Solar Power was generated and consumed.

### **Sourcing method**

Power purchase agreement (PPA) with a grid-connected generator with energy attribute certificates

*Generator = M&M Ltd. Consumer = M&M Ltd. since 4.2 MW wind mill is installed outside our plant premises @ Jath Sangli District & Aurangabad in Maharashtra state in India. M&M has to seek open access permission and have to show Generator & Consumer details as done in regular PPA. Generator = M&M Ltd. Consumer = M&M Ltd. The project is registered with Maharashtra Energy Development Agency(MEDA) nodal agency appointed by Regulator MERC under Captive model (i.e. 100% Self Consumption without Renewable Energy Certificates). 100% Wind Power = Green power consumed by M&M and considered with ZERO carbon emissions in Market based Scope 2 calculations.*

### **Low-carbon technology type**

Wind

### **Country/region of consumption of low-carbon electricity, heat, steam or cooling**

India

### **MWh consumed accounted for at a zero emission factor**

8388.35

### **Comment**

We have 4.2MW wind mill (2.1 Mw x 2 Nos ) OWNED & installed in Maharashtra state delivering power to Kandivli (AD) Nashik Plant 1(AD), Kandivli (FD), Nagpur (FD) thru open access mechanism using existing Grid infrastructure. In the reporting period 9,185.08 MWh wind Power Generated from our OWN wind mill and after 3.3%transmission & 6.0% Wheeling Losses in Grid Wind Power consumed = 8,388.354 MWh Wind power Since 4.2 MW wind mill is installed outside our plant premises @ Jath (JTH 117) in Sangli District & Ajanadi(AJN 027) in Aurangabad in Maharashtra state in India. M&M has to seek open access permission and have to show Generator & Consumer details as done in regular PPA. Generator = M&M Ltd. Consumer = M&M Ltd. The project is registered with Maharashtra Energy Development Agency(MEDA) nodal agency appointed by Regulator MERC under Captive model (i.e. 100% Self Consumption without Renewable Energy Certificates). Wind power generated is accounted by State load dispatch center (SLDC) and credited in Monthly bills by Utility service provider at Kandivli (AD), Nashik Plant 1(AD), Kandivli (FD), Nagpur (FD) after deducting applicable Grid losses (3.3% +6%). 100% Wind Power = Green power consumed by M&M and considered with ZERO carbon emissions in Market based Scope 2 calculations. energy accounting in F20: Kandivli (AD) = 180 MWh consumption Kandivli (FD) = 515 MWh consumption Nagpur (FD) = 291 MWh consumption Nashik Plant 1(AD) = 347 MWh consumption = 8,388.35 MWh at M&M Level

## **C-CG8.5**

### **(C-CG8.5) Does your organization measure the efficiency of any of its products or services?**

|  |  |  |
| --- | --- | --- |
|  | **Measurement of product/service efficiency** | **Comment** |
| Row 1 | Yes | Transport activity is responsible for almost a quarter of global energy-related emissions, with total energy use for transport having doubled in the last 35 years. The transport value chain includes activities such as original equipment, vehicle parts and engine manufacturers, and service operators. CDP’s original equipment manufacturers (OEMs) transport sector includes industrial producers of transportation vehicles across five transport modes: Aviation, Light Duty Vehicles (LDV), Heavy Duty Vehicles (HDV), Shipping, and Rail; and two transport subjects: freight and passengers. gm of fuel required per km is the metric used to measure the efficiency of our organization's Automotive Passenger segment products and gm of fuel per tonne km distance covered for Commercial category products. Similar metric is also applicable for our tractor business where in measure of success is gm of fuel required to particular activity related to farming or land grading or material movement. |

## **C-CG8.5a**

### **(C-CG8.5a) Provide details of the metrics used to measure the efficiency of your organization's products or services.**

## **C-TO8.5**

### **(C-TO8.5) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

137

### **Metric numerator**

gCO2e

*Vehicular pollution is occupying centre-stage again. While the government is looking to advance the 2030 deadline for Indian manufacturers to switch over to electric vehicles in segments such as bikes and three-wheelers, manufacturers are opposing it. Target cleaner air through stricter CAFE norms instead, say some voices in the industry. What is it? CAFE or Corporate Average Fuel Efficiency/Economy regulations are in force in many advanced as well as developing nations, including India. They aim at lowering fuel consumption (or improving fuel efficiency) of vehicles by lowering carbon dioxide (CO2) emissions, thus serving the twin purposes of reducing dependence on oil for fuel and controlling pollution. Corporate Average refers to sales-volume weighted average for every auto manufacturer. The norms are applicable for petrol, diesel, LPG and CNG passenger vehicles. CAFE regulations in India came into force from April 1, 2017.*

### **Metric denominator**

Use phase: Vehicle.km

*Use phase Passenger Km (p.km) for Passanger LDV's and Load factor for LDV's is 1.6 p/km Use phase Commercial distance covered (t.km) for transporting tonne of load. Load factor for LCV's is 0.74 t/km*

### **Metric numerator: Unit total**

137

### **Metric denominator: Unit total**

1

### **% change from previous year**

-13.3

### **Please explain**

The CAFE figures are as per the Indian Driving Cycle (IDC) equivalent to the New European Driving Cycle (NEDC) CAFE monitoring implemented in India from F17 onwards as per IDC. average fleet CO2 monitoring is done by calculating the sales-weighted average of CO2 for M1 category of vehicles. Following are the measure to improve the Average CO2-efficiency: 1) Micro-Hybrid System provides automatic fuel saving on every drive. It switches off the engine when it idles for a preset duration and switches the engine on, the instant your leg presses the clutch pedal. 2) Light weighting of the products 3) Life Cycle assessments LDV for Commercial Fleet of Vehicles. F20 = 137 gm CO2/km F19 = 158 gm CO2/km Change (F20 Vs F19) = (137-158)/158 = -13.3% Improvement of 13.3%. M&M sells predominantly Light duty Commercial vehicles and In the LCV<3.5T segment, M&M retained its No.1 position with a 45.7% market share. M&M sold a total of 1,87,859 vehicles in this segment. M&M has a market share of 65.3% in the LCV 2-3.5T segment, which is the Pik-UP segment.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

159.07

### **Metric numerator**

gCO2e

### **Metric denominator**

Use phase: Vehicle.km

### **Metric numerator: Unit total**

159.07

### **Metric denominator: Unit total**

1

### **% change from previous year**

1.57

### **Please explain**

The average CO2 efficiency has IMPROVED from (F18) 147 to (F19) 145 gms of CO2/Km for Commercial Fleet of Vehicles. The above figures are as per the Indian Driving Cycle (IDC) equivalent to NEDC. CAFE monitoring implemented in India from F17 onwards as per IDC. average fleet CO2 monitoring is done by calculating the sales-weighted average of CO2 for M1 category of vehicles. Following are the measure to improve the Average CO2-efficiency: 1) Micro-Hybrid System provides automatic fuel saving on every drive. It switches off the engine when it idles for a preset duration and switches the engine on, the instant your leg presses the clutch pedal. 2) Light weighting of the products 3) Life Cycle assessments LDV for Passenger Fleet of Vehicles. F20 = 159.07 gm/km F19 = 156 gm/km Change (F20 Vs F19) = (159.07-156)/156 = 1.57% M&M has plan to add electric vehicles to bring down Passenger Fleet average.

## **C9. Additional metrics**

## **C9.1**

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

### **Description**

Waste

*Absolute Solid Waste Disposed by the company as defined below: Company's total solid waste disposed (i.e. not recycled, reused or incinerated waste for energy recovery) for the part of our company's operations for which we have a reliable and auditable data acquisition and aggregation system. All Solid waste measured in metric tonnes.*

### **Metric value**

3268

### **Metric numerator**

Tons of our Hazardous waste recycled sustainably

### **Metric denominator (intensity metric only)**

This is an absolute metric, hence no denominator

### **% change from previous year**

1.2

### **Direction of change**

Increased

### **Please explain**

Company's total solid waste disposed of (i.e. not recycled, reused or incinerated waste for energy recovery) for the part of our company's operations for which we have a reliable and audit-able data acquisition and aggregation system. The company signed agreements with Extended Producer Responsibility Organizations (EPRO) recognized by Pollution Control Boards for 100% integral Plastic Waste Management. These agreements include the plastic waste generated at the premises of suppliers and dealers of our Company. This year we have begun recycling of our Hazardous Waste instead of sending it to landfill or incineration. Some locations are now sending their Hazardous Waste to authorised recycler and some are sending for co-processing to cement industries. Balance sites that are currently sending to the landfill are awaiting relevant consents/ approvals for co-processing. Total Hazardous Waste Generated in the current year was 3,268 Metric Tons Vs 4800 in F19 & and out of which in F20 Metric tonnes 2,572 Metric Tons was recycled against 3225 Metric tons 3268 Metric Tonnes recycled in F19. % Change in F20 Vs F19 = ( 3268-3225)/3,225 = 1.2% Increase in RECYCLING in F20 Vs F19. Total non- hazardous waste is also Recycled through authorised recycler approved by respective state pollution control boards. Benefits to your organization for committing to landfill diversion through Zero Waste to Landfill: 1) Minimizing waste volume(M&M reduced Waste volumes by over 40% in last 3 years) 2) Implementing efficient operations (optimization of internal processes) 3) Reducing costs (M&M saved Rs 3.5 Cr in last 3 years) 4) Developing recycle and recovery programs (to conserve the resources, by using Hazardous Waste @ cement plants , fuel cost for Cement industry is reduced , for M&M Hazardous Waste is disposed in sustainable manner and with reduction in cost of disposal ; 5) Achieving and maintaining regulatory compliance 6) Contribute to SDG Goal 12 is to ensure sustainable consumption and production patterns. The transition to sustainable consumption and production of goods and services is necessary to reduce the negative impact on the climate and the environment, and on people's health.

### **Description**

Waste

*Reduction of Waste Generated: Already being scarce, natural resources going to waste is a double setback. Mahindra as a Group is committed to minimise the amount of waste that enters landfills from our operations, leading to more savings and less harm to the environment. Minimum use of materials | reduction in waste generated | usage of waste as a valuable resource fostering a circular economy and responsible disposal; waste management is a comprehensive process for us. Eight locations across M&M are certified as Zero Waste to Landfill (ZWL) by M/s Intertek, USA. Zero Waste to Landfill certification = Waste diverted rate from Landfill greaterthan 99 %*

### **Metric value**

14

### **Metric numerator**

No. of M&M plants certified ZERO WASTE TO LANDFILL

### **Metric denominator (intensity metric only)**

This is an absolute metric, hence no denominator

### **% change from previous year**

75

### **Direction of change**

Increased

### **Please explain**

Zero Waste to Landfill: Certification is available for diversion rates of at least 99% of waste to landfill. Advanced Waste Diversion: For diversion rates between 85 and 95% of waste to landfill. Near Zero Waste to Landfill: For diversion rates between 95% and 99% of waste to landfill. 6 new M&M locations certified as Zero Waste to Land fill sites by M/s. Intertek F20: 14 M&M plants certified ZERO WASTE TO LANDFILL F19: 8 M&M sites were certified as ZERO WASTE to LANDFILL. Change in FY20 = (14-8)/8 x 100 = 6/8 x 100= 75% SBU Kanhe is the 1st Zero Waste to Landfill - Warehouse in India and among top 5 in World. Benefits to your organization for committing to landfill diversion through Zero Waste to Landfill: 1) Minimizing waste volume(M&M reduced Waste volumes by over 40% in last 3 years) 2) Implementing efficient operations (optimization of internal processes) 3) Reducing costs (M&M saved Rs 3.5 Cr in last 3 years) 4) Developing recycle and recovery programs (to conserve the resources, by using Hazardous Waste @ cement plants , fuel cost for Cement industry is reduced , for M&M Hazardous Waste is disposed in sustainable manner and with reduction in cost of disposal ; 5) Achieving and maintaining regulatory compliance 6) Contribute to SDG Goal 12 is to ensure sustainable consumption and production patterns. The transition to sustainable consumption and production of goods and services is necessary to reduce the negative impact on the climate and the environment, and on people's health. Go beyond recycling waste from manufacturing with Intertek’s Zero Waste to Landfill certification has to helped us to achieve our sustainability goals.

## **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**

Other, please specify (CNG Vehicles)

### **Metric figure**

5081

### **Metric unit**

Units

### **Explanation**

For months now, as the government has waffled on a plan to kick start electric vehicles (EVs) in India, But it will all rest on a single factor: AFFORDABILITY. This eagerness for CNG stems from the company’s expertise in this fuel segment, combined with the unpredictable trajectory of battery prices and the peculiarity of the automobile market itself. “The Indian market is different from any other market in the world and dominates small and or affordable vehicles.” Given the current level of battery prices, converting existing vehicles into EVs would increase the cost of the vehicles. “So, affordability becomes a huge, huge problem.” And that is why we are bullish on CNG, a fuel cleaner than diesel, and one that M&M already has expertise in. “That technology already exists. The cost increase of a CNG car compared to a petrol car is very small, around Rs 40,000, “So customers buy it happily.” M&M Sold 5,081 CNG vehicles in reporting year a number that could be much higher if the fuel was more readily available, the company feels. New Delhi, for instance, has around a million CNG vehicles but fewer than 450 refilling stations. “The problem is we can increase manufacturing subject to the increase in the distribution of CNG becoming wider. We can’t ask a customer to buy a CNG car and then stand for one hour to refill,” The problem becomes more acute for inter-city travel since CNG is only available in some 1,200 stations across a dozen Indian states, servicing up to three million vehicles. So, Company is now in conversation with the government and oil companies to widen the CNG network. “They expand the sales outlets, we expand the production of CNG Vehicle's.”

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Battery electric vehicle (BEV)

### **Metric figure**

14602

### **Metric unit**

Units

### **Explanation**

For months now, as the government has waffled on a plan to kick start electric vehicles (EVs) in India, But it will all rest on a single factor: AFFORDABILITY. This eagerness for EV's stems from the company’s expertise and dominance in this fuel segment, combined with the unpredictable trajectory of battery prices and the peculiarity of the automobile market itself. Company is the pioneer for Electric Vehicles (EVs) in India, and for the year under review, sold 14,602 EVs as against 10,276 EVs in the previous year i.e. YoY growth of 42 %. This growth is supported by the Governments’ thrust on adopting EVs, and sustained effort by your Company in working with various stakeholders, especially fleet operators.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Conventional hybrid

### **Metric figure**

232

### **Metric unit**

Units

### **Explanation**

This eagerness for Conventional Hybrid vehicles stems from the company’s expertise in this fuel segment, combined with the unpredictable trajectory of customer preference for fuel-efficient vehicles and the peculiarity of the automobile market itself. “The Indian market is different from any other market in the world and has dominance of small and or affordable vehicles.” Conventional Hybrid technology reduces fuel consumption by up to 7% by assisting the engine with electric power during acceleration, automatically switching the engine off while the vehicle is stationary (start-stop) and re-using brake energy, which would otherwise be wasted.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Other, please specify (Hydrogen Vehicles)

### **Metric figure**

22

### **Metric unit**

Units

### **Explanation**

We note the Government’s technology-agnostic approach with the announcement of GST reduction (from 28% to 12% to 5%) on fuel cell vehicles, giving a boost to alternative fuels for mobility. In India’s vision of mobility 2030, all electrified vehicle technologies [xEVs] will remain relevant where EV would cover short distance commute, while HEV/PHV includes passenger cars and FCVs would be for buses/trucks. This new move would positively promote such FCV technology start-ups for the future, which is at a very nascent stage. Lower taxes will help faster adoption of electrification by gradually eliminating ICE over the period and improve customer acceptance in a phased manner. Such energy-saving and environment protection criteria should eventually become the basis for taxation." For one, Hydrogen cell vehicles can be refueled in a matter of minutes, compared to the conventional electric vehicle, which could take a couple of hours to recharge on standard charging. The fact that fuel cells are mainly reliant on Hydrogen, makes the technology even more tempting considering that Hydrogen is the single most abundant element in the atmosphere. The technology uses Hydrogen that can be carried in a tank in the car and fed into the fuel cell stack along with oxygen to create electricity and water, as a by-product. Filling it in vehicles is pretty much like petrol at stations but it’s the conversion and storage process that costs a bomb and has been holding back the implementation of this technology. We have produced 22 Hydrogen engines vehicles and are under a demonstration to Govt. of India and anticipate that they will be the vehicle of the future in India.

## **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 | Investment in R&D of new low-carbon technologies is needed to mitigate transition risk. Accordingly the level of investment provides an indication of how exposed future earning capacity is to climate risks. our R&D spend has increased YoY @ 4% of Sales till F19 and @6.3% for F20 onwards. In order to cater to the new product requirements, M&M Limited is into various phases of R&D/ production/ marketing of clean automotive products like full hybrid vehicles, bio-fuel vehicles, electric passenger vehicle, hydrogen combustion engine vehicle, etc. Further, a full-fledged Product Improvement Roadmap is in place for automotive and farm equipment sectors of M&M limited. This roadmap focuses on a) the reduction in specific fuel consumption, b) weight reduction, c) switching to alternative fuels, enhancing product safety, etc. We have a long-term target or metric to measure our progress on this issue in a systematic way. Innovation has been at the core of Mahindra's ethos. We leveraged our R&D capabilities to lead the transition from BS4 to BS6 with 8 engine platforms, 16 vehicle platforms and 30 vehicle variants. Some of the key innovations in our journey to BS6 are A whopping 30% friction reduction in all diesel platforms (except the new platforms where friction was already at global benchmark level) Design simplification in many carryover designs, Integral exhaust manifold with turbocharger implemented in all platforms, which resulted in increased strength and reduced cost. Approach to BS6 development was redefined to consider Real Driving Emission (RDE) requirements. Accelerated wear test was introduced for upfront evaluation of BS6 technologies to identify potential failure modes within a short time. We did nearly 70 lakh km validation runs with more than 130 vehicles, covering all possible conditions for the Indian market, mStallion- A range of advanced BS6-ready turbo gasoline direct injection (TGDi) engines that will deliver thrilling performance and power several Mahindra vehicles in the future. |

## **C-CG9.6a**

### **(C-CG9.6a) Provide details of your organization’s investments in low-carbon R&D for capital goods products and services over the last three years.**

### **Technology area**

Other energy efficient products or efficiency drivers

### **Stage of development in the reporting year**

Applied research and development

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

21 - 40%

### **R&D investment figure in the reporting year (optional)**

29749800000

### **Comment**

Investment in R&D of new low-carbon technologies is needed to mitigate transition risk. Accordingly the level of investment provides an indication of how exposed future earning capacity is to climate risks. our R&D spend has increased YoY. In order to cater to the new product requirements, M&M Limited is into various phases of R&D/ production/ marketing of clean automotive products like full hybrid vehicles, bio-fuel vehicles, electric passenger vehicle, hydrogen combustion engine vehicle, etc. Further, a full-fledged Product Improvement Roadmap is in place for automotive and farm equipment sectors of M&M limited. This roadmap focuses on : a) the reduction in specific fuel consumption, b) weight reduction, c) switching to alternative fuels, enhancing product safety, etc. We have a long-term target or metric of R&D spend % of Sales to measure our progress on this issue in a systematic way? Our R&D spend has increased YoY. From 3.1%in 2016-17, 2.9 % in 2017-18, 3 % in 2018-19 to 4% of Sales in 2019-20. 3.1%, 2.9 %, 3 % to 4% of Sales With an objective to sustain growth, we are pursuing several strategic initiatives in all key areas of business. The key elements of our strategy include updating existing products, developing new products through R&D and leveraging technology. Our technology focus areas are gasoline engines, emissions, safety, connected vehicles and electric vehicles. We have made one of the highest R&D spend among Indian companies in F20. https://www.pressreader.com/india/the-hindu-business-line/20200718/281638192513939

## **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**

Infrastructure

### **Stage of development in the reporting year**

Large scale commercial deployment

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

21-40%

### **R&D investment figure in the reporting year (optional)**

29749800000

### **Comment**

Mahindra has been making significant investments in R&D in recent years, spending more than 4 per cent of its turnover since FY16. In FY19, it spent 4.78 per cent of the total turnover on R&D. Our R&D spend of 6.3 per cent of turnover in FY20 is among the highest in the Indian corporate sector. https://www.pressreader.com/india/the-hindu-business-line/20200718/281638192513939 “Mahindra is one of the first companies in India to have a full-scale R&D set-up. Today, our R&D ecosystem is spread across the world — in India, the US and Europe — and our major development centre, Mahindra Research Valley (MRV), Chennai, is the Mecca of our R&D ecosystem, spread over 125 acres,” MRV, which employs more than 2,000 engineers, has played a key role in Mahindra’s launch of new SUVs and tractor platforms. “We have also commissioned a test track spread over 400 acres at the outskirts of Chennai. We have invested heavily in building the R&D talent and created the Mahindra Technical Academy, which is mandated to build the technical competence of the ever changing automotive industry,” Starting with its first major breakthrough, the Scorpio, way back in 2002 to the latest honour of securing a high safety ranking for the XUV300 from Global NCAP based on tough crash test standards, Mahindra could pull everything through by way of its own R&D capabilities

### **Activity**

Light Duty Vehicles (LDV)

### **Technology area**

Alternative fuels

### **Stage of development in the reporting year**

Large scale commercial deployment

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

21-40%

### **R&D investment figure in the reporting year (optional)**

29749800000

### **Comment**

Our latest feather in the cap will be the migration of the largest diesel portfolio to BS-VI and building a gasoline engine portfolio in record time, In farm equipment, in addition to developing new tractor platforms, the in-house R&D has come out with smart hydraulics and hill farming technologies for its tractors platforms Yuvo and Jivo. Powering our Transition from BS4 to BS6 Emission Norms Innovation has been at the core of Mahindra's ethos. We leveraged our R&D capabilities to lead the transition from BS4 to BS6 with 8 engine platforms, 16 vehicle platforms and 30 vehicle variants. Some of the key innovations in our journey to BS6 are A whopping 30% friction reduction in all diesel platforms (except the new platforms where friction was already at global benchmark level) Design simplification in many carryover designs, Integral exhaust manifold with turbocharger implemented in all platforms, which resulted in increased strength and reduced cost. Approach to BS6 development was redefined to consider Real Driving Emission (RDE) requirements. Accelerated wear test was introduced for upfront evaluation of BS6 technologies to identify potential failure modes within a short time. We did nearly 70 lakh km validation runs with more than 130 vehicles, covering all possible conditions for the Indian market, mStallion- A range of advanced BS6-ready turbo gasoline direct injection (TGDi) engines that will deliver thrilling performance and power several Mahindra vehicles in the future. Our strength has always been the ability to innovate and create our future despite constraints and challenges. This legacy will prove invaluable as we leverage the current scenario to Reboot, Reinvent and Reignite our future growth. Throughout the company's history, we have demonstrated a remarkable ability to come up with unique, out-of-the-box solutions that have catapulted us into the next orbit of growth. We are working to build on this rich legacy once again.

## **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**

[Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)

### **Page/ section reference**

Page 2&3 - Section : Conclusion Based on our assurance procedures and in line with the scope and limitations, nothing has come to our attention that causes us not to believe that: • Evaluation of GHG inventory is in accordance with World Resource Institute (WRI) / World Business Council for Sustainable Development (WBCSD), Greenhouse Gas Protocol (A Corporate Accounting and Reporting Standard) • The reported GHG emissions are equal to - Scope 1: 40,654 MtCO2

### **Relevant standard**

ISAE 3410

### **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 market-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**

[Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)

### **Page/ section reference**

Page 2&3 - Section : Conclusion Based on our assurance procedures and in line with the scope and limitations, nothing has come to our attention that causes us not to believe that: • Evaluation of GHG inventory is in accordance with World Resource Institute (WRI) / World Business Council for Sustainable Development (WBCSD), Greenhouse Gas Protocol (A Corporate Accounting and Reporting Standard) • The reported GHG emissions are equal to Scope 2: 1,99,767 MtCO2

### **Relevant standard**

ISAE 3410

### **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 (upstream & downstream)

### **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**

[Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)

### **Page/section reference**

Page 1 - Limitation Scope 3 GHG emissions are limited to India operations mentioned above and the following categories2: o Purchase goods and services o Fuel and energy related activities o Upstream & Downstream transportation and distribution o Waste Generated in operation o Air travel for business o Employee Commute o Use of sold products o End of life treatment of sold products o Downstream leased assets o Franchise Page 2&3 - Conclusion Scope 3: 5,84,25,531 MtCO2

### **Relevant standard**

ISAE 3410

### **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?**

[Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)

[M&M Limited GHG Assurance Statement FY 2018-19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/WtI2JKI8aEC2BmgyyUcVrQ/MMLimitedGHGAssuranceStatementFY201819.pdf)

|  |  |  |  |
| --- | --- | --- | --- |
| **Disclosure module verification relates to** | **Data verified** | **Verification standard** | **Please explain** |
| C4. Targets and performance | Progress against emissions reduction target | KPMG have conducted their work in accordance with requirements of ‘Limited Assurance’ procedures as per International Federation of Accountants’ (IFAC) International Standard for Assurance Engagements (ISAE 3410- Assurance Engagements) on Greenhouse Gas Statements. A limited assurance engagement in accordance with ISAE 3410 involves performing procedures to obtain evidence about the quantification of emissions and related information in the GHG Statement. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the GHG Statement whether due to fraud or error. The procedures performed in a limited assurance engagement are less in extent than for, a reasonable assurance engagement. | KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD • Igatpuri, AD • Kandivali, FD • Rudrapur, FD • Swaraj, Plant 1 • Swaraj, Plant 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai; |
| C5. Emissions performance | Year on year emissions intensity figure | KPMG have conducted their work in accordance with requirements of ‘Limited Assurance’ procedures as per International Federation of Accountants’ (IFAC) International Standard for Assurance Engagements (ISAE 3410- Assurance Engagements) on Greenhouse Gas Statements. A limited assurance engagement in accordance with ISAE 3410 involves performing procedures to obtain evidence about the quantification of emissions and related information in the GHG Statement. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the GHG Statement whether due to fraud or error. The procedures performed in a limited assurance engagement are less in extent than for, a reasonable assurance engagement. | KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD • Igatpuri, AD • Kandivali, FD • Rudrapur, FD • Swaraj, Plant 1 • Swaraj, Plant 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai;  [Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)  [M&M Limited GHG Assurance Statement FY 2018-19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/WtI2JKI8aEC2BmgyyUcVrQ/MMLimitedGHGAssuranceStatementFY201819.pdf) |
| C6. Emissions data | Energy consumption | KPMG have conducted their work in accordance with requirements of ‘Limited Assurance’ procedures as per International Federation of Accountants’ (IFAC) International Standard for Assurance Engagements (ISAE 3410- Assurance Engagements) on Greenhouse Gas Statements. A limited assurance engagement in accordance with ISAE 3410 involves performing procedures to obtain evidence about the quantification of emissions and related information in the GHG Statement. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the GHG Statement whether due to fraud or error. The procedures performed in a limited assurance engagement are less in extent than for, a reasonable assurance engagement. | KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD • Igatpuri, AD • Kandivali, FD • Rudrapur, FD • Swaraj, Plant 1 • Swaraj, Plant 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai;  [Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)  [M&M Limited GHG Assurance Statement FY 2018-19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/WtI2JKI8aEC2BmgyyUcVrQ/MMLimitedGHGAssuranceStatementFY201819.pdf) |
| C7. Emissions breakdown | Year on year change in emissions (Scope 1 and 2) | KPMG have conducted their work in accordance with requirements of ‘Limited Assurance’ procedures as per International Federation of Accountants’ (IFAC) International Standard for Assurance Engagements (ISAE 3410- Assurance Engagements) on Greenhouse Gas Statements. A limited assurance engagement in accordance with ISAE 3410 involves performing procedures to obtain evidence about the quantification of emissions and related information in the GHG Statement. The nature, timing and extent of procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the GHG Statement whether due to fraud or error. The procedures performed in a limited assurance engagement are less in extent than for, a reasonable assurance engagement. | KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD • Igatpuri, AD • Kandivali, FD • Rudrapur, FD • Swaraj, Plant 1 • Swaraj, Plant 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai;  [Mahindra & Mahindra Limited \_ GHG Inventory \_ FY 2019-20. KPMG Assurance and Consulting Services LLP.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/o8HuRfoTN02w56umsqqhmQ/MahindraMahindraLimitedGHGInventoryFY201920.KPMGAssuranceandConsultingServicesLLP.pdf)  [M&M Limited GHG Assurance Statement FY 2018-19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/WtI2JKI8aEC2BmgyyUcVrQ/MMLimitedGHGAssuranceStatementFY201819.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)?**

Yes

## **C11.1a**

### **(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

Other ETS, please specify (GREEN ENERGY CESS-Electricity purchased)

## **C11.1b**

### **(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.**

### **Other ETS, please specify**

### **% of Scope 1 emissions covered by the ETS**

0

### **% of Scope 2 emissions covered by the ETS**

2.5

### **Period start date**

April 1 2019

### **Period end date**

March 31 2020

### **Allowances allocated**

0

### **Allowances purchased**

0

### **Verified Scope 1 emissions in metric tons CO2e**

0

### **Verified Scope 2 emissions in metric tons CO2e**

4990

### **Details of ownership**

Facilities we own and operate

*Uttarakhand Power Corporation Limited (UPCL) levies Rs 0.10 per unit of electricity procured as per "The Uttarakhand Green Energy Cess Act, 2014" . This is applicable for 2 sites operating in Uttrakahand namely (AD Haridwar & FD Rudrapur)*

### **Comment**

Uttarakhand Power Corporation Limited (UPCL) levies Rs 0.10 per unit of electricity procured as per "The Uttarakhand Green Energy Cess Act, 2014" . This is applicable for 2 sites operating in Uttrakahand namely (AD Haridwar & FD Rudrapur)

## **C11.1d**

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

Strategy for GREEN ENERGY CESS on Electricity purchased at Uttarakhand plants (AD Haridwar & FD Rudrapur)

where in Uttarakhand Power Corporation Limited (UPCL) levies Rs 0.10 per unit of electricity procured as per "The Uttarakhand Green Energy Cess Act, 2014"

for F 19:

AD Haridwar : 15,96,991 units consumed = INR 1,59,699.10 paid to UPCL as Green energy Cess

FD Rudrapur : 58,16,213 units consumed = INR 5,81,621.30 paid to UPCL as Green energy Cess

Total F19 : 74,13,204 units consumed and INR 74,13,20.40 paid to UPCL as Green energy Cess

for F 20:

AD Haridwar : 1,296,120 units consumed = INR 1,29,612.00 paid to UPCL as Green energy Cess

FD Rudrapur : 4,788,875 units consumed = INR 4,78,887,50 paid to UPCL as Green energy Cess

Total F20 : 6,084,995 units consumed and INR 6,08,499.50 paid to UPCL as Green energy Cess

however, in F19 completed installation of 530 KWp solar power plants at AD Haridwar & FD Rudrapur.

Solar power = 403,403 units generated and consumed catering to 18.4% of AD Haridwar & 3.4% of FD Rudrapur plant's Electricity requirements thus, the 10% green cess worth INR 40340.30 reduced along with the carbon footprint of the company to the tune of 331tCO2e in F20. Also further feasibility is being explored to enhance the Solar capacity with in the plant

As a part of our long term strategy of becoming carbon neutral by 2040 , we are leading by example and are in process to set up the Solar Power plant with in plant premises in phased manner and use for manufacturing operations, reducing our carbon footprint and the financial impact due to Green Cess being levied by UPCL.

We are also encouraging our suppliers in Uttarakhand to adopt renewable energy for their manufacturing operations thru the cluster meets, where in Suppliers are made aware of the sustainability aspects and shared the best practice in the industry.

In F16, M&M became the first Indian company to announce its internal carbon price of US $10 per ton of carbon emissions. (i.e. INR 664/ tCO2e (scope 1+2) at fixed 1 USD = 66.4 INR) The move was in-line with business commitment to reduce its GHG emissions year on year.

Company used this Carbonprice fund to set up Rooftop Solar plants.

## **C11.2**

### **(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

Yes

## **C11.2a**

### **(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.**

### **Credit origination or credit purchase**

Credit origination

### **Project type**

Solar

### **Project identification**

Solar Project within plant premises of M&M Ltd. with Environmental Attributes consumed in form of Green power . 8142 Tonnes of CO2e = 9929 MWh x 0.82/1000 1 tCO2e = 1 CER henec 8142 CER generated and retained as part of our voluntary offset strategy. where, 9929 MWh Solar Power generated and consumed for the reporting period within plant premises; Verified by KPMG India as part of our Annual 3rd party Assurance process before reporting in Public domain. 0.82kg CO2e/Kwh is the CO2e emission factor as per Central Electricity authority of India.

### **Verified to which standard**

Other, please specify (The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification.)

*KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD & FD • Igatpuri, AD • Rudrapur, FD • Swaraj, Plant 1 & 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai;*

### **Number of credits (metric tonnes CO2e)**

8142

### **Number of credits (metric tonnes CO2e): Risk adjusted volume**

8142

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Voluntary Offsetting

*8142 Tonnes of CO2e = 9929 MWh x 0.82/1000 1 tCO2e = 1 CER henec 8142 CER generated and retained as part of our voluntary offset strategy. where, 9929 MWh Solar Power generated and consumed for the reporting period within plant premises; Verified by KPMG India as part of our Annual 3rd party Assurance process before reporting in Public domain. 0.82kg CO2e/Kwh is the CO2e emission factor as per Central Electricity authority of India.*

### **Credit origination or credit purchase**

Credit origination

### **Project type**

Wind

### **Project identification**

Wind mills Installed in FY16 @ Jath-Sangli district & in FY18 @ Aurangabad district of Maharashtra state in India for 100% Self consumption only. So all units generated from Wind mill are pumped in to MSEDCL Grid (State utility service provider) and certified by Maharashtra State Load Dispatch Center (MSLDC) a nodal agency managing National grid in Maharashtra. The Certified unit are credited to M&M in Monthly bills by State utility service provider after deducting 3.3% Transmission Loss + 6% Wheeling Losses happening in Grid currently. Transmission Loss & Wheeling Losses are regulated and approved by MERC - Maharashtra Electricity Regulatory Commission. 6,878 Tonnes of CO2e = 8,388 MWh x 0.82/1000 1 tCO2e = 1 CER henec 6878 CER generated and retained as part of our voluntary offset strategy. where, 9,185.08 MWh Wind Power generated and consumed 8388 MWh for the reporting period; Verified by KPMG India as part of our Annual 3rd party Assurance process before reporting in Public domain. 0.82kg CO2e/Kwh is the CO2e emission factor as per Central Electricity authority of India.

### **Verified to which standard**

Other, please specify (The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification.)

*KPMG verification engagement included Limited level of verification of Scope 1, Scope 2 & Scope 3 covering the period 1st April 2019 to 31st March 2020 and pertaining to operations at 22 locations in India. Verification applies a ±5% uncertainty threshold towards errors and omissions. The verification was conducted by KPMG in accordance with the requirements set out in ISAE 3000, for verification. KPMG carried out the following activities: • Desk review of M&M’s reported emissions as provided to us in spreadsheets; • Management interaction on data management systems of M&M including review of Water source wise withdrawal and assumptions; • Onsite verification of data aggregation systems and related evidences related to Water consumption , Reuse & Recycling reported for sample locations at • Kandivali, AD & FD • Igatpuri, AD • Rudrapur, FD • Swaraj, Plant 1 & 2 • Kanhe, SBU Review of consolidated data and reported initiatives at Corporate Office at Mumbai;*

### **Number of credits (metric tonnes CO2e)**

6878

### **Number of credits (metric tonnes CO2e): Risk adjusted volume**

6878

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Voluntary Offsetting

*6,878 Tonnes of CO2e = 8,388 MWh x 0.82/1000 1 tCO2e = 1 CER henec 6878 CER generated and retained as part of our voluntary offset strategy. where, 9,185.08 MWh Wind Power generated and consumed 8388 MWh for the reporting period; Verified by KPMG India as part of our Annual 3rd party Assurance process before reporting in Public domain. 0.82kg CO2e/Kwh is the CO2e emission factor as per Central Electricity authority of India.*

## **C11.3**

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

Yes

## **C11.3a**

### **(C11.3a) Provide details of how your organization uses an internal price on carbon.**

### **Objective for implementing an internal carbon price**

Navigate GHG regulations

Stakeholder expectations

Change internal behavior

Drive energy efficiency

Drive low-carbon investment

Identify and seize low-carbon opportunities

### **GHG Scope**

Scope 1

Scope 2

### **Application**

In F16, M&M became the first Indian company to announce its internal carbon price of US $10 per ton of carbon emissions. (i.e. INR 664/ tCO2e (scope 1+2) at fixed 1US$ = 66.4 INR) The move was in-line with a business commitment to reduce its GHG emissions year on year. The internal price of Carbon is UNIFORM PRICING - i.e. Single price is applied throughout the company. In the reporting period Investment to the tune of INR 236,195,220 /- was made to implement the solar power project along with the other energy efficiency, process improvement projects. The investment translates to INR 982.42/ tCO2e(scope 1+2) as Carbon Price for F20. Investment (Numerator) = INR 236,195,220/- Scope 1+ Scope 2 emissions Denominator = 240,422 tCO2e (Market based)

### **Actual price(s) used (Currency /metric ton)**

982.42

### **Variance of price(s) used**

As of now, we have been using a fixed Minimum threshold of US$10 (INR 664) per MtCO2e (Scope 1+2) as our Internal Carbon price. We shall continue to explore the variance in price(s) based on further study by developing scenarios and seek top management approval.

### **Type of internal carbon price**

Internal fee

### **Impact & implication**

The company made an investment of Rs 236,195,220/- in F20 which is 20 % higher than F17. Resulting in RESTRICTING Scope 1 + Scope 2(Market-based) emissions to 240,422 tCO2e which would otherwise have been 251,286 tCO2e. i.e. Avoiding 10,864 tCO2e in the reporting period by implementing 348 small-big Energy and Renewable energy projects with Weighted Average payback period of 1.8 years

## **C12. Engagement**

## **C12.1**

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

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

## **C12.1a**

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

### **Type of engagement**

Compliance & onboarding

### **Details of engagement**

Included climate change in supplier selection / management mechanism

Code of conduct featuring climate change KPIs

Climate change is integrated into supplier evaluation processes

### **% of suppliers by number**

39.8

### **% total procurement spend (direct and indirect)**

100

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

0

### **Rationale for the coverage of your engagement**

The Code of Conduct is an important part of the supplier boarding process and helps drive company culture, reputation, and compliance with the suppliers. M&M believes that, when a company outsources its production, services or business processes, it also outsources corporate responsibilities and reputation risks. Hence we need to find new strategies to manage the associated risks and opportunities which differ from the traditional risk and opportunity management with the company's products or services in-house. Also, the company is confronted with the need to minimize costs and time of delivery to satisfy suppliers' demand and increase profitability without negatively impacting product quality or incurring high environmental or social costs. Also, Investors increasingly see the importance of supply chain risk management and the negative consequences if it is not managed effectively. Corruption and bribery are economic crimes that are consistently harmful to a company's intangible assets (such as its reputation, staff morale, or business relationships). Due to the additional types of risk that corruption introduces, it creates uncertain consequences for investors and therefore increases the risk premium a company has to pay for debt or equity. The Supplier code of conduct describes the principles, values, standards, or rules of behavior that guide the decisions, procedures, and systems of the supplier in a way that (a) contributes to the welfare of its key stakeholders, and (b) respects the rights of all constituents affected by its operations. M&M Ltd. Code of Conduct focuses on areas of Ethical business standards, Commitment towards its associates, suppliers, customers and environment, Commitment to stakeholders (society, community etc), Behaviour at the workplace, Protection of Assets and Information Management, Administering the Code and Reporting Violations. Hence in the Code of Conduct, it has been clearly defined that M&M Ltd. has a zero-tolerance policy for bribery and corruption in case of climate change related environmental information disclosure made by them. We seek to partner with suppliers who share our purpose and values. We expect our employees who work with suppliers to hold them accountable to the same environmental principles and ethical standards to which we hold our own employees and operations-so we RISE with integrity.

### **Impact of engagement, including measures of success**

We have an online communication channel for Suppliers “M-Setu” where the Supplier Code of Conduct which is accessed by all our suppliers. As a continual improvement, we have incorporated learnings from the last 3-4 years and launched the revised “Supplier Code of Conduct” in Mar’18, which is publicly available. We have an online system (SOP) for undertaking from the supplier through the “M-Setu” portal. The Code covers the following issues: ✓ Environmental standards for the suppliers' processes, products or services ✓ Child labour ✓ Fundamental human rights (e.g. labour rights, freedom of association, ILO conventions) ✓ Working conditions (e.g. working hours, lay-off practices) ✓ Remuneration ✓ Occupational health and safety ✓ Business ethics (Zero tolerance policy for bribery and corruption, anti-competitive practices) ✓ Our suppliers should have a sustainable procurement policy in place for their own suppliers We had elaborated all aspects of Supplier Code of conduct with addition of new points such as “Tax law compliance”, ”Marketing and Sales”,”Political involvement”, “Protecting M&M’s assets and Machinery” and No “Third-party representation of Mahindra” from Suppliers. In addition to the Code of Conduct - Policy on Dealings with Suppliers/Vendors of Products/Services, we also have specific Sustainable Green Supply Chain Management and Procurement Policy is available in the public domain. Annually Online Acknowledgement from suppliers/ service providers is taken to ensure that they have read and signed a document acknowledging that they understand and will comply with (or be responsible for ensuring that their organization complies with) the company's code of conduct. The training module is also provided to ensure that they adequately understand and can comply with (or create systems to ensure that their organization complies with) the company's code of conduct. The measure of success: The selection process has weightage (varies for commodities) for M&M’s sustainability requirements in their quotation. Self-assessments on the sustainability 45 parameters followed by onsite audit with M&M’s assessment to declare Green Supplier of the year wherein they are given preference over other suppliers for future orders, Recognized in Annual Sustainability suppliers meet. Suppliers scores for Sustainability performance has increased by 3% on average.

### **Comment**

The Company has a Code of Conduct for Suppliers and Vendors of Products and Services which is available in public domain at https://www.mahindra.com/resources/investor-reports/FY20/Sustainability-Policies/M-M-Code-of-Conduct-Suppliers.pdf Well defined structured process for identification and assessments of supplier for on-boarding. With the growing importance on Sustainability, especially in Automotive Industry, from last business year, we have added specific sustainability parameters encompassing Environmental, compliance, safety, and impact on society-related parameters. Specific sustainability parameters carry a minimum weightage of 10 % in new supplier evaluation criteria. A supplier must score a minimum of 60% for onboarding as Tier-1 supplier by M&M Limited. M&M is committed to sourcing products and materials from companies that share its values around human rights, ethics and environmental responsibility. Through our research and development, product design and development we aim to prevent the use of conflict minerals. We engage with all our supplier to check compliance of the same. The Cross-Functional Team (CFT) comprising of Strategic Sourcing Commodity and Commercial person, Component Development person, Design/R&D person, process engineering, goes for onsite assessment and suppliers are inducted based on Productivity, Quality, Cost, Delivery, Safety, Motive (PQCDSM), technology on offer, ESG parameters. This practice will be continued in the future too. The assessment framework covers all aspects of business and sustainability risks such as Environmental Compliances, Safety, Energy, Water, Waste Management, Labour Practices, Geographic, etc. Each of the above 14 categories is equally important and any low scores (red category) arising out of self and actual assessment is dealt with equal importance across the board. Further, during supplier onboarding, they are assessed on various parameters including those related to their sustainability. Suppliers are also assessed on sustainability as a part of supplier development & they are handheld for improvement. Reassessments are conducted to ascertain the improvement from such hand holding exercises. Additional graded scores for increase in Rain water harvesting, recycling, reducing waste, Energy, Using Recycled content in inputs, reducing GHG per part produced etc.

### **Type of engagement**

Engagement & incentivization (changing supplier behavior)

### **Details of engagement**

Run an engagement campaign to educate suppliers about climate change

Climate change performance is featured in supplier awards scheme

Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 &2)

Offer financial incentives for suppliers who reduce your downstream emissions (Scopes 3)

Offer financial incentives for suppliers who reduce your upstream emissions (Scopes 3)

Other, please specify (Driving Climate change & other sustainability initiatives in our sub tier- supply chain )

### **% of suppliers by number**

100

### **% total procurement spend (direct and indirect)**

100

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

27.17

### **Rationale for the coverage of your engagement**

M&M believes that, when a company outsources its production, services or business processes, it also outsources corporate responsibilities and reputation risks. Hence we need to find new strategies to manage the associated risks and opportunities which differ from the traditional risk and opportunity management with the company's products or services in-house. Also, the company is confronted with the need to minimize costs and time of delivery to satisfy suppliers' demand and increase profitability without negatively impacting product quality or incurring high environmental or social costs. Also, Investors increasingly see the importance of supply chain risk management and the negative consequences if it is not managed effectively. Also, with our SBT targets sets ,we found that 99% of our carbon footprint lies in our Value chain (upstream & down stream) M&M has committed to reduce our 30% of scope 3 emissions for Inbound logistics & Out bound logistics by 2033 w.r.t. 2018 as baseline. M&M is committed to sourcing products and materials from companies that share its values around human rights, ethics and environmental responsibility. Through our research and development, product design and development we aim to prevent the use of conflict minerals. We engage with all our supplier to check compliance of the same thus we all collectively as well as individually Rise together inline with our core purpose enabling stakeholders to Rise.

### **Impact of engagement, including measures of success**

Implemented at 100% suppliers: This objective is derived from our Green Supply Chain Management Policy where M&M committed to waste reduction and move towards zero wood usage for parts packaging 91% and 100% reduction in wood consumption 24% and 40%reduction in Corrugated Boxes consumption in the packaging of AD and FD respectively. 688 suppliers had been covered since 2017 and for year 2019-20, 249 suppliers were covered in awareness program related to climate change & other sustainability aspects. Single use plastic below 50 micron eliminated completely. The use of greener, reusable packaging has lead to a reduction of per-unit cost of packaging and faster turnaround time in order fulfillment.

### **Comment**

Greening the business profitability: The GHG emissions related to Wood & Corrugated box used in packaging is reduced. Compliance to support nation wide ban on use of Single use plastic below 50 micron is ensured and The use of greener, reusable packaging has lead to a reduction of per-unit cost of packaging and faster turnaround time in order fulfillment. The suppliers contributing to Inbound logistics optimization are benefited by reduced cost to transport their good to our plants and M&M does not asks supplier to pass on the associated cost benefit to us, but demand the reduction in logistics data for GHG accounting and further optimisation in form of a case study, thus M&M offers financial incentives for suppliers who reduce our UP-stream emissions (Scopes 3). Similarly, M&M also offers financial incentives for suppliers who reduce our Down-stream emissions (Scopes 3) to transport parts, products or the waste disposed.

## **C12.1b**

### **(C12.1b) Give details of your climate-related engagement strategy with your customers.**

### **Type of engagement**

Collaboration & innovation

*The aim of engagement is to educate and inform customers about climate change and GHG emissions with necessarily instigate their procurement behaviour. We intend to establish that business can be made Green without compromising the profitability, infact Lead by example and show how we are Greening our business profitability and promote sustainable development in line with our core purpose The idea of “Rise” is aligned with the Group’s Core Purpose – “We challenge conventional thinking & innovatively use our resources to drive positive change in the lives of our stakeholders & communities across the world, to enable them to Rise.”*

### **Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

### **% of customers by number**

30

### **% of customer - related Scope 3 emissions as reported in C6.5**

100

### **Portfolio coverage (total or outstanding)**

<Not Applicable>

### **Please explain the rationale for selecting this group of customers and scope of engagement**

M&M believe a brand is a living business asset which differentiates its products from those of its competitors and encourages customer loyalty. An effective brand strategy and a clear set of brand values can therefore help a corporation and its management team to implement a long-term vision. “Mahindra” is the Corporate Brand of the Mahindra Group & the core brand value is articulated as “Rise”. The idea of “Rise” is aligned with the Group’s Core Purpose – “We challenge conventional thinking & innovatively use our resources to drive positive change in the lives of our stakeholders & communities across the world, to enable them to Rise.” The Rise philosophy is captured in the “House of Mahindra” and embedded in the award winning “Mahindra Sustainability Framework”. Today the “Rise” philosophy is often cited in management case studies. We believe integrated brand strategy & Sustainability are essential for a strong brand to possess, addressing both the internal and external aspects of a brand. They include: clarity, commitment, responsiveness, protection, authenticity, relevance, understanding, differentiation, presence, and consistency. M&M want to engage all Environmental conscious current & potential customers to further engage with other potential customers. By educating them and providing information regarding how we have integrated sustainability strategy with business strategy We intend to strengthen their belief that responsible sourcing habits can help the environment and together create long term value such as a brand, We want them to be our brand ambassadors and innovate to promote Sustainable development by giving "Mahindra" brand as an example for Responsible consumption and contribute to our purpose of enabling stakeholders to Rise.

### **Impact of engagement, including measures of success**

Sustainability is integrated into our brand strategy to attract new potential customers & retain our existing customers. Example 1: The sustainability approach, “Give back more than we take” & the sustainability definition, “Building enduring business by rejuvenating the environment and enabling stakeholders to Rise” which are in the Sustainability Framework reflect the brand value, “Rise”. Films on dangers of plastic (https:// www.youtube.com/watch?v=3CzW7dzbTv8) & ocean experience (https://youtu.be/0gyqt3hDDTc) were done this year. They won many awards at IAA Olive Crown Awards & received 66 million+ views. They raised scores on “brand imagery” by 17 points & “environmentally conscious brand” by 21 points. Example 2: Mahindra has invested in a number of green businesses and green technologies. This includes electric vehicles, shared mobility, green buildings, waste to energy, renewable energy, micro-irrigation, automobile recycling. Mahindra is a founder member of Formula E – a version of motor racing with electric vehicles, and has the largest number of electric vehicles on road in India. The Mahindra Racing team is the only Formula E team & the second motorsport team in world to be accredited by FIA’s sustainability program. The EV's Sales have increased YoY from 10260 in 2018-19 to 14000+ EV's sold in reporting period.

## **C12.1d**

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

All major stakeholders are considered and mentioned above but stakeholders like CDP, DJSI, SEBI,GRI etc are also important stakeholders as they are the voice of the investors, regulators, local community and others which help us understand the current trends as well as upcoming norms, requirements related to Climate Change, Water forest etc.

This will always be included as our key stakeholders as they help us correct our course and at times force us to change gears on the Rise journey ensuring sustainability development. We engage with these stakeholders thru workshops, webinars, reports published by them or on need basis during disclosure cycle and meet our legal and voluntary compliance's. With integration of multiple frameworks this stakeholders are going to be key in future to make informed decision be it on Water, Climate change or forest or products for the cities of tomorrow etc.

M&M 's sustainability performance (including climate change , Water Security) is recognized externally, thru disclosures to DJSI , CDP , BEE,CII-ITC, F&S etc. This is one reason for our brand reputation and indirectly help us grow. By proactively taking its responsibility and setting ambitious targets for Climate change resilience, resource / water efficiency and by communicating on its environmental performance transparently (e.g. in the sustainable value report and the annual report or in various stakeholder dialog) We strengthens our social licence to operate. Employees are attracted by responsibly operating companies and existing employees are proud of working for M &M.

Also, thru CDP, DJSI and other disclosure platforms insights we continually improve our internal business processes, thrust of engagement drive with peers, suppliers and integrate the sustainability aspects with business strategy, we will continue to engage with this stakeholders and contribute to our core purpose of driving positive change.

Also at time thru them we are able to influence certain policy decision .

some of the examples to demonstrate our active engagement that has been embedded/integrated in Business strategy are:

1) In 2016, M&M become the First Indian company to adopt & declare Carbon price to drive our efforts for Climate change.

2) M&M committed to double our Energy Productivity by 2030 w.r.t. 2009 baselines

3) M&M Chairman committed on behalf on entire Mahindra Group that each of our group companies will align and adopt Science based targets.

4) M&M got its SBTi targets approved in 2019.

5) M&M aspires to be Carbon Neutral organisation by 2040.

The Sustainable Development Goals (SDGs) are the UN’s blueprint for a more sustainable future for all. Their adoption put environmental degradation, sustainability, climate change, and water security under the international spotlight. The global goals aim to leave no one behind very much inline with our company purpose - to Rise .

We build. We improvise. We charge ahead, to redefine possibilities. We are the enablers. We are Mahindra a federation of companies driven by one purpose – to Rise.

Businesses, alongside Government agencies and civil societies, have an increasingly leading role in ensuring that SDG aspirations are translated into measurable progress on the ground. At Mahindra, we recognize SDGs as levers for innovation and shared growth, enabling us to contribute towards the Nations endeavors for achieving National level priorities. As our operations cut across key industries and form the foundation of every modern economy, we have been focusing on creating business solutions and initiatives that drive sustainable growth. Our core purpose is to challenge conventional thinking and innovatively use all our resources to drive positive change in the lives of our stakeholders and communities across the world, to enable them to Rise.

Rise for Good is the creative expression of our desire to drive positive change among our stakeholders, in the community, and in the world. We understand that Corporate action will be crucial to delivering the 2030 Agenda and by disclosing to CDP M&M ensures alignment with SDG 6, 12,also contribute towards,and track progress against the SDGs. M&M uses insights from CDP, DJSI, CII-ITC, Frost and Sulivan on the current landscape and what needs to change to ensure environmental sustainability on water, Climate change identify opportunities to build greater ambition towards its implementation.

Mahindra’s efficient 360° water management programme – H2Infinity aims to achieve less consumption of water withdrawn for industrial usage than the amount of water given back to society and nature. Total water consumption has come down by almost 300 Mega Liter, over 600 Mega Liter of water recycled and reused across businesses.

These engagement enables use to reach other stakeholders who and take some cue from our disclosures and further strengthen their drive and we all collectively Rise Plus we get feedback on our work to correct our course in terms of pace, direction etc.

## **C12.3**

### **(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Direct engagement with policy makers

Trade associations

Funding research organizations

Other

## **C12.3a**

### **(C12.3a) On what issues have you been engaging directly with policy makers?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Focus of legislation** | **Corporate position** | **Details of engagement** | **Proposed legislative solution** |
| Carbon tax | Support | World bank’s Carbon Pricing Leadership Coalition (CPLC) We are members of the Carbon Pricing Leadership Coalition and our support is by spearheading the corporate Industry representation in the Group, especially the one from India. Where we are supporting the initiative and agenda by declaring our carbon Price and encouraging other companies to do so. We participate in the various forums to promote carbon tax adoption and impart awareness to the stakeholders interested. | Where we are supporting the initiative and agenda by declaring our carbon Price and encouraging other companies to do so. We have proposed that the fund collected by means of carbon tax should be utilised for driving climate change initiatives such as : a) subsidizing EV's for faster adoption and penetration b) subsidizing RE's for faster adoption and penetration among SME's |
| Adaptation or resilience | Support | We participated in various policy discussions with GOI, and Ministry of Heavy Industries on the FAME (Faster Adoption and Manufacturing of (Hybrid and Electric Vehicles) Scheme, which is part of National Electric Mobility Mission. Our senior management represented the sectors/industry associations on this initiative. We are working with private companies, and GOI to start pilot projects is some Indian cities (Nagpur). | Subsidy for Electric Vehicles by Govt. of India should continue up to 2022 for deeper penetration of clean technology into societyPresently Faster Adoption and Manufacturing of (Hybrid and Electric Vehicles FAME-India Scheme is further extended up to 30th Sept 2018 vide GoI Ministry of Heavy Industries circular date Mar 2018 Initiated the Clean Vehicle penetration into mass transport system, M&M , OLA and GoI along with GoM has started Electric Vehicle fleet @ Nagpur in 2017 Fame II scheme was extended to commercial vehicles considering the study that more |
| Energy efficiency | Support with minor exceptions | The PAT scheme was introduced after an industry wide consultation and we participated in the exercise and provided our feedback. | Though PAT is still not applicable to us, we have taken a stand that legislation related to energy efficiency should be applicable across sectors to leverage on the possibility of energy savings at the national level |
| Clean energy generation | Support with minor exceptions | We support the policy makers (MEDA, MERC etc) at multiple forums in their view on clean energy. In India, the Renewable purchase obligation regulation requires purchase of green electricity or to off-set the stipulated amount through marker based mechanism. | We propose that the ambit of renewable energy purchase obligation should be increased incrementally to boost clean energy generation. GoM should allow captive use of wind power with in state for RPO compliance which was not allowed as sited in Maharashtra Renewable energy policy 2015. GoM had amended the Maharashtra Renewable energy policy 2015 vide GR no.: APAU-2016/P.R.110/URJA-7 dated 3rd Dec 2016 allowing 500 MW of Wind to be installed and used within state of Maharashtra for RPO compliance. We also put our stand with MERC that mutiple open access permissions should be allowed for fulfillment of RPO compliance, Regulations and practical guidelines to be developed and enforced for settlement of the RE power, We also requested that banking provisions for RE to be continued for solar and also restart for Wind Power in Maharashtra |
| Other, please specify (Conference support) | Support | Mahindra supported TERI's World Sustainable Development Summit of 2017 by the means of Knowledge partnerships and financial backing. The focus of the summit was on 'Beyond 2015, which is COP21: People, Planet and Progress', and it broadly focused on actions, on accelerated implementation of SDGs and NDCs. and Circular Economy | We were on the panel of Circular Economy session of World Sustainable Development Summit (WSDS) and requested guidelines and regulations to be drafted jointly with the concerned stakeholders and also highlighted the hurdles faced for co-processing waste to fuel under Inter state regime, due to different state level legislation, We proposed to have common guidelines and legislative provisions to enable success of circular economy and save valuable resources and reduce the GHG emissions associated with it in the benefit of the nation and society at large. |
| Adaptation or resilience | Support with minor exceptions | We engaged with relevant stakeholders from academia, NGO sector, Government and city officials on the introduction of electric vehicles in India. The Mahindra Group is an active member of the “ SMEV- The SOCIETY OF MANUFACTURERS OF ELECTRIC VEHICLES " in India. Thru, SMEV, we are contributing significantly to the cause of promotion of EVs in the country through the NEMMP-2020 and FAME policy, the rationalization of import duties and reduction of local taxes and levies to providing active support to EV industry and Govt. of India in shaping up the right future for Electric Vehicles | We strongly advocate following: - Front Loading of Incentive, at least for first 1-2 million EVs - Mandating the use of EVs in the e-commerce, courier, food delivery and such companies to convert their entire fleet into green mobility over a period of three years. - Enlarging the subsidy pool by imposing the marginal cess on polluting ICE vehicles. - Mandate Nationalised banks for preferential and priority sector funding of EVs. - Installation of metered charging sockets in all parking, malls, multistory apartments through mandating/amending laws. - Dedicated budget allocation for EVs awareness program like other Govt schemes. - To support the EV industry, to include 200% weighted deduction on investment made under RnD, for Income Tax calculation purposes, beyond 2020. - Opportunity battery swapping for 2W/3W as it will reduce the cost of ownership and remove the sticker as well as the range anxiety. - Uniform GST rate for EV and Battery and lower GST rate for OE and replacement battery |
| Energy efficiency | Support | We have activle engaged with Energy Efficiency Services Limited (EESL) for LED , Motors, AC’s, EV’s program | We advocate that Energy Efficiency Services Limited (EESL) should seek support form corporate houses in form of Public private partnership in order to drive energy efficiency schemes such as UJALA, Motor replacement program, E-Vehciles, trigeneration so that mass adoption can be driven and indirectlt reduce the GHG emsiisons by driving Energy efficient devices/equipment. We had offered this as pilot to our suppliers and in with EESL now our suppliers have replaced their Lights with LED's, We have provide a pilot study platform for rol out of energy efficient motors and AC's. |
| Adaptation or resilience | Support with minor exceptions | Zero Waste to Land fill (ZWL): we actively persevered our goal to be incompletely eliminating/diverting all our waste from Ending up in Landfill and further contributing to Methan & other emissions and by doing so we will be contributing for resource conservation and also contributing to various SDG's.(SDG 12,13,6 and other interlinked SDG sub targets) We engage with State & Central pollution Control board, for amending our consent to operate accordingly w.r.t. Reduced waste loads for management and hurdles associated with interstate movement of Waste for co-processing instead of incineration and landfill. | Maharashtra state pollution control board in consultation with Central pollution control board accepted our suggestions related to interstate waste movement and granted necessary approvals for interstate waste movement and formulated process to ensure that waste is actually disposed thru co-processing, For monitoring and tracking measures suggested by all concerned stakeholders played a major role in establishing of process. In the Reporting period 5 more sites of M&M were certified by Ms/. Interteck taking our tally to 14. With 14 sites certification we are now super charged to enhance our drive of Circular economy, we are also avoiding the waste disposal cost, and have stared tapping other opportunities, we are now exploring to get the material back in our system and further enhance our resilience. |

## **C12.3b**

### **(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

## **C12.3c**

### **(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

### **Trade association**

Society of Indian Automobile Manufacturers (SIAM) is the apex Industry body representing leading vehicle and vehicular engine manufacturers in India. • SIAM Interacts with various international bodies. Represents industry in APEC Automotive Dialogue, WTO, UN ECE WP29, OICA, IMMA, etc. • SIAM represents Indian automotive industry in federation of global automotive industry associations - OICA and IMMA. • SIAM works closely with counterpart associations like SMMT, VDA, JAMA, TAIA, CAAM, AFM, ANFIA, ACEA, ANFAVEA, KAMA, GAIKINDO, etc. • All activities of SIAM are geared to promote sustainable development of automobile industry in India.

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

The SIAM nationally and internationally promotes the interests of the entire Indian automotive industry. SIAM addresses a wide spectrum, including safety, quality and sustainability issues such as environmental protection in production, fuel efficiency and alternative drive technology as well as e-mobility. SIAM promotes corresponding policies to these issues which reflect the opinion of the member companies about most appropriate actions and measures. An example of particular interest is the BS VI norms w.e.f. April 2020 in the India. The SIAM promotes a holistic approach to consider all sources of CO2 emissions in the life cycle of vehicles. Further reduction of fleet averaged CO2 emissions is one component not in question by the SIAM. However the BS VI target in 2020 is already only achievable with great and increasingly expensive technical efforts and, in particular for SUV manufacturers, A skip in BS V norms requirements means that car prices significantly increase and conventional BS IV have to be replaced by BSVI compatible components/ technology . In consequence cars get more expensive what prevents clients to buy new efficient cars. Concerning electric mobility the car industry is delivering attractive products but clients also have to find the offers attractive and accept them. Therefore SIAM advocates technical viable reduction requirement in 2030. To reflect the further development of client acceptance of electric mobility, targets should not be fixed before 2030. To support electric mobility regulation should keep the accounting of electric vehicles or electrically driven shares of PHEVs with 0 g/km when calculating the fleet averaged CO2 emissions. India and local regulations should temporarily subsidize electric mobility (e.g. bonuses / tax breaks for the purchase of e-vehicles, elimination of taxes), charging infrastructure and measures such as special parking rights or use rights of bus lanes should be introduced. SIAM advocates measures to decrease emissions of existing fleets and proposed e.g. as instrument to incentivise de-carbonisation of transportation fuels the inclusion into the Emission Trading System (“Cap and Trade”). Due to price transmission this not only effects fuel producers but also incentivise car owners to drive fuel efficient cars and to change their driving behaviour.

### **How have you influenced, or are you attempting to influence their position?**

Mr Rajan Wadhera is President SIAM and President – Automotive Sector of M&M Ltd. By the consistent membership of the association and by the regular participation in all relevant working groups. M&M is expressing its position in all activities, thus influencing the overall position on climate change of the SIAM.

### **Trade association**

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes.

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

We held Co-Conveyor position in Western Region Maharashtra Environment committee, constantly interacts and engages with other stakeholders to spread awareness and share recommendations for various new or updates to existing policies, drive innovations to solve specific business challenges including those related to climate change and Renewable energy

### **How have you influenced, or are you attempting to influence their position?**

We have prototype an internal open innovation network to solve specific business challenges – e.g. the Rise and Shine open innovation platform. We are collaborating with CII to sponsor external innovators solve business challenges for us – e.g. how do we increase agricultural productivity through mechanization, agronomic services and water conservation? http://www.ciiinnovation.in/index.php National contest on innovative solutions for driver less vehicle and solar car. http://www.mahindra.com/news-room/pressrelease/1393504217 We support CII in terms of Sponsor ship for the events such as Renew India- to demistfy myths of RE and promote RE adoption. We also participate in CII National award for Energy conservation and helping them promote energy conservation culture in the nation.

### **Trade association**

The Automotive Research Association of India ( ARAI ) has been playing a crucial role in assuring safe, less polluting and more efficient vehicles. ARAI provides technical expertise in R&D, testing, certification, homologation, and framing of vehicle regulations. ARAI is research association of the Automotive Industry with Ministry of Heavy Industries and Public Enterprises, Government of India. It works in harmony and complete confidence with its members, customers and the Government of India to offer the finest services, which earned for itself ISO 9001, ISO 14001, OHSAS 18001 and NABL accreditations.

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

It works in harmony and complete confidence with its members, customers and the Government of India to offer the finest services,

### **How have you influenced, or are you attempting to influence their position?**

We have consistent membership in ARAI thur Mahindra & Mahindra Ltd., Mahindra Electric Mobility Ltd (Formerly Mahindra Reva Electric Vehicles Pvt Ltd ), Mahindra Heavy Engines Ltd. and Gromax Agri Equipment Ltd (Formerly known as Mahindra Gujarat Tractor Ltd ) We participate at multiple forums established by ARAI and participate in advocacy for cleaner technology. (Electric Vehicles) We have provided our inputs for various discussion on emission and efficiency norms. For Example: for Electric Vehciles we suggested to have clear specification for EV's Charges classification

### **Trade association**

TERI - The Energy and Resources Institute: is a not-for-profit, independent, multi-dimensional organization, with capabilities in research, policy, consultancy, and implementation.

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

TERI are innovators and agents of change in the energy, environment, climate change and sustainability space, having pioneered conversations and action in areas of climate change, environment, energy, and sustainable development for over four decades.

### **How have you influenced, or are you attempting to influence their position?**

We are a member of the TERI and on Business Advisory Board. we constantly interact and engages with other stakeholders to spread awareness and share recommendations for various new or updates to existing policies Policy briefs for State and Central Ministries Design Guidelines for Developers considering the codes and bye-laws The database will be made available as a tool on the CoE website Plugin for simulation software

## **C12.3d**

### **(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

Yes

## **C12.3e**

### **(C12.3e) Provide details of the other engagement activities that you undertake.**

M&M engages with CDP, DJSI, SEBI thru public disclosures contribute towards,and track progress against the SDGs.

Rise for Good is the creative expression of our desire to drive positive change among our stakeholders, in the community, and in the world. We understand that Corporate action will be crucial to delivering the 2030 Agenda and by disclosing to CDP, DJSI M&M ensures alignment with SDG 6, 7, 12, 13 also contribute towards,and track progress against the SDGs.

CDP, DJSI request information on climate risks and low carbon opportunities from the large companies like M&M on behalf of institutional investors, and encourage companies to take ambitious action such as setting a price on carbon or science-based emission reduction targets.

M&M has adopted carbon price way back in 2016 to drive sustainable development initiatives and also set science based emission reduction targets in 2019 and committed to contribute in line with Paris agreement to limit global warming well below 2deg C

Mahindra’s efficient 360° water management programme

– H2Infinity aims to achieve less consumption of water withdrawn for industrial usage than the ,amount of water given back to society and nature

Total water consumption has come down by almost 300 Mega Liter, over 600 Mega Liter of water recycled and reused across businesses.

Under Swachchmeva jayate initative:

In partnership with Mumbai First, colour fest was conducted at 36 railway station across Mumbai to artistic paint walls with themes to spread awareness on climate change, water security, How public can influence, adopt and drive sustainable development and encourage use of sustainable products.

- Installation of public lavatories, dustbins, and Swachh Bharat signage’s across Mohali, along with the Mohali Municipal Corporation. Constructing toilets preventing the spread of a number of diseases benefiting 3,500 girl students and around 5,000 people at Mohali.

SDG7: Ensure access to affordable, reliable, sustainable and modern energy

Energy supply accounts for around 60% of global greenhouse gas emissions. While some 17% of energy consumption is now met with renewables, the Intergovernmental Panel on Climate Change warns this needs to hit around 85% by 2050 to avoid the worst impacts of climate change.

M&M had adopted target to double the Energy Productivity by 2030 w.r.t. 2009 levels. Meanwhile, we aspire to be carbon neutral by 2040, it is important to add progress towards a clean energy future. today we use 9MWp Solar & 6.3 MW Wind and also save on Power cost.

SDG13: Take urgent action to combat climate and its impacts

To hold warming to below 1.5 deg C and avoid the worst impacts of climate change, science demands that greenhouse gas emissions must urgently peak, and reduce down to zero by 2050. Improving corporate awareness by measuring and disclosing environmental impact is essential to the management of carbon and climate risk.

M&M uses insights from CDP data, DJSI disclosures on the current landscape and what needs to change to ensure environmental sustainability on water, Climate change; identify opportunities to build greater ambition towards its implementation. In FY17, we signed up ‘EP100’ campaign led by ‘The Climate Group’, to double our energy productivity by 2030. This is part of our contribution towards achieving the climate goals agreed upon at COP21.

SDG12: Ensure sustainable consumption and production patterns

Sustainable consumption and production promotes resource and energy efficiency, sustainable infrastructure and access to green and decent jobs and a better quality of life. It is at the heart of progress towards building a sustainable economy that works for both people and planet in the long term.

For M&M the goal centres on the inter-connectedness of the private (M&M)and public sectors Society of Electric Vehicle Manufacturers (SEVM), and encourages companies, especially large and transnational companies like us, to adopt sustainable practices and to integrate sustainability information into our reporting cycle.

Our Chairman believes and leads by example and considers “CSR AND SUSTAINABILITY ARE NOT THINGS WE DO AFTER WE MAKE PROFITS. THE NEXT GENERATION OF BUSINESS OPPORTUNITIES WILL COME FROM OPPORTUNITIES THAT DRAW FROM THE VERY CONCEPTION OF SDG's”

Through our own Sustainability framework we would like to ensure that all our businesses are taking active efforts and contributing to the agenda of “Giving back more to society than we take”.

In the Mahindra Group, this philosophy is a way of life. Guided by the 17 Sustainable Development Goals (SDGs) adopted by 193 countries, we are proud to make sustainability the bedrock of our business and CSR strategy. The case studies from our SDG report illustrates how we do this, across businesses and geographies. This SDG report also helps us to shape, monitor and report company-wide initiatives, providing the business case for staying invested in sustainable development for the long term.

## **C12.3f**

### **(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

Since Mahindra and Mahindra Limited is committed to greener vehicles and sustainable development, empowering people to Rise, the support to policies consistent with our climate change strategy is there.

All the decisions are taken at the Group Sustainability Council level. Quaterly meetings are held to take stock of the situations regarding policies. Recommendations are collected thru stakeholder engagement and submitted to the concern policy office.

The business risk of climate change can affect us in multiple ways – regulatory impact on vehicle sale, physical changes which could affect the operating environment of the vehicles and others. Thus, as we operate in a climate sensitive industry, we have taken major steps to identify and address the risks arising from climate change thru policy influence, adapt and promote mitigate measures.

Our focus on Electric vehicle to increase market share of EVs in India is a major step.

In a bid to go green, the government is targeting the year 2030 by which it plans to go all-electric in terms of new car sales in the country. In its National Electric Mobility Mission Plan, the government hopes to get at least six to seven million electric vehicles on the road by 2020 and emphasizes importance of government incentives and coordination between industry and academia.

Outcome of such recommendations has resulted in The Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) India was launched in 2015 under India’s National Electric Mobility Mission Plan(NEMMP). It aims at promoting eco-friendly vehicles in the country. Government of India thru Ministry of Heavy Industries and Public Enterprises has extended Phase-1 of FAME India Scheme to provide financial support to electric and hybrid vehicles by another six months till 30 September 2018 or till launch of phase-II in 2019

NEMMP has set target of deploying 5 to 7 million electric vehicles in the country by 2020 Since Fifteen out of 20 cities in the world with highest air pollution are in India. It is envisaged that Low carbon scenario with ‘highest’ EV penetration shows 50 percent drop in PM 2.5 by 2035 (UNEP, DTU and IIM-A) .

Master plans for most cities in India target 60-80 per cent public transport ridership by 2025-2030 (Centre for Science and Environment)

With the Government of India targeting 100 GW of solar by 2022, electric vehicles can improve reliability and utilization of renewable by acting as storage, this provides an opportunity (for the company) to materialise in due course.

To ensure actions for climate change mitigation are consistent with the policy advocacy engagements, we have also adopted major initiatives at our manufacturing facilities, through our ‘Promise Statement 2019 & 2022’ and in 2016, M&M became the first Indian company to announce its internal carbon price of $10 per ton of carbon emissions. The move was in-line with business commitment to reduce its GHG emissions by 25% over the next three years.

In F17, we signed up ‘EP100’ campaign led by ‘The Climate Group’, to double our energy productivity by 2030. This is part of our contribution towards achieving the climate goals agreed upon at COP21.

Many of these actions are already underway as demonstrated, We now uses 63% less energy to produce a vehicle than what was done eight years ago. Mahindra Towers at Worli and Kandivali are Indian Green Building Council (IGBC) Platinum existing buildings. The Mahindra IT Centre at Kandivali is USGBC LEED gold certified green building.

We have also implemented renewable energy projects (Wind Power, Solar Thermal/Solar PV) for all manufacturing sites. by the end of the reporting period we had 9 MWp Solar PV plants and 6.3MW Wind Power to ensure compliance and to support the national agenda for enhancing renewable energy.

Executive Chairman of our Company represented the Corporate World Economic Forum at Davos(F18) and issued a ‘Call to Action’ to all industries and businesses to adopt Science Based Targets is a testimony of Company’s continuing efforts to combat climate change.

In 2019 M&M had set Science based emission reduction targets consistent with B2DS and scope 3 targets aligned to 2DS scenario

Our social responsibility initiatives are also mitigating our carbon emissions. We undertake tree plantation through Project Hariyali every year.

In the reporting period, the M&M planted 1.32 Million trees and Mahindra Group has planted more than 1.52 Million trees and total 17.93 Million trees across India till date w.r.t .2007.

The above approaches shall reduce the risk of increasing Input cost, operating cost, Reduction in revenue generation due to products and also insulate us against possible business interruptions by 2030.

Increasing the Low carbon product portfolio mix (EV’s, CNG vehicles, Micro irrigations systems etc) and investing in RE will help us be Energy secure. not only describes the existing business model but also showcases how new businesses are being structured around the SDGs

## **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 voluntary communications

### **Status**

Complete

### **Attach the document**

[MM-Integrated-Annual-Report-2019-20.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/0YrC0pEKY0erltLgIYZgYg/MMIntegratedAnnualReport201920.pdf)

[MM-Integrated-Annual-Report-2019-20.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/NyeX9hlgwkSyw0kNSUgiZA/MMIntegratedAnnualReport201920.pdf)

### **Page/Section reference**

In M-M-Integrated-Annual-Report-2019-20 Page 169 Section Corporate Governance Page 143 Section STRATEGY For detailed information on the risks and opportunities and outlook, please refer to the Management Discussion and Analysis section, page no.137-166, Speciﬁc Energy Consumption, Specific GHG Emissions and Speciﬁc Water Consumption at page 212

### **Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

### **Comment**

Good governance has paid us rich dividends. Business partners trust us, because we are clear on how we work and what we stand for. Foreign collaborators prefer us because they know that our expertise is supported by ethics. Our shareholders know that this is a Company that will always do the right thing and will never let them down. Our people feel a sense of pride in working for Mahindra. Good governance generates long-term sustainable value for all the stakeholders. Strategy: Risk & Opportunities: Emission Figures are disclosed under Business Responsibility report.

## **C15. 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.**

Mahindra & Mahindra is the founder member of Global Compact Network India (GCNI) the Indian arm of United Nations Global Compact(UNGC).

M&M has position on climate change consistent with UNGC.

Representation

Chairman, Mahindra Group is on the governing board of the United Nations Global Compact.

Chief Sustainability Officer, Mahindra Group is on the governing board of UNGC – India.

At the United Nations Global Compact (UNGC), the aim is to mobilize a global movement of sustainable companies and stakeholders. To make this happen, the UN Global Compact supports companies to:

Do business responsibly by aligning their strategies and operations with Ten Principles on human rights, labour, environment and anti-corruption; and

Take strategic actions to advance broader societal goals, such as the UN Sustainable Development Goals, with an emphasis on collaboration and innovation.

The strategy of UNGC is to provide a principle-based framework, best practices, resources and networking events that have revolutionized how companies do business responsibly and keep commitments to society. By catalysing action, partnerships and collaboration, UNGC is making transforming the world possible – and achievable – for organizations large and small, anywhere around the globe. This is done by incorporating the Ten Principles of the UN Global Compact into strategies, policies and procedures, and establishing a culture of integrity, companies are not only upholding their basic responsibilities to people and planet, but also setting the stage for long-term success.

The Ten Principles of the United Nations Global Compact are derived from:

the Universal Declaration of Human Rights,

the International Labour Organization's Declaration on Fundamental Principles and Rights at Work,

the Rio Declaration on Environment and Development, and the Corruption.

The Ten Principles are:

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

UNGC participants across industries including M&M are changing the way they operate to implement responsible practices and developing innovative solutions to address poverty and inequality, and support education, health and peace, to name just a few areas.

How have we (M&M) influenced, or are attempting to influence their position?

Major Engagements

Carbon Pricing Champions

In Oct 2016, M&M became the first Indian Company to announce its internal Carbon Price of US $10 per ton of carbon emitted aligned with its business commitment to reduce its GHG emissions by 25% over the next 3 years. The UN Global Compact calls on companies to set an internal price at a minimum of $100 per metric ton over time. to create resources which are invested in low carbon technologies help reduce future emissions and lower operating costs.

Mahindra is aiding UNGC in this journey through participation in industrial webinars and interactions with businesses hosting events

Science Based Targets (Committed)

SBTs provide companies with a clearly defined pathway to future-proof growth, by specifying how much and how quickly they need to reduce their greenhouse gas emissions, in line with the Paris Agreement's goal of limiting global warming to well below 2°C above pre-industrial levels. Taking on emission and carbon footprint reduce on targets as per the SBT framework, is a testimony of our continuing efforts to combat climate change.

It is a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World-Wide Fund for Nature (WWF) and one of the We Mean Business Coalition commitments.

Mahindra promotes best practice in science-based target setting with the support of a Technical Advisory Group through participation in workshops & Webinars

Mahindra sought to dispel persistent ‘myths’ about business action on climate change that there is a trade off between choosing to do something that improves climate and your growth or your profits,”

Mahindra Offers resources for workshops and guidance to reduce barriers to adoption

Anand Mahindra, Chairman, Mahindra issued the challenge in the World Economic forum 2019, exhorting the companies to adopt SBTi, it is now globally known as the Mahindra challenge and has generated a global momentum for SBTi.

In line with the Paris Agreement's goal of limiting global warming to well below 2°C above pre-industrial levels, we are taking on emission and carbon footprint reduction targets as per the SBT framework in a testimony of our continuing efforts to combat climate change.

By the end of FY 2018-19, TWENTY Mahindra companies have already signed the Science Based Targets initiative (SBTi).Three of the Mahindra companies have got their targets accepted and other companies in pipeline.Overall, Mahindra Group commits to be Carbon Neutral by 2040, with a clear focus on energy efficiency and usage of renewable power to achieve the target. Residual emissions will be addressed through carbon sinks.

We are doing our part in the global fight against climate change with this ambitious new target. Mahindra will leverage the latest technological advances and its recently announced Carbon Price to work towards being carbon neutral by 2040.

## **C15.1**

### **(C15.1) 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 (CSO) GROUP SUSTAINABILITY He reports to the Group Sustainability council which consists of CEO/ MD/ Heads of Mahindra Group companies and corporate functions | Chief Sustainability Officer (CSO) |